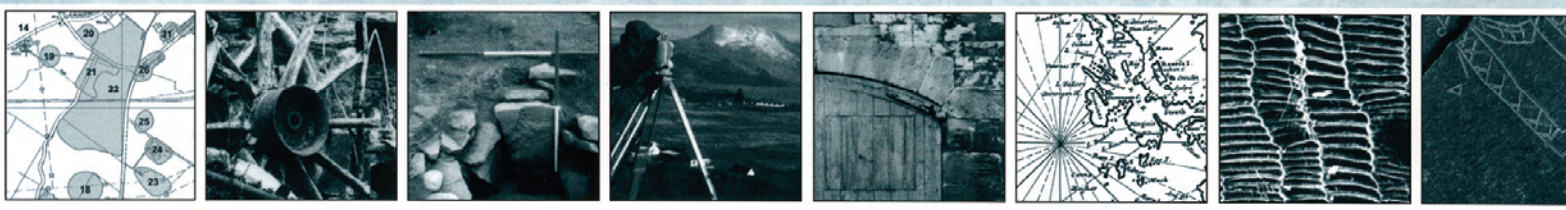

Assessment Report on the Results of Metro North Advance Archaeological Test Trenching, Testing Area 5, Lissenhall Little townland, Co. Dublin,
RPA ref: (MN101) Lissenhall to Fosterstown

Excavation Licence Number: 09E463
Director: John Channing
Report Author: John Channing
Project Code: RPMN08
Client: Railway Procurement Agency RPA 7120_5
Townlands: Lissenhall Little
Ordnance Datum: 7.3195 m
NGR: 318614/248869

HEADLAND ARCHAEOLOGY Ltd

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SUMMARY

Metro North is a light rail project, the route of which will run along a proposed 18 km corridor, from Belinstown in North County Dublin, through Dublin Airport, to the City Centre at St. Stephen's Green.

Headland Archaeology (Ireland) Ltd was commissioned by the Railway Procurement Agency (RPA) to carry out advance archaeological testing of the proposed Metro North scheme. For the purposes of archaeological assessment the Metro North route has been sub-divided into fourteen Testing Areas, TA1–14. This report outlines the results of Advance Archaeological Test Trenching undertaken in Testing Area 5 Lissenhall Little townland (MN101), Co. Dublin on the footprint of the Metro North alignment and part of the Lissenhall (provisional) Stop

The programme of advance archaeological testing for Metro North was carried out following a series of non-invasive archaeological investigations including an Environmental Impact Assessment (EIA; CRDS Ltd 2008), the preparation of an Archaeological Strategy Document (MGL Ltd 2007) and a programme of geophysical survey (08R0117; Thébaudeau and Harrison 2009).

The EIA process did not identify any archaeologically significant features within Testing Area 5 (CRDS Ltd 2008). The geophysical survey noted a limited number of features of archaeological potential and numerous ferrous and increased magnetic responses in Sub-area 11, including several possible linear features (G43 Thébaudeau and Harrison 2009, 17; Figure 1).

The advance archaeological testing for Testing Area 5 (09E463) was carried out on the 22nd, 29th and 30th September 2009 by John Channing. A total of 22 test trenches were excavated in 3 fields. A total of 1822 linear metres were excavated comprising 11.96% of the Testing Area.

Three archaeological features were identified during the course of testing comprising a ringditch, a linear ditch extending from it and a cremation pit (Lissenhall Little 1). The features of archaeological potential noted in the geophysical survey were identified as the remains of late post-medieval and modern agricultural activity - namely plough furrows, field boundaries, land drains and stone sockets (left from field clearance) - and were therefore considered to be of no archaeological significance.

This report outlines the results of the archaeological testing and assesses the impact of the proposed Metro North scheme on Testing Area 5. As this area is the proposed location of the Metro North alignment and Lissenhall (provisional) stop, any sub-surface archaeology would be subject to direct negative impact from ground disturbance works associated with site preparation (including removal of topsoil) and other construction activities. It is therefore recommended that archaeological excavation of the site (Lissenhall Little 1) be carried out prior to construction works. Areas tested immediately to the north and south of Testing Area 5 did not reveal any features of archaeological significance (Testing Area 4, 09E462 and Testing Area 6, 09E464).

1.0 INTRODUCTION

This document is submitted as an assessment report on the Advance Archaeological Testing of Metro North, Testing Area 5 Lissenhall Little (MN101), Co. Dublin (09E463; Lissenhall Little).

Metro North will be a combined underground and surface light rail service development, segregated from traffic using tunnel, road median and Greenfield construction environments. The Metro North route will run along a proposed 18 km corridor, from Belinstown in North County Dublin, through Dublin Airport, to the City Centre at St. Stephen's Green.

The route of the Metro North is generally a north-south alignment. It will have stops at Belinstown (where its depot will be located), Lissenhall (provisional), Estuary (provisional), Seatown, Swords, Fosterstown, Dublin Airport, Dardistown, Northwood, Ballymun, Dublin City University, Griffith Avenue, Drumcondra, Mater Hospital, Parnell Square, O' Connell Bridge and St. Stephen's Green. Testing Area 5 incorporates the footprint of the Metro North alignment and part of the Lissenhall (provisional) Stop.

The purpose of the advance testing was to determine the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts along the route so as to inform the subsequent archaeological strategy in advance of construction. All areas of archaeological potential, sites and significant features recorded for the footprint of the proposed scheme in the Metro North EIS or subsequently identified by the Metro North geophysical survey were investigated as part of the testing programme.

For the purposes of design and construction the Metro North route has been broken into seven zones or section areas (MN101-MN107):

Area 1 MN101 - Lissenhall to Fosterstown;

Area 2 MN102 - South of Fosterstown to Dublin Airport Boundary (North);

Area 3 MN103 - Dublin Airport;

Area 4 MN104 - Dublin Airport Boundary (South) to M50 motorway;

Area 5 MN105 - M50 (South) to Dublin City University (DCU);

Area 6 MN106 - DCU to Mater Hospital; and

Area 7 MN107 - Mater Hospital to St Stephen's Green.

For management purposes, the Metro North route has been sub-divided into fourteen archaeological Testing Areas (TA1–14) by the RPA Project Archaeologist and each of these areas has been assigned an individual excavation licence number (see Table 1).

Testing Area	Excavation License No.
TA1	09E450
TA2	09E448
TA3	09E449
TA4	09E462
TA5	09E463
TA6	09E464
TA7	09E465
TA8	09E466
TA9	09E467
TA10	09E478
TA11	09E479
TA12	09E480
TA13	09E481
TA14	09E482

Table 1: Testing Areas and their assigned excavation licence numbers.

2.0 SITE LOCATION AND DESCRIPTION

Testing Area 5, incorporating the footprint of the Metro North alignment and part of the Lissenhall (provisional) Stop, is located at NGR 318614/248869 in the townland of Lissenhall Little (MN101), Barony of Nethercross, parish of Swords, Co. Dublin (Figure 1). This is within area MN101 - Lissenhall to Fosterstown. It is situated approximately 1.25 km to the north of Swords on land currently used for agriculture; the R132 and the M1 motorway are located directly to the east.

The Testing Area measures 30,460 m^2 and encompasses a 50 m wide strip of land which extends across 3 fields and traverses the avenue to Lissenhall House (CRDS Ltd. 2008; RPS 342; HC#9), a protected structure. The avenue consists of a rough gravelled drive with remnants of a low iron fence.

Testing Area 5 was situated on gently sloping, tilled land over three large, roughly rectilinear fields (Sub-areas 11, 12 and 13). The western sides of Sub-areas 12 and 13 were bounded by Ennis Lane which runs on the east side of the Townland Boundary between Balheary Demesne and Lissenhall Little. The western field boundary consists of an earthen bank with a shallow parallel ditch on the eastern side; mature trees line the bank.

