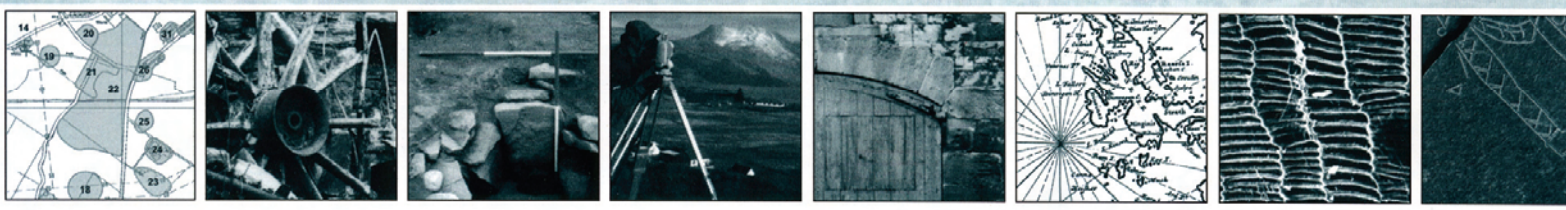

Assessment Report on the Results of Metro North Advanced Archaeological Test Trenching, Testing Area 12, Ballymun townland, Co. Dublin, RPA ref: (MN104) Dublin Airport Boundary (South) to M50 Motorway

Excavation Licence Number: 09E480
Director: Brendan Fagan
Report Author: Brendan Fagan
Project Code: RPMN08
Client: Railway Procurement Agency RPA 7120_5
Townland: Ballymun
Ordnance Datum: 60 m
NGR: 315652.0753/241524.9741

HEADLAND ARCHAEOLOGY Ltd

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DOCUMENT HISTORY LOG

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01	2nd Draft	14/12/09	Advance archaeological test trenching assessment report, Testing Area 12, Sub-area 28 and 29, for Metro North	LC and BF	BF and PL	PL

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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, TA 1–14. This report outlines the results of Advanced Archaeological Test Trenching undertaken in Testing Area 12 Ballymun townland (MN104), Co. Dublin, at the site of a proposed realignment road and construction compound for the M50 viaduct (09E480).

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 originally identified an area of archaeological potential in the environs of the proposed construction compound associated with the M50 viaduct. This comprised 'a pair of linear cropmarks running parallel for a distance of approximately 300m. The cropmarks appear to represent a tree-lined field boundary and a laneway marked on the 1st edition OS map, 1837 and run in an east-west direction across the field towards Ballymun House' (CRDS Ltd. 2008). The geophysical survey carried out in Testing Area 12 in 2008 revealed a number of features of possible archaeological significance including several linear anomalies and possible plough-damaged archaeological remains (AS41 – G78) (Thébaudeau and Harrison 2009, 37). Geophysical area G77 showed no archaeological features (*ibid*). No Recorded Monuments (RMP'S) were listed within the vicinity of the proposed testing area.

The advanced archaeological testing for Testing Area 12 (09E480) was carried out on the 29 September 2009 by Brendan Fagan. A total of 22 test trenches were excavated in two fields, amounting to a total of 1556 linear metres, (3112m²). This comprised 12% of the entire testing area (25,871 m^2).

No archaeological features were identified during the course of testing. The features of archaeological potential noted in the geophysical survey were identified as the remains of

late post-medieval and modern agricultural activity - namely a field boundary, plough furrows, and land drains - and were therefore considered to be of no archaeological significance.

1.0 INTRODUCTION

This document is submitted as an assessment report on the Advanced Archaeological Testing of Metro North, Testing Area 12, Ballymun Townland (MN104), Co. Dublin (09E480; Ballymun).

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 18km 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 12 incorporates the footprint of the proposed realigned road and construction compound for the M50 viaduct.

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 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 12, at the site of a realigned road and construction compound for the M50 viaduct, is located at NGR 315652/241524 in the townland of Ballymun (MN104), Barony of Nethercross, parish of Swords, Co. Dublin (Figure 1). It is situated on land currently used for agriculture, approximately 50m to the north of the M50 and 2km southwest of Dublin Airport. This is within area MN104 - Dublin Airport Boundary (South) to M50 motorway.

The testing area measures 25,871m^2 encompassing a 50m wide strip of land which extends through two fields and slopes gradually towards the south. It traverses Ballystruan Lane towards its northern end, which divides the testing area into Sub-areas 28, and 29, which were under pasture and wheat stubble respectively.

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 3 of the proposed scheme however, it is brown. Pockets of glacial sands and gravels occur within this boulder clay. These sands and gravels are likely to have been deposited in glacial ponds or streams and are generally water bearing. The underlying bedrock comprises a nodular and muddy argillaceous limestone with a relatively uniform bed thickness. It is interbedded 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 comprised 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 comprised 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 12 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).

One feature of archaeological potential within Testing Area 12 was identified from aerial photographs in Sub-Area 29 (HC#19). This feature consisted of a pair of linear cropmarks running parallel for a distance of approximately 300m. The cropmarks appear to represent a tree-lined field boundary and a laneway marked on the 1st edition OS map, 1837 and run in an east-west direction across the field towards Ballymun House.

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 Ireland 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 has no recorded sites within 500 m of Testing Area 12.

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 are pre-Anglo Norman in origin 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.

However, there is no townland boundary within Testing Area 12. The boundary between the townlands of Ballystruan and Ballymun runs north-south through Testing Area 11 approximately 350m east of Testing Area 12 and was recorded under the licence 09E479.

