

past | present | future

ACS



Jacobs



**Cork Line Level Crossings Project –**

**Newtown, Ballyhea, Co. Cork**

**Targeted Archaeological Test Excavations**

ARCHAEOLOGICAL  
CONSULTANCY  
SERVICES UNIT



Prepared for Iarnród Éireann by Ian Russell

Licence No.: 20E640&20R249

7<sup>th</sup> December 2020

HEAD OFFICE

Unit 21

Boyne Business Park

Greenhills, Drogheda

Co. Louth

Tel: 041 9883396

## PROJECT DETAILS

<b>Project Details</b>	Targeted Archaeological Test Excavations, Cork Line Level Crossings Project: Newtown, Ballyhea, Co. Cork
<b>Chainage</b>	XC211 Newtown
<b>Site Name</b>	Newtown, Ballyhea, Co. Cork
<b>Licence Number</b>	20E640 & 20R249
<b>Townland</b>	Newtown
<b>Parish</b>	Ballyhay
<b>County</b>	Cork
<b>ITM</b>	554989, 618260 (N) to 554815, 617909 (S)
<b>RMP</b>	CO008-040----
<b>RPS</b>	None
<b>Consultant</b>	Archaeological Consultancy Services Unit, Unit 21 Boyne Business Park, Greenhills, Drogheda, Co. Louth
<b>Iarnród Éireann Project Archaeologist</b>	Jonathan Dempsey, Jacobs
<b>ACSU Project Manager</b>	Donald Murphy
<b>Excavation Director</b>	Ian Russell
<b>Site Type</b>	Environs of ringfort
<b>Report by</b>	Ian Russell and Magda Lyne
<b>Report Status</b>	Draft
<b>Report Date</b>	7 <sup>th</sup> December 2020
<b>ACS Ref.</b>	2058

## Contents

1. INTRODUCTION .....	1
1.1 Scheme location and description .....	1
1.2 Archaeological Potential .....	1
1.3 Geophysical Survey .....	1
2. ENVIRONMENTAL AND HISTORIC CONTEXT .....	2
2.1 Topography, soils, geology & hydrology .....	2
2.2 Historical background .....	2
2.3 Recorded Monuments and Place and Topographic Files .....	5
2.4 Protected Structures .....	6
2.5 Previous Archaeological Investigations .....	6
2.5.1 Previous Investigations within the site .....	7
3. ADVANCE TARGETED ARCHAEOLOGICAL TEST EXCAVATIONS .....	7
3.1 Aims & Objectives .....	7
3.2 Methodology .....	8
3.2.1 Survey, Excavation and Recording .....	8
3.2.2 Finds Retrieval and Sampling Strategies .....	8
3.2.3 Conditions .....	8
3.2.4 Constraints on Methods .....	8
3.3 Specialist Contributions and / or Consultations .....	9
4. ARCHAEOLOGICAL EXCAVATION RESULTS .....	9
4.1 Field 1 .....	10
4.1.1 Ditch C4 .....	10
4.2 Field 2 .....	11
4.3 Field 3 .....	11
5. ARTEFACT CATALOGUE .....	12
6. ENVIRONMENTAL REGISTER .....	12
7. DISCUSSION .....	12
8. POST-EXCAVATION PROPOSAL .....	14
8.1 Artefacts .....	14
9. RECOMMENDATIONS .....	14
9.1 Further Work .....	14
10. INVENTORY OF FEATURES .....	15
11. BIBLIOGRAPHY .....	16
12. EXCAVATIONS BULLETIN .....	18
13. APPENDICES .....	20
13.1 Appendix 1: List of Plans and Sections .....	20
13.2 Appendix 2: List of Photographs .....	21

## List of Tables

Table 1:	Recorded Monuments in the environs of the site
Table 2:	Previous archaeological investigations within and in the environs of the site
Table 3:	Field 1 Test Excavation Results, Test Trenches 1-7
Table 4:	Field 2 Test Excavation Results, Test Trenches 8-13
Table 5:	Field 3 Test Excavation Results, Test Trenches 14-16
Table 6:	Significance of findings
Table 7:	Inventory of features
Table 8:	List of plans and sections
Table 9:	List of photographs

## List of Figures

Figure 1:	Location of site
Figure 2:	Location of the site and nearby Sites and Monuments Record sites
Figure 3:	Extract from 1st edition Ordnance Survey (OS) 6-inch map (surveyed 1840 - published 1844), showing the location of the site
Figure 4:	Extract from 3rd edition Ordnance Survey (OS) 25-inch map (surveyed 1903 - published 1904), showing the location of the site
Figure 5:	Aerial view of the site, showing geophysical survey results and location of excavated test trenches
Figure 6:	Detail of ditch uncovered in Trench 4

## List of Plates

Plate 1:	Trench 1 facing northwest
Plate 2:	Test Trench 2 facing southeast
Plate 3:	Test Trench 3, facing north
Plate 4:	Test Trench 4 facing southwest showing modern ditch C4 in plan
Plate 5:	Trench 4, northwest facing section of modern ditch C4, facing southeast
Plate 6:	Trench 5, facing northeast
Plate 7:	Test Trench 6, facing northwest
Plate 8:	Test Trench 7, facing west

- Plate 9: Test Trench 8, facing southwest
- Plate 10: Test Trench 8, depression across the field, facing east
- Plate 11: Test Trench 9, facing northeast
- Plate 12: Test Trench 10, facing southeast
- Plate 13: Test Trench 11, facing northeast
- Plate 14: Test Trench 12, facing southeast
- Plate 15: Test Trench 13, facing northeast
- Plate 16: Test Trench 14, facing northeast
- Plate 17: Test Trench 15, facing west
- Plate 18: Test Trench 16, facing north

## EXECUTIVE SUMMARY

This report details the results of Advance Targeted Archaeological Test Excavations at Newtown, Ballyhea, Co. Cork as part of the Cork Line Level Crossings Project. The site comprises two large open fields currently in use as pasture set in a landscape of undulating hills, in the townland of Newtown, civil parish of Ballyhay and barony of Fermoy in County Cork.

The site is within the zone of archaeological notification associated with a Recorded Monument listed within the Record of Monuments and Places for County Cork (1998). This monument is described as a partially levelled Ringfort - rath (CO008-040----) located adjacent and west of the northern end of the site and depicted on the first edition OS map of 1840 where the south-eastern bank appears as the most substantial. By the time of the third edition OS map, it is depicted as a circular area with a field boundary extending roughly north-east to southwest across it.

There are no Protected Structures on the site or in Newtown townland identified in the Cork County Council Development Plan 2013–2019. The nearest architectural heritage site is listed within the National Inventory of Architectural Heritage (NIAH) is a parochial house (NIAH Reg. No 20900805) located c. 0.34 km to the southwest of the site.

This programme of Advance Targeted Archaeological Test Excavation was based on the results of a geophysical (Fluxgate Gradiometer) survey undertaken as a component and in advance of the Cork Line Level Crossings Project (20R0017) carried out by Archaeological Management Solutions in February 2020 and Target Archaeological Geophysics in June 2020. The Test Excavations Strategy was designed to assess the nature of geophysical anomalies of archaeological potential detected during these surveys. The results of these test excavations will inform the Cork Line Level Crossings Project Environmental Impact Assessment Report (EIAR).

Ian Russell of ACSU undertook the test excavations under licence 20E640 between the 17<sup>th</sup> and 18<sup>th</sup> November 2020. A metal detector was used under licence 20R249 to scan all relevant archaeological and potential archaeological soils. A total of 16 test trenches were excavated across the footprint of the site using a 14 tonne tracked excavator fitted with a 1.8m wide toothless bucket. In total 226m of linear trenches were excavated. Anomalies identified during the geophysical survey (20R0017) were targeted (trenches 1-13). In general, the average thickness of the topsoil measured c. 0.35-0.55 m and consisted of dark reddish-brown sandy clay with frequent stones exposing a natural, mid-reddish-orange sandy clay with stones.

No remains of the Ringfort (CO008-040----) were exposed within the excavated trenches in the north part of the site. In Field 1, the ditch C4 exposed in Trench 4, to the northeast of the Ringfort, represents the remains of a field boundary shown on the Ordnance Survey 6-inch map of 1840. In Field 2, in Trench 8, a linear depression in the field was visible and represented modern farm tracks running along the former field boundary.

It appears that the remaining anomalies identified in the earlier geophysical survey represent geological differences in the natural and/or changes in the topsoil, and therefore are not of archaeological origin.

While no archaeological material was exposed, the test trenches were limited and targeted the anomalies identified in the course of the geophysical survey only. The possible presence of smaller archaeological features can not be dismissed however; therefore it is recommended that the area is subject to more general test trenching throughout the full land take area, in advance of construction works commencing. The details of any mitigation measures will be set out in the Environmental Impact Assessment Report.

## ACKNOWLEDGEMENTS

This report was prepared by Archaeological Consultancy Services Unit for Jacobs on behalf of Iarnród Éireann. The excavation was carried out under Licence from the Minister of Culture, Heritage and the Gaeltacht, in consultation with the National Museum of Ireland (NMI).

### **Iarnród Éireann Infrastructure**

Project Manager, New Works – James Kenny

### **Jacobs**

Project Manager – Alex Bradley

Project Archaeologist – Jonathan Dempsey

### **National Monuments Service, Department of Culture, Heritage and the Gaeltacht**

Archaeologist – Mairead Weaver

## 1. INTRODUCTION

This report details the results of Advance Targeted Archaeological Test Excavations at Newtown, Ballyhea, Co. Cork as part of the Cork Line Level Crossings Project: (ITM 554989, 618260 (N) to 554815, 617909 (S); Figures 1–2).

This programme of testing was based on the results of a geophysical (Fluxgate Gradiometer) survey undertaken as a component and in advance of the Cork Line Level Crossings Project (20R0017, Dowling 2020; Nicholls 2020). The Test Excavations Strategy was designed to assess the archaeological nature of high potential anomalies detected during these surveys.

The test trenching was carried out by one team working under the direction of Ian Russell of Archaeological Consultancy Services Unit Ltd. under licence 20E0640 between the 17th and 18th November 2020. A metal detector was used under licence 20R249 to scan all potential archaeological soils.

### 1.1 Scheme location and description

The site at Newtown, Ballyhea, Co. Cork is located at Rail Crossing XC211 Newtown, to the north of Doley's Cross Roads and to the east of the Dublin-Cork Railway Line between Limerick Junction and Mallow Station. It consists of parts of three large open fields currently in use as pasture set in a landscape of undulating hills, in the townland of Newtown, civil parish of Ballyhay and barony of Fermoy in County Cork.

Iarnród Éireann is applying to An Bord Pleanála (ABP) for a Railway Order under the Transport (Railway Infrastructure) Act 2001 (as amended) to eliminate/upgrade seven public road level crossings on the Dublin-Cork Railway Line. The proposed development is Strategic Infrastructure Development (SID), and a pre-application consultation has taken place with ABP as well as statutory consultees, including the National Monuments Service (NMS).

A new link road is proposed to the east of the railway corridor to connect the local road at the east side of level crossing XC211 Newtown with the local road to the north-east of the level crossing XC211 Newtown.

### 1.2 Archaeological Potential

The site is located within the zone of archaeological potential associated with a recorded monument, described as a partially levelled Ringfort - rath (CO008-040----). This monument is described as a partially levelled Ringfort - rath (CO008-040----) located adjacent and west of the northern end of the site and depicted on the first edition OS map of 1840 where the south-eastern bank appears as the most substantial. By the time of the third edition OS map, it is depicted as a circular area with a field boundary extending roughly north-east to southwest across it.

There are no protected structures on the site or in Newtown townland in the Cork County Council Development Plan 2013–2019. The nearest architectural heritage site is listed within the National Inventory of Architectural Heritage (NIAH) is a parochial house (NIAH Reg. No 20900805) located c. 0.34 km to the southwest of the site.

### 1.3 Geophysical Survey

Two phases of geophysical survey were undertaken on the scheme.

