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Report on Archaeological Test Trenching at Kiltotan and Collinstown, and Oldtown, Rochfortbridge, Co. Westmeath

Licence No.: 22E0211

ITM: 645111, 739000

Donald Murphy

30 September 2022

Report Status: Final

ACSU Ref.: 21108

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PART A - PROJECT DETAILS

Project	Archaeological Test Trenching at Kiltotan and Collinstown, and Oldtown, Rochfordbridge, Co. Westmeath
Report Type	Archaeological Test Trenching
Licence No.	22E0211
Townlands	Kiltotan and Collinstown Oldtown
ITM	645111, 739000
Consultant	Archaeological Consultancy Services Unit, 21 Boyne Business Park, Greenhills, Drogheda, County Louth
Excavation Director	Donald Murphy
Report Authors	Donald Murphy and Magda Lyne
Report status	Final
Report Date	30 September 2022
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Revision	Date	Description	Status	Author	Reviewed	Approved
0	30/09/2022	Archaeological Testing Report	Final	D.M, ML	K.C	D.M

EXECUTIVE SUMMARY

This report details the results of an archaeological assessment in the form of test trenching carried out in the townlands of Kiltotan and Collinstown, and Oldtown, Co. Westmeath (ITM 645111, 739000).

There are no monuments listed in the Record of Monuments and Places (RMP) or Sites and Monuments Record (SMR) within the site. However, a number of monuments classed as ringforts are located in close proximity. The nearest are between 150m and 200m from the edges of the site and consist of WM033-068----, WM033-062---- WM033-061---- .

The site was subject to an Environmental Impact Assessment Report that recommended test trenching. Geophysical survey of the site was recommended by Archaeological Consultancy Services Unit Ltd (ACSU) and carried out in January 2022 under licence 21R0317. Areas of possible archaeological activity were identified. The report recommended targeted test trenching of the anomalies identified and the site generally.

The site was subject to archaeological test trenching between 13th and 23rd September 2022. The fieldwork was carried out by Donald Murphy of ACSU under licence 22E0211, issued by the Department of Housing, Local Government and Heritage. A total of 67 test trenches were excavated with an additional 11 offsets to assess features exposed further. Each trench measured 1.8 m in width, and in total, 5146m of linear trenches were excavated. The test trenches were excavated down to the natural subsoil. A mid-brown sandy clay topsoil and sod, with a combined thickness of 0.1m to 0.65m, was taken down onto a natural orange boulder clay with areas of marl. Outcrops of gravel were recorded in the south portion of the site.

Test trenching identified four areas of archaeological activity, including a *fulacht fia*/burnt mound (C3) located in Field 6 (corresponding with Anomaly 6D), and three areas of archaeological activity in Field 1 including a keyhole-shaped kiln (C4), a pit (C5) and a large, circular-shaped charcoal-rich pit (C6). These features were clearly of an archaeological nature, were covered with a protective barrier/terram and the trenches carefully backfilled. Linears, some representing furrows and others corresponding with a townland boundary (C9) and filed boundaries (C7 and C8), were recorded and found to be modern in nature.

The proposed development will impact the archaeological features identified. In order to mitigate the impact on archaeology present, it is recommended that the following areas are stripped of topsoil under strict archaeological supervision:

1) 25m by 25m at the location of *fulacht fia* C3 (Area D)
2) 10m by 10m at the location of keyhole-shaped kiln C4 (Area C)
3) 10m by 10m at the location of charcoal-rich pit C5 (Area A)
4) 10m by 10m at the location of large circular-shaped charcoal-rich pit C6 (Area B)

The features identified and any additional features exposed will require archaeological mitigation (preservation by record, as preservation *in situ* is not possible). This must be carried out prior to groundworks by a licence-eligible archaeologist working under licence from the Department of Housing, Local Government and Heritage.

NON-ARCHAEOLOGICAL INFORMATION

An Roinn Tithíochta, Rialtais Áitiúil agus Oidhreachta
Department of Housing, Local Government and Heritage

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Site Owner:	Lumcloon Energy Limited
Address:	Parsons House, 56 Axis Business Park, Tullamore, Co. Offaly
Planning Authority:	Westmeath County Council
Planning Reg. No.:	21/515; 21/532; ABP 311276-21
Excavation Type:	Test Trenching
Contractor/Developer:	As above
Site	Kiltotan and Collinstown, and Oldtown, Rochfortbridge, Co. Westmeath

Description of Proposed Development

This assessment was carried out in advance of three separated developments for Lumcloon Energy Limited. They comprise a 275MWe reserve gas-fired generator (Planning Ref. 21/515); The Energy Storage System (ESS) (Planning Ref. No. 21/532) and new GIS substation (ABP-311276-21).

Planning Ref. No. 21/515

The development comprises 275MWe reserve gas-fired generator to boost and back up the power system and will include the following elements (a) 5no. open cycle gas turbine (OCGT) modules (each module being c 1042sqm) and complete with lube oil coolers, generators, air intake vents, continuous emissions monitoring (CEMS) technology, selective catalytic reduction (SCR) units and c.30m high stacks, (b) 1no two-storey administration building (32.615m long x 13m wide x 9.33m high) which contains a control room, offices, storage meeting room workshop and double height warehouse (c) 2no. 2,400m3 capacity bunded secondary fuel storage tanks (each with a diameter of 17.6m and height of 10m), (d) a fenced above ground installation (AGI) compound containing gas pipework , a regulator house enclosure, instrument kiosk, boiler house enclosure and analyzer kiosk, (e) 1no. fuel pump and filter unit, (f) 1no. containerised water treatment module (12.192m long x 2.438m wide x 2.896m high), (g) 1no. 10m3 purified water storage tank (2.75mm high and 2.27m diameter), (h) 2no. containerised black start diesel generators (2.438m x 12.192m long x 2.896m high) with integrated stacks(4.755m high), (i) 1 no 50m3 ammonia storage tank (9.360m high and 3.16m diameter, (j) fire pump skid building (9.23m long x 6.98m wide x 4.6m high), (k) 1 no. 500m3 capacity water tank (7.597m high x 10m diameter, (l) 1 no. single storey IPP building (20m long x 10m wide and 6.853m high, (m)

1 no. low voltage (LV) bunded house transformer (1.914m high), (n) 5 no. medium voltage (MV) bunded step-up transformers (6.287 m high) 1no. high voltage (HV) customer compound containing 2no. bunded transformers (9m high) connected to electrical equipment, (o) 1no air compressor building (8.33m long x 4.73m wide x 4.517m high) and (p) all ancillary development including new access road, internal roads, 2.65m high fencing and gates securing the main reserve generator site, and associated engineering works to provide for the connection of site services and for the treatment and disposal of foul wastewater and surface water. The development includes for construction of a new entrance to the site from the R446 with associated signage and an access road from the new entrance to the reserve gas-fired generator. The development also includes for the demolition and removal of a farm shed, farm workshop, feed silo and a silage clamp , permission for a period of 10 years EIAR and Industrial Emissions licence included.

Planning Ref. No. 21/532

The Energy Storage System (ESS) development will comprise: (i) an open area battery energy storage system (BESS) compound(area of 26,317sqm) containing 264no battery modules and associated medium voltage power station (MVPS) enclosures (12.192m long x 2.438m wide x 3.896m high), (ii) IPP building (40n long x 10m wide x 6.853m high), (iii) synchronous condenser compound (area of 9,309sqm) containing a horizontal synchronous generator positioned within a building (30.0m long x 18.0m wide x 12.15m high), 5no control modules each (12.192m long x 2.438m wide x 3.332m high), associated bunded transformers and electrical plant, (iv) high voltage (HV) customer compound containing 1no. bunded transformers (9m high) and electrical plant to provide for connection to the electricity transmission system, and (v) all ancillary development, including lightening mast protection, perimeter fencing with access gates, landscaping, lighting, car parking, internal access roads and all civil engineering works for the disposal of foul and surface water. The development includes for construction of a new entrance and access road to the facility from the R446 with associated signage from the new entrance to the ESS facility. Permission is sought for 10 years. An EIAR has been prepared and accompanies this planning application.

An Bord Pleanála ABP-311276-21

The proposed development will involve the construction of a new GIS substation which will include the following:

- *Two storey (17m) GIS building within a palisade fenced enclosure,*
- *Two new single circuit 23m high towers along the existing 220kV overhead lines,*
- *Two new mini electrical interface compounds, which will facilitate connection of the overhead 220kV single circuit overhead lines to the GIS substation via two underground circuit transmission lines,*
- *Communications tower (36m) and lightening masts*

• Construction of a new entrance to the proposed GIS substation and associated site works. The new GIS substation will facilitate connection of the new back up generator/energy storage system to the electricity grid.

Archaeological Condition

The assessment was carried out in relation to Planning References Nos. 21/515; 21/532 by Westmeath County Council and An Bord Pleanála ABP-311276-21.

21/515 Schedule Two:

3. Archaeological Investigations

> *The applicant is required to engage the services of a suitably qualified archaeologist to carry out an archaeological assessment of the development site. No sub-surface developmental work, including geotechnical test pits, should be undertaken until the archaeological assessment has been completed and commented on by the Department of Housing Local Government and Heritage and written approval received by the Planning Authority.*
>
> *The archaeologist shall carry out any relevant documentary research and inspect the development site. As part of the assessment a programme of test excavation shall be carried out at locations chosen by the archaeologist (licensed under the National Monuments Acts 1930-2004), having consulted the site drawings and the National Monuments Service section of the Department of Housing Local Government and Heritage. Having completed the work, the archaeologist shall submit a written report stating their recommendations to the Planning Authority and to the National Monuments Service section of the Department of Housing Local Government and Heritage. Where archaeological material/features are shown to be present, preservation in situ, preservation by record (excavation) or monitoring may be required. The development thereafter shall be carried out strictly in accordance with the approved details.*

Reason: *To ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest.*

21/532 Schedule Two:

2. Archaeological Investigations

> *The applicant is required to engage the services of a suitably qualified archaeologist to carry out an archaeological assessment of the development site. No sub-surface developmental work, including geotechnical test pits, should be undertaken until the archaeological assessment has been completed and commented on by the Department of Housing Local Government and Heritage and written approval received by the Planning Authority.*

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Reason: *To ensure the continued preservation (either in situ or by record) of places, caves, sites, features or other objects of archaeological interest.*

Impact Statement

The site at Kiltotan and Collinstown, and Oldtown, Co. Westmeath (ITM 645111, 739000) was subject to archaeological assessment, including geophysical survey (21R0317) and test trenching (22E0211).

Four areas of archaeological significance were identified. These include *fulacht fia*/burnt mound C3 located in Field 6 and three areas of archaeological activity in Field 1, including keyhole-shaped kiln C4, pit C5 and large, circular-shaped charcoal-rich pit C6. The features were clearly of an archaeological nature, were covered with protective barrier/terram and the trenches were carefully backfilled. The features identified will be impacted upon by the proposed development. Preservation *in situ* is not possible.

Recommendations

The proposed development will impact the archaeological features identified. In order to mitigate the impact on the archaeology present it is recommended that the following areas are stripped of topsoil under strict archaeological supervision:

1) 25m by 25m at the location of fulacht fia C3 (Area D)

2) 10m by 10m at the location of keyhole-shaped kiln C4 (Area C)

3) 10m by 10m at the location of pit C5 (Area A)

4) 10m by 10m at the location of large circular-shaped charcoal-rich pit C6 (Area B)

The features identified and any additional features exposed will require archaeological mitigation (preservation by record, as preservation *in situ* is not possible). This must be carried out prior to groundworks, by a licence-eligible archaeologist working under licence from the Department of Housing, Local Government and Heritage.

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1. INTRODUCTION

This report details the results of archaeological test trenching carried out in advance of a proposed development in the townlands of Kiltotan and Collinstown, and Oldtown, Co. Westmeath (ITM 645111, 739000, Figures 1–2).

Test trenching took place between 13th and 23rd of September 2022 by Donald Murphy of Archaeological Consultancy Services Unit Ltd (ACSU), under licence 22E0211 issued by the Department of Housing, Local Government and Heritage.

1.1 Project Background

The site was previously subject to an Environmental Impact Assessment Report. The archaeology chapter was prepared by Moore Group (2021) and test trenching of the site was recommended. In November 2021, a geophysical survey licence application was submitted to the Department of Housing, Local Government and Heritage. Licence no. 21R0317 was granted in December to John Nicholls of Target Archaeological Geophysics Ltd, who transferred it to Donald Murphy of ACSU. The geophysical survey was carried out in early January 2022, and features of potential archaeological significance were identified (Murphy and Breen 2022). Test Trenching, including targeting the identified anomalies, was recommended and a licence application to carry it out was submitted in March 2022 by Donald Murphy. Licence no. 22E0211 for archaeological test trenching was granted and the fieldwork took place in September 2022. This report details the results of that assessment.

