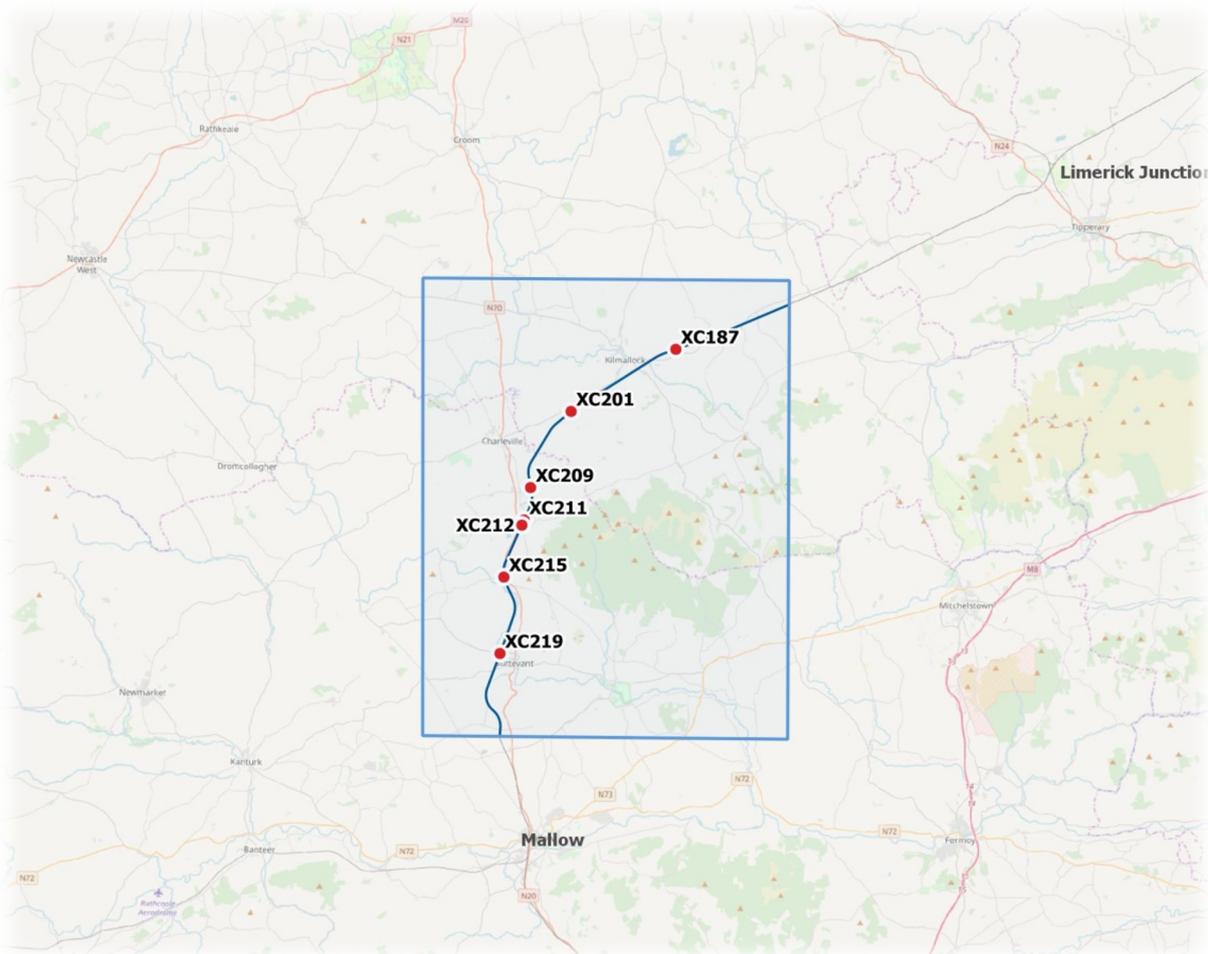


# DRAFT Cultural Heritage Screening Report for the Proposed Elimination of 7 Level Crossings on the Dublin to Cork Railway Line between Limerick Junction and Mallow



Prepared for Iarnród Éireann on behalf of Jacobs  
Project ID J2017  
By Freya Clare Smith

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## **DRAFT Cultural Heritage Screening Report for the Proposed Elimination of 7 Level Crossings on the Dublin to Cork Railway Line between Limerick Junction and Mallow**

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### **Disclaimer**

The results and conclusions contained within this document are based on information available at the time of its preparation. Whilst every effort has been made to ensure that all relevant data has been collated, AMS accepts no responsibility for omissions and/or inconsistencies that may result from information becoming available subsequent to the document's completion.

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## Abbreviations and Definitions

Term	Definition
<b>AMS</b>	Archaeological Management Solutions Ltd
<b>CCC</b>	Cork County Council
<b>DRI</b>	Digital Repository of Ireland
<b>EIA</b>	Environmental Impact Assessment
<b>EPA</b>	Environmental Protection Agency
<b>HEV</b>	Historic Environment Viewer
<b>IE</b>	Iarnród Éireann
<b>ITM</b>	Irish Transverse Mercator
<b>NIAH</b>	National Inventory of Architectural Heritage
<b>NMS</b>	National Monuments Service
<b>NRA</b>	National Roads Authority
<b>OS</b>	Ordnance Survey
<b>OSI</b>	Ordnance Survey of Ireland
<b>RMP</b>	Record of Monuments and Places
<b>RO</b>	Railway Order
<b>RPS</b>	Record of Protected Structures
<b>ROD</b>	Roughan & O'Donovan Consulting Engineers
<b>SMR</b>	Sites and Monuments Record
<b>TII</b>	Transport Infrastructure Ireland
<b>VJK</b>	Valerie J. Keeley Ltd
<b>ZoN</b>	Zone of Notification

## Coordinate System

All GPS coordinates given in this report are in Irish Transverse Mercator (ITM).

## Introduction

### Project Background

Iarnród Éireann (IE) is proposing to eliminate/de-man the remaining at-grade (public road) level crossings on the Dublin to Cork railway line between Limerick Junction Station and Mallow Station, which currently comprise manually operated gated crossings. There are seven at-grade level crossings remaining, which are located along a 15 mile (24km) section of the Dublin to Cork line between 122 miles 808 yards and 137 miles 315 yards. This section straddles the Cork/Limerick county boundary (Kenny 2019, 3). Details of these crossings are provided in Table 1 below and an overview of their locations is shown in Figure 1.

**Table 1: Level crossing details**

Level Crossing Ref.	County	Townland	Road Type	Mileage point (on Dublin–Cork line)	ITM (Centre point)
<b>XC187</b>	Limerick	Fantstown	Local	122m 808yds	563967, 628366
<b>XC201</b>	Limerick	Thomastown/Effin	Local	127m 70yds	557631, 624587
<b>XC209</b>	Cork	Ballyhay/Rathmorgan	Local	130m 878yds	555178, 619952
<b>XC211</b>	Cork	Newtown/Ballycoskery	Local	131m 1385yds	554786, 617977
<b>XC212</b>	Cork	Ballycoskery	Local	131m 1759yds	554649, 617659
<b>XC215</b>	Cork	Imphrick	Local	134m 260yds	553562, 614499
<b>XC219</b>	Cork	Creggane	Regional	137m 315yds	553330, 609845

Originally, the proposed design options that were being developed to eliminate these level crossings were being progressed as individual schemes, except for two level crossings (XC211 and XC212) where a joint venture was being developed as part of a Part 8 planning application. As part of this process, concept stage schemes comprising new access/overbridge options were developed by Roughan & O'Donovan Consulting Engineers (ROD) in 2010/2011. With respect to heritage implications, Valerie J. Keeley (VJK) was commissioned to undertake archaeological assessments of six of the seven crossings (XC187–XC209 and XC212–XC219), as well as a built heritage survey for XC219 (Flynn 2010; Flynn 2011; Goodbody 2012), the results of which have been reviewed for this current screening report. None of these schemes were progressed at the time due to a lack of funding (Kenny 2019, 5).

In March 2018, the board of IE approved the preparation of a feasibility study for the elimination/de-manning of these level crossings (Kenny 2019, 5). The objective of this study was to re-investigate, appraise options and identify the optimal strategy for the elimination/de-manning of the level crossings, including property requirements, legal/planning strategy, safety approvals strategy, capital costs, operational costs, programme requirements and risk profile of proposed solutions (Kenny 2019,

5). The options considered included closure (extinguishment of the public right of way across the level crossing), provision of alternative access through the construction of a road and/or overbridge and the upgrade to a CCTV controlled level crossing. These options were appraised using findings from a multi-criteria analysis and a preferred concept solution was identified for each level crossing, subject to further design development. Details of the recommendations/preferred solutions of the feasibility study for each level crossing are summarised in Table 2 below and further details are provided in the next section ('Project Description – Preferred Solutions').

**Table 2: Feasibility Study (Kenny 2019) – proposed solutions for each level crossing**

Level Crossing Ref.	Recommendations/Preferred Solution (Kenny 2019, 32)
<b>XC187</b>	Closure and new alternative access via overbridge
<b>XC201</b>	New access route via overbridge ( <b>currently two design options</b> )
<b>XC209</b>	Upgrade to CCTV controlled Level Crossing
<b>XC211</b>	New alternative access/link road (with overbridge for XC212)
<b>XC212</b>	New overbridge (with alternative access road for XC211)
<b>XC215</b>	New overbridge ( <b>currently two design options, one of which includes the use of an existing overbridge, OBC 306</b> )
<b>XC219</b>	New overbridge

As part of the 2018 feasibility study, legal advice was sought from CIÉ solicitors on the most appropriate mechanism to deliver the project. The resulting Senior Counsel legal opinion recommended that the necessary planning permission, land acquisition and extinguishments of rights of way for the proposed solutions would be best achieved through the application to An Bord Pleanála for a Railway Order (RO). Following this advice, it is now proposed to seek planning permission through an application to An Bord Pleanála for a Railway Order (RO) to eliminate/de-man all 7 schemes. In order to progress the project to RO, multi-disciplinary design consultants have been engaged by Jacobs on behalf of IE to initially develop the preferred concept stage scheme design to preliminary design stage (Kenny 2019, 9). Archaeological Management Solutions Ltd (AMS) has been engaged for the Cultural Heritage elements of the project.

## **Project Description – Preferred Solutions**

### ***XC187 Fantstown***

Level Crossing XC187 is located at 122 miles 808 yards on the Dublin to Cork line on local road LS 8514, 3km to the east of Kilmallock in the townland of Fantstown in Co. Limerick. The preferred solution for this level crossing is the extinguishment of the public right of way across the level crossing and the possible upgrade of the alternative access route that was previously proposed in 2010. ROD,

commissioned by IE, developed a concept stage option in 2010 for an alternative access via a new overbridge located to the southwest of the existing level crossing which links into local road LS 8514 to the north and south of the existing crossing (Kenny 2019, 12–13). The scheme design for this alternative route/overbridge is shown in Figure 2.

### *XC201 Thomastown*

Level Crossing XC201 is located at 127 miles 70 yards on the Dublin to Cork line on a local road (off the R515 regional road), 5km to the east of Charleville in the townland of Thomastown in Co. Limerick. The preferred solution for this level crossing is the provision of an alternative access across the railway line via a new overbridge. ROD, commissioned by IE, developed two concept stage options in 2010 for an alternative access via a new overbridge (Kenny 2019, 16–17).

The first option comprises a new overbridge located to the northeast of the existing level crossing which links into the local road to the north and south of the existing crossing and also includes a small access road further north linking the local road to the R515 (Figure 3).

The second option comprises a slight variation on Option 1 with the new overbridge situated in the same location but linking into the local road on the northern side of the existing level crossing further north just before the junction with the R515 and then continuing on in a northwest direction to link in with the R515 (Figure 4).

### *XC209 Ballyhay*

Level Crossing XC209 is located at 130 miles 878 yards on the Dublin to Cork line on a local road in the townland of Ballyhay, Co. Cork. The preferred solution for this level crossing is an upgrade to a 4-barrier CCTV controlled level crossing. ROD, commissioned by IE, developed a concept stage option in 2010 for the closure of this level crossing through the provision of an alternative access via a new overbridge located to the north of the existing level crossing linking into the local road to the west and northeast of the existing crossing (Kenny 2019, 18–20). Two options with locations for alternative link roads and/or an autotrack bridge for a CCTV controlled level crossing are also shown in the scheme design for this level crossing, which are shown in Figure 5.

### *XC211 Newtown*

Level Crossing XC211 is located at 131 miles 1385 yards on the Dublin to Cork line on a local road, 0.5km to the north of Ballyhea village and spanning the townland boundary between Newtown and Ballycoskery, Co. Cork. The preferred solution for this level crossing is closure and the provision of a new link road to the west of the railway corridor to connect the local road at the west side of the existing level crossing with Beechwood Grove and on to the proposed new overbridge at level crossing XC212 (see next section for further details on the new overbridge). ROD, commissioned by IE and ClÉ

in conjunction with Cork County Council (CCC), developed a design for a link road in 2010 as part of a joint scheme for Level Crossings XC211 and XC212 (Kenny 2019 21–25). The location/design for this link road is shown in Figure 6.

### *XC212 Ballycoskery*

Level Crossing XC212 is located at 131 miles 1759 yards on the Dublin to Cork line in Ballyhea village on local road L1533 in the townland of Ballycoskery, Co. Cork. The preferred solution for this level crossing is an alternative access across the railway line via a new overbridge. ROD, commissioned by IE and CIÉ in conjunction with CCC, developed a concept stage option in 2010 for a new overbridge located to the south of the existing level crossing with the associated reconfiguration of road junctions and new access roads as part of a joint scheme for Level Crossings XC211 and XC212 (Kenny 2019, 21–25). The scheme design for this option is shown in Figure 7.

### *XC215 Shinanagh*

Level Crossing XC215 is located at 134 miles 260 yards on the Dublin to Cork line and on local road L1320 in the townland of Imphrick, Co. Cork. The preferred solution for this level crossing is the provision of an alternative access across the railway line via a new overbridge. ROD, commissioned by IE, developed two concept stage options in 2010 for an alternative access via an overbridge (Kenny 2019, 26–27).

The first option comprises a new overbridge to the south of the level crossing which links into local road L1320 to the west of the existing crossing and links into the N20 to the northeast of the existing crossing (Figure 8). The second option involves using an existing overbridge (OB C306) located on local road L5507 to the north of the existing level crossing and linking this into local road L1320 to the west of the existing crossing. This option also includes a new access road in the vicinity of the existing overbridge (OBC 306) on local road L5507 which links into another local road situated to the immediate west of the railway corridor (Figure 9).

### *XC219 Buttevant*

Level Crossing XC219 is located at 137 miles 315 yards on the Dublin to Cork line on regional road R522 on the outskirts of Buttevant in the townland of Creggane, Co. Cork. The preferred solution for this level crossing is the provision of an alternative access across the railway line via a new overbridge. ROD, commissioned by IE, developed a concept stage option in 2010 for an alternative access via a new overbridge located to the south of the existing level crossing which links into the R522 to the west and east of the existing crossing (Kenny 2019, 29–31). The scheme design for this option is shown in Figure 10.

## **Aim and Scope of this Screening Assessment**

The purpose of this screening report is to identify known cultural heritage sites (including recorded archaeological and architectural heritage sites, as well as other cultural heritage features such as townland boundaries) which lie within proximity to the proposed developments in order to provide a better understanding of the implications of the proposed project with respect to the cultural heritage resource.

Key constraints and direct impacts on cultural heritage sites have been identified, as well as an initial appraisal carried out of the potential for the proposed development to impact currently unidentified archaeology. This has been undertaken with a view to informing the Environmental Impact Assessment (EIA) scoping process for the project and to feed into determining an appropriate strategy during the EIA process to mitigate any predicted impacts/adverse effects of the proposed development works on the cultural heritage resource.

## Methodology

The methodology used in the preparation of this screening assessment is based on guidance for assessing development projects provided in the Environmental Protection Authority (EPA)'s *Draft Guidelines on the Information to be contained in Environmental Impact Assessment Reports* (EPA 2017) and *Advice Notes on Current Practice* (EPA 2003). The methodology is also consistent with guidance in assessing the impact of road developments, including the National Roads Authority's (NRA, now Transport Infrastructure Ireland (TII)) *Guidelines for the Assessment of Archaeological Heritage Impacts on National Road Schemes* (NRA 2005a) and *Guidelines for the Assessment of Architectural Heritage Impacts on National Road Schemes* (NRA 2005b).