Soils specific to the region of North County Dublin are predominated by a highly consolidated, very stiff clay and silt matrix containing sand, gravel, cobbles and boulders. This clay is generally grey to black in colour. In Testing Area 5 of the proposed scheme, however, it is generally brown. Pockets of glacial sands and gravels occur within this boulder clay, particularly to the south of the Testing Area. These sands and gravels are likely to have been deposited in glacial ponds or streams and are generally water bearing. The underlying bedrock consists of a nodular and muddy argillaceous limestone with a relatively uniform bed thickness. It is interspersed with thin shale beds and contains major units of very distinctive, laminated fine limestone (ERM and Jacobs Engineering Ireland Ltd 2008).

3.0 PROJECT BACKGROUND

Several stages of non-invasive archaeological investigation were carried out on the route of Metro North prior to the archaeological testing, and the results of these investigations have had a direct influence on the strategy adopted for the testing programme.

3.1 Environmental Impact Statement

An Environmental Impact Assessment was carried out as part of the Railway Order Application for Metro North. Cultural Resource Development Services Limited (CRDS) on behalf of ERM Environmental Resources Management Ireland Limited (ERM) completed the assessment for archaeology, architectural heritage and cultural heritage. The assessment consisted of a review of the published and unpublished documentary, aerial and cartographic sources, supported by a field inspection of the proposed alignment.

3.2 Archaeological Strategy Document

In addition to the EIS chapter, an Archaeological Strategy document was prepared for Metro North by Margaret Gowen Limited (MGL) in 2007. The strategy supplements the provisions outlined in the EIS for the mitigation of impacts on archaeological heritage arising from the project. The strategy is a live document and is managed by the RPA Project Archaeologist and will continue to evolve on a phased basis to ensure that it remains appropriate and effective in managing archaeological risk throughout the project up to construction commencement.

The EIS and the Metro North Archaeological Strategy recommended that a programme of geophysical survey followed by a programme of testing should be carried out in the Greenfield areas of the route in advance of construction.

3.3 Geophysical Survey

A programme of geophysical survey was carried out by MGL between May and September 2008 with further investigations in 2009 (Thébaudeau and Harrison 2009). The methodology included a scanning gradiometry survey and a detailed magnetometry survey of approximately twenty-eight areas along the route of Metro North.

4.0 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

This historical and archaeological background for Testing Area 5 has been compiled using the Archaeology, Architectural Heritage and Cultural Heritage chapter of the EIS (CRDS Ltd 2008), the aforementioned Archaeology Strategy (Gowen 2008) and Geophysical Survey (Thébaudeau and Harrison 2009) in addition to available literary and cartographic sources.

"Evidence for prehistoric activity in North County Dublin comes from the Record of Monuments and Places, which includes prehistoric sites, previous development-led investigations and surveys and from stray finds. In the early historical period the area through which the route is aligned formed part of the geographical region of Brega with a range of sites of this period including ringforts, dispersed settlement sites and Early Christian ecclesiastical sites. There are relatively few surviving ringforts in north County Dublin due to the intensive cultivation and agricultural activity in this part of the county, which levelled many earthwork sites. These tend to survive as cropmarks, as illustrated in the archaeological desk study undertaken for the EIS.

After the conquest by Anglo-Normans in the twelfth century, new social structures, agrarian development and settlement centres of religious and secular origin followed. Throughout the medieval period monastic foundations and individual lordships held large tracts of lands in north Dublin. A period of great flux occasioned by warfare, confiscation and transfer of ownership occurred during the Tudor era and the Confederate and Williamite conflicts, and the development of demesne properties in subsequent years all influenced the character and layout of the rural north Dublin… landscape that was also influenced by … peacetime economic and … agricultural development.' (Gowen 2008, 4–5). The EIS Metro North volume 2, book 1 of 7, part 4 (Chapter 14-18), page 343, table 15.3, states that the construction within Lissenhall Little will 'sever the avenue to Lissenhall House, a protected structure, impact on the curtilage of the house and effect its setting'.

There were no known archaeological remains within Testing Area 5 however the avenue leading to Lissenhall House will be directly impacted by the proposed development (CRDS Ltd. 2008; RPS 342; HC#9). Several linear trends identified as a possible field drains were identified during the geophysical survey (G43, Thébaudeau and Harrison 2009, 17; 23).

Recorded Archaeological Sites

Due to activities associated with modern development and progress - such as agriculture, industry and infrastructural improvements in the second half of the 20th century - many archaeological sites have been levelled. The present day archaeological landscape is not therefore fully representative of the human occupation of this island which has spanned some nine thousand years. Nonetheless, archaeological sites survive today as upstanding structures, earthwork monuments or sub-surface remains.

The record of monuments and places records three archaeological sites within the Lissenhall Little townland. In particular, a ringditch is recorded some 1,500m to the northeast.

HC #	RMP #	Site Type	NGR	Distance
7	DU012-002	Enclosure	319434/249943	2025 m to the northeast
350	DU012-003	Ringditch	319168/249680	1,500 m to the northeast
-	DU012-011	Ritual site, Holy well	319050/248880	400 m to the east

Table 2 - RMPs located within the same townland as Testing Area 5

A number of Recorded Monuments (RMPs) lie within the wider vicinity of the proposed Testing Area, however none are impacted directly by it (Figure 2; Table 3).

HC #	RMP #	Site Type	NGR	Distance
-	DU011-017	Enclosure	317780/249000	700 m to the west
-	DU011-080	Ring ditch	317790/248290	830 m to the southwest
11	DU011-081	Bridge	318750/248290	350 m to the south
-	DU012-011	Ritual Site/Holy Well	319050/248880	400 m to the east

Table 3 - RMPs located within the vicinity of Testing Area 5

Townlands and Townland Boundaries

The Irish landscape is divided into approximately 60,000 townlands and the system of landholding is unique in Western Europe for its scale and antiquity. Many townlands predate the arrival of the Anglo Normans, and Irish historical documents consistently use townland names throughout the historic period to describe areas and locate events accurately in their geographical context. The townland names and boundaries were standardised in the nineteenth century when the Ordnance Survey began to produce large-scale maps of the country. The original Irish names were eventually anglicised to varying degrees, depending in part upon the linguistic skills of the surveyors and recorders. A study of the townland names can provide information on aspects of cultural heritage including descriptions of the use of the landscape by man.

Testing Area 5 is partially bounded to the west by Ennis lane which is in turn bounded to the west by the Townland Boundary between Balheary Demesne and Lissenhall Little (plate 9). The line of the boundary is recorded on the 1st Edition Ordnance Survey map for County Dublin (1843).

According to the EIS (CRDS Ltd 2008) Lissenhall Little derived from the Irish Lisín, meaning 'little fort' with the 'hall' element possibly being a later addition referring to a particular building within the townland.

Previous Archaeological Excavations

The archaeological 'Excavations Bulletin' (1970-2005) was checked for a record of any licensed archaeological investigations carried out within the townland of Lissenhall Little since 1970. Two such investigations were listed in the townland of Lissenhall Little (00E0953 and 01E1074), both of which were carried out by Valerie J. Keeley Ltd. prior to the Northern Motorway/Airport–Balbriggan bypass construction. No features of archaeological significance were identified during the advance testing stage of the Northern Motorway/Airport–Balbriggan bypass (00E0953) (Lynch 2000), however an Early Neolithic habitation site was identified during the associated topsoil removal and excavated (under license 01E1074) (O'Reilly 2001). This site lies approximately 10 m to the south of Testing Area 2.

Geophysical Survey

The geophysical survey noted several features of archaeological potential and a moderate number of anomalies of ferrous and increased magnetic response within Testing Area 5 Sub-area 11 (Thébaudeau and Harrison 2009; Figure 2). These included:

- some increased ferrous responses in Sub-area 11 (G43) unlikely to represent ephemeral archaeological remains
- several linear trends in Sub-area 11 (G43) thought to possibly represent ephemeral archaeological remains or field drains.

Sub-areas 12 and 13 were not subject to geophysical survey.

Cartographic Sources

Testing Area 5 comprises the central and western extents of three large, roughly rectilinear fields (Sub-areas 11, 12 and 13). The area is depicted with trees on the 1st edition 6" Ordnance Survey map (1843), raising the possibility of a parkland setting around Lissenhall House, possibly landscaped. The depiction is reminiscent of documented demesne landscapes and associated follies such as at Rochfort demesne, County Westmeath, (1st ed. O.S. 6" sheet 26 Co. Westmeath). Sub-areas 12 and 13 appear as one field that is divided by the avenue to the house in the 1st edition survey.