- The Phase 1 geophysical survey (20R0017, Dowling 2020) of Field 1 was undertaken by Archaeological Management Solutions in February 2020. Field 1 is located adjacent and east of the railway line and within the zone of archaeological



potential associated with recorded monument (CO008-040----). This work resulted in the identification of a number of features of archaeological and potential archaeological significance. The anomalies identified were interpreted as associated with a partially levelled ringfort (CO008-040----) and/or with other phases of settlement and agricultural activity within the site including the remains of a possible avenue/droeway linking with a small circular enclosure.

- A second phase of geophysical survey of Field 2 (20R0017; Nicholls 2020) was undertaken by Target Archaeological Geophysics in June 2020. Field 2 is located adjacent to and east of the railway line and south of Field 1. This work resulted in the identification of remnants of a probable field system, discrete positives and weak trends of uncertain origin, responses from former boundaries, some of which correspond to historical mapping, localised variations in soil morphology/geology, and modern ferrous deposits.

## 2. ENVIRONMENTAL AND HISTORIC CONTEXT

### 2.1 Topography, soils, geology & hydrology

The site is located in the townland of Newtown, to the northeast of Ballyhea village, to the east of the Mallow – Charleville railway line, west of Ballyhoura Mountains with Caroline Mountain located just c. 1.7km to the southeast of the site. The site is c. 38 km south of the River Shannon and c. 50km north of Lough Mahon and Cork Harbour. The River Awbeg, a tributary of the River Blackwater, is located c. 0.8km to the west of the site.

The site has an elevation of c. 102-113m OD. Field 1 is mostly flat, with a southwest-facing slope at its south end. The north part of Field 2 is occupying a steep southwest-facing slope, the remaining portion of the field has an undulating character, while Field 3 is located on a hill with steep northwest and southeast slopes. The underlying geology of dark muddy limestone and shale is a part of the Ballysteen Formation; this formation comprises irregularly bedded and nodular bedded argillaceous bioclastic limestones (wackestones and packstones), interbedded with fossiliferous calcareous shales. The underlying limestone, shale, is covered by shallow well-drained mineral mainly basic soils (Geological Survey of Ireland).

### 2.2 Historical background

The site lies in the west part of Newtown townland, in the Barony of Fermoy and Civil Parish of Ballyhay. An examination of the Placenames Database of Ireland ([www.logainm.ie](http://www.logainm.ie)) can reveal important information about the natural and cultural heritage of an area. Newtown (Irish: An Baile Nua) was first mentioned in 1663, previously in 1634 the area was described as a part of 'Ballyea als Ballynee als Ballynoe'. There are three recorded monuments located within the townland (see Figure 2); these consist of two ringforts (CO008-040----, CO008-039----) and an Earthwork (CO008-041----). Overall, the broader landscape is dominated by ringforts/raths and this is indicative of a strong early medieval presence in the area. It is notable, however, that in some areas, particularly the west of Ireland, ringforts were also being built and occupied into the medieval period, while others have evidence for later re-use (FitzPatrick 2009), suggesting that some of these unexcavated enclosures could be later in date.

#### Ringfort - rath

A ringfort, as the name suggests, implies a circular enclosure with a minimum of one ditch and possibly accompanying banks, representing the classic early medieval settlement type. They were generally circular, measuring c. 24–60 m in diameter and early Irish laws stated that circularity was a feature of the model ringfort. They are the most common monument type in Ireland, with over 45,000 examples recorded (Stout 1997). County Cork is noted as one of the counties with the highest density of this monument type. Univallate

ringforts are most numerous and account for 80% of the total number, these measure on average 20–40 m in width, with a single earthen bank and an external ditch (O'Sullivan & Downey 2007). Available radiocarbon evidence dates typical univallate and multivallate enclosed settlements to c. AD 600–850, while raised and platform enclosures tend to have a slightly later construction of c. AD 750–950 (Kerr 2007, 98–9). These enclosure sites generally contain houses and ancillary buildings, with excavated examples revealing evidence for activities related to agriculture as well as small-scale craft and industry. Souterrains are also frequently associated with these enclosed settlements and represent artificial underground passages and chambers of varying complexity and construction styles. These farmsteads most likely continued to be occupied into the 10th and 11th centuries AD and possibly even later, particularly in the west of Ireland (FitzPatrick 2009).

## General Background

### *Earlier prehistoric period (c. 8000–2200 BC)*

County Cork was subject to human settlement since Mesolithic times (c. 8000–4000 BC) when early hunter-gatherer communities would have exploited the rivers, lakes and other natural resources around them. As there are no monuments associated with the Mesolithic period, and associated settlement sites can be challenging to locate in the landscape, establishing a detailed picture of the lifestyle of these Mesolithic people must often rely on scatters of diagnostic stone tools. At Kilcummer, Co. Cork, for example, the discovery of a scatter of microliths, overlooking the junction of the Rivers Blackwater and Awbeg, suggests an Early Mesolithic presence, although subsequent excavation did not reveal any significant in situ deposits (Woodman 2015, 205–6).

The Neolithic period (c. 4000–2500 BC) saw the gradual spread of farming throughout Europe, which appears to have also brought with it the custom of communal burial in great stone structures known as megalithic tombs. The cultivation of crops and the husbandry of livestock brought necessary changes in the lifestyle of the people, including the development of more long-term dwellings and extensive woodland clearances for farmland; the remains of a possible Neolithic house (CO016-226001-) were excavated in 1986 during the construction of the Bruff–Mallow gas pipeline (Gowen 1988, 44–51).

Stone circles, stone alignments and standing stones were also markers of important locations during the early prehistoric period and there are several standing stones recorded in the surrounding townlands, including Curraghcloonabro East (CO002-085----); Rathgoggan South (CO003-020----); Lisballyhay (CO008-071----); Walshestown (CO016-075001-); Bregoge (CO16-208----); Velvetstown (CO017-006002-); Kilcolman East (CO017-023----); Ballyellis (CO017-034----); Spital (CO017-118----); Rathclare (CO017-120---- and CO017-126----) and Ballynaboola (CO008-012002-). Many of these may date from the later Neolithic to earlier Bronze Age and are long understood to mark important places, including burials, boundaries and routeways. At Ballynaboola, for example, the standing stone was dislodged during forestry operations in proximity to a cluster of three cist burials (CO008-012001-, 003- and 004-) containing cremated bones, although its original location is not known. That at Walshestown was nearly 10 m west of a burial ground (CO016-075002-) and that at Velvetstown was c. 50 m north-east of a possible earthwork (CO017-006001-).

### *Later prehistoric period (c. 2200 BC–AD 400)*

From the beginning of the Bronze Age (c. 2200–800 BC), inhumation and cremation burials were deposited in pits and stone-lined cists. Many of these burials were accompanied by food vessels and urns, and sometimes copper, bronze or worked stone objects. These sites are often represented by a single grave with no above-ground markers, but others were placed in mounds or barrows. At Rathgoggan South, a possible pit burial was discovered in 1986 during the construction of the Bruff–Mallow gas pipeline, comprising an oval pit filled with abundant charcoal and flecks of burnt bone (Gowen 1988, 179). As mentioned above, three cists were uncovered at Ballynaboola, northwest of Newtown, and although little information survives they appear to have contained cremated bone and may date to this period. A series of barrow monuments are also recorded in the surrounding townlands, including Gortskagh (CO002-016---

-); Ardnageehy (CO007-052----); Castlewrixon South (CO008-028---- and CO008-032----); Garrane (CO008-062----, -063---- and -064-- --) and Kilcolman West (CO017-037002-). Notably, the cluster of barrows at Garrane is just north of the three Ballynaboola cists. Several mounds and ring-ditches are also recorded in the area, some of which may also represent barrow monuments. While these monument types frequently date to the Bronze Age, barrow monuments also continued into the Iron Age (c. 800 BC–AD 400).

Burnt mounds (also known as *fulachtaí fia*) comprise the most commonly discovered evidence for prehistoric settlement across Ireland and represent the use of pyrolithic technology to boil water, with those noted close to a trough generally interpreted as cooking/industrial sites (Hawkes 2018). They generally consist of a low mound of charcoal-enriched soil mixed with an abundance of heat-shattered stones, commonly forming a horseshoe shape in proximity to a trough, and are found in low-lying marshy areas or close to streams, springs and other water sources. Often these sites have been ploughed out and survive as a spread of heat-shattered stones with no surface expression. Analysis of these sites indicates that the tradition originated in the Early Neolithic and continued intermittently until sometime on the mid-first millennium BC, with a concentration of use in the Middle and Late Bronze Age (*ibid.*, 115). A large number of burnt mounds are recorded in the surrounding townlands, including one (CO008-061----) directly beside the Garrane barrows and a cluster of six burnt mounds (CO017-037001-, 003-, 004-, 005-, 006-, 007-) surrounding the Kilcolman West barrow and another (CO008-031----) just south of one of the Castlewrixon South barrows. Many of these burnt mounds are known from on-site surveys, aerial photography and local information, but others have been excavated. Two examples at Rathgoggan South (CO003-015001- and 002-), just southeast of Charleville, and a further two sites at Shinanagh (CO007-131001- and 002-), comprised spreads of burnt mound material (Gowen 1988, 179).

Iron Age occupation has traditionally been difficult to identify in Ireland but recent excavations and research has greatly increased the number of sites and finds across the country (see Corlett & Potterton 2012). Alongside burnt mounds, roundhouses, cereal-drying kilns, metalworking sites and burials in ring-ditches and flat graves have also been increasingly discovered.

### ***Early Medieval (c. AD 400–1100)***

It is suggested that from at least the fifth century AD, significant increases in population were brought about by new agricultural practices. Pollen records dated to this period suggest a huge upsurge in grasses and weeds associated with the development of pasture and arable farming (Aalen et al. 1997, 44). During this period, the development of new plough types and horizontal watermills were two innovations that would have provided farming communities with increased levels of agricultural production. This evidence for economic growth is best seen in the widespread distribution of early medieval (c. AD 400–1100) settlement sites, which occurred as dispersed defended homesteads on lakes (*crannógs*) and across the wider landscape as 'ringforts' or *raths* (O'Sullivan et al. 2013). As detailed above, a *rath* is generally defined by an earthen bank, formed by material thrown up from a fosse or ditch located immediately outside the bank. Comparable enclosures constructed of stone are referred to as *cashels*. Generally, *raths* vary in size from 25–50 m in diameter and are usually circular in plan but can also be oval or D-shaped. Some have more than one bank and ditch but such examples are rarer than the simpler or univallate type. *Raths* generally contain houses and ancillary buildings, with excavated examples revealing evidence for activities related to agriculture as well as small-scale craft and industry. Generally, the internal structures would have been made of perishable materials such as wood and straw, however, stone was also used, particularly in *cashels*. Rural settlement sites such as these were also positioned within wider agricultural landscapes, with many recent excavations uncovering evidence for field systems related to cultivated crops and livestock management, as well as ancillary activities such as processing cereals and iron-working practices (see Corlett & Potterton 2011). The proposed test excavation area is surrounded by *raths*, including two in the townland of Newtown (CO008-039---- and CO008-040----), one to the east (CO008-043----) in the townland of Sorrel and two to the west (CO008-005---- and CO008-034----) in the townlands of Farran and Ballycoskery.

### ***Late Medieval (c. AD 1100–1600) to Post-Medieval (c. AD 1600–1800)***

Charleville, from the Irish Ráth Luirc or An Ráth, would have been extensively occupied during the early medieval period due to the rich agricultural land in this area, known as the Golden Vale. The old name for the area, Rathcogan or Ráth an Ghogánaigh, is reputed to relate to Miles de Cogan, who was granted lands here in 1177 following the Norman invasion (Binchy 1962). During the Elizabethan Munster Plantation, the present town was founded and named Charleville under Royal Charter in 1671 (Flynn 2011, 5). With his residence subsequently burnt in 1690 by the Irish under the command of the Duke of Berwick.