The assessment was divided into two main components: the collation of baseline data and the analysis of this data to determine any likely direct impacts. The methodology for the first component comprised a high-level desk-based survey to identify all recorded archaeological and architectural heritage sites within a defined study area of 100m surrounding the proposed schemes, as well as the identification of other cultural heritage sites and features (such as townland boundaries and sites of nineteenth-century structures indicated on historical OS maps) within the footprint and immediate vicinity of the proposed schemes. This component also included a wider survey of recorded archaeological sites located within 500m of the proposed developments and a review of other information that can provide an indication of the archaeological potential (or likelihood of previously unrecorded subsurface archaeological remains to be extant) within the proposed development areas. The desktop assessment involved consultation of the sources listed in Table 3 below.

**Table 3: Sources consulted**

Data	Source
<b>Background Information</b>	<ul style="list-style-type: none"> <li>Archaeological Assessments/Built Heritage Survey undertaken by Valerie J. Keeley Ltd (VJK): Flynn 2010; Flynn 2011; Goodbody 2012;</li> <li><i>Cork County Development Plan 2014–2020</i>; <sup>1</sup> <i>Limerick County Development Plan 2010–2016</i>; <sup>2, 3</sup></li> <li><i>A Topographical Dictionary of Ireland</i> (Lewis 1837); Townlands.ie;</li> <li>Cartography: Historical OS maps via OSI's public viewer; <sup>4</sup></li> <li>Aerial photography: Google Earth and Digital Globe via the Historic Environment</li> </ul>

<sup>1</sup> Available at: <http://corkcocodevplan.com/> [Accessed 26 June 2019].

<sup>2</sup> Available at: <https://www.limerick.ie/council/services/planning-and-property/development-plans/county-development-plan> [Accessed 25 June 2019].

<sup>3</sup> Note: The Limerick County Development Plan 210-2016 will continue to have effect until a new Development Plan for the county is prepared – <https://www.limerick.ie/council/services/planning-and-property/development-plans/city-development-plan> [Accessed 25 June 2019].

<sup>4</sup> Available at: <http://map.geohive.ie/> [Accessed 25 June 2019].

Data	Source
	<p>Viewer (HEV)<sup>5</sup> and orthophotographs via OSI's public viewer;</p> <ul style="list-style-type: none"> <li>• Previous Archaeological Investigations: Database of Irish Excavation Reports (<a href="http://www.excavations.ie">www.excavations.ie</a>) and TII Digital Heritage Collection available online in the Digital Repository of Ireland (DRI);<sup>6</sup></li> <li>• Stray finds: National Museum of Ireland's (NMI) online finds database made available by the Heritage Council.<sup>7</sup></li> </ul>
<b>Archaeological Sites</b>	<ul style="list-style-type: none"> <li>• Record of Monuments and Places (RMP) – statutory list of protected places and monuments, with accompanying constraints maps for County Cork (published in 1998) and County Limerick (published in 1997);</li> <li>• Sites and Monuments Record (SMR) – online database with information on sites and monuments accessed via the HEV;<sup>8</sup></li> <li>• Lists of National Monuments in State Care: Ownership and Guardianship for County Cork and County Limerick (published in 2009);</li> <li>• List of Preservation Orders held by the NMS, published in 2010.</li> </ul>
<b>Architectural Heritage Sites</b>	<ul style="list-style-type: none"> <li>• National Inventory of Architectural Heritage (NIAH);</li> <li>• County Cork and County Limerick Record of Protected Structures (RPS);</li> <li>• Built Heritage Survey carried out by VJK (Goodbody 2012).</li> </ul>
<b>Industrial and Built Heritage and other Cultural Heritage</b>	<ul style="list-style-type: none"> <li>• Historical OS maps via OSI's public viewer;<sup>9</sup></li> <li>• Archaeological Assessments/Built Heritage Survey undertaken by VJK (Flynn 2010; Flynn 2011; Goodbody 2012).</li> </ul>

<sup>5</sup> Available at: <http://webgis.archaeology.ie/historicenvironment/> [Accessed 25 June 2019].

<sup>6</sup> Available at: <https://repository.dri.ie/catalog/v6936m966> [Accessed 25 June 2019].

<sup>7</sup> Available at: <https://heritagemaps.ie/WebApps/HeritageMaps/> [Accessed 25 June 2019].

<sup>8</sup> Available at: <http://webgis.archaeology.ie/historicenvironment/> [Accessed 25 June 2019].

<sup>9</sup> Available at: <http://map.geohive.ie/> [Accessed 25 June 2019].

## Receiving Environment

### Recorded Archaeological Sites

The proposed development project is located within a relatively rich archaeological landscape. In the wider landscape, there are 33 recorded archaeological sites within a 500m radius of the proposed scheme design footprints. These comprise a variety of different site types from different periods, ranging in date from the prehistoric period through the medieval period and into the nineteenth century. They include two *fulachta fia*, four enclosures, eight ringforts (or *raths*), an earthwork, a mound, two castles, a moated site, four churches and two graveyards, three holy wells, a military barracks, a mill and a vernacular house. Some of these sites have substantial upstanding remains, while others have very low surface expressions, and in some instances there are no visible above-ground remains.

Of these sites, 16 are located within 100m of proposed works. These sites are detailed in Table 4 below and shown in Figure 11–Figure 18. Further descriptive details can be found in Appendix 1. The Zones of Notification (ZoN) of four of these recorded sites fall partially within the proposed scheme design footprints. These include the ZoN for LI047-045 (an enclosure) which falls partially within the footprint of the concept stage options for XC201; the ZoN for CO008-069 (a church) that is also listed in the National Inventory of Architectural Heritage (NIAH) which falls partially within the concept stage option for XC212; and the ZoN for CO007-120001 and CO007-120002 (a graveyard and church) which fall partially within the scheme design for XC215 (Option 2). The latter two sites both have substantial upstanding remains, while CO008-069 is an intact early to mid-nineteenth-century structure.

**Table 4: Recorded archaeological sites within 100m of proposed works**

No.	Site Reference	Designation	Site Type	Townland	ITM (centre point)	Approximate Distance
1	LI048-001----	SMR/RMP	Enclosure	Gibbonstown	563856, 628517	ZoN 57m from XC187 proposed works
2	LI047-045----	SMR/RMP	Enclosure	Thomastown	557658, 624623	0m – XC201 (Options 1 & 2) fall partially within ZoN
3	LI047-046----	SMR/RMP	Mound	Thomastown	557971, 624736	ZoN 87m from XC201 (Option 1 & 2)
4	CO008-001001-	SMR/RMP	Graveyard	Ballyhay	555046, 619819	TBC
5	CO008-001002-RPS 00844	SMR/RMP/Protected Structure	Church	Ballyhay	555052, 619823	TBC
6	CO008-001003-	SMR/RMP	Tomb - effigial	Ballyhay	555062, 619823	TBC

No.	Site Reference	Designation	Site Type	Townland	ITM (centre point)	Approximate Distance
7	CO008-059----	SMR/RMP	Mill - corn	Rathmorgan	555388, 620096	TBC
8	CO008-034----	SMR/RMP	Ringfort - rath	Ballycoskery	554656, 618092	ZoN 71m from XC211 proposed works and 358m from XC212 proposed works
9	CO008-035----	SMR/RMP	Moated site	Ballycoskery	554610, 617510	ZoN 43m from XC212 proposed works and 291m from XC211 proposed works
10	CO008-036----	SMR/RMP	Vernacular house	Ballycoskery	554780, 617403	ZoN 60m from XC212 proposed works and 430m from XC211 proposed works
11	CO008-069---- NIAH 20900804	SMR/RMP/ Listed in NIAH	Church	Ballycoskery	554437, 617719	0m – XC212 proposed works fall partially within ZoN; ZoN 234m from XC211 proposed works.
12	CO007-120001-	SMR/RMP	Graveyard	Imphrick	553467, 614610	0m – XC215 (Option 2) proposed works fall partially within ZoN; ZoN 144m from XC215 (Option 1)
13	CO007-120002-	SMR/RMP	Church	Imphrick	553462, 614615	0m – XC215 (Option 2) proposed works fall partially within ZoN; ZoN 144m from XC215 (Option 1)
14	CO007-121----	SMR/RMP	Ritual site - holy well	Imphrick	553563, 614656	ZoN 15m from XC215 (Option 2) and 266m from XC215 (Option 1)
15	CO007-131001-	SMR/RMP	<i>Fulacht fia</i>	Shinanagh	553334, 615316	ZoN 94m from XC215 (Option 2) and 800m from XC215 (Option 1)
16	CO007-131002-	SMR/RMP	<i>Fulacht fia</i>	Shinanagh	553334, 615303	ZoN 94m from XC215 (Option 2) and 800m from XC215 (Option 1)

## Previous Archaeological Investigations

There are no previous archaeological investigations recorded in the Database of Irish Excavation Reports or in the TII Digital Heritage Collection within 100m of the proposed works. Two previous investigations situated c.94m from XC215 (Option 2) are referenced in the HEV; however, there is no record of these in the Database of Irish Excavation Reports. These investigations comprised the

excavation of two *fulachta fia* discovered during the construction of the Bruff–Mallow gas pipeline in 1988. Further details can be found in Appendix 1 in entry Nos. 15 (CO007-131001) and 16 (CO007-131002). Flynn (2011) also references one investigation (Licence Ref. 06E1001 - testing) within the townland of Ballycoskery and notes that nothing of archaeological significance was identified during the course of this investigation. The ITM location for this investigation places it approximately 1km from XC212 proposed works.

### **NMI Topographical Files**

There are no stray finds recorded in the National Museum of Ireland's (NMI) online finds database<sup>10</sup> for the fifteen townlands listed in Appendix 6. It should be noted that this online database is a partial record only. The paper archives/internal digital database (Topographical Files) held in the NMI represent the full catalogue of all recorded stray finds since 1928. Flynn (2010; 2011) reviewed these files for six townlands: Fantstown and Thomastown in Co. Limerick and Clashnabuttry, Shinanagh, Ballycoskery and Ballyhay in Co. Cork. The topographical files contained no entries for these townlands.

### **Archaeological Potential**

As described earlier, the proposed scheme design footprints are located in a relatively rich archaeological landscape. Within these proposed footprints there are a number of greenfield areas, some of which are directly outside the ZoN of recorded archaeological sites. As such, these areas are particularly sensitive and there is a high potential for the presence of previously unrecorded associated subsurface archaeological remains.

Given the nature and wider distribution/concentration of recorded archaeological sites in the environs of each level crossing, there is also a relatively high potential for the presence/survival of previously unrecorded subsurface archaeological features in the remaining greenfield areas within the proposed scheme design site extents. It should also be noted that there may be potential for previously unrecorded above-ground remains to be extant in the proposed development areas.

### **Recorded Architectural Heritage Sites**

There are 11 recorded architectural heritage sites located in the wider environs of the proposed scheme design footprints (within a 500m radius of proposed works). These comprise five detached houses (including Fantstown House, Castle Harrison Country House, a parochial house and a farmhouse); two terraced rows of houses; two churches (Ballyhay Church, which is in ruins and is also

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<sup>10</sup> Available at: <https://heritagemaps.ie/WebApps/HeritageMaps/>

a recorded archaeological site (CO008-001002) and Saint Mary's RC Church, which is also a recorded archaeological site (CO008-069)); a nineteenth-century railway goods shed (store/warehouse) which forms part of an industrial heritage site (IH-10, a railway station complex); a nineteenth-century military barracks; and a late-nineteenth-century water pump. Four of these sites are Protected Structures (the farmhouse – RPS 00052; Castle Harrison Country House – RPS 00843; Ballyhay Church – RPS 00844; and the military barracks – RPS 00988, which is now an industrial estate). The military barracks is also listed in the NIAH, as are the remaining seven sites.

Of these 11 sites, six are located within 100m of proposed works. These six sites are detailed in Table 5 below and their locations are shown in Figure 11–Figure 18. Further descriptive details can be found in the catalogue (Appendix 2). Only one of these structures (a railway goods shed, NIAH 20803040) falls in the immediate vicinity/partially within a design scheme footprint. Goodbody (2012) notes that there will be no direct impact on this structure; however, this current assessment shows that the northern end of the building appears to lie within the proposed footprint of the concept stage design for XC219 – at this location embankment works are proposed. It is presently unclear whether these proposed embankment works will adversely affect this structure.

**Table 5: Recorded architectural heritage sites within 100m of proposed works**

No.	Site Reference	Designation	Site Type/ Name	Townland	ITM (centre point)	Approximate Distance
1	NIAH 21904708	Listed in NIAH	Water Pump	Thomastown	557635, 624908	14m from XC201 (Option 1 & 2)
2	NIAH 20900801	Listed in NIAH	House	Pruntus	555374, 619897	TBC
3	RPS 00844 CO008-001002-	Protected Structure/ SMR	Ballyhay Church (in ruins)	Ballyhay	555048, 619819	TBC
4	NIAH 20900804 CO008-069----	Listed in NIAH/SMR	Church/chapel (Saint Mary's RC Church)	Ballycoskery	554436, 617718	47m from XC212 proposed works and 287m from XC211 proposed works
5	NIAH 20900805	Listed in NIAH	Parochial House	Ballycoskery	554534, 617748	42m from XC212 proposed works and 189m from XC211 proposed works
6	NIAH 20803040	Listed in NIAH	Store/ Warehouse	Creggane	553319, 609769	0m from XC219 (proposed embankment)

## Industrial and Built Heritage Sites

There are 11 industrial heritage sites and one built heritage site located within and in the immediate vicinity of the proposed scheme design footprints. Two of these sites were identified through cartographic analysis (see next section ‘Other Cultural Heritage Sites’ and Appendix 6). Except for one structure, these sites (which are detailed in Table 6 below) all form part of the Great Southern and Western Railway. The latter sites comprise the nineteenth-century railway cutting, seven level crossings, a former railway station complex (Buttevant and Doneraile Station), a possible station house and a nineteenth-century railway overbridge (OBC 306); while the former comprises a nineteenth-century bridge over the Bregoge River, which runs along the Creggane/Bregoge townland boundary. The locations of all twelve sites are shown in Figure 11–Figure 18 and further descriptive details can be in the full catalogue (Appendix 3).

**Table 6: Industrial & built heritage sites within and in close proximity to proposed works area**

No.	Site Reference	Designation/ Legal Status	Type	Townland	ITM (centre point)	Approximate Distance
1	IH-1	Industrial heritage site/No legal status	Railway Cutting	Fantstown, Thomastown, Rathmorgan, Ballycoskery, Imphrick, Creggane	Multiple locations (ITMs TBC)	0m (all level crossing schemes)
2	IH-2	Industrial heritage site/No legal status	Level Crossing	Fantstown	563967, 628366	0m (XC187)
3	IH-3	Industrial heritage site/No legal status	Level Crossing	Thomastown/ Effin	557631, 624587	0m (XC201)
4	IH-4	Industrial heritage site/No legal status	Level Crossing	Ballyhay/ Rathmorgan	555178, 619952	0m (XC209)
5	IH-5	Industrial heritage site/No legal status	Level Crossing	Newtown/ Ballycoskery	554786, 617977	0m (XC211)
6	IH-6	Industrial heritage site/No legal status	Level Crossing	Ballycoskery	554649, 617659	0m (XC212)
7	IH-7	Industrial heritage site/No legal status	Possible Station House	Ballycoskery	554650, 617648	0m from XC212 proposed works
8	IH-8	Industrial heritage site/No legal status	Level Crossing	Imphrick	553562, 614499	0m (XC215)
9	IH-9	Industrial heritage site/No legal status	Level Crossing	Creggane	553330, 609845	0m (XC219)

No.	Site Reference	Designation/ Legal Status	Type	Townland	ITM (centre point)	Approximate Distance
10	IH-10/ NIAH 20803040	Industrial heritage site (NOTE: One structure listed in NIAH: 20803040)	Railway Station Complex (Buttevant and Doneraile Station)	Creggane	553286, 609721	0m from XC219 proposed works
11	IH-11	Industrial heritage site/No legal status	Railway Overbridge	Shinanagh	553639, 615370	0m from XC215 (Option 2) proposed works
12	BH-1	Built heritage site/ No legal status	Bridge	Bregoge/ Creggane	553202, 609863	0m from XC219 proposed works

## Other Cultural Heritage Sites

Historical OS maps (the first-edition six-inch, dating to c.1837 and the first-edition 25-inch surveyed for Co. Cork between 1896 and 1904 and for Co. Limerick between 1897 and 1903) were examined for evidence of other features and structures of potential cultural heritage significance, such as nineteenth/twentieth-century industrial and built heritage sites, including further potential sites associated with the Great Southern and Western Railway and site types such as limekilns, as well as townland boundaries. One industrial heritage site and one built heritage site were identified, which are still surviving today. These comprise a railway overbridge (IH-11) and a bridge (BH-1) that are described in the previous section ('Industrial and Built Heritage Sites') with further details provided in Appendix 3. A total of ten townland boundaries were also identified during this survey, which are detailed below.