5.0 OBJECTIVES

The objective of the testing was to determine the presence or absence of archaeological features, structures, deposits, artefacts or ecofacts along the route so as to inform the subsequent archaeological strategy in advance of construction. All areas of archaeological potential, sites and significant features identified in the EIS and by the geophysical survey were investigated during the testing programme

As part of the advance archaeological testing of Metro North all townland boundaries directly impacted by the proposed scheme were investigated and surveyed. No such boundaries were present in Testing Area 5.

6.0 METHODOLOGY AND CONSTRAINTS

The archaeological excavation licence number 09E463 was granted to William O. Frazer and subsequently transferred to John Channing, both of Headland Archaeology (Ireland) Ltd by the Department of the Environment, Heritage and Local Government (DoEHLG) in consultation with the National Museum of Ireland (NMI). This licence pertained to the excavation of test trenches as per the trench layout plan for Testing Area 5, which was submitted together with the licence application method statement (Figure 2).

The works were carried out by Headland Archaeology (Ireland) Ltd on behalf of the RPA on 22nd, 29th and 30th September 2009. The methodology of the investigation complied with the Policy and Guidelines on Archaeological Excavation (Dúchas 1999) and the specification, terms and conditions of the Contract between the RPA and Headland Archaeology (Ireland) Ltd. The work was undertaken in accordance with the Code of Practice agreed between the DoEHLG and the Railway Procurement Agency.

Testing Area 5 encompassed approximately 3.046 hectares. A total of 1822 linear metres of 2 m-wide test trenches was excavated, comprising 11.96% of the Testing Area, (Appendices 1 and 2). Testing was in the form of mechanically excavated test trenches. These were excavated using a mechanical tracked excavator (generally 21-tonne) with a toothless ditching / grading bucket under the direct and continuous supervision of the director John Channing or his supervisor. This work was overseen by the Headland Archaeology Senior Archaeologist Patricia Long. One archaeological assistant was employed to assist the licensed director and the supervisor with the recording of the trenches and the features identified within them.

The layout of the test trenches was designed to test the features of archaeological potential identified in the geophysical survey. A total of 22 trenches, generally set at a distance of 10 m apart, were excavated throughout the Sub-areas that comprise Testing Area 5. This trenching pattern was unchanged from that proposed in the method statement that accompanied the testing licence application; although Trenches 1 and 3 in Sub-area 12 were reduced at their northern extent by 3.6 m and 2 m respectively due to overhead and underground cable hazards:

- Sub-area 11: The geophysical survey had noted several linear responses of possible archaeological significance. These ran on a north-south and east-west alignment. Eight test trenches were excavated to maximise the potential of identifying any archaeological sites or isolated features. The trenching in this area followed the trench layout plan for Testing Area 5, which was submitted together with the licence application method statement (Figure 2).
- Sub-area 12: A geophysical survey was not carried out in this area due to unsuitable crop conditions. However, 7 test trenches were excavated in order to determine if any features of archaeological significance were present. The trenching in this area followed the trench layout plan for Testing Area 5, apart

from reductions due to cable hazard (Trenches 1 and 3), which was submitted together with the licence application method statement (Figure 2).

- Sub-area 13: A geophysical survey was not carried out in this area due to unsuitable crop conditions. However, 7 test trenches were excavated in order to determine if any features of archaeological significance were present. The trenching in this area followed the trench layout plan for Testing Area 5, which was submitted together with the licence application method statement (Figure 2).

Where features of archaeological potential were identified, the features were cleaned back and tested. The purpose of the testing was to establish the nature and extent of the archaeological deposits and features present. With this in mind, partial excavation and half-sectioning of features was undertaken where appropriate but every effort was made to preserve the stratigraphical integrity of archaeological sites/features. Features of archaeological potential were sectioned to ascertain their significance apart from the identified cremation (008), where burnt bone and a fragment of pottery on the feature surface indicated the possible presence of an urn and cremated human remains, which would both lose integrity in any half section. If a feature was deemed to be non-archaeological due to its character or the presence of modern datable material no detailed recording was undertaken, but notes were made on the trench sheets contained within the site archive.

Recording

Unique numbers were given to all contexts of archaeological potential and small finds identified during archaeological test trenching. Prefixes were not used by Headland Archaeology (Ireland) Ltd but context numbers are illustrated throughout the report in brackets e.g. (001). Digital photographs were taken of each field, trench and feature. All trenches were surveyed using Trimble GPS surveying equipment with accuracy levels within 3 mm. All recording was undertaken on Headland Archaeology (Ireland) Ltd *pro forma* record cards. All archaeologically significant features have been related to Ordnance Datum and the Irish National Grid as per RPA Project Control.

Environmental Samples

No environmental samples were taken during the course of archaeological test trenching at Testing Area 5.

Finds Retrieval

One find was retrieved during the course of archaeological test trenching at Testing Area 5. The location of this find was noted and it was individually recorded and given a find number (Figure 2; Appendix 4). It was allocated to a specific context, individually bagged and catalogued in accordance with National Museum of Ireland guidelines.

7.0 RESULTS

A total of 22 test trenches were mechanically excavated in 3 fields at Testing Area 5 (Figure 3; Plate 1), totalling approximately 3,644m^2 of the entire Testing Area 5 space of 30,460 m² (i.e. 11.96% of the Testing Area).

The test trenches were excavated to an average depth of 0.40 m exposing the underlying mid yellow-brown silty clay subsoil. This subsoil contained bands of grey yellow coarse grained silty clay and blackish grey silty clay. Features identified within Testing Area 5 generally comprised linear furrows orientated E/W. A number of French, earthen, and stone land drains were also excavated across Testing Area 5 e.g. drain (021) Trench 3 (Plate 7). The remains of field drains were identified within all Sub-areas. Sub-area 13 contained the remains of a criss-crossing drain pattern running down slope on an approximate north-south line e.g. (030) and (031) and cross slope on an approximate east-west line e.g. (036) and (033). Modern finds were noted in these features, consisting of 19th century ceramics e.g. (036). Sub-areas 12 and 11 also preserved a similar drainage pattern but without the large quantities of modern debris

7.1 Lissenhall Little 1 (Trenches 2 and 3)

Three features of archaeological significance were identified in Sub-area 12. A ringditch, (010) was located in central portion of Trench 2, (Figure 3, Plate 2 and 3). The trench was extended to the east to reveal the eastern extent of the feature which formed a half circle on plan. The western extent was not apparent in adjacent Trench 1, suggesting a return within the unexcavated area between Trenches 1 and 2. The extension followed the ditch leaving the interior undisturbed, apart from the initial Test Trench 2. The exposed portion of the monument measured 14.90 m in external diameter and 8.80 m in internal diameter. The ditch was sectioned within Trench 2, recording a maximum depth of 1.2 m measured from ground surface and width of 3.3 m at subsoil surface (Figure 3 Plate 3). The profile exhibited a splayed ‘u’ profile. Nine separate deposits were present in the section. Minute quantities of bone and charcoal were present in the basal fill (011). The centre of the feature was not exposed and the area within Trench 2 passing through the ring was

excavated to the base of topsoil and appeared sterile. The northern portion of the ditch was not immediately apparent during test trenching, requiring the excavation of subsoil to a depth of c.0.10 m to reveal ditch fill and differentiate from surrounding natural subsoil.

The diameter of the ringditch matches that within the Archaeological Survey of Ireland's category of 'ringditch', which is considered by the survey to date from the Bronze and Iron Ages, (2,500BC-400AD). The online version of the excavations bulletin records 45 ringbarrow and 3 ringditch sites, which probably all fit into the general ringditch category. Similar examples have been excavated in County Dublin e.g. Kilmahuddrick at Clondalkin Co. Dublin (Licence 00E0263 Directed by Ian Doyle excavations bulletin entry 2000:23). It is likely, given the ratio of ditch depth to circumference that the feature represents the sub-surface part of a barrow, perhaps with a central bell shaped mound. Certainly the circumference is smaller and depth greater than that observed at Baysrath Co. Kilkenny which produced a late Iron Age date and associated linear cemetery (Registration number E2517, directed by the Author). The ringditch classification covers a wide diversity and chronology of monuments sharing a basic foundation design and funerary function.