Previous Archaeological Excavations

The Archaeological Excavations Bulletin was checked for a record of any licensed archaeological investigations carried out within the townlands of Ballystruan or Ballymun since 1970. Twelve such investigations were listed within the townland of Ballymun, however eleven of these proved to be of no archaeological significance: 00E0328 (Purcell 2000a); 00E0167 (Purcell 2000b); 00E0683 (Scally 2000); 01E0453 (Elliott 2001); 02E1516 (Elliott 2002); 00E0328 (Fegan 2002); 03E1005 (Baker 2003); 04E1398 (O'Hara 2004); 04E0384 (Moore 2004); 05E0056 (O'Carroll 2005); and 05E0039 (Keogh 2005). The remaining excavation (01E0271) was carried out at St. Pappin's Church and comprised the dismantling and relocation of a 19th-century tomb/monument (Gowen 2002).

Geophysical Survey

The geophysical survey carried out in Testing Area 12 in 2008 revealed a number of features of possible archaeological significance. The features noted in the survey included:

- several linear anomalies and possible plough-damaged archaeological remains (AS41 – G78) (Thébaudeau and Harrison 2009, 37).
- Geophysical area G77 showed no archaeological features (*ibid*). No Recorded Monuments (RMP'S) were listed within the vicinity of the proposed testing area.

Cartographic sources

Testing Area 12 comprised of two Sub–areas; 28 and 29. On the 1st Edition Ordnance Survey map Sub-area 28 was in the same field but to the north of Ballymun House, and bordered to the west by the lane leading to Ballymun House. The field containing Sub-Area 29 was subdivided by a number of northwest-southeast orientated field boundaries. By the time of the 2nd Edition Ordnance survey the field containing Sub-area 29 had been created and the sub-dividing field boundaries had been removed.

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

6.0 METHODOLOGY AND CONSTRAINTS

The archaeological excavation licence number 09E480 was granted to Brendan Fagan 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 12, Sub–areas 28 and 29, 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 the 29th 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 12, Sub–areas 28 and 29 encompassed approximately 2.58 hectares. A total of 1556 linear metres of test trenches was excavated (3112m²) comprising 12% of the testing area (Appendix 1). Testing was in the form of mechanically excavated test trenches. These were excavated using a mechanical tracked excavator (generally 13.5 to 18 tonne) with a toothless ditching / grading bucket under the direct and continuous supervision of the director Brendan Fagan 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 10m apart, were excavated throughout Sub–areas 28 and 29. As stated the pattern of test trenches was pre-determined.

Where features of archaeological potential were identified, mechanical excavation ceased and the features were cleaned back and tested by hand. 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. All features of archaeological potential were sectioned to ascertain their significance. 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 significance 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 3mm for the duration of the project. 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 in Testing Area 12.

Finds Retrieval

No finds were retrieved during the course of archaeological test trenching at Testing Area 12.

7.0 RESULTS

A total of 22 test trenches were mechanically excavated in two fields in Testing Area 12, Sub–area 28 and 29, totalling approximately 1556 linear metres of test trenches. No archaeological remains were identified in these trenches. A full description of all trenches is included in Appendix 2.

The test trenches were excavated to an average depth of 0.40m (maximum 0.55m) exposing the underlying moderately compact light brown silty clay and brownish grey silty clay (003). The varying trench depth was due to the intermittent presence of ploughsoil (002) across the site. This consisted of moderately compact mid yellowish brown silty clay with occasional sub-angular stone inclusions.

As mentioned above no features of archaeological significance were identified within Testing Area 12. In general several linear features of agricultural origin were noted within each trench that consisted of; narrow linear furrows and land drains, all predominantly oriented

northwest–southeast (with several exceptions orientated north–south, east–west and northeast–south west).

The land drains identified were typically rubble/gravel-filled in their base, containing both natural field stone (irregularly-shaped, sub-round) and quarried stone (irregularly-shaped, angular and sub-angular; likely to be of modern origin). Some very modern machine cut drains were also identified with plastic piping at the bases (e.g in Test Trench 17, Plate 3). Two former field boundaries (004) and (005) visible on the 1st and 2nd editions of the Ordnance Survey maps (respectively), but backfilled by the time of the 3rd edition OS map, were also noted.

These features are late post-medieval to modern in origin and relate to agricultural activity, namely land clearance, land improvement (drainage) and cultivation. The linear agricultural features identified were aligned in a manner that coincided with the surviving upstanding field and/or with the field systems represented on nineteenth-century Ordnance Survey maps. Most demonstrated physical characteristics (degree of straightness, spacing—the plough furrows noted measured 0.05m in width and were set 0.30m apart.) clearly indicative of a mechanised origin and a date after the widespread adoption of agricultural improvement measures (i.e. post *c.* AD 1750). In some instances, ceramic finds such as blackware and whiteware pottery and clay-pipe stems were noted within the fills of these features and confirmed a late post-medieval or modern origin (e.g. late post-medieval or modern farm machinery, etc.), and none of the finds noted in Testing Area 12 indicated a date earlier than the middle of the nineteenth century.

The results of the geophysical report (Thébaudeau and Harrison 2009), identified the remains of a possible field boundary within the southern extent of AS41 – G78 which corresponds to a field boundary depicted on the 2nd edition Ordnance Survey map. Neither the late post-medieval–modern agricultural features nor the removed post-medieval field boundaries are considered to be archaeologically significant in this context. However, notes were made on the trench sheets for inclusion in the archive.

A number of clearly non-archaeological features were identified within Testing Area 12 Sub–area 28 that comprised of; several mechanically excavated modern refuse pits, which were cut into the natural subsoil and were filled with modern rubbish such as plastic, modern breeze blocks and metallic diesel cans (Plate 1 and 2). The field was heavily disturbed due to modern waste disposal activities and was adjacent to an industrial estate located to the south of the field.