2. NATURAL & CULTURAL LANDSCAPE

2.1 Natural landscape

The site is located in the townlands of Kiltotan and Collinstown, and Oldtown, between Rochfortbridge and Tyrrellspass. The site consists of a mix of pasture and arable fields that are relatively flat but with gently undulating ridges and hollows throughout. The fields are bounded with mature hedgerows and wet ditches and farm access lanes. The main part of the site has an elevation of between c. 97m and 103m OD.

The site consists of pockets of mineral poorly drained (mainly basic) soil, with a band of cutover/cutaway peat located within the south portion of the site, however, deep well drained mineral (mainly basic) soils dominate and overlie Waulsortian Limestones consisting of massive unbedded lime-mudstone bedrock; dominantly pale-grey, crudely bedded or massive limestone (Geological Survey of Ireland Spatial Resources, Public Data Viewer Series).

2.2 Cultural landscape

Prior to test trenching, the site was subject to an examination of all available cartographic and aerial photographic sources.

A review of available historic mapping for the area included the 1836 6-inch (Figure 3) and 1911 25-inch (Figure 4) editions of the Ordnance Survey maps. Potential archaeological or cultural heritage features are marked on such maps and provide a useful resource in identifying sites particularly if they no longer have any surface remains. The 6-inch map of 1836 (Figure 3) shows the site within two townlands, the south part within Kiltotan and Collinstown, while the northwest extent is in Oldtown. Within the site, the townland boundary is depicted. Adjacent to the northwest extent of the main portion of the site, a road is shown continuing northeast with a number of buildings depicted along it. The location of the site is within a rectangular field system consisting of small fields. By the time of the 1911 map (Figure 4), a number of fields within the southeast part of the site were illustrated as rough pasture, and some of the buildings depicted previously within the site were no longer present. No major changes to the field system are apparent. The monuments in the vicinity are depicted as circular enclosures on both maps.

Aerial photographs dating between 1995 and 2013 from the Ordnance Survey of Ireland and in addition, Google Earth imagery dating between 1985 and 2020 were also reviewed. Unrecorded archaeological sites can often be identified in aerial photographs as cropmarks or differential growth in a field. The site and its immediate setting remained unchanged until the 2004/2005 aerial photograph, when adjacent to and south of the site the M6 CPO is visible, with test trenches and areas to be excavated open. By 2005, the construction of the motorway is well underway. In 2014, farmers routes within Field 2 were in use. Linear cropmark anomalies are visible on the 2014 aerial photograph, some correspond with former field boundaries depicted on the OS mapping, while others likely represent field drains. A paddock was established within the northwest extent of Field 3 and the site remains unchanged since.

No monuments of archaeological significance within the site were identified during the examination of aerial imagery.

2.3 Archaeological background

The site is located in the townlands of Kiltotan and Collinstown and Oldtown, within the Barony of Fartullagh, in the civil parish of Castlelost in County Westmeath. The landscape surrounding the site has been subject to human development and settlement since prehistoric times. The monuments listed in the Record of Monuments and Places (RMP) clearly demonstrate that the environs of the site are dominated by recorded monuments classed as ringfort – raths. There are ten such sites located within a 300m radius from the edges of the site, with the three nearest comprising WM033-061----, WM033-062---- and WM033-068---- (Figure 2). All three were depicted since the 1836 OS map, however, at present only WM033-062---- has a surface expression, the

remaining two were levelled sometime in the mid/late 20th century during field reclamation, and are now visible as cropmarks only.

During test trenching, a *fulacht fia* or burnt mound, keyhole-shaped kiln and two pits were identified.

Fulachta fiadh/Burnt mounds

Fulachta fiadh, also known as burnt mounds, are one of the most common field monuments found in the Irish landscape. Over 4,500 examples were recorded in 1997, primarily by the Archaeological Survey of Ireland (Power *et al*. 1997, 75), but by 2007 this had increased to over 7,000 examples (Grogan *et al*. 2007, 81), many of which had been identified as a result of extensive survey work and excavation in advance of developments.

These sites are usually located where there is a readily available water source, often in proximity to a river, stream or in wetland fringes. They are largely identified as charcoal-rich mounds or spreads of heat-shattered stones; however, in many cases the sites have been disturbed by later agricultural activity and are no longer visible on the field surface. Disturbed spreads will nonetheless often preserve the underlying associated features, such as troughs, pits and gullies. Burnt mound sites are most commonly dated to the Bronze Age, often to the middle/late Bronze Age (Brindley *et al*. 1989−90; Corlett 1997).

Excavations have demonstrated the complexity and varying morphology of these sites, which, as detailed by Hawkes (2018), represent a wide range of site types, some of which employ different pyrolithic applications. The basic principle of pyrolithic technology involves transferring heat using hot stones and where a trough/pit is present it is likely that this involved the boiling or heating of water, while some other pit features may suggest that roasting, steaming, baking and steam bathing also took place (ibid., 53). O'Kelly (1954) and Lawless (1990) both demonstrated how meat could be cooked in troughs of boiling water, using hot stones to heat the water. A bathing or sauna function has been suggested as an alternative (Lucas 1965; Barfield and Hodder 1987). A more recent demonstration by Quinn and Moore (2007) showed that troughs could also have been used for brewing. This theory has, however, been criticised due to the absence of cereal remains from most burnt mound sites (McClatchie *et al*. 2007). Given their plentiful nature, it is perhaps best to see them simply as water heating sites, with as many possible uses for the hot water as we have today. Thus, a specific function will largely depend on the environmental samples taken, any finds retrieved, and the morphology of the features uncovered in relation to the burnt mound. In addition, *fulachta fia*/burnt mounds are also a reflection of Bronze Age activity in general, and often suggest the presence of settlements in the nearby vicinity, usually in a drier location.

Kilns

Cereal-drying kilns have been extensively examined by Monk and Kelleher (2005) and include the following forms:

- Oval and sub-oval kilns.

- Figure-of-eight-shaped kilns.
- Dumbbell kilns (these are similar to figure-of-eight kilns but have a wider waist. It is probable that figure-of-eight and dumbbell kilns are related).
- Keyhole-shaped or tobacco-pipe kilns (in plan these kilns appear keyhole-shaped, while in cross-section they resemble a pipe).
- L-shaped or comma-shaped kilns – Part of the kiln is set at an angle to the other forming an L- or comma- shaped kiln when the flue is curving.

Oval and figure-of-eight-shaped kilns have approximate lengths of between 2m and 3m. The keyhole-shaped kilns cited in Monk and Kelleher (2005) range in length between 1.2m and 8.5m, with the majority falling between 1.2m and 4m. Oval and figure-of-eight kilns at Colp West, Co. Meath (Murphy and Clarke 2001a), and Solsborough, Co. Tipperary (Murphy and Clarke 2001b), were described as being wider and deeper at the firing end and not so wide and shallower at the drying chamber end. The base of the flue typically rose in height from the fire spot to the drying chamber. The firing bowls of figure-of-eight kilns had approximate diameters of c. 1m, while the drying chambers were slightly smaller, with average diameters of c. 0.80m. An examination of the Colp West kilns shows that the largest firing bowl had a diameter of 1.36m, while the smallest was 0.60m. At the drying chamber end, the largest bowl diameter was 1.30m and the smallest was 0.60m. The firing area of keyhole kilns had an average diameter of between 0.80m and 1.50m, while the diameter of the drying chambers ranged from 0.32m to 1.60m (Monk and Kelleher 2005, 81). Generally, therefore, the firing area for oval, figure-of-eight and keyhole kilns is wider and deeper than the drying chamber. Depths of the features depended on the level of truncation at each site, but the oval and figure-of-eight kilns at Colp West had an average depth of c. 0.50m, while the depths of the drying chambers for keyhole-shaped kilns ranged on average between 0.65m and 1m (Murphy and Clarke 2001a; Monk and Kelleher 2005, 82).

A kiln is a structure designed specifically for the drying of a commodity. Hot air, from an open fire, reaches the cereals within the drying chamber via the flue. Experiments by Monk and Kelleher (2005, 101–4) on keyhole-shaped kilns have shown that a number of factors were essential in determining their success when drying cereals. An important aspect was the temperature of the air when entering the kiln, and this was influenced by such things as the weather, the direction of the wind and the proximity of the fire. It was demonstrated that the temperature could be controlled by placing the fire within a depression, just before the mouth of the flue, and through the regular opening of the roof on the kiln superstructure. The wind could be controlled through the correct alignment of the kiln and by the use of windbreaks. The flue length was a key factor because longer flues were less likely to result in the accidental burning of the cereals. For shorter flues, baffle stones were sometimes used as they prevented sparks from the fire reaching the drying chamber. The more successful experiments were also carried out in kilns where the drying chamber was set at a higher level than the flue mouth.

The orientation of the kiln and the location of the drying chamber, in relation to the flue, were essential in maximising efficiency. Orientation was influenced by local factors such as topography, wind direction and the proximity of settlement. In their study of kiln orientation, Monk and Kelleher (2005, 83) have demonstrated that the majority were aligned either north/south or east/west. It was also noted that many were set into slopes, with the chambers placed upslope, or into boundaries, such as ditches or field fences (ibid., 84).

Kilns are essential for cereal crop processing and specially to ripen the crop after damp harvests and/or in short growing seasons. The drying of cereals prior to threshing, following a damp harvest or a short growing season, is only one aspect of a kiln's function, however. An equally important function of the cereal-drying kiln is to harden the grain to allow for effective milling (Monk 1994, 217). This was relevant both for small-scale and larger-scale production, as grinding the grain without prior drying was more difficult and resulted in the clogging of the quern surface. Cereal-drying kilns were used for the production of malt and evidence for this has been detected at Corbally, Co. Kildare (Tobin 2003). They were also utilised for the drying of grain, to reduce the moisture content prior to storage, and to fumigate for insect pests (Monk 1994, 218).

Monk and Kelleher (2005, 105–6) have devised a preliminary chronological framework for the development of cereal-drying kilns in Ireland. They suggest that figure-of-eight kilns, and related dumbbell kilns, date to the early medieval period followed by keyhole-shaped kilns which are predominantly associated with the high middle-ages. Problems pertaining to devising such a chronological framework, however, relate to the lack of fully published excavation reports. This problem is furthered because drying kilns rarely produce evidence for their close dating as samples taken are usually derived from later deposits. When radiocarbon dates are forthcoming, it is often not clear what material was used and from what layer the sample was taken (ibid., 105). There is, for example, some evidence to date figure-of-eight kilns to an approximate period between the fourth and seventh centuries AD, while some oval and sub-oval kilns have been dated to the Iron Age, suggesting they were precursors for the slightly later figure-of-eight and dumbbell types. Indeed, both kiln types may have functioned contemporaneously for a short period until it was realised perhaps that the figure-of-eight kiln functioned more efficiently.

The kiln identified on the site appears to be a keyhole-shaped kiln, these date from c. AD 800/900 to the late medieval period. Monk and Kelleher (2005, 105) have, however, argued convincingly that keyhole-shaped kilns tend to date to the later middle ages citing Kilferagh, Co. Kilkenny (Hurley 1987) and Ballysimon, Co. Limerick (Collins and Cummins 2001) as examples that date to between the 13th and 14th centuries. Furthering their argument, they demonstrate the higher proportion of wheat and the presence of pulses, peas and beans in many keyhole-shaped kilns, which are not traditionally found in early medieval contexts. Other excavations, at Leggetsrath West, Derrinsallagh and Killeany, Co. Laois (Kenny 2007), identify that keyhole-shaped kilns also functioned in the latter part of the early middle-ages, from approximately the ninth or tenth century onwards.

Charcoal-rich pits

While it is difficult to determine the function of a charcoal-rich pit in advance of full excavation and post-excavation analysis, some may represent the remains of hearths, others refuse pits, and others still may be the remnants of charcoal-production pits. The latter can have a wide date range, most likely beginning in the early prehistoric period but not intensifying until the advent of metallurgy in the Bronze Age and the later development of iron technology (Kenny 2010, 99). Overall, however, there are relatively few charcoal-production pits of definite Bronze Age and Iron Age date and indeed there are hardly any dating before the later-eighth century AD (O'Sullivan *et al*. 2013, 220). It has also been observed that most charcoal-making sites were found on gently sloping ground that would have facilitated better run-off of surface water, which would otherwise have interfered with the burning process (Kenny 2010, 110). These sites are closely linked to iron-working as significant quantities of charcoal were essential for smelting and smithing, but charcoal was also necessary for the working of non-ferrous metals and other materials such as glass and enamel (ibid., 99).