A ditch, (023) extended from the eastern portion of the ringditch in an east-northeast direction with a gentle curve to the south, (Figure 4, Plates 4 and 5). The surface fill was indistinguishable from that of the ringditch and may indicate contemporary infilling. The ditch did not extend west through the ringditch interior and was not present within either Trenches 1 or 2. An eastern extension was present in adjacent Trench 3 where it was sectioned. It possessed a rounded profile with maximum depth 0.4 m and width 1.5 m with a single red brown clayey silt fill with moderate inclusions of sub-angular stones, (Figure 4, Plates 4 and 5). The base of the feature was cut into natural bedrock. The ditch was not apparent elsewhere on the site though its curving line suggests the possibility of a return, possibly recorded as (025) within Trench 3 but not apparent in parallel Trenches 1 or 2. The return of the ditch, in the vicinity of the cremation pit, cannot be discounted given the difficulty in differentiating ditch fill from surrounding subsoil which initially obscured the northern cut of the ringditch. The ditch section did not uncover any artefacts.

The combination of the ditch and ringditch, in the pattern observed, is unusual. The lack of artefacts in and around the features together with the lack of cartographic evidence reduces the possibility that it is a modern folly associated with Lissenhall House. The depth of cut and lack or internal foundations does not fit with a windmill base.

A cremation pit (008) was located at the southern end of Trench 2, (Plate 6); NGR 318601E 248902N R.L 8.670. It comprised of a sub-rectangular deposit of black charcoal stained silty clay measuring 0.31x0.44 m. Fragments of charcoal and burnt bone were present on the surface; a straight cut side was noted on the southern edge. Initial testing of the feature stopped when a fragment of pottery was noted against this edge, in order to preserve the integrity of any human remains and cremation vessel. The fragment is abraded and irregular measuring c.0.01 m thick and comprising c.0.0125 m^3. The sherd is unglazed and has a light brown exterior with dark grey interior with gritty inclusions, possibly quartz. The find is likely to be prehistoric and probably of late Bronze Age date. A full description of all trenches is included in Appendix 2. The online version of the excavations bulletin records 68 cremation site excavations since 1970. The cremation pit was observed on the upper subsoil surface, at a level above which the ringditch was observed, thus machine testing for any ditch associated with the ringditch in the proximity of the cremation pit may have potentially removed stratigraphy associated with the cremation pit.

7.2 Interpretative assessment of the geophysical survey anomalies in Testing Area 5

The features of archaeological potential and the ferrous anomalies noted in the geophysical survey were identified during the course of archaeological test trenching as the remains of agricultural activity, namely land clearance, land improvement (drainage) and cultivation. Specifically, the linear trends in Sub-area 11 were the result of numerous plough furrows and land drains, and an occasional stone socket resulting from field clearance. Such linear agricultural features were aligned in a manner that coincided with the surviving upstanding fields and/or with the field systems represented on nineteenth century Ordnance Survey maps. Most demonstrated physical characteristics (degree of straightness, spacing, etc.) clearly indicative of a mechanised origin and post-agricultural improvement (i.e. post *c.* AD 1750) process. In some instances, materials observed in the fills of the features confirmed a late post-medieval or modern origin (e.g. late transfer-printed ceramic, kiln-fired brick fragments, ceramic drain pipes, plastic sheeting, iron/steel fragments from modern farm machinery, etc.), and no finds indicated a date prior to the end of the eighteenth century at the earliest.

The geophysical anomalies resulting from elevated magnetic responses, proved overwhelmingly to be the result of variation in the natural subsoil, namely: pockets of more water-'transmissive' sands and gravels; more impermeable clays in poorly drained

locations where the soils had begun to gley and/or mineral pan (Fe and Mg) had begun to form. In limited instances this type of geophysical anomaly also partly correlated to the aforementioned late post-medieval/modern agricultural features described above.

In this landscape history context, late post-medieval and modern agricultural features are not considered to be archaeologically significant.

8.0 IMPACT ASSESSMENT

Significant archaeological features were identified during the course of archaeological test trenching at Testing Area 5 Sub-area 12 (Lissenhall Little 1). They comprise of a cremation pit and a ringditch together with an associated and possible contemporary curvilinear ditch. It is possible that the features are related and contemporary and that the ditch associated with the ringditch curves south then east around the cremation pit to the south. The cremation pit may be part of a small cemetery, though no further examples were noted in the adjacent trenches (1 and 3). As this area is the proposed location of the Metro North alignment and Lissenhall (provisional) stop, any sub-surface archaeology would be subject to direct negative impact from ground disturbance works associated with site preparation (including removal of topsoil) and other construction activities. According to Environmental Protections Agency EIA guidelines (2003, 139) this impact is likely to be significant to profound in each case. The remaining Sub-areas, 11 and 13, did not indicate any archaeological potential.

9.0 PROPOSED MITIGATION

In order to mitigate the predicted impact of the proposed scheme on Testing Area 5 a detailed mitigation strategy is presented here.

Prior to development a zone within Testing Area 5 Sub-area 12 (Lissenhall Little 1) will require full archaeological mitigation by archaeological excavation. The zone should extend from 20 m north of the ringditch to 20 m south of the cremation, spanning the width of the route corridor and encompassing the area between the two features. This would constitute an area measuring 5040 m^2. The area recommended for mitigation considers the existence of a curvilinear ditch associated with the ringditch, possible cremation pit cemetery and any relationship between these features.

The mitigation strategy should allow for the excavation of human remains and prehistoric pottery.

Archaeological Sire number	**Trench number**	**Summary of Archaeological features identified**	**Proposed area of excavation**	**Resources required**	**Timescale for completion**
Lissenhall Little 1	Sub-area 12, T 2	Cremation pit and ringditch. Provisional date Bronze Age/ Iron Age (*c.* 2200 BC–400 AD)	5040 m² comprising the full width of the landtake from 20 m north of the ringditch to 20 m south of the cremation.	2 tracked excavator, 2 dumpers 1 Director 1 Supervisor 8 Assistants	4 weeks

