

**N24 Carrick Road Improvement Scheme,  
County Kilkenny**

**Archaeological, Architectural and Cultural Heritage  
Impact Assessment**



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**Date:** April 2022

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# 1 Introduction

## 1.1 Overview

John Cronin & Associates (JCA) have been commissioned by Barry Transportation to prepare an Archaeological, Architectural Heritage and Cultural Heritage Assessment of the proposed N24 Carrick Road Improvement Scheme which will accompany an application for statutory approval of the scheme under Section 177AE of the Planning and Development Act 2000-2010. This report assesses the impacts of the proposed scheme on both the known and potential elements of these resources (including archaeological sites, structures of architectural heritage significance, history and folklore) and identifies appropriate mitigation strategies.

The report includes summaries of relevant assessments of the scheme which have been carried out to date. These comprise an assessment of route options prepared by the Transport Infrastructure Ireland (TII) Project Archaeologist in 2019 and the results of a geophysical survey of green field areas within the boundary of the preferred option and its close environs which was carried out by Earthsound Archaeological Geophysics (EAG) in 2021. References for these reports are provided in Section 1.3 and copies of the reports are provided in Appendices 4 and 5.

The current assessment also included a review of relevant archaeological and architectural heritage datasets, which are identified below, in order to ascertain if updated statutory designations and/or additional relevant sites, structures or areas have been identified in the area since 2019.

Following the completion of desk-based studies, a field-walking survey of the scheme location was carried out in March 2022. The results of the survey are presented within the report and extracts from the photographic record are provided in Appendix 2.

## 1.2 The Proposed Scheme

The proposed N24 Carrick Road Improvement Scheme extends from the west end of Mooncoin village, Co. Kilkenny is approximately 2.2km (northwest- southeast) in length. The scheme involves both offline and online works, approximately 950m of the road scheme will run along the existing N24 and the remaining 1.25km of the scheme requires a single carriageway off-line realignment. Mapping of the location and extent of the scheme as provided by Barry Transportation in March 2022 is presented in Appendix 1. From Ch 0 to Ch 415 the carriageway comprises of a Type 2 Single Carriageway (Appendix 1; Figure 11), with the provision of footpaths either side and designed in accordance with DN-GEO-03031 . From Ch 415 to Ch 435, it transitions from a Type 2 Single carriageway to a Type 1 Single Carriageway. From Ch 435 to circa Ch 1890, the cross-section remains a Type 1 Single Carriageway (Appendix 1; Figure 11) and from Ch 1890 to Ch 2100, it transitions to join the existing N24 Piltown Bypass Type 3 Dual Carriageway it will also involve the following elements:

- Surface water drainage
- Provision of 2no. attenuation ponds, with 2m high palisade fencing, one on the western side of the scheme and other on the eastern side of the scheme
- Provision of a construction compound at the location of the proposed eastern attenuation pond
- Proposed realignment of the Skelpstown stream which flows through the site (and associated Box Culvert)
- Provision of new combined road underbridge and cattle underpass at the location of the local road L7416, with track for cattle to gain access to underpass

- Provision of 1.5m footpath as part of the underbridge at the location of the local road L7416
- Provision of a timber post and tension mesh fences along much of the scheme length, as well as 2.5m wide shared surface/ footpath either side of the carriageway
- Provision of agricultural access tracks and adjacent field access tracks.

### 1.3 Assessment Methodology

This road project is covered by the 2017 Code of Practice for Archaeology agreed between the Minister for Arts, Heritage, Regional, Rural and Gaeltacht Affairs and Transport Infrastructure Ireland (TII)<sup>1</sup>. The assessment follows the criteria outlined in the *TII Guidelines for the Assessment of Archaeological Heritage Impacts of National Road Schemes* (2005) and *Guidelines for the Assessment of Architectural Heritage Impacts of National Road Schemes* (2005). In accordance with these guidelines, the study area adopted for this assessment was 100m wide and centred on the proposed scheme, i.e. 50m either side of the scheme centreline.

In addition, this report is guided by established impact assessment methodologies prepared by the Environment Protection Agency (EPA) including *Advice Notes on Current Practice in the preparation of Environmental Impact Statements* (2003), *Guidelines on the Information to be contained in Environmental Impact Statements* (2002); and more recently (draft) guidance methods have been used per *Draft Advice Notes for Preparing an EIS* (2015) and *Draft Guidelines for Information to be Contained in EIAR* (2017).

The assessment commenced with a desktop study which included reviews of the following sources:

- National Monuments Service, Record of Monuments and Places (1996) – manual and maps
- National Monuments Service, Historic Environment Viewer – map viewer<sup>2</sup>
- National Monuments Service, list of list of the national monuments in State care, Co. Kilkenny<sup>3</sup>
- Database of Excavation Reports<sup>4</sup>
- Kilkenny County Council, Record of Protected Structures as published in the Kilkenny City and County Development Plan 2021-2027<sup>5</sup>
- National Inventory of Architectural Heritage<sup>6</sup>
- Survey of Historic Gardens and Designed Landscapes<sup>7</sup>
- Heritage Maps – map viewer<sup>8</sup>
- National Folklore Collection UCD Digitization Project<sup>9</sup>
- Geological Survey of Ireland Spatial resources – map viewer<sup>10</sup>
- Environmental Protection Agency, catchments mapping and data<sup>11</sup>

<sup>1</sup> <https://www.archaeology.ie/sites/default/files/media/publications/code-of-practice-agreed-between-tii-ahrrga-eng-1.pdf>

<sup>2</sup> <http://webgis.archaeology.ie/historicenvironment/>. Accessed 14/03/2022.

<sup>3</sup> <https://www.archaeology.ie/sites/default/files/media/pdf/monuments-in-state-care-kilkenny.pdf>. Accessed 14/03/22

<sup>4</sup> <https://excavations.ie/>. Accessed 14/03/2022

<sup>5</sup> <https://kilkennycoco.ie/eng/services/planning/development-plans/city-and-county-development-plan/city-and-county-development-plan-2021-appendices.pdf>. Accessed 14/03/2022

<sup>6</sup> <http://www.buildingsofireland.ie/niah/highlights.jsp?county=KK>. Accessed 14/03/2022.

<sup>7</sup> <http://www.buildingsofireland.ie/cgi-bin/viewcounty.cgi?county=10>. Accessed 14/03/2022.

<sup>8</sup> <https://www.heritagemaps.ie/WebApps/HeritageMaps/index.html>. Accessed 14/03/2022.

<sup>9</sup> <https://www.duchas.ie/en>. Accessed 14/03/2022

<sup>10</sup> <http://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aac3c228>. Accessed 14/03/2022.

<sup>11</sup> <https://www.catchments.ie/maps/>. Accessed 14/03/2022.



The assessment also included a review of the contents of the TII N24 Route Options Archaeological, Architectural and Cultural Heritage Impact Assessment Report (hereafter 'TII option assessment report') for the scheme which was prepared by the TII-assigned Project Archaeologist (James Eogan) in May 2019<sup>12</sup>, and the results of a geophysical survey of the preferred option which was carried out by Earthsound Archaeological Geophysics (EAG) in July 2021<sup>13</sup>. Summaries of the results of both of these studies are presented within Section 2 of this report and these should be read in consultation with the full copies of these reports provided in Appendices 4 and 5. The numbering system for Cultural Heritage Sites (CHS), including known archaeological monuments, designated architectural heritage structures, undesignated cultural heritage sites, and geophysical survey references used in these reports is replicated within this report in order to provide ease of cross-referencing.

The mapping provided in Appendix 1 of this report shows the locations of relevant cultural heritage sites identified in the TII option assessment report as well as the anomalies identified during the EAG geophysical survey. Further mapping of the study area is also presented in the TII option assessment report and the EAG report (Appendices 4 and 5) and these have been reviewed as part of the current assessment.

A review of the Sites and Monuments Record (SMR), the current Record of Protected Structures (RPS) and the National Inventory of Architectural Heritage (NIAH) was also undertaken as part of this assessment in order to determine if any additional archaeological monuments or architectural heritage structures located within townlands in the study area have been added to these datasets since 2019. This included a review of the Record of Protected Structures published in the *Kilkenny City and County Development Plan 2021-2027* which was formulated and adopted in the period after the compilation of the 2019 TII option assessment report. The review of townlands within the study area revealed that no archaeological sites or architectural heritage structures have been added to these datasets since 2019.

The current list of recorded monuments with Preservation Orders published by the Department of Culture, Heritage and the Gaeltacht in June 2019 was also consulted and contains no entries for monuments within the townlands containing or adjoining the proposed scheme<sup>14</sup>. The Database of Irish Excavations Reports ([www.excavations.ie](http://www.excavations.ie)) was also reviewed to ascertain if any archaeological investigations have been undertaken within townlands in the environs of the scheme since the TII option assessment report was compiled in 2019 and none were noted.

Following the completion of the desktop study, a systematic field-walking survey of the entire route was carried out by the author in March 2022 during clear weather conditions in order to appraise the existing environment and land use practises within the study area and to determine if any potential unrecorded archaeological, architectural or cultural heritage sites or features exist within the scheme boundary or its close environs. The survey included inspections of the locations of all cultural heritage sites identified within the current study area as part of the 2019 TII option assessment. The locations of all potential sub-surface archaeological features identified during the 2021 geophysical survey were also inspected to appraise whether any contain observable surface expressions.

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<sup>12</sup> Eogan, J. (2019) *N24 Carrick Road Improvement Scheme, Co. Kilkenny Route options – archaeological, architectural and cultural heritage impact assessment report*

<sup>13</sup> Gimson, H. (2021) *N24 Carrick Road Improvement Scheme, Clonmore, Grange and Pollrone townlands, Co. Kilkenny: Archaeological Consultancy Services Contract Stage (i) Geophysical Surveys* (National Monuments Service licence ref. no. 21R0129)

<sup>14</sup> <https://www.archaeology.ie/sites/default/files/media/publications/po19v1-all-counties.pdf>

## 2 Receiving Environment

### 2.1 Introduction

This section of the report commences with summaries of the relevant legal and planning framework designed to protect the archaeological, architectural and cultural heritage resources (Sections 2.2 and 2.3). Section 2.4 then presents details on the elements of the resources within the study area which incorporates relevant information from the TII route option assessment report and the EAG Geophysical Survey report and is intended to be read in conjunction with both (Appendices 4 and 5). Section 2.5 presents the results of a field-walking survey of the location of the scheme which was carried out by the author on 16th March 2022.

The collated information, including distances of relevant monuments and other cultural heritage assets from the current scheme extent, is then presented in table formats in order to facilitate an assessment of the nature of potential impacts on the archaeological, architectural and cultural heritage resources.

### 2.2 Legislative Background

All archaeological monuments listed on the Register of Historic Monuments (RHM), the Record of Monuments and Places (RMP) or the register of national monuments are protected under the National Monuments Acts 1930–2014. A monument, as defined by Section 2 of the Act, includes, in effect, all man-made structures of whatever form or date except buildings habitually used for ecclesiastical purposes. Further definitions of terms such as archaeology, archaeological object, architectural heritage, heritage building, heritage gardens and parks, heritage objects and monuments are provided by the Heritage Act 1995 (as amended).

Section 12(1) of the National Monuments (Amendment) Act 1994 provided for the establishment of the RMP. Monuments listed in the RMP and marked on the RMP maps are known as ‘recorded monuments’. Under Section 12, any works in relation to such a monument require two months’ notice to the Minister for Housing, Local Government and Heritage (DHLGH).

Under Section 14 of the National Monuments (Amendment) Act 2004, works in the vicinity of a national monument of which the Minister or a local authority are the owners or the guardians, or in respect of which a preservation order is in force, require Ministerial Consent.

The Planning and Development Act 2000-2010 requires that local authorities establish and maintain a Record of Protected Structures (RPS) which consists of a list of structures that are considered to be of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. This designation also confers protection on the land and structures within the curtilage of the Protected Structure. While the element of curtilage is not defined by legislation, the *Architectural Heritage Protection Guidelines for Local Authorities*<sup>15</sup> (Department of Arts, Heritage and the Gaeltacht 2011), describes it as the parcel of land immediately associated with a structure and which is (or was) in use for the purposes of the structure. In the case of a country house the curtilage may include such features such as stable buildings, coach-house, gate piers, gates, walled garden and lawns, unless they are located at a distance from the main building, perhaps within its attendant grounds.

Attendant grounds are defined as lands which lie outside the curtilage of a protected structure, but are intrinsic to its appreciation, function or setting. The entire demesne of a country house may be

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<sup>15</sup> <https://www.buildingsofireland.ie/app/uploads/2019/10/Architectural-Heritage-Protection-Guidelines-for-Planning-Authorities-2011.pdf>

considered as attendant grounds, along with any structures/features within it such as follies, plantations, earthworks and lakes. However, structures/features within the attendant grounds are not automatically protected and require specific inclusion in the Record of Protected Structures.

The Planning and Development Act 2000-2010 also requires that a planning authority include an objective in its development plan to preserve the character of a place, area, group of structures or townscape if it is of the opinion that its inclusion is necessary for the preservation of the character of that area. Such an area is known as an Architectural Conservation Area (ACA) and is defined as a place, area, group of structures or townscape that is of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or that contributes to the appreciation of a protected structure.

## **2.3 Planning Context**

The Kilkenny City and County Development Plan 2021-2027<sup>16</sup> (hereafter ‘the Development Plan’) sets out the Council's objectives in terms of the protection and promotion of the archaeological, built and cultural heritage. The Development Plan states ‘Built heritage includes all man-made features, buildings, and structures in the environment. It includes our rich and varied archaeological and architectural heritage’.

### **2.2.1 Archaeology**

Kilkenny County Council’s policies in relation to safeguarding the county’s archaeological heritage are set out in Section 9.3.1 of the Development Plan. The policies, standards and objectives that are of particular relevance to this project are set out below.

Development Management Requirements:

- To endeavour to preserve in situ all archaeological monuments, whether on land or underwater, listed in the Record of Monuments and Places (RMP), and any newly discovered archaeological sites, features, or objects by requiring that archaeological remains are identified and fully considered at the very earliest stages of the development process and that schemes are designed to avoid impacting on archaeological heritage.
- To require archaeological assessment, surveys, test excavation and/or monitoring for planning applications in areas of archaeological importance if a development proposal is likely to impact upon in-situ archaeological monuments, their setting and archaeological remains.
- To ensure that development within the vicinity of a Recorded Monument is sited and designed appropriately so that it does not seriously detract from the setting of the feature or its zone of archaeological potential. Where upstanding remains of a Recorded Monument exist a visual impact assessment may be required to fully determine the effect of any proposed development.
- To require the retention of surviving medieval plots and street patterns and to facilitate the recording of evidence of ancient boundaries, layouts etc. in the course of development.
- To safeguard the importance of significant archaeological landscapes from developments that would unduly sever or disrupt the relationship, connectivity and/or inter-visibility between sites.

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<sup>16</sup> <https://www.kilkennycoco.ie/eng/services/planning/development-plans/city-and-county-development-plan/vol1-master-ccdp-2-11-2021.pdf> pg. 139-169. Accessed 25/03/22

The following policy is relevant to the watercourse named the Skelpstown Stream which extends through the scheme.

#### 9.3.1.2 Underwater Archaeology

County Kilkenny's rivers and tidal estuaries contain features and objects associated with its riverine and limited maritime heritage (such as boat wrecks, fishtraps, fording points, bridges etc.). Data on underwater archaeological sites (marine, coastal and inland waterways), including the Shipwreck Inventory of Ireland and the Ports and Harbours Archive are available from the Underwater Archaeology Unit in the National Monuments Service. Any development either above or below water, including to riverbanks or coastal edges, within the vicinity of a site of archaeological interest shall not be detrimental to the character of the archaeological site or its setting. Planning applications will be referred to the National Monuments Service where relevant.

The Development Plan also identifies three Archaeological Landscapes within the County (Plan ref. Section 9.3.1.1) which have been selected as a priority for protection, and these comprise Freestone Hill and environs, The Lingaun River Valley and Tory Hill and its environs. The location of these landscapes are mapped in Figure 9.1 of the Development Plan, and none are within the area of the County that contains the proposed scheme.

The Development Plan also presents a range of other archaeological policies which comprise those in relation to Walled Towns (Policy ref. 9.3.1.3), Industrial Heritage (Policy ref. 9.3.1.4), Conservation Plans (Policy ref. 9.3.1.5), Historic Graveyards (Policy ref. 9.3.1.6) and Historic Gardens and Designated Landscapes (Policy ref. 9.3.1.7). No sensitivities in relation to these elements of the archaeological resource have been identified within the study area.

The following objective in relation to the protection of the archaeological resource within the county is presented within the Development Plan:

Objectives 9C To protect archaeological sites and monuments (including their setting), underwater archaeology, and archaeological objects, including those that are listed in the Record of Monuments and Places, and in the Urban Archaeological Survey of County Kilkenny or newly discovered sub-surface and underwater archaeological remains.

#### 2.2.2 Architectural Heritage

Kilkenny County Council's policies in relation to safeguarding the county's architectural heritage are set out in Section 9.3.2 of the Development Plan. The policies, standards and objectives that are of particular relevance to this project are set out below.

##### Development Management Requirements:

- To have regard to the Architectural Heritage Protection Guidelines when assessing proposals for development affecting a protected structure and buildings listed in the NIAH.
- To encourage the sympathetic retention, reuse and rehabilitation of protected structures and their setting, while ensuring the involvement of suitably qualified professionals
- To ensure proposed service upgrades undertake an initial assessment of current services, to ensure the internal environment and fabric is not impacted on by such works. Energy assessments and Architectural Heritage Impact Assessments may be required where energy and service upgrades are proposed.
- To ensure proposed development within the curtilage or attendant grounds of a protected structure respects the protected structure and its setting.
- To require an architectural impact assessment where appropriate for developments within the grounds of country house estates which are Protected Structures.

- To promote principles of best practice in conservation in terms of use of appropriate materials, repair techniques, and thermal upgrades by adhering to the guidelines as set out in Department of Housing, Local Government and Heritage's Advice Series publications
- To promote best conservation principles and practice when assessing proposals for Kilkenny's architectural heritage
- To ensure that energy upgrades for buildings constructed from traditional materials are respectful of architectural features, form, and environmental requirements necessary to maintain breathability in the structure.

A review of the locations of the current ACAs listed within the Development Plan (Policy Ref. 9.3.3) revealed that none are located within the environs of the proposed scheme.

The Development Plan (Policy ref. 9.3.4) highlights the historic and social significance of the farm villages of South Kilkenny which are a settlement type consisting of a unique clustering of houses, outbuildings and haggards, which often lack public buildings such as shops, churches or post offices. While the Plan does not designate these villages as ACAs it does state that their distinctive physical pattern and visual character should be retained where possible. The Plan includes a list of such villages sourced from a 1988 study carried out by Jack Burtchaell<sup>17</sup> and this includes examples in Pollrone and Grange townlands, both of which are traversed by the proposed scheme. The Development Plan does not provide any mapping or geo-referencing for these farm villages but a review of the first edition 6-inch Ordnance Survey map (1839) of these townlands revealed settlement clusters likely comprising the farm villages in both areas. The Pollrone village is located 800m to the south of the east end of the scheme (at ITM 649740, 615677) while the Grange village is located 850m to the north of the west end of the scheme (at ITM 649714, 618184). In addition, another farm village listed in the Development Plan, Ballytarsney village, is located within a townland of the same name at a distance of 780m to the northeast of the east end of the scheme (at ITM 649740, 615677). Given the distances of these historical settlements from the study area, no potential impacts on their locations are predicted.

The Development Plan also presents policies in relation to the protection of Street Furniture and Roadside Features (Policy ref. 9.3.5), Vernacular Built Heritage (Policy ref. 9.3.6) and Bridges (Policy ref. 9.3.7).

The following objectives in relation to the protection of the architectural resource within the county are presented within the Development Plan:

*Objective 9F* To provide assistance to owners of protected structures in undertaking essential repairs and maintenance by the provision of relevant information.

*Objective 9G* To respond to the Ministerial recommendation to include in the RPS, structures which have been identified as being of regional, national or international significance in the National Inventory of Architectural Heritage survey and to consider for inclusion those rated as being of local significance.

*Objective 9H* To continue to review the Record of Protected Structures and add or delete structures as appropriate.

*Objective 9I* To ensure all digital mapping for the Record of Protected Structures is up to date and current, and readily accessible to the public.