The charcoal was produced by carbonising smouldering wood, which would have been stacked in a pit and covered with straw or bracken and an overlying layer of earth or turf in order to create an oxygen-limited environment, with the amount of air carefully controlled so that the wood was roasted but not burnt (Carlin *et al*. 2008, 89–91; Kenny 2010, 100–102). Kenny's (2010, 106) synthesis of early and late medieval charcoal-production pits in Ireland indicated that these sites are archaeologically identifiable as earth-cut pits that can be circular, oval or rectangular in shape and normally exhibit evidence for *in situ* burning on their base and sides, often with a charcoal-rich primary layer in the bottom of the pit and upper secondary fills of soil that also contain frequent charcoal inclusions. An examination of specialist analysis from these sites also indicated that many different wood species (such as oak, willow, alder, ash, elm and hazel) were being carbonised in the past, although oak does appear to dominate (ibid., 108).

2.4 Previous archaeological investigations

The site was previously subject to geophysical survey (21R0137; Murphy and Breen 2022). No clear definite features of archaeological significance were identified; however, anomalies of potential archaeological significance were recorded; the results are detailed below (Table 1; Figure 2).

An examination into other previous archaeological investigations in the vicinity of the site also indicates that several excavations have been conducted within the wider area. Five such investigations took place in the immediate environs. Test trenching (04E0908) in relation to the M6 Motorway development identified sites that were later excavated (E2768, E2769 and E2770), while test trenching to the west of the site in relation to quarrying (07E0867) identified a hearth and a relict field boundary.

The details of these investigations are derived from the Summary Accounts of Archaeological Excavations in Ireland (www.excavations.ie).

Table 1: Previous archaeological investigations

Excavation.ie reference	Licence No.	RMP No.	Site Type	Investigation type
2004:1748 - N6 Kinnegad To Kilbeggan, Westmeath	04E0908	N/A	Archaeological centre-line and offset test trenching programme	Various
2005:1570 - Kiltotan/Collinstown, Westmeath	A001/007	N/A	Excavation	Burnt mound, pits and post-medieval agricultural features
2005:1571 - Kiltotan/Collinstown, Westmeath	A001/008	N/A	Excavation	Late medieval/early modern
2007:1914 - Kiltotan and Collinstown, Westmeath	07E0867	N/A	Test trenching	Hearth

The site was subject to geophysical survey, conducted in January 2022 by Donald Murphy and Robert Breen of Archaeological Consultancy Services Unit Ltd (ACSU) under licence 21R0317. The surveyed area extended across 21 hectares, which consisted of 9 arable and pasture fields (Murphy and Breen 2022).

Areas of possible archaeological activity were identified in Fields 1, 3, 5, 6, 7 and 9 (Figures 6–7). These areas represented concentrations of positive and negative responses suggesting archaeological activity and were interpreted as potentially representing features such as *fulachta fiadh*/burnt mounds, ironworking sites and pit circles/pit concentrations, or areas of magnetic disturbances. Furthermore, areas of potential archaeological origin included positive anomalies that may represent cut features such as pits and postholes or they may even be natural in origin. Fields 1, 4, 5 and 9 also produced evidence for land use in the form of relict field boundaries, access tracks, and cultivation activity. Throughout the survey area, small-scale ferrous responses were also evident in the results and interpreted as likely to represent modern metal debris contained within the topsoil. Magnetic disturbances were noted, particularly along the northwest and south extent of the site. These were associated with the construction of the M6 motorway and buildings depicted on the Ordnance Survey maps but now demolished. Targeted test trenching in advance of construction was recommended.

To the south of the site, test trenching (04E0908) in relation to the M6 Motorway development identified sites that were later excavated (E2768, E2769 and E2770).

Features excavated under licence E2768 were interpreted as a burnt mound, pits, furrows and ditches. Two areas were opened. In Area A, a mound of heat-shattered stones, measuring c. 5m by 4m and c. 0.35m in thickness was excavated. Following the removal of the mound, several pits were found and interpreted as storage pits and water-holding troughs. One of the pits was radiocarbon dated to the Chalcolithic/Early Bronze Age period (2458–2150 cal. BC). The linears exposed were interpreted as post-medieval and were represented by furrows,

drains and modern ditches, some associated with modern agricultural activity. In Area B, a large oval pit was excavated. It measured 1.35m by 1.04m with a depth of 0.58m. It returned an Early Bronze Age date (2135–1928 cal. BC).

Excavations under licence E2769 exposed a large Bronze Age pit and post-medieval ditches. In Area A, a series of diagonal ditches and pits were identified during test trenching. Subsequent excavation interpreted these as being natural in origin. However, a large enigmatic area of burning and a series of field boundaries were uncovered. The burning area measured 5.2m by 3.86m and was 0.85m thick. It was radiocarbon dated to the Late Bronze Age (1116–919 cal. BC) and was interpreted as an area of a repeated large fire. A disturbed pit was excavated in Area B and later interpreted as a tree throw.

Early medieval furnaces and post-medieval ditches were excavated under licence E2770 across three areas. In Area A, a furnace pit was excavated; it measured 0.47m in diameter and was 0.15m deep. Small amounts of slag were retrieved, and the feature was interpreted as a smithing furnace. A radiocarbon date of cal. AD 899–1032 was obtained. In Area B, a 2m-wide and 0.58m deep ditch was excavated. It was interpreted as relatively recent in date; however, it was not depicted on the first edition of the Ordnance Survey map. Area C consisted of a modern ditch and an oval-shaped pit. The pit was 0.7m by 0.6m and 0.24m deep and was interpreted as a furnace. Smithing residues included a tuyere fragment, vitrified clay lining fragments, amorphous slag and fluid slag. The feature was dated to the late medieval/post-medieval period (cal. AD 1420–1611).

2.5 Recorded Monuments

There are no monuments listed in the Record of Monuments and Places (RMP) or Sites and Monuments Record (SMR) within the site. However, a number of monuments, classed as ringforts, are located in close proximity. The nearest lie between 150–200m from the edges of the site and consists of WM033-068----, WM033-062----WM033-061---- . All were depicted since the 1836 map; however, at present only WM033-062---- has a surface expression. The remaining two were levelled sometime in the mid/late 20th century during field reclamation and are now visible as crop marks only.

The following is a list of the nearest Recorded Monuments located within the surrounding area (Figure 2). These descriptions are derived from the National Monuments Service Archaeological Survey Database (https://maps.archaeology.ie/historicenvironment/).

Table 2: Recorded Monuments in the environs of the site

RMP No	Class/Site Type	Description
WM033-068----	Ringfort - unclassified	On a low rise of ground in gently undulating pasture. Levelled ringfort which is visible as a roughly circular area (diam. c. 45m) defined by a cropmark which is visible on the 2005 OSI aerial photograph. Marked 'Fort' on the OS fair plan map of the parish of Castlelost (SMR File).
WM033-061----	Ringfort - rath	In pasture, on gentle NNE-SSW slope of low rise of ground with good views in all directions. Ringfort (WM033-066----) 370m to the SSW. Only the cropmark of a levelled ringfort is visible on the 2005 OSI aerial photograph. Hachured as a large oval-shaped enclosure on the 1837 ed. OS 6-inch map. Monument described in 1976 as a roughly circular-shaped area (diam. 75m E-W) defined by an earthen bank and external fosse which are best preserved at N and are barely visible elsewhere. There is a small causeway across the fosse at N which may be an original entrance feature. The ringfort was bisected by a 19th century field boundary running NW-SE. The field to the S of this field boundary was in tillage in 2005, while the field to the N is in pasture.
WM033-062----	Ringfort - rath	In pasture, on slight S facing slope of ground with good views in all directions. Oval-shaped area (diam. 46m N-S; 37m E-W) defined by a poorly preserved bank mainly reduced to a scarp with slight remains of an external fosse that has been mainly filled in with the faintest traces of a possible outer bank. A water reservoir has been built immediately to the N. There are several gaps in the bank due to modern disturbance. A gap in the bank at SSE appears to be the original entrance gap (Wth 2.9m).
WM033-066----	Ringfort - rath	On a slight rise of ground with good views to the E. Ringfort (WM033-065----) 210m to the W, and second ringfort (WM033-061----) 370m to the NNE. Oval-shaped area (diam. 55m N-S; 64m NW-SE) defined by a substantial earthen bank covered in trees and bushes and wide flat-bottomed fosse with low external bank. The inner bank and fosse are best preserved from W-N-NE. The banks have been levelled and fosse filled in from E-S-SSW. No indication of an original entrance feature.

2.6 Protected Structures and National Inventory of Architectural Heritage (NIAH)

There are no protected structures listed in the *Westmeath County Development Plan 2021–2027* within or in the immediate vicinity of the site. The nearest such structure, classed as 1820–1840 forge/smithy (RPS ID. 033-001), is located in the neighbouring Farthingstown, c. 0.94km to the northeast of the site. It is also listed within the National Inventory of Architectural Heritage (NIAH) as NIAH Reg. No. 15320002 and described as:

> *Detached gable-fronted single-bay single-storey former forge/smithy, built c.1830. Now out of use. Pitched natural slate roof with clay ridge tiles. Squared rubble stone walls having a square-headed carriage arch to the main elevation (east) with timber sheeted double doors. Circular carved stone above carriage arch having simple brick surround. Road-fronted, on a small lane to the south of the former main Dublin to Galway road and to the southwest of Rochfortbridge.*

A modest early-to-mid nineteenth-century forge, which is an interesting addition to the social history and to the built heritage of the Rochfortbridge area. This functional building is robustly built in local limestone and is in good structural order despite being out of use for a considerable period. The decorated stone above the carriage arch is an unusual feature that adds interest to this simple structure. This small-scale building is of a type once very common in rural Ireland but now becoming increasingly rare today, making this an important survival. It represents an interesting historical reminder of traditional rural industry and craft skills. This former forge is prominently sited just to the south of the former main Dublin to Galway road and adds incident to its rural location to the southwest of Rochfortbridge.

2.7 Stray finds

No stray archaeological finds are recorded in the topographical files of the National Museum within the townlands of Kiltotan and Collinstown or Oldtown.

3. ARCHAEOLOGICAL ASSESSMENT

3.1 Site description

The site is located to the north of the M6 Motorway and south of the R446 between Tyrrellspass and Rochfortbridge. It extends across 21 hectares and consists of 9 arable and pasture fields.

3.2 Methodology

Test excavation was carried out in accordance with the *IAI Code of Conduct for Archaeological Assessment Excavation* (IAI 2006). The test trenches were excavated to the natural or the top of archaeological features, and anomalies identified during the geophysical survey were targeted. Spoil from excavated test trenches was examined for finds. In some cases, additional offsets were excavated in investigate features of archaeological potential.

Archaeological features were uncovered during testing; these were cleaned, photographed and planned. As all were obviously archaeological in nature, no sections were excavated and the features were covered in a protective barrier (terram) and the trenches were carefully backfilled under strict archaeological supervision.

No samples were taken and no finds were recovered.

All excavated trenches and exposed archaeological features were recorded using digital photography. Digital photography images were taken using a high-resolution digital camera with a minimum resolution of 10 Megapixels.

3.3 Results

Archaeological test trenching at the townlands of Kiltotan and Collinstown and Oldtown, in County Westmeath, was carried out in September 2022 by Donald Murphy under licence 22E0211 using a 14-tonne tracked excavator.

A total of 67 test trenches were excavated, with an additional 11 offsets to further assess exposed archaeological features (Figures 5–11, Plates 1–69). Each trench measured 1.8m in width, and in total, 5146m of linear trenches were excavated. The test trenches were excavated down to the natural subsoil. A mid-brown sandy clay topsoil and sod, with a combined thickness of 0.1m to 0.65m, was taken down onto a natural orange boulder clay with areas of marl. Outcrops of gravel were also recorded in the south portion of the site.

Test trenching identified four areas of archaeological activity (Figures 6–11). These comprised *fulacht fia*/burnt mound C3 (Trench 21 and offsets; Area D; Figure 11), located in Field 6 and corresponding with geophysical survey Anomaly 6D, and three areas of archaeological activity in Field 1, including keyhole-shaped kiln C4 (south end of Trench 4 and offset; Area C; Figure 10), pit C5 (north portion of Trench 2 and offset; Area A Figure 8) and large, circular-shaped charcoal-rich pit C6 (south end of Trench 2 and offset; Area B; Figure 9). These features were all clearly archaeological in nature and were therefore covered with a protective barrier (terram) and the trenches were carefully backfilled. Linears, some representing furrows and others corresponding with field boundaries, such as ditches C7 and C8 in Field 7 (Trenches 24 and 25 respectively Figures 6–7), were recorded and found to be modern in nature.

Table 3 contains a detail description of all test trenches excavated. Test trenches where archaeological features were identified are shaded grey.

Table 3: Trench descriptions

Trench Number	Length (m)	Trench depth (m)	Description
1	154	0.3–0.4	Northwest to southeast aligned trench excavated in Field 1 (Plate 1). Test trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology). These likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones. No features of archaeological significance were exposed.
2	214	0.3–0.5	Northwest to southeast aligned trench excavated in Field 1 (Plate 2). Test trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology). Two areas of archaeological activity were uncovered. In the north portion of the trench an offset was excavated to investigate pit C5 (Area A; Plate 4); in the south end of the trench an offset was excavated to investigate a large, circular-shaped charcoal-rich pit C6 (Area B; Plates 2–3).