## Townland Boundaries

Ten townland boundaries were identified, which fall within the footprint of the proposed development. These boundaries are detailed in Table 7 below and their locations are shown in Figure 11–Figure 18.

**Table 7: Townland boundaries within footprint of proposed works**

No.	Site Reference	Legal Status	Type	Townland	ITM (centre point)	Approximate Distance
1	TB-1	No legal status	Townland Boundary	Fantstown, Gibbonstown	563810, 628337	0m from XC187 proposed works
2	TB-2	No legal status	Townland Boundary	Thomastown, Effin	557638, 624543	0m from XC201 (Option 1)
3	TB-3	No legal status	Townland Boundary	Cooleen, Rathmorgan	TBC	TBC

No.	Site Reference	Legal Status	Type	Townland	ITM (centre point)	Approximate Distance
4	TB-4	No legal status	Townland Boundary	Cooleen, Ballyhay	TBC	TBC
5	TB-5	No legal status	Townland Boundary	Ballyhay, Rathmorgan	TBC	TBC
6	TB-6	No legal status	Townland Boundary	Rathmorgan, Pruntus	TBC	TBC
7	TB-7	No legal status	Townland Boundary	Ballyhay, Pruntus	TBC	TBC
8	TB-8	No legal status	Townland Boundary	Newtown, Ballycoskery	554789, 617979	0m from XC211 proposed works
9	TB-9	No legal status	Townland Boundary	Imphrick, Ballynageragh	553545, 614977	0m from XC215 (Option 2)
10	TB-10	No legal status	Townland Boundary	Creggane, Bregoge	553190, 609851	0m from XC219 proposed works

## Likely Impacts

For the purposes of this screening report, only direct impacts that are likely to occur under the current proposals are considered in order to highlight key cultural heritage constraints at this stage in the design/assessment process. While indirect impacts are also present, these will be assessed during a later stage of the assessment process. All predicted likely direct impacts are detailed in Appendix 1– Appendix 5.

The likely direct impacts on cultural heritage sites where the impact level is predicted to be significant or greater are summarised in Table 8 below, with further site details presented in the relevant appendix. There are also two predicted direct impacts with a magnitude of moderate to significant, which are detailed in Table 9 below.

Slight to moderate impacts are predicted on a number of industrial heritage sites and townland boundaries. Further details pertaining to these sites can be found in Appendix 3 and Appendix 4. There are also potentially positive impacts on an industrial heritage site, IH-11, a nineteenth century railway overbridge, and a built heritage site, BH-1, a nineteenth century bridge (see Appendix 3 for further details).

**Table 8: Summary of potential direct impacts – Significant to Profound**

No.	Site Type/ Reference	Townland/ Location	Sensitivity/ Rating	Approx. Distance	Impact Assessment	Potential Impact Significance
1	Archaeological Site (SMR/RMP) Enclosure <b>LI047-045----</b>	Thomastown	High	0m – XC201 (Option 1 & 2) fall partially within ZoN	Negative, direct, permanent impact on ZoN	Significant to Very Significant
2	Archaeological Site (SMR/RMP) Graveyard <b>CO007-120001-</b>	Imphrick	High	0m – XC215 (Option 2) proposed works fall partially within ZoN	Negative, direct, permanent impact on ZoN	Moderate to Very Significant
3	Archaeological Site (SMR/RMP) Church <b>CO007-120002-</b>	Imphrick	High	0m – XC215 (Option 2) proposed works fall partially within ZoN	Negative, direct, permanent impact on ZoN	Moderate to Very Significant
4	Architectural Heritage Site (Listed in NIAH) Store/ Warehouse (Goods shed) <b>NIAH 20803040</b>	Creggane	Regional/ High	0m from XC219 (proposed embankment)	TBC	Significant (level increases to very significant where structure cannot be retained)

No.	Site Type/ Reference	Townland/ Location	Sensitivity/ Rating	Approx. Distance	Impact Assessment	Potential Impact Significance
5	Industrial heritage site/Architectural Heritage Site (One structure listed in NIAH – see above) Railway Station Complex <b>IH-10/ NIAH 20803040</b>	Creggane	Medium to high	0m from XC219 proposed works	TBC	Moderate to significant (level increases to very significant where NIAH 20803040 cannot be retained)
6	Area of Archaeological Potential	Greenfield areas within scheme site extents	Medium to high	0m	Negative, permanent, direct impact	Moderate to profound subject to nature/ character of any potential surviving archaeological material

Table 9: Summary of potential direct impacts – Moderate to Significant

No.	Site Type/ Reference	Townland/ Location	Sensitivity/ Rating	Approx. Distance	Impact Assessment	Potential Impact Significance
1	Industrial heritage site Possible Station House <b>IH-7</b>	Ballycoskery	Medium	0m from XC212 proposed works	TBC	Moderate to significant (in the event that the Station House cannot be retained)
1	Archaeological Site (SMR/RMP)/ Architectural Heritage Site (Listed in NIAH) Church <b>CO008-069---- NIAH 20900804</b>	Ballycoskery	High	0m – XC212 proposed works fall partially within ZoN	Negative, direct, permanent impact on ZoN	Moderate

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## Appendices

NOTE: In Appendix 1–Appendix 5 the colour codes shown in Table 10 below have been used to indicate potential impact significance levels (direct impacts only at this stage).

**Table 10: Potential Impact Significance Levels (Colour Codes)**

Profound	
Very Significant	
Significant	
Moderate	
Slight	
Not Significant	
Imperceptible	

## Appendix 1: Catalogue of Recorded Archaeological Sites<sup>11</sup>

No.	Site Reference	Designation	Type	Townland	Description <sup>12</sup>	ITM (centre point)	Sensitivity/ Rating	Approximate Distance	Impact Assessment (Direct Impacts)	Potential (Direct) Impact Significance
1	LI048-001----	SMR/RMP	Enclosure	Gibbonstown	<b>HEV:</b> Currently the information for this record has not been uploaded. <b>Flynn 2010:</b> Circular platform	563856, 628517	High	Zone of Notification <b>57m</b> from <b>XC187</b> proposed works	No direct impact	-
2	LI047-045----	SMR/RMP	Enclosure	Thomastown	<b>HEV:</b> Currently the information for this record has not been uploaded. <b>Flynn 2010:</b> Circular platform, truncated by existing railway line.	557658, 624623	High	<b>0m – XC201</b> <b>(Option 1 &amp; 2)</b> <b>fall partially</b> <b>within ZoN</b>	Negative, direct, permanent impact on Zone of Notification	Significant to Very Significant
3	LI047-046----	SMR/RMP	Mound	Thomastown	<b>HEV:</b> Currently the information for this record has not been uploaded. <b>Flynn 2010:</b> Ovoid platform, possible barrow.	557971, 624736	High	Zone of Notification <b>87m</b> from <b>XC201</b> <b>(Option 1 &amp; 2)</b>	No direct Impact	-
4	CO008-001001-	SMR/RMP	Graveyard	Ballyhay	<b>HEV:</b> On W bank of Awbeg River; approached by short tree-lined avenue from road to W. Irregularly shaped well-maintained graveyard (c. 90m N-S; c. 70m E-W) enclosed by tree-lined earthen bank to S, and by low stone wall elsewhere. Ruin of parish church of Ballyhay (14393) in centre. In use; Grove White (1905-25, vol. 1, 203) noted monument within chancel of church dated 1761; earliest graves noted elsewhere dated to 1780s and 1790s; many railed and walled burial plots, including a group on the line of N wall of chancel. Fourteenth century memorial effigy (14624) cemented to E wall of church. <b>Date of upload/revision: 14 January 2009</b> The above description is derived from the published 'Archaeological Inventory of County Cork. Volume 4: North Cork' (Dublin: Stationery Office, 2000). <b>Flynn 2010:</b> Irregular shaped graveyard enclosed by earthen bank and low stone wall. Ruins of church (CO-008-001002) in centre.	555046, 619819	High	XC209 (distance TBC)	TBC	TBC
5	CO008-001002- RPS 00844	SMR/RMP/ Protected Structure	Church	Ballyhay	<b>HEV:</b> In centre of graveyard (14541). Ruinous rectangular church, comprising of nave (18.83m E-W; 9.06m N-S) and chancel (18.03 E-W; 8.34 N-S) separated by inserted crossing wall. West wall, and W end of N wall of nave, most of N wall and E end of S wall of chancel, all missing. Nave has two doorways in S wall, both blocked: doorway near W end, and inward-facing doorway near E end. Frontal elevation of entrance door built of dressed sandstone blocks; door surround has plain jambs and rounded arch set in a shallow gabled projection, shouldered at level of springs of door arch. Only decoration is two beast heads, each biting segment of roll moulding, which project either side of top of arch (see Leask 1960, vol. 1, fig. 100, 166-7). Inner face of doorway framed by partially surviving plain projection; vertical hole cut through W side of projection at base of arch. Second doorway is inward-facing; door surround has chamfered edge and bluntly pointed arch; this may have led to sacristy (Grove White 1905-25, vol. 1, 203). Immediately above door (N face of wall) is stone carved with two bearded heads in high relief... In centre of S wall is gap on W side of which is side of window; jamb of window light chamfered and rebated on outside edge. West end of S wall has been finished with concrete. Surviving portion of N wall ivy-grown, featureless. Line of W wall covered by 19th-century grave plots.	555052, 619823	High	XC209 (distance TBC)	TBC	TBC

<sup>11</sup> Located within a 100m radius of the level crossings.

<sup>12</sup> Sources: Online SMR Database, Historic Environment Viewer (HEV)/Previous Archaeological Assessments (Flynn 2010; Flynn 2011).

No.	Site Reference	Designation	Type	Townland	Description <sup>12</sup>	ITM (centre point)	Sensitivity/ Rating	Approximate Distance	Impact Assessment (Direct Impacts)	Potential (Direct) Impact Significance
					<p>Isolated from rest of church is overgrown stump of E gable of chancel; splayed sides of wide central window evident. Effigy (14624) has recently been fixed against inside face of wall.</p> <p>Only W half of S wall of chancel now stands, densely overgrown with ivy. Blocked by insertion of crossing wall is window in S wall: lintelled embrasure splayed inside and outside from central light. Immediately E of latter is gap in wall (L c. 1.3m), probably a window position. Further E again is another window similar to that blocked by crossing wall but less well preserved. Short surviving stretch of N wall E of crossing wall, has chamfered flat-headed light in splayed embrasure, high up on wall. Cross wall survives to full height but is densely overgrown; not keyed to side walls at either end. Wide central window embrasure covered by bluntly pointed arch; light rebated and chamfered externally (facing E), one mullion survives- originally tripartite arrangement with wide central light flanked by two narrower ones.</p> <p>Entrance door in S wall of nave regarded by Leask (ibid., 167) and Weaver (1995, 89-92) as late Romanesque in date (late 12th century); extent of Romanesque church unclear but clearly refurbished and eventually shortened (by insertion of crossing wall) in later medieval period. Brady (1863, vol. 2, 34-36) quotes 1224 reference to church at Ballyhay, and listing in Papal Taxation of 1291. Church reported 'in ruins' in 1615, though chancel 'in repair'; abandoned by 1694 (ibid.).</p> <p><b>Date of upload/revision: 14 January 2009</b></p> <p>The above description is derived from the published 'Archaeological Inventory of County Cork. Volume 4: North Cork' (Dublin: Stationery Office, 2000).</p> <p><b>Flynn 2010:</b> Ruins of rectangular church in centre of graveyard (CO-008-001001). Church comprises nave and chancel with 12th century door in south wall of nave. Additions and alterations to church in 17th century. Early 14th century effigy (CO-008-001003) in inner face of east gable.</p>					
6	CO008-001003-	SMR/RMP	Tomb - effigial (present location)	Ballyhay	<p><b>HEV:</b> Cemented to inner face of E gable of Ballyhay Church (14393). Tapering chamfered slab (H 1.14m; Wth 0.42m at top, 0.32m at base; T 0.2m) carved in high relief with civilian figure in kirtle and short shoulder cape. Feet in shoes resting on dog. Head resting on cushion with angels on either side. Early-14th-century in date (Hunt 1974, vol. 1, 129).</p> <p><b>Date of upload/revision: 14 January 2009</b></p> <p>The above description is derived from the published 'Archaeological Inventory of County Cork. Volume 4: North Cork' (Dublin: Stationery Office, 2000).</p> <p><b>Flynn 2010:</b> Early 14th century stone effigy cemented into inner face of east gable wall of medieval Ballyhay church (CO008-001002), which is in centre of graveyard (CO008-001001).</p>	555062, 619823	High	XC209 (distance TBC)	TBC	TBC
7	CO008-059----	SMR/RMP	Mill - corn	Rathmorgan	<p><b>HEV:</b> On N side of Awbeg River. Three walls of rectangular mill (int. 12.6m NW-SE; c. 15.3m NE-SW) are all that now stands, with internal dividing wall. Wheel-pit (Wth c. 2.67m) alongside SE wall housed breast-shot suspension wheel; bearing stone for axle survives in mill wall. Brick-arched ope (Wth 1.02m; H 0.92m) in mill wall where power transferred into mill; remains of door ope adjacent. Three large foundation stones for machinery within; conglomerate runner millstone on ground to S, fragment of French burr stone built into SE wall. Remains of two rectangular 1-storey buildings, on higher ground to NE, may be associated with mill. Millrace (dry) taken from river c. 500m to E. Named 'Ballyhay Mill' on 1842 OS 6-inch map.</p> <p><b>Date of upload/revision: 14 January 2009</b></p> <p>The above description is derived from the published 'Archaeological Inventory of County Cork. Volume 4: North Cork' (Dublin: Stationery Office, 2000).</p> <p><b>Flynn 2010:</b> Rectangular mill (in ruins), 3 walls still standing. Remains of 2 single storey buildings to the NE.</p>	555388, 620096	High	XC209 (distance TBC)	TBC	TBC