Former Field Boundaries

Trenches 1 and 2

Boundary ditch (004) was identified in Trenches 1 and 2 in Sub–area 29. Located 29m from the northwestern end of Trench 1 and at the northwesternmost part of Trench 2 boundary ditch (004) was orientated east–west and measured 4m in width, 0.65 m deep and extended beyond the test area on either side. The fill (006) consisted of greyish brown silty clay. Occasional post-medieval pottery (Blackware and Whiteware) and clay pipe stem fragments were noted on the surface of this fill. It was interpreted as the remains of a redundant field boundary that was depicted at the northern extent of this field on the 1st edition OS map.

Trenches 11 and 12

A linear ditch (005) orientated northwest-southeast was also identified within Trenches 11 (Plate 5) and 12. It measured 3.6 m in width, 0.58 m in depth and extended beyond the area of excavation on either side. The basal fill (007) consisted of loosely compacted grey silty clay with inclusions of sub-angular stone while the upper fill (008) consisted of dark brown silty clay with a lot of root content. Post-medieval pottery and clay pipe stems were noted on the surface of this fill. Ditch (005) was interpreted as the sub-surface remains of a redundant field boundary depicted on the 2nd edition OS map and also corresponded to a linear anomaly identified by the geophysical survey.

7.1 Interpretative assessment of the geophysical survey anomalies in Testing Area 12, Sub-areas 28 and 29

Data acquired from the geophysical survey of Testing Area 12 Sub–area 28 was unusable due to magnetic interference. The majority of anomalies identified on the geophysical survey (Thébaudeau and Harrison 2009, 32 and 38) for Testing Area 12 Sub–area 29 reflected the agricultural function/use of this area. The linear anomalies identified comprised agricultural features, such as; plough furrows, a field boundary and a drainage ditch.

Within Trenches 11 and 12 a linear ditch (005) orientated northwest-southeast was identified which corresponded to a linear anomaly identified as possible archaeology in the geophysical survey. This feature was confirmed by the archaeological assessment as the sub-surface remains of a redundant field boundary located at the southern end of the field and corresponded to a former field boundary depicted on the 2nd edition Ordnance Survey map.

Within Trenches 10 and 11 a large band of natural geological strata was identified which corresponded to an approximately east–west orientated band of ferrous material noted midway through AS41 – G78 during the geophysical survey.

The remaining geophysical anomalies—elevated magnetic responses identified in this area—proved 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

As this area is the proposed location of the compound associated with the M50 viaduct, any sub-surface archaeology would be subject to direct negative impact from ground disturbance works associated with site preparation works (including removal of topsoil) and other construction activities. According to the Environmental Protection Agency EIA guidelines (2003, 139), this impact is likely to be significant to profound in each case. However, no archaeological features were identified during the course of archaeological test trenching at Testing Area 12 Sub–area 28 and 29 and no impact on archaeological remains is therefore predicted.

9.0 PROPOSED MITIGATION

Test trenching did not reveal any finds or features of archaeological significance, therefore the scheme will not have an impact on cultural heritage in this area, and no further mitigation is recommended in the areas tested.

These recommendations are provisional and subject to review/approval by the RPA Archaeologists and the National Monuments Service, Department of the Environment, Heritage and Local Government.

REFERENCES

Cartographic sources

2nd Edition Ordnance Survey Map Dublin, 1843.

Record of Monuments and Places Map Dublin.

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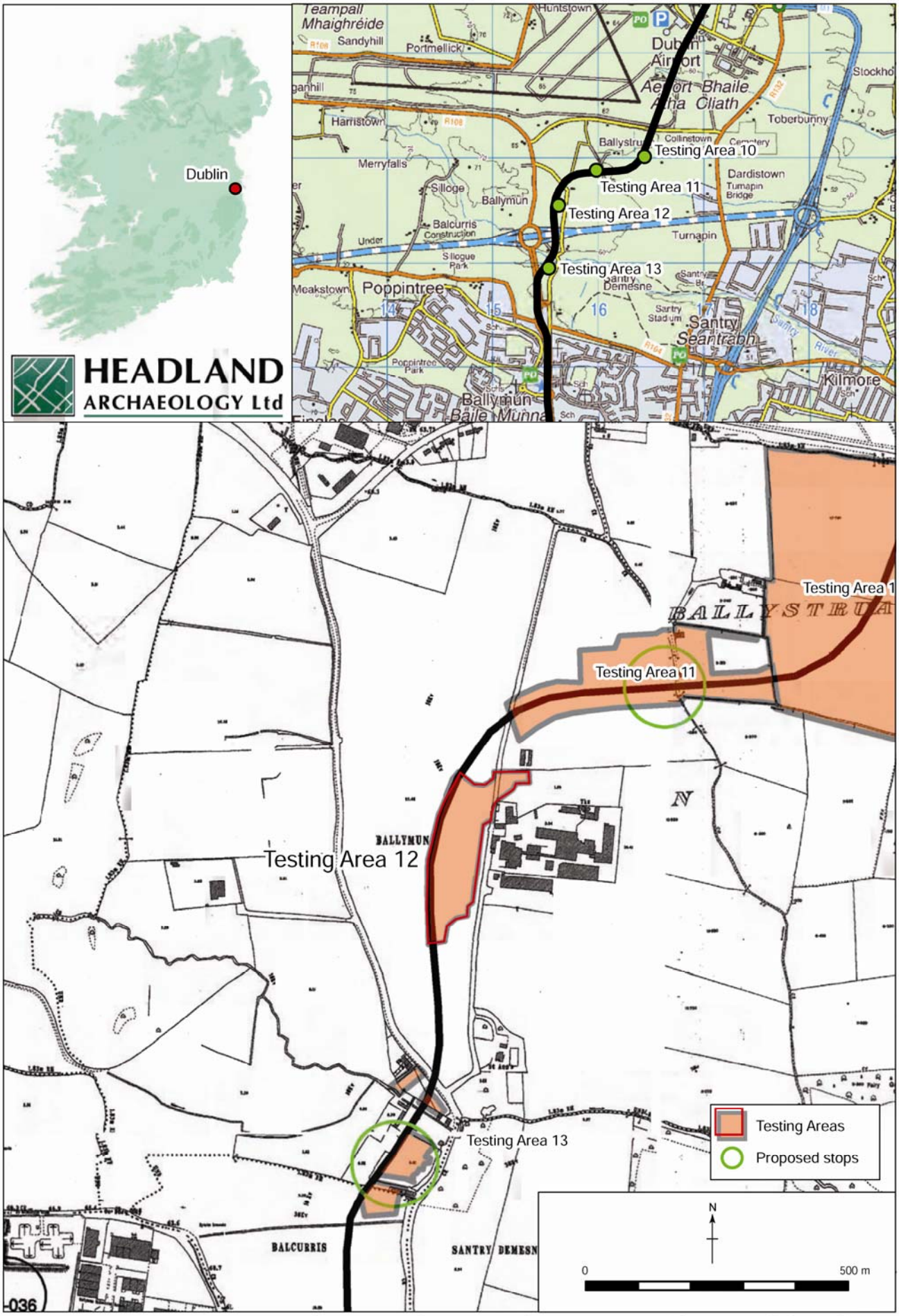