Table 4: Summary of areas of archaeological potential and resources required

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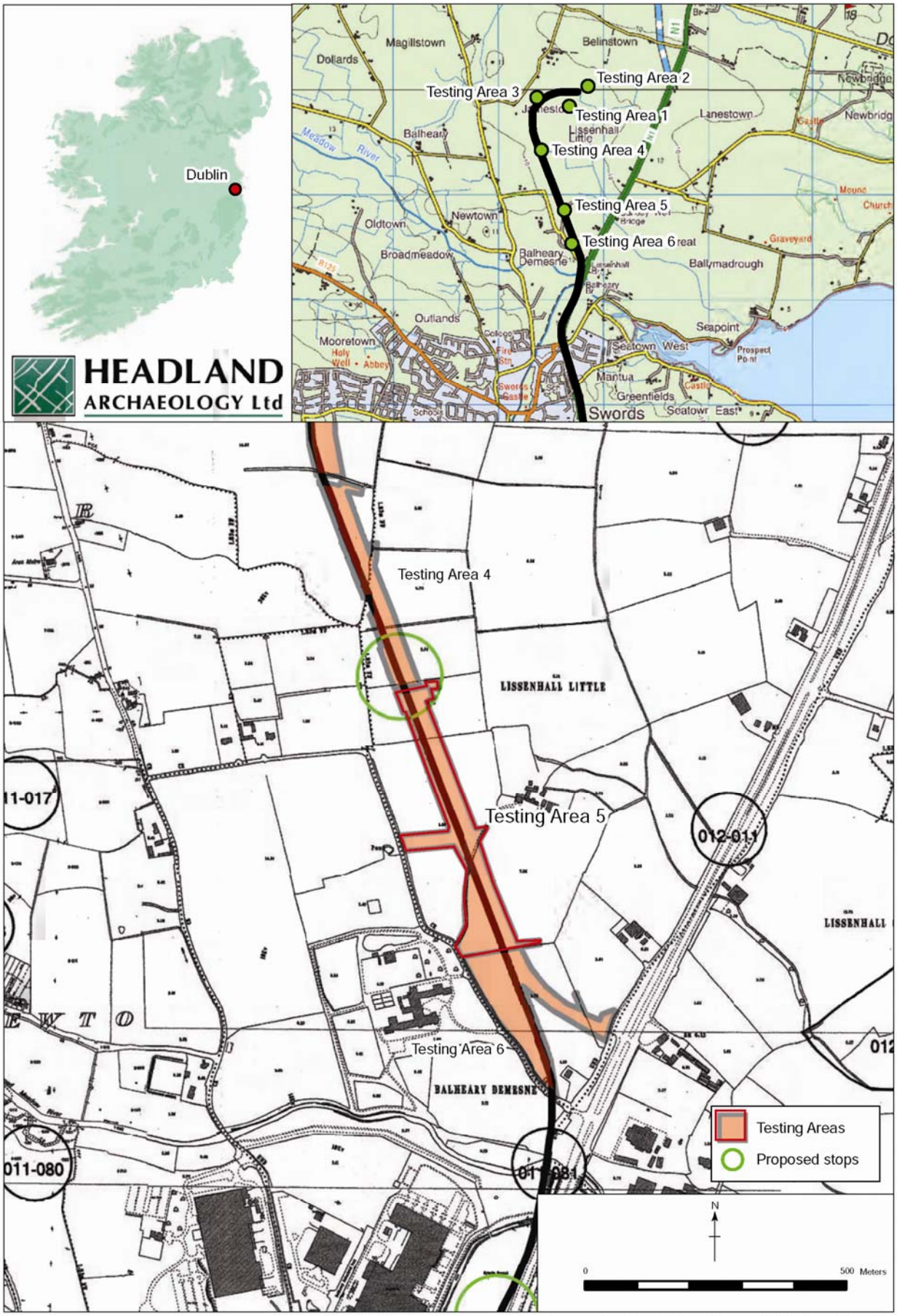

Figure 1 - Advanced Archaeological Testing of Metro North: Testing Area 5, Lissenhall Little Townland, RPA Ref: MN101 Lissenhall to Fosterstown. Location including RMP extract.

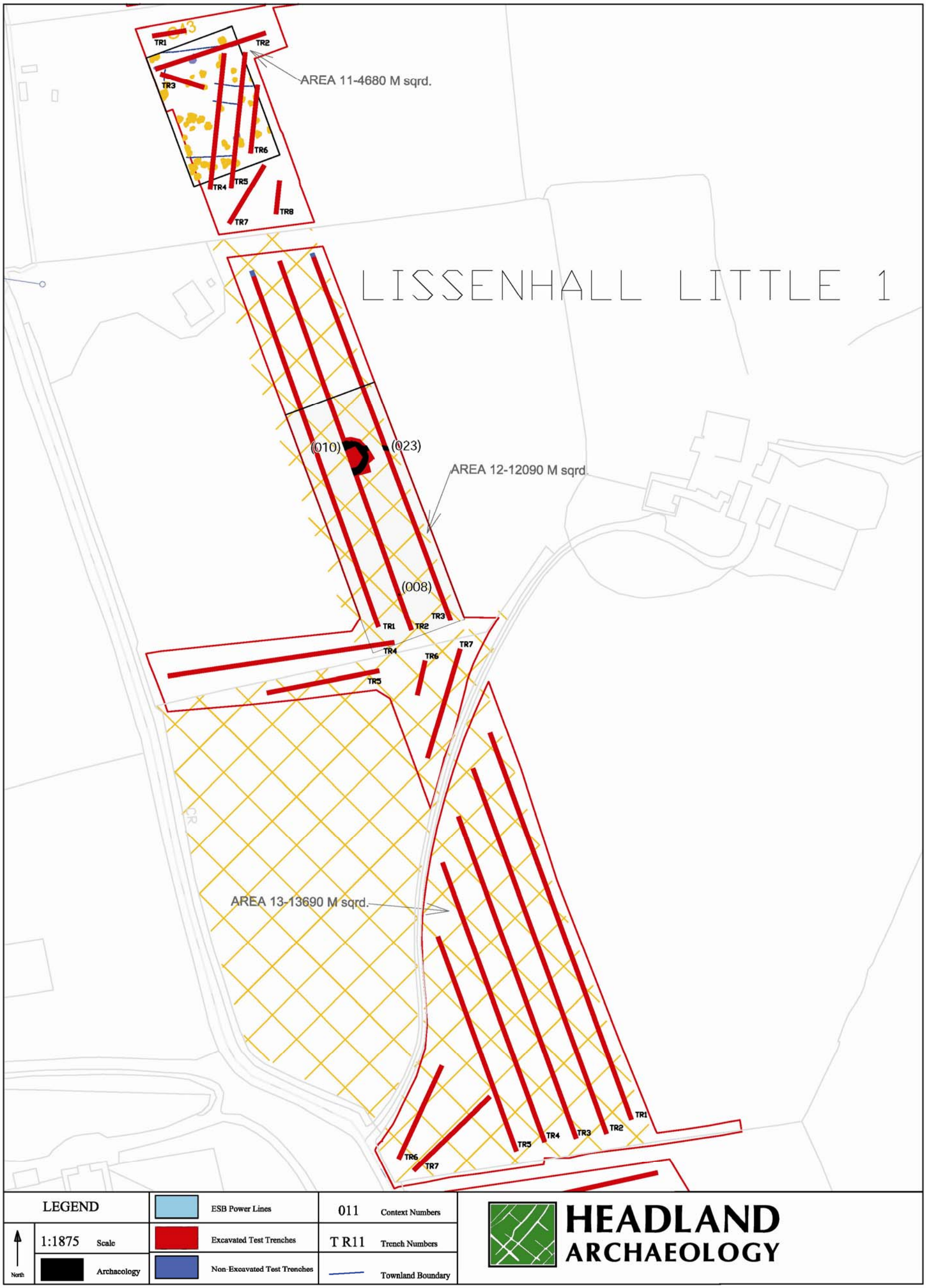

Figure 2 - Advanced Archaeological Testing of Metro North: Testing Area 5 (Sub-areas 11, 12 & 13).
Lissenhall Little Townland, RPA Ref: MN101 Lissenhall to Fosterstown.
Test trench layout including location of Lissenhall Little.