Buttevant was similarly founded during the Anglo-Norman period, with the name representing a corruption of a French word for outpost (Flynn 2011, 5). On the southern side of Buttevant, overlooking the River Awbeg to the east, is the remains of a 13th-century Anglo-Norman masonry castle (CO017-054001-) built by the de Barrys, who were also granted a fair and market at Buttevant in 1234 (Power et al. 2000, 517). There are also several mottes and moated sites within the surrounding townlands, both suggesting the remains of Anglo-Norman sites built in the late 12th/early 13th century and the late 13th/early 14th century respectively. A moated site (CO008-035----) at Ballycoskery, located c. 0.45 km south of the site, comprises a rectangular area measuring nearly 40 m by 30 m defined by an earthen bank with an external ditch (ibid., 493).

At Ballynageragh, Co. Cork, the site of a castle (CO007-119001-) situated on a north-facing slope 600 m north-east of the River Awbeg, is known as Rathmore Castle. Although no surface trace remains, it was reputedly a castle of the Roches that was destroyed in the 17th century (Power et al. 2000, 509). An excavation (CO007-119002-) directly to the east in 1986 uncovered a deposit of burnt stone, stake- and post-holes, pits, a sunken hearth and agricultural furrows/drains, a fragment of a rotary quern stone and corroded bronze and iron objects, all probably related to the use of the castle (Gowen 1988, 136–40).

The first railways were built in Ireland in the early 1880s, with the Great Southern & Western Railway (GS&WR) built initially to connect Dublin with Cashel but later extended to the city of Cork. Many of the associated railway stations and other buildings are an essential part of the history of the railway in Ireland.

### 2.3 Recorded Monuments and Place and Topographic Files

The north extent of the site is located within the zone of archaeological potential associated with a recorded monument, described as a partially levelled Ringfort - rath (CO008-040----) listed within the Record of Monuments and Places for County Cork (1998).

The following is a list of the nearest Recorded Monuments located within the surrounding area (Figure 2). These descriptions are derived from the published Archaeological Inventory of County Cork, Volume 4: North Cork (Power et al. 2000) but in certain instances, the entries may have been revised and updated in the light of recent research and are available in the National Monuments Service Archaeological Survey Database.

Table 1: Recorded Monuments in the environs of the site

RMP/SMR No	Class/ Site Type	Townland	Description
CO008-040----	Ringfort - rath	Newtown	In pasture, on break in NW-facing slope. Depicted as hachured circular enclosure (diam. c. 30m) on 1842 OS 6-inch map; as hachured, nearly circular raised area (diam. c. 20m) on 1905 and 1937 OS 6-inch maps. Field boundary extending N-S bisects enclosure off-centre to E. On W side of field boundary enclosure survives as raised area (diam. 20m) defined by scarp (H 1.6m) S->NNE; external fosse (D 0.6m) to SW. No visible surface trace on E side of boundary fence of remainder of enclosure; according to local information, levelled 1984. Interior slopes down to NW. Railway runs directly outside NW edge of site at a lower level.

RMP/SMR No	Class/ Site Type	Townland	Description
CO008-041----	Earthwork	Newtown	In undulating pasture, almost immediately E of railway line. Irregular, grass-covered platform (25m E-W; 15.5m N-S; H 2m) bounded by drain on N side. Surface of platform uneven. Site may be result of activities associated with drainage or railway works.
CO008-034----	Ringfort - rath	Ballycoskery	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.
CO008-005----	Ringfort - rath	Ballycoskery	In undulating pasture. Depicted as hachured circular enclosure (diam. c. 25m) on 1842, 1903 and 1937 OS 6-inch maps; bank levelled to SW and SE->W on 1903 and 1937 OS 6-inch maps respectively. No visible surface trace of site; according to local information, levelled late 1970s/early 1980s. Bivallate circular enclosure visible as cropmark of fosses in aerial photograph (CASAP); truncated on N side by cropmark of laneway.
CO008-039----	Ringfort - rath	Newtown	In pasture, on gentle SW-facing slope, on NE side of stream which flows northwards to join Awbeg River. Circular area (43.7m NNW-SSE; 40.2m WSW-ENE) enclosed by earthen bank (int. H 1.4m; ext. H 2.1m) N->WNW; truncated by field boundary WNW->N. External fosse (D 1.65m) survives NNE->ESE; inaccessible due to overgrowth and dumped branches. Entrance (Wth 8m) to SSE. Interior grass-covered; raised on S side to compensate for hillslope.

## 2.4 Protected Structures

The site contains no Protected Structures listed in the Cork County Development Plan 2013–2019, and there are no protected structures in the immediate environs of the site. The nearest architectural heritage site is listed within the National Inventory of Architectural Heritage (NIAH) is a parochial house (NIAH Reg. No 20900805) located c. 0.34 km to the southwest of the site.

## 2.5 Previous Archaeological Investigations

An examination into previously excavated sites in the vicinity of the proposed development area indicates that several archaeological investigations have been conducted within the wider area, many of which did not reveal any archaeological remains. Earlier this year, however, a geophysical survey (20R0017) of the site took place in February and June 2020 and produced interesting results that are outlined below.

The details of previous archaeological investigations in the area, derived from the Summary Accounts of Archaeological Excavations in Ireland ([www.excavations.ie](http://www.excavations.ie)), are also outlined below.

Table 2: Previous archaeological investigations within and in the environs of the site

Excavation.ie reference	Licence No.	RMP/SMR No.	Site Type	Investigation type
Geophysical survey of lands at Newtown	20R0017	CO008-040	Environs of Ringfort – rath.	Geophysical Survey.
2006:266 - Ballycoskery	06E1001	N/A	No archaeological significance.	Test Trenching.
2009:165 - Castleharrison	09E0168	N/A	No archaeological significance.	Test Trenching.

### 2.5.1 Previous Investigations within the site

The site was subject to two phases of geophysical survey. The first was carried out by AMS Ltd in February 2020 under licence 20R0017 (Dowling 2020). This work comprised a high-resolution magnetic gradiometer survey of approximately 0.50 hectares and resulted in the identification of a number of features of archaeological and potential archaeological significance. Some of the features mapped by the survey were interpreted as being associated with the partially levelled Ringfort and/or with other phases of settlement and agriculture at the site. These phases of settlement and agriculture represent archaeological features in the form of a network of ditches or stone/compacted earth features and an avenue/droeway with an associated circular enclosure (approx. 13 m in diameter) open to the northwest. An anomaly that was interpreted as a curving ditch that and part of a large enclosure was traced for c. 44 m from the northwest to the southeast. In addition, five anomalies were classed as possible archaeology such as a ditch/drain or wall footings, a possible curving ditch, a rectilinear network of ditches, possible pits and deposits containing burnt material. The remaining two anomalies were deemed to represent possible archaeological features and comprise two curving ditches but might also be natural in origin. The second phase was carried out by Target Archaeological Geophysics GCV on behalf of AMS Ltd in June 2020 under the same detection licence (Nicholls 2020). This high-resolution magnetic gradiometer survey investigated much of the remaining area of the site, comprising an investigation corridor extending across two adjacent fields and covering 0.75 hectares. A series of discrete positives and weak trends of uncertain origin, responses from former boundaries, some of which correspond to historical mapping, localised variations in soil morphology/geology and modern ferrous were all detected. Some of these responses appeared to be continuations of the linear features recorded during the first phase of the survey.

## 3. ADVANCE TARGETED ARCHAEOLOGICAL TEST EXCAVATIONS

### 3.1 Aims & Objectives

Sixteen test trenches (Test Trenches 1-16, Figure 5) were proposed for excavation across the site in Newtown townland. Trenches 1-13 were targeting potential features identified by the geophysical survey (Dowling 2020 & Nicholls 2020). The aim of the targeted test excavations was to determine the archaeological nature (if any) of the geophysical anomalies and identify any archaeological features or structures present within the excavated trenches.

In Field 1 Test Trenches 1-7 were excavated, totalling 87 linear meters and targeted a series of anomalies (AMS: 1, 3, 4, 5, 6, 10 & Target 1) that appeared to represent linear and curvilinear features associated with the Ringfort including a potential part of the ringfort ditch (Anomaly 6) and/or anomalies associated with other phases of settlement and agriculture at the site. These were thought to represent archaeological features in the form of a network of ditches or stone/compacted earth features and an avenue/droeway with an associated circular enclosure.

In Field 2, Test Trenches 8-13 were excavated, totalling 86 linear meters and targeted identified anomalies (Target: 1, 3-6), including a linear thought to represent a field boundary, two associated parallel linears and various linear anomalies of archaeological and potentially archaeological nature throughout the site. These were thought to represent early field systems and recent land use and/or natural soil/geological variation.

In Field 3, Trenches 14-16 were excavated, totalling 53 linear meters, where the geophysical survey could not be carried out due to a steep hill in the south of the field. These were excavated in order to assess the archaeological potential of this part of the site.

## 3.2 Methodology

### 3.2.1 Survey, Excavation and Recording

The test excavation was carried out in accordance with the IAI Code of Conduct for Archaeological Excavation (IAI 2006), the Method Statement and Service Requirements of the Cork Line Levels Crossing Project. The excavation included the creation of a written and photographic record of the archaeology on a feature-by-feature basis using pro-forma record sheets; maintaining daily logs of excavations; and recording stratigraphic relationships and the position and depth of archaeology.

The test trenches were 1.8m wide and excavated to the surface of archaeological deposits or the underlying natural subsoil, whichever was encountered first. Natural sub-soil was exposed in all test trenches.

A mechanical excavator with a 1.8m wide ditching bucket was used to assist in the removal of topsoil and any made ground in horizontal levels of not more than 0.10m in thickness. This work was undertaken under the direct supervision of the excavation director (Ian Russell), in accordance with all current Health and Safety and regulatory legislation guidelines including COVID19 procedures. All exposed features were identified, cleaned back and tested by hand (Section 3). The reinstatement of the trenches took place in tandem with the archaeological works. In total 226 linear metres of test trench was excavated.

All features revealed and of archaeological potential were cleaned back and tested by hand using partial excavation and half-sectioning. This work was recorded using detailed written descriptions and drawings on pro-forma field record sheets, giving details where applicable of location, composition, shape, dimensions, relationships, finds, samples, cross-references to other elements of the record and other relevant contexts. Supporting records in the form of registers or lists of drawings, photographs and samples were also created and the Excavation Director maintained a field diary.

Where features were found they were recorded three dimensionally using a combination of scale drawings and GPS surveying. Comprehensive plans and cross-sectional drawings were produced at a scale of 1:10, 1:20 or 1:50, as appropriate, and include Ordnance Datum levels. The layout of all test trenches and the locations of any features recorded within them was recorded by competent surveyors using digital survey equipment and results were plotted in ITM. A high-resolution digital camera was also used to record the excavated test trenches and any identified archaeological features.

### 3.2.2 Finds Retrieval and Sampling Strategies

No archaeological features were exposed, and no finds were recovered.

### 3.2.3 Conditions

The weather throughout the test excavation phase was relatively good with some cloud and showers but mostly dry conditions.

### 3.2.4 Constraints on Methods

All appropriate methods were used to mitigate against any potential impacts in advance of any ground excavation and all groundworks were undertaken in compliance with all relevant Construction Health and Safety Regulations. Identified constraints on the archaeological test excavations were as follows:

- (a) Pasture land: This site is in use as pasture land therefore the impact of the archaeological test excavations on the sod and topsoil had to be minimised. In order to achieve this, the excavator was tracking along the same path to minimise the impact on sod, the trenches were carefully re-instated the same day and any large stones visible following re-instatement were collected by hand.

- (b) Goal Posts were erected where required in adherence to the Code of Practice for Avoiding Danger from Overhead Electricity Lines (2019)

### 3.3 Specialist Contributions and / or Consultations

No artefacts were recovered during the test excavations. The metal detector (20R0249) was used to scan trenches and any potential archaeological features; however no finds were retrieved as a result. No samples were collected as no archaeological features were identified.

As a provision, in case human remains were identified on-site, osteo-archaeologist Glenn Gibney was available to attend the site in the event that burials were identified; however no human remains were exposed.