No.	Site Reference	Designation	Type	Townland	Description <sup>12</sup>	ITM (centre point)	Sensitivity/ Rating	Approximate Distance	Impact Assessment (Direct Impacts)	Potential (Direct) Impact Significance
8	CO008-034----	SMR/RMP	Ringfort - rath	Ballycoskery	<b>HEV:</b> In pasture, on E-facing slope. Roughly circular area (39m N-S; 35m E-W) enclosed by earthen bank (int. H 0.7m; ext. H 1m) W-ENE; scarp elsewhere. Numerous cattle gaps in bank. Interior surface cut by cattle; raised on SE side to compensate for hillslope. <b>Date of upload/revision: 14 January 2009</b> The above description is derived from the published 'Archaeological Inventory of County Cork. Volume 4: North Cork' (Dublin: Stationery Office, 2000). <b>Flynn 2012:</b> Univallate ringfort in poor condition. Interior of ringfort measures 39m N-S and 35m E-W. Enclosed by a single earthen bank.	554656, 618092	High	Zone of Notification <b>71m from XC211</b> proposed works and 358m from XC212 proposed works	No direct impact	-
9	CO008-035----	SMR/RMP	Moated site	Ballycoskery	<b>HEV:</b> In undulating pasture. Rectangular area (39.1m N-S; 28.3m E-W) enclosed by earthen bank (int. H 0.75m; ext. H 0.5m) to N, E and S, with external fosse (D 1.3m); truncated to W by deep wide ditch associated with railway line. Interior partially overgrown. Depicted as hachured rectangular enclosure (c. 55m E-W; c. 45m N-S) on 1842 OS 6-inch map, before building of railway line. <b>Date of upload/revision: 14 January 2009</b> The above description is derived from the published 'Archaeological Inventory of County Cork. Volume 4: North Cork' (Dublin: Stationery Office, 2000). <b>Flynn 2012:</b> Moated enclosure disturbed on its west side by the railway. Internal bank measures 0.75m height and 2m wide. A wide fosse surrounds the north, east and south.	554610, 617510	High	Zone of Notification <b>43m from XC212</b> proposed works and 291m from XC211 proposed works	No direct impact	-
10	CO008-036----	SMR/RMP	Vernacular house	Ballycoskery	<b>HEV:</b> Currently the information for this record has not been uploaded. <b>Flynn 2012:</b> 3 bay 1 storey mud walled vernacular house. Galvanised roof. Stone buttresses along front wall.	554780, 617403	High	Zone of Notification <b>60m from XC212</b> proposed works and 430m from XC211 proposed works	No direct impact	-
11	CO008-069---- NIAH 20900804	SMR/RMP/ Listed in NIAH	Church	Ballycoskery	<b>HEV:</b> In village of Ballyhay. Indicated on 1842 OS 6-inch map as rectangular structure (long axis E-W) with projection at E end, named 'Newtown R. C. Chapel'. Modernised rectangular church with five round-headed windows in each side wall; round-headed window over modern porch on W gable; gabled sacristy at E end; second rectangular structure added to N end of sacristy. Date plaque inscribed 'AD 1831' on W gable. Interior has fine classical reredos with composite fluted columns supporting a segmental pediment behind the altar, flanked by doors into sacristy. <b>Date of upload/revision: 14 January 2009</b> The above description is derived from the published 'Archaeological Inventory of County Cork. Volume 4: North Cork' (Dublin: Stationery Office, 2000). <b>Flynn 2012:</b> RC Church-AD1831 on west gable.	554437, 617719	High	<b>0m – XC212 proposed works fall partially within ZoN</b> ZoN 234m from XC211 proposed works	Negative, direct, permanent impact on Zone of Notification	Moderate
12	CO007-120001-	SMR/RMP	Graveyard	Imphrick	<b>HEV:</b> In pasture, c. 100m N of road. Subrectangular graveyard (c. 40m E-W; c. 30m N-S), enclosed by low earthen bank. Ruin of parish church of Imphrick (14424) in NW corner. Much of graveyard densely overgrown; earliest headstone noted, inside N wall of church, dated 1783; recent burial near entrance to E. Grove White (1905-25, vol. 3, 186) noted monument to Holmes, dated 1757- may be overgrown vault at E end of church. Burials dated 1762 and 1790 have also been recorded (Grove White 1913-16, 241). <b>Date of upload/revision: 14 January 2009</b> The above description is derived from the published 'Archaeological Inventory of County Cork. Volume 4: North Cork' (Dublin: Stationery Office, 2000). <b>Flynn 2010:</b> Sub rectangular graveyard enclosed by earthen bank near to 18th century Imphrick Church (CO-007-120002)	553467, 614610	High	<b>0m – XC215 (Option 2) proposed works fall partially within ZoN</b> ZoN 144m from XC215 (Option 1)	Negative, direct, permanent impact on Zone of Notification	Moderate to Very Significant

No.	Site Reference	Designation	Type	Townland	Description <sup>12</sup>	ITM (centre point)	Sensitivity/ Rating	Approximate Distance	Impact Assessment (Direct Impacts)	Potential (Direct) Impact Significance
13	CO007-120002-	SMR/RMP	Church	Imphrick	<p><b>HEV:</b> In NW corner of graveyard (14583). Ruin of rectangular church (int. greater than 17.3m E-W; int. 4.85m N-S), heavily ivy-clad. West gable with returns of N (int. L 8.3m) and S (int. L 8.3m) walls all that now stand. West gable crowned by bellcote (see photograph Grove White 1905-25, vol. 3, opp. 186). High up on gable is window with single flat-headed light high. Gap in N wall (Wth 1.4m), immediately E of W gable, may mark site of doorway. External projection at W end of S wall may be remains of annexe (church depicted on 1842 OS 6-inch map as irregular 'T-shaped' structure) or may mark buttress. Also, in N wall is ruined doorway covered by segmental arch. Line of S wall continues to E of standing portion as overgrown rise; position of E gable probably marked by similar rise and burial vault, c. 9m E of standing portions of N and S walls. A 1906 account of church (ibid., 186) describes 'three different styles...of architecture', two different in age but ancient, the third 'more recent improvements...executed by the Holmes family, whose monument [dated 1757] ...is so conspicuous an object'. Adjoining and parallel to church on S side were 'the foundations and part of the walls of some structure...nearly 30 feet by about 12 feet...[which] appears to be quite as old as the main building itself' (ibid.). Remains of parish church of Imphrick. Reported 'in ruins' in 1615 (Brady 1863, vol. 2, 306). A church here listed in Papal Taxation of 1291 (ibid.).</p> <p><b>Date of upload/revision: 14 January 2009</b></p> <p>The above description is derived from the published 'Archaeological Inventory of County Cork. Volume 4: North Cork' (Dublin: Stationery Office, 2000). In certain instances, the entries have been revised and updated in the light of recent research.</p> <p><b>Flynn 2010:</b> In NW corner of graveyard (CO-007-120001), ruins of rectangular 18th century church. A church is listed here in the Papal Taxation of AD1291.</p>	553462, 614615	High	0m – XC215 (Option 2) proposed works fall partially within ZoN ZoN 144m from XC215 (Option 1)	Negative, direct, permanent impact on Zone of Notification	Moderate to Very Significant
14	CO007-121----	SMR/RMP	Ritual site - holy well	Imphrick	<p><b>HEV:</b> Named 'Tobernadeecla' on 1842 OS 6-inch map. In small field on W side of road. Access to field by gate from road and to well area by stile. Rectangular well enclosed and partially covered by low stone surround. Votive offerings surround the well and rags adorn over-hanging bush.</p> <p><b>Date of upload/revision: 14 January 2009</b></p> <p>The above description is derived from the published 'Archaeological Inventory of County Cork. Volume 4: North Cork' (Dublin: Stationery Office, 2000).</p> <p><b>Flynn 2010:</b> Rectangular well partially enclosed and covered by low stone surrounds. Named "Tobernadeecla" (Declan's Well) on 1st ed map.</p>	553563, 614656	High	Zone of Notification 15m from XC215 (Option 2) and 266m from XC215 (Option 1)	No direct impact	-
15	CO007-131001-	SMR/RMP	Fulacht fia	Shinanagh	<p><b>HEV:</b> On low-lying, mostly level ground. Discovered during construction of Bruff-Mallow gas pipeline (Gowen 1988, 179). Semi-circular spread of burnt material (L 11.4m) extended 4m into pipeline corridor; main bulk of site, consisting of low, ill-defined mound, lay outside pipeline corridor to W. Second fulacht fiadh (11626) c.17m to N.</p> <p><b>Date of upload/revision: 14 January 2009</b></p> <p>The above description is derived from the published 'Archaeological Inventory of County Cork. Volume 4: North Cork' (Dublin: Stationery Office, 2000).</p> <p><b>Flynn 2010/2011:</b> Not referenced.</p>	553334, 615316	High	Zone of Notification 94m from XC215 (Option 2) and 800m from XC215 (Option 1)	No direct impact	-
16	CO007-131002-	SMR/RMP	Fulacht fia	Shinanagh	<p><b>HEV:</b> On low-lying, mostly level ground. Discovered during construction of Bruff-Mallow gas pipeline (Gowen 1988, 179). Spread of burnt material (L 14m; Wth 6-8m) adjacent to field fence which also contains burnt material. Low mound visible outside pipeline corridor to W. Second fulacht fiadh (11625) c.17m to S.</p> <p><b>Date of upload/revision: 14 January 2009</b></p> <p>The above description is derived from the published 'Archaeological Inventory of County Cork. Volume 4: North Cork' (Dublin: Stationery Office, 2000).</p> <p><b>Flynn 2010/2011:</b> Not referenced.</p>	553334, 615303	High	Zone of Notification 94m from XC215 (Option 2) and 800m from XC215 (Option 1)	No direct impact	-

## Appendix 2: Catalogue of Recorded Architectural Heritage Sites<sup>13</sup>

No.	Site Reference	Designation	Type/Name	Townland	Description <sup>14</sup>	Appraisal <sup>15</sup>	ITM (centre point)	Sensitivity/ Rating	Approximate Distance	Impact Assessment (Direct Impacts)	Potential (Direct) Impact Significance
1	NIAH 21904708	Listed in NIAH	Water Pump	Thomastown	Freestanding cast-iron water pump, erected c.1870, with banded shaft, fluted neck and cap with finial. Curved handle. Set back from road having rubble and concrete wall to site.	This water pump exhibits artistic detailing in its design, with an elegantly curved handle, banded shaft and finial. It is an interesting and notable feature on the road-scape and offers a reminder of a time before domestic running water.	557635, 624908	Regional/ High	<b>14m from XC201</b> (Option 1 & 2)	No direct impact	-
2	NIAH 20900801	Listed in NIAH	House	Pruntus	Detached three-bay two-storey house, built c. 1910, having two-bay single-storey extension to rear. [...] Painted rendered walls [...] Square-profile painted rendered piers with recessed panels and ornate caps having double-leaf cast-iron gates. Painted rendered walls with render copings terminating in second pair of piers.	This regular façade of this house is enlivened by the diminishing bipartite openings which retain timber sash windows, and the early extension to the rear has an interesting tripartite window. The piers and ornate cast-iron gates enhance the setting of the house.	555374, 619897	Regional/ High	XC209 (distance TBC)	TBC	TBC
3	RPS 00844 CO008-001002-	Protected Structure/ SMR	Ballyhay Church (in ruins)	Ballyhay	See description in Appendix 1	N/A	555048, 619819	High	XC209 (distance TBC)	TBC	TBC
4	NIAH 20900804 CO008-069----	Listed in NIAH/SMR	Church/chapel (Saint Mary's RC Church)	Ballycoskery	Freestanding gable-fronted, barn-type Roman Catholic church, dated 1831, having five-bay nave, recent gabled glazed porch to front, and recessed single-bay two-storey extension to east gable, with three-bay single-storey addition [...] Carved limestone date plaque to front, obscured by porch. [...] Altar wall to interior exuberantly painted, having religious paintings flanking ornate reredos [...] Rendered and rusticated concrete block boundary wall to front with square-profile rusticated concrete piers with gabled caps and metal gates. Graveyard to north.	This church, which has a quite plain exterior, has a particularly ornate reredos to its interior, with gilded Corinthian-style columns and engaged columns, representing a fine architectural centrepiece to the altar wall. The religious paintings and the ornate painting to the wall and reredos are of obvious artistic interest. The limestone date plaque adds valuable context to the site. The church also retains traditional features such as the slate roof and stained-glass windows. Prominently sited, this church presents a strong façade to the streetscape. The church forms part of a group of ecclesiastical structures including the parochial house and graveyard to north.	554436, 617718	Regional/ High	<b>47m from XC212</b> proposed works and 287m from XC211 proposed works	No direct impact <b>NOTE: Proposed works are in close proximity to curtilage features.</b>	-

<sup>13</sup> Located within a 100m radius of the level crossings.

<sup>14</sup> Source: NIAH online database.

<sup>15</sup> *Ibid.*

No.	Site Reference	Designation	Type/Name	Townland	Description <sup>14</sup>	Appraisal <sup>15</sup>	ITM (centre point)	Sensitivity/ Rating	Approximate Distance	Impact Assessment (Direct Impacts)	Potential (Direct) Impact Significance
5	NIAH 20900805	Listed in NIAH	Parochial House	Ballycoskery	Detached three-bay two-storey parochial house, built c.1905, on a cruciform plan with single-bay two-storey breakfront and two-bay two-storey return [...] Rendered, ruled and lined walls on rendered plinth with rendered quoins to corners [...] Square-profile cast-iron piers with double-leaf cast-iron gates and pedestrian entrances adjoining square-profile painted rendered piers.	This parochial house built to a design by Brian Edward Fitzgerald Sheehy (1870-1929/30) of Limerick (Irish Builder 1904, 56) presents an interesting interpretation of the typical three-bay, two-storey dwelling built in the classical style. The façade consists of a series of window openings with the doorway to the side of the breakfront. This gives the façade a continuous, uninterrupted rhythm [...] The gates are particularly ornate with cast-iron piers and gates with flanking rendered piers. The parochial house forms part of a group of ecclesiastical buildings with the nearby Saint Mary's Roman Catholic Church (see 20900804 entry above).	554534, 617748	Regional/ High	<b>42m from XC212</b> proposed works and 189m from XC211 proposed works	No direct impact <b>NOTE: Proposed works are in close proximity to curtilage features.</b>	-
6	NIAH 20803040	Listed in NIAH	Store/ Warehouse	Creggane	Detached four-bay single-storey railway goods shed, built c.1870, with lower office projection to south gable, and canopy to west elevation. Now disused. Pitched corrugated-iron roof, and slate roof to projection, latter with brick chimneystack with limestone coping. Coursed rubble limestone walls with limestone voussoirs to segmental-arched openings, latter with multiple-pane fixed timber windows with limestone sills [...] <b>Memorial to train crash at site.</b> <b>NOTE: VJK has undertaken a Built Heritage Survey of this site (Goodbody 2012)</b>	This structure (goods shed) forms part of an interesting group of related structures with the former railway station, signal box and platform to the site. It retains much of its original detailing, including the sliding timber battened doors. The site was the scene of a fatal railway accident in 1980, commemorated by a monument.	553319, 609769	Regional/ High	<b>0m from XC219 (proposed embankment)</b>	TBC	Significant to very significant (in the event that the structure cannot be retained)

### Appendix 3: Catalogue of Industrial & Built Heritage Sites<sup>16</sup>

No.	Site Reference	Designation/ Legal Status	Type	Townland	Description	ITM (centre point)	Sensitivity/ Rating	Approximate Distance	Impact Assessment (Direct Impacts)	Potential (Direct) Impact Significance
1	IH-1	Industrial heritage site/ No legal status	Railway Cutting	Fantstown, Thomastown, Rathmorgan, Ballycoskery, Imphrick, Creggane	Great Southern and Western Railway (Cork-Dublin line); section between Limerick Junction and Mallow built between 1848-49 and includes sections of embankment, stone walls and the railway cutting, as well as level crossings, overbridges and associated structures, which have been ascribed individual reference IDs (Flynn 2010; Goodbody 2012)	Multiple locations (ITMs TBC)	Medium	0m (all level crossing schemes)	Negative, permanent, direct impact at a number of locations in the townlands listed in 'Townland' column	Slight to moderate
2	IH-2	Industrial heritage site/ No legal status	Level Crossing	Fantstown	Level crossing identified in VJK Archaeological Assessment (Flynn 2010). Shown on 1st edition 25-inch OS map (surveyed 1897-1903)	563967, 628366	Low to Medium	0m (XC187)	Where crossing is removed - negative, permanent, direct impact	Slight to moderate
3	IH-3	Industrial heritage site/ No legal status	Level Crossing	Thomastown / Effin	Level crossing identified in VJK Archaeological Assessment (Flynn 2010). Shown on 1st edition 25-inch OS map (surveyed 1897-1903)	557631, 624587	Low to Medium	0m (XC201)	Where crossing is removed - negative, permanent, direct impact	Slight to moderate
4	IH-4	Industrial heritage site/ No legal status	Level Crossing	Ballyhay/ Rathmorgan	Level crossing identified in VJK Archaeological Assessment (Flynn 2010). Shown on 1st edition 25-inch OS map (surveyed 1896-1904)	555178, 619952	Low to Medium	0m (XC209)	Where crossing is removed - negative, permanent, direct impact	Slight to moderate
5	IH-5	Industrial heritage site/ No legal status	Level Crossing	Newtown/ Ballycoskery	Shown on 1st edition 25-inch OS map (surveyed 1896-1904). NOTE: No reference in VJK assessments, as this area was not examined.	554786, 617977	Low to Medium	0m (XC211)	Where crossing is removed - negative, permanent, direct impact	Slight to moderate
6	IH-6	Industrial heritage site/ No legal status	Level Crossing	Ballycoskery	Level crossing identified in VJK Archaeological Assessment (Flynn 2010). Shown on 1st edition 25-inch OS map (surveyed 1896-1904)	554649, 617659	Low to Medium	0m (XC212)	Where crossing is removed - negative, permanent, direct impact	Slight to moderate
7	IH-7	Industrial heritage site/ No legal status	Possible Station House	Ballycoskery	Possible station house of unknown date identified in VJK Archaeological Assessment (Flynn 2011). Shown on 1st ed 25-inch OS map (surveyed 1896-1904). Building is shown as vacant/boarded up on Google Street View.	554650, 617648	Medium	0m from XC212 proposed works	TBC	Moderate to significant (in the event that the Station House cannot be retained)
8	IH-8	Industrial heritage site/ No legal status	Level Crossing	Imphrick	Level crossing identified in VJK Archaeological Assessment (Flynn 2010). Shown on 1st edition 25-inch OS map (surveyed 1896-1904)	553562, 614499	Low to Medium	0m (XC215)	Where crossing is removed - negative, permanent, direct impact	Slight to moderate
9	IH-9	Industrial heritage site/ No legal status	Level Crossing	Creggane	Level crossing identified in VJK Archaeological Assessment (Flynn 2010). Shown on 1st edition 25-inch OS map (surveyed 1896-1904)	553330, 609845	Low to Medium	0m (XC219)	Where crossing is removed - negative, permanent, direct impact	Slight to moderate

<sup>16</sup> Within and in close proximity to proposed works areas.