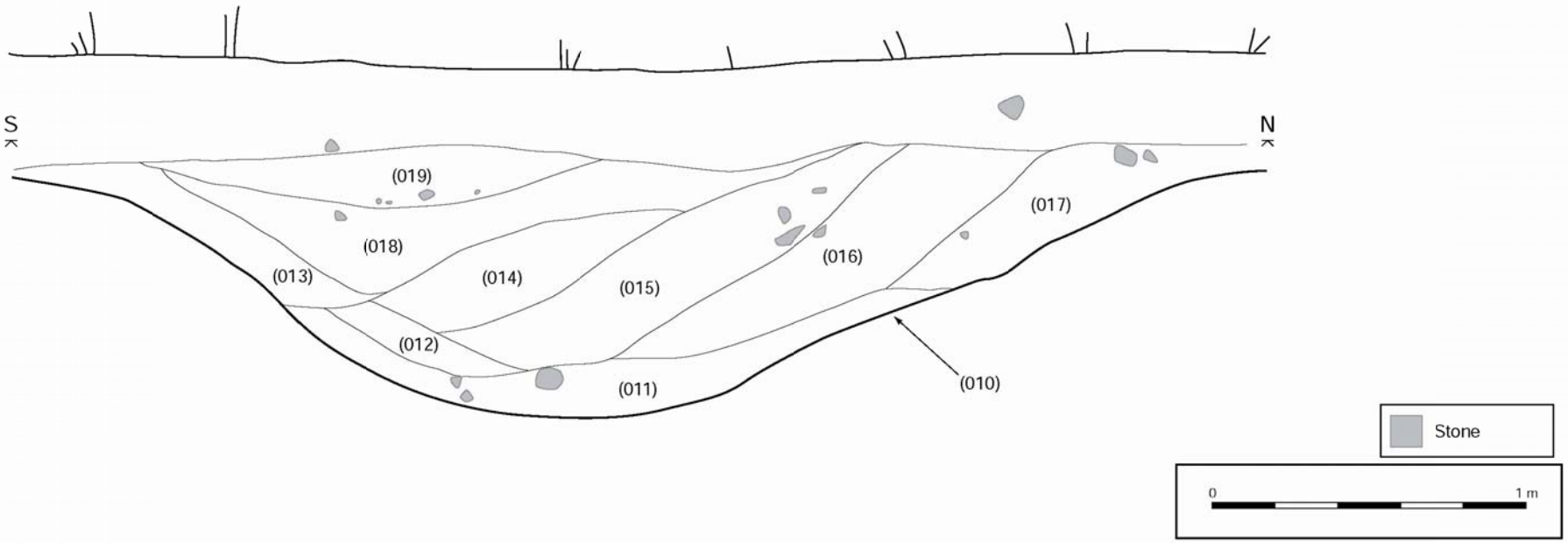

Figure 3 - Advanced Archaeological Testing of Metro North:
Testing Area 5, Lissenhall Little Townland, RPA Ref: MN101 Lissenhall to Fosterstown.
East-facing section of ringditch (010), Sub-area 12, Trench 2.

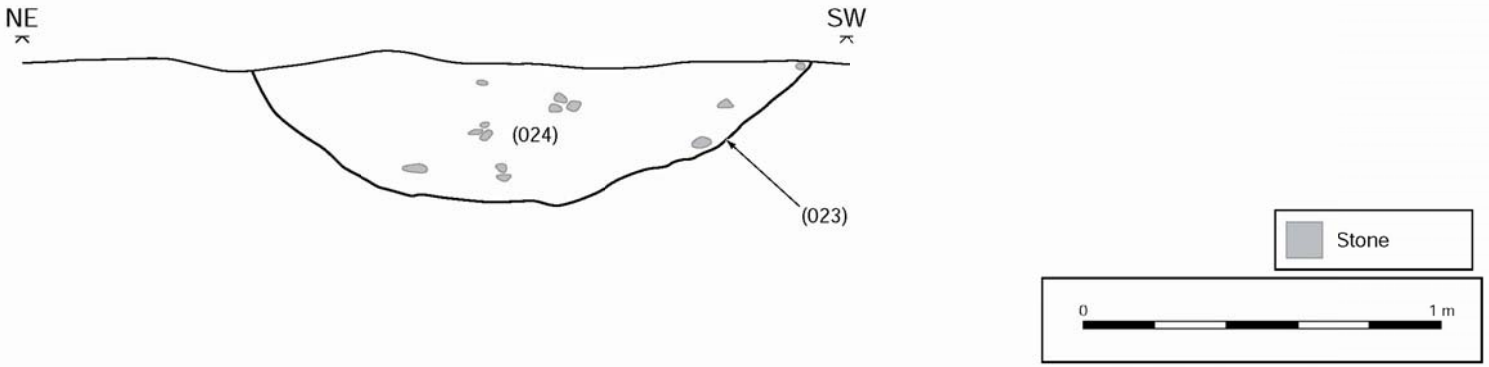

Figure 4 - Advanced Archaeological Testing of Metro North:
Testing Area 5, Lissenhall Little Townland, RPA Ref: MN101 Lissenhall to Fosterstown.
East-facing section of ditch (023), associated with ringditch (010), Sub-area 12, Trench 3.

Plate 1 - Test area 5 sub area 12, general pre-excavation.

Plate 2 - West-facing shot of Ringditch (010).

Plate 3 - East-facing section through Ringditch (010).

Plate 4 - Ditch (023) associated with Ringditch (010).

Plate 5 - East-facing section of Ditch (023).

Plate 6 - View of Cremation pit (008).

Plate 7 - View of Stone drain (021).

Plate 8 - Northwest-facing view along sub-area 13, Test trench 5.

Appendix 1: Field Register

Testing Area	Sub-area	Townland(s)	Description	Total Linear Metres	Services Present
5	11	Lissenhall Little	In wheat stubble at time of testing, approximately rectangular field plan. Slight rise with low flat topped hillock to centre of Testing Area sloping down slightly to north and east. (0.4680 ha).	821	ESB pylon without cables running diagonally NE/SW across field.
5	12	Lissenhall Little	Tested following harvest of potatoes, leaving some crop on surface and occasional partially harvested drill. Boundary at south of field removed with no visible trace, (between Trenches 4 and 5). Gentle slope from a high along northern field boundary to a low in southwest corner. (1.26 ha).	720	Overhead ESB running diagonally WNW/ESE inside northern field boundary effecting trenches 1-3. Electrical feed for house at northwest corner of field visible on pole
5	13	Lissenhall Little	In stubble at time of testing, occasional potato in topsoil indicating previous crop, field in rough rectilinear shape. Flat ground in northern part of tested area with well defined break of slope leading to a low point in the southwest corner. (1.3690 ha).	281	None
			Total	1822	

Appendix 2: Trench Register

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
5	11	1	15.00	2.00	0.40	E-W	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological significance identified**.	• N-S orientated stone-filled field drain (003) located 11 m from the western end of the test trench.
5	11	2	49.40	2.00	0.41	E-W	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating	Sterile

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological significance identified**.	
5	11	3	15.00	2.00	0.40	NW-SE	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological significance identified**.	Sterile
5	11	4	60.00	2.00	0.58	SSE-NNW	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over	Sterile

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological significance identified**.	
5	11	5	60.00	2.00	0.40	SSE-NNW	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological**	Sterile

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							significance identified.	
5	11	6	30.00	2.00	0.40	SSE-NNW	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological significance identified**.	Sterile
5	11	7	30.00	2.00	0.50	SW-NE	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating	Sterile

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological significance identified**.	
5	11	8	15.00	2.00	0.45	SW-NE	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological significance identified**.	Sterile
5	12	1	164.00	2.00	0.65	SW-NE	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over	• Small NE-SW orientated boundary (004) located 5 m from the northern end of the

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-rounded stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological significance identified**.	test trench. Sectioned. • NW-SE orientated land drain (005) feeding into (004), located 7 m from the northern end of the trench. Sectioned. • N-S land drain (006), located 57 m from the northern end of the test trench. Sectioned.
5	12	2	172.00	2.00	0.47	SW-NE	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-rounded stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay	• N-S orientated land drain (007), located 10m from the southern end of the trench. • Sub-rectangular cremation pit (008), located 15.5 m from the southern end of the test trench. • Ring ditch (010), located 72.5 m from the southern end of the test trench. Sectioned.

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
5	12	3	140.00	2.00	0.50	SW-NE	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-rounded stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay	• N-S orientated furrow (020), located 7 m from the northern end of the test trench. Sectioned. • E-W orientated stone-filled field drain (021), located 41.1 m from the northern end of the test trench. • N-S orientated land drain (022), located 63.4 m from the northern end of the test trench. • E-W orientated curvilinear ditch (023), associated with ring ditch (010), located 79.6 m from the northern end of the test trench. Sectioned. • Possible NW-SE orientated ditch (025), located 122.5 m from the northern end of the test trench.
5	12	4	100.00	2.00	0.45	E-W	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with	Sterile

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological significance identified**.	
5	12	5	50.00	2.00	0.50	E-W	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological**	• N-S orientated stone-filled field drain (026), located 37.5 m from the western end of the trench.