## 4. ARCHAEOLOGICAL EXCAVATION RESULTS

Sixteen test trenches (Test Trenches 1-16, Figure 5) were proposed for excavation across the site in Newtown townland. Trenches 1-13 were targeting potential features identified by the geophysical survey (Dowling 2020 & Nicholls 2020).

The Advance Targeted Archaeological Test Excavations strategy was designed to assess the archaeological nature of high potential anomalies detected during these surveys. Test trenches excavated did not confirm the presence of the partially levelled Ringfort - rath (CO008-040----) within the area subject to test trenching, and in-depth cartographical analysis of the 1<sup>st</sup> Edition Ordnance Survey Map of 1840 suggest that this monument is located outside of the area to be impacted upon.

In Field 1 Test Trenches 1-7 were excavated, totalling 87 linear meters, and targeted a series of anomalies (AMS: 1, 3, 4, 5, 6, 10, Target 1) that appeared to represent linear and curvilinear features associated with the Ringfort including a potential part of the ringfort ditch (Anomaly 6) and/or anomalies associated with other phases of settlement and agriculture at the site. These were thought to represent archaeological features in the form of a network of ditches or stone/compacted earth features and an avenue/droeway with an associated circular enclosure. A Ditch (C4) exposed in Trench 4 accounts for anomaly AMS 1. The ditch was aligned northwest-southeast measuring 2.3m in width at the top and 0.82m in depth. No finds were recovered. The ditch aligns with a field boundary shown on the 1<sup>st</sup> Edition Ordnance Survey Map of 1840 (Figures 3 & 6). It is therefore assumed to be of 19th-century date and not of archaeological significance. The remaining anomalies targeted in Field 1 appear to line up with areas of natural boulder clay that appear more stony (Trench 2, AMS 1, C3) or have no apparent explanation. No samples were taken as no archaeological features or deposits were identified.

In Field 2, Test Trenches 8-13 were excavated, totalling 86 linear meters, and targeted identified anomalies (Target: 1, 3-6), including a linear thought to represent a field boundary, two associated parallel linears and various linear anomalies of archaeological and potentially archaeological nature throughout the site. These were thought to represent early field systems and recent land use and/or natural soil/geological variation. Trench 8 targeted anomaly Target 1 & 2 and an anomaly labelled as *?Former boundary/land division*. While no apparent explanation was found for anomalies Target 1 & 2, the *?Former boundary/land division* appears to be aligned with a relatively modern farm access track along a former field boundary shown on the 25-inch Ordnance Survey Map of 1907.

The remaining anomalies targeted in Field 2 have no apparent explanation. No samples were taken as no archaeological features or deposits were identified.



In Field 3, Test Trenches 14-16 were excavated, totalling 53 linear meters in order to assess the area, as geophysical survey could not be carried out and trenches were excavated at the locations where possible considering the steeply sloping ground.

No archaeological features or deposits were exposed, and no finds or samples were retrieved.

## 4.1 Field 1

A detailed description of the Field 1 test trenches is provided in Table 3 with an additional description of the ditch C4 in section 3.1.1.

Table 3: Field 1 Test Excavation Results, Test Trenches 1-7

Test Trench No.	Length (m)	Width (m)	Targeting anomaly /vicinity	Contexts recorded	Trench depth (m)	Description
1	10	1.8	AMS 6	C1, C2,	0.45	East northeast-west southwest test trench near the north end of Field 1 (Figures 5-6, Plate 1). No archaeological features. The geophysical anomaly lines up with an area of the natural boulder clay that appears more stony.
2	8	1.8	AMS 6	C1, C2, C3	0.35	Northwest-southeast test trench at the north end of Field 1 (Figures 5-6, Plate 2). No archaeological features. The geophysical anomaly lines up with an area of the natural boulder clay that appears more stony (C3).
3	20	1.8	AMS 4-6	C1, C2,	0.45	North northwest-south southeast test trench at the northern part of Field 1 (Figures 5-6, Plate 3). No archaeological features. No apparent explanation for geophysical anomalies.
4	12	1.8	AMS 1	C1, C2, C4, C5, C6	0.45-0.6	Northeast-southwest test trench at the southern part of Field 1 (Figures 5-6, Plate 4, 5). Ditch C4 accounts for anomaly AMS 1, it was found to represent a field boundary and is not of archaeological significance.
5	12	1.8	AMS 1	C1, C2,	0.45	Northeast-southwest test trench at the southern part of Field 1 (Figures 5-6, Plate 6). No archaeological features. No apparent explanation for geophysical anomalies. No evidence for ditch C3 found in this trench.
6	14	1.8	AMS 3	C1, C2,	0.35	North northwest-south southeast test trench at the southern part of Field 1 (Figures 5-6, Plate 7). No archaeological features. No apparent explanation for geophysical anomalies.
7	11	1.8	Target 2	C1, C2	0.4	East-west test trench at the south end of Field 2 (Figures 5-6, Plate 8). No archaeological features. No apparent explanation for geophysical anomalies.

### 4.1.1 Ditch C4

Ditch (C4) exposed in Trench 4 accounts for anomaly AMS 1 (Figures 5,6, Plates 4-5). The ditch was aligned northwest-southeast measuring 2.3m in width at the top and 0.82m in depth. It was filled by C5 and C6. The basal fill (C6) consisted of a brownish-grey sandy clay with frequent medium to large stones; it measured c. 0.12-0.14m in depth, and was sealed by a brownish-grey sandy clay (C5) with small to medium size stones and pockets of natural yellow clay measuring c. 0.7m in depth.

The ditch aligns with the field boundary shown on the 1st Edition Ordnance Survey Map of 1840 (Figure 2). It is therefore assumed to be of 19th-century date and not of archaeological significance. No finds were recovered and no samples were taken.

## 4.2 Field 2

In Field 2, Test Trenches 8-13 were excavated, totalling 86 linear meters (Figure 5, Plates 9-15), and targeted identified anomalies (Target: 1, 3-6).

A detailed description of the Field 2 test trenches is provided in Table 4.

Table 4: Field 2 Test Excavation Results, Test Trenches 8-13

Test Trench Number	Length (m)	Width (m)	Targeting anomaly	Contexts recorded	Trench depth (m)	Description
8	10	1.8	?Former boundary/ land division	C1, C2	0.5	Northeast-southwest test trench at the north end of Field 2 (Figure 5, Plates 9-10). No archaeological features. Anomaly identified in Geophysics and interpreted as ?Former boundary/ land division appears to be aligned with relatively modern farm access track along former field boundary shown on 25-inch Ordnance Survey Map of 1907.
9	18	1.8	Target 1	C1, C2	0.45	Northeast-southwest test trench near the northern part of Field 2 (Figure 5, Plate 11). No archaeological features. No apparent explanation for geophysical anomalies.
10	17	1.8	Trend	C1, C2	0.5	West northwest-east southeast test trench at the northern part of Field 2 (Figure 5, Plates 12). No archaeological features. No apparent explanation for geophysical anomalies.
11	8	1.8	Target 3	C1, C2	0.45	North northeast-south southwest test trench in the northern part of Field 2 (Figure 5, Plate 13). No archaeological features. No apparent explanation for geophysical anomalies.
12	13	1.8	Target 4	C1, C2	0.45-0.55	North northwest-south southeast test trench in the southern part of Field 2 (Figure 5, Plate 14). No archaeological features. No apparent explanation for geophysical anomalies.
13	20	1.8	Target 5	C1, C2	0.45-0.55	North northeast-south southwest test trench at the south end of Field 2 (Figure 5, Plate 15). No archaeological features. No apparent explanation for geophysical anomalies.

## 4.3 Field 3

In Field 3, Test Trenches 14-16 were excavated, totalling 53 linear meters (Figure 5, Plates 16-18); these were excavated in order to assess the area as geophysical survey could not be carried out here and trenches were excavated at suitable locations where possible considering the slope.

A detailed description of the Field 3 test trenches is provided in Table 5.

Table 5: Field 3 Test Excavation Results, Test Trenches 14-16

Test Trench Number	Length (m)	Width (m)	Targeting anomaly	Contexts recorded	Trench depth (m)	Description
14	17	1.8	N/A	C1, C2	0.45	Northeast-southwest test trench in the northern end of Field 3 (Figure 5, Plate 16). No features or deposits exposed within the trench.

Test Trench Number	Length (m)	Width (m)	Targeting anomaly	Contexts recorded	Trench depth (m)	Description
15	18	1.8	N/A	C1, C2	0.45-0.55	West northwest-east southeast test trench in Field 3 (Figure 5, Plate 17). No features or deposits exposed within the trench.
16	18	1.8	N/A	C1, C2	0.45-0.55	Northwest – southeast test trench at the south end of Field 3 (Figure 5, Plate 18). No features or deposits exposed within the trench.

## 5. ARTEFACT CATALOGUE

No finds were recovered.

## 6. ENVIRONMENTAL REGISTER

No samples were taken as no archaeological features or deposits were exposed.

## 7. DISCUSSION

This programme of Advance Targeted Archaeological Test Excavations was carried out to assess the archaeological nature of high potential anomalies detected during geophysical surveys (20R0017, Dowling 2020; Nicholls 2020) to inform the preparation of an Environmental Impact Assessment Report (EIAR) for the Cork Line Level Crossings Project.

The main aim of the test trenching programme was to determine the nature and significance of a number of anomalies identified during an earlier programme of geophysical investigation which included Geophysical (Fluxgate Gradiometer) survey (Dowling 2020) and high resolution magnetic gradiometry (Nicholls 2020).

The anomalies identified in the course of geophysical survey of Field 1 were interpreted as associated with a partially levelled ringfort (CO008-040----) and/or with other phases of settlement and agricultural activity within the site including the remains of a possible avenue/droeway linking with a small circular enclosure (Dowling 2020). Geophysical survey of Field 2 resulted in the identification of remnants of a probable field system, discrete positives and weak trends of uncertain origin, responses from former boundaries, some of which correspond to historic mapping, localised variations in soil morphology/geology, and modern ferrous activity (Nicholls 2020).

A total of 16 test trenches (Test Trench 1-16) were excavated across the footprint of the site using a 14 tonne tracked excavator fitted with a 1.8m wide bucket. In total 226m of linear trenches were excavated. Anomalies identified during the previously carried out geophysical surveys (20R0017) were targeted in Trenches 1-14. In general, the average thickness of the topsoil measured c. 0.35-0.55 m and consisted of a dark brown sandy clay with frequent stones exposing natural, a mid reddish-orange sandy clay with stones.

No remains of the ringfort (CO008-040----) were exposed within the excavated trenches in the north part of the site. In Field 1, the ditch C4 exposed in Trench 4, to the northeast of the Ringfort, represents the remains of a field boundary shown on the Ordnance Survey 6-inch map of 1843. In Field 2, in Trench 8, a linear depression in the field was visible and represented modern farm tracks running along the former field boundary.

It appears that the remaining anomalies identified in the geophysical survey that were targeted in the course of this limited testing programme represent geological differences in the natural subsoils and/or changes in the topsoil, therefore these are of no archaeological significance.

While no archaeological material was exposed, the test excavations were limited and targeted the anomalies identified in the course of the geophysical survey only. The possible presence of smaller archaeological features can not be dismissed however; therefore it is recommended that the area is subject to more general test trenching throughout the full land take area, in advance of construction works commencing. The details of any mitigation measures will be set out in the Environmental Impact Assessment Report.

## 8. POST-EXCAVATION PROPOSAL

### 8.1 Artefacts

No artefacts were recovered during the test excavations and no further specialist analysis is proposed.

As no archaeological features or deposits were identified, no faunal remains, human remains, paleo-environmental remains or material suitable for RadioCarbon Dating was recovered; therefore, no further specialist work is required.