Figure 1 - Advanced Archaeological Testing of Metro North:
RPA Ref: MN104 Ballystruan Townland, Testing Area 12, (Sub-areas 28 and 29).
Site location and extract from RMP.

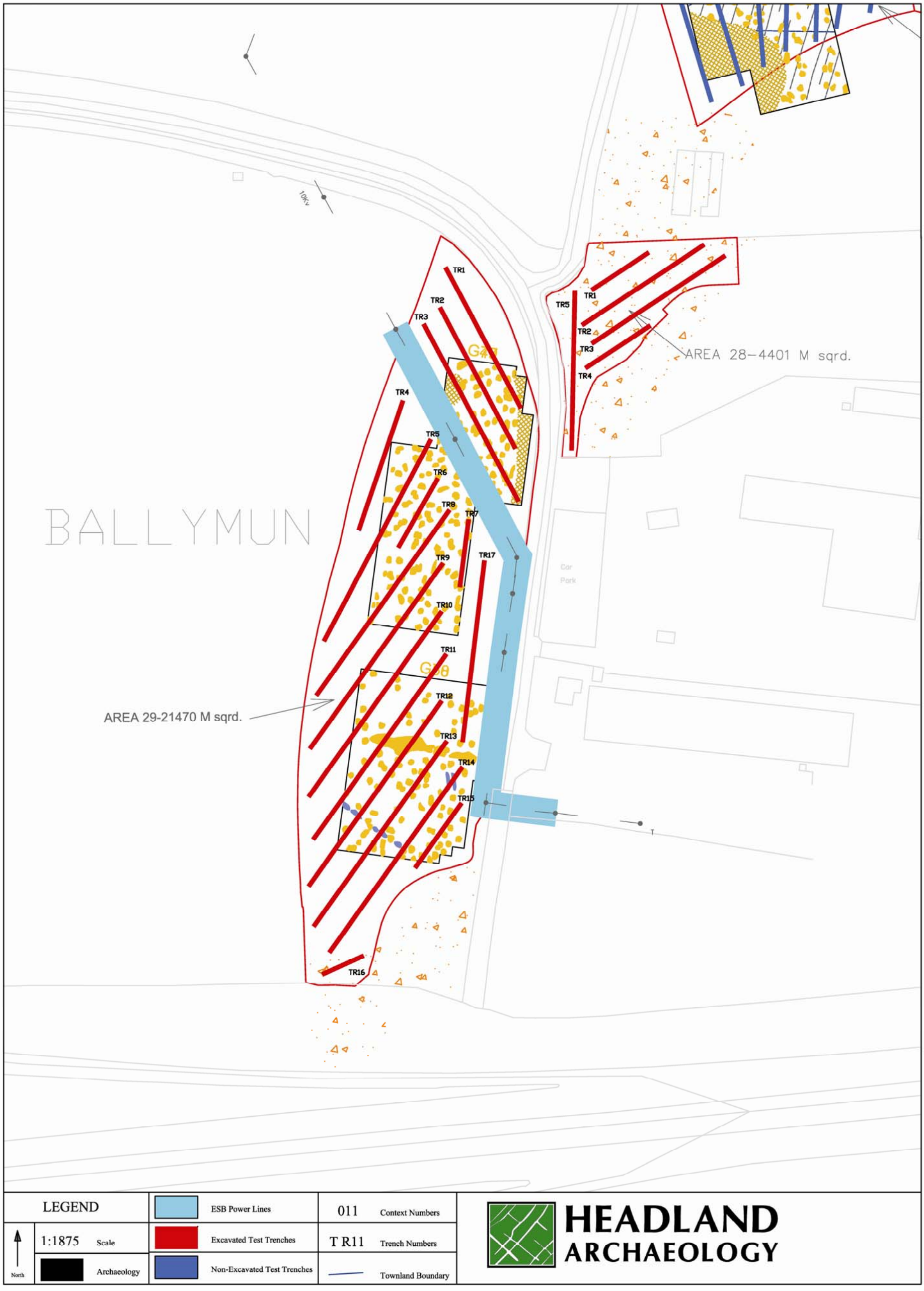

Figure 2 - Advanced Archaeological Testing of Metro North:
RPA Ref: MN 104 Ballystruan Townland, Testing Area 12 (Sub-areas 28 and 29).
Test trench layout plan.