Trench Number	Length (m)	Trench depth (m)	Description
3	101	0.2–0.5	WNW to ESE aligned trench excavated in Field 1 (Plate 5). Test trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology). No features of archaeological significance were exposed.
4	194	0.4–0.6	Northwest to southeast aligned trench excavated in Field 1 (Plate 6). Test trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology). In the south portion of the trench, an offset was excavated to further investigate a possible keyhole-shaped kiln C4 (Area C; Plate 7).
5	91	0.4	East to west aligned trench excavated in Field 1 (Plate 8). Test trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology). These likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones. No features of archaeological significance were exposed.
6	93	0.3–0.4	Northeast to southwest aligned trench excavated in Field 1 (Plate 9). Test trench was excavated to assess the overall potential of the site and targeted small geophysical anomalies (?Archaeology). These likely represented iron in topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones. No features of archaeological significance were exposed.
7	174	0.2–0.3	Northwest to southeast aligned trench excavated in Field 1 (Plate 10). Test trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology). These likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones. No features of archaeological significance were exposed.
8	131	0.3–0.4	Northwest to southeast aligned trench excavated in Field 1 (Plate 11). Test trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) and Trends 1D, 1B, 1C. The former likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones. While Trend 1D corresponded with furrows, there was no explanation for Trends 1B and 1C and they likely represented changes in the topsoil. No features of archaeological significance were exposed.
9	19	0.3–0.5	Northwest to southeast aligned trench excavated in Field 4. Test trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology). These likely

Trench Number	Length (m)	Trench depth (m)	Description
			represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones. No features of archaeological significance were exposed.
10	52	0.3–0.5	East to west aligned trench excavated in Field 4 (Plate 12). Excavated across west slope of a small ridge. Test trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) and Trend 4A. The former likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones, while Trend 4A corresponded with north to south aligned furrows. No features of archaeological significance were exposed.
11	48	0.3–0.65	East to west aligned trench excavated in Field 4 (Plate 13). Test trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) and Trend 4A. The former likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones, while Trends 4A corresponded with north to south aligned furrows. No features of archaeological significance were exposed.
12	134	0.3–0.5	Northwest to southeast aligned trench excavated in Field 6 (Plate 14). Test trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology), Anomaly 6G and Anomaly 6E. Small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones. A northwest to southeast linear (C9) was identified and corresponds with Anomaly 6G, a former townland boundary depicted on 1836 and 1911 OS mapping (Plate 15). Natural outcrops of stone and gravel were also recorded, accounting for Anomaly 6E. No features of archaeological significance were exposed.
13	54	0.3–0.5	Northwest to southeast aligned trench excavated in Field 5 (Plate 16). Test trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology). These likely represented iron in the topsoil or patches of gravel noted in the natural. No features of archaeological significance were exposed.
14	49	0.3–0.4	North to south aligned trench excavated in Field 6 (Plate 17). Test trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology). These likely represented iron in the topsoil or patches of gravel noted in the natural. No features of archaeological significance were exposed.

Trench Number	Length (m)	Trench depth (m)	Description
15	51	0.2–0.3	Northeast to southwest aligned trench excavated in Field 6 (Plate 18). Test trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology). These likely represented iron in the topsoil or patches of gravel/stone sockets noted in the natural. No features of archaeological significance were exposed.
16	82	0.2–0.25	Northeast to southwest aligned trench excavated in Field 6 (Plate 19). Test trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology). These likely represented iron in the topsoil or patches of gravel/stone sockets noted in the natural. No features of archaeological significance were exposed.
17	54	0.2–0.3	Northeast to southwest aligned trench excavated in Field 6 (Plate 20). Test trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology). These likely represented iron in the topsoil or patches of gravel/stone sockets noted in the natural. No features of archaeological significance were exposed.
18	48	0.3–0.4	North to south aligned trench excavated in Field 6 (Plate 21). Test trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology). These likely represented iron in the topsoil or patches of gravel/stone sockets noted in the natural. No features of archaeological significance were exposed.
19	31	0.2	North to south aligned trench excavated in Field 6 (Plate 22). Test trench was excavated to assess overall potential of the site and targeted Anomaly 6B. Natural outcrops of stone and gravel were recorded, accounting for this anomaly. No features of archaeological significance were exposed.
20	72	0.2	Northeast to southwest aligned trench excavated in Field 6 (Plate 23). Test trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology). These likely represented iron in the topsoil or patches of gravel/stone sockets noted in the natural. No features of archaeological significance were exposed.
21	114	0.2	North to south aligned trench excavated in Field 6 (Plate 24). Test Trench was excavated to assess overall potential of the site and targeted Anomalies 6F and 6D.

Trench Number	Length (m)	Trench depth (m)	Description
			In the south portion of the trench, three offsets were excavated to further investigate *fulacht fia* C3 (Area D) corresponding with Anomaly 6D (Plates 24–25).
22	134	0.2	North to south aligned trench excavated in Field 6 (Plate 26). Test Trench was excavated to assess overall potential of the site and targeted anomalies 6A and 6F. Anomaly 6A corresponded with a natural stone outcrop. No explanation for Anomaly 6F was noted. No features of archaeological significance were exposed.
23	134	0.3	North to south aligned trench excavated in Field 7 (Plate 27). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) and Anomaly 7E. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones, while Anomaly 7E corresponded with a natural stone outcrop/gravel. No features of archaeological significance were exposed.
24	122	0.3	North to south aligned trench excavated in Field 7 (Plate 28). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) and Anomaly 7A. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones, while Anomaly 7A appeared to represent a former field boundary depicted on the 1911 OS mapping, recorded as linear C7. No features of archaeological significance were exposed.
25	133	0.2	North to south aligned trench excavated in Field 7 (Plate 29). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) and Anomalies 7A and 7D. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones. Anomaly 7A appeared to represent a former field boundary depicted on the 1911 OS mapping, recorded as linear C8, while Anomaly 7D corresponded with a natural stone outcrop/gravel. No features of archaeological significance were exposed.
26	36	0.3	North to south aligned trench excavated in Field 7 (Plate 30). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology), likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones and roots.

Trench Number	Length (m)	Trench depth (m)	Description
			No features of archaeological significance were exposed.
27	93	0.2	East to west aligned test trench excavated in Field 6 (Plate 31). Test Trench was excavated to assess overall potential of the site and targeted Anomaly 6A that corresponded with a natural stone outcrop. No features of archaeological significance were exposed.
28	49	0.2–0.5	North to south aligned trench excavated in Field 6 (Plate 32). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) that likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones, root activity and tree throws. No features of archaeological significance were exposed.
29	23	0.2–0.3	North to south aligned trench excavated in Field 3 (Plate 33). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) that likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones. No features of archaeological significance were exposed.
30	29	0.15–0.2	North to south aligned trench excavated in Field 3 (Plate 34). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) that likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones. No features of archaeological significance were exposed.
31	98	0.3–0.4	North to south aligned trench excavated in Field 3; extending to Field 6 (Plate 35). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology), Anomaly 3B and Trend 5C. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones. Anomaly 3B corresponded with a natural stone outcrop. No explanation for Trend 5C was noted. No features of archaeological significance were exposed.
32	47	0.3–0.4	Northeast to southwest aligned trench excavated in Field 3 (Plate 36). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) and Trend 5C. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones. No explanation for Trend 5C was noted.

Trench Number	Length (m)	Trench depth (m)	Description
			No features of archaeological significance were exposed.
33	34	0.3–0.4	North to south aligned trench excavated in Field 3. Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology), these likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones. No features of archaeological significance were exposed..
34	145	0.3–0.4	East to west aligned trench excavated in Field 3 extending onto Field 6 (Plate 37). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology), Trend 5C and Anomaly 6E. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones. Natural outcrops of stone and gravel were recorded, accounting for Anomaly 6E, but no explanation for Trend 5C was noted. No features of archaeological significance were exposed.
35	64	0.3–0.4	East to west aligned trench excavated in Field 5 (Plate 38). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) and Anomaly 5A. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones. No explanation for Anomaly 5A was noted, suggesting it perhaps did not extend to natural. No features of archaeological significance were exposed.
36	58	0.3–0.4	Northeast to southwest aligned trench excavated in Field 5 (Plate 39). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) that likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones. No features of archaeological significance were exposed.
37	91	0.3–0.4	Northwest to southeast aligned trench excavated in Field 5 (Plate 40). Excavated in two portions (Trenches 37N and 37S) due to overhead cables. These were excavated to assess overall potential of the site and targeted Anomalies 5B, 5E and 5F. No explanation for Anomaly 5B was noted, while Anomalies 5E and 5F corresponded with natural outcrops of stone and gravel. No features of archaeological significance were exposed.
38	25	0.3–0.4	Northwest to southeast aligned trench excavated in Field 5 (Plate 41).

Trench Number	Length (m)	Trench depth (m)	Description
			Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) and Anomaly 5B. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, including decayed stones. No explanation for Anomaly 5B was noted, suggesting it represented a change in the topsoil that did not extend to natural. No features of archaeological significance were exposed.
39	72	0.3–0.4	Northwest to southeast aligned trench excavated in Field 5 (Plate 42). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) and Anomaly 5G. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, while a natural stone outcrop was recorded and accounts for Anomaly 5G. No features of archaeological significance were exposed.
40	45	0.3–0.4	Northwest to southeast aligned trench excavated in Field 2 (Plate 43). Test Trench was excavated to assess overall potential of the site and targeted Anomaly 2B, no explanation for it was noted, suggesting it did not extend to natural, and represented changes in the topsoil. No features of archaeological significance were exposed.
41	78	0.3–0.45	Northwest to southeast aligned trench excavated in Field 2 (Plate 44). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) and Anomaly 2A. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones. No explanation for Anomaly 2A was noted, suggesting it represented changes in the topsoil that did not extend to natural, likely corresponding with farm access. No features of archaeological significance were exposed.
42	57	0.2–0.3	Northeast to southwest aligned trench excavated in Field 2 (Plate 45). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) that likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones. No features of archaeological significance were exposed.
43	40	0.2–0.3	Northwest to southeast aligned trench excavated in Field 2 (Plate 46). Test Trench was excavated to assess overall potential of the site and targeted Anomaly 2D that corresponded with a natural stone/gravel outcrop. No features of archaeological significance were exposed.

Trench Number	Length (m)	Trench depth (m)	Description
44	60	0.2–0.4	Northwest to southeast aligned trench excavated in Field 2 (Plate 47). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) that likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones. No features of archaeological significance were exposed.
45	89	0.2–0.4	East to west aligned trench excavated in Field 2 (Plate 48). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) and Anomaly 2C. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones, while a band of natural stone outcrop/gravel was recorded and accounts for Anomaly 5G. No features of archaeological significance were exposed.
46	31	0.3–0.4	North to south aligned trench excavated in Field 9 (Plate 49). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) and Trend 9G. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones. No explanation for Trend 9G was noted, suggesting it did not extend to natural, and represented changes in the topsoil. No features of archaeological significance were exposed.
47	33	0.2–0.3	Northeast to southwest with east to south terminal trench, excavated in Field 9 (Plate 50). Test Trench was excavated to assess overall potential of the site and targeted Trend 8A. No explanation for it was noted, suggesting it did not extend to natural, and represented changes in the topsoil. No features of archaeological significance were exposed.
48	95	0.1–0.3	Northeast to southwest aligned trench excavated in Field 9 (Plate 51). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology), Anomalies 9B and 9A. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones. No explanation for Anomalies 9B and 9A was noted, suggesting these did not extend to natural, and represented changes in the topsoil. It was noted that the field was deep ploughed in the past. No features of archaeological significance were exposed.
49	28	0.1–0.3	Northwest to southeast aligned trench excavated in Field 9 (Plate 52). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology), Anomalies 9B and Trend 9I. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized

Trench Number	Length (m)	Trench depth (m)	Description
			stones. No explanation for Anomaly 9B and Trend 9I was noted, suggesting these did not extend to natural, and represented changes in the topsoil. It was noted that the field was deep ploughed in the past. No features of archaeological significance were exposed.
50	31	0.3–0.4	Northwest to southeast aligned trench excavated in Field 9 (Plate 53). Test Trench was excavated to assess overall potential of the site and targeted Trends 9I. No explanation was noted for Trend 9I, suggesting it did not extend to natural, and represented changes in the topsoil. It was noted that the field was deep ploughed in the past. No features of archaeological significance were exposed.
51	-	-	Number not used (same as Trench 60).
52	41	0.3–0.4	Northeast to southwest aligned trench excavated in Field 9 (Plate 54). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) and Anomaly 9A. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones. No explanation for Anomaly 9A was noted, suggesting it did not extend to natural, and represented changes in the topsoil. It was noted that the field was deep ploughed in the past. No features of archaeological significance were exposed.
53	35	0.3–0.4	North to south aligned trench excavated in Field 9 (Plate 55). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) and Trend 9G. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones. No explanation for Trend 9G was noted, suggesting it did not extend to natural, and represented changes in the topsoil. No features of archaeological significance were exposed.
54	21	0.4	East to west aligned trench excavated in Field 9 (Plate 56). It was moved northward due to location of the overhead cables. Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology). These likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones. No features of archaeological significance were exposed.
55	36	0.3–0.4	Northwest to southeast aligned trench excavated in Field 9 (Plate 57). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) and Trend 9I. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones. No explanation for Trend 9I was noted, suggesting it did not extend to