No.	Site Reference	Designation/ Legal Status	Type	Townland	Description	ITM (centre point)	Sensitivity/ Rating	Approximate Distance	Impact Assessment (Direct Impacts)	Potential (Direct) Impact Significance
10	IH-10/ NIAH 20803040	Industrial heritage site (NOTE: One structure listed in NIAH: 20803040)	Railway Station Complex (Buttevant and Doneraile Station)	Creggane	<p>Buttevant and Doneraile Station was opened in 1846 as part of the Great Southern and Western Railway (Dublin-Cork line) and closed in 1977. It was renamed Buttevant Station in 1884. The station complex originally included sidings on either side of the main line, with goods sheds and other ancillary buildings, in addition to the station house. Surviving structures include boundary walls, a goods shed (NIAH 20803040) on the eastern side of the line, the remains of a second goods shed on the western side, the station platforms, a passenger shelter, a small single-storey structure (former post office) attached to the now-demolished station house, a signal box and the remains of an iron footbridge. The station complex began at the level crossing at the northern end and extended southwards over a distance of about 220m and was c. 67m in width. On the down-side of the line, to the east of the track, lay the main station building with a narrow projection extending northwards which is marked as "P.O" (post office) on historical OS maps. To the south of this was a goods shed. On the western, or up, side of the track there were small buildings facing on to the up platform, as well as an open-fronted goods shed. At the northern end of the platforms, close to the level crossing, there was a wrought iron footbridge. Various other structures and facilities were located around the station property, including cattle pens. Near the southern end of the station property, on the western side, there was a terrace of three railway workers' cottages with small gardens to the front and rear.</p> <p>Some of the surviving structures on the site are part of the original station complex from 1846, such as the boundary walls, the eastern goods shed (NIAH 20803040) and a small single-storey structure that was originally attached to the now-demolished station building. The station platforms are considered to be slightly later than the original phase of construction, and the walls at the back of the platforms and a passenger shelter on the up line date to the same time as the platforms. There are surviving walls from a second goods shed on the western side of the site, which is considered to be a later addition in the nineteenth century. Within the remains of this structure a number of cast iron columns still stand. The signal box was built in the late 1980s, while the flight of iron stairs leading to it is part of the footbridge that crossed the railway. This was erected at the end of the nineteenth century or the beginning of the twentieth century.</p> <p>The eastern goods shed (NIAH: 20803040) is derelict, the small single-storey structure is partly derelict and partly ruinous, while the shelter and the western goods shed are unroofed and ruinous. The flight of iron steps leading to the signal box is in good condition, as is the box itself and the boundary walls are in reasonable condition. (Goodbody 2012).</p> <p>Shown on 1st Edition 25-inch OS map (surveyed 1896-1904).</p>	553286, 609721	Medium to high	0m from XC219 proposed works	TBC	Moderate to significant (level increases to very significant where NIAH 20803040 cannot be retained - see 'Architectural Heritage' sheet)
11	IH-11	Industrial heritage site/ No legal status	Railway Overbridge	Shinanagh	Railway overbridge (OBC 30B). Labelled as 'Shinanagh Bridge' on 1st ed 25-inch OS map (surveyed 1896-1904)	553639, 615370	Medium to high	0m from XC215 (Option 2) proposed works	Potentially positive through upgrade works	TBC
12	BH-1	Built heritage site/No legal status	Bridge	Bregoge/ Creggane	Shown on 1st edition 6-inch OS map (c.1837) and 1st edition 25-inch OS map (surveyed 1896-1904). Northern parapet wall visible in Google Street View.	553202, 609863	Medium	0m from XC219 proposed works	Potentially positive through upgrade works	TBC

#### Appendix 4: Catalogue of Townland Boundaries<sup>17</sup>

No.	Site Reference	Legal Status	Type	Townland	Description	Sensitivity/ Rating	Approximate Distance	ITM (centre point)	Impact Assessment (Direct Impacts)	Potential Impact Significance
1	TB-1	No legal status	Townland Boundary	Fantstown, Gibbonstown	Stream as townland boundary	Low	0m from XC187 proposed works	563810, 628337	Negative, permanent, direct, slight	Slight
2	TB-2	No legal status	Townland Boundary	Thomastown, Effin	Road as townland boundary	Low	0m from XC201 (Option 1)	557638, 624543	Negative, permanent, direct, negligible	Not significant
3	TB-3	No legal status	Townland Boundary	Cooleen, Rathmorgan	Townland boundary between Cooleen and Rathmorgan	Low	XC209	TBC	TBC	TBC
4	TB-4	No legal status	Townland Boundary	Cooleen, Ballyhay	Townland boundary between Cooleen and Ballyhay	Low	XC209 (distance TBC)	TBC	TBC	TBC
5	TB-5	No legal status	Townland Boundary	Ballyhay, Rathmorgan	Townland boundary between Ballyhay and Rathmorgan	Low	XC209 (distance TBC)	TBC	TBC	TBC
6	TB-6	No legal status	Townland Boundary	Rathmorgan, Pruntus	Townland boundary between Rathmorgan and Pruntus	Low	XC209 (distance TBC)	TBC	TBC	TBC
7	TB-7	No legal status	Townland Boundary	Ballyhay, Pruntus	Townland boundary between Ballyhay and Pruntus	Low	XC209 (distance TBC)	TBC	TBC	TBC
8	TB-8	No legal status	Townland Boundary	Newtown, Ballycoskery	Road as townland boundary between Newtown and Ballycoskery	Low	0m from XC211 proposed works	554789, 617979	Negative, permanent, direct, negligible	Not significant
9	TB-9	No legal status	Townland Boundary	Imphrick, Ballynageragh	Townland boundary between Imphrick and Ballynageragh	Low	0m from XC215 (Option 2)	553545, 614977	Negative, permanent, direct, slight	Slight
10	TB-10	No legal status	Townland Boundary	Creggane, Bregoge	Townland boundary between Creggane and Bregoge	Low	0m from XC219 proposed works	553190, 609851	Negative, permanent, direct, slight	Slight

<sup>17</sup> within footprint of proposed works.

## Appendix 5: Archaeological Potential – Impact Assessment

Type	Location	Description	Potential Sensitivity/ Rating	Potential Impact Assessment (Direct Impacts)	Potential Impact Significance
Area of Archaeological Potential	Greenfield areas within scheme site extents	<p>Given the nature and distribution/concentration of recorded archaeological sites in the environs of each level crossing there is a relatively high potential for the presence of previously unrecorded subsurface archaeological remains in greenfield areas within scheme design site extents. Some of these areas are directly outside the ZoN of recorded archaeological sites and as such, are particularly sensitive and considered to have a high potential for the presence/survival of associated subsurface archaeological remains.</p> <p>Additionally, it should also be noted that there may be potential for previously unrecorded above-ground remains.</p>	Medium to high	Negative, permanent, direct.	Moderate to profound subject to/dependent on nature/character of any potential surviving archaeological material

## Appendix 6: Townland List and Preliminary Cartographic Analysis

Townland	County	Civil Parish	Barony	NMI Online Finds Database	1st Ed 6-Inch OS Map (c.1837)	1st Ed 25-Inch OS Map <sup>18</sup>
Fantstown	Limerick	Kilbreedy Major	Coshlea	No entries	No further <sup>19</sup> structures/features noted within footprint of proposed works.	No further <sup>20</sup> structures/features noted within footprint of proposed works. Note: Small structure noted to south of railway line and level crossing and west of road; however not within footprint of proposed works.
Gibbonstown	Limerick	Kilbreedy Major	Coshlea	No entries	No further structures/features noted within footprint of proposed works.	No further structures/features noted within footprint of proposed works.
Thomastown	Limerick	Kilbreedy Minor	Coshma	No entries	No further structures/features noted within footprint of proposed works.	No further structures/features noted within footprint of proposed works. Note: Small structure noted to north of railway line and west of road; however not within footprint of proposed works.
Effin	Limerick	Effin	Coshma	No entries	No further structures/features noted within footprint of proposed works.	No further structures/features noted within footprint of proposed works. Note: Small structure noted to north of railway line and west of road; however not within footprint of proposed works.
Rathmorgan	Cork	Ballyhay	Orrery and Kilmore	No entries	TBC once scheme design for XC209 is clarified	TBC once scheme design for XC209 is clarified
Cooleen	Cork	Ballyhay	Fermoy	No entries	TBC once scheme design for XC209 is clarified	TBC once scheme design for XC209 is clarified
Ballyhay	Cork	Ballyhay	Fermoy	No entries	TBC once scheme design for XC209 is clarified	TBC once scheme design for XC209 is clarified

<sup>18</sup> Surveyed 1897-1903, Co. Limerick; Surveyed 1896-1904, Co. Cork.

<sup>19</sup> Further to townland boundaries.

<sup>20</sup> Further to townland boundaries and structures/features associated with the 19th century Great Southern and Western Railway.

Townland	County	Civil Parish	Barony	NMI Online Finds Database	1st Ed 6-Inch OS Map (c.1837)	1st Ed 25-Inch OS Map <sup>18</sup>
Pruntus	Cork	Ballyhay	Fermoy	No entries	TBC once scheme design for XC209 is clarified	TBC once scheme design for XC209 is clarified
Newtown	Cork	Ballyhay	Fermoy	No entries	No further structures/features noted within footprint of proposed works.	No further structures/features noted within footprint of proposed works.
Ballycoskery	Cork	Aglisdrinagh	Orrery and Kilmore	No entries	No further structures/features noted within footprint of proposed works.	Small structure shown to east of railway and level crossing and south of road. Note - this was identified as a possible 'Station House' in VJK Archaeological Assessment (Flynn 2011). Included as IH-7 in Appendix 3.
Shinanagh	Cork	Imphrick	Fermoy	No entries	No further structures/features noted within footprint of proposed works.	Railway overbridge labelled as 'Shinanagh Bridge' shown. This is OBC 306 and has been included as IH-11 in Appendix 3..
Ballynageragh	Cork	Imphrick	Fermoy	No entries	No further structures/features noted within footprint of proposed works.	No further structures/features noted within footprint of proposed works.
Imphrick	Cork	Imphrick	Fermoy	No entries	No further structures/features noted within footprint of proposed works.	No further structures/features noted within footprint of proposed works. Note: there is a former level crossing marked on this map edition at roughly the same location as the proposed new overbridge for XC215 (Option 1).
Bregoge	Cork	Bregoge	Orrery and Kilmore	No entries	Bridge shown on the Bregoge/Creggane townland boundary labelled as 'Bregoge New Br.' Included as BH-1 in Appendix 3.	Bregoge New Bridge' labelled. Included as BH-1 in Appendix 3. No further structures/features noted within footprint of proposed works.
Creggane (Alternative spelling - Creggange)	Cork	Buttevant	Orrery and Kilmore	No entries	Bridge shown on the Bregoge/Creggane townland boundary labelled as 'Bregoge New Br.' Included as BH-1 in Appendix 3.	Bregoge New Bridge' labelled. Included as BH-1 in Appendix 3.. No further structures/features noted within footprint of proposed works. Included as BH-1 in Appendix 3.