Plate 1 - Sub-area 28, Test trench 1, Machine cut modern rubbish pits visible, facing northwest.

Plate 2 - Sub-area 28, Test trench 5, Modern disturbance including pipe visible, facing north.

Plate 3 - Sub-area 29, Test trench 17, Plough furrows and linear machine cut feature, facing north.

Plate 4 - Sub-area 29, Test trench 13, Plough furrows, facing north.

Plate 5 - Sub-area 29, Test trench 11, General shot of trench, facing northwest.

Appendix 1: Field Register

Testing Area	Sub-area	Townland(s)	Description	Total Linear Metres	Services Present
12	28	Ballymun	Flat field was grassland at the time of excavation of the test trenches.	268	None
12	29	Ballymun	The field was In stubble at time of testing and had a gently declining slope towards the southern end of the field.	1288	Overhead 10 KV power lines

Appendix 2: Trench Register

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
12	28	1	30.00	2.00	0.50	NE/SW	**Sod:** Dark brown humic silty clay with root penetration from overlying grass. **Topsoil (001):** Friable dark brown clay appeared to have been recently disturbed. **Natural (003):** Light brown yellow boulder clay with occasional stone inclusions. **No features of archaeological significance identified.**	• Natural subsoil cut in several places by machine dug pits which were filled with modern rubbish (plastic).
12	28	2	65.00	2.00	0.40	NES/W	**Sod:** Dark brown humic silty clay with root penetration from overlying grass. **Topsoil (001):** Friable dark brown clay appeared to have been recently disturbed. **Natural (003):** Light brown yellow boulder clay with occasional stone inclusions. **No features of archaeological significance identified.**	• Natural subsoil cut in several places by machine dug pits and a linear, which were filled with modern rubbish.

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
12	28	3	70.00	2.00	0.40	NE/SW	**Sod:** Dark brown humic silty clay with root penetration from overlying grass. **Topsoil (001):** Friable dark brown clay appeared to have been recently disturbed. **Natural (003):** Light brown yellow boulder clay with occasional stone inclusions. **No features of archaeological significance identified.**	• Natural subsoil cut in several places by machine dug pits and a linear, which were filled with modern rubbish (plastic, barbed wire, metal diesel drum).
12	28	4	35.00	2.00	0.50	NE/SW	**Sod:** Dark brown humic silty clay with root penetration from overlying grass. **Topsoil (001):** Friable dark brown clay appeared to have been recently disturbed. **Natural (003):** Light brown yellow boulder clay with occasional stone inclusions. The SW portion of the trench was disturbed due to modern waste disposal activities. **No features of archaeological significance identified.**	• Natural subsoil cut in several places by modern refuse pits, which were filled with modern rubbish (red brick, concrete block, timber).

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
12	28	5	70.00	2.00	0.50	N/S	**Sod:** Dark brown humic silty clay with root penetration from overlying grass. **Topsoil (001):** Friable dark brown clay appeared to have been recently disturbed. **Natural (003):** Light brown yellow boulder clay with occasional stone inclusions. **No features of archaeological significance identified.**	• Natural subsoil cut in several places by modern refuse pits, which were filled with modern rubbish.
12	29	1	60.00	2.00	0.45	NW/SE	**Topsoil (001):** Grey silty clay with occasional sub-angular stone inclusions. **Subsoil (002):** Grey silty clay with occasional sub-angular stone inclusions. **Natural (003):** Mid-brown clay with occasional sub-angular stone inclusions. **No features of archaeological significance identified.**	• Linear feature (004) orientated E-W and located 29m from the SE end of the test trench. Also present in trench 2. Measured 4m in width. Filled with greyish brown silty clay with post-medieval pottery inclusions. Possible remains of redundant field boundary which was visible at the northern extent of the field in the 2nd edition OS map.
12	29	2	55.00	2.00	0.40	NW/SE	**Topsoil (001):** Grey silty clay with	• Linear feature (004)

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							occasional sub-angular stone inclusions. **Subsoil (002):** Grey silty clay with occasional sub-angular stone inclusions. **Natural (003):** Mid-brown clay with occasional sub-angular stone inclusions. **No features of archaeological significance identified.**	orientated E-W and located 6m from the NW end of the test trench. Also present in Trench 1. Measured 4m in width. Filled with greyish brown silty clay with post-medieval pottery inclusions and a piece of a clay pipe. Possible remains of redundant field boundary which was visible at the northern extent of the field in the 2nd edition OS map. Not half sectioned. • Linear furrow orientated NE/SW located 26m from the NW end of the test trench. Measured 0.20m in width and 0.03m in depth. Filled by grey silty clay.