## 9. RECOMMENDATIONS

The construction of the proposed new link will entail the excavation and construction of a local road with all associated groundworks. This will entail bulk excavation works, which will result in a direct permanent impact on any sub-surface archaeological remains which may potentially exist at this location. Sub-surface archaeological remains may be present that were not identified during the geophysical survey or subsequent targeted test excavation. Therefore, further test excavation and subsequent mitigation, potentially including archaeological excavation may be required. Details of the requirement for further testing and mitigation will be set out in the Environmental Impact Assessment Report.

Should subsurface archaeological remains be identified in the course of further test trenching, full preservation by record (i.e. archaeological excavation) in advance of construction works may be required in order to mitigate this impact, if preservation in-situ is not feasible. The details of any mitigation measures will be set out in the Environmental Impact Assessment Report.

The requirement for preservation by record extends to all lands which may be acquired (both temporary and permanent) and impacted at this location in order to facilitate the successful construction of the link road at level crossing XC211.

### 9.1 Further Work

No further work in relation to this phase of Test Excavations is required as no features of archaeological significance were identified.

## 10. INVENTORY OF FEATURES

Context	Type	Description	Measurements	Associated Cut / Fill	Finds	Samples	Drawings	Plates
C1	Topsoil	Dark reddish-brown sandy clay topsoil under grass sod	0.35-0.55 in-depth	-			Figs 5, 6	All
C2	Natural	Natural mid-reddish-orange sandy clay with stony subsoil		-			Figs 5, 6	All
C3	Natural	Natural boulder clay that appears more stony in sections of Trench 2	0.8m in width	-			Figs 5, 6	Plate 2
C4	Cut	Cut of ditch (C4), cut into natural C2. Within Trench 4. Accounts for anomaly AMS 1. The ditch was U-shaped, aligned northwest-southeast measuring 2.3m in width at the top, and 0.82m in depth. It was filled by C5 and C6. No finds were recovered and no samples were taken. The ditch aligns with the field boundary shown on the 1st Edition Ordnance Survey Map of 1840 (Figure 2). It is therefore assumed to be of 19th-century date and not of archaeological significance.	2.3m in width & 0.82m in depth	C5, C6	-		Figs 5, 6	Plates 4,5
C5	Fill	Top-fill of ditch C4, sealing basal fill C6. C5 consisted of brownish-grey sandy clay with small to medium size stones and pockets of natural yellow clay.	0.7 in depth	C4, C6			Figs 5, 6	Plates 4, 5
C6	Fill	Basal fill of ditch C4, sealed by top layer C5. C6 consisted of brownish-grey clay with frequent medium to large stones.	0.12-0.14m in depth	C4, C5			Figs 5, 6	Plate 5

Table 7: Inventory of features

## 11. BIBLIOGRAPHY

- Aalen, F H A, Whelan, K & Stout, M 1997 Atlas of the Irish Rural Landscape: Early Rural Landscapes from Prehistory to Plantation. Cork University Press, Cork.
- Binchy, D A 1962 'The old name of Charleville, Co. Cork', *Éigse*, Vol.10, No. 3, 211–235.
- Code of Practice between the Department of the Department of Arts, Heritage and the Gaeltacht and Iarnród Éireann (2012).
- Corlett, C & Potterton, M (eds) 2011 Settlement in Early Medieval Ireland in the light of recent archaeological excavations. Wordwell Ltd, Dublin.
- Corlett, C & Potterton, M (eds) 2012 Life and Death in Iron Age Ireland in the light of recent archaeological excavations. Wordwell Ltd, Dublin.
- Doody, M 2008 The Ballyhoura Hills Project. Discovery Programme Monograph No. 7. Wordwell Ltd, Bray.
- Dowling, G. 2020. Geophysical Survey Report of Lands at Newtown, Co. Cork (20R0017). Unpublished report prepared by AMS on behalf of Jacobs.
- FitzPatrick, E 2009. 'Native enclosed settlement and the problem of the Irish 'Ring-fort'', *Medieval Archaeology*, Vol. 53, No. 1, 271–307.
- Flynn, C 2011 Archaeological Desk Based Assessment for XC219, XC215 & XC209 Level Crossings, Co. Cork and XC201 & XC187 Level Crossings, Co. Limerick. Unpublished report prepared by Valerie J. Keeley Ltd for Roughan & O'Donovan/Iarnród Éireann.
- Gowen, M 1988 Three Irish Gas Pipelines: New Archaeological Evidence in Munster. Wordwell Ltd, Dublin.
- Hawkes, A 2018 The Archaeology of Burnt Mounds in Ireland. Archaeopress, Oxford.
- Institute of Archaeologists of Ireland (IAI) 2004. *The Treatment of Human Remains: Technical paper for Archaeologists*. IAI, Dublin.
- Institute of Archaeologists of Ireland (IAI). 2006a. *IAI Code of Conduct for the Treatment of Archaeological Objects in the context of an archaeological excavation*. Dublin: IAI. (<http://www.iai.ie/wp-content/uploads/2016/03/IAI-Code-of-Conduct-for-the-Treatment-of-Archaeological-Objects.pdf>, accessed November 2019).
- Institute of Archaeologists of Ireland (IAI) 2006b. *IAI Code of Conduct for the Archaeological Treatment of Human Remains in the context of an archaeological excavation*. IAI, Dublin.
- Institute of Archaeologists of Ireland (IAI). 2007. *Environmental Sampling: Guidelines for Archaeologists*. IAI, Dublin. (<http://www.iai.ie/wp-content/uploads/2016/03/EnvironmentalSamplingGuidelines-2007-comp-1.pdf>, accessed November 2019).
- Kerr, T., R., 2007 Early Christian Settlement in North-West Ulster. BAR British Series 430. Archaeopress, Oxford.
- McClatchie, M., O Carroll, E. & Murphy E. 2015. *TII Palaeo-Environmental Sampling Guidelines Retrieval, analysis and reporting of plant macro-remains, wood, charcoal, insects and pollen and insects from archaeological excavations Version 5*. Transport Infrastructure Ireland, Dublin.
- National Monuments Service. 2006. Guidelines for Authors of Reports on Archaeological Excavations. <https://www.archaeology.ie/sites/default/files/media/publications/excavation-reports-guidelines-for-authors.pdf>.

National Museum of Ireland (NMI). 2010. *Advice Notes for Excavators*. Dublin: NMI. (<https://www.museum.ie/NationalMuseumIreland/media/Corporate-Information/Policies%20and%20Guidelines/Advice-Notes-for-Excavators-2010.pdf>, accessed October 2018).

Nichols, J. 2020. Geophysical Survey Report XC211 (Newtown Townland) & XC215 (Shinanagh Townland), Cork Line Level Crossing Project, County Cork (20R0016 & 20R0017). Unpublished report prepared by AMS Ltd. on behalf of Jacobs.

O'Sullivan, M., & Downey, L. (2007). Ringforts. *Archaeology Ireland*, 21(3), 32-35

O'Sullivan, A, McCormick, F, Kerr, T R & Harney, L 2013 Early Medieval Ireland AD 400–1100: The evidence from archaeological excavations. Royal Irish Academy, Dublin.

Power, D, Lane, S, Byrne, E, Egan, U, Sleeman, M, Cotter, E & Monk, J 2000 Archaeological Inventory of County Cork Volume 4: North Cork. The Stationery Office, Dublin.

Stout, M 1997 The Irish Ringfort, Four Courts Press, Dublin

Woodman, P C 2015 Ireland's First Settlers: Time and the Mesolithic. Oxbow Books. Oxford

## 11.1 Other Sources

2012 Code of Practice between the Department of the Department of Arts, Heritage and the Gaeltacht and Iarnród Éireann  
<https://www.archaeology.ie/sites/default/files/media/publications/cop-iarnrod-eireann-en.pdf>

Geological Survey Ireland Spatial Resources

(<https://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228>, accessed November 2019).

Heritage Maps: Dublin County Archaeology (<https://www.heritagemaps.ie/WebApps/DublinArchaeologyProject/index.html>).

Index to the Townlands and Towns, Parishes and Baronies of Ireland, Genealogical Publishing Company, 1851. ([www.townlands.ie](http://www.townlands.ie))

National Monuments Service Archaeological Survey Database (<http://webgis.archaeology.ie/historicenvironment/>).

Record of Monuments and Places (RMP), The Department of Arts, Heritage and the Gaeltacht, Custom House, Dublin 1.

Topographical Files of the National Museum of Ireland, Kildare Street, Dublin 2.

Summary Accounts of Archaeological Excavations in Ireland ([www.excavations.ie](http://www.excavations.ie)).

## 11.2 Cartographic Sources

1654–56 Down Survey map of County Dublin, Barony of Coolock.

1757 Rocque's map of Dublin City North West.

1840 Ordnance Survey first-edition six-inch map ([www.map.geohive.ie/mapviewer.html](http://www.map.geohive.ie/mapviewer.html), accessed February 2020).

1906–09 Ordnance Survey third-edition 25-inch maps ([www.map.geohive.ie/mapviewer.html](http://www.map.geohive.ie/mapviewer.html), accessed February 2020).

GeoHive Ordnance Survey mapping data (<http://map.geohive.ie/mapviewer.html>)

Ordnance Survey Ortho (aerial photography) series, 1995, 2000, 2005, 2013



## 12. EXCAVATIONS BULLETIN

**Cork**

**Cork Line Level Crossing Project: XC211 Newtown: Newtown, Ballyhea, Co. Cork**

**20E640**

**ITM 554989, 618260 (N) to 554815, 617909 (S)**

**No archaeological significance**

**17-18<sup>th</sup> November**

A programme of Advance Targeted Archaeological Test Excavations was carried out at Newtown, Ballyhea, Co. Cork in November 2020 as part of the Cork Line Level Crossings Project. The site is located within three large pasture fields, in the townland of Newtown and its northern extent is within the zone of archaeological potential of ringfort (CO008-040----).

The work was carried out on behalf of Iarnród Éireann to help inform the preparation of an Environmental Impact Assessment Report for the preferred route.

The site is located in the immediate environs of a recorded monument listed within the Record of Monuments and Places for County Cork (1998). This monument is described as a partially levelled Ringfort - rath (CO008-040----) located adjacent to and west of the northern extent of the site. It is depicted on the first edition OS map of 1840 with the south-eastern bank appearing as the most substantial. By the time of the third edition OS map it is depicted as a circular area with a field boundary extending roughly north-east to southwest across it.

Prior to the archaeological testing a Geophysical (Fluxgate Gradiometer) survey (Dowling 2020) and high-resolution magnetic gradiometry survey (Nicholls 2020) was carried out under licence 20R0017. The anomalies identified in the course of geophysical survey of Field 1 were interpreted as associated with a partially levelled ringfort (CO008-040----) and/or with other phases of settlement and agricultural activity within the site including the remains of a possible avenue/droeway linking with a small circular enclosure (Dowling 2020). The geophysical survey of Field 2 resulted in the identification of remnants of a probable field system, discrete positives and weak trends of uncertain origin, responses from former boundaries, some of which correspond to historic mapping, localised variations in soil morphology/geology, and modern ferrous activity (Nicholls 2020). The test excavation strategy was designed to target these anomalies to determine if they represented archaeological features.

The site was assessed by Ian Russell between the 17th and 18th November 2020. A total of 16 test trenches were excavated across the footprint of the site using a 14 tonne tracked excavator fitted with a 1.8m wide bucket. A total of 226m of linear trench were excavated. In addition to the targeted testing of the geophysical anomalies, extra test trenches (Trenches 14-16) were excavated in Field 3 where due to the steep slope geophysical survey could not be carried out. The trenches were excavated to assess the archaeological potential of Field 3. No features or deposits were identified.

No remains of the ringfort (CO008-040----) were exposed within the excavated trenches in the northern part of the site. In Field 1, a ditch C4 exposed in Trench 4, to the northeast of the Ringfort, represents the remains of a field boundary shown on the Ordnance Survey 6-inch map of 1843. In Field 2, in Trench 8, a linear depression in the field was visible and represented modern farm tracks running along the former field boundary.

It appears that the remaining anomalies identified in the geophysical survey that were targeted in the course of this limited testing programme represent geological variations in the natural boulder clay and/or changes in the topsoil and are therefore of no archaeological significance.