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							significance identified.	
5	12	6	15.00	2.00	0.50	SE-NW	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological significance identified**.	Sterile
5	12	7	50.00	2.00	0.50	SE-NW	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating	• E-W orientated stone-filled field drain (027), located 13.9 m from the southern end of the test trench

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological significance identified**.	
5	13	1	180.00	2.00	0.45	NNE-SSW	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological significance identified**.	Sterile
5	13	2	170.00	2.00	0.34	NNE-SSW	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over	Sterile

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological significance identified**.	
5	13	3	150.00	2.00	0.50	NNE-SSW	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological**	• NE-SW orientated furrow (028), located 17.1 m from the northern end of the test trench. Sectioned. • NE-SW orientated stone-filled field drain (029), located 19.8 m from the northern end of the test trench. • N-S orientated stone-filled field drain (030), located 27 m from the northern end of the test trench. • N-S orientated stone-

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							significance identified.	filled field drain (031), located 40 m from the southern end of the test trench. • NE-SW orientated stone-filled field drain (032), located 27 m from the southern end of the test trench.
5	13	4	130.00	2.00	0.55	NNE-SSW	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological significance identified**.	• NW-SE land drain (033), located 10 m from the northern end of the test trench. • NW-SE land drain (034), located 45 m from the northern end of the test trench. • NE-SW orientated boundary ditch (036), located 57 m from the northern end of the test trench. Also identified in trench 5.
5	13	5	100.00	2.00	0.45	NNE-SSW	**Sod:** Dark brown sod with humus	• NE-SW orientated

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological significance identified**.	boundary/land drain (035), located 8.5 m from the northern end of the test trench. • NE-SW orientated boundary ditch (036), located 29 m from the northern end of the test trench. Also identified in trench 4. Partially sectioned.
5	13	6	50.00	2.00	0.80	SW-NE	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and	• Large modern oval pit (037), located 3 m from the northern end of the test trench. Sectioned.

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							grey gravelly clay **No features of archaeological significance identified**.	
5	13	7	40.00	2.00	0.45	SW-NE	**Sod:** Dark brown sod with humus and mineral elements. **Topsoil (001)**: Dark brown sod with humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam. **Natural subsoil (002)**: Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay **No features of archaeological significance identified**.	Sterile

Appendix 3: Context Register

Context No.	Testing Area	Sub-area	Trench No.	Type (cut/fill/ deposit)	Length (m)	Width (m)	Depth (m)	Description	Interpretation
1	5	All	All	Deposit	-	-	0.4	Dark brown with humus and mineral elements. Over lower plough zone, moderately compact brown silty clay with moderate inclusions of small to medium sub-angular stones to mid-greyish brown loam.	Topsoil including plough zone
2	5	All	All	Deposit	-	-	-	Alternating bands of clay, mid-yellowish brown silty clay mottled with greyish yellow and blackish grey silty clay with occasional stone inclusions and grey gravelly clay	Natural subsoil
3	5	11	1	Cut	-	0.4	-	Linear feature orientated N-S filled with large irregular stones	Cut of French drain
4	5	12	1	Cut	-	1.12	0.38	Linear feature orientated NE-SW perpendicular to (005)	Cut of small boundary

Context No.	Testing Area	Sub-area	Trench No.	Type (cut/fill/ deposit)	Length (m)	Width (m)	Depth (m)	Description	Interpretation
5	5	12	1	Cut	-	0.7	0.19	Linear feature orientated NW-SE perpendicular to (004)	Cut of land drain associated with (004)
6	5	12	1	Cut	-	0.38	0.35	Steep-sided Linear feature orientated N-S	Cut of land drain
7	5	12	2	Cut	-	0.32	-	Linear feature orientated N-S filled with orangey brown silty clay	Cut of land drain
8	5	12	2	Cut	0.44	0.31	-	NW-SE orientated, steep-sided sub-rectangular feature	Cut of cremation pit filled by (009)
9	5	12	2	Fill	0.44	0.31	-	Black silty clay containing moderate small angular stones, burnt bone and charcoal fragments. Single pottery fragment from surface	Fill of cremation pit (008)
10	5	12	2	Cut	-	3.3	1.2	Circular ditch with diameter of 14.9m and shallow u-shaped profile	Cut of ringditch ditch, filled by fills (011)-(019)

Context No.	Testing Area	Sub-area	Trench No.	Type (cut/fill/ deposit)	Length (m)	Width (m)	Depth (m)	Description	Interpretation
11	5	12	2	Fill	-	2.13	0.17	Mid to pale brown silty clay with frequent small sub-angular and sub-rounded stones, occasional snail shell, very occasional charcoal and animal bone fragments	Lower fill of ringditch ditch (010)
12	5	12	2	Fill	-	0.64	0.14	Mid orange brown gritty, sandy clay with moderate small angular and sub-angular stones	Fill of ringditch ditch (010)
13	5	12	2	Fill	-	1.2	0.2	Reddish brown gritty silty clay with occasional small sub-angular stones and decayed stone fragments	Fill of ringditch ditch (010), redeposited subsoil
14	5	12	2	Fill	-	0.98	0.25	Mid slightly reddish brown clayey silt with moderate sub-rounded small to medium stones and occasional charcoal flecks	Fill of ringditch ditch (010)
15	5	12	2	Fill	-	1.47	0.32	Mid brown clayey silt with frequent sub-rounded small and medium stones and occasional charcoal flecks	Fill of ringditch ditch (010)

Context No.	Testing Area	Sub-area	Trench No.	Type (cut/fill/ deposit)	Length (m)	Width (m)	Depth (m)	Description	Interpretation
16	5	12	2	Fill	-	1.38	0.41	Pale to mid reddish brown gritty clayey silt with moderate small sub-angular stones	Fill of ringditch ditch (010)
17	5	12	2	Fill	-	1.2	0.28	Reddish brown silty clay with occasional small sub-angular stones and decayed stone fragments	Fill of ringditch ditch (010), redeposited subsoil
18	5	12	2	Fill	-	2.05	0.27	Dark reddish brown clayey silt with occasional sub-rounded small stones and decayed stone fragments	Fill of ringditch ditch (010)
19	5	12	2	Fill	-	1.47	0.18	Pale orangey brown silty clay with occasional sub-rounded and sub-angular small stones	Fill of ringditch ditch (010)
20	5	12	3	Cut	-	0.52	0.09	Linear feature orientated N-S filled with orangey brown clay	Cut of furrow
21	5	12	3	Cut	-	0.45	-	Linear feature orientated E-W filled with small to large angular stones some with mortar attached, and occasional brick fragments	Cut of French drain

Context No.	Testing Area	Sub-area	Trench No.	Type (cut/fill/ deposit)	Length (m)	Width (m)	Depth (m)	Description	Interpretation
22	5	12	3	Cut	-	0.31	-	Linear feature orientated N-S filled with mid slightly orangey brown clay	Cut of land drain
23	5	12	3	Cut	-	1.5	0.4	Curvilinear feature roughly orientated E-W with regular U-shaped profile. Rock cut base	Cut of ditch associated with (010)
24	5	12	3	Fill	-	1.5	0.4	Orangey brown clayey silt with moderate sub-rounded small and medium stones	Fill of ditch (023)
25	5	12	3	Cut	-	1.5	-	Linear feature orientated NE-SW filled with dark reddish brown clayey silt	Cut of ditch, possibly associated with or continuation of (023)
26	5	12	5	Cut	-	0.5	-	Linear feature orientated N-S filled with large irregular stones	Cut of French drain
27	5	12	7	Cut	-	0.5	-	Linear feature orientated N-S filled with large irregular stones and lumps of concrete	Cut of French drain
28	5	13	3	Cut	-	0.2	0.13	Linear feature orientated NE-SW filled with silty grey clay	Cut of furrow

Context No.	Testing Area	Sub-area	Trench No.	Type (cut/fill/ deposit)	Length (m)	Width (m)	Depth (m)	Description	Interpretation
29	5	13	3	Cut	-	0.2	-	Linear feature orientated NE-SW filled with large irregular stones	Cut of French drain
30	5	13	3	Cut	-	0.2	-	Linear feature orientated N-S filled with large irregular stones	Cut of French drain
31	5	13	3	Cut	-	0.2	-	Linear feature orientated N-S filled with large irregular stones	Cut of French drain
32	5	13	3	Cut	-	0.2	-	Linear feature orientated NE-SW filled with large irregular stones	Cut of French drain
33	5	13	5	Cut	-	0.28	-	Linear feature orientated NW-SE, parallel with (34)	Cut of land drain
34	5	13	4, 5	Cut	-	0.29	-	Linear feature orientated NW-SE, parallel with (33)	Cut of land drain