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
12	29	3	80.00	2.00	0.40	NW/SE	**Topsoil (001):** Grey silty clay with occasional sub-angular stone inclusions. **Subsoil (002):** Grey silty clay with occasional sub-angular stone inclusions. **Natural (003):** Mid-brown clay with occasional sub-angular stone inclusions. **No features of archaeological significance identified.**	• No features of archaeological significance.
12	29	4	60.00	2.00	0.40	NNE/SSW	**Topsoil (001):** Moderately compact dark brown silty clay with occasional post-medieval and	• Five linear furrows orientated NNW/SSE were located in the first

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							early modern pottery fragments and sub-angular stone inclusions. **Subsoil (002):** Moderately compact mid yellowish brown silty clay with occasional sub-angular stone inclusions. **Natural (003):** Two types within trench. The first was moderately compact light brown silty clay with moderate occurrence of stone inclusions. The second dominated the test trench and was brownish grey silty clay with frequent stone and decayed stone inclusions. **No features of archaeological significance identified.**	58m of the test trench for the SSW extent. They measured approximately 0.30m in width. They were filled by mid brown silty clay with inclusions of charcoal, post-medieval and early modern pottery. • One pair of linear plough marks orientated N/S were located 11m from the SSW end of the test trench. They measured 0.05m in width and were set 0.30m apart.
12	29	5	100.00	2.00	0.35	NNE/SSW	**Topsoil (001):** Moderately compact dark brown silty clay with occasional post-medieval and early modern pottery fragments and sub-angular stone inclusions. **Subsoil (002):** Moderately compact mid yellowish brown silty clay with occasional sub-angular stone inclusions. **Natural (003):** Two types within trench. The first was moderately compact light brown silty clay with	• Five linear furrows orientated NNW/SSE located in the first 91m of the test trench from the SSW extent. They measured approximately 0.30m in width and were filled by mid brown silty clay with inclusions of charcoal, post-medieval and early

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							moderate occurrence of stone inclusions. The second dominated the test trench and was brownish grey silty clay with frequent stone and decayed stone inclusions. **No features of archaeological significance identified.**	modern pottery. • Linear stone filled field drain orientated NNW/SSE located 16m from the SSW end of the test trench.
12	29	6	35.00	2.00	0.40	NNE/SSW	**Topsoil (001):** Moderately compact dark brown silty clay with occasional post-medieval and early modern pottery fragments and sub-angular stone inclusions. **Subsoil (002):** Moderately compact mid yellowish brown silty clay with occasional sub-angular stone inclusions. **Natural (003):** Two types within trench distributed in distinct bands. The first was moderately compact light brown silty clay with moderate occurrence of stone inclusions. The second dominated the test trench and was brownish grey silty clay with frequent stone and decayed stone inclusions. **No features of archaeological significance identified.**	• Linear furrow orientated NNW/SSE located 3 m from the SSW end of the test trench. Measured 0.45 m in width. Filled by light yellowish brown silty clay. Not half sectioned.
12	29	7	30.00	2.00	0.35	N/S	**Topsoil (001):** Moderately	• Linear furrow

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							compact dark brown silty clay with occasional post-medieval and early modern pottery fragments and sub-angular stone inclusions. **Subsoil (002):** Moderately compact mid yellowish brown silty clay with occasional sub-angular stone inclusions. **Natural (003):** Two types within trench. The first was moderately compact light brown silty clay with moderate occurrence of stone inclusions. The second dominated the test trench and was brownish grey silty clay with frequent stone and decayed stone inclusions. **No features of archaeological significance identified.**	orientated NW/SE located 16m from the S end of the test trench. Measured 0.40 m in width. Filled by mid brown silty clay with inclusions of charcoal, shells, post-medieval and early modern pottery fragments. Not half sectioned.
12	29	8	103.75	2.00	0.35	NE/SW	**Topsoil (001):** Moderately compact dark brown silty clay with occasional post-medieval and early modern pottery fragments and sub-angular stone inclusions. **Subsoil (002):** Moderately compact mid yellowish brown silty clay with occasional sub-angular stone inclusions. **Natural (003):** Two types within trench. The first was moderately	• Twelve linear furrows orientated NW/SE distributed across the length of the trench. They measured approximately 0.35m in width and were filled by mid brown silty clay with inclusions of charcoal, post-medieval and early

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							compact light brown silty clay with moderate occurrence of stone inclusions. The second dominated the test trench and was brownish grey silty clay with frequent stone and decayed stone inclusions. **No features of archaeological significance identified.**	modern pottery. • Four pairs of linear plough marks orientated NW/SE distributed across the length of the test trench and were parallel to the furrows. They measured 0.05m in width and were set 0.30m apart.
12	29	9	100.00	2.00	0.35	NE/SW	**Topsoil (001):** Moderately compact dark brown silty clay with occasional post-medieval and early modern pottery fragments and sub-angular stone inclusions. **Subsoil (002):** Moderately compact mid yellowish brown silty clay with occasional sub-angular stone inclusions. **Natural (003):** Two types within trench. The first was moderately compact light brown silty clay with moderate occurrence of stone inclusions. The second dominated the test trench and was brownish grey silty clay with frequent stone and decayed stone inclusions. **No features of archaeological**	• Numerous linear furrows orientated NW/SE distributed across the length of the trench. They measured approximately 0.35m in width and were filled by mid brown silty clay with inclusions of charcoal, post-medieval and early modern pottery. • Several pairs of linear plough marks orientated NW/SE distributed across the length of the test trench and were parallel to the furrows. They

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							significance identified.	measured 0.05m in width and were set 0.30m apart.
12	29	10	93.00	2.00	0.40	NE/SW	**Topsoil (001):** Moderately compact dark brown silty clay with occasional post-medieval and early modern pottery fragments and sub-angular stone inclusions. **Subsoil (002):** Moderately compact mid yellowish brown silty clay with occasional sub-angular stone inclusions. **Natural (003):** Two types within trench. The first was moderately compact light brown silty clay with moderate occurrence of stone inclusions. The second dominated the test trench and was brownish grey silty clay with frequent stone and decayed stone inclusions. **No features of archaeological significance identified.**	• Linear furrow orientated NW/SE located 9.3m from the SW end of the test trench. Measured 0.80m in width. Filled by grey silty clay with occasional post-medieval pottery inclusions. • Linear band of natural geological strata orientated NW/SE located 63m from the SW end of the test trench. Measured 3m in width. Filled by grey silty clay with occasional sub-angular stone inclusions and natural iron pan. Corresponds with band of ferrous material recorded during the geophysical survey, which was also present in Trench 11. It was roughly parallel to the