While no archaeological material was exposed, the test excavations were limited and targeted the anomalies identified in the course of the geophysical survey only. The possible presence of smaller archaeological features can not be dismissed however; therefore it is recommended that the area is subject to more general test trenching throughout the full land take area, in advance of construction works commencing.

*Ian Russell, Archaeological Consultancy Services Unit Ltd., 21 Boyne Business Park, Greenhills, Drogheda, Co. Louth*

#### **References:**

Dowling, G. 2020. *Geophysical Survey Report of Lands at Newtown, Co. Cork (20R0017)*. Unpublished report prepared by AMS on behalf of Jacobs Engineering.

Nichols, J. 2020. *Geophysical Survey Report XC211 (Newtown Townland) & XC215 (Shinanagh Townland), Cork Line Level Crossing Project, County Cork (20R0016 & 20R0017)*. Unpublished report prepared by AMS Ltd. on behalf of Jacobs Engineering.

## 13. APPENDICES

### 13.1 Appendix 1: List of Plans and Sections

Plan No.	Type	Details	Features	Scale	Date
1	Plan	Digital survey plan of all features and trenches	All	1:20	Nov 2020
2	Section	Northwest facing section drawing of ditch C4	C4, C5, C6	1:10	Nov 2020

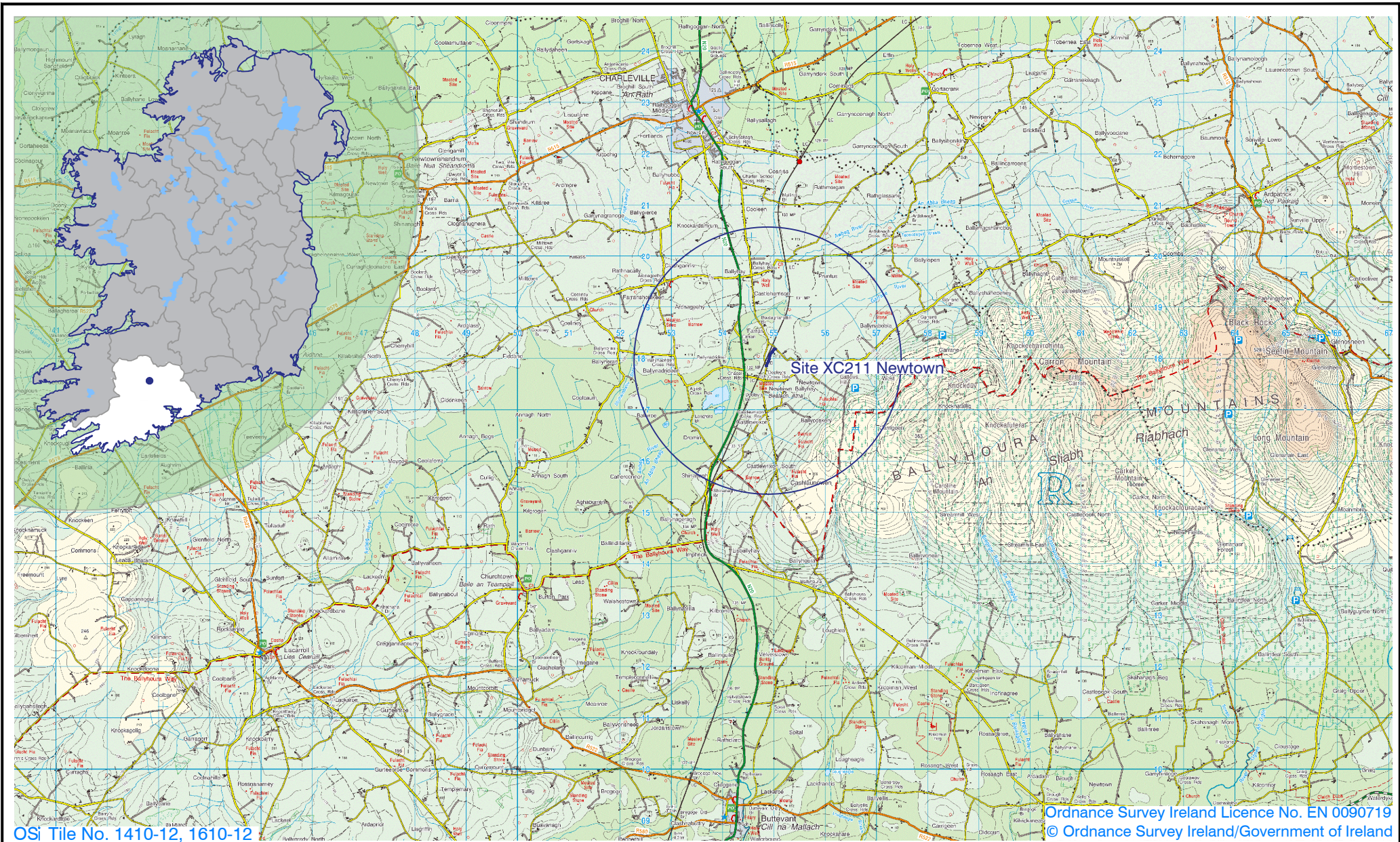
Table 8: List of plans and sections

## 13.2 Appendix 2: List of Photographs

Photo No.	Context No.	Description	Date Taken
Photo (1)	-	Test Trench 2 facing northwest	17/11/2020
Photo (2)	C3	Test Trench 2 facing southeast	17/11/2020
Photo (3)	-	Test Trench 1 facing west	17/11/2020
Photo (4)	-	Test Trench 3 facing north	17/11/2020
Photo (5)	-	Test Trench 4 facing northeast	17/11/2020
Photo (6)	-	Test Trench 4 facing southwest	17/11/2020
Photo (7)	-	Test Trench 5 facing northeast	17/11/2020
Photo (8)	-	Test Trench 6 facing northwest	17/11/2020
Photo (9)	-	Test Trench 7 facing west	17/11/2020
Photo (10)	C4, C5, C6	Ditch C4 in Test Trench 4 facing southeast	17/11/2020
Photo (11)	C4, C5, C6	Ditch C4 in Test Trench 4 facing southeast	17/11/2020
Photo (12)	C4, C5, C6	Ditch C4 in Test Trench 4 facing southeast	17/11/2020
Photo (13)	C4, C5, C6	Ditch C4 in Test Trench 4 facing southeast	17/11/2020
Photo (14)	C4, C5, C6	Ditch C4 in Test Trench 4 facing southeast	17/11/2020
Photo (15)	C4, C5, C6	Ditch C4 in Test Trench 4 facing southeast	17/11/2020
Photo (16)	C4, C5, C6	Ditch C4 in Test Trench 4 facing southeast	17/11/2020
Photo (17)	C4, C5, C6	Ditch C4 in Test Trench 4 facing southeast	17/11/2020
Photo (18)	C4, C5, C6	Ditch C4 in Test Trench 4 facing southeast	17/11/2020
Photo (19)	C4, C5, C6	Ditch C4 in Test Trench 4 facing southeast	17/11/2020
Photo (20)	C4, C5, C6	Ditch C4 in Test Trench 4 facing southeast	17/11/2020
Photo (21)	-	Test Trench 10 facing southeast	17/11/2020
Photo (22)	-	Test Trench 8 facing southwest	17/11/2020
Photo (23)	-	Depression across field at Test Trench 8 facing east	17/11/2020
Photo (24)	-	Test Trench 9 facing northeast	17/11/2020
Photo (25)	-	Test Trench 11 facing northeast	17/11/2020
Photo (26)	-	Test Trench 12 facing southeast	17/11/2020
Photo (27)	-	Test Trench 14 facing northeast	18/11/2020
Photo (28)	-	Test Trench 13 facing northeast	17/11/2020

Photo No.	Context No.	Description	Date Taken
Photo (29)	-	Test Trench 15 facing west	18/11/2020
Photo (30)	-	Test Trench 16 facing north	18/11/2020

Table 9: List of photographs



5 km



**Archaeological Consultancy  
Services Unit** **acsu.ie**



Site: Cork Line Level Crossings Project, Newtown, Co. Cork

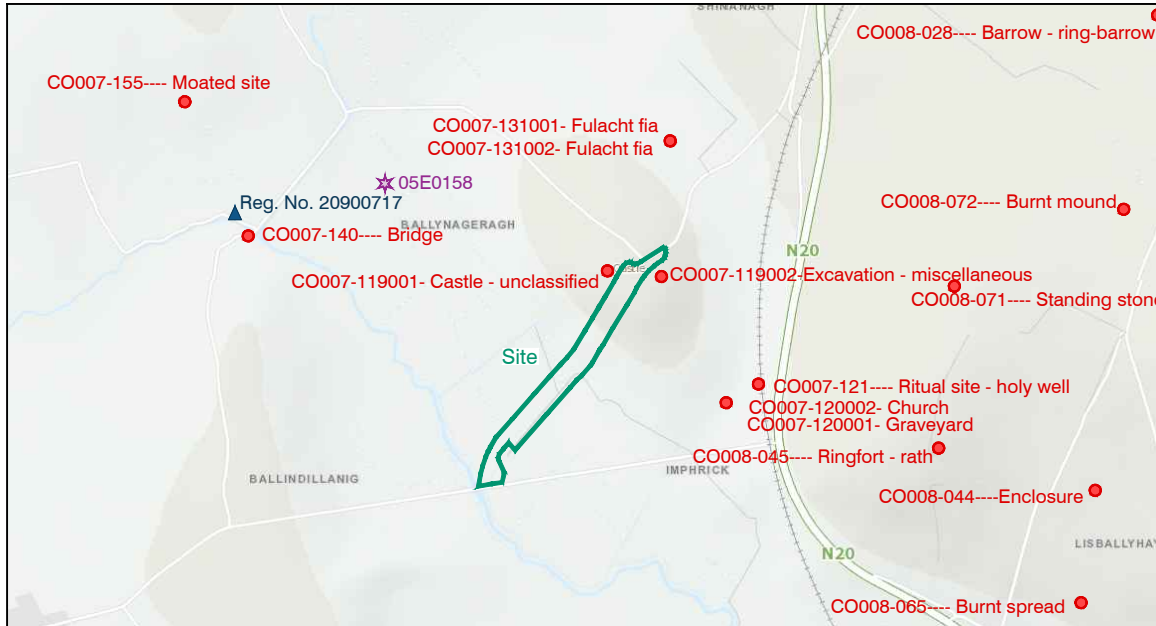
Issued for: Archaeological Test Trenching Report

Drawing number: 2058\_C1031

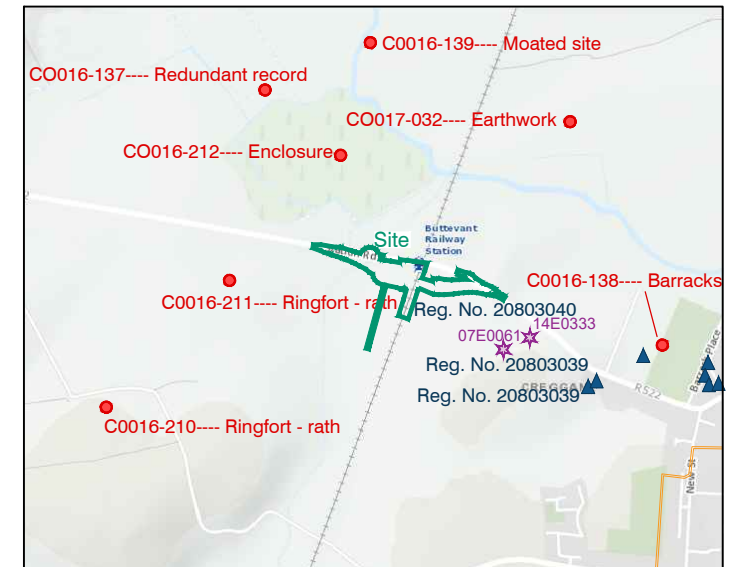
Date: December 2020 | Scale: 1:100,000 @A4