Trench Number	Length (m)	Trench depth (m)	Description
			natural, and represented changes in the topsoil. It was noted that the field was deep ploughed in the past. No features of archaeological significance were exposed.
56	13	0.5–0.6	East to west aligned trench excavated in Field 9 (Plate 58). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology). These likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones. No features of archaeological significance were exposed.
57	27	0.2–0.35	North to south aligned trench excavated in Field 9. Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology), Anomaly 9E and Trend 9G. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones. No explanations for Trend 9G or Anomaly 9E were noted, suggesting it did not extend to natural, and represented changes in the topsoil. No features of archaeological significance were exposed.
58	21	0.3	North to south aligned trench excavated in Field 9 (Plate 59). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology) and Trend 9G. The small anomalies likely represented iron in the topsoil or stone sockets as the natural contained frequent small to medium-sized stones. No explanation for Trend 9G was noted, suggesting it did not extend to natural, and represented changes in the topsoil. No features of archaeological significance were exposed.
59	26	0.2–0.5	North to south aligned trench excavated in Field 9 (Plate 60). Test Trench was excavated to assess overall potential of the site and targeted Anomalies 9H and 9E. At the location of Anomaly 9H modern disturbance was noted, including buried plastic with areas of burnt timber in the topsoil. No explanation for Anomaly 9E was noted, suggesting it did not extend to natural, and represented changes in the topsoil. No features of archaeological significance were exposed.
60	84	0.2–0.5	East to west aligned trench excavated in Field 9 (Plate 61). Test Trench was excavated to assess overall potential of the site and targeted small geophysical anomalies (?Archaeology), Anomalies 9H and 9F. At the location of Anomaly 9H modern disturbance was noted, including buried plastic with areas of burnt timber in the topsoil. No explanations for Anomaly 9F were noted, suggesting it did not extend to natural, and represented changes in the topsoil.

Trench Number	Length (m)	Trench depth (m)	Description
			No features of archaeological significance were exposed.
61	22	0.2–0.4	East to west aligned trench excavated in Field 9 (Plate 62). Test Trench was excavated to assess overall potential the site. No features of archaeological significance were exposed.
62	31	0.2–0.3	North to south aligned trench excavated in Field 9 (Plate 63). Test Trench was excavated to assess overall potential of the site. No features of archaeological significance were exposed.
63	175	0.4–0.6	Northwest to southeast aligned trench excavated in Field 1 (Plate 64). Test trench was excavated to assess overall potential of the site. No features of archaeological significance were exposed.
64	172	0.3–0.6	Northwest to southeast aligned trench excavated in Field 1 (Plate 65). Test trench was excavated to assess overall potential of the site. Offsets were excavated to investigate potential features; however, these were found not to be of archaeological significance and represented stone sockets. No features of archaeological significance were exposed.
65	74	0.5	East to west aligned trench excavated in the north portion of the site (Plate 66). Test trench was excavated to assess overall potential of the site. No features of archaeological significance were exposed.
66	75	0.3–0.5	East to west aligned trench excavated in the north portion of the site (Plate 67). Test trench was excavated to assess overall potential of the site. No features of archaeological significance were exposed..
67	300	0.2–0.4	North to south aligned trench excavated in the north portion of the site (Plate 68). Test trench was excavated to assess overall potential of the site. No features of archaeological significance were exposed.
68	58	0.3	Northwest to southeast aligned trench excavated in the north portion of the site (Plate 69). Test trench was excavated to assess overall potential of the site. No features of archaeological significance were exposed.

Context Descriptions:

Table 4: Context descriptions

Context	L(m)	W(m)	D(m)	Basic Description
C1	-	-	0.1–0.65	Topsoil and sod. Mid-brown sandy clay. Field 9 deep ploughed recently, evidence for modern rubbish and recently burnt timber.
C2	-	-	-	Natural. Orange boulder clay with areas of marl and outcrops of gravel in the south portion of the site. Inclusions of small and medium-sized stones, decayed stones also noted.
C3	17	11	-	*Fulacht fia*/burnt mound spread (Figure 11; Plates 24–25). Dark to mid-brownish black sandy silt, with frequent inclusions of fire-cracked stones.
C4	2.2	1	-	Possible kiln (Figure 10; Plate 7). Possibly representing keyhole-shaped kiln, northwest to southeast aligned.
C5	0.65	0.4	-	Pit (Figure 8; Plate 4). Mid-greyish red silty clay indicating *in situ* burning.
C6	1.7	1.6	-	Circular-shaped charcoal-rich pit (Figure 9; Plates 2–3). Filled with mid-greyish brown silty clay, with frequent charcoal flecks, and reddish burnt soil visible along the cut edges.
C7	-	1.2	-	East–west aligned linear measuring c. 1.2m in width. Corresponding with former field boundary depicted on the 1836 and 1911 OS maps. Same as C8.
C8	-	1.2	-	East–west aligned linear. Corresponding with former field boundary depicted on the 1836 and 1911 OS maps. Same as C7.
C9	-	2.2	-	Northeast–southwest aligned linear (Figure 6; Plate 15). Corresponds with Anomaly 6G, representing townland boundary depicted on the 1836 and 1911 OS mapping, removed sometime in the 20th century.

4. MATERIAL CULTURE

No archaeological finds were recovered.

5. DATING

No samples were taken for analysis or dating during the programme of test trenching on site. Features encountered likely date from the prehistoric period, possibly the Bronze Age (*fulacht fia* C3), while the kiln (C4) and pits (C5 and C6) potentially date from anytime between prehistory and the medieval period.

6. DISCUSSION

The site was subject to archaeological test trenching between 13th and 23rd of September 2022. The fieldwork was carried out by Donald Murphy of Archaeological Consultancy Services Unit Ltd under licence 22E0211, issued by the Department of Housing, Local Government and Heritage.

Test trenching identified four area of archaeological activity, including *fulacht fia*/burnt mound C3 (Area D) located in Field 6 and corresponding with geophysical Anomaly 6D, and three areas of archaeological activity in Field 1 including keyhole-shaped kiln C4 (Area C), pit C5 (Area A) and large, circular-shaped charcoal-rich pit C6 (Area B). These features were clearly archaeological in nature, were covered with a protective barrier (terram) and the trenches were carefully backfilled under archaeological supervision. Linears, some representing agricultural furrows and others corresponding with a townland boundary (C9) and filed boundaries (such as ditches C7 and C8), were also recorded and found to be modern in nature.

7. RECOMMENDATIONS

The proposed development will impact the archaeological features identified. In order to mitigate the impact on the archaeology present it is recommended that the following areas are stripped of topsoil under strict archaeological supervision:

1) 25m by 25m at the location of *fulacht fia* C3 (Area D);
2) 10m by 10m at the location of keyhole-shaped kiln C4 (Area C);
3) 10m by 10m at the location of pit C5 (Area A);
4) 10m by 10m at the location of large, circular-shaped charcoal-rich pit C6 (Area B).

The features identified and any additional features exposed will required archaeological mitigation (preservation by record, as preservation *in situ* is not possible). This must be carried out prior to groundworks by a licence-eligible archaeologist working under licence from the Department of Housing, Local Government and Heritage.

8. POST-EXCAVATION PROGRAMME

The post-excavation work related to this programme of archaeological test trenching is now complete and no further analysis will be necessary.

9. EXCAVATION BULLETIN

Kiltotan and Collinstown, and Oldtown, Co. Westmeath

22E0211

I.T.M. 645111, 739000

Fulacht fia, kiln and pits

RMP: N/A

23.09.2022

The site was subject to Environmental Impact Assessment Report in 2021 that recommended test trenching. Geophysical survey of the site was recommended by ACSU and carried out in January 2022 under licence 21R0317. Areas of possible archaeological activity were identified. The report recommended targeted test trenching.

The site was subject to archaeological test trenching in September 2022. A total of 67 test trenches were excavated, with an additional 11 offsets to further assess exposed archaeological features. Each trench measured 1.8m in width, and in total, 5146m of linear trenches were excavated. The test trenches were excavated down to the natural subsoil or the top of archaeological remains. A mid-brown sandy clay topsoil and sod, with a combined depth of 0.1m to 0.65m, was taken down onto a natural orange boulder clay with areas of marl. Outcrops of gravel were also exposed in the south portion of the site. The geophysical anomalies identified were targeted.

Test trenching identified four area of archaeological activity, including *fulacht fia*/burnt mound C3 located in Field 6 and corresponding with Anomaly 6D, and three areas of archaeological activity in Field 1 including keyhole-shaped kiln C4, pit C5 and large, circular-shaped charcoal-rich pit C6. These features were clearly archaeological in nature, were covered with a protective barrier (terram) and the trenches were carefully backfilled under archaeological supervision. Linears, some representing furrows and others corresponding with a townland boundary (C9) and filed boundaries (such as ditches C7 and C8) were also recorded and found to be modern in nature.

Donald Murphy, Archaeological Consultancy Services Unit, Unit 21, Boyne Business Park, Greenhills, Drogheda, Co Louth

10. PUBLICATION PLAN

An account of this archaeological assessment and its results will be published online as an excavation bulletin on www.excavations.ie (see Section 9).