## Figures

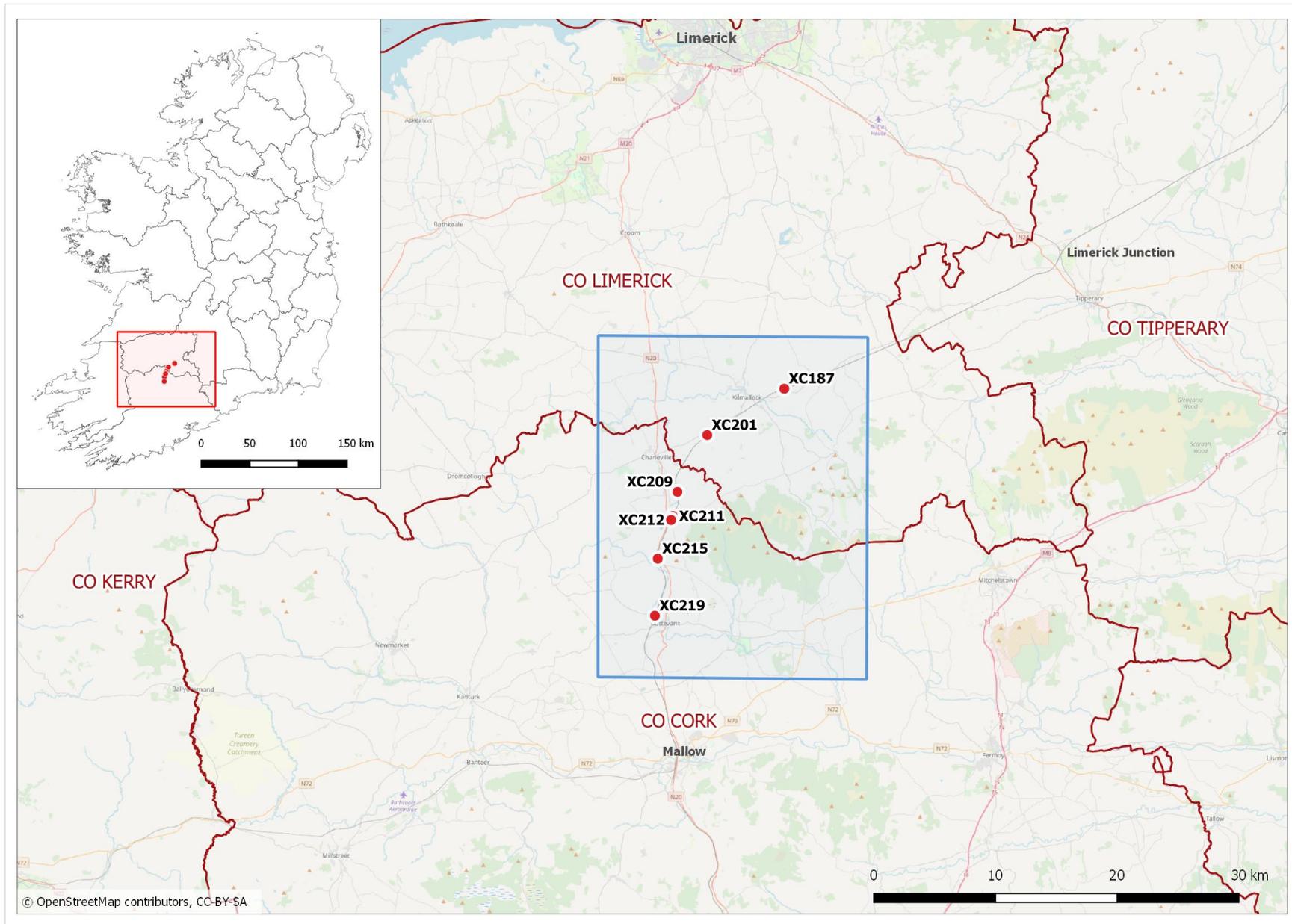


Figure 1: Project location

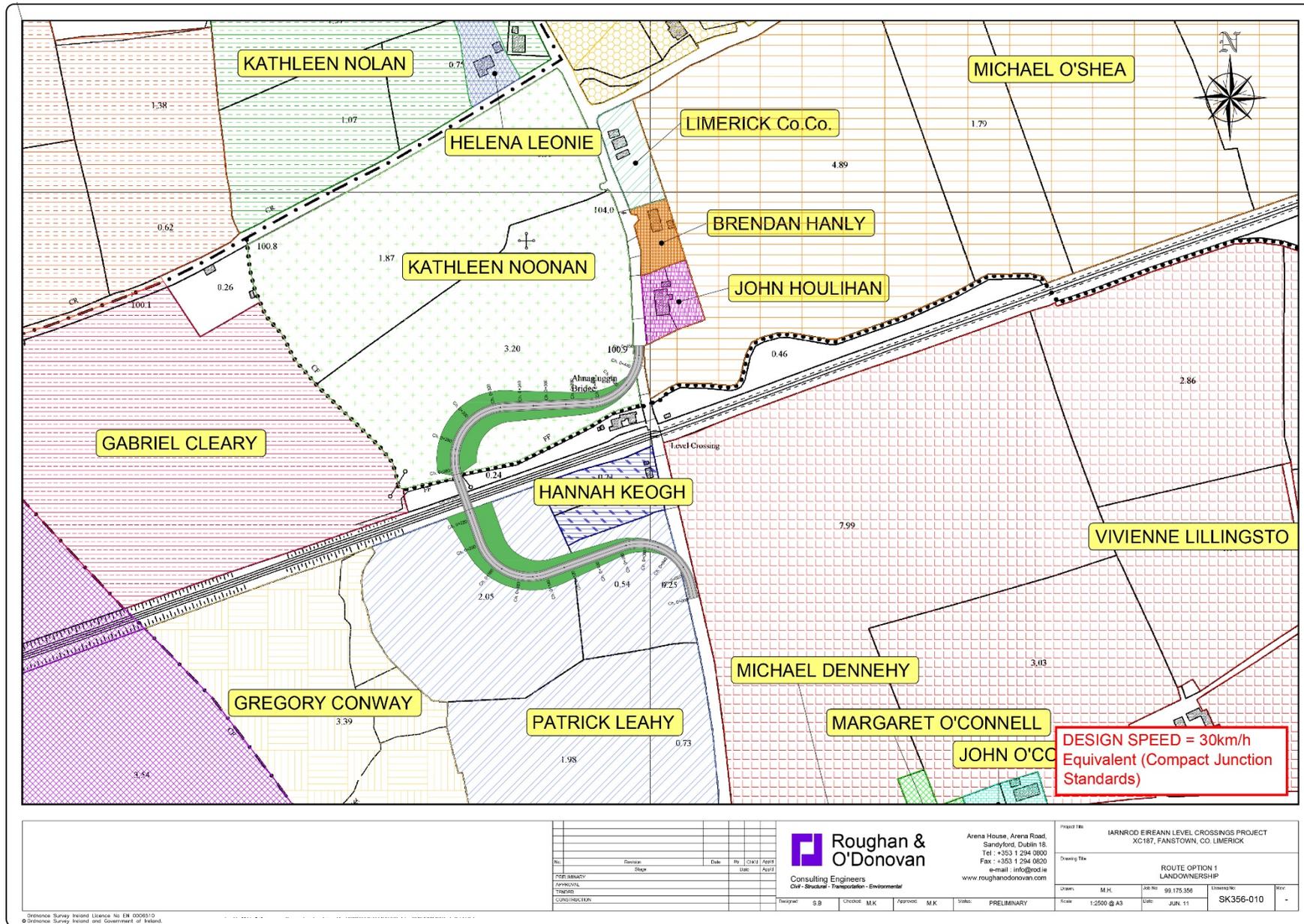


Figure 2: Level Crossing XC187 – Scheme Design

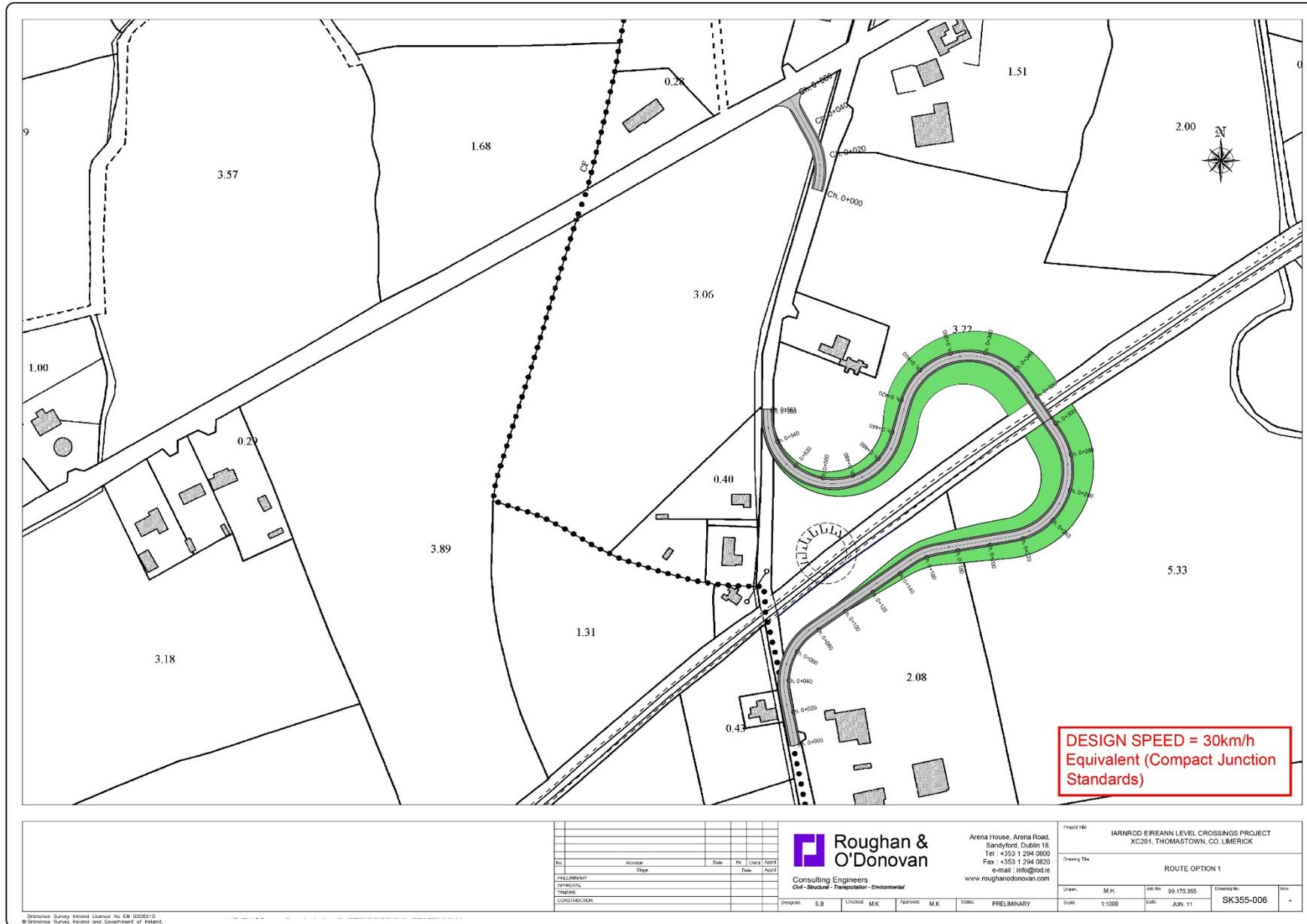


Figure 3: Level Crossing XC201 – Scheme Design Option

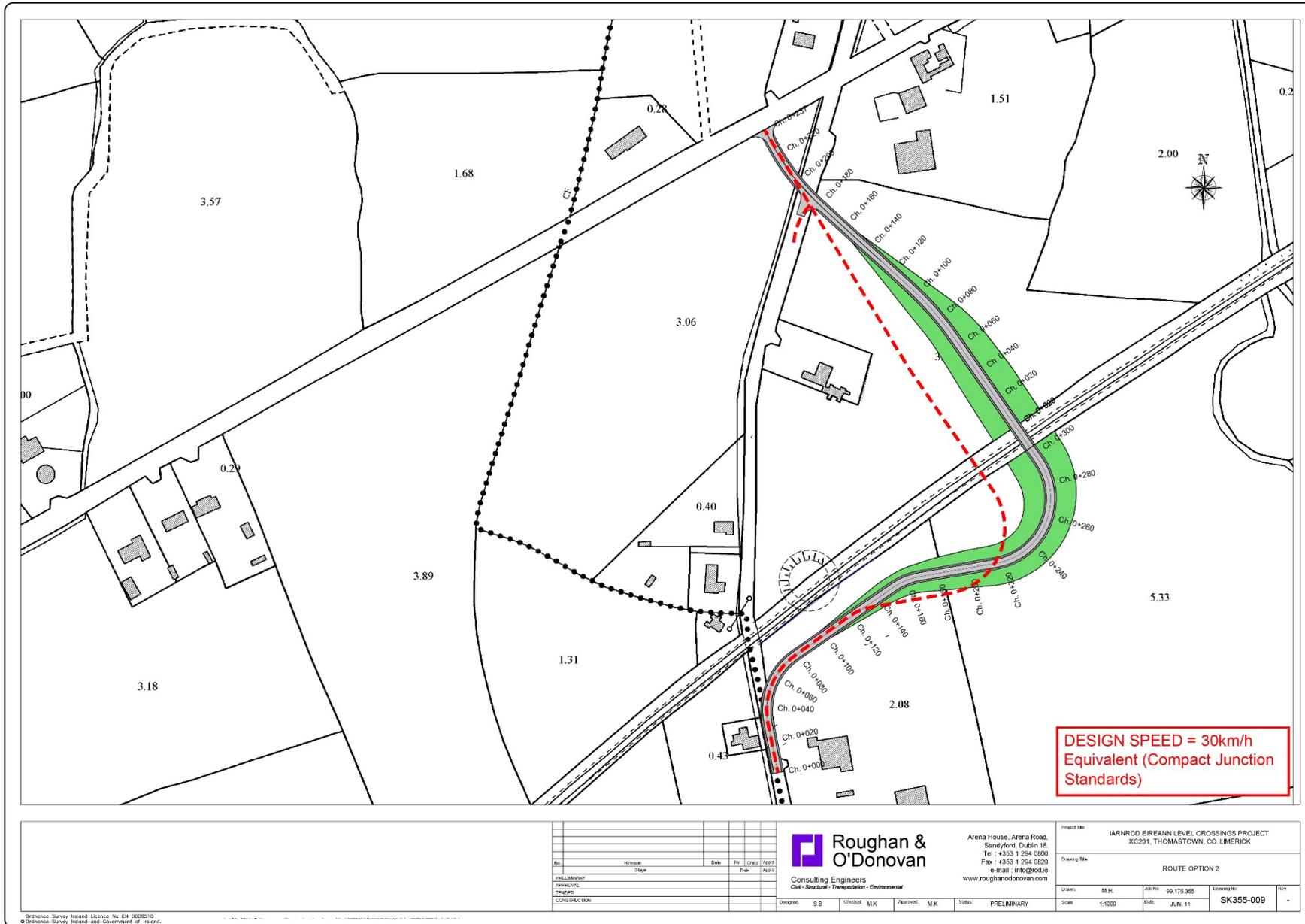


Figure 4: Level Crossing XC201 – Scheme Design Option 2





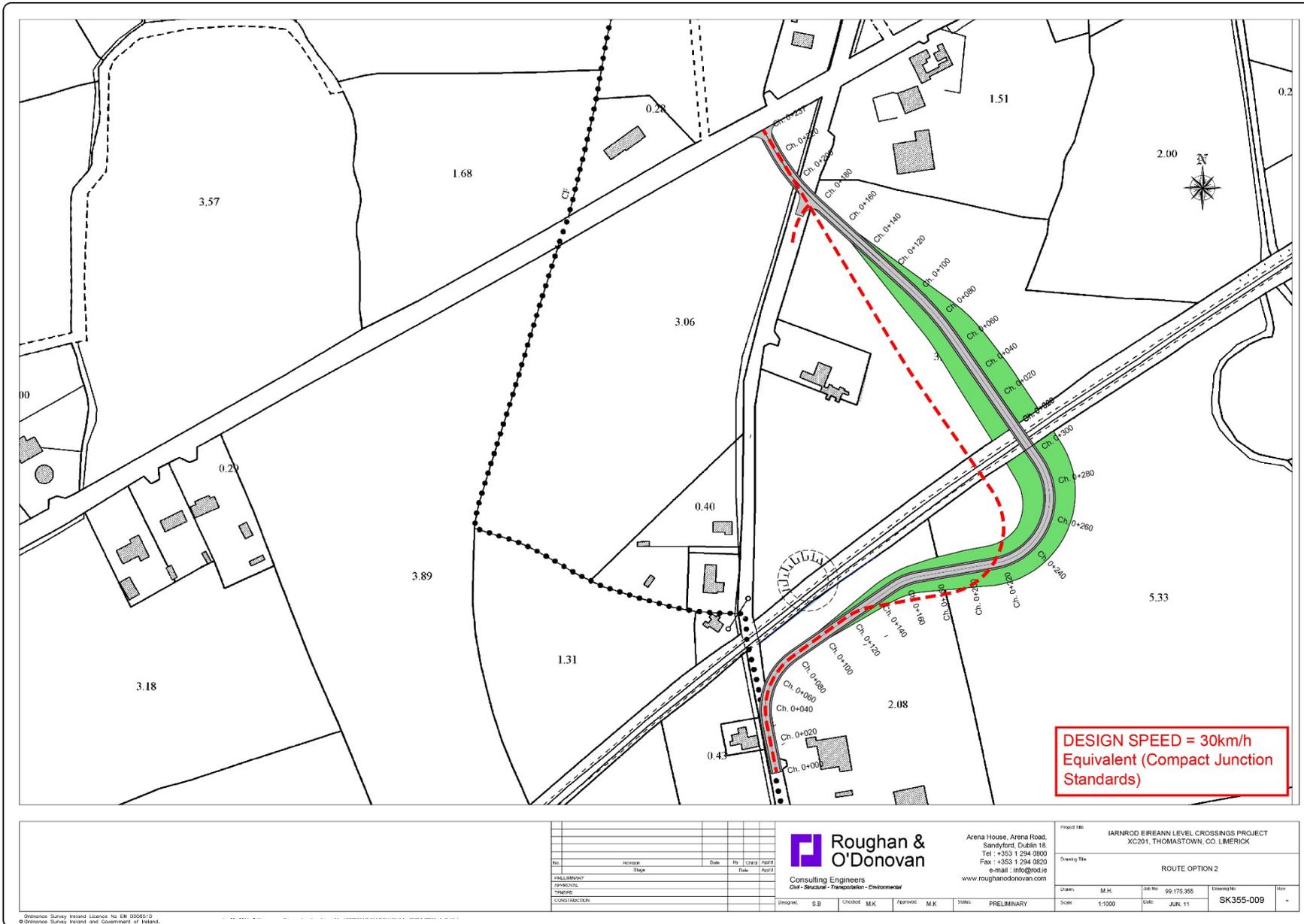


Figure 7: Level Crossing XC212 – Scheme Design