Figure 1: Location of site

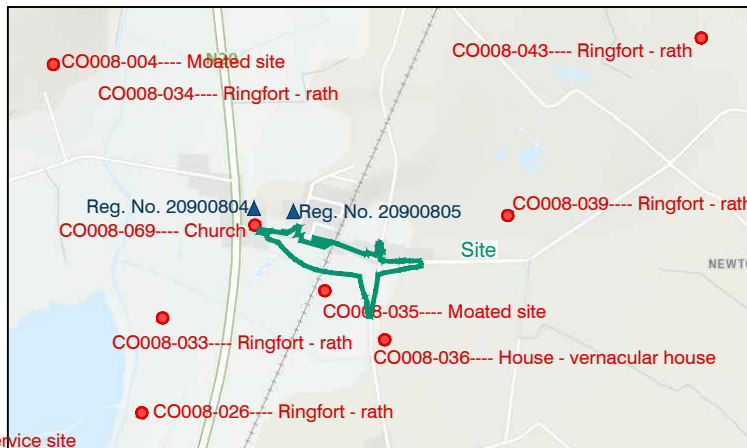
Stage (i)i, XC215 Shinanagh Ballynageragh



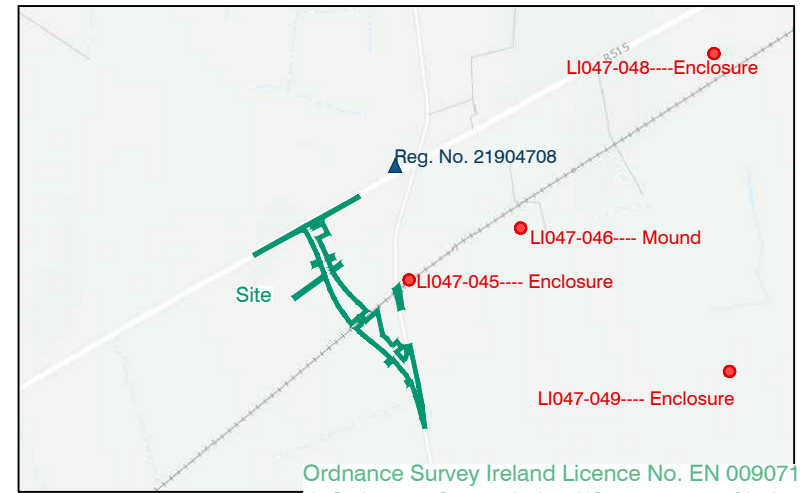
Stage (i)i, XC219 Buttevant



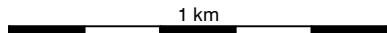
Stage (i)i, XC212 Ballycoskery



Stage (i)i, XC201 Thomastown

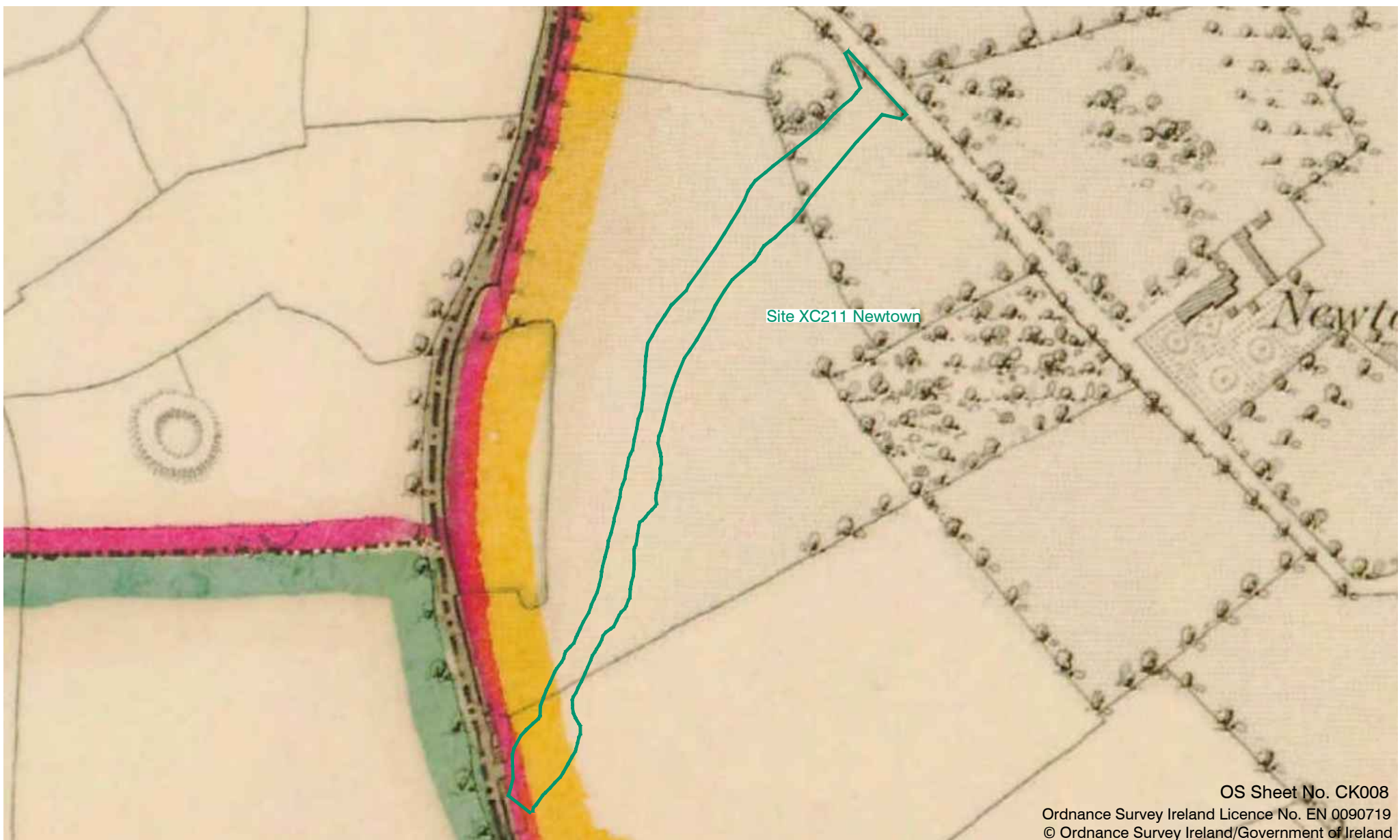


- National Monuments Service site
- ▲ National Inventory of Architectural Heritage site
- ☆ Previous Archaeological Investigations
- Historic town CO017-053001-



<h1>TARGET</h1> <p>ARCHAEOLOGICAL GEOPHYSICS GCV</p>	<h2>Archaeological Consultancy Services Unit</h2> <p><b>acsu.ie</b></p>		Site: Cork Line Level Crossings Project, Co. Cork/Limerick
			Issued for: Geophysical Survey Report
			Drawing number: 2058_C1052
			Date: December 2020   Scale: 1:20,000 @A4

Figure 2: Location of site, previous archaeological investigations and nearby Sites and Monuments Record sites



Site XC211 Newtown

OS Sheet No. CK008

Ordnance Survey Ireland Licence No. EN 0090719

© Ordnance Survey Ireland/Government of Ireland

100 m



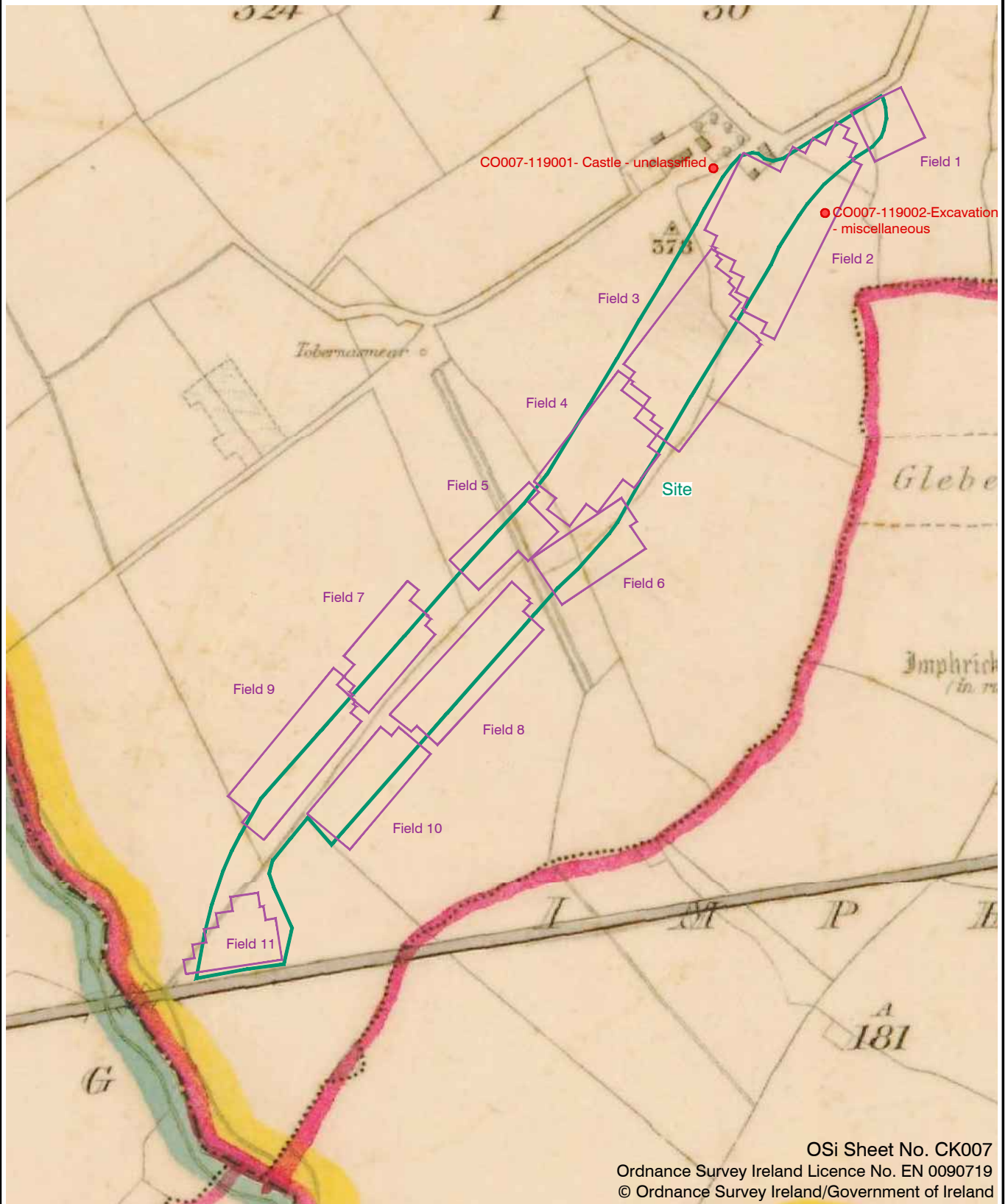
**Archaeological Consultancy  
Services Unit** **acsu.ie**



Site: Cork Line Level Crossings Project, Newtown, Co. Cork  
Issued for: Archaeological Test Trenching Report  
Drawing number: 2058\_C1033  
Date: December 2020 | Scale: 1:2,500 @A4

Figure 3: Extract from 1st edition Ordnance Survey (OS) 6-inch map (surveyed 1840 - published 1844), showing location of site