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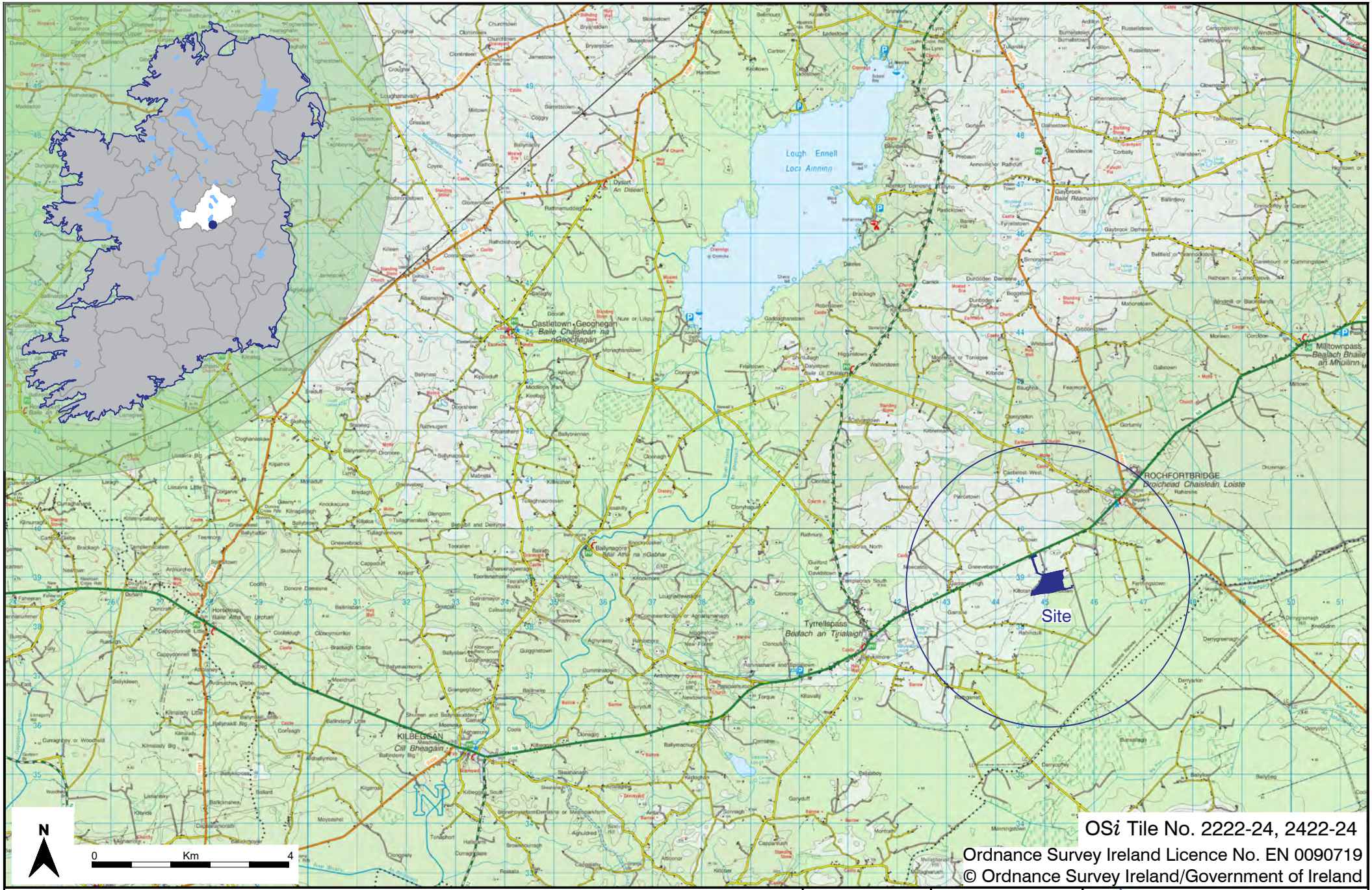
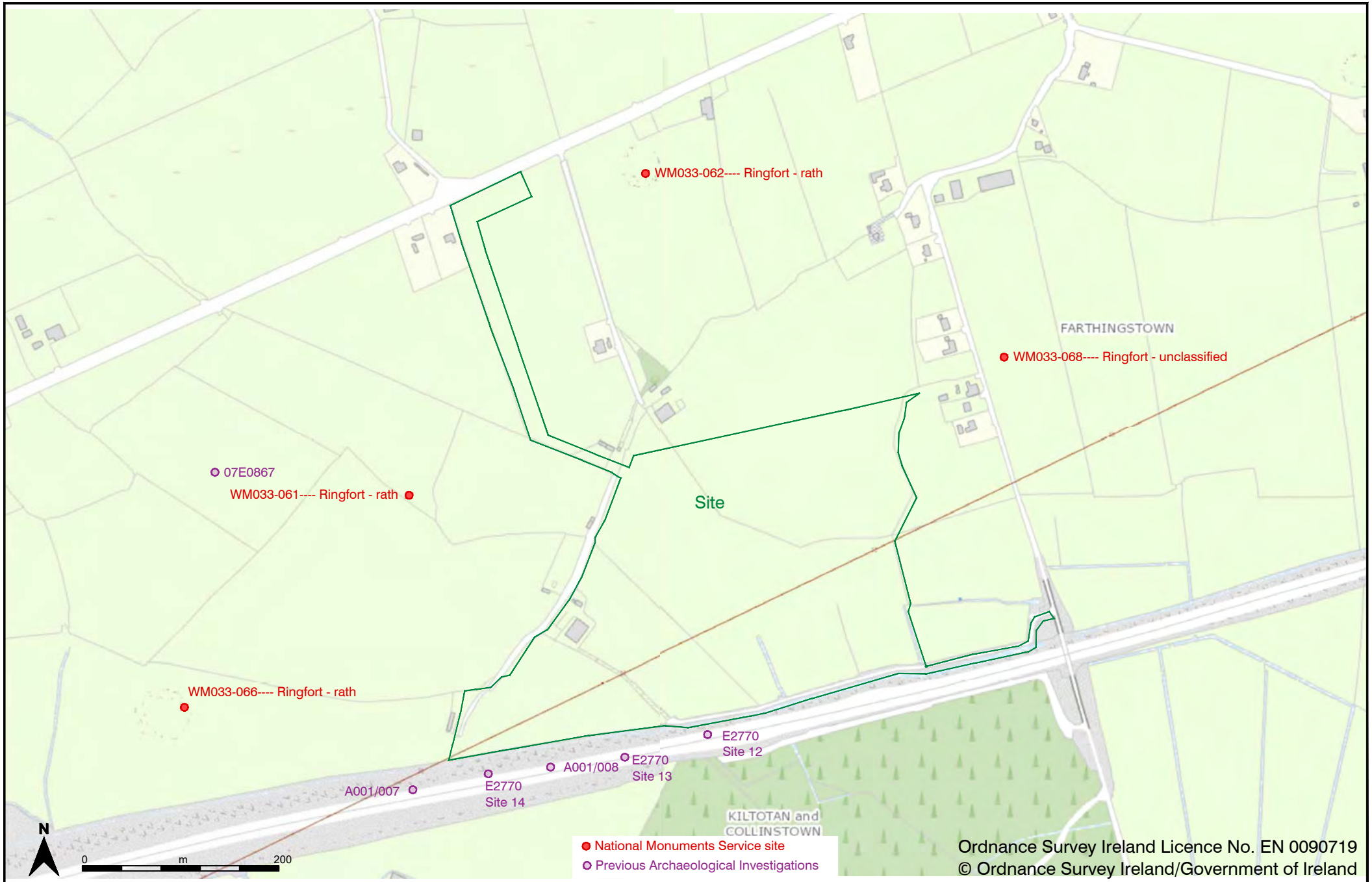
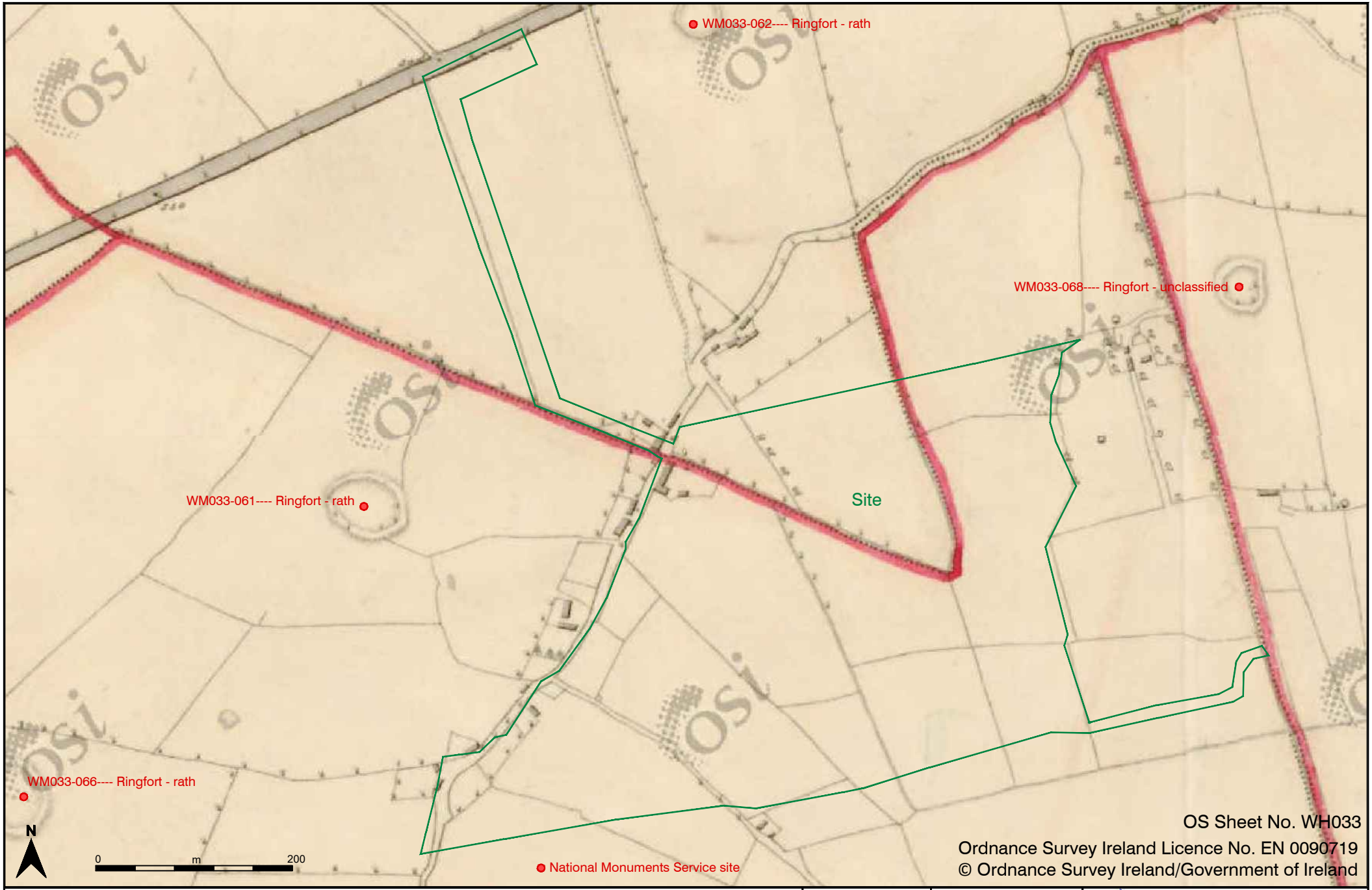


OS*i* Tile No. 2222-24, 2422-24

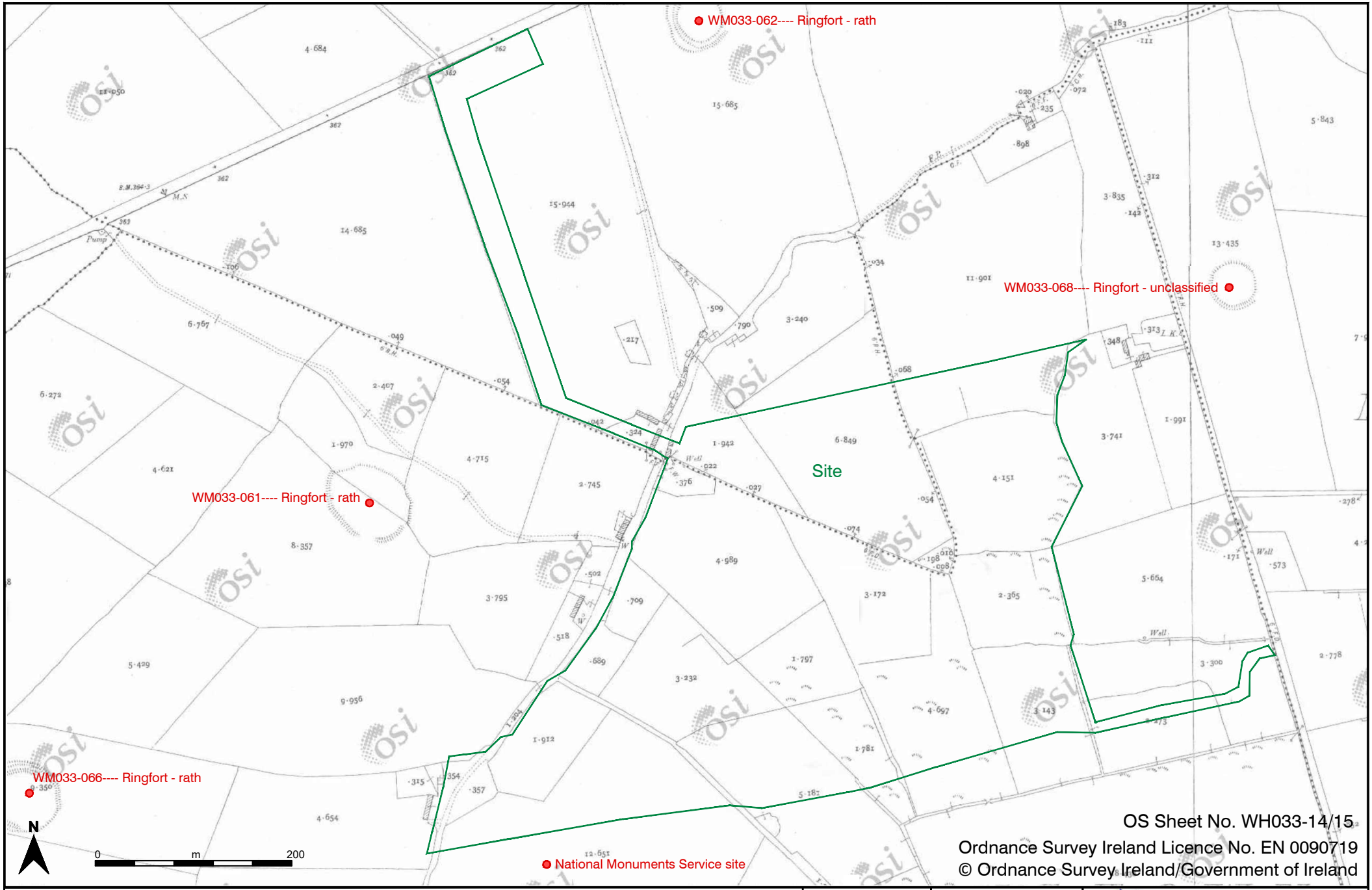
Project Kiltotan, Collinstown, Oldtown townlands, Mullingar, Co. Westmeath	**Date** September 2022	**Drawing No.** 21108_C1011	ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT
Figure 1 Location of site		**Scale** 1:100,000 @ A4	



Project Kiltotan, Collinstown, Oldtown townlands, Mullingar, Co. Westmeath	**Date** September 2022	**Drawing No.** 21108_C1012	ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT
Figure 2 Location of site, previous archaeological investigations and nearby *Sites and Monuments Record* sites		**Scale** 1:7,000 @ A4	