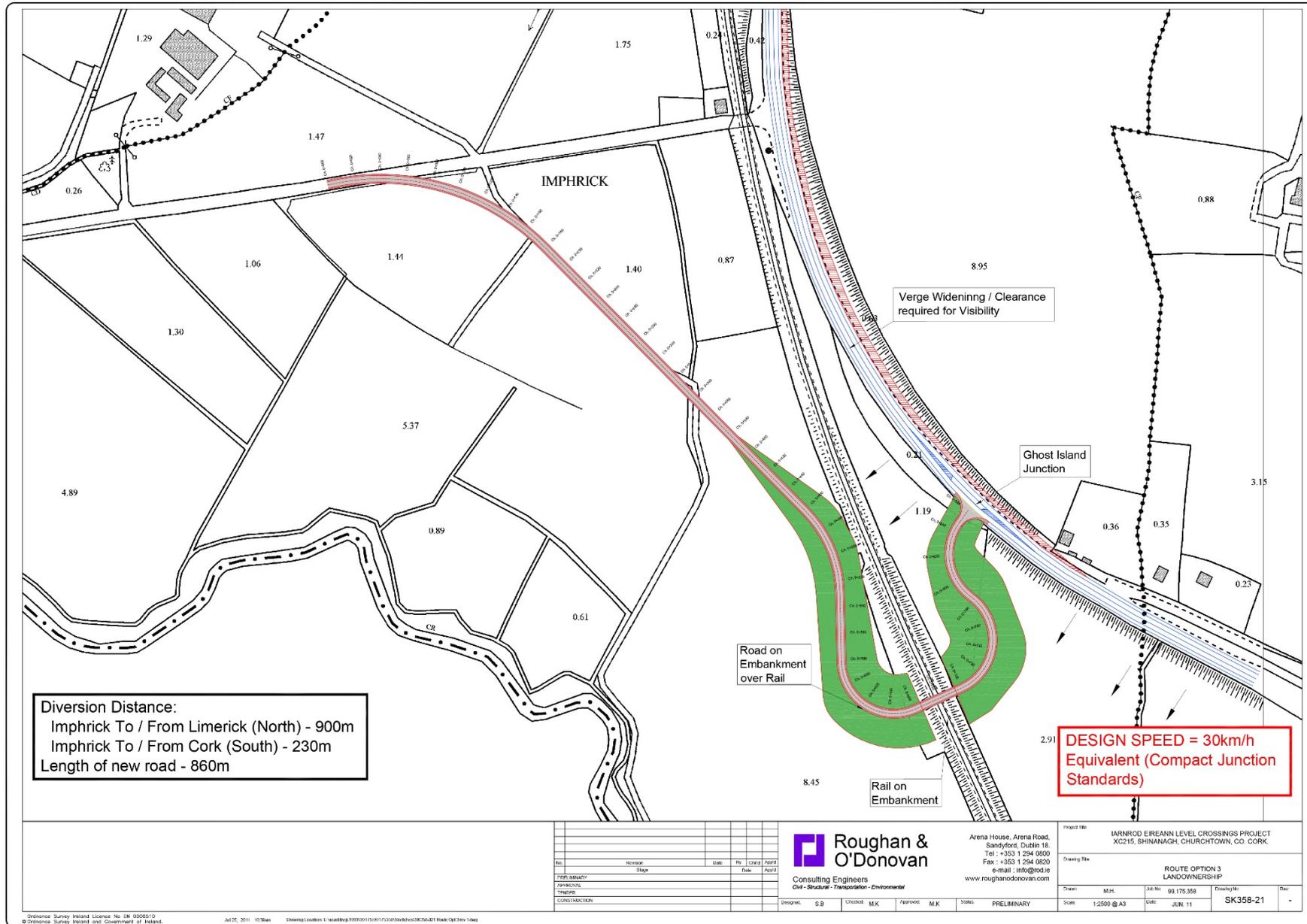


Figure 8: Level Crossing XC215 – Scheme Design Option 1

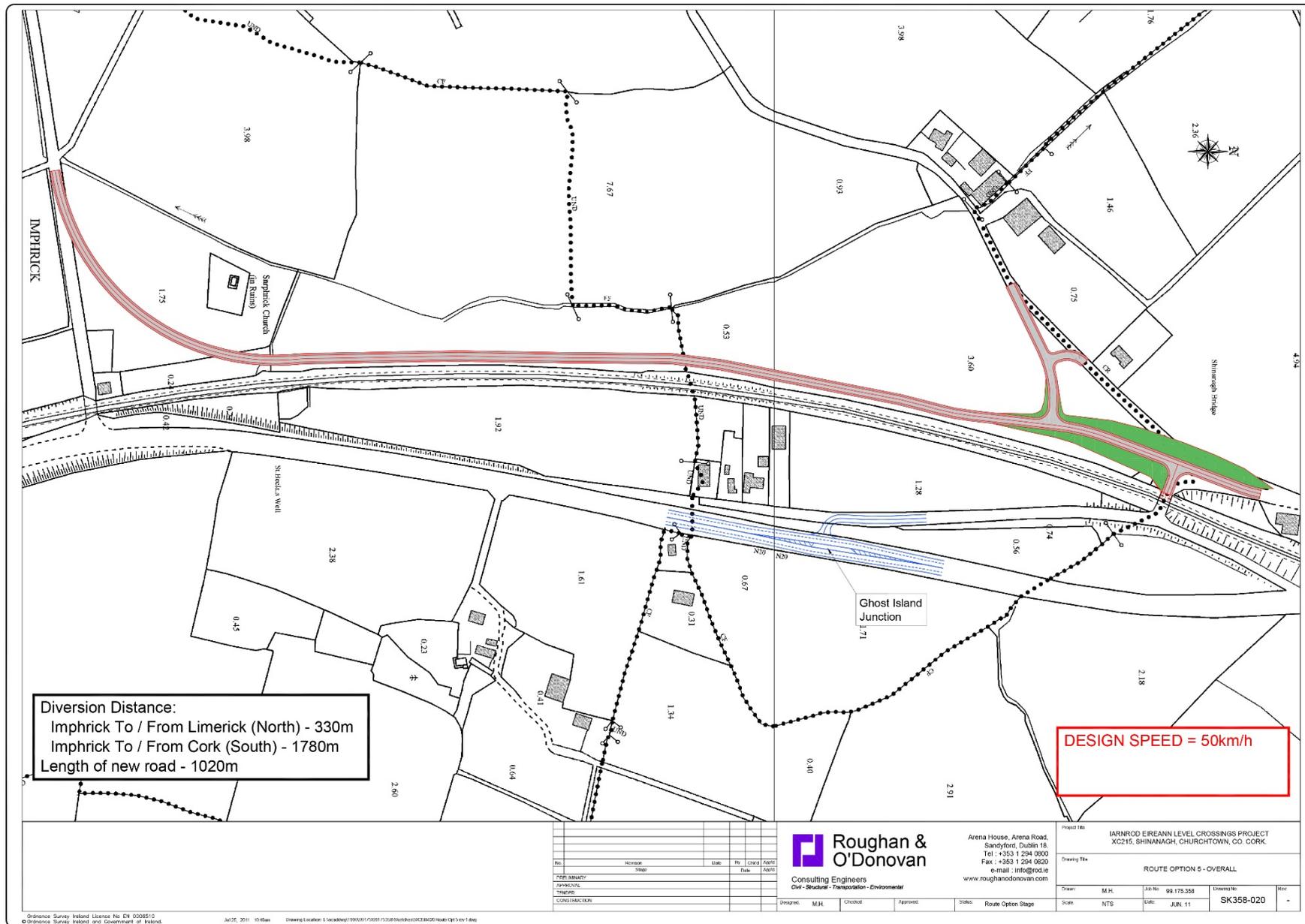


Figure 9: Level Crossing XC215 – Scheme Design Option 2



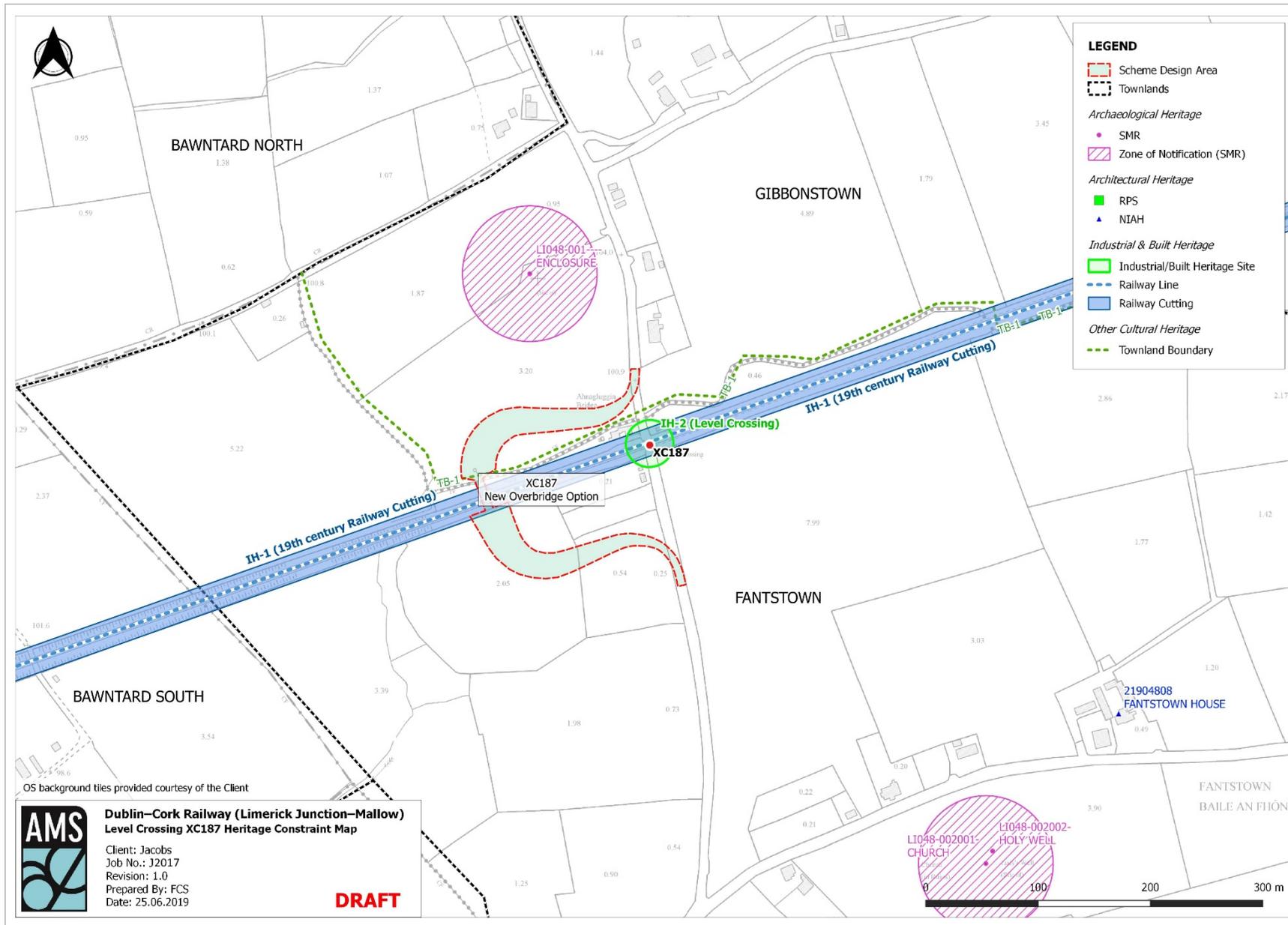


Figure 11: Level Crossing XC187, Heritage Constraint Map

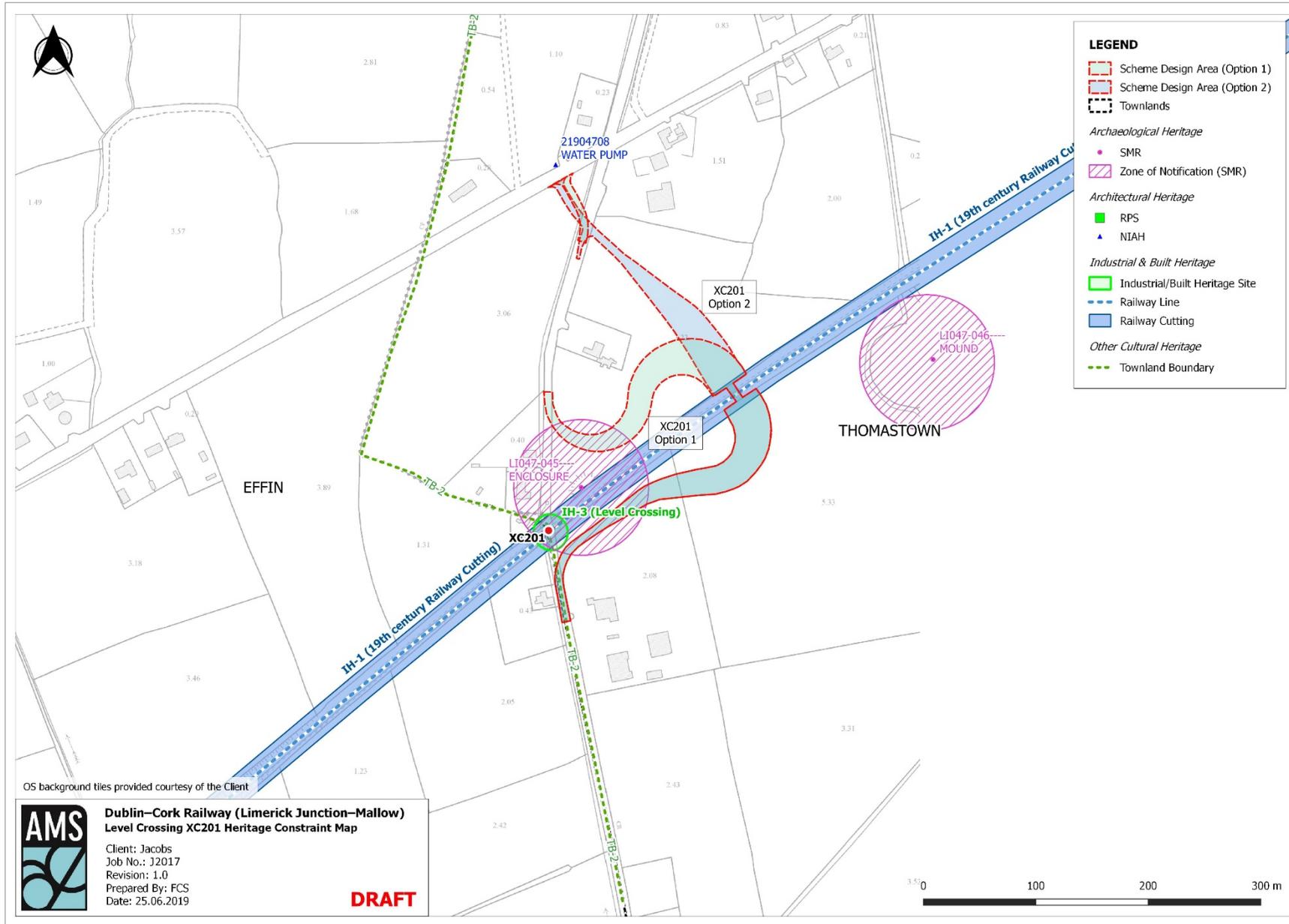


Figure 12: Level Crossing XC201, Heritage Constraint Map

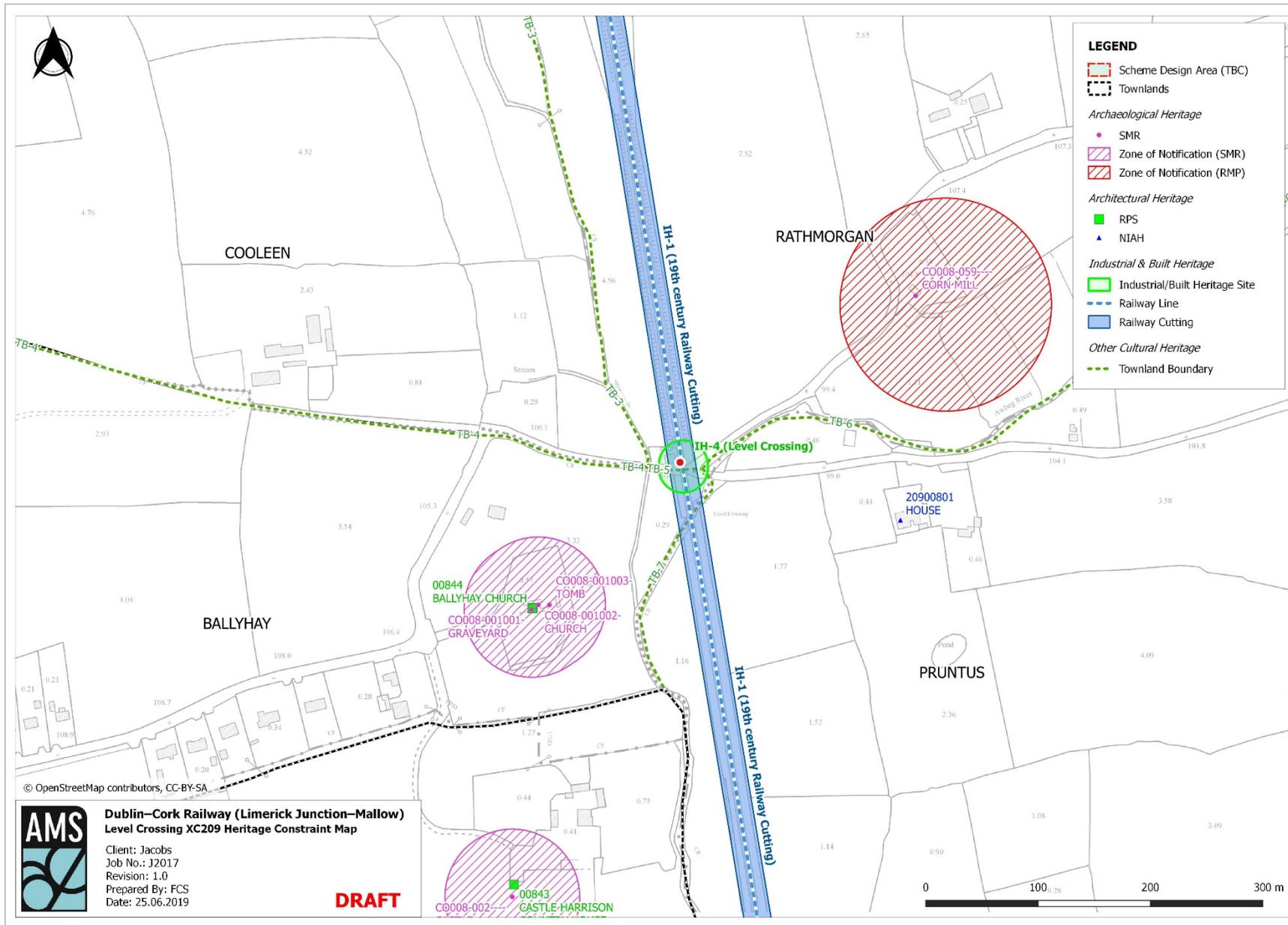