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<sup>17</sup> Burtchaell, J. 1998 'The South Kilkenny Farm Villages', *Common Ground: Essays on the Historical Geography of Ireland*, ed. Smyth, W.J. and Whelan, K. pp. 110-23, Cork University Press.



### 2.3.3 Cultural Heritage

The Development Plan identifies elements of the cultural heritage resource which are locally significant and add to the distinctive character and sense of place of an area. These include aspects of heritage such as traditions, practices, knowledge and skills which are an expression of our culture and also compasses features of interest such as mass rocks, mass paths, civic memorials and plaques, rag trees, vernacular gates, oral history, placenames, fieldnames, folklore, local history and sport. It is a policy of the Council to preserve, protect and where necessary enhance elements this resource (Policy ref 9.4). The Development Plan also includes policies for the protection and promotion of Placenames (Policy ref 9.4.1) and Commemorative Memorials (Policy ref 9.4.2).

## 2.4 Cultural Heritage Context

### 2.4.1 Known Archaeological Sites

The RMP and SMR do not list any recorded archaeological sites within the study area. A review of the SMR revealed that it contains two entries for unlocated sites within the three townlands in the study area (Pollrone, Grange and Clonmore) and these comprise an unclassified castle in Pollrone townland (KK042-040----) and a holy well in Grange townland (KK042-027----). As detailed below, there is historical evidence which suggests the unlocated castle site in Pollrone may have been within the environs of Pollrone Church (KK042-011001-) at a distance of c.1.4km to the south of the proposed scheme. Ó Dálaigh<sup>18</sup> records that the holy well in Grange townland is in the same field as Killaspick Church (KK042-002001-) which is located 1.6km to the north of the proposed scheme.

The nearest known archaeological site to the proposed scheme is a holy well (CHS-03, KK042-007----) in Clonmore townland and this is located 330m to the south of the west end of the scheme. The holy well, which was dedicated to St. Canice and was known locally as *Tobarach Chainneach* (the Well of Cainneach) was recorded by Ó Dálaigh<sup>19</sup> to have been covered over in recent decades after its water source had been diverted by underground concrete pipe. Further to the south of this holy well, and also within the townland of Clonmore, are the overgrown remains of the late medieval parish church also dedicated to St. Canice (CHS-01, KK042-006001) and its associated graveyard (CHS-02, KK042-006002). These sites are approximately 430m to the south of the proposed scheme (Appendix 1; Figure 2).

As cited in the TII option assessment report, Carrigan<sup>20</sup> notes that there was a manor in Pollrone in the mid-14th century. Shine<sup>21</sup> has noted that a 15<sup>th</sup> century extent of this manor recorded that it was the same as the ancient manor which contained a keep and she also notes that Carrigan recorded that a demolished castle in the manor once stood close to the church. This castle is potentially depicted close to the church on the 17<sup>th</sup> century Down Survey<sup>22</sup>. The SMR contains an entry for an unlocated castle within the townland (KK042-040----) and also includes an entry for Pollrone Church (KK042-011001-) which is located close to the River Suir in the south end of the townland and is c. 1.4km to the south of the proposed scheme. While Shine concludes that it remains uncertain where the exact location of Pollrone manorial centre was, she posits that it was likely located close to the river as this setting had obvious advantages for transporting market goods and also correlates with

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<sup>18</sup> Ó Dálaigh, P. (2018) The holy wells of County Kilkenny. PhD thesis. University of Limerick, pg.374.

<sup>19</sup> Ó Dálaigh, P. (2018) The holy wells of County Kilkenny. PhD thesis. University of Limerick, pg.381.

<sup>20</sup> W. Carrigan, 1905 *The History And Antiquities of the Diocese of Ossory*, Vol. 4, pg. 147 – 8.

<sup>21</sup> Shine, L (2011) *Later medieval cross-cultural interactions: the settlement evidence in the baronies of Overk, county Kilkenny and Clanmahon, county Cavan*. PhD thesis (2 vols). Trinity College Dublin, Vol. I, pg.84-5.

<sup>22</sup> Shine, L (2011) *Later medieval cross-cultural interactions: the settlement evidence in the baronies of Overk, county Kilkenny and Clanmahon, county Cavan*. PhD thesis (2 vols). Trinity College Dublin, Vol. II, pg.G-329.

the location of Pollrone Church and the potential location of the former castle site. It was also noted as part of the current assessment that the historic farm village of Pollrone is located c. 380m to the northeast of the church and that Burtchaell<sup>23</sup> has highlighted the potential that these distinctive South Kilkenny settlement types may have medieval origins.

The central area of the scheme extends through the townland of Grange and as noted in the TII option assessment report, this placename indicates the probability that this townland was an outlying farm of a late medieval monastic institution, worked by lay brothers. No information has been found to identify which monastic institution this might have been<sup>24</sup>.

#### *2.4.2 Previous Archaeological Investigations*

The only excavation identified within the study area for the TII option assessment was a programme of test trenching conducted to investigate a curving field boundary in advance of construction of the N25 Piltown to Fiddown Bypass in Clonmore townland<sup>25</sup>. This excavation did not uncover any features of archaeological significance at that location which is approximately 525m to the northwest of the western end of the proposed scheme and is outside the study area for this assessment. A review of the Database of Excavation Reports was carried out on 24/03/2022 as part of this assessment and this revealed that it contains no entries for additional site investigations in any of the townlands within or adjacent to the scheme location.

#### *2.4.3 Designated Architectural Heritage Resource*

There are no Protected Structures or NIAH-listed structures located within the study area and the nearest examples comprise the 19th century St. Kieran's Church (RPS ref. C282/NIAH 12328004) and the adjacent former Presentation Convent (RPS ref. C521/NIAH 12328009) which are located in the village of Mooncoin and are approximately 250m to the southeast of the eastern end of the proposed scheme (Appendix 1; Figure 2). There are no ACAs located within the study area or its environs.

#### *2.4.4 Undesignated Cultural Heritage Resource*

The following section includes information on elements of the undesignated cultural heritage resource within the study area as provided in the TII option assessment report.

#### *Placenames and Historic Boundaries*

The proposed scheme is located within the Civil Parishes of Clonmore and Pillrone, both of which are in the Barony of Iverk, and it extends into the townlands of Clonmore, Grange and Pollrone. Parishes comprise ecclesiastical administrative divisions originally introduced to Ireland in the 13th century and were adapted as the basis of civil divisions during 17th-century land surveys. Baronies had been introduced by the end of the 16th century and, in an Irish context, some of these may reflect the layout of earlier *tuath* boundaries. Townlands comprise the smallest unit of land division in the Irish landscape and many may preserve early Gaelic territorial boundaries that pre-date the Anglo-Norman conquest. The boundaries and nomenclature of Irish townlands were recorded and standardised by the Ordnance Survey during the 19th century. The Irish origins of townland names often refer to natural topographical features, but some name elements may record associations with archaeological sites or other cultural associations such as past land use or ownership. The modern townland names through which the route options run mostly derive from Irish and reflect

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<sup>23</sup> Burtchaell, J. 1998 'The South Kilkenny Farm Villages', *Common Ground: Essays on the Historical Geography of Ireland*, ed. Smyth, W.J. and Whelan, K. pp. 110-23, Cork University Press.

<sup>24</sup> Eogan, J. (2019) *N24 Carrick Road Improvement Scheme, Co. Kilkenny Route options – archaeological, architectural and cultural heritage impact assessment report*

<sup>25</sup> <http://excavations.ie/report/2000/Kilkenny/0005350/>

topography and natural features (Pollrone), associations with historic personages (Pollrone) and historic agricultural practice and land ownership (Clonmore and Grange).

**Table 1:** Translation of Townland Names (source: TII option assessment report<sup>26</sup>)

| Townland               | Irish              | Meaning             | Civil Parish | Barony |
|------------------------|--------------------|---------------------|--------------|--------|
| Clonmore <sup>27</sup> | <i>Cluain Mhór</i> | 'great meadow'      | Clonmore     | Iverk  |
| Grange <sup>28</sup>   | n/a <sup>29</sup>  | -                   | Pollrone     | Iverk  |
| Pollrone               | <i>Poll Ruáin</i>  | '[St.] Ruan's pool' | Pollrone     | Iverk  |

The proposed scheme crosses one section of a boundary between two civil parishes and three sections of boundaries between townlands. The boundaries of the civil parishes probably originated in the late medieval period, while some townland boundaries may have originated in the early medieval period.

**Table 2:** Description of Parish Boundary (source: TII option assessment report)

| Parish Boundary        | Description  |
|------------------------|--|
| Clonmore with Pollrone | South of the existing N24: The boundary is formed by the Skelpstown Stream.<br>North of existing N24: Hedgerow along west side of local road. The curving alignment of the road and hedgerow suggests that originally the Skelpstown Stream may have flowed to the east of its current course. |

<sup>26</sup> Eogan, J. (2019) N24 Carrick Road Improvement Scheme, Co. Kilkenny Route options – archaeological, architectural and cultural heritage impact assessment report

<sup>27</sup> <https://www.logainm.ie/1277.aspx>. Accessed 28/03/2022

<sup>28</sup> <https://www.logainm.ie/27669.aspx>. Accessed 28/03/2022

<sup>29</sup> The placename suggests the likelihood that this townland was the outlying farm of a late medieval monastic institution, worked by lay brothers

**Table 3: Description of Townland Boundaries (source: TII option assessment report)**

| Boundary                 | Description  |
|--------------------------|--|
| Clonmore with Grange †   | A hedgerow along west side of local road. The curving alignment of the road and hedgerow suggests that originally the Skelpstown Stream may have flowed to the east of its current course. |
| Clonmore with Pollrone † | The boundary was formed by the Skelpstown Stream.  |
| Grange with Pollrone     | The boundary runs eastwards from Clonmore along the centreline of the existing N24 until it turns northwards where it is formed by a field boundary (earthen bank and hedgerow).           |

† Coincides with the Clonmore / Pollrone parish boundary

### *Roadside Memorial ( CHS-27)*

Roadside memorial on the north side of the N24, comprising a polished stone headstone on a cut limestone plinth erected in front of a rendered and painted concrete wall with painted concrete coping. It commemorates Linda Holden of Clonmore, Mooncoin, who died as a result of a road traffic accident on 04/03/1991 (Located at ITM 648900, 617586).

### *Folklore*

A review of the School's Collection published online as part of the National Folklore Collection UCD Digitization Project<sup>30</sup> revealed a number of local stories recorded in Mooncoin school<sup>31</sup> and relate to various townlands within the parish. None refer to any traditions or potential cultural heritage sites that can be definitively associated with the location of the study area.

### *Review of Cartographic Sources*

As noted in the TII option assessment report, neither the existing N24 road nor Mooncoin village are depicted on the Down Survey maps (1656) or on Herman Moll's New Map of Ireland (1714)<sup>32</sup>. However, the road is shown as the route from Waterford to Carrick-on-Suir by Taylor and Skinner in their volume of Maps of the Roads of Ireland (1777)<sup>33</sup>. Clonmore is named on this map, however, the name seems to be applied to the Clonmore House landed estate; on this map Mooncoin is not named as a settlement. The depiction of the route on the Taylor & Skinner map suggests that the straight stretch of the Mooncoin to Carrick-on-Suir road between the west end of the proposed scheme at Clonmore Cross and a road culvert located to the east (CHS-13) was constructed post-1777.

The TII option assessment included a review of the 1st edition 6 inch map (1839) and 1st edition 25 inch map (1901) which identified a number of undesignated Cultural Heritage Sites (CHS) within the environs of the preferred option (identified as 'Blue Option' within that report). These are identified in Table 4, which has been sourced from the TII option assessment report, and further details on the depiction of the fields within the scheme boundary on the historic OS maps are also presented in Table 6 (Section 2.5: Field Survey). A location map of the CHS within the study area for this assessment and extracts from the historic OS maps are provided in Appendix 1 (Figures 3, 4 and 5).

<sup>30</sup> <https://www.duchas.ie/en>. Accessed 14/03/22

<sup>31</sup> <https://www.duchas.ie/en/src?q=mooncoin&t=CbesTranscript> . Accessed 14/03/2022

<sup>32</sup> 'Appendix 9' in P. O'Keeffe and T. Simington (2016 revised edition) *Irish Stone Bridges History and Heritage*

<sup>33</sup> G. Taylor and A. Skinner (1877) *Maps of the Roads of Ireland*, map no. 63. <http://www.askaboutireland.ie/reading-room/digital-book-collection/digital-books-by-subject/geography-of-ireland/taylor-skinner-maps-of-th/> . Accessed as part of TII option assessment on 26/06/2019.

**Table 4:** Description of Cultural Heritage Sites (CHS) identified within the study area in the TII option assessment report

| CHS no. | Townland | Class            | 1st edition 6 inch map (1839)   | 1st edition 25 inch map (1901)  | Present condition  | ITM E  | ITM N  |
|---------|----------|------------------|---|---|--|--------|--------|
| CHS-12  | Clonmore | Building         | A single rectangular building within a triangular enclosure on the north side of the Mooncoin to Piltown road (N24), immediately east of Clonmore Cross. The building does not face directly onto the road.   | A second smaller building has been constructed at the east end of the plot, its gable faces onto the Mooncoin to Piltown road.  | Demolished, occupied by a modern dwelling and outbuildings. Elements of the easternmost building depicted on the historic mapping may be incorporated in one of the outbuildings. Located 15m outside of scheme boundary   | 648703 | 617791 |
| CHS-13  | Clonmore | Buildings        | Two buildings within an elongated sub-rectangular plot on the south side of the Mooncoin to Piltown road (N24), the plot extends southwest to the Clonmore Cross to Clonmore road. The larger of the buildings is rectangular and faces directly onto the Mooncoin to Piltown road. The smaller building has a square plan and is set back from the road. | The linear plot has been combined with a triangular field to the west to create a larger triangular plot. Three buildings (one of which may incorporate the rectangular building depicted on the 6" survey) are grouped around a courtyard open to the east and accessed off the Mooncoin to Piltown road.                  | Demolished, occupied by the realigned N24 Clonmore Cross junction. Located 10m outside of scheme boundary  | 648694 | 617765 |
| CHS-15  | Clonmore | Bridge / culvert | The Mooncoin to Piltown road (N24) is depicted crossing an unnamed stream, which rises in a spring just west of Skelpstown village. The natural course of the stream appears to have been altered so that the road crosses it at right angles.  | The map shows that the course of the stream has been realigned for approx. 860 m upstream of the bridge / culvert. It is not clear if any alteration was made to the bridge / culvert but its indicated location appears to be further to the northwest of the point where the stream crossed the road on the 6-inch map. . | The N24 crosses the stream at the same location shown on 25-inch OS map. The culvert has a concrete parapet on its upstream side, this appears to be built over a masonry headwall. The downstream side was overgrown and could not be inspected. Located within scheme boundary | 649135 | 617350 |
| CHS-16  | Pollrone | Buildings        | A cluster of three small buildings on the north side of   | The two easternmost buildings have been demolished.   | A derelict single-storey stone-built building located on the north side  | 649199 | 617284 |



| CHS no. | Townland            | Class                            | 1st edition 6 inch map (1839)   | 1st edition 25 inch map (1901)  | Present condition   | ITM E  | ITM N  |
|---------|---------------------|----------------------------------|---|---|---|--------|--------|
|         |                     |                                  | the Mooncoin to Piltown road (N24). The buildings face directly onto the road.  |   | of the existing N24. Map regression analysis suggests that this is likely to be the building depicted on the historic mapping. Located 10m to south of scheme boundary  |        |        |
| CHS-17  | Pollrone            | Buildings                        | A cluster of four buildings on the south side of the Mooncoin to Piltown road (N24) in a triangular enclosure. One building faces directly onto the road, parallel to it. Two buildings extend perpendicular from the roadside. A fourth building is located at the back of the plot.   | The two buildings perpendicular to the Mooncoin to Piltown road (N24) have been combined.   | A derelict single storey stone-built building which map regression analysis suggested was the fourth building depicted on the historic mapping stood in field to the west of a modern dwelling. It has recently been demolished. A tubular metal gate indicates the former access on the roadside. Located 50m to south of scheme boundary. | 649201 | 617253 |
| CHS-19  | Pollrone            | Building and buildings (site of) | Three buildings are located along the north side of the Mooncoin to Piltown road (N24). One rectangular building faces directly onto the road, a T-shaped building extends back from the road and forms a courtyard with the other building. The third building is located across a laneway east of the road-side building and is oriented perpendicular to the road. | The T-shaped building has been altered so that it is a rectangular building on the north side of the courtyard.                                       | Demolished, occupied by a dwelling house and a ruined stone-built building to the east. Map regression analysis suggests that this may be the easternmost building depicted on the historic mapping. Located in private property immediately outside scheme boundary.   | 650070 | 616554 |
| CHS-28  | Clonmore and Grange | Historic boundary                | Boundary along the west side of a local road. Depicted as a boundary between the Civil Parishes of Pollrone and Clonmore and the townlands of Grange and Clonmore.  | No change to location or extents. Classified as the 'Union & R.D. Bdy' between Carrick-on-Suir and Waterford Poor Law Unions and Carrick-on-Suir No.3 | Hedgerow along local road. It comprises a low earthen bank topped with trees and hedgerow and is flanked on both sides by shallow earth-cut drains. Located within scheme boundary  | 649147 | 617372 |

| CHS no. | Townland              | Class             | 1st edition 6 inch map (1839)  | 1st edition 25 inch map (1901)   | Present condition   | ITM E  | ITM N  |
|---------|-----------------------|-------------------|--|--|---|--------|--------|
|         |                       |                   |  | and Waterford No. 2 Rural Districts.   |   |        |        |
| CHS-29  | Grange and Pollrone   | Historic boundary | Boundary depicted as running along centre of Mooncoin to Piltown road (N24), west of Mooncoin it turns north and runs along a field boundary. Depicted as a boundary between the Civil Parishes of Pollrone and Clonmore and the townlands of Grange and Pollrone. | No change to location or extents.  | N24 road centreline and field boundary (earthen bank and hedgerow). The field boundary section is formed by a straight earth/stone bank (c.0.8m to 1m high) topped with a well-maintained hedgerow. No surface traces of flanking ditch on either side. Extends for c. 12m into scheme boundary | 649960 | 616671 |
| CHS-30  | Clonmore and Pollrone | Historic boundary | Stream. Depicted as a meandering boundary, on west side of local road, between the Civil Parishes of Pollrone and Clonmore and the townlands of Pollrone and Clonmore.   | The map shows that the course of the stream has been realigned for approx. 860 m upstream of the bridge / culvert and extends in a straight line along field boundaries. | Stream (Skelpstown Stream). Averages 1m wide and the slow-flowing water within the channel was 0.3m deep at the time of inspection. Earth-eroded sides and bed was covered in silts. Extends into scheme boundary   | 649129 | 617378 |

### *Review of Aerial, Satellite and LiDAR Imagery*

A review of publicly accessible aerial and satellite imagery of the study area was carried out and this included those published online by OSI<sup>34</sup>, Bing<sup>35</sup>, Google Maps<sup>36</sup> and Google Earth<sup>37</sup>. These images show the majority of the fields within the scheme boundary under grass growth other than two fields in Grange townland which are typically shown as tillage land (see Table 6: Fields 11 and 12). The only potential unrecorded archaeological sites within the fields were noted during a review of the OSI Aerial 2005-2012 image<sup>38</sup> which revealed the presence of two potential burnt spread sites within the northern half of Field 1 which is located at the eastern end of the scheme (Appendix 1: Figures 6 and 10). These features are also visible in Google Earth images dated to 03/2011 and 04/2011. These images show the field following tillage works, and the two potential features are visible as spreads of darkened soil located c.50m apart. The northern example is located in the northwest corner of the field and is evident as a well-defined circular deposit measuring c. 23m in diameter (centre point ITM 650310, 616713). The southern example is located near the centre of the field and is less well-defined but is evident as a potential circular spread measuring c.20m in diameter (centre point ITM 650296, 616651). The southern example is c.190m to the north of the proposed scheme in this field, which will be confined to a narrow (c.2m-3m wide) strip of road widening works along the existing margin of the N24, in this area and both spreads are, therefore, outside the study area. No observable surface traces of the potential archaeological sites and features identified during the geophysical survey (see Section 2.4) were noted during the review of the aerial and satellite imagery.

A review of LiDAR imagery prepared for the proposed scheme was kindly provided by the TII Project Archaeologist for review and these images are presented in Appendix 1 (Figures 12, 13, 14, 15 and 16). The imagery shows ploughing and potentially land drainage works within the majority of the fields and no observable surface traces of the potential archaeological sites and features identified during the geophysical survey were noted during the review. The location of a number of clearly evident depressions were noted in two fields in Grange townland and these were investigated as part of the geophysical survey which noted that they may have originated as the result of quarrying works but an archaeological origin is not discounted (see Table 6: Fields 9 and 10).

## **2.4 Geophysical Survey**

The 2021 EAG geophysical survey was conducted within the green field sections of the proposed scheme and the following section provides an overview of the results which has been sourced from the EAG report<sup>39</sup> (see Appendix 5). A magnetometer survey was carried out over eighteen pre-determined sites encompassing a total area of 9.5 hectares with the intention of detecting any previously unknown archaeological remains. Target resistivity surveys were undertaken on seven sites, encompassing a total area of 2.5 hectares, to trace potential archaeological anomalies or to provide better definition on the types of anomalies detected.

Definitive archaeological remains within the scheme boundary were detected in survey areas GP14 and GP15 and include five potential ring-ditch sites (See Table 5 and Appendix 1; Figures 7 and 9). Ring-ditches comprise small enclosures that are often less than 10m in diameter and may, in some instances, form the ploughed out remains of barrow sites. They are associated with Bronze Age (c.

<sup>34</sup> <https://www.heritagemaps.ie/WebApps/HeritageMaps/index.html>. Accessed 14/03/2022

<sup>35</sup> <https://www.bing.com/maps/>. Accessed 14/03/2022

<sup>36</sup> <https://www.google.ie/maps>. Accessed 14/03/2022

<sup>37</sup> <https://earth.google.com/web/>. Accessed 14/03/2022

<sup>38</sup> <https://www.heritagemaps.ie/WebApps/HeritageMaps/index.html>.

<sup>39</sup> Gimsom, H. (2021) N24 Carrick Road Improvement Scheme, Clonmore, Grange and Pollrone townlands, Co. Kilkenny: Archaeological Consultancy Services Contract Stage (i) Geophysical Surveys

2400-500 BC) and Iron Age (c. 500 BC-400 AD) burial and ritual traditions and can be found in clusters that may potentially have formed a cemetery area. While some excavated examples have produced evidence for burial activity, often in the form of cremation pits, other examples have not produced any such evidence and may have been constructed as memorial cenotaphs to demarcate an area of now unknown ritual significance. The concentration of potential ring-ditches identified during the survey may be suggestive of an area of concentrated ritual activity of potential Bronze Age or Iron Age date within the lands to the north of the River Suir.

Potential archaeological enclosures were also identified in survey areas GP04 and GP05, but it is noted that the EAG report does not discount an agricultural origin for these anomalies (See Appendix 1; Figures 7 and 8). The survey also revealed a variety of anomalies of potential archaeological or agricultural origin as well as likely evidence for agricultural processes detected through soil disturbance, relict field boundaries, cultivation furrows and potential boundary ditches. These are described in the EAG report which is presented as Appendix 5.

**Table 5:** Summary of likely archaeological sites identified by geophysical survey (please cross-refer to Table 6 for Field Survey descriptions of locations)

| EAG GP Ref.   | Potential Site Type | Field Survey Ref. | EAG Description  |
|---------------|---------------------|-------------------|--|
| 04-9<br>04-10 | Enclosure           | Field 16          | 04-9: A curving possible ditch, measuring c. 27.5m N-S. May be related to anomaly 04-10 and could be archaeological or agricultural in origin.<br>04-10: A curving possible ditch, measuring c. 12.7m NE-SW. This runs concentric to anomaly 04-9 and may be related. Possibly archaeological or agricultural in origin. |
| 05-5          | Enclosure           | Field 17          | A curving possible ditch or cut feature, measuring c. 16m E-W of archaeological or agricultural significance.  |
| 14-14         | Ring-ditch          | Field 6           | A possible ring-ditch or sub-circular enclosure with an outer diameter of c. 6.3m to 7.1m which runs into the field boundary at SE. Contains one possible pit at its centre.   |
| 15-1          | Ring-ditch          | Field 5           | A ring-ditch or sub-circular enclosure with an outer diameter of c. 13m to 14m and an opening at S. Contains two possible pits near its centre.  |
| 15-4          | Ring-ditch          | Field 5           | A ring-ditch with an outer diameter of c. 6m to 6.4m and a possible opening at NE.   |
| 15-5          | Ring-ditch          | Field 5           | The western section of a ring-ditch with a diameter of c. 5.5m. This feature runs into the field boundary at NW.   |
| 15-9          | Ring-ditch          | Field 5           | A ring-ditch or sub-circular enclosure with an outer diameter of c. 7.9m to 8.5m and has a possible opening at NW. Contains a possible pit near its centre.  |
| 15-10         | Enclosure           | Field 5           | Segment of an enclosure ditch, measuring c. 5.2m N-S. Probably archaeological and extending beyond the survey area.  |

## 2.5 Field Survey

The field survey was carried out on 16<sup>th</sup> March 2022 in clear, dry weather conditions that afforded good landscape visibility. All areas within the boundary of the proposed scheme were inspected and no access constraints were encountered. The results of the geophysical survey were reviewed in advance of the field survey and the locations of the likely archaeological sites and other potential features were inspected in all areas to determine if any had any perceptible surface expressions. The descriptions of each of the fields within the scheme boundary are presented in Table 6 and extracts from the photographic record are provided in Appendix 2.

**Table 6:** Summary of Field Survey results (please cross-refer to Appendix 1: Figure 6 for field locations)

| Field | Townland | EAG Area Ref. | Description  |
|-------|----------|---------------|--|
| 1     | Pollrone | None          | Level, irregularly-shaped, pasture field on north side of N24 at western outskirts of Mooncoin village. Road-widening works will impact on narrow strip of the south end of the field (2m to 3m width), a hedgerow forming the southern field boundary and a downward sloping, 1m wide grass margin between the existing roadside and the hedgerow. The ground level within the field is slightly above road level (c.0.8m to 1m) indicating that the adjacent northern section of the roadway was constructed in a shallow cut. A review of the historic OS mapping revealed no levelled field boundaries within the scheme footprint, but a farm lane is shown extending from the road at south through the west end of the field on the first edition 6-inch map (1839). This lane is absent on the 25-inch map (1901) and no surface traces were noted during the site inspection. No visible surface traces of any potential cultural heritage sites were noted within this area.<br>Appendix 2; Plates 1 and 2 |
| 2     | Pollrone | GP18          | Level, sub-rectangular silage field on south side of N24 which slopes slightly down to south. A combined grass margin and modern footpath extend for c.4.2m from the south end of the existing N24 road to the well-maintained hedgerow forming the north field boundary. Road widening and ancillary works will extend into the north end of the field and will increase from 1m wide at the east end to c.40m wide at the west end. A review of the historic OS mapping revealed that this large field was previously sub-divided into smaller fields and two northeast to southwest orientated levelled boundaries formerly extended through the scheme land-take in the western half of the field. These levelled boundaries were identified in the geophysical survey (Appendix 5; Ref. GP18-01). No surface traces of these levelled boundaries or any potential cultural heritage sites were noted in this area.<br>Appendix 2; Plates 3 and 4  |



| Field | Townland | EAG Area Ref. | Description   |
|-------|----------|---------------|---|
| 3     | Pollrone | GP17          | <p>Sub-rectangular silage field on north side of N24 with a slight downward slope to south. The southern (roadside) boundary is formed by a grass covered, earth/stone bank and the scheme boundary extends for c. 15m into the southern end of the field at the location of the beginning of the offline realignment in the east end of the scheme. CHS-19 (buildings indicated on historic OS maps) is located outside the east end of the scheme boundary in a separate property to the east. A derelict stone-built outbuilding and a short section (6.9m long) of a c.1.1m high random rubble boundary wall on its south side (which extends to the roadside) form the south end of the eastern field boundary. A c.1m long section of the south end of the random rubble boundary wall extends into the scheme boundary. The first edition 6-inch OS map (1839) shows a now absent northeast to southwest field boundary extending through the centre of the existing field. This boundary is absent on the 25-inch edition (1901) and no surface remains were noted. This levelled boundary was identified in the geophysical survey (Appendix 5; Ref. GP17-01). The western field boundary is formed by a straight earth/stone bank (c.0.8m to 1m high) topped with a well-maintained hedgerow and this forms part of the townland boundary between Pollrone and Grange (CHS 29). No surface traces of a potential ditch feature were noted on either side of this field boundary. High magnetic disturbance along the boundary, caused by ferrous fencing materials, was encountered during the geophysical survey. The line of the townland boundary turns to the northwest outside the south end of the field and extends along the centre of the N24 road in that direction. No other cultural heritage sites or features were noted within the field.</p> <p>Appendix 2; Plates 5, 6 and 7</p> |
| 4     | Grange   | GP16          | <p>Level, rectangular, silage field enclosed with earth/stone field boundaries, including the townland boundary between Pollrone and Grange on east side (see Field 3: CHS 19). The existing layout of the field is depicted on the historic OS maps. No visible surface traces of any of the potential archaeological features identified in this field during the geophysical survey were observed during the inspection. It is noted that the identified extent of three of the features identified in the geophysical survey as potential curving ditches in this field are located just outside the north end of the scheme boundary (Appendix 5; Refs. GP 16-14, 16-15 and 16-16).</p> <p>Appendix 2; Plate 8</p>   |
| 5     | Grange   | GP15          | <p>Level, rectangular, silage field enclosed with earth/stone field boundaries topped with hedgerows. No surface traces of any drainage ditches were noted adjacent to these boundaries. The existing layout of the field is as depicted on the historic OS maps. No visible surface traces of any of the potential archaeological features, including five potential ring-ditches, identified in this field during the geophysical survey were observed during the inspection. It is noted that the identified extent of one of the potential ring-ditches is located c.3.5m outside the south end of the scheme boundary (Appendix 5; GP 15-01). A segment of the southwest quadrant of a potential enclosure ditch extends for 2m-3m into the north end of the scheme and it is likely that the remainder of this potential site is located outside the scheme boundary (Appendix 5; GP 15-10).</p> <p>Appendix 2; Plate 9</p>   |

| Field | Townland | EAG Area Ref. | Description  |
|-------|----------|---------------|--|
| 6     | Grange   | GP14          | Level, sub-rectangular, silage field enclosed with earth/stone banks topped with hedgerows. The historic OS maps show two now levelled field boundaries intersecting within the scheme footprint in the east end of the field and these were identified in the geophysical survey (Appendix 5; GP 14-8 and 14-9). The geophysical survey identified a potential ring-ditch immediately adjacent to a section of the east field boundary and which is within the scheme boundary (Appendix 5; Ref. GP 14-14). No visible surface traces of this potential site were observed but it was noted that there is no drainage ditch flanking the east end of the field and that the possibility exists that sub-surface remains of the east end of the feature survive beneath the field boundary.<br>Appendix 2; Plates 10 and 11  |
| 7     | Grange   | GP13          | Level, rectangular, pasture field enclosed with earth/stone field boundaries topped with hedgerows. The first edition 6-inch OS map (1839) shows a now absent east to west field boundary extending through the scheme. This boundary is absent on the 25-inch edition (1901) and no surface remains were noted but it was identified in the geophysical survey (Appendix ; Ref. GP 13-1). No visible surface traces of any potential cultural heritage sites were noted within this area.<br>Appendix 2; Plate 12   |
| 8     | Grange   | GP12          | Level, rectangular pasture field enclosed with earth/stone field boundaries topped with hedgerows apart from at west where the boundary is tree-lined. No visible surface traces of potential archaeological features identified in this field during the geophysical survey, or other cultural heritage sites, were noted during the inspection.<br>Appendix 2; Plate 13  |
| 9     | Grange   | GP11          | Undulating pasture field bound by tree-lined earth/stone banks. As noted in the EAG geophysical report, analysis of LiDAR data for the area suggests the presence of shallow irregular depressions within the scheme boundary as well as a possible low profile linear mound or ridge, which could be associated with historic excavation or quarrying. The geophysical survey identified an area of zone of magnetic enhancement at the location of the main depression and noted that this could be the result of quarrying or soil deposition but concludes that an archaeological origin was also possible (Appendix 5; Ref. GP 11-1). A sub-circular, shallow, depression (c. 25m diameter and 1m -1.8m in depth), with gently sloping concave sides and a rounded base, was noted within this area during the field inspection. While no obvious archaeological origin was evident such an interpretation cannot be discounted. It is noted that none of the historic OS maps show extraction pits within the field, but it is very likely that any small-scale quarrying operation perhaps associated with short duration agricultural works, would not have been surveyed. It is also noted that LiDAR imagery shows similar large depressions in the field to the west (Field 10), including an example on the opposite side of the field boundary.<br>Appendix 2; Plate 14 |

| Field | Townland | EAG Area Ref. | Description  |
|-------|----------|---------------|--|
| 10    | Grange   | GP10          | <p>Undulating pasture field bound by tree-lined earth/stone banks. As noted in the EAG geophysical report, analysis of LiDAR data for the area indicated the presence of shallow irregular depressions as well as a possible low profile irregular mound, all of which could be associated with historic excavation or quarrying. The geophysical survey identified a variety of negatively magnetic anomalies within the environs of the depressions which were possibly archaeological or agricultural in origin. The inspection of the area confirmed that the low mound feature visible on LiDAR imagery within the scheme boundary in the east end of the field retains a visible surface expression. The mound is sub-circular in plan and measures c. 17m north-south by 20m east-west and c.0.9m in maximum height (location = ITM 649608, 617104). While the surface morphology of this mound feature is suggestive of an archaeological origin it is noted that it is located immediately adjacent to the west side of a depression also visible on the LiDAR imagery. The potential, therefore, exists that the mound comprises a low deposit of spoil material from adjoining quarrying works. A large north-south orientated depression in the west end of the field was indicative of naturally occurring undulations within the area, perhaps indicating variations in the composition of underlying natural parent material although the potential for larger-scale extraction works in this area also exists.</p> <p>Appendix 2; Plate 15</p> |
| 11    | Grange   | GP09          | <p>Level, sub-rectangular tillage field enclosed with earth/stone banks and was under low stubble crop at the time of inspection which afforded clear views of the ground surface. The historic OS maps show a now levelled, north-south field boundary extending through the east end of the scheme. The surface of the ploughsoil within the scheme boundary had been compacted by agricultural traffic and was partially obscured by thin grass growth but a number of cultural inclusions were observed during the walkover, and these included occasional post-medieval and early modern pottery sherds and modern material such as plastics. No visible surface traces of the potential archaeological or agricultural features identified in this field during the geophysical survey, or other cultural heritage sites, were noted during the inspection.</p> <p>Appendix 2; Plate 16</p>  |
| 12    | Grange   | GP08          | <p>Level, sub-rectangular tillage field enclosed with earth/stone banks and was under low stubble crop at the time of inspection which afforded clear views of the ground surface. The southern boundary is not present on the first edition 6-inch OS map and forms the property boundary with modern residential properties to the south. As with Field 11 to the east, occasional post-medieval and early modern inclusions were noted on the compacted surface of the ploughsoil layer. No visible surface traces of the potential archaeological or agricultural features identified in this field during the geophysical survey, or other cultural heritage sites, were noted during the inspection.</p> <p>Appendix 2; Plate 17</p>   |
| 13    | Grange   | GP07          | <p>Rectangular pasture field slightly sloping down to west and south and enclosed by tree-lined earth/stone banks. The existing layout is as depicted on the historic OS maps. No visible surface traces of the potential archaeological or agricultural features identified in this field during the geophysical survey, or other cultural heritage sites, were noted during the inspection.</p> <p>Appendix 2; Plate 18</p>  |

| Field | Townland | EAG Area Ref. | Description   |
|-------|----------|---------------|---|
| 14    | Grange   | GP06          | Sub-rectangular pasture field slightly sloping down to west and south and enclosed by tree-lined earth/stone banks. The existing layout is as depicted on the historic OS maps. A modern farm track extends along the southwest corner of the field. No visible surface traces of the potential archaeological or agricultural features identified in this field during the geophysical survey, or other cultural heritage sites, were noted during the inspection.<br>Appendix 2; Plate 19   |
| 15    | Grange   | None          | The scheme boundary extends into a narrow strip of this rectangular field which was in use a grazing paddock separated by fence and posts at the time of the inspection.<br>Appendix 2; Plate 20  |
| 16    | Clonmore | GP04          | Irregular pasture field formed by removal of a number of field boundaries shown on historic OS maps.<br>The townland boundary between Clonmore and Grange (CHS-28) extends along the east side of the field and flanks a local road on its east side. It comprises a low earthen bank topped with trees and bushes and is flanked on both sides by shallow earth-cut drains.<br>Skelpstown Stream (CHS-30) extends in a straight NW-SE direction through the east end of the field and the detail on the historic OS maps indicate that it was diverted along its existing course during the 19 <sup>th</sup> century. The stream averages 1m wide for the majority of the section within the scheme boundary and widens at the point just before it extends under the north side of the road bridge / culvert (CHS-15) beneath the N24. This section appears to correspond with the original point where the stream crossed under the road on the 1 <sup>st</sup> edition 25-inch OS map (Appendix 1: Figure 5). The slow-flowing water within the channel averaged 0.3m deep at the time of inspection and the streambed was covered in silts. The linear section of the stream to the north of the wider section close to the culvert is flanked by a field boundary on the east side and the channel sides are formed by eroded natural soils. No traces of banks revetment or any other features of potential cultural heritage interest were noted during an inspection from the adjacent section of the field on the west side.<br>The upstream side of the bridge / culvert (CHS-15) as it extends under the N24 was obscured by a fixed upright timber pallet at the time of inspection, but it appears to comprise a stone built feature and has a concrete parapet wall at road level. The section on the southern side of the road was inaccessible due to overgrowth.<br>The inspection of the location of a potential enclosure site identified near the north side of the centre of the field during the geophysical survey (GP04-09 and GP04-10) revealed barely perceptible surface undulations that may indicate a very slight surface expression of an enclosing element, but no discernible pattern or site outline could be identified at ground level. The natural ground surface raises slightly in the area of the field immediately to the northwest of the potential enclosure and this has resulted in notable waterlogging at its location.<br>Appendix 2; Plates 21, 22, 23 and 24 |

| Field | Townland | EAG Area Ref. | Description   |
|-------|----------|---------------|---|
| 17    | Clonmore | GP05          | Rectangular pasture field with slight to moderate slopes down to north. The existing layout is as depicted on the historic OS maps. No surface traces of a potential enclosure site identified in the geophysical survey (GP05-05) in the east end of the field, or during a visual appraisal of the projected location of its southern extent in the field to the south, were observed during the field survey. The section of the potential enclosure within Field 17 is located within an area of sloping ground. A visual appraisal of the exposed natural subsoil along the section of a recently recut field drain along the north field boundary was carried out and no potential traces of truncated archaeological features were noted in the area immediately to the south of the potential site.<br>Appendix 2; Plate 25 |
| 18    | Clonmore | GP03          | A level, sub-rectangular field which is bound by an earth/stone field bank topped with a hedgerow along the roadside section which will be impacted by widening works which will extend for 4m-6m into the southeast side of the field. The roadside memorial to Linda Holden (CHS-27) is set outside the roadside field boundary and comprises a polished stone headstone on a cut limestone plinth backed with a rendered and painted concrete wall .<br>Appendix 2; Plate 26 and 27  |
| 19    | Clonmore | None          | A narrow paddock area delimited on the north and south sides by a timber fence. This appears to be a modern plot associated with one of the residential houses on the south side of the road and forms part of a larger field on the historic OS maps. No surface traces of any potential cultural heritage features were observed.<br>Appendix 2; Plate 28   |
| 20    | Clonmore | GP02          | A level, sub-rectangular field which is bound by an earth/stone field bank topped with a hedgerow along the roadside section which will be impacted by widening works which will extend for 4m-6m into the southeast side of the field. No surface traces of any potential cultural heritage features were observed.<br>Appendix 2; Plate 29  |
| 21    | Clonmore | GP01          | A level, sub-rectangular field which is bound by an earth/stone field bank topped with a hedgerow along the roadside section which will be impacted by widening works which will extend for 4m-6m into the southeast side of the field. No surface traces of any potential cultural heritage features were observed.<br>Appendix 2; Plate 30  |



## 3 Impact Assessment

### 3.1 Construction Phase

#### *Recorded Archaeological Monuments*

There are no recorded monuments located within the 100m study area centred on the scheme centreline, or within 330m of the scheme boundary. It is, therefore, concluded that the proposed scheme will not result in any predicted adverse impacts on any recorded archaeological monuments listed in the SMR/RMP.

#### *Designated Architectural Heritage Structures*

There are no designated architectural heritage structures located within the 100m study area centred on the scheme centreline, or within 250m of the scheme boundary. It is, therefore, concluded that the proposed scheme will not result in any predicted impacts on any structures listed in the RPS or NIAH for Co. Kilkenny.

#### *Geophysical Anomalies*

The proposed scheme will result in direct significant negative impacts on elements of a number of anomalies identified during the geophysical survey, a number of which have been interpreted by EAG as of being of archaeological origin (Table 7). It is noted that these potential archaeological sites are not listed in the SMR/RMP and have no surface expressions or are of any amenity value. In addition, the existing state of preservation of these potential sites is unknown but it is noted that the geophysical survey indicates that both appear to be located in fields disturbed by ploughing activity in recent centuries. Nonetheless, the potential that they comprise archaeological sites of medium-to-high value exists although this cannot be confirmed without recourse to archaeological test excavation.

In addition, the geophysical survey identified a variety of other anomalies of unknown origin that extend into the road-take and potential agricultural or archaeological interpretations for these are noted in the EAG report (Appendix 5). While the proposed scheme will have direct, negative permanent impacts on these anomalies the significance of these impacts cannot be determined without recourse to archaeological test excavation which will be required to ascertain their nature and origin.

**Table 7:** Impact assessment for geophysical anomalies interpreted as likely archaeological sites

| EAG Ref.      | Description  | Distance from scheme                     | Potential Impact                         |
|---------------|--|--|--|
| 04-9<br>04-10 | 04-9: A curving possible ditch, measuring c. 27.5m N-S. May be related to anomaly 04-10 and could be archaeological or agricultural in origin.<br>04-10: A curving possible ditch, measuring c. 12.7m NE-SW. This runs concentric to anomaly 04-9 and may be related. Possibly archaeological or agricultural in origin. | Within                                   | Direct, Significant, Negative, Permanent |
| 05-5          | A curving possible ditch or cut feature, measuring c. 16m E-W of archaeological or agricultural significance.  | Northern edge extends to scheme boundary | Direct, Moderate, Negative, Permanent    |

| <b>EAG Ref.</b> | <b>Description</b>   | <b>Distance from scheme</b>                         | <b>Potential Impact</b>                  |
|-----------------|--|---|--|
| 14-14           | A possible ring-ditch or sub-circular enclosure with an outer diameter of c. 6.3m to 7.1m which runs into the field boundary at SE. Contains one possible pit at its centre. | Within  | Direct, Significant, Negative, Permanent |
| 15-1            | A ring-ditch or sub-circular enclosure with an outer diameter of c. 13m to 14m and an opening at S. Contains two possible pits near its centre.                              | c.3.5m outside the south end of the scheme boundary | Indirect, Slight, Negative, Permanent    |
| 15-4            | A ring-ditch with an outer diameter of c. 6m to 6.4m and a possible opening at NE.   | Within  | Direct, Significant, Negative, Permanent |
| 15-5            | The western section of a ring-ditch with a diameter of c. 5.5m. This feature runs into the field boundary at NW.   | Within  | Direct, Significant, Negative, Permanent |
| 15-9            | A ring-ditch or sub-circular enclosure with an outer diameter of c. 7.9m to 8.5m and has a possible opening at NW. Contains a possible pit near its centre.                  | With  | Direct, Significant, Negative, Permanent |
| 15-10           | Segment of an enclosure ditch, measuring c. 5.2m N-S. Probably archaeological and extending beyond the survey area.  | Southwest quadrant extends 2m-3m into scheme        | Direct, Moderate, Negative, Permanent    |

#### *Undesignated Cultural Heritage Sites*

The extent and nature of direct impacts on the remainder of the Cultural Heritage Sites identified in the TII assessment report, which are considered to be of local significance, are outlined in Table 8 and have been determined based on their descriptions in that report combined with a comparison of the current scheme design with the historic OS maps (see Appendix 1; Figures 5 and 6). Detailed extracts of these maps are also provided in the TII option assessment report which is presented as Appendix 4.

**Table 8:** Impact assessment for undesignated cultural heritage sites (CHS) identified in TII Preliminary Cultural Assessment Report

| CHS ref | Townland | Type                             | TII Assessment Report Description  | Intervention   | Impact                                |
|---------|----------|----------------------------------|--|--|---------------------------------------|
| CHS-12  | Clonmore | Building                         | Demolished, occupied by a modern dwelling and outbuildings. Elements of the easternmost building depicted on the historic mapping may be incorporated in one of the outbuildings   | None   | None predicted                        |
| CHS-13  | Clonmore | Buildings                        | Demolished, occupied by the realigned N24 Clonmore Cross junction.   | None   | None predicted                        |
| CHS-15  | Clonmore | Bridge / culvert                 | The culvert has a concrete parapet on its upstream side, this appears to be built over a masonry headwall. The downstream side was overgrown and could not be inspected.   | Will be directly impacted by scheme.   | Direct, moderate, negative, permanent |
| CHS-16  | Pollrone | Buildings                        | A derelict single-storey stone-built building located on the north side of the existing N24. Map regression analysis suggests that this is likely to be the building depicted on the historic mapping                            | None (located 10m outside scheme)  | Indirect, slight, negative, permanent |
| CHS-17  | Pollrone | Buildings                        | A derelict single storey stone-built building which map regression analysis suggested was the fourth building depicted on the historic mapping stood in field to the west of a modern dwelling. It has recently been demolished. | None (located 50m outside scheme)  | None predicted                        |
| CHS-19  | Pollrone | Building and buildings (site of) | Demolished, occupied by a dwelling house and a ruined stone-built building to the east. Map regression analysis suggests that this may be the easternmost building depicted on the historic mapping.                             | The scheme will diverge from the existing N24 immediately to the west of the property and will not directly impact ruined stone building | Indirect, slight, negative, permanent |

| CHS ref | Townland              | Type              | TII Assessment Report Description   | Intervention                                  | Impact                                |
|---------|-----------------------|-------------------|---|---|---------------------------------------|
| CHS-27  | Clonmore              | Roadside memorial | Roadside memorial on the north side of the N24, comprising a polished stone headstone on a cut limestone plinth erected in front of a rendered and painted concrete wall with painted concrete coping. It commemorates Linda Holden of Clonmore, Mooncoin, who died as a result of a road traffic accident on 04/03/1991. | Location will be directly impacted by scheme. | Direct, slight, negative, permanent   |
| CHS-28  | Clonmore and Grange   | Historic boundary | Hedgerow along local road.  | Will be directly impacted by scheme.          | Indirect, slight, negative, permanent |
| CHS-29  | Grange and Pollrone   | Historic boundary | N24 and field boundary (earthen bank and hedgerow).   | Will be directly impacted by scheme.          | Direct, slight, negative, permanent   |
| CHS-30  | Clonmore and Pollrone | Historic boundary | Skelpstown Stream. Depicted as a boundary between the Civil Parishes of Pollrone and Clonmore and the townlands of Pollrone and Clonmore.   | Will be directly impacted by scheme.          | Direct, slight, negative, permanent   |

### **3.2     *Operation Phase Impacts***

It is envisioned that following the successful implementation of the pre-construction mitigation measures outlined in **Section 4**, in combination with the absence of predicted impacts on the recorded and designated archaeological and architectural heritage resources, the proposed scheme will not result in any predicted adverse impacts on the archaeological, architectural and cultural heritage resource during the operation phase.

## 4 Mitigation Recommendations

### 4.1 Pre-construction Phase

#### *Recorded Archaeological Monuments*

There are no recorded monuments located within the 100m study area centred on the scheme centreline, or within 330m of the scheme boundary, and the proposed scheme will not result in any predicted adverse impacts on any recorded archaeological monuments listed in the SMR/RMP. It is, therefore, concluded that no mitigation measures for recorded archaeological monuments will be required during the construction phase.

#### *Designated Architectural Heritage Resource*

There are no designated architectural heritage structures located within the 100m study area centred on the scheme centreline, or within 250m of the scheme boundary, and the proposed scheme will not result in any predicted impacts on any structures listed in the RPS or NIAH for Co. Kilkenny. It is therefore concluded that no mitigation measures for this resource will be required during the pre-construction phase.

#### *Geophysical Anomalies*

The EAG geophysical survey has identified a number of potential archaeological sites that are either wholly located within the scheme boundary or partially extend into its extent (Table 7) and also identified a number of other anomalies of potential agricultural or archaeological origin that extend into the road-take.

Given the identification of anomalies of archaeological origin in the geophysical survey and the potential for discovery of previously unknown archaeological sites within the footprint of the scheme, it is recommended that a programme of archaeological test excavations be carried out within the lands to be acquired for the proposed road development, prior to the construction phase. This will involve the excavation of a centreline test-trench, with off-sets placed at regular intervals. The quantity of testing will, where conditions allow, typically represent a 12% sample coverage of the scheme area being tested. Archaeological testing will be carried out by a team (or teams) of suitably qualified and experienced archaeologists. This will target the sites and areas of archaeological and cultural heritage potential including the anomalies identified during the geophysical survey. Test excavations will be carried out in accordance with relevant licensing procedures under the National Monuments Acts (1930 – 2014) in consultation with the TII Project Archaeologist. Full provision will be made for the excavation leading to preservation by record of any archaeological features and / or deposits that may be identified, if that is deemed the most appropriate manner in which to proceed (subject to statutory approval).

These investigations should include the use of a metal-detector, licensed by the NMS, in order to assist in artefact retrieval. The exposed surface expressions of all identified archaeological features or deposits should be recorded in written, drawn and photographic formats and then be left to remain *in situ* while the Archaeologist Consultant liaises with the TII Project Archaeologist and NMS to determine the nature and extent of further appropriate mitigation strategies. This may include their preservation in situ or preservation by record (i.e. archaeological excavation and recording). Reports on all phases of archaeological investigations undertaken as part of the scheme should be

compiled in accordance with the NMS Guidelines for the Authors of Archaeological Excavation Reports<sup>40</sup> and submitted to the NMS, TII Project Archaeologist and Kilkenny County Council.

It is also recommended that the test trench investigations are undertaken well in advance of the construction phase to ensure that there is adequate time available for the analysis of results, consultations with the NMS and TII Project Archaeologist and the completion of any further archaeological excavations that may be required in advance of the commencement of the construction stage in accordance with the Code of Practice for Archaeology agreed between TII and the Minister for Arts, Heritage, Regional, Rural and Gaeltacht Affairs (2017).

#### *Undesignated Cultural Heritage Sites*

Detailed surveys of the Cultural Heritage Sites identified in Table 8 should be completed prior to the construction phase.

CHS-30 comprises the Skelpstown Stream which extends under the N24 via a bridge / culvert feature (CHS-15). It is recommended that a pre-construction underwater/wading survey, to include a metal-detecting survey, of the section of the stream within the scheme boundary, and this should incorporate a survey of the adjacent bridge / culvert to include a written, drawn and photographic record. These surveys should be carried out by a suitably experienced underwater archaeologist under licences issued by the NMS.

It is recommended that a Type A Townland Boundary Survey of remnant traces of townland boundaries between Clonmore and Grange (CHS 28) and Grange and Pollrone (CHS 29) be carried out in advance of the construction phase. This will include i) desk-study ii) a comprehensive written and photographic record of the size, form, fabric and structure of the boundaries and iii) reporting and preparation of a relevant archive. This will comprise detailed records of all examples in written, drawn and photographic formats. This information should be collated within a report to be submitted to the TII Project Archaeologist and Kilkenny County Council which should provide contextual information derived from relevant historical, cartographic and other relevant sources.

CHS-27 comprises a modern roadside memorial set-back on the eastern verge of the present N24 in Clonmore. The construction of the scheme will have a direct impact on this feature. It is proposed that a photographic record of the memorial be compiled and the memorial reconstructed/reinstated following scheme construction, in consultation with the family of the deceased, if they can be traced.

#### **4.2 Construction and Operation Phases**

The modern roadside memorial (CHS-27) should be documented and reconstructed/reinstated during the construction phase. It is envisioned that following the successful implementation of the pre-construction mitigation measures outlined above, in combination with the absence of predicted impacts on the recorded and designated archaeological and architectural heritage resources, there will be no other required mitigation measures during the construction or operational phases for the archaeological, architectural and cultural heritage resource.

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<sup>40</sup> <https://www.archaeology.ie/sites/default/files/media/publications/excavation-reports-guidelines-for-authors.pdf>

**Table 9:** Summary of recommended mitigation measures

| <b>Mitigation Measure</b>          | <b>Relevant Assets</b>  | <b>Phase</b>     |
|------------------------------------|---|------------------|
| Test excavation                    | Targeted test excavation of all geophysical anomalies identified within road-take combined with linear testing of other green field areas | Pre-construction |
| Archaeological Excavation          | To be determined in consultation with NMS and TII Archaeologist following completion of programme of test excavation.                     | Pre-construction |
| Type A Townland Surveys            | CHS-28 Clonmore and Grange<br>CHS-29 Grange and Pollrone  | Pre-construction |
| Underwater/Wading Survey           | CHS-30 Skelpstown Stream<br>CHS-15 Bridge / Culvert   | Pre-construction |
| Documentation and alternate siting | CHS-27 (roadside memorial)  | Construction     |



## 5 Conclusions

### *Summary of Impacts*

The proposed scheme will not result in any direct impacts on recorded archaeological monuments listed in the SMR/RMP for County Kilkenny. The proposed scheme will result in direct impacts on a number of anomalies of archaeological significance identified during the geophysical survey undertaken within green field areas along the off-line realignment section of the proposed scheme. These have been interpreted as the remains of four potential ring-ditches and two potential enclosures (Table 7). While conjectural in the absence of archaeological excavation, the potential is noted that the geophysical survey has identified previously unrecorded elements of a Bronze or Iron Age cemetery or ritual landscape within survey areas GP14 and GP 15 (Appendix 1; Figure 6 – Fields 4 and 5). While the proposed scheme may result in localised significant impacts on these potential archaeological sites, no significant adverse impacts on the known archaeological resource within the area are predicted to occur.

The proposed scheme will not result in any predicted impacts on designated Protected Structures or any structures listed in the NIAH. A number of adverse impacts on various undesignated cultural heritage sites identified by the TII Archaeologist during the compilation of the TII options assessment have been identified. These undesignated sites are interpreted as being of local (low) cultural significance and the adverse effects are concluded as being slight in significance.

### *Summary of Recommended Mitigation*

It is recommended that a suitably qualified and experienced Archaeological Consultant be appointed to undertake a program of archaeological test excavation within the boundary of the road-take. This is to include targeted investigations of the sections of the potential ring-ditches and enclosures, and all other geophysical anomalies of archaeological potential, that are located within the scheme boundary. This will also involve the excavation of a centreline test-trench, with off-sets placed at regular intervals. The quantity of testing will, where conditions allow, typically represent a 12% sample coverage of the scheme area being tested. It is further recommended that the programme of archaeological test excavation be carried out well in advance of the commencement of the construction phase to ensure that adequate time is available to carry out any further excavations that may be required in the event that preservation by record of identified archaeological sites/features is required to mitigate the impact.

The proposed mitigation measures for the undesignated cultural heritage sites located within the scheme boundary include the compilation of pre-construction licensed underwater/wading survey of Skelpstown Stream (CHS-30), to include the bridge / culvert feature under the N24 (CHS-15), the compilation of records of historic boundaries (CHS-28 and CHS-29) and the relocation of a modern roadside memorial feature (CHS-27).

All cultural heritage assessment and mitigation services should be carried out in accordance with the provisions of the National Monuments Acts (1930 – 2014) and the Code of Practice for Archaeology agreed between TII and the Minister for Arts, Heritage, Regional, Rural and Gaeltacht Affairs (2017)

### **Acknowledgements**

*The author would like to thank the TII Project Archaeologist (Mr James Eogan) assigned to this scheme who kindly provided background material as well as the geo-referenced OS mapping, digital geophysical datasets and LiDAR images presented in Appendix 1 of this report.*

## Appendix 1: Figures



Figure 1: Location of Scheme indicated in red (© Ordnance Survey Ireland 2022/OSi\_NMA\_273)





**Figure 2:** Recorded Archaeological Sites (red dots) and NIAH-listed structures (blue dots) within wider environs of scheme (overlay on <https://www.google.ie/maps> aerial image)



**Figure 3:** Location of Cultural Heritage Sites (CHS) within Study Area (overlay on <https://www.google.ie/maps> aerial image)

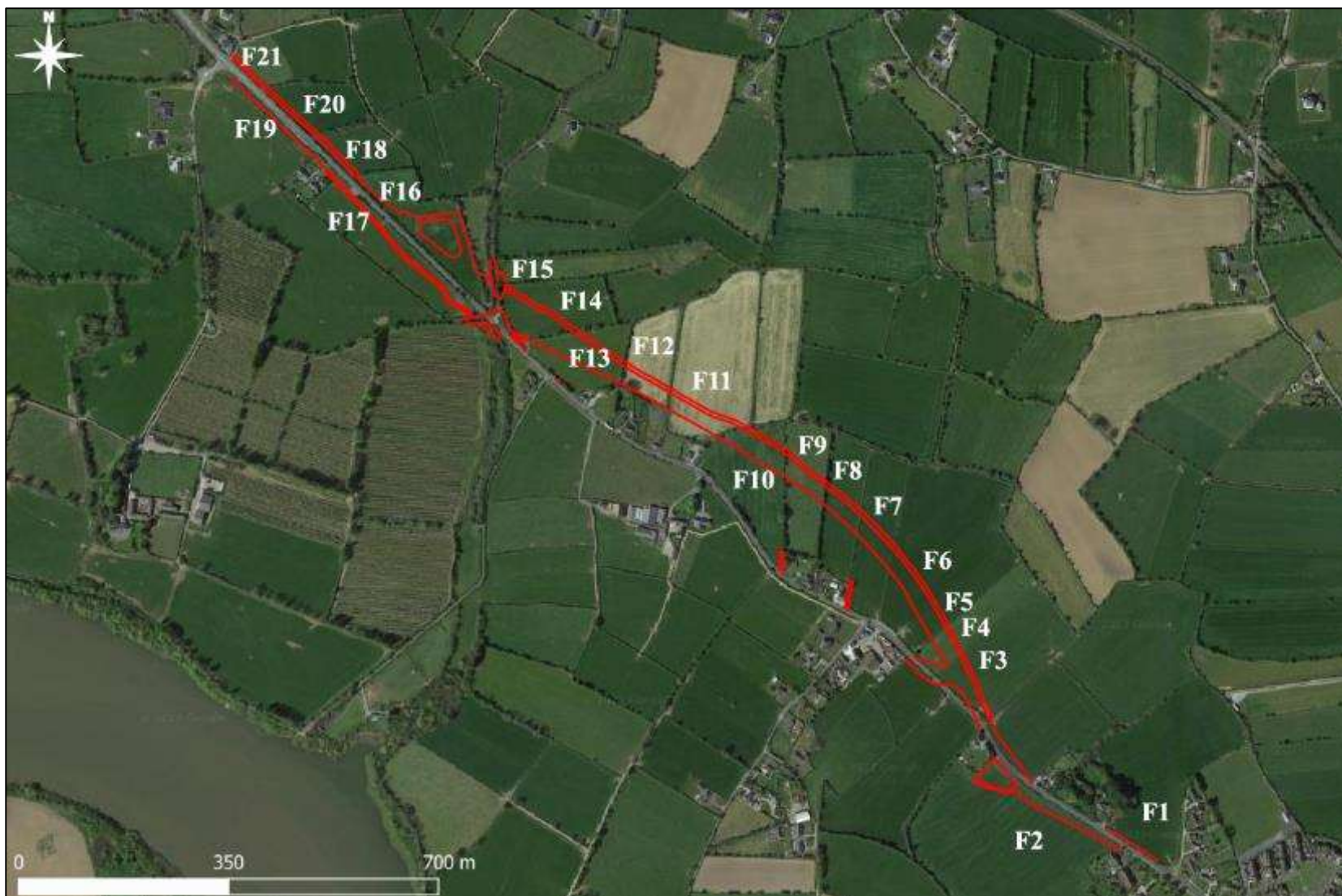


**Figure 4:** Extract from 1<sup>st</sup> edition 6-inch OS map (1839) showing scheme location (© Ordnance Survey Ireland 2022/OSi\_NMA\_273)



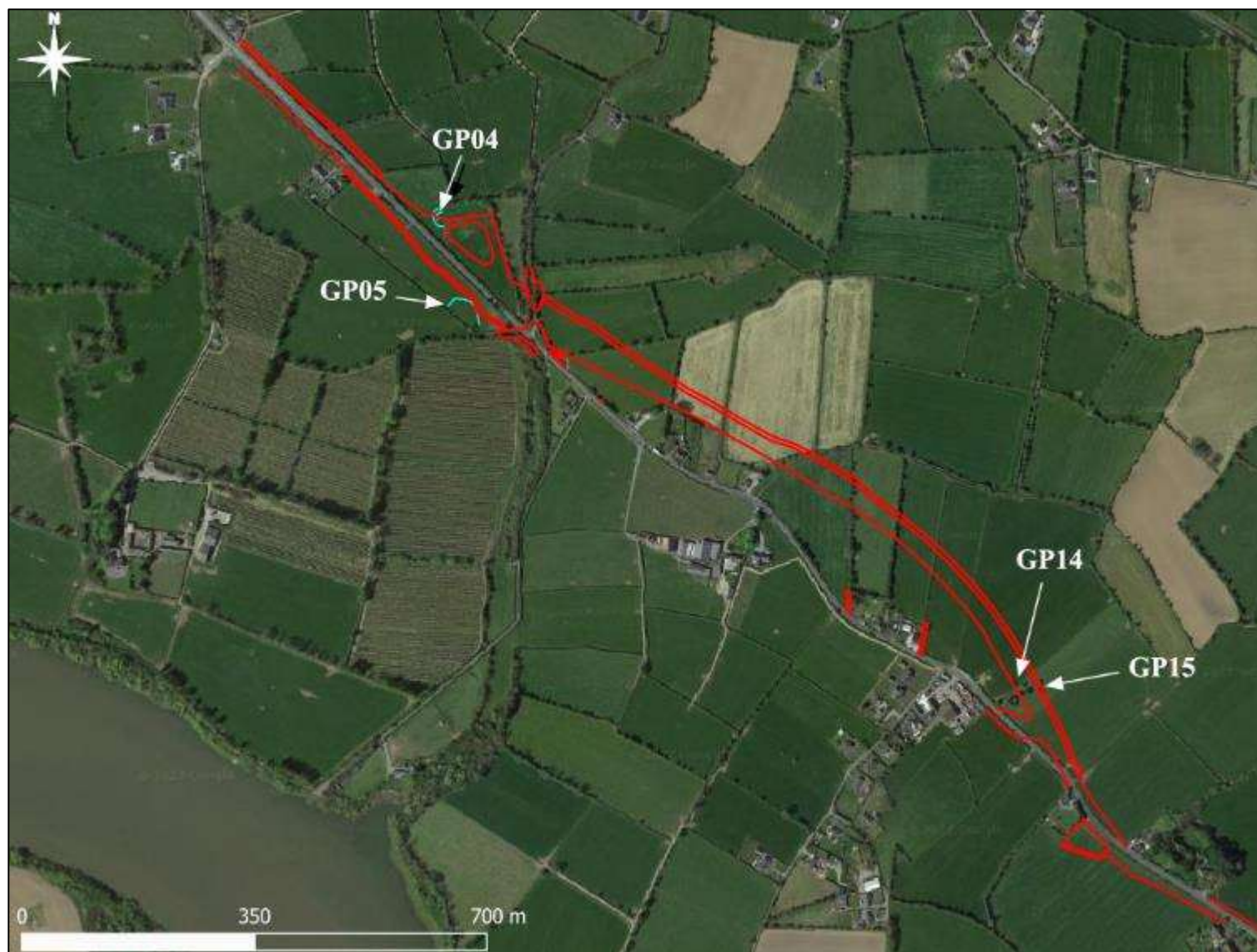


**Figure 5:** Extract from 1<sup>st</sup> edition 25-inch OS map (1901) showing scheme location (© Ordnance Survey Ireland 2022/OSi\_NMA\_273)



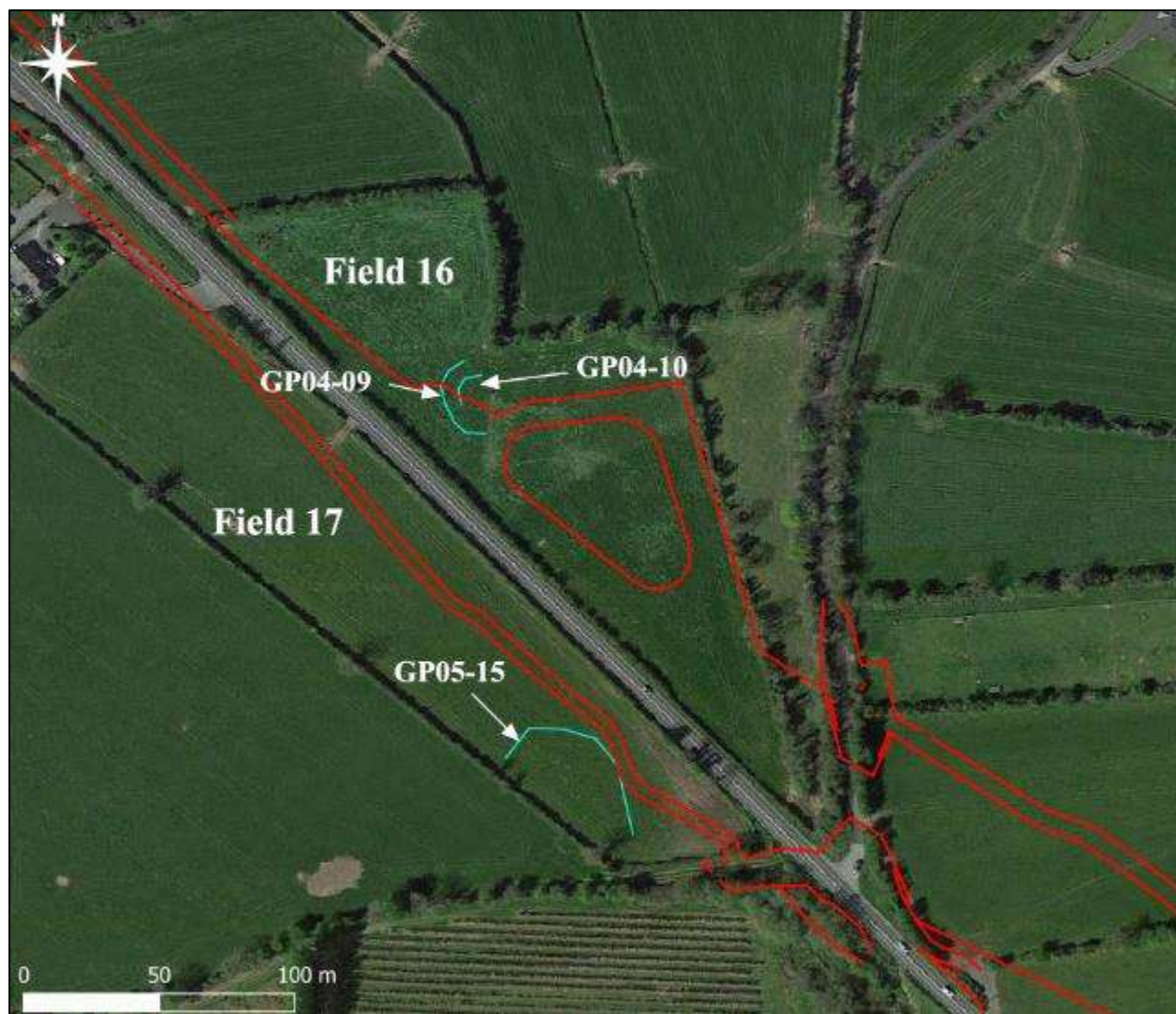
**Figure 6:** Field Numbers assigned during site inspection (overlay on <https://www.google.ie/maps> aerial image)



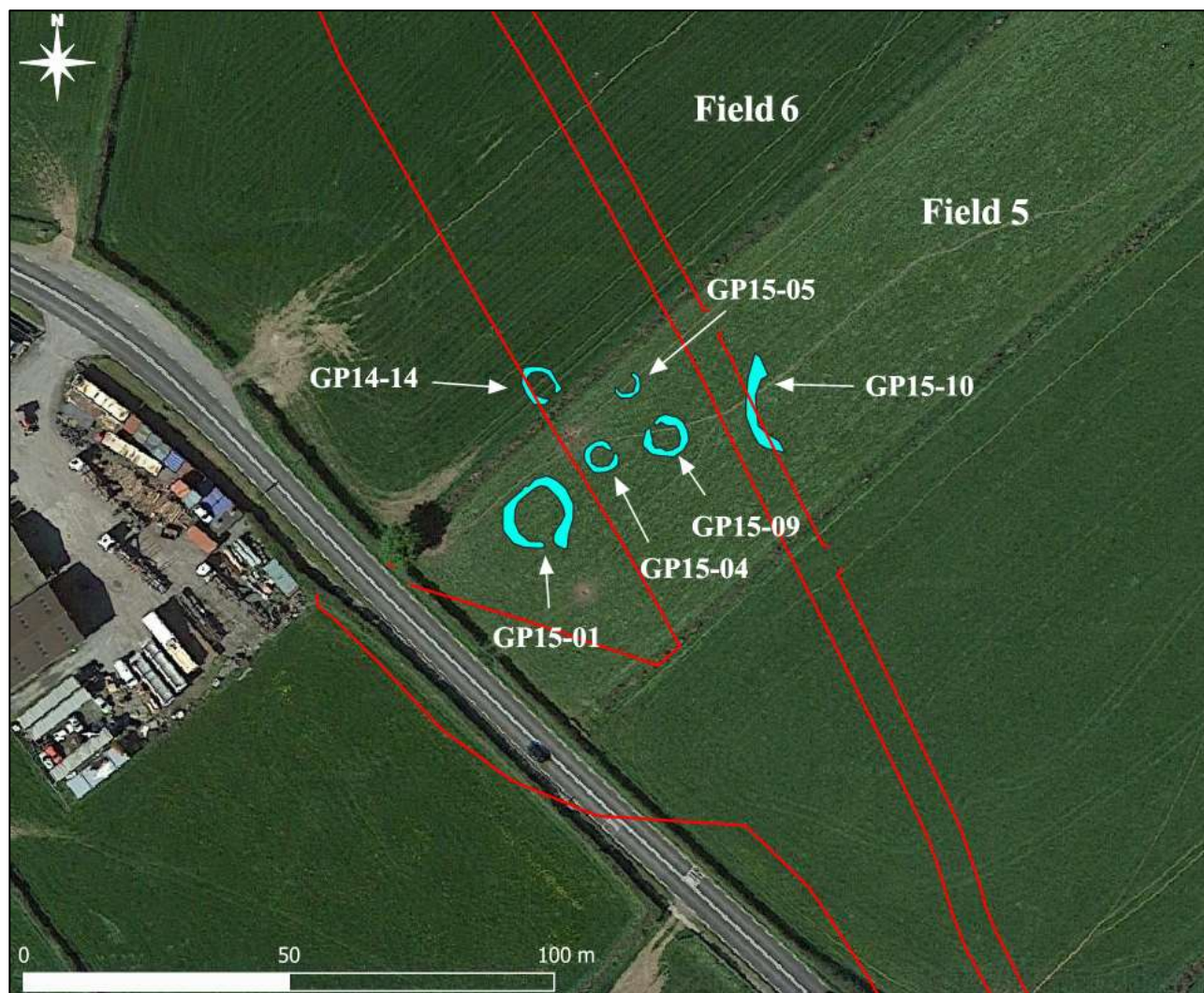


**Figure 7:** Overview of locations of likely archaeological sites identified during geophysical survey (overlay on <https://www.google.ie/maps> aerial image)





**Figure 8:** Locations of likely archaeological sites identified in geophysical survey areas GP04 and GP05 (overlay on <https://www.google.ie/maps> aerial image)

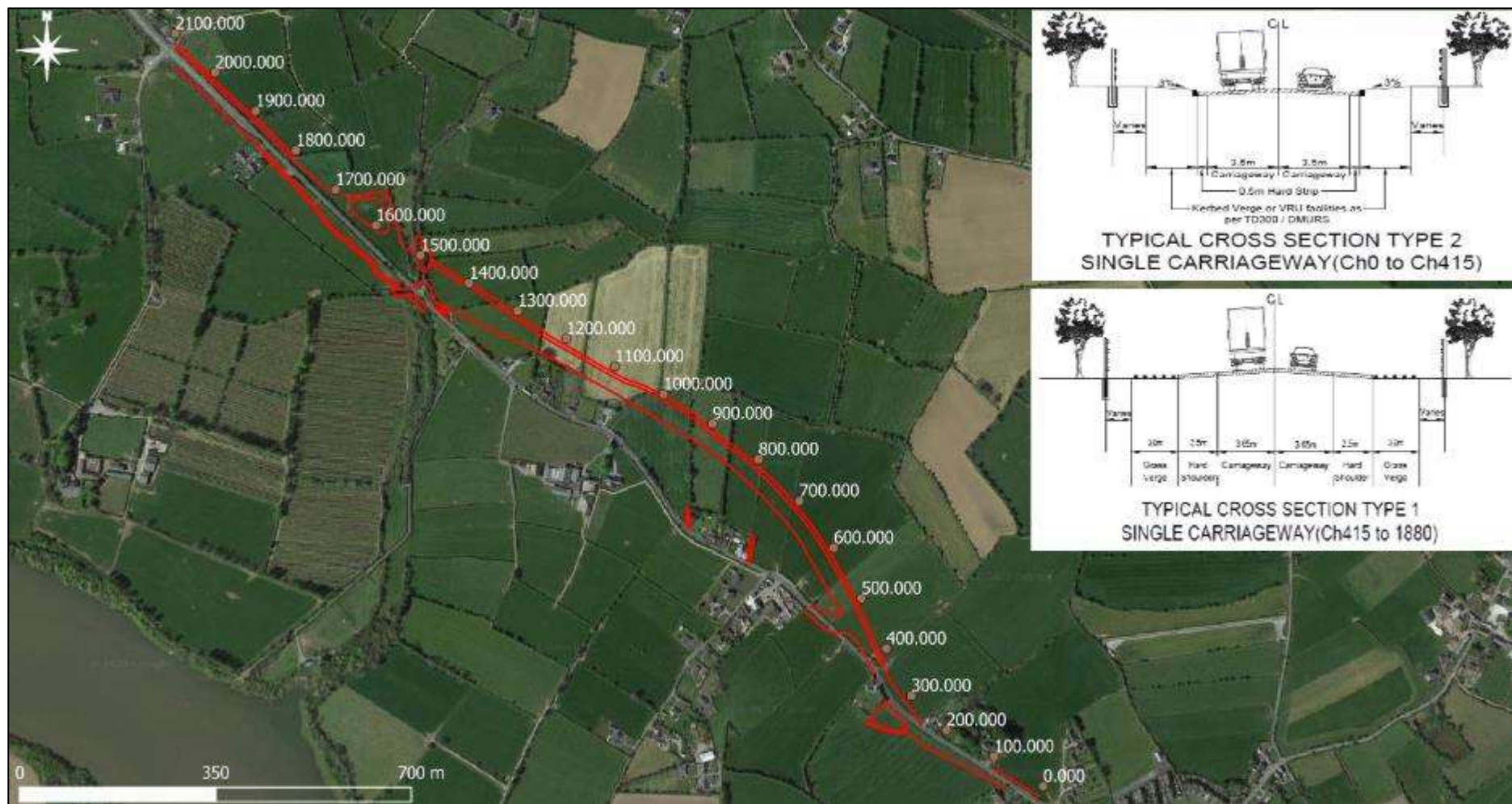


**Figure 9:** Locations of likely archaeological sites identified in geophysical survey areas GP14 and GP15 (overlay on <https://www.google.ie/maps> aerial image)



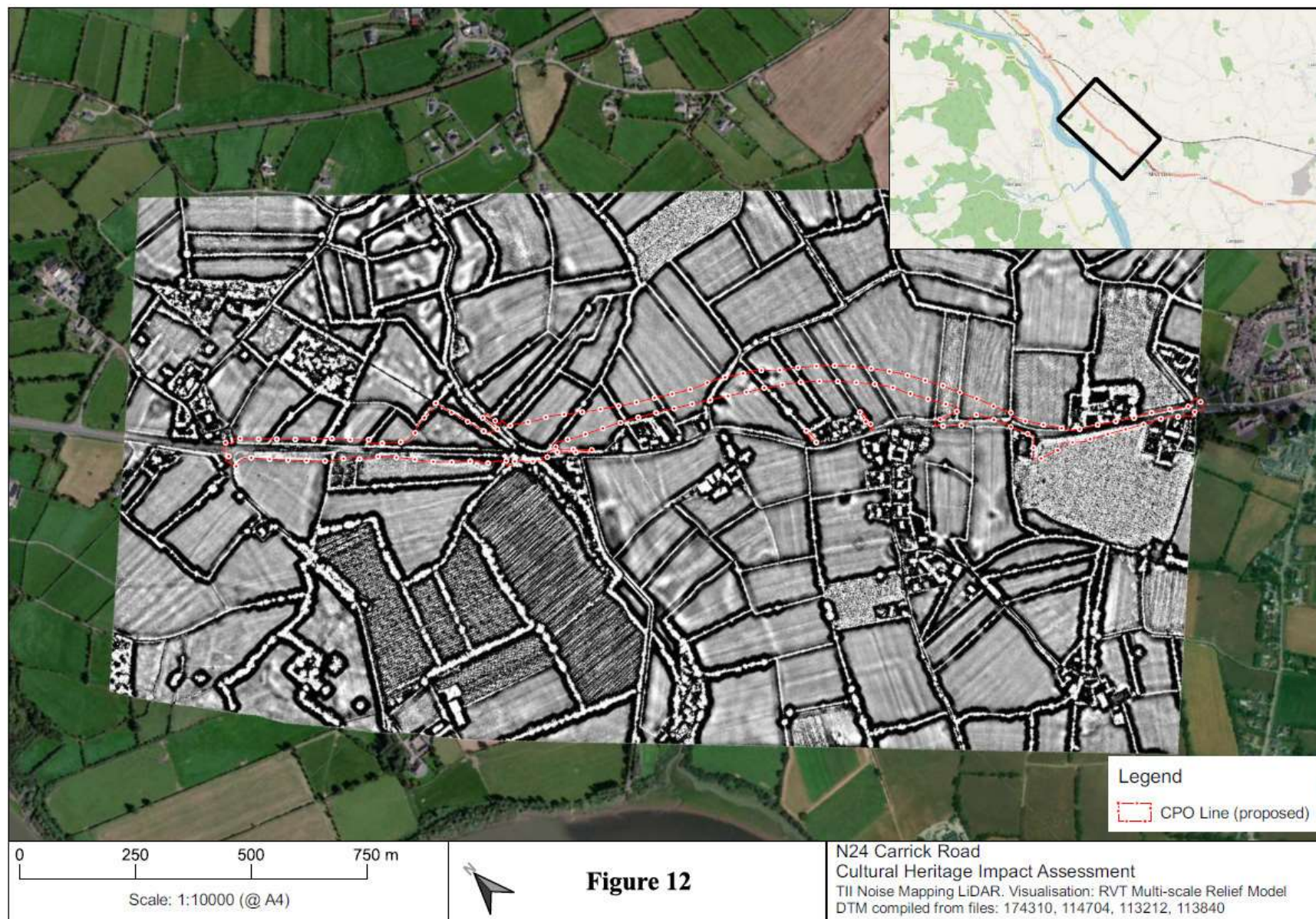


**Figure 10:** Locations of potential burnt spread features noted in Field 1 (screengrab from NMS Historic Environment Viewer <https://maps.archaeology.ie/HistoricEnvironment/>)



**Figure 11:** Scheme chainage references and typical cross-sections (based on information provided by Barry Transportation in March 2022)























## Appendix 2: Photographic Record



**Plate 1:** View of south end of Field 1 from east



**Plate 2:** View of section of N24 adjacent to south end of Field 1 from east





**Plate 3:** View of N24 road margin and Field 2 north boundary hedgerow from east



**Plate 4:** View of north end of Field 2 from west





**Plate 5:** View of CHS-19 (buildings on historic OS mapping) and adjacent location of realignment tie-in at the southeast corner of Field 3 from southwest



**Plate 6:** View from northwest of southeast corner of Field 3 showing ruined building and boundary wall associated with CHS-19 (buildings shown on historic OS maps)



**Plate 7:** View of south end of Field 3 from east towards west field boundary which forms the townland boundary between Pollrone and Grange (CHS-29)



**Plate 8:** View of Field 4 from southeast





**Plate 9:** View of location of potential ring-ditches in Field 5 from south (Geophysical survey area GP15)



**Plate 10:** View of location of potential ring-ditch (GP 14-14) in Field 6 from south



**Plate 11:** View of Field 6 from southeast



**Plate 12:** View of Field 7 from north





**Plate 13:** View of Field 8 from north



**Plate 14:** View of depression in Field 9 from south





**Plate 15:** View of potential mound feature in east end of Field 10 from west



**Plate 16:** View of Field 11 from west





**Plate 17:** View of Field 12 from east



**Plate 18:** View of Field 13 from east





**Plate 19:** View of Field 14 from east



**Plate 20:** View of Field 15 from west





**Plate 21:** View of local road between Fields 14 and 16 from north with townland boundary between Grange and Clonmore (CHS-28) visible on right side



**Plate 22:** View of Skelpstown Stream (CHS-30) in east end of Field 16 from south





**Plate 23:** View of road culvert in southeast corner of Field 16 from north (CHS-15)



**Plate 24:** View towards location of potential enclosure in Field 16 from east (GP 04-9 and 04-10)





**Plate 25:** View towards location of potential enclosure in Field 17 from east (GP05-5)



**Plate 26:** View of Field 18 from east





**Plate 27:** View roadside memorial at south end of Field 18 from south (CHS-27)



**Plate 28:** View of southern margin of N24 road and Field 19 from east





**Plate 29:** View of south end of Field 20 from west



**Plate 30:** View of south end of Field 21 from west





**Plate 31:** View from east of modern building and road junction at former locations of CHS-12 and CHS-13 (buildings depicted on historic OS mapping)



**Plate 32:** View from southeast of CHS-16 (building shown on historic OS maps)

## Appendix 3: Cultural Heritage Datasets

### Cultural Heritage Sites

|  |   |
|--|---|
| <b>CHS 12</b>                                      | Buildings   |
| <b>Legal Status</b>                                | None  |
| <b>ITM</b>   | 648703, 617791  |
| <b>Townland</b>                                    | Clonmore  |
| <b>OS Sheet</b>                                    | KK042   |
| <b>1<sup>st</sup> edition 6-inch OS map (1839)</b> | A single rectangular building within a triangular enclosure on the north side of the Mooncoin to Piltown road (N24), immediately east of Clonmore Cross. The building does not face directly onto the road. |
| <b>1<sup>st</sup> edition 25 inch map (1901)</b>   | A second smaller building has been constructed at the east end of the plot, its gable faces onto the Mooncoin to Piltown road.  |
| <b>Present condition</b>                           | Demolished, occupied by a modern dwelling and outbuildings. Elements of the easternmost building depicted on the historic mapping may be incorporated in one of the outbuildings.                           |
| <b>Figure</b>                                      | Appendix 1: Figure 3  |
| <b>Photograph</b>                                  | Appendix 2: Plate 31  |
| <b>Distance from scheme</b>                        | 15m   |
| <b>Impact</b>                                      | None predicted  |

|  |   |
|--|---|
| <b>CHS 13</b>                                      | Buildings   |
| <b>Legal Status</b>                                | None  |
| <b>ITM</b>   | 648694, 617765  |
| <b>Townland</b>                                    | Clonmore  |
| <b>OS Sheet</b>                                    | KK042   |
| <b>1<sup>st</sup> edition 6-inch OS map (1839)</b> | Two buildings within an elongated sub-rectangular plot on the south side of the Mooncoin to Piltown road (N24), the plot extends southwest to the Clonmore Cross to Clonmore road. The larger of the buildings is rectangular and faces directly onto the Mooncoin to Piltown road. The smaller building has a square plan and is set back from the road. |
| <b>1<sup>st</sup> edition 25 inch map (1901)</b>   | The linear plot has been combined with a triangular field to the west to create a larger triangular plot. Three buildings (one of which may incorporate the rectangular building depicted on the 6" survey) are grouped around a courtyard open to the east and accessed off the Mooncoin to Piltown road.  |
| <b>Present condition</b>                           | Demolished, occupied by the realigned N24 Clonmore Cross junction. Located 10m outside of scheme boundary   |
| <b>Figure</b>                                      | Appendix 1: Figure 3  |
| <b>Photograph</b>                                  | Appendix 2: Plate 31  |
| <b>Distance from scheme</b>                        | 10m   |
| <b>Impact</b>                                      | None predicted  |

|  |   |
|--|---|
| <b>CHS 15</b>                                      | Bridge / Culvert  |
| <b>Legal Status</b>                                | None  |
| <b>ITM</b>   | 649135, 617350  |
| <b>Townland</b>                                    | Clonmore  |
| <b>OS Sheet</b>                                    | KK042   |
| <b>1<sup>st</sup> edition 6-inch OS map (1839)</b> | The Mooncoin to Piltown road (N24) is depicted crossing an unnamed stream, which rises in a spring just west of Skelpstown village. The natural course of the stream appears to have been altered so that the road crosses it at right angles.  |
| <b>1<sup>st</sup> edition 25 inch map (1901)</b>   | The map shows that the course of the stream has been realigned for approx. 860 m upstream of the bridge / culvert. It is not clear if any alteration was made to the bridge / culvert but its indicated location appears to be further to the northwest of the point where the stream crossed the road on the 6-inch map. |
| <b>Present condition</b>                           | The N24 crosses the stream at the same location shown on 25-inch OS map. The culvert has a concrete parapet on its upstream side, this appears to be built over a masonry headwall. The downstream side was overgrown and could not be inspected.   |
| <b>Figure</b>                                      | Appendix 1: Figure 3  |
| <b>Photograph</b>                                  | Appendix 2: Plate 23  |
| <b>Distance from scheme</b>                        | Within boundary   |
| <b>Impact</b>                                      | Direct, moderate, negative, permanent   |

|  |  |
|--|--|
| <b>CHS 16</b>                                      | Buildings  |
| <b>Legal Status</b>                                | None   |
| <b>ITM</b>   | 649199, 617284   |
| <b>Townland</b>                                    | Pollrone   |
| <b>OS Sheet</b>                                    | KK042  |
| <b>1<sup>st</sup> edition 6-inch OS map (1839)</b> | A cluster of three small buildings on the north side of the Mooncoin to Piltown road (N24). The buildings face directly onto the road.   |
| <b>1<sup>st</sup> edition 25 inch map (1901)</b>   | The two easternmost buildings have been demolished.  |
| <b>Present condition</b>                           | A derelict single-storey stone-built building located on the north side of the existing N24. Map regression analysis suggests that this is likely to be the building depicted on the historic mapping. |
| <b>Figure</b>                                      | Appendix 1: Figure 3   |
| <b>Photograph</b>                                  | Appendix 2: Plate 32   |
| <b>Distance from scheme</b>                        | 10m to south   |
| <b>Impact</b>                                      | Indirect, slight, negative, permanent  |

|  |   |
|--|---|
| <b>CHS 17</b>                                      | Buildings   |
| <b>Legal Status</b>                                | None  |
| <b>ITM</b>   | 649201, 617253  |
| <b>Townland</b>                                    | Pollrone  |
| <b>OS Sheet</b>                                    | KK042   |
| <b>1<sup>st</sup> edition 6-inch OS map (1839)</b> | A cluster of four buildings on the south side of the Mooncoin to Piltown road (N24) in a triangular enclosure. One building faces directly onto the road, parallel to it. Two buildings extend perpendicular from the roadside. A fourth building is located at the back of the plot.   |
| <b>1<sup>st</sup> edition 25 inch map (1901)</b>   | The two buildings perpendicular to the Mooncoin to Piltown road (N24) have been combined.   |
| <b>Present condition</b>                           | A derelict single storey stone-built building which map regression analysis suggested was the fourth building depicted on the historic mapping stood in field to the west of a modern dwelling. It has recently been demolished. A tubular metal gate indicates the former access on the roadside. Located 50m to south of scheme boundary. |
| <b>Figure</b>                                      | Appendix 1: Figure 3  |
| <b>Photograph</b>                                  | None  |
| <b>Distance from scheme</b>                        | 50m to south  |
| <b>Impact</b>                                      | None predicted  |

|  |   |
|--|---|
| <b>CHS 19</b>                                      | Buildings   |
| <b>Legal Status</b>                                | None  |
| <b>ITM</b>   | 650070, 616554  |
| <b>Townland</b>                                    | Pollrone  |
| <b>OS Sheet</b>                                    | KK042   |
| <b>1<sup>st</sup> edition 6-inch OS map (1839)</b> | Three buildings are located along the north side of the Mooncoin to Piltown road (N24). One rectangular building faces directly onto the road, a T-shaped building extends back from the road and forms a courtyard with the other building. The third building is located across a laneway east of the road-side building and is oriented perpendicular to the road.     |
| <b>1<sup>st</sup> edition 25 inch map (1901)</b>   | The T-shaped building has been altered so that it is a rectangular building on the north side of the courtyard.   |
| <b>Present condition</b>                           | Demolished, occupied by a dwelling house and a ruined stone-built building to the east. Map regression analysis suggests that this may be the easternmost building depicted on the historic mapping. It comprises a stone-built outbuilding with a short section (6.9m long) of a c.1.1m high random rubble boundary wall on its south side which extends to the roadside |
| <b>Figure</b>                                      | Appendix 1: Figure 3  |
| <b>Photographs</b>                                 | Appendix 2: Plates 5 and 6  |
| <b>Distance from scheme</b>                        | Adjacent  |
| <b>Impact</b>                                      | Indirect, slight, negative, permanent   |

|  |  |
|--|--|
| <b>CHS 27</b>                                      | Roadside memorial  |
| <b>Legal Status</b>                                | None   |
| <b>ITM</b>   | 648900, 617586   |
| <b>Townland</b>                                    | Pollrone   |
| <b>OS Sheet</b>                                    | KK042  |
| <b>1<sup>st</sup> edition 6-inch OS map (1839)</b> | Not depicted   |
| <b>1<sup>st</sup> edition 25 inch map (1901)</b>   | Not depicted   |
| <b>Present condition</b>                           | Roadside memorial on the north side of the N24, comprising a polished stone headstone on a cut limestone plinth erected in front of a rendered and painted concrete wall with painted concrete coping. It commemorates Linda Holden of Clonmore, Mooncoin, who died as a result of a road traffic accident on 04/03/1991 |
| <b>Figure</b>                                      | Appendix 1: Figure 3   |
| <b>Photograph</b>                                  | Appendix 2: Plate 27   |
| <b>Distance from scheme</b>                        | Within boundary  |
| <b>Impact</b>                                      | Direct, slight, negative, permanent  |

|  |  |
|--|--|
| <b>CHS 28</b>                                      | Historic boundary  |
| <b>Legal Status</b>                                | None   |
| <b>ITM</b>   | 649147, 617372   |
| <b>Townland</b>                                    | Clonmore and Grange  |
| <b>OS Sheet</b>                                    | KK042  |
| <b>1<sup>st</sup> edition 6-inch OS map (1839)</b> | Boundary along the west side of a local road. Depicted as a boundary between the Civil Parishes of Pollrone and Clonmore and the townlands of Grange and Clonmore.                         |
| <b>1<sup>st</sup> edition 25 inch map (1901)</b>   | No change to location or extents. Classified as the 'Union & R.D. Bdy' between Carrick-on-Suir and Waterford Poor Law Unions and Carrick-on-Suir No.3 and Waterford No. 2 Rural Districts. |
| <b>Present condition</b>                           | Hedgerow along local road. It comprises a low earthen bank topped with trees and hedgerow and is flanked on both sides by shallow earth-cut drains   |
| <b>Figure</b>                                      | Appendix 1: Figure 3   |
| <b>Photograph</b>                                  | Appendix 2: Plate 21   |
| <b>Distance from scheme</b>                        | Extends within boundary  |
| <b>Impact</b>                                      | Direct, slight, negative, permanent  |

|  |  |
|--|--|
| <b>CHS 29</b>                                      | Historic boundary  |
| <b>Legal Status</b>                                | None   |
| <b>ITM</b>   | 649960, 616671   |
| <b>Townland</b>                                    | Clonmore and Grange  |
| <b>OS Sheet</b>                                    | KK042  |
| <b>1<sup>st</sup> edition 6-inch OS map (1839)</b> | Boundary depicted as running along centre of Mooncoin to Piltown road (N24), west of Mooncoin it turns north and runs along a field boundary. Depicted as a boundary between the Civil Parishes of Pollrone and Clonmore and the townlands of Grange and Pollrone. |
| <b>1<sup>st</sup> edition 25 inch map (1901)</b>   | No change to location or extents.  |
| <b>Present condition</b>                           | The field boundary section is formed by a straight earth/stone bank (c.0.8m to 1m high) topped with a well-maintained hedgerow. No surface traces of flanking ditch on either side. Extends for c. 12m into scheme boundary.                                       |
| <b>Figure</b>                                      | Appendix 1: Figure 3   |
| <b>Photograph</b>                                  | Appendix 2: Plate 7  |
| <b>Distance from scheme</b>                        | Extends within boundary  |
| <b>Impact</b>                                      | Direct, slight, negative, permanent  |



|  |   |
|--|---|
| <b>CHS 30</b>                                      | Historic boundary (Skelpstown Stream)   |
| <b>Legal Status</b>                                | None  |
| <b>ITM</b>   | 649129, 617378  |
| <b>Townland</b>                                    | Clonmore and Pollrone   |
| <b>OS Sheet</b>                                    | KK042   |
| <b>1<sup>st</sup> edition 6-inch OS map (1839)</b> | Depicted as a meandering boundary, on west side of local road, between the Civil Parishes of Pollrone and Clonmore and the townlands of Pollrone and Clonmore.  |
| <b>1<sup>st</sup> edition 25 inch map (1901)</b>   | The map shows that the course of the stream has been realigned for approx. 860 m upstream of the bridge / culvert and extends in a straight line along field boundaries to the northwest  |
| <b>Present condition</b>                           | Stream averages 1m wide and the slow-flowing water within the channel was 0.3m deep at the time of inspection. Earth-eroded sides and streambed was covered in silts. No visible traces of any potential cultural heritage features noted within channel during visual appraisal from west bank |
| <b>Figure</b>                                      | Appendix 1: Figure 3  |
| <b>Photograph</b>                                  | Appendix 2: Plate 22  |
| <b>Distance from scheme</b>                        | Extends within boundary   |
| <b>Impact</b>                                      | Direct, slight, negative, permanent   |

### ***Geophysical Survey: Likely Archaeological Sites***

|  |  |
|--|--|
| <b>GP 04-9 &amp; GP 04-10</b>                      | Possible Enclosure   |
| <b>Legal Status</b>                                | None   |
| <b>ITM</b>   | 649009, 617512   |
| <b>Townland</b>                                    | Clonmore and Pollrone  |
| <b>OS Sheet</b>                                    | KK042  |
| <b>1<sup>st</sup> edition 6-inch OS map (1839)</b> | Not depicted   |
| <b>1<sup>st</sup> edition 25 inch map (1901)</b>   | Not depicted   |
| <b>EAG Description</b>                             | 04-9: A curving possible ditch, measuring c. 27.5m N-S. May be related to anomaly 04-10 and could be archaeological or agricultural in origin.<br>04-10: A curving possible ditch, measuring c. 12.7m NE-SW. This runs concentric to anomaly 04-9 and may be related. Possibly archaeological or agricultural in origin. |
| <b>Field Inspection</b>                            | Located within slightly waterlogged area in pasture field, no obvious surface expression observed  |
| <b>Figure</b>                                      | Appendix 1: Figure 8   |
| <b>Photograph</b>                                  | Appendix 2: Plate 24   |
| <b>Distance from scheme</b>                        | Extends within boundary  |
| <b>Potential Impact</b>                            | Direct, significant, negative, permanent   |

|  |   |
|--|---|
| <b>GP 05-5</b>                                     | Possible Enclosure  |
| <b>Legal Status</b>                                | None  |
| <b>ITM</b>   | 649060, 617384  |
| <b>Townland</b>                                    | Clonmore  |
| <b>OS Sheet</b>                                    | KK042   |
| <b>1<sup>st</sup> edition 6-inch OS map (1839)</b> | Not depicted  |
| <b>1<sup>st</sup> edition 25 inch map (1901)</b>   | Not depicted  |
| <b>EAG Description</b>                             | A curving possible ditch or cut feature, measuring c. 16m E-W and of archaeological or agricultural significance. |
| <b>Field Inspection</b>                            | Located within slightly sloping area in pasture field, no visible surface expression observed                     |
| <b>Figure</b>                                      | Appendix 1: Figure 8  |
| <b>Photograph</b>                                  | Appendix 2: Plate 25  |
| <b>Distance from scheme</b>                        | Northern edge extends to scheme boundary  |
| <b>Potential Impact</b>                            | Direct, moderate, negative, permanent   |

|  |   |
|--|---|
| <b>GP 14-14</b>                                    | Possible ring-ditch   |
| <b>Legal Status</b>                                | None  |
| <b>ITM</b>   | 649877, 616812  |
| <b>Townland</b>                                    | Grange  |
| <b>OS Sheet</b>                                    | KK042   |
| <b>1<sup>st</sup> edition 6-inch OS map (1839)</b> | Not depicted  |
| <b>1<sup>st</sup> edition 25 inch map (1901)</b>   | Not depicted  |
| <b>EAG Description</b>                             | A possible ring-ditch or sub-circular enclosure with an outer diameter of c. 6.3m to 7.1m which runs into the field boundary at SE. Contains one possible pit at its centre.  |
| <b>Field Inspection</b>                            | Located within level area adjacent to east boundary of silage field, no surface expression was observed. There is no field drain flanking the boundary and the potential exists that the east end of the site may survive beneath the adjacent field bank |
| <b>Figure</b>                                      | Appendix 1: Figure 9  |
| <b>Photograph</b>                                  | Appendix 2: Plate 10  |
| <b>Distance from scheme</b>                        | Within  |
| <b>Potential Impact</b>                            | Direct, significant, negative, permanent  |

|  |   |
|--|---|
| <b>GP 15-01</b>                                    | Possible ring-ditch or enclosure  |
| <b>Legal Status</b>                                | None  |
| <b>ITM</b>   | 649877, 617787  |
| <b>Townland</b>                                    | Grange  |
| <b>OS Sheet</b>                                    | KK042   |
| <b>1<sup>st</sup> edition 6-inch OS map (1839)</b> | Not depicted  |
| <b>1<sup>st</sup> edition 25 inch map (1901)</b>   | Not depicted  |
| <b>EAG Description</b>                             | A ring-ditch or sub-circular enclosure with an outer diameter of c. 13m to 14m and an opening at S. Contains two possible pits near its centre. |
| <b>Field Inspection</b>                            | Located within level area in silage field and no surface expression was observed  |
| <b>Figure</b>                                      | Appendix 1: Figure 9  |
| <b>Photograph</b>                                  | Appendix 2: Plate 9   |
| <b>Distance from scheme</b>                        | Located c.3.5m outside the south end of the scheme boundary   |
| <b>Potential Impact</b>                            | Indirect, Slight, Negative, Permanent   |

|  |  |
|--|--|
| <b>GP 15-04</b>                                    | Possible ring-ditch  |
| <b>Legal Status</b>                                | None   |
| <b>ITM</b>   | 649889, 617798   |
| <b>Townland</b>                                    | Grange   |
| <b>OS Sheet</b>                                    | KK042  |
| <b>1<sup>st</sup> edition 6-inch OS map (1839)</b> | Not depicted   |
| <b>1<sup>st</sup> edition 25 inch map (1901)</b>   | Not depicted   |
| <b>EAG Description</b>                             | A ring-ditch with an outer diameter of c. 6m to 6.4m and a possible opening at NE. |
| <b>Field Inspection</b>                            | Located within level area in silage field and no surface expression was observed   |
| <b>Figure</b>                                      | Appendix 1: Figure 9   |
| <b>Photograph</b>                                  | Appendix 2: Plate 9  |
| <b>Distance from scheme</b>                        | Within   |
| <b>Potential Impact</b>                            | Direct, significant, negative, permanent   |

|  |  |
|--|--|
| <b>GP 15-05</b>                                    | Possible ring-ditch  |
| <b>Legal Status</b>                                | None   |
| <b>ITM</b>   | 649894, 617811   |
| <b>Townland</b>                                    | Grange   |
| <b>OS Sheet</b>                                    | KK042  |
| <b>1<sup>st</sup> edition 6-inch OS map (1839)</b> | Not depicted   |
| <b>1<sup>st</sup> edition 25 inch map (1901)</b>   | Not depicted   |
| <b>EAG Description</b>                             | The western section of a ring-ditch with a diameter of c. 5.5m. This feature runs into the field boundary at NW.   |
| <b>Field Inspection</b>                            | Located within level area adjacent to west boundary of silage field, no surface expression was observed. There is no field drain flanking the boundary and the potential exists that the northwest end of the site may survive beneath the adjacent field bank |
| <b>Figure</b>                                      | Appendix 1: Figure 9   |
| <b>Photograph</b>                                  | Appendix 2: Plate 9  |
| <b>Distance from scheme</b>                        | Within   |
| <b>Potential Impact</b>                            | Direct, significant, negative, permanent   |

|  |   |
|--|---|
| <b>GP 15-09</b>                                    | Possible ring-ditch or enclosure  |
| <b>Legal Status</b>                                | None  |
| <b>ITM</b>   | 649901, 617802  |
| <b>Townland</b>                                    | Grange  |
| <b>OS Sheet</b>                                    | KK042   |
| <b>1<sup>st</sup> edition 6-inch OS map (1839)</b> | Not depicted  |
| <b>1<sup>st</sup> edition 25 inch map (1901)</b>   | Not depicted  |
| <b>EAG Description</b>                             | A ring-ditch or sub-circular enclosure with an outer diameter of c. 7.9m to 8.5m and has a possible opening at NW. Contains a possible pit near its centre. |
| <b>Field Inspection</b>                            | Located within level area in silage field and no surface expression was observed  |
| <b>Figure</b>                                      | Appendix 1: Figure 9  |
| <b>Photograph</b>                                  | Appendix 2: Plate 9   |
| <b>Distance from scheme</b>                        | Within  |
| <b>Potential Impact</b>                            | Direct, significant, negative, permanent  |

|  |   |
|--|---|
| <b>GP 15-10</b>                                    | Possible enclosure  |
| <b>Legal Status</b>                                | None  |
| <b>ITM</b>   | 649918, 617805  |
| <b>Townland</b>                                    | Grange  |
| <b>OS Sheet</b>                                    | KK042   |
| <b>1<sup>st</sup> edition 6-inch OS map (1839)</b> | Not depicted  |
| <b>1<sup>st</sup> edition 25 inch map (1901)</b>   | Not depicted  |
| <b>EAG Description</b>                             | Segment of an enclosure ditch, measuring c. 5.2m N-S. Probably archaeological and extending beyond the survey area. |
| <b>Field Inspection</b>                            | Located within level area in silage field and no surface expression was observed                                    |
| <b>Figure</b>                                      | Appendix 1: Figure 9  |
| <b>Photograph</b>                                  | Appendix 2: Plate 9   |
| <b>Distance from scheme</b>                        | Southwest end extends 2m-3m into scheme   |
| <b>Potential Impact</b>                            | Direct, Moderate, Negative, Permanent   |



**Appendix 4: N24 Carrick Road Improvement Scheme,  
Co. Kilkenny Route options – archaeological,  
architectural and cultural heritage impact assessment  
report (TII report)**

## N24 Carrick Road Improvement Scheme, Co. Kilkenny

### Route options – archaeological, architectural and cultural heritage impact assessment report

Author: James Eogan, Senior Archaeologist, Transport Infrastructure Ireland

Checked by: Bernice Kelly, Archaeologist, Transport Infrastructure Ireland

Status: Final

Issue date: 05/07/2019

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|   |    |
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## 1. Introduction

Tramore House RDO has been commissioned by Kilkenny County Council to examine options to improve road safety on the N24 Carrick Road which extends northwestwards from the village of Mooncoin for a distance of approximately 2 km (i.e. in the direction of Fiddown and Piltown) (Fig. 1).

TII's Archaeology and Heritage Section was asked to carry out an assessment of the impacts of the route options on the historic environment.

## 2. Proposed development

A corridor (24.7 hectares) was defined within which three route options have been identified. The corridor encompasses the existing N24 road and extends for approximately 2.1 km (northwest – southeast) and is up to 0.21 km wide. A Preliminary Archaeological Assessment Report was prepared in advance of identification of the route options <sup>1</sup>.

Three route options identified are:

| Route   | Description     | Length (km) |
|---------|-----------------|-------------|
| Magenta | Mostly off-line | 2.288       |
| Blue    | Mostly off-line | 1.843       |
| Green   | Mostly on-line  | 1.884       |

## 3. Legislative background

All archaeological monuments listed on the Register of Historic Monuments (RHM), the Record of Monuments and Places (RMP) or the register of national monuments are protected under the National Monuments Acts 1930–2014. A monument—as defined by Section 2 of the Act—includes, in effect, all man-made structures of whatever form or date except buildings habitually used for ecclesiastical purposes. Further definitions of terms such as archaeology, archaeological object, architectural heritage, heritage building, heritage gardens and parks, heritage objects and monuments are provided by the Heritage Act 1995.

Section 12(1) of the National Monuments (Amendment) Act 1994 provided for the establishment of the RMP. Monuments listed in the RMP manual and marked on the RMP maps are known as ‘recorded monuments’. Under Section 12, any works at or in close proximity to such a monument require two months’ notice to the Minister for Culture, Heritage and the Gaeltacht (DCHG).

Under Section 14 of the National Monuments (Amendment) Act 2004, works in the vicinity of a national monument of which the Minister or a local authority are the owners or the guardians, or in respect of which a preservation order is in force, require Ministerial Consent.

The Planning and Development Act 2000-2010 requires that a local authority set up and maintain a Record of Protected Structures which consists of a list of structures that are of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest. Designation confers

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<sup>1</sup> Eogan, J, (Jan-2018) *N24 Carrick Road Improvement Scheme, Co. Kilkenny. Preliminary archaeological assessment report – Route Selection phase.*

protection on land and structures within the curtilage of the Protected Structure. Curtilage is not defined within the legislation but can be taken to include the parcel of land immediately associated with the structure and which is (or was) in use for the purposes of the structure (DoEHLG 2004, 191). In the case of a country house the curtilage may include such features as the stable buildings, coach-house, gate piers, gates, walled garden and lawns, unless they are located at a distance from the main building.

Attendant grounds are defined as lands which lie outside the curtilage of a protected structure, but are intrinsic to its appreciation, function or setting (*ibid.*, 192). The entire demesne of a country house may be considered as attendant grounds, along with any structures/features within it such as follies, plantations, earthworks and lakes. However, structures/features within the attendant grounds are not automatically protected and require specific inclusion in the Record of Protected Structures (*ibid.*).

The Planning and Development Act 2000-2010 also requires that a planning authority include an objective in its development plan to preserve the character of a place, area, group of structures or townscape if it is of the opinion that its inclusion is necessary for the preservation of the character of that area. Such an area is known as an Architectural Conservation Area (ACA) and is defined as a place, area, group of structures or townscape that is of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest or that contributes to the appreciation of a protected structure (Kilkenny County Council 2014, 120).

## 4. Planning Context

The Kilkenny County Development Plan 2014–2020 sets out the Council's objectives in terms of the protection and promotion of built and cultural heritage. The plan states 'Built heritage includes all man-made features, buildings, and structures in the environment. It includes our rich and varied archaeological and architectural heritage<sup>2</sup>'.

### 4.1. Archaeological Heritage

Kilkenny County Council's policies in relation to safeguarding the county's archaeological heritage are set out in Section 8.3.1. Policies, standards and objectives that are of particular relevance to this project are set out below.

Development management standards:

- Endeavour to preserve in situ all archaeological monuments, whether on land or underwater, listed in the Record of Monuments and Places (RMP), and any newly discovered archaeological sites, features, or objects by requiring that archaeological remains are identified and fully considered at the very earliest stages of the development process and that schemes are designed to avoid impacting on the archaeological heritage.
- To require archaeological assessment, surveys, test excavation and/or monitoring for planning applications in areas of archaeological importance if a development proposal is likely to impact upon in-situ archaeological monuments, their setting and archaeological remains.

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<sup>2</sup> [http://www.kilkennycoco.ie/eng/Services/Planning/Development-Plans/Development\\_Plans\\_2014-2020/Adopted-County-Plan-for-printing.pdf](http://www.kilkennycoco.ie/eng/Services/Planning/Development-Plans/Development_Plans_2014-2020/Adopted-County-Plan-for-printing.pdf), pg. 114 – 141. Accessed 26/06/2019.



- Ensure that development within the vicinity of a Recorded Monument is sited and designed appropriately so that it does not seriously detract from the setting of the feature or its zone of archaeological potential. Where upstanding remains of a Recorded Monument exist a visual impact assessment may be required to fully determine the effect of any proposed development.
- Require the retention of surviving medieval plots and street patterns and to facilitate the recording of evidence of ancient boundaries, layouts etc. in the course of development.
- Safeguard the importance of significant archaeological or historic landscapes from developments that would unduly sever or disrupt the relationship, connectivity and/or inter-visibility between sites.

The following policy is relevant to the watercourse named the Skelpstown Stream.

#### 8.3.1.2 Underwater Archaeology

Any development near watercourses, be they freshwater or in marine/coastal areas, should take into account the potential to encounter underwater cultural heritage. Such sites may include sources of underwater cultural heritage such as shipwrecks, fishtraps, fording points, bridges, intertidal kelp grids, etc. as well as artefactual material from an underwater context. ... Any development either above or below water, including to river banks or coastal edges, within the vicinity of a site of archaeological interest shall not be detrimental to the character of the archaeological site or its setting.

Objective 8I: Protect archaeological sites and monuments (including their setting), underwater archaeology, and archaeological objects, including those that are listed in the Record of Monuments and Places, and in the Urban Archaeological Survey of County Kilkenny or newly discovered sub-surface and underwater archaeological remains.

## 4.2. Architectural Heritage

Kilkenny County Council's policies in relation to safeguarding the county's architectural heritage are set out in Section 8.3.5. Policies, standards and objectives that are of particular relevance to this project are set out below.

#### 8.3.5.1 Record of Protected Structures

Protecting architectural heritage is an important function of the planning authority, particularly in a county like Kilkenny where the built heritage has such a strong role to play in ensuring the continued economic prosperity of the place. Each development plan must include policy objectives to protect structures or parts of structures of special interest within its functional area. The primary means of achieving this is to include a Record of Protected Structures (RPS) for the functional area within the development plan. A planning authority is obliged to include in the RPS every structure, which, in its opinion, is of architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest.

A protected structure, unless otherwise stated in the RPS, includes the interior of the structure, land lying within the curtilage, any other structures lying within that curtilage and their interiors, plus all fixtures and features which form a part of the interior or exterior of any of these structures.

Objective 8J: To facilitate and support the implementation of existing (and any further) conservation plans, as resources allow.

Objective 8K: To ensure the protection of the architectural heritage of County Kilkenny by including all structures considered to be of special architectural, historical, archaeological, artistic, cultural, scientific, social or technical interest in the Record of Protected Structures.

Objective 8L: To carry out a review of the Record of Protected Structures.

Objective 8M: To complete digital mapping of the Record of Protected Structures.

Objective 8N: To promote principles of best practice in conservation and the use of appropriate materials and repair techniques through the administration of the Conservation Grants Scheme and the Structures at Risk Fund, funded by the Department of Arts, Heritage and the Gaeltacht.

Objective 8O: To provide assistance to owners of protected structures in undertaking essential repairs and maintenance by the provision of relevant information.

Objective 8P: To respond to the Ministerial recommendation to include in the Record of Protected Structures, structures which have been identified as being of Regional, National or International significance in the National Inventory of Architectural Heritage survey of the city and county published in 2006, and to consider for inclusion those rated of local significance.

The following policy is of general relevance.

#### 8.3.10 The Vernacular Built Heritage

The vernacular built heritage consists of buildings and settlements historically created by local people from local materials and resources to meet local needs following local traditions. The response to the local environment gave rise to construction techniques which vary from region to region, often with great subtlety. This type of building is often undervalued because it does not represent ‘great architecture’ and because of associations with poverty and a perception that the buildings have become obsolete. The value of these buildings lies in the regional distinctiveness and identity that they confer on a place and their importance as an embodiment of the accumulated wisdom and cultural traditions of the people who built and lived in them.

Development Management Standard [relevant standards only]:

- To apply the conservation principles and guidelines in practice as set out in the ICOMOS Charter on the Built Vernacular Heritage (Mexico 1999) when considering proposals to adapt vernacular buildings to meet contemporary living standards and needs.
- To promote the retention and re-use of the vernacular built heritage through increasing public awareness of its potential for re-use and its adaptability to change.

The following policy is of general relevance.

#### 8.4 Cultural Heritage

Cultural heritage includes aspects of heritage such as traditions, practices, knowledge and skills which are an expression of our culture. In Kilkenny our cultural heritage includes oral history, placenames, folklore, local history and sport. It also encompasses features of cultural heritage interest such as mass rocks, mass paths, rag trees and vernacular gates which are locally significant and add to the distinctive character and sense of place of an area. The Council will preserve, protect and where necessary enhance, significant heritage objects such as mass rocks and holy wells and/or other significant cultural features that form part of the cultural heritage of the County.

### 5. Methodology

In accordance with Transport Infrastructure Ireland guidelines a study area was defined for the purposes of identifying and assessing the potential impacts of the proposed project on the historic environment (Fig. 2). The study area was 3 km long (northwest – southeast) and 0.5 km wide and encompasses parts of the townlands of Clonmore, Grange and Pollrone in the civil parishes of Clonmore and Pollrone, in the barony of Iverk (Fig. 3). A preliminary archaeological and architectural heritage impact assessment was undertaken in 2017 and 2018 <sup>3</sup>.

Three route options have been defined, and their anticipated heritage impacts assessed. This is a report of that desk-based assessment. The following sources were consulted:

1. National Monuments Service, Record of Monuments and Places (1996) – manual and maps
2. National Monuments Service, Historic Environment Viewer – map viewer<sup>4</sup>
3. National Monuments Service, list of list of the national monuments in State care, Co. Kilkenny<sup>5</sup>
4. National Inventory of Architectural Heritage<sup>6</sup>
5. Survey of Historic Gardens and Designed Landscapes<sup>7</sup>
6. Kilkenny County Council, Record of Protected Structures – Kilkenny County (2014)<sup>8</sup> and Kilkenny City and Environs & Kilkenny County Record of Protected Structures (18 Additions and 1 Deletion) as ratified by Kilkenny County Council on 19th February 2018 <sup>9</sup>

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<sup>3</sup> Eogan, J, *N24 Carrick Road Improvement Scheme, Co. Kilkenny. Preliminary archaeological assessment report – Route Selection phase* (Jan. 2018).

<sup>4</sup> <http://webgis.archaeology.ie/historicenvironment/>. Accessed 26/06/2019.

<sup>5</sup> <https://www.archaeology.ie/sites/default/files/media/pdf/monuments-in-state-care-kilkenny.pdf>. Accessed 27/06/2019.

<sup>6</sup> <http://www.buildingsofireland.ie/niah/highlights.jsp?county=KK>. Accessed 26/06/2019.

<sup>7</sup> <http://www.buildingsofireland.ie/cgi-bin/viewcounty.cgi?county=10>. Accessed 26/06/2019.

<sup>8</sup> <http://www.kilkennycoco.ie/eng/Services/Planning/Conservation/Kilkenny-County-Rps-2014.pdf>. Accessed 26/06/2019.

<sup>9</sup> <https://www.kilkennycoco.ie/eng/Services/Planning/Conservation/RPS-18-Additions-and-1-Deletion-19th-Feb-2018.pdf>. Accessed 26/06/2019



7. Heritage Maps – map viewer<sup>10</sup>
8. Geological Survey of Ireland Spatial resources – map viewer<sup>11</sup>
9. Environmental Protection Agency, catchments mapping and data<sup>12</sup>

Following completion of the desk-based assessment specific locations and features were inspected from the public road in August 2017 and February 2018. No archaeological walkover has been undertaken of the route options.

## 6. Topography, geology, drainage and landuse

The route options are located in the valley of the River Suir, at an elevation of between 10 m and 30 m OD. The underlying bedrock is classified by the Geological Survey of Ireland as being Carboniferous limestone, the principal bedrock in the study area belongs to the Waulsortian Limestones Formation, though in part of Grange td these are overlain by bedded chert & dark-grey limestone of the Silversprings Formation<sup>13</sup>. This landscape was glaciated and as a result the subsoils within the study area are classified as Devonian Sandstone Tills<sup>14</sup>. Where drainage is poor the soils within the study area are classified as Surface Water Gleys / Ground Water Gleys, however, the better drained areas have soils classified as Acid Brown Earths / Brown Podzolics<sup>15</sup>. The Skelpstown Stream is associated with localised deposits of Alluvial soils<sup>16</sup>.

Apart from those lands drained by the Skelpstown Stream<sup>17</sup>, the lands within the study area drain directly into the Middle Suir Estuary<sup>18</sup>. The Skelpstown Stream rises in a spring just west of Skelpstown village and flows on a southerly course to the River Suir. It is culverted under the existing N24 (CHS-15). On the northern side of the N24 the natural course of the stream appears to have been straightened, originally it may have been co-incident with the Clonmore/Grange townland boundary (see Section 8.2 below).

The land within the study area is subject to a variety of agricultural uses including tillage, grassland and commercial fruit growing, in part of Clonmore.

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<sup>10</sup> <https://www.heritagemaps.ie/WebApps/HeritageMaps/index.html>. Accessed 26/06/2019.

<sup>11</sup> <http://dcenr.maps.arcgis.com/apps/MapSeries/index.html?appid=a30af518e87a4c0ab2fbde2aaac3c228>. Accessed 26/06/2019.

<sup>12</sup> <https://www.catchments.ie/maps/>. Accessed 26/06/2019.

<sup>13</sup> [http://spatial.dcenr.gov.ie/imf/imf.jsp?site=GSI\\_Simple](http://spatial.dcenr.gov.ie/imf/imf.jsp?site=GSI_Simple). Accessed 26/06/2019.

<sup>14</sup> <https://www.heritagemaps.ie/WebApps/HeritageMaps/index.html?extent=-7.3514,52.2840,-7.2264,52.3361>. Accessed 26/06/2019.

<sup>15</sup> <https://www.heritagemaps.ie/WebApps/HeritageMaps/index.html?extent=-7.3514,52.2840,-7.2264,52.3361>. Accessed 26/06/2019.

<sup>16</sup> <https://www.heritagemaps.ie/WebApps/HeritageMaps/index.html?extent=-7.3514,52.2840,-7.2264,52.3361>. Accessed 26/06/2019.

<sup>17</sup> [https://www.catchments.ie/maps/?layer=river&code=IE\\_SE\\_16S040450](https://www.catchments.ie/maps/?layer=river&code=IE_SE_16S040450). Accessed 26/06/2019.

<sup>18</sup> [https://www.catchments.ie/maps/?layer=transitional&code=IE\\_SE\\_100\\_0550](https://www.catchments.ie/maps/?layer=transitional&code=IE_SE_100_0550). Accessed 26/06/2019.

## 7. Placenames, Archaeological and Historical Background

The modern townland names through which the route options run are mostly derive from Irish:

| Townland               | Irish              | Meaning             | Civil Parish | Barony |
|------------------------|--------------------|---------------------|--------------|--------|
| Clonmore <sup>19</sup> | <i>Cluain Mhór</i> | ‘great meadow’      | Clonmore     | Iverk  |
| Grange <sup>20</sup>   | n/a <sup>21</sup>  |                     | Pollrone     | Iverk  |
| Pollrone <sup>22</sup> | <i>Poll Ruáin</i>  | ‘[St.] Ruan’s pool’ | Pollrone     | Iverk  |

The townland names reflect the topography and natural features (Pollrone), associations with historic personages (Pollrone) and historic agricultural practice and land ownership (Clonmore and Grange).

While the N24 is now the principal transport link between Waterford and Carrick-on-Suir, until the late 17th century the easiest and probably most frequent mode of travel was by boat along the River Suir. The main route for road traffic, as depicted on Petty’s ‘A General Mapp of Ireland’ (1689), was by road west from Waterford, following the valley of the Clodiagh River and then northwards to Carrick-on-Suir via Mothel<sup>23</sup>.

## 8. Description of the archaeological, architectural and cultural heritage of the area

As noted above some of the townland names through which the route options run reflect past agricultural practice and land ownership. However, there are few upstanding archaeological remains in the landscape, probably due to many centuries of agricultural activity, particularly ploughing associated with tillage. There are three archaeological monuments listed on the Sites and Monuments Record within 0.5 km of the route options<sup>24</sup>. These are all located in Clonmore and are associated with ecclesiastical activity. The overgrown remains of the late medieval parish church dedicated to St. Canice (CHS-01, KK042-006001) and associated graveyard (CHS-02, KK042-006002) are approximately 440 m southwest of the nearest point on the route options. The site of a holy well (CHS-03, KK042-007), also dedicated to St Canice, is located approximately 335 m southwest of the southwest of the nearest point on the route options.

According to Carrigan, Clonmore was the centre of an Episcopal manor (comprising the townlands of Clonmore and Killanaspick, as well as lands in the townlands of Filbuckstown, Waddingstown, Ballinalough and Rathkieran<sup>25</sup>), from the 13th to at least the late 15th century. Carrigan notes that there was a manor in Pollrone in the mid-14th century<sup>26</sup>. The manorial centre was probably located outside the study area close to Pollrone Church. There are no records of contemporary archaeological remains within the study area in Pollrone. As noted above, the townland name ‘Grange’ indicates the probability

<sup>19</sup> <https://www.logainm.ie/1277.aspx>. Accessed 26/06/2019.

<sup>20</sup> <https://www.logainm.ie/27669.aspx>. Accessed 26/06/2019.

<sup>21</sup> The placename suggests the likelihood that this townland was the outlying farm of a late medieval monastic institution, worked by lay brothers

<sup>22</sup> <https://www.logainm.ie/26488.aspx>. Accessed 26/06/2019.

<sup>23</sup> <http://downsurvey.tcd.ie/down-survey-maps.php>. Accessed 10/04/2017.

<sup>24</sup> <http://webgis.archaeology.ie/NationalMonuments/FlexViewer/>. Accessed 26/06/2019.

<sup>25</sup> W. Carrigan, 1905 *The History And Antiquities of the Diocese of Ossory*, Vol. 4, pg. 147 – 8

<sup>26</sup> W. Carrigan, 1905 *The History And Antiquities of the Diocese of Ossory*, Vol. 4, pg. 149 – 51

that this townland was an outlying farm of a late medieval monastic institution, worked by lay brothers. No information has been found to identify which monastic institution this might have been.

### 8.1. Evidence for the historic environment from cartographic sources

This part of county Kilkenny is depicted on a number of maps from the 17th century onwards. The 17th and 18th maps are generally at a large scale and do not depict much detail. The Ordnance Survey carried out detailed surveys in the 19th century which led to the production of maps at scales of six inches and 25 inches to the mile, these maps provide a great deal of detail of the landscape, landuse and settlement of the study area.

Neither the present N24 road nor Mooncoin village are depicted on the Down Survey maps (1656) or on Herman Moll's *New Map of Ireland* (1714)<sup>27</sup>. However, the road is shown as the route from Waterford to Carrick-on-Suir by Taylor and Skinner in their volume of *Maps of the Roads of Ireland* (1777)<sup>28</sup>. Clonmore is named on this map, however, the name seems to be applied to the Clonmore House landed estate; on this map Mooncoin is not named as a settlement. The depiction of the route on the Taylor & Skinner map suggests that the straight stretch of the Mooncoin to Carrick-on-Suir road between Clonmore Cross and the culvert (CHS-13) was constructed post-1777.

### 8.2. Previous archaeological excavations

The Database of Irish Excavation Reports<sup>29</sup> was searched. The only excavation identified that was carried out in proximity to the route options was test excavation (CHS-09) conducted to investigate a curving field boundary in advance of construction of the N25 Piltown to Fiddown Bypass in Clonmore. This excavation did not uncover any features of archaeological significance<sup>30</sup>. The site of the test excavation is located approximately 135 m northwest of the western end of the Magenta Route option.

### 8.3. Culturally and historically significant boundaries

One section of a boundary between two civil parishes and seven sections of boundaries between townlands are crossed by the route options. The boundaries of the civil parishes probably originated in the late medieval period, some townland boundaries may have originated in the early medieval period.

#### Parish boundaries

| Boundary               | Description  |
|------------------------|--|
| Clonmore with Pollrone | South of the existing N24: The boundary is formed by the Skelpstown Stream.<br>North of existing N24: Hedgerow along west side of local road. The curving alignment of the road and hedgerow suggests that originally the Skelpstown Stream may have flowed to the east of its current course. |

<sup>27</sup> 'Appendix 9' in P. O'Keeffe and T. Simington *Irish Stone Bridges History and Heritage* (revised edition) 2016

<sup>28</sup> G. Taylor and A. Skinner (1877) *Maps of the Roads of Ireland*, map no. 63.

<http://www.askaboutireland.ie/reading-room/digital-book-collection/digital-books-by-subject/geography-of-ireland/taylor-skinner-maps-of-th/>. Accessed 26/06/2019.

<sup>29</sup> <http://www.excavations.ie/>. Accessed 26/06/2019.

<sup>30</sup> Excavation licence no. 00E0292 <http://www.excavations.ie/report/2000/Kilkenny/0005350/>, located at ITM 648371 618177. Accessed 26/06/2019.



## Townland boundaries

| Boundary                 | Description  |
|--------------------------|--|
| Clonmore with Grange †   | A hedgerow along west side of local road. The curving alignment of the road and hedgerow suggests that originally the Skelpstown Stream may have flowed to the east of its current course. |
| Clonmore with Pollrone † | The boundary is formed by the Skelpstown Stream.   |
| Grange with Pollrone     | The boundary runs eastwards from Clonmore along the centreline of the existing N24 until it turns northwards where it is formed by a field boundary (earthen bank and hedgerow).           |

† – Coincides with the Clonmore / Pollrone parish boundary

#### 8.4. Architectural Heritage

The 19th century St. Kieran's Church and the adjacent former Presentation Convent are located in the village of Mooncoin, approximately 275 m east of the eastern end of the route options. These structures are listed in the Co. Kilkenny Record of Protected Structures<sup>31</sup> and on the National Inventory of Architectural Heritage (NIAH)<sup>32</sup>. Approximately 305 m southwest of the route options in Clonmore, at the western end of the scheme, the gates (CHS-05) and gate lodge (CHS-04) associated with Clonmore House are also listed on the NIAH. There are no recorded historic gardens or designed landscapes impacted by any of the route options<sup>33</sup>.

#### 8.5. Roadside Memorial

A roadside memorial (CHS-27) is located on the northern side of the N24 in Clonmore along a straight stretch of road. It commemorates the death of Linda Holden of Clonmore, Mooncoin, who died as a result of a road traffic accident on 04/03/1991.

### 9. Route Option Impact Assessments

None of the route options impact on any site or structure listed on the statutory Record of Monuments and Places or the Kilkenny County Council Record of Protected Structures, nor do they impact on any site or structure listed on the non-statutory Sites and Monuments Record or the National Inventory of Architectural Heritage.

The following tables list the impacts that the route options have on identified sites of heritage value.

<sup>31</sup> <http://www.kilkennycoco.ie/eng/Services/Planning/Conservation/Kilkenny-County-Rps-2014.pdf>. Accessed 26/06/2019.

<sup>32</sup> <http://www.buildingsofireland.ie/niah/highlights.jsp?county=KK>. Accessed 26/06/2019.

<sup>33</sup> <http://www.buildingsofireland.ie/cgi-bin/viewcounty.cgi?county=10>. Accessed 26/06/2019.

Table 9.1 Magenta Route Option – total length 2.288 km

| CHS no. | RMP / NIAH no. | Townland | Class                            | Description  | ITM E  | ITM N  | Type of impact |
|---------|----------------|----------|----------------------------------|--|--------|--------|----------------|
| CHS-10  | n/a            | Clonmore | Buildings (site of)              | Demolished, occupied by the realigned N24 and an access road to dwelling and lands.  | 648588 | 617887 | Direct         |
| CHS-12  | n/a            | Clonmore | Building (site of)               | Demolished, occupied by a modern dwelling and outbuildings. Elements of the easternmost building depicted on the historic mapping may be incorporated in one of the outbuildings.                    | 648703 | 617791 | Direct         |
| CHS-13  | n/a            | Clonmore | Buildings (site of)              | Demolished, occupied by the realigned N24 Clonmore Cross junction.   | 648694 | 617765 | Direct         |
| CHS-19  | n/a            | Pollrone | Building and buildings (site of) | Demolished, occupied by a dwelling house and a ruined stone-built building to the east. Map regression analysis suggests that this may be the easternmost building depicted on the historic mapping. | 650070 | 616554 | Direct         |

| CHS no. | RMP / NIAH no. | Townland            | Class             | Description   | ITM E  | ITM N  | Type of impact |
|---------|----------------|---------------------|-------------------|---|--------|--------|----------------|
| CHS-27  | n/a            | Clonmore            | Memorial          | Roadside memorial on the north side of the N24, comprising a polished stone headstone on a cut limestone plinth erected in front of a rendered and painted concrete wall with painted concrete coping. It commemorates Linda Holden of Clonmore, Mooncoin, who died as a result of a road traffic accident on 04/03/1991. | 648900 | 617586 | Direct         |
| CHS-28  | n/a            | Clonmore and Grange | Historic boundary | Hedgerow along local road.  | 649137 | 617472 | Direct         |
| CHS-29  | n/a            | Grange and Pollrone | Historic boundary | N24 and field boundary (earthen bank and hedgerow).   | 649960 | 616671 | Direct         |

Table 9.2 Blue Route Option – total length 1.884 km

| CHS no. | RMP / NIAH no. | Townland            | Class                            | Description   | ITM E  | ITM N  | Type of impact |
|---------|----------------|---------------------|----------------------------------|---|--------|--------|----------------|
| CHS-15  |                | Clonmore            | Bridge / culvert                 | The route is a minimum distance of approximately 5 m upstream from the upstream headwall the culvert.   | 649162 | 617310 | Indirect       |
| CHS-19  |                | Pollrone            | Building and buildings (site of) | Demolished, occupied by a dwelling house and a ruined stone-built building to the east. Map regression analysis suggests that this may be the easternmost building depicted on the historic mapping.  | 650070 | 616554 | Direct         |
| CHS-27  |                | Clonmore            | Memorial                         | Roadside memorial on the north side of the N24, comprising a polished stone headstone on a cut limestone plinth erected in front of a rendered and painted concrete wall with painted concrete coping. It commemorates Linda Holden of Clonmore, Mooncoin, who died as a result of a road traffic accident on 04/03/1991. | 648900 | 617586 | Direct         |
| CHS-28  |                | Clonmore and Grange | Historic boundary                | Hedgerow along local road.  | 649147 | 617372 | Direct         |
| CHS-29  |                | Grange and Pollrone | Historic boundary                | N24 and field boundary (earthen bank and hedgerow).   | 649960 | 616671 | Direct         |



Table 9.3 Green Route Option – total length 1.843 km

| CHS no. | RMP / NIAH no. | Townland | Class                            | Description  | ITM E  | ITM N  | Type of impact |
|---------|----------------|----------|----------------------------------|--|--------|--------|----------------|
| CHS-15  |                | Clonmore | Bridge / culvert                 | The culvert has a concrete parapet on its upstream side, this appears to be built over a masonry headwall. The downstream side could not be inspected.   | 649162 | 617310 | Direct         |
| CHS-16  |                | Pollrone | Buildings                        | A derelict single-storey stone-built building located on the north side of the existing N24. Map regression analysis suggests that this is likely to be the building depicted on the historic mapping                                | 649199 | 617284 | Direct         |
| CHS-17  |                | Pollrone | Buildings (site of)              | A derelict single storey stone-built building which map regression analysis suggested was the the fourth building depicted on the historic mapping stood in field to the west of a modern dwelling. It has recently been demolished. | 649201 | 617253 | Direct         |
| CHS-19  |                | Pollrone | Building and buildings (site of) | Demolished, occupied by a dwelling house and a ruined stone-built building to the east. Map regression analysis suggests that this may be the easternmost building depicted on the historic mapping.                                 | 650070 | 616554 | Direct         |

| CHS no. | RMP /<br>NIAH<br>no. | Townland              | Class             | Description   | ITM E            | ITM N            | Type of<br>impact |
|---------|----------------------|-----------------------|-------------------|---|------------------|------------------|-------------------|
| CHS-27  |                      | Clonmore              | Memorial          | Roadside memorial on the north side of the N24, comprising a polished stone headstone on a cut limestone plinth erected in front of a rendered and painted concrete wall with painted concrete coping. It commemorates Linda Holden of Clonmore, Mooncoin, who died as a result of a road traffic accident on 04/03/1991. | 648900           | 617586           | Direct            |
| CHS-28  |                      | Clonmore and Grange   | Historic boundary | Hedgerow along local road.  | 649161           | 617321           | Direct            |
| CHS-29  |                      | Grange and Pollrone   | Historic boundary | N24 road centreline. The Green Route impacts on two segments of this townland boundary.   | 649282<br>649524 | 617207<br>617052 | Direct            |
| CHS-29  |                      | Grange and Pollrone   | Historic boundary | N24 and field boundary (earthen bank and hedgerow).   | 649960           | 616671           | Direct            |
| CHS-30  |                      | Clonmore and Pollrone | Historic boundary | Stream.   |                  |                  | Direct            |

## 10. Comparison of Route Options

This assessment of the three route options has identified and characterised their anticipated impact on identifiable elements of the historic environment i.e. the archaeological, architectural and cultural heritage.

Table 10.1 Comparison of route options

| CHS no.                       | RMP / NIAH no. | Townland              | Class                            | Magenta | Blue     | Green                 |
|-------------------------------|----------------|-----------------------|----------------------------------|---------|----------|-----------------------|
| CHS-10                        |                | Clonmore              | Buildings (site of)              | Direct  |          |                       |
| CHS-12                        |                | Clonmore              | Building (site of)               | Direct  |          |                       |
| CHS-13                        |                | Clonmore              | Buildings (site of)              | Direct  |          |                       |
| CHS-15                        |                | Clonmore              | Bridge / culvert                 |         | Indirect | Direct                |
| CHS-16                        |                | Pollrone              | Buildings                        |         |          | Direct                |
| CHS-17                        |                | Pollrone              | Buildings (site of)              |         |          | Direct                |
| CHS-19                        |                | Pollrone              | Building and buildings (site of) | Direct  | Direct   | Direct                |
| CHS-27                        |                | Clonmore              | Memorial                         | Direct  | Direct   | Direct                |
| CHS-28                        |                | Clonmore and Grange   | Historic boundary                | Yes     | Yes      | Yes                   |
| CHS-29                        |                | Grange and Pollrone   | Historic boundary                | Yes     | Yes      | Yes (3 no. locations) |
| CHS-30                        |                | Clonmore and Pollrone | Historic boundary                |         |          | Yes                   |
| Direct impacts                |                |                       |                                  | 5       | 2        | 5                     |
| Indirect impacts              |                |                       |                                  | 0       | 1        | 0                     |
| Impact on historic boundaries |                |                       |                                  | 2       | 2        | 5                     |

### 10.1. Impacted Sites with Statutory Protection

None of the route options impact on archaeological sites which have been designated National Monuments, have been entered on the Register of Historic Monuments or are listed in the Record of Monuments and Places.

None of the route options impact on buildings or structures that are listed in the County Kilkenny Record of Protected Structures.

### 10.2. Impacted Sites Included in Non-Statutory Listings

None of the route options impact on archaeological sites listed in the Sites and Monuments Record (SMR).

None of the route options impact on buildings or structures listed in the National Inventory of Architectural Heritage (NIAH).

### 10.3. Direct Impacts

Five Direct impacts from the Magenta Route option have been identified. These impacts are on four sites of buildings depicted on the historic mapping CHS-10, CHS-12, CHS-13 and CHS-19. It is likely that a derelict stone building at CHS-19 is the upstanding remains of one of the buildings depicted on

the historic mapping. The fifth direct impact is on a roadside memorial which commemorates the place of death of a victim of a road traffic accident in 1991 (CHS-27).

Two direct impacts from the Blue Route option have been identified. One of these impacts is on the site of buildings depicted on the historic mapping (CHS-19). It is likely that a derelict stone building at CHS-19 is the upstanding remains of one of the buildings depicted on the historic mapping. The second direct impact is on a roadside memorial which commemorates the place of death of a victim of a road traffic accident in 1991 (CHS-27).

Five Direct impacts from the Green Route option have been identified. These impacts are on the culvert which carried a stream under the existing N24 (CHS-15). A masonry building depicted on the historic mapping (CHS-16) will also be directly impacted. Two locations of groups of buildings depicted on the historic mapping will be impacted (CHS-17 and CHS-19). It is likely that a derelict stone building at CHS-19 is the upstanding remains of one of the buildings depicted on the historic mapping. The fifth direct impact is on a roadside memorial which commemorates the place of death of a victim of a road traffic accident in 1991 (CHS-27).

#### **10.4. Direct Impacts on Historic Boundaries**

All route options impact on a section of the historic boundary between the Civil Parishes of Clonmore and Pollrone (CHS-28 and CHS-30).

All the route options impact on a section of the historic boundary between the townlands of Grange and Pollrone (CHS-29).

The Magenta Route option also impacts on a section of the historic boundary (CHS-28) between the townlands of Clonmore and Grange.

The Blue Route option also impacts on a section of the historic boundary (CHS-28) between the townlands of Clonmore and Grange.

The Green Route option also impacts on the historic boundary (CHS-30) between Clonmore and Pollrone as well as two additional sections of the Grange and Pollrone townland boundary (CHS-29) where it runs along the existing N24.

#### **10.5. Indirect Impacts**

The southern extents of the Blue Route option comes within 5 m of the headwall of the culvert through which the Skelpstown Stream flows under the existing N24 (CHS-15). Cartographic evidence indicates that a culvert has been located here since at least the late-1830s.

No other indirect impacts have been identified.

### **11. Conclusion**

Comparison of the three route options indicates that the Green Route option is the least preferred option, this is for the following reasons;

1. it has the greatest number of impacts on identified heritage sites



2. one of the impacts (and possibly a second) is on an upstanding derelict masonry building which map regression analysis suggests is a building depicted on the historic mapping (1st edition OS 6-inch survey) of the area.
3. it has the greatest impact on historic boundaries, impacting three of them at five separate locations.

A count of direct impacts would suggest that the Blue Route should be assessed as having a lesser impact than the Magenta Route (two direct impacts from the Blue Route, versus five direct impacts from the Magenta Route), however, both routes have the same impact on CHS-19 and CHS-27 and the additional impacts from the Magenta Route are on the sites of buildings depicted on the historic mapping which have been demolished.

Table 11.1 Ranking of route options based on their impacts on the historic environment

|                 |                  |
|-----------------|------------------|
| Least preferred | Green            |
| Most preferred  | Magenta and Blue |

## 12. Recommendations

Once the preferred route is identified further work will have to be carried out to refine the assessment of its impact on the historic environment and so that appropriate mitigation measures can be designed for individual sites.

1. A more detailed assessment of the potential impacts on the archaeological, architectural and cultural heritage will be carried out once a detailed scheme design is available and specific mitigation proposals will be developed in accordance with the relevant TII Guidelines.
2. Impacts on identified archaeological, architectural and cultural heritage sites should be minimised. If impacts cannot be avoided a strategy for mitigation of the impacts should be drawn up in accordance with TII standards and guidelines.
3. Once the preferred route has been identified a geophysical survey should be commissioned to identify locations containing sub-surface archaeological remains.
4. Subject to planning approval, pre-construction archaeological assessment of land acquired for road construction should be carried out in accordance with TII archaeological standards.

## Figures



Fig. 1 Scheme location.