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
								redundant field boundary in Trench 11 and 12.
12	29	11	96.00	2.00	0.45	NE/SW	**Topsoil (001):** Moderately compact dark brown silty clay with occasional post-medieval and early modern pottery fragments and sub-angular stone inclusions. **Subsoil (002):** Moderately compact mid yellowish brown silty clay with occasional sub-angular stone inclusions. **Natural (003):** Two types within trench. The first was moderately compact light brown silty clay with moderate occurrence of stone inclusions. The second dominated the test trench and was brownish grey silty clay with frequent stone and decayed stone inclusions. **No features of archaeological significance identified.**	• Two linear bands of natural geological strata orientated NW/SE located 48m and 54 m from the SW end of the test trench. They were filled by friable silty grey clay, occasional sub-angular stone inclusions and natural iron pan. These ditches correspond with the band of ferrous material identified in the geophysical survey which was also identified in Trench 10. It was roughly parallel to the redundant field boundary in Trench 11 and 12. • Linear ditch orientated WNW/ESE located 13m from the SW end of the test trench. Filled by friable silty grey clay with post-medieval pottery and clay pipe

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
								inclusions. The ditch was present in trench 12 and corresponds with a linear identified in the geophysical survey which was the sub-surface remains of a field boundary visible in the 2ndt edition OS map.
12	29	12	98.50	2.00	0.45	NE/SW	**Topsoil (001):** Moderately compact dark brown silty clay with occasional post-medieval and early modern pottery fragments and sub-angular stone inclusions. **Subsoil (002):** Moderately compact mid yellowish brown silty clay with occasional sub-angular stone inclusions. **Natural (003):** Mid brown clay with frequent sub-angular stone inclusions. **No features of archaeological significance identified.**	• Linear ditch orientated NW/SE located 39m from the SW end of the test trench. Measured 3.60m in width. Filled by friable silty grey clay with occasional sub-angular stone inclusions. The ditch was also in Trench 11 and its location corresponds with the linear identified in the geophysical survey and was the sub-surface remains of a field boundary, visible on the 1st edition OS map. • Linear stone capped field drain orientated NW/SE located 62m

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
								from the SW end of the test trench. Measured 0.80m in width.
12	29	13	95.00	2.00	0.40	NE/SW	**Topsoil (001):** Moderately compact silty clay with occasional post-medieval and early modern pottery fragments and sub-angular stone inclusions. **Subsoil (002):** Moderately compact mid yellowish brown silty clay with occasional sub-angular stone inclusions. **Natural (003):** Two types within trench. The first was moderately compact light brown silty clay with moderate occurrence of stone inclusions. The second type was isolated to the NE extent of the test trench and was brownish grey silty clay with frequent stone and decayed stone inclusions. **No features of archaeological significance identified.**	• Six linear furrows orientated NNW/SSE were located 52m from SW end of the trench to the SW extent of the trench. They measured a maximum of 1.45m in width and minimum of 0.30m in width and 0.07m in depth. They were filled by mid brown silty clay with inclusions of charcoal, post-medieval and early modern pottery. • Three pairs of linear plough marks orientated NNW/SSE were located 5m, 11m and 17m from the SW extent of the test trench. They measured 0.05m in width and were set 0.30m apart. • Linear ditch orientated NNW/SSE located 22m from the SW end of the

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
								test trench. Measured approximately 4m in width. Filled by mid brown silty clay with charcoal and post-medieval and early modern pottery inclusions.
12	29	14	103.75	2.00	0.55	NE/SW	**Topsoil (001):** Moderately compact dark brown silty clay with occasional post-medieval and early modern pottery fragments and sub-angular stone inclusions. **Subsoil (002):** Moderately compact mid yellowish brown silty clay with occasional sub-angular stone inclusions. **Natural (003):** Mid brown clay with occasional stone inclusions. **No features of archaeological significance identified.**	• Linear stone filled field drain orientated NW/SE located 59m from the SW end of the test trench. • Two linear furrows orientated NW/SE and NE/SW located 25m and 70m from the SW end of the test trench. Measured 0.40m in with. Filled by mid greyish brown silty clay with occasional stone inclusions.
12	29	15	30.00	2.00	0.35	NE/SW	**Topsoil (001):** Moderately compact dark brown silty clay with occasional post-medieval and early modern pottery fragments and sub-angular stone inclusions. **Subsoil (002):** Moderately	• Two linear furrows orientated ENE/WSW located 1m and 3m from the SW end of the test trench. Measured 0.35m in width by 0.04m in depth. Filled

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							compact mid yellowish brown silty clay with occasional sub-angular stone inclusions. **Natural (003):** Moderately compact light brown silty clay with moderate occurrence of stone inclusions. **No features of archaeological significance identified.**	by mid brown silty clay with inclusions of charcoal, shells, post-medieval and early modern pottery fragments.
12	29	16	20.00	2.00	0.35	ENE/WSW	**Topsoil (001):** Moderately compact dark brown silty clay with occasional post-medieval and early modern pottery fragments and sub-angular stone inclusions. **Subsoil (002):** Moderately compact mid yellowish brown silty clay with occasional sub-angular stone inclusions. **Natural (003):** Moderately compact light brown silty clay with moderate occurrence of stone inclusions. **No features of archaeological significance identified.**	• Three linear furrows orientated approximately N/S and located 7m, 12m and 26m from the WSW end of the test trench. Measured 0.40m in width and 0.05min depth. Filled by mid brown silty clay with charcoal and post-medieval and early modern inclusions. • Linear stone filled field drain orientated NNW/SSE located 5m from the WSW end of the test trench.
12	29	17	80.00	2.00	0.40	N/S	**Topsoil (001):** Moderately compact dark brown silty clay with	• Two linear furrows orientated E/W located