Project Kiltotan, Collinstown, Oldtown townlands, Mullingar, Co. Westmeath	**Date** Septembe 2022	**Drawing No.** 21108_C1013	ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT
Figure 3 Extract from 1st edition Ordnance Survey (OS) 6-inch map (surveyed 1836 - published 1838), showing location of site		**Scale** 1:5,000 @ A4	



OS Sheet No. WH033-14/15

Project Kiltotan, Collinstown, Oldtown townlands, Mullingar, Co. Westmeath	**Date** September 2022	**Drawing No.** 21108_C1014	ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT
Figure 4 Extract from 3rd edition Ordnance Survey (OS) 25-inch map (surveyed 1911 - published 1913), showing location of site		**Scale** 1:5,000 @ A4	

Project Kiltotan, Collinstown, Oldtown townlands, Mullingar, Co. Westmeath	**Date** September 2022	**Drawing No.** 21108_C1015	ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT
Figure 5 Aerial view of site, showing Priority Area 1, Priority Area 2 and additional excavated test trenches		**Scale** 1:5,000 @ A4	

Trench details
(average width=1.8 m)

T1 = 154 m
T2 = 214 m
T3 = 101 m
T4 =194 m
T5 = 91 m
T6 = 93 m
T7 = 174 m
T8 = 131 m
T9 = 19 m
T10 = 52 m
T11= 48 m
T12 = 134 m
T13 = 54 m
T14 = 49 m
T15 = 51 m
T16 = 82 m
T17 = 54 m
T18 = 48 m
T19 = 31 m
T20 = 72 m
T21 = 114 m
T22 = 134 m
T23 = 134 m
T24 = 122 m
T25 = 133 m
T26 = 36 m
T27 = 93 m
T28 = 49 m
T29 = 23 m
T30 = 29 m
T31 = 98 m
T32 = 47 m
T33 = 34 m
T34 = 145 m
T35 = 64 m
T36 = 58 m
T37 = 46+45 m
T38 = 25 m
T39 = 72 m
T40 = 45 m
T41 = 78 m
T42 = 57 m
T43 = 40 m
T44 = 60 m
T45 = 89 m
T46 = 31 m
T47 = 33 m
T48 = 95 m
T49 = 28 m
T50 = 31 m
T51 = not exc.
T52 = 41 m
T53 = 35 m
T54 = 21 m
T55 = 36 m
T56 = 13 m
T57 = 27 m
T58 = 21 m
T59 = 26 m
T60 = 84 m
T61 = 22 m
T62 = 31 m
T63 = 175 m
T64 = 172 m

See fig. 5 for location of trenches

T65 = 74 m
T66 = 75 m
T67 = 300 m
T68 = 58 m

Total = 5,146 m

Priority Area 1
Priority Area 2
Field 1
Field 2
Field 3
Field 4
Field 5
Field 6
Field 7
Field 9
Area A (10m by 10m)
Area B (10m by 10m)
Area C (10m by 10m)
Area D (25m by 25m)
C7
C8

N
0
m
200

Overhead power line
Field boundaries
Proposed excavation area
Excavated test trenches
Uncovered archaeology

Project Kiltotan, Collinstown, Oldtown townlands, Mullingar, Co. Westmeath		**Date** September 2022	**Drawing No.** 21108_C1016
Figure 6 Aerial view of site, showing geophysical survey interpretation, excavated test trenches, uncovered archaeology and proposed excavation areas			**Scale** As scalebar

ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT

Trench details
(average width=1.8 m)

T1 = 154 m
T2 = 214 m
T3 = 101 m
T4 =194 m
T5 = 91 m
T6 = 93 m
T7 = 174 m
T8 = 131 m
T9 = 19 m
T10 = 52 m
T11= 48 m
T12 = 134 m
T13 = 54 m
T14 = 49 m
T15 = 51 m
T16 = 82 m
T17 = 54 m
T18 = 48 m
T19 = 31 m
T20 = 72 m
T21 = 114 m
T22 = 134 m
T23 = 134 m

T24 = 122 m
T25 = 133 m
T26 = 36 m
T27 = 93 m
T28 = 49 m
T29 = 23 m
T30 = 29 m
T31 = 98 m
T32 = 47 m
T33 = 34 m
T34 = 145 m
T35 = 64 m
T36 = 58 m
T37 = 46+45 m
T38 = 25 m
T39 = 72 m
T40 = 45 m
T41 = 78 m
T42 = 57 m
T43 = 40 m
T44 = 60 m
T45 = 89 m
T46 = 31 m

T47 = 33 m
T48 = 95 m
T49 = 28 m
T50 = 31 m
T51 = not exc.
T52 = 41 m
T53 = 35 m
T54 = 21 m
T55 = 36 m
T56 = 13 m
T57 = 27 m
T58 = 21 m
T59 = 26 m
T60 = 84 m
T61 = 22 m
T62 = 31 m
T63 = 175 m
T64 = 172 m

See fig. 5 for location of trenches

T65 = 74 m
T66 = 75 m
T67 = 300 m
T68 = 58 m

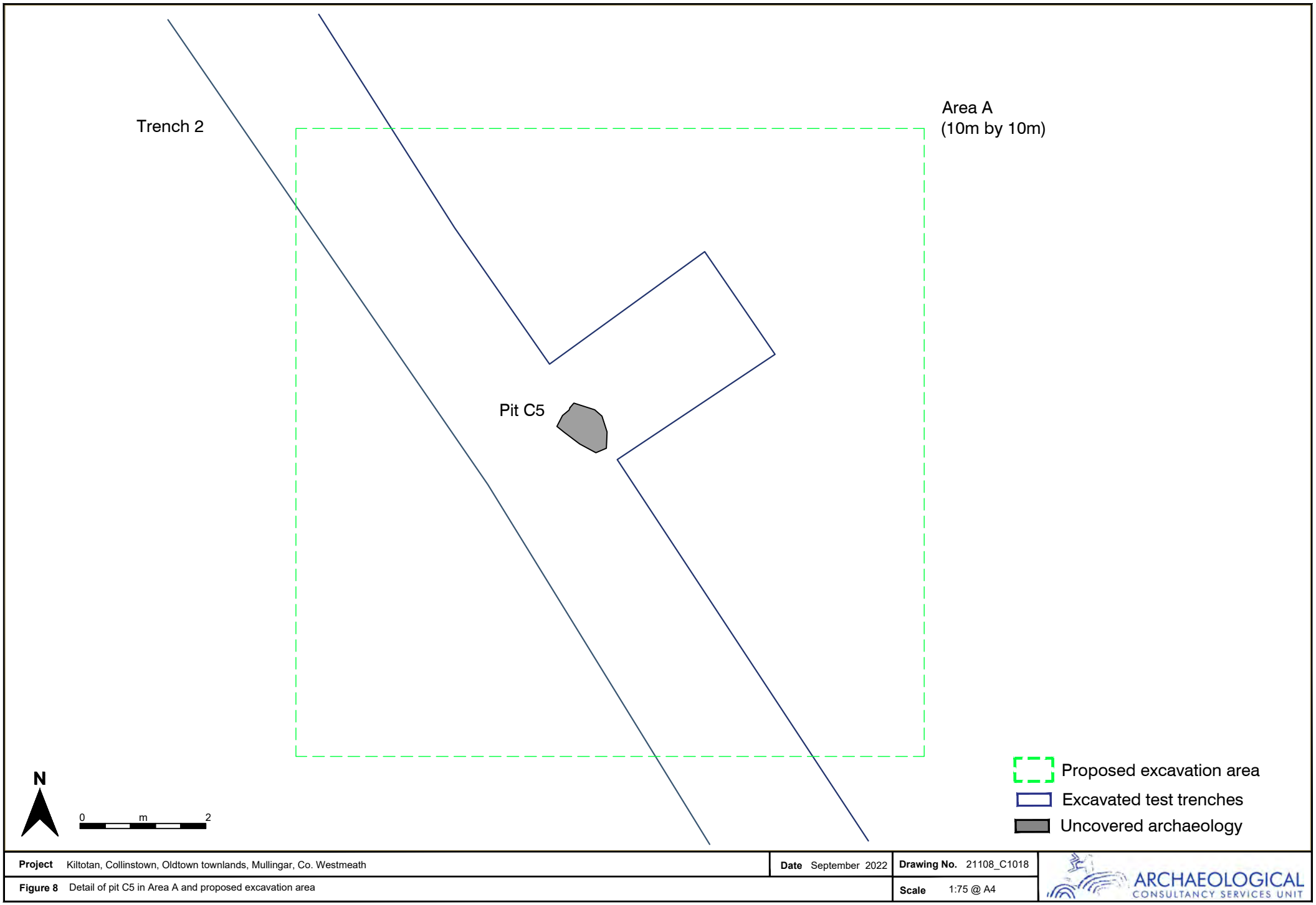
Total = 5,146 m

Field 1
Field 2
Field 3
Field 4
Field 5
Field 6
Field 7
Field 9
Priority Area 1
Priority Area 2
Area A (10m by 10m)
Area B (10m by 10m)
Area C (10m by 10m)
Area D (25m by 25m)
C7
C8
C9
Kiltotan
EXISTING SHEDS TO BE DEMOLISHED
AGI COMPOUND (GAS RECEIVING STATION)
BATTERY COMPOUND
SYNCHRONOUS CONDENSER COMPOUND
OCGT COMPOUND
TRANSFORMER COMPOUND
GIS BUILDING COMPOUND
EXISTING TOWER 151
EXISTING TOWER 152
MAYNOOTH 220kV LINE
3m HIGH BERM
N
0
m
200

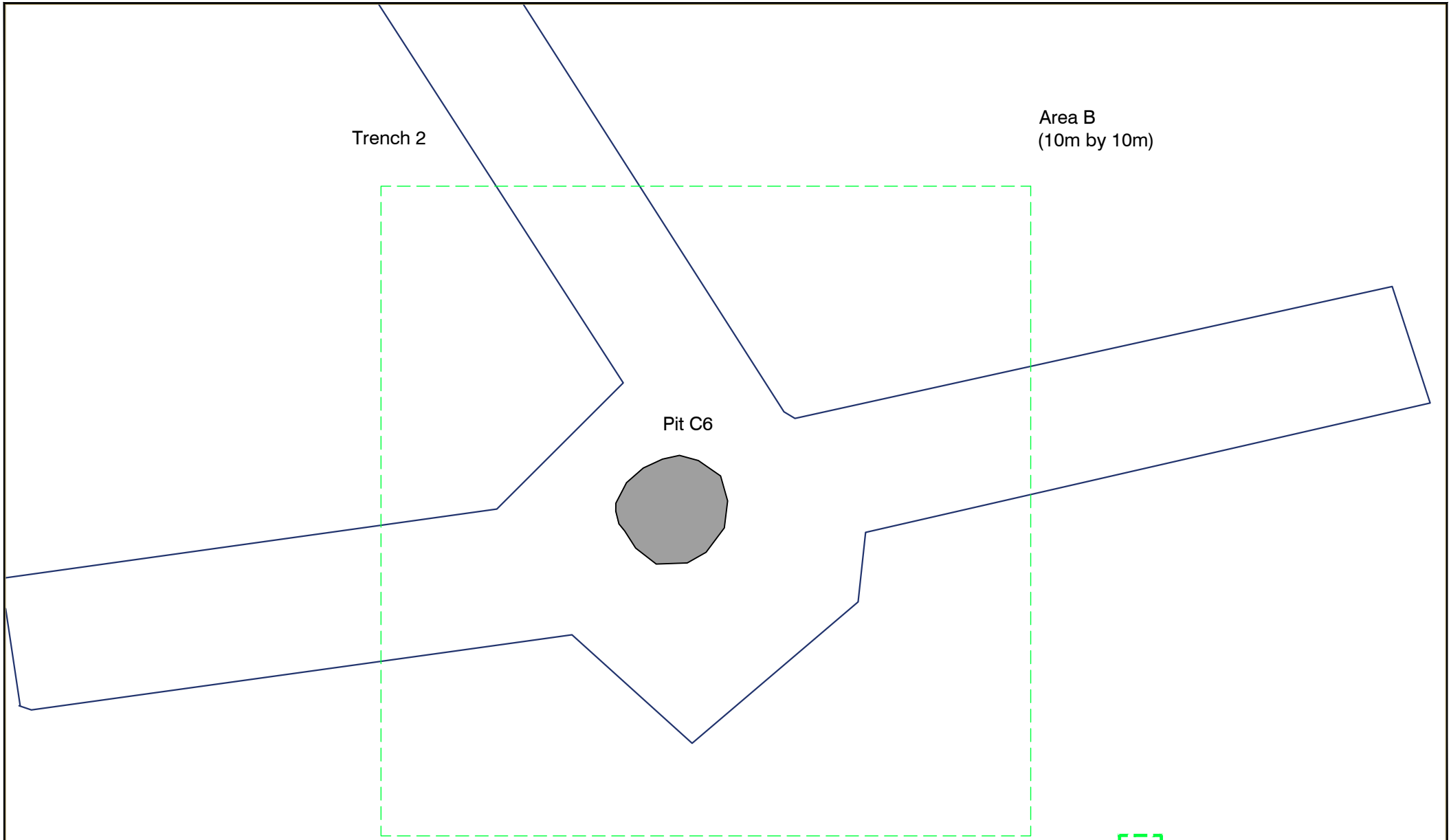
Excavated test trenches
Uncovered archaeology
Overhead power line
Field boundaries
Proposed excavation area