Figure 13: Level Crossing XC209, Heritage Constraint Map

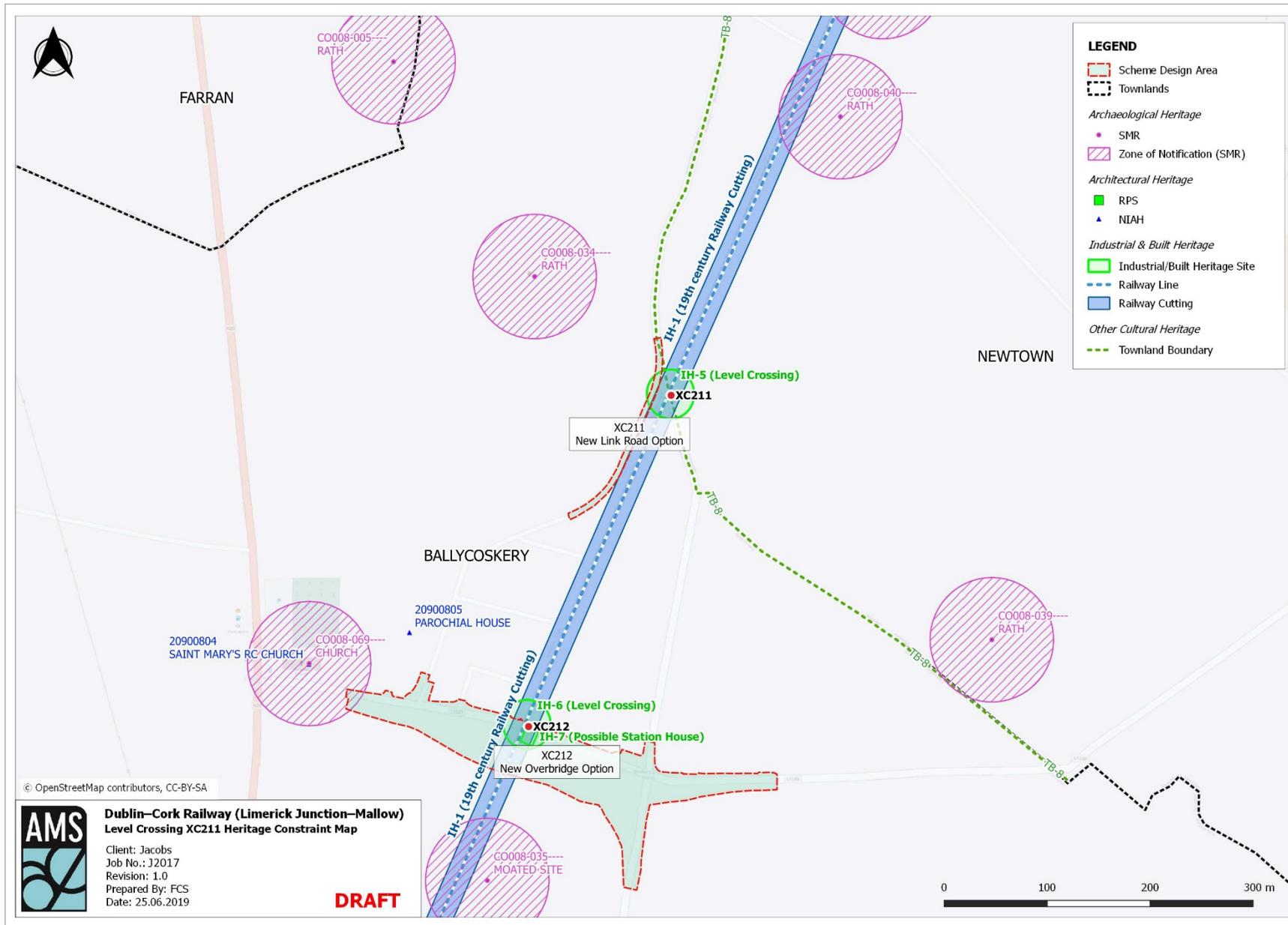


Figure 14: Level Crossing XC211, Heritage Constraint Map



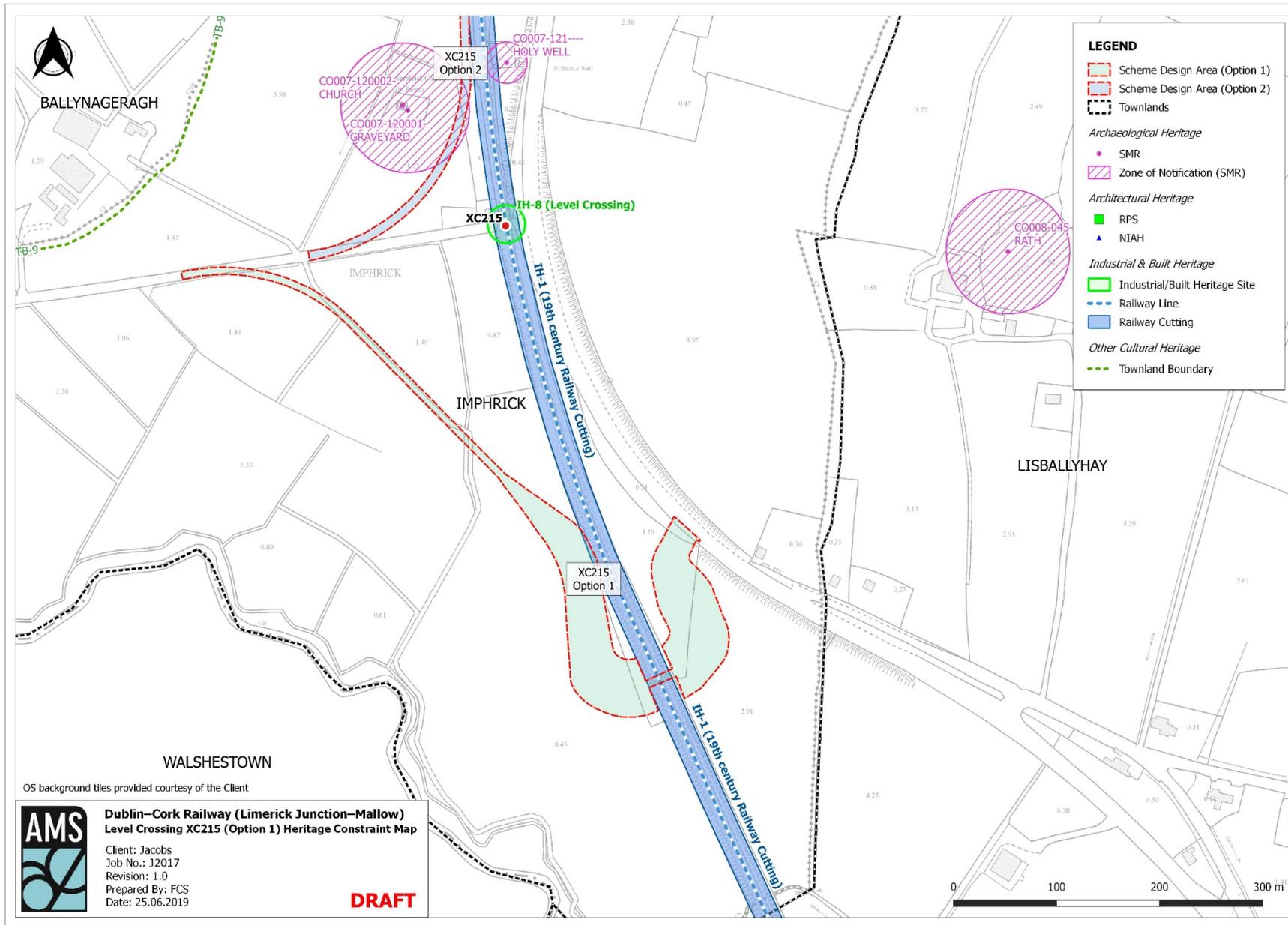


Figure 16: Level Crossing XC215 (Option 1), Heritage Constraint Map

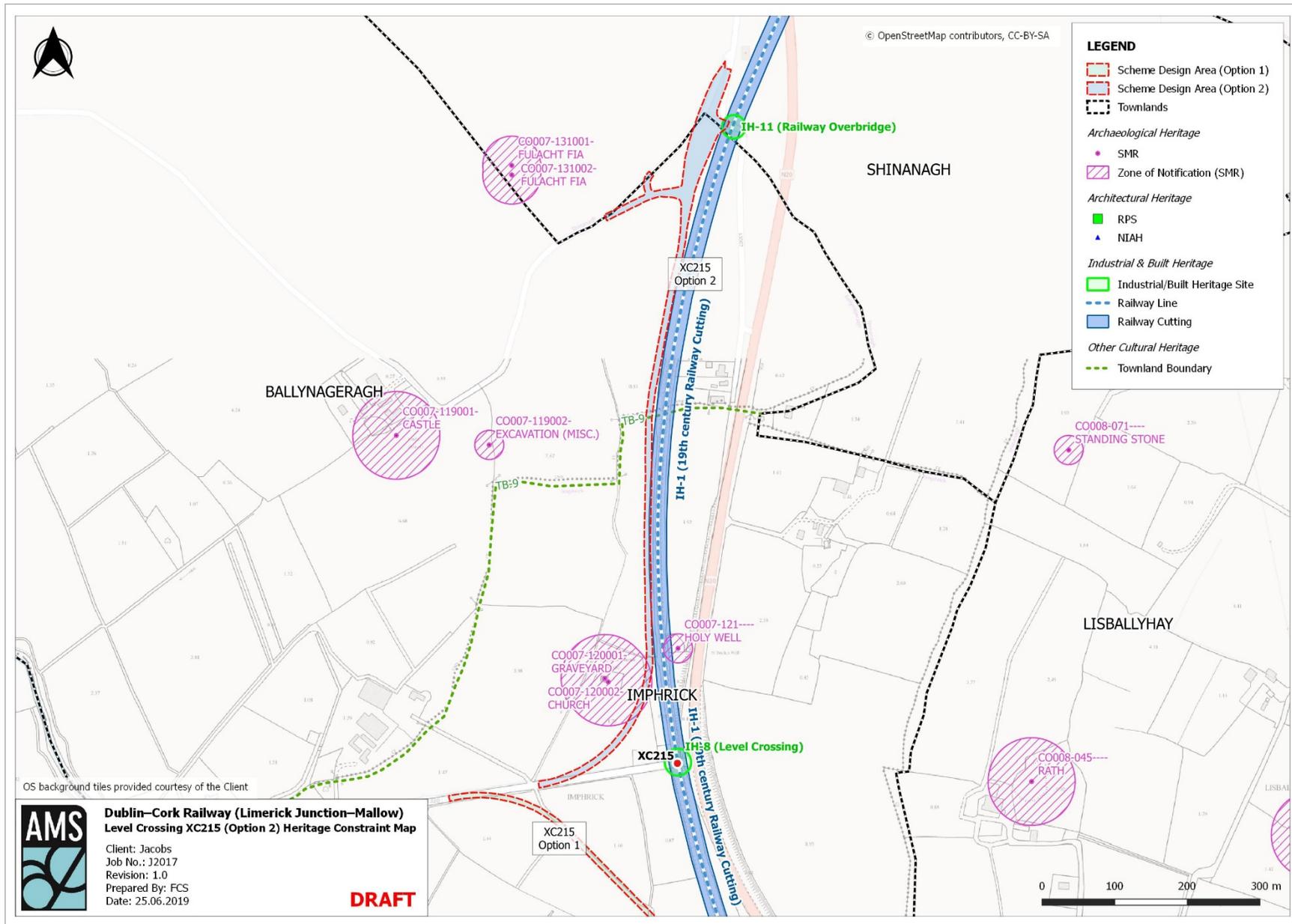


Figure 17: Level Crossing XC215 (Option 2), Heritage Constraint Map

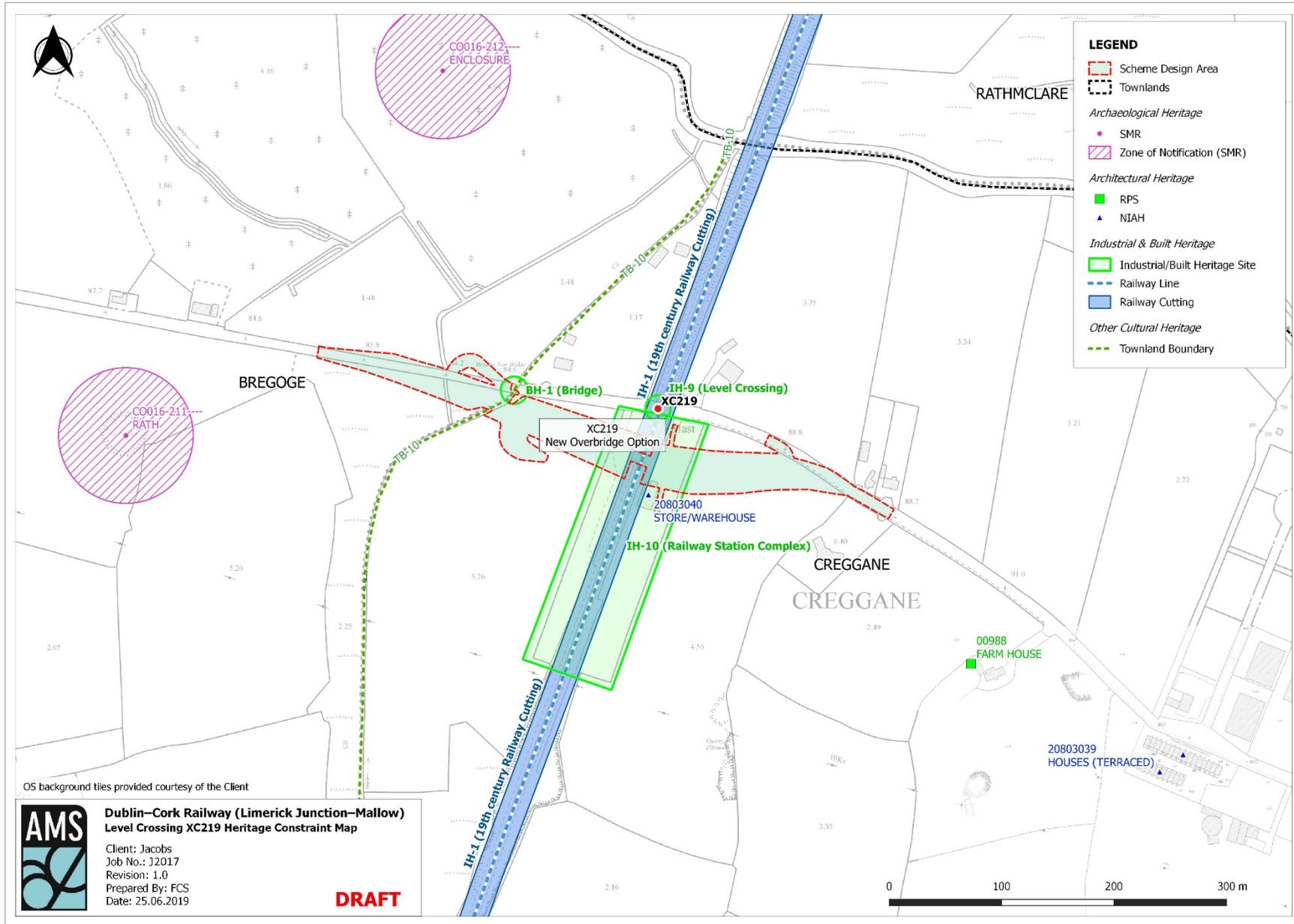


Figure 18: Level Crossing XC219, Heritage Constraint Map