Context No.	Testing Area	Sub-area	Trench No.	Type (cut/fill/ deposit)	Length (m)	Width (m)	Depth (m)	Description	Interpretation
35	5	13	5	Cut	-	1.05	-	Linear feature orientated NE-SW filled by dark grey clay	Cut of boundary/land drain
36	5	13	4, 5	Cut	-	6	1.1+	Linear feature orientated NE-SW filled by dark grey clayey silt with inclusions of red brick, mortar and modern glass and crockery	Modern land drain
37	5	13	6	Cut	-	17	0.5	Oval feature orientated NE-SW with fill containing red brick, mortar and slate fragments	Modern pit used as dump

Appendix 4: Finds Register

Find No.	Material	Type	Identification	Townland	Description
09E463:008:001	Ceramic	Body sherd	Prehistoric	Lissenhall Little	Pottery fragment from surface of cremation (008) south end of trench 2 area 12

Appendix 5: Photo Register

Photo No.	Camera No.	Sub-area	Trench No.	Townland	Direction Facing	Description
1014	Cas15C	13	5	Lissenhall Little	SE	General view of Testing Area
1015	Cas15C	13	5	Lissenhall Little	S	Boundary/drain (035)
1016	Cas15C	13	5	Lissenhall Little	E	Boundary (036)
1017	Cas15C	13	5	Lissenhall Little	E	Boundary (036)
1018	Cas15C	13	5	Lissenhall Little	S	Boundary (036)
1019	Cas15C	13	5	Lissenhall Little	E	Boundary (036)
1020	Cas15C	13	5	Lissenhall Little	N	General trench overview
1021	Cas15C	11	7	Lissenhall Little	SW	General trench overview
1022	Cas15C	11	7	Lissenhall Little	NE	Non archaeological
1023	Cas15C	11	6	Lissenhall Little	NNE	General trench overview
1088	Cas15C	12	All	Lissenhall Little	S	General view of Testing Area prior to testing
1089	Cas15C	12	1	Lissenhall Little	S	General trench overview
1090	Cas15C	12	1	Lissenhall Little	S	Boundary (004) and drain (005)
1091	Cas15C	12	1	Lissenhall Little	S	Non archaeological
1092	Cas15C	12	1	Lissenhall Little	SW	Section of Boundary (004)
1093	Cas15C	12	1	Lissenhall Little	SW	Section of drain (005)
1094	Cas15C	12	1	Lissenhall Little	N	Boundary (004) and drain (005)
1095	Cas15C	12	1	Lissenhall Little	NE	Section of drain (006)
1096	Cas15C	12	1	Lissenhall Little	N	General trench overview
1097	Cas15C	12	2	Lissenhall Little	N	General trench overview

Photo No.	Camera No.	Sub-area	Trench No.	Townland	Direction Facing	Description
1098	Cas15C	12	2	Lissenhall Little	N	Drain (007)
1099	Cas15C	12	2	Lissenhall Little	N	Cremation pit (008)
1100	Cas15C	12	2	Lissenhall Little	E	Section of ringditch ditch (010)
1101	Cas15C	12	2	Lissenhall Little	E	Section of ringditch ditch (010)
1102	Cas15C	12	2	Lissenhall Little	NE	Ringditch ditch (010) NW segment
1103	Cas15C	12	2	Lissenhall Little	S	General trench overview
1104	Cas15C	12	3	Lissenhall Little	S	General trench overview
1105	Cas15C	12	3	Lissenhall Little	E	French drain (021)
1106	Cas15C	12	3	Lissenhall Little	NE	Furrow (020)
1107	Cas15C	12	3	Lissenhall Little	NE	Land drain (022)
1108	Cas15C	12	3	Lissenhall Little	NW	Curvilinear ditch (023) associated with ringditch
1109	Cas15C	12	6	Lissenhall Little	SW	General trench overview
1110	Cas15C	12	3	Lissenhall Little	SW	Section of curvilinear ditch (023) associated with ringditch
1111	Cas15C	12	2	Lissenhall Little	SW	Panorama of ringditch (010)
1112	Cas15C	12	2	Lissenhall Little	S	Panorama of ringditch (010)
1113	Cas15C	12	2	Lissenhall Little	SE	Panorama of ringditch (010)
1114	Cas15C	12	2	Lissenhall Little	E	Panorama of ringditch (010)
1115	Cas15C	12	2	Lissenhall Little	E	Panorama of ringditch (010)

Photo No.	Camera No.	Sub-area	Trench No.	Townland	Direction Facing	Description
1116	Cas15C	12	2	Lissenhall Little	NE	Panorama of ringditch (010)
1117	Cas15C	12	2	Lissenhall Little	N	Panorama of ringditch (010)
1118	Cas15C	12	2	Lissenhall Little	NW	Panorama of ringditch (010)
1119	Cas15C	12	2	Lissenhall Little	W	Panorama of ringditch (010)
1120	Cas15C	12	2	Lissenhall Little	SW	Panorama of ringditch (010)
1121	Cas15C	12	2	Lissenhall Little	SW	Panorama of ringditch (010)
1122	Cas15C	12	2	Lissenhall Little	S	Panorama of ringditch (010)
1123	Cas15C	12	2	Lissenhall Little	W	Section of ringditch ditch (010)
1124	Cas15C	12	2	Lissenhall Little	W	Section of ringditch ditch (010)
1125	Cas15C	12	2	Lissenhall Little	W	Section of ringditch ditch (010)
1126	Cas15C	12	2	Lissenhall Little	W	Section of ringditch ditch (010)
1127	Cas15C	12	2	Lissenhall Little	W	Section of ringditch ditch (010)
1128	Cas15C	12	2	Lissenhall Little	W	Section of ringditch ditch (010)
1129	Cas15C	12	2	Lissenhall Little	W	Ringditch (010) general
1130	Cas15C	12	2	Lissenhall Little	W	Ringditch (010) general
1131	Cas15C	12	2	Lissenhall Little	W	Ringditch (010) general
1132	Cas15C	12	5	Lissenhall Little	S	French drain (026)

Photo No.	Camera No.	Sub-area	Trench No.	Townland	Direction Facing	Description
1133	Cas15C	12	5	Lissenhall Little	E	General trench overview
1134	Cas15C	12	4	Lissenhall Little	E	General trench overview
1135	Cas15C	12	4	Lissenhall Little	W	General trench overview
1136	Cas15C	12	7	Lissenhall Little	E	French drain (027)
1137	Cas15C	12	7	Lissenhall Little	NE	General trench overview
1138	Cas15C	12	7	Lissenhall Little	SW	General trench overview
1139	Cas15C	12	1	Lissenhall Little	N	No continuation of ringditch (010)
1140	Cas15C	12	1	Lissenhall Little	E	No continuation of ringditch (010)
1141	Cas15C	12	2	Lissenhall Little	N	Interior of ringditch (010)
1142	Cas15C	12	3	Lissenhall Little	SE	Section of curvilinear ditch (023) associated with ringditch
1143	Cas15C	12	3	Lissenhall Little	SE	Section of curvilinear ditch (023) associated with ringditch
1144	Cas15C	12	3	Lissenhall Little	S	Section of curvilinear ditch (023) associated with ringditch
1145	Cas15C	12	3	Lissenhall Little	W	Section of curvilinear ditch (023) associated with ringditch
1146	Cas15C	12	3	Lissenhall Little	W	Geo-textile over curvilinear ditch (023)
1147	Cas15C	12	2	Lissenhall Little	W	Geo-textile over ringditch (010)
1148	Cas15C	12	2	Lissenhall Little	W	Geo-textile over ringditch (010)

Appendix 6: Drawing Register

Drawing No.	Type	Scale	Trench No.	Townland	Description
001	Plan	1:50	2	Lissenhall Little	Plan of ringditch
002	Section	1:20	2	Lissenhall Little	East facing section through southern portion of ringditch
003	Section	1:20	3	Lissenhall Little	West facing section through ditch associated with ringditch

Appendix 7: Archive Quantities

Item	Quantity
Context Sheets	3
Trench Record Sheets	22
Field record sheets	3
Drawings	3
Photographs	71
Registers	0
Notebooks	0