Testing Area	Sub-area	Trench No.	Length (m)	Width (m)	Depth (m)	Orientation	Description	Summary of Features
							occasional post-medieval and early modern pottery fragments and sub-angular stone inclusions. **Subsoil (002):** Moderately compact mid yellowish brown silty clay with occasional sub-angular stone inclusions. **Natural (003):** Two types within trench. The first was moderately compact light brown silty clay with moderate occurrence of stone inclusions. The second dominated the test trench and was brownish grey silty clay with frequent stone and decayed stone inclusions. **No features of archaeological significance identified.**	4m and 9m from the S end of the test trench. They measure 0.35m and 0.40m in width. Filled by mid brown silty clay with inclusions of charcoal and post-medieval and early modern pottery fragments. • Two parallel linear furrows orientated N/S located 20m from the S extent of the test trench and ran to the N end of the trench. They measured 0.60m and 0.70m in width. Filled by mid brown silty clay with occasional charcoal, post-medieval and early modern pottery inclusions. • Machine cut modern field drain, with plastic piping at the base

Appendix 3: Context Register

Context No.	Testing Area	Sub-area	Trench No.	Type (cut/fill/ deposit)	Length (m)	Width (m)	Depth (m)	Description	Interpretation
001	12	28 and 29	All	Deposit	-	-	0.4-0.55	Dark brown sod with humus and mineral elements. Overlying lower plough zone, moderately compact mid brown silty clay with moderate inclusions of small sub-angular stones to mid-greyish brown loam.	Topsoil (001)including plough zone
002	12	28 and 29	All	Deposit	-	-	-	Moderately compact mid-yellowish brown silty clay with occasional sub-angular stone inclusions	Subsoil
003	12	28 and 29	All	Deposit	-	-	-	Moderately compact light brown silty clay and brownish grey silty clay	Natural subsoil
004	12	29	1 and 2	Cut	Extends beyond testing area	4 m	0.65 m	Linear feature with slightly sloping sides and a generally flat base	Cut of a field boundary
005	12	29	11 and 12	Cut	Extends beyond testing area	3.6 m	.58 m	Linear feature with slightly sloping sides and a concave base	Cut of a field boundary

Context No.	Testing Area	Sub-area	Trench No.	Type (cut/fill/ deposit)	Length (m)	Width (m)	Depth (m)	Description	Interpretation
006	12	29	1	Fill	Extends beyond testing area	4 m	0.65 m	Greyish brown silty clay with occasional post-medieval inclusions.	Fill of field boundary ditch (004)
007	12	29	11 and 12	Fill	Extends beyond testing area	3.6 m	.42 m	Loosely compacted grey silty clay with inclusions of sub-angular stone and occasional post-medieval inclusions	Fill of field boundary ditch (005)
008	12	29	11 and 12	Fill	Extends beyond testing area	3.6 m	0.16 m	(008) consisted of dark brown silty clay with a lot of root content	Fill of field boundary ditch (005)

Appendix 4: Photo Register

Photo No.	Camera No.	Trench No.	Townland	Direction Facing	Description
101	Casio 8c	11	Area 29 Ballymun	NW	General shot of trench.
102	Casio 8c	12	Area 29 Ballymun	NW	General shot of trench.
103	Casio 8c	13	Area 29 Ballymun	NE	General shot of trench.
104	Casio 8c	10	Area 29 Ballymun	NE	General shot of trench.
105	Casio 8c	14	Area 29 Ballymun	NE	General shot of trench.
106	Casio 8c	16	Area 29 Ballymun	SSW	General shot of trench.
107	Casio 8c	15	Area 29 Ballymun	NE	General shot of trench.
108	Casio 8c	17	Area 29 Ballymun	N	General shot of trench.
109	Casio 8c	7	Area 29 Ballymun	N	General shot of trench.
110	Casio 8c	8	Area 29 Ballymun	NNE	General shot of trench.
111	Casio 8c	6	Area 29 Ballymun	NNE	General shot of trench.
112	Casio 8c	5	Area 29 Ballymun	NNE	General shot of trench.
113	Casio 8c	1	Area 29 Ballymun	SE	General shot of trench.
114	Casio 8c	2	Area 29 Ballymun	SE	General shot of trench.
115	Casio 8c	3	Area 29 Ballymun	SE	General shot of trench.

Photo No.	Camera No.	Trench No.	Townland	Direction Facing	Description
116	Casio 8c	1	Area 28 Ballymun	NE	General shot of trench.
117	Casio 8c	2	Area 28 Ballymun	NE	General shot of trench.
118	Casio 8c	3	Area 28 Ballymun	NE	General shot of trench.
119	Casio 8c	4	Area 28 Ballymun	NE	General shot of trench.
120	Casio 8c	5	Area 28 Ballymun	N	General shot of trench.
121	Casio 8c	4	Area 29 Ballymun	SSW	General shot of trench.

Appendix 5: Archive Quantities

Item	Quantity
Context Sheets	0
Trench Record Sheets	22
Field record sheets	0
Drawings	0
Photographs	21
Registers	1
Notebooks	0