Project Kiltotan, Collinstown, Oldtown townlands, Mullingar, Co. Westmeath		**Date** September 2022	**Drawing No.** 21108_C1017
Figure 7 Detail of site development, showing excavated test trenches, uncovered archaeology and proposed excavation areas			**Scale** As scalebar

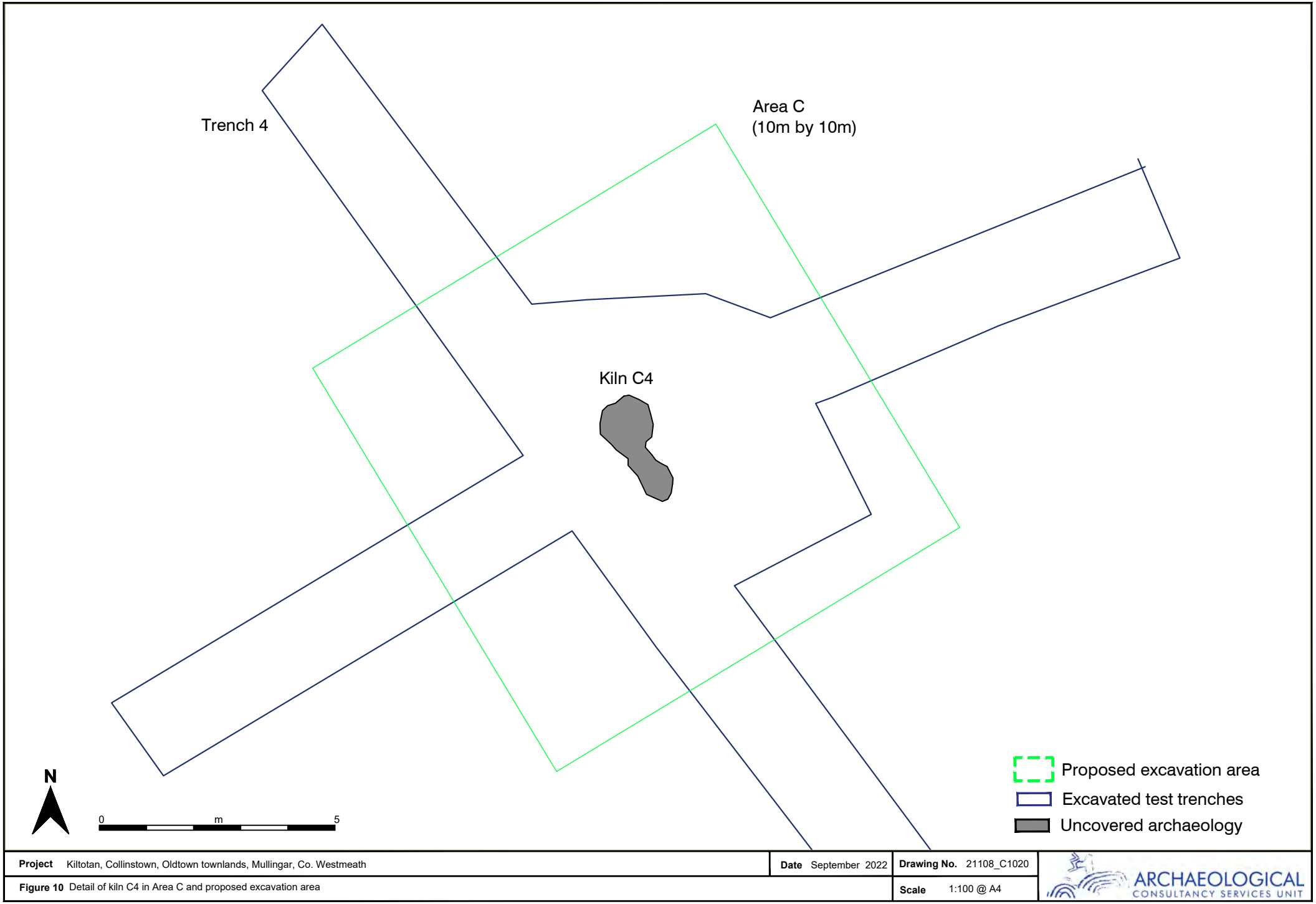
ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT



Project Kiltotan, Collinstown, Oldtown townlands, Mullingar, Co. Westmeath	**Date** September 2022	**Drawing No.** 21108_C1018	ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT
Figure 8 Detail of pit C5 in Area A and proposed excavation area		**Scale** 1:75 @ A4	



Project Kiltotan, Collinstown, Oldtown townlands, Mullingar, Co. Westmeath	**Date** September 2022	**Drawing No.** 21108_C1019	ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT
Figure 9 Detail of pit C6 in Area B and proposed excavation area		**Scale** 1:80 @ A4	



Project Kiltotan, Collinstown, Oldtown townlands, Mullingar, Co. Westmeath

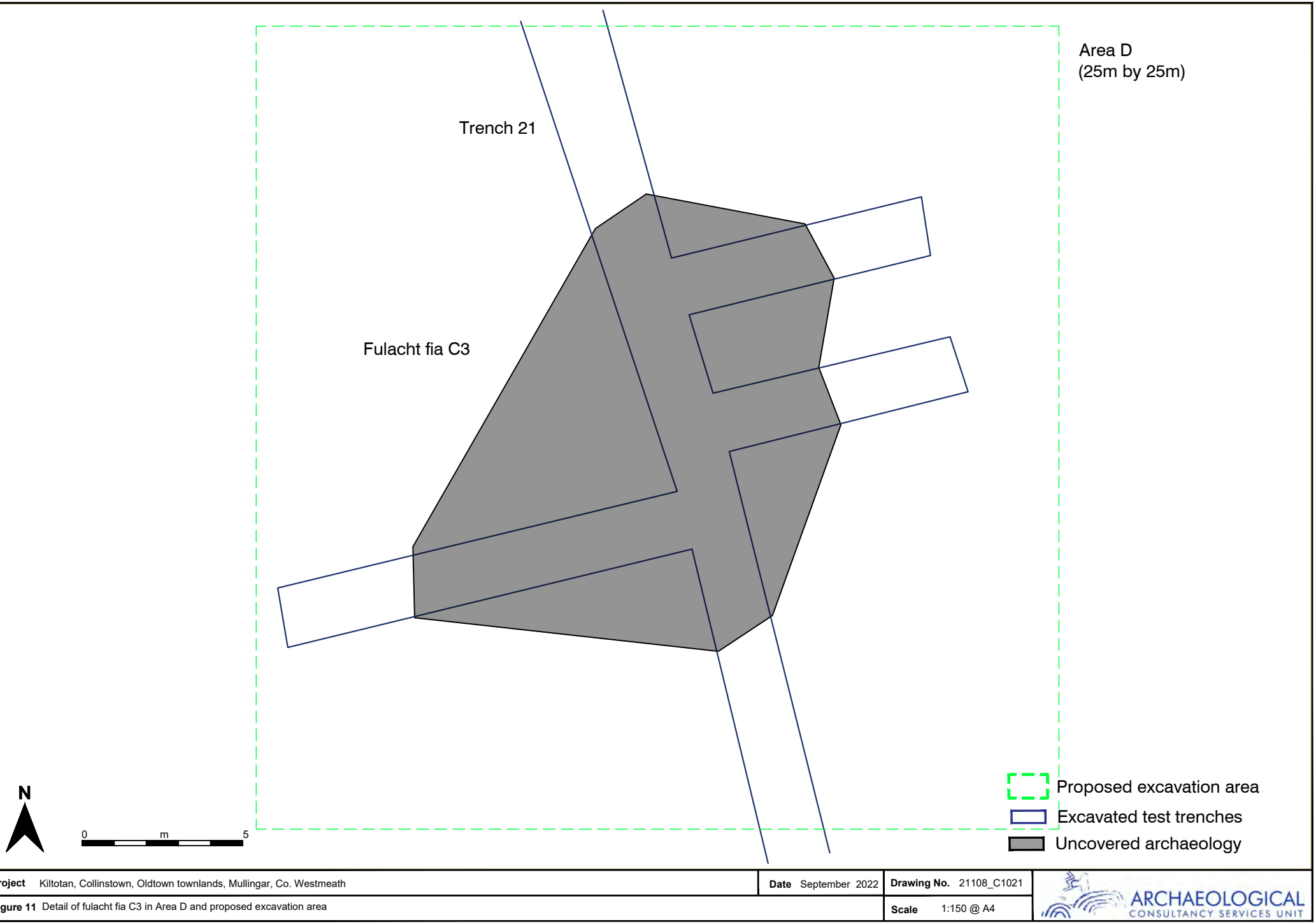
Date September 2022

Drawing No. 21108_C1020

Figure 10 Detail of kiln C4 in Area C and proposed excavation area

Scale 1:100 @ A4

ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT



Project Kiltotan, Collinstown, Oldtown townlands, Mullingar, Co. Westmeath

Date September 2022

Drawing No. 21108_C1021

Figure 11 Detail of fulacht fia C3 in Area D and proposed excavation area

Scale 1:150 @ A4

ARCHAEOLOGICAL CONSULTANCY SERVICES UNIT

Plate 1: Trench 1, facing northwest

Plate 2: Trench 2, showing pit C6, facing northwest

Plate 3: Trench 2, pit C6, facing west

Plate 4: Trench 2, pit C5, facing east

Plate 5: Trench 3, facing northwest

Plate 6: Trench 4, facing southeast

Plate 7: Trench 4, kiln C4, facing east

Plate 8: Trench 5, facing west

Plate 9: Trench 6, facing northeast

Plate 10: Trench 7, facing northwest

Plate 11: Trench 8, facing southeast

Plate 12: Trench 10, facing east

Plate 13: Trench 11, facing east

Plate 14: Trench 12, with Trench 34 in background, facing northwest

Plate 15: Trench 12, former townland boundary C9, facing southeast

Plate 16: Trench 13, with Trench 39 in background, facing northwest

Plate 17: Trench 14, facing north

Plate 18: Trench 15, facing northeast

Plate 19: Trench 16, facing west

Plate 20: Trench 17, facing east

Plate 21: Trench 18, facing north

Plate 22: Trench 19, with Trench 17 in background, facing north

Plate 23: Trench 20, facing west

Plate 24: Trench 21, showing *fulacht fia* C3, facing north

Plate 25: Trench 21, *fulacht fia* C3, facing southeast

Plate 26: Trench 22, facing north

Plate 27: Trench 23, facing north

Plate 28: Trench 24, facing north

Plate 29: Trench 25, facing north

Plate 30: Trench 26, facing north

Plate 31: Trench 27, facing east

Plate 32: Trench 28, facing south

Plate 33: Trench 29, facing north

Plate 34: Trench 30, facing south

Plate 35: Trench 31, facing east

Plate 36: Trench 32, facing northeast

Plate 37: Trench 34, facing east

Plate 38: Trench 35, facing east

Plate 39: Trench 36, with Trench 38 in background, facing southwest

Plate 40: Trench 37N, with Trench 37S in background, facing southeast

Plate 41: Trench 38, facing southeast

Plate 42: Trench 39, facing southeast

Plate 43: Trench 40, facing northwest

Plate 44: Trench 41, facing northwest

Plate 45: Trench 42, facing southwest

Plate 46: Trench 43, facing southeast

Plate 47: Trench 44, facing north

Plate 48: Trench 45 facing west

Plate 49: Trench 46, facing south

Plate 50: Trench 47, facing south

Plate 51: Trench 48, facing southeast

Plate 52: Trench 49, facing southeast

Plate 53: Trench 50, facing southeast

Plate 54: Trench 52, facing southeast

Plate 55: Trench 53, facing north

Plate 56: Trench 54, facing east

Plate 57: Trench 55, facing southeast

Plate 58: Trench 56, facing east

Plate 59: Trench 58, facing north

Plate 60: Trench 59, facing north

Plate 61: Trench 60, facing northeast

Plate 62: Trench 61, with Trench 62 in background, facing northwest

Plate 63: Trench 62, facing southwest

Plate 64: Trench 63, facing southeast

Plate 65: Trench 64, facing southeast

Plate 66: Trench 65, facing west

Plate 67: Trench 66, facing east

Plate 68: Trench 67, facing north

Plate 69: Trench 68, facing southeast