**TARGET**  
ARCHAEOLOGICAL GEOPHYSICS GCV



200 m

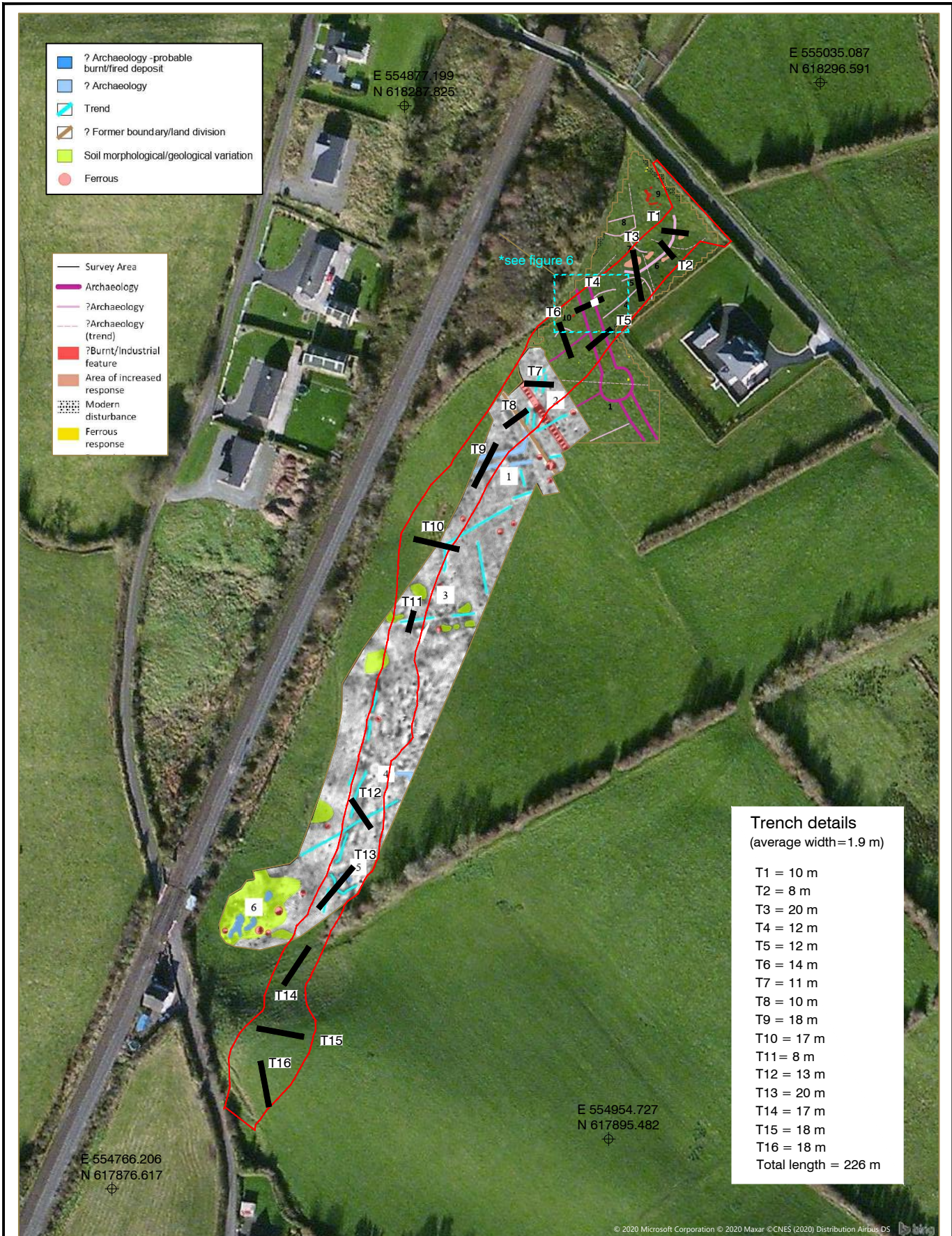
● National Monuments Service site  
□ Geophysical survey areas

**Archaeological Consultancy Services Unit**  
**acsu.ie**



Site: Cork Line Level Crossing Project, Co. Cork/Limerick  
Issued for: Geophysical Survey Report  
Drawing number: 2058\_C1054  
Date: December 2020 | Scale: 1:4,000 @A4

Figure 4: Extract from 1st edition Ordnance Survey (OS) 6-inch map (surveyed 1840 - published 1844), showing location of site and geophysical survey areas

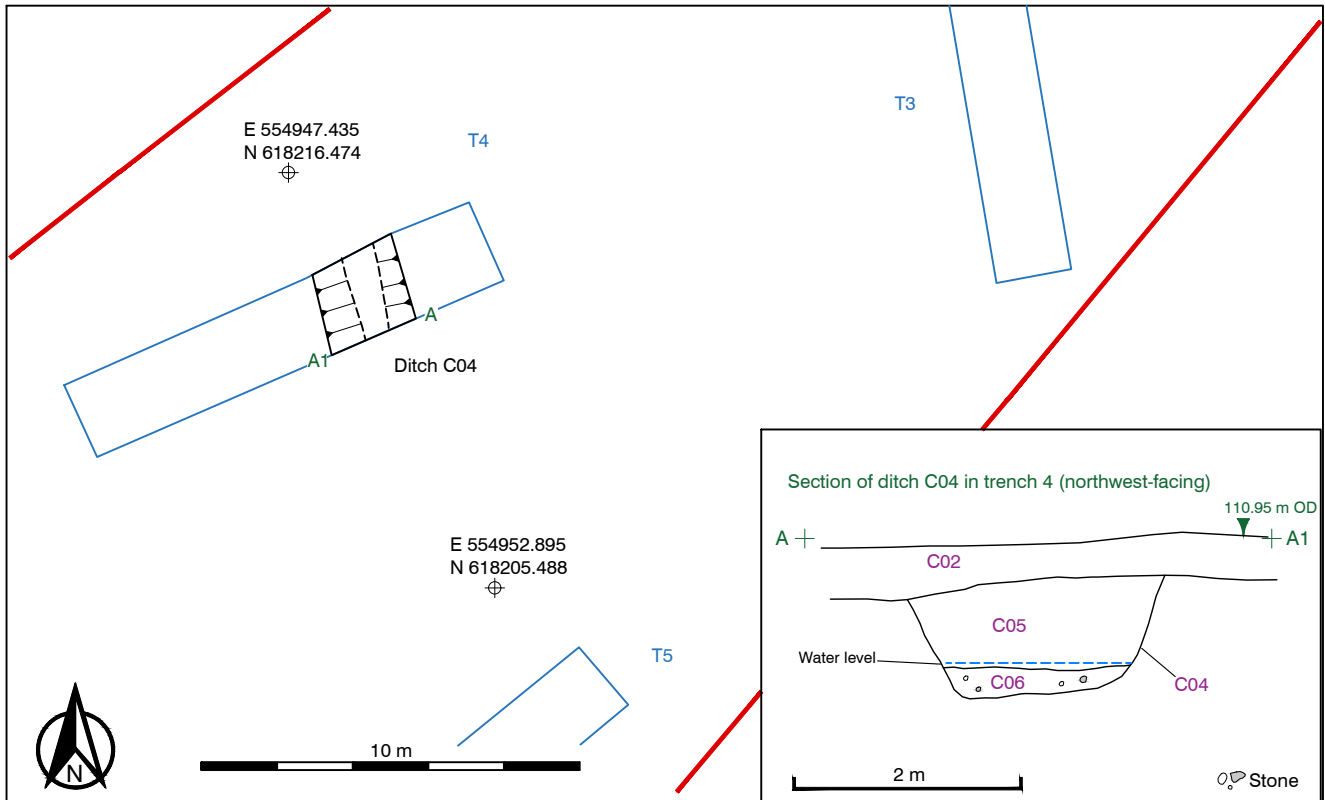


— Excavated test trenches



Figure 5: Aerial view of site, showing geophysical survey results and location of excavated test trenches

Detail of ditch uncovered in Trench 4



Detail of ditch uncovered in Trench 4, overlaying 1st edition Ordnance Survey (OS) 6-inch map

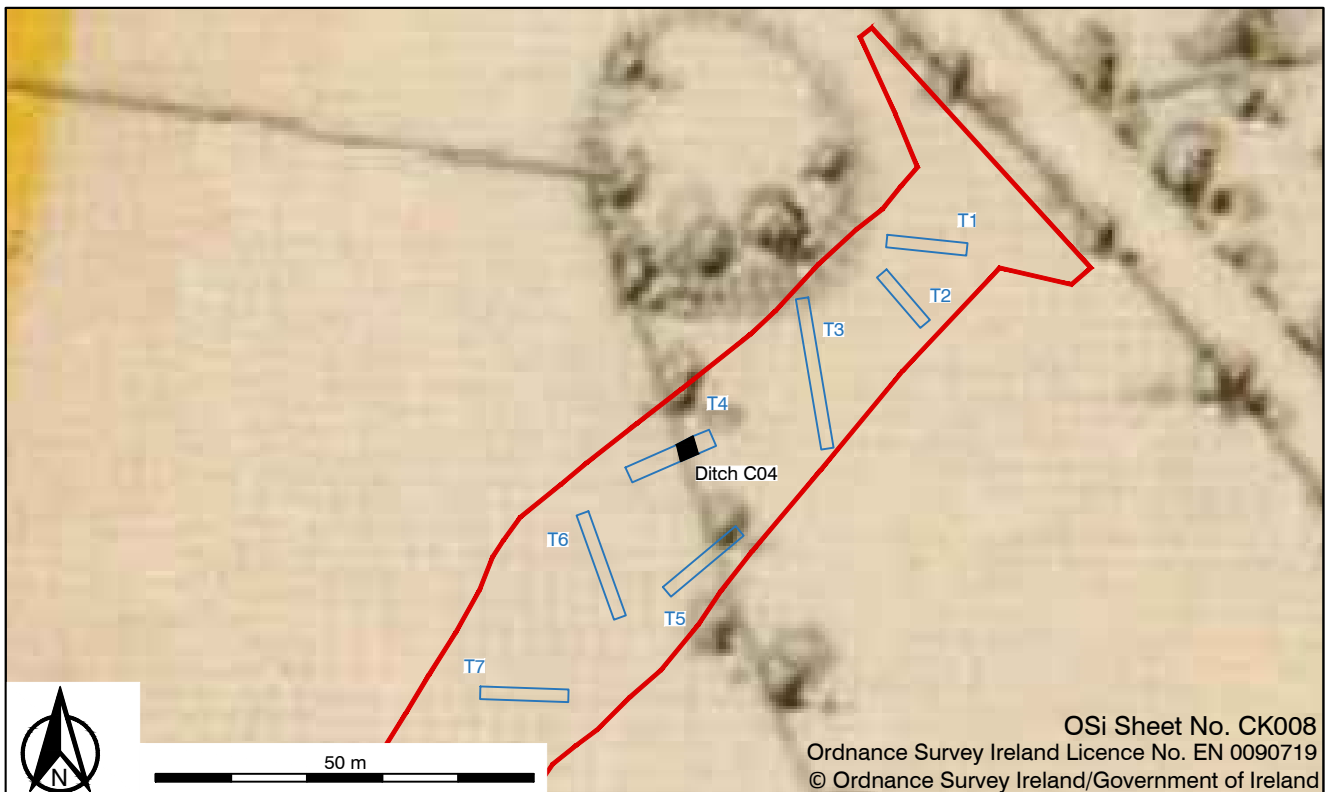


Figure 6: Detail of ditch C04, uncovered in Trench 4



Plate 1: Test Trench 1 facing northwest



Plate 2: Test Trench 2 facing southeast



Plate 3: Test Trench 3, facing north



Plate 4: Test Trench 4 facing south-west showing modern ditch C4 in plan



Plate 5: Test Trench 4, northwest facing section of modern ditch C4, facing southeast



Plate 6: Trench 5, facing northeast



Plate 7: Test Trench 6 facing north-west



Plate 8: Test Trench 7 facing west



Plate 9: Test Trench 8 facing southwest



Plate 10: Test Trench 8, depression across field, facing east





Plate 11: Test Trench 9, facing north-east



Plate 12: Test Trench 10, facing south-east



Plate 13: Test Trench 11, facing north-east



Plate 14: Test Trench 12, facing south-east



Plate 15: Test Trench 13, facing north-east



Plate 16: Test Trench 14, facing north-east



Plate 17: Test Trench 15, facing west



Plate 18: Test Trench 16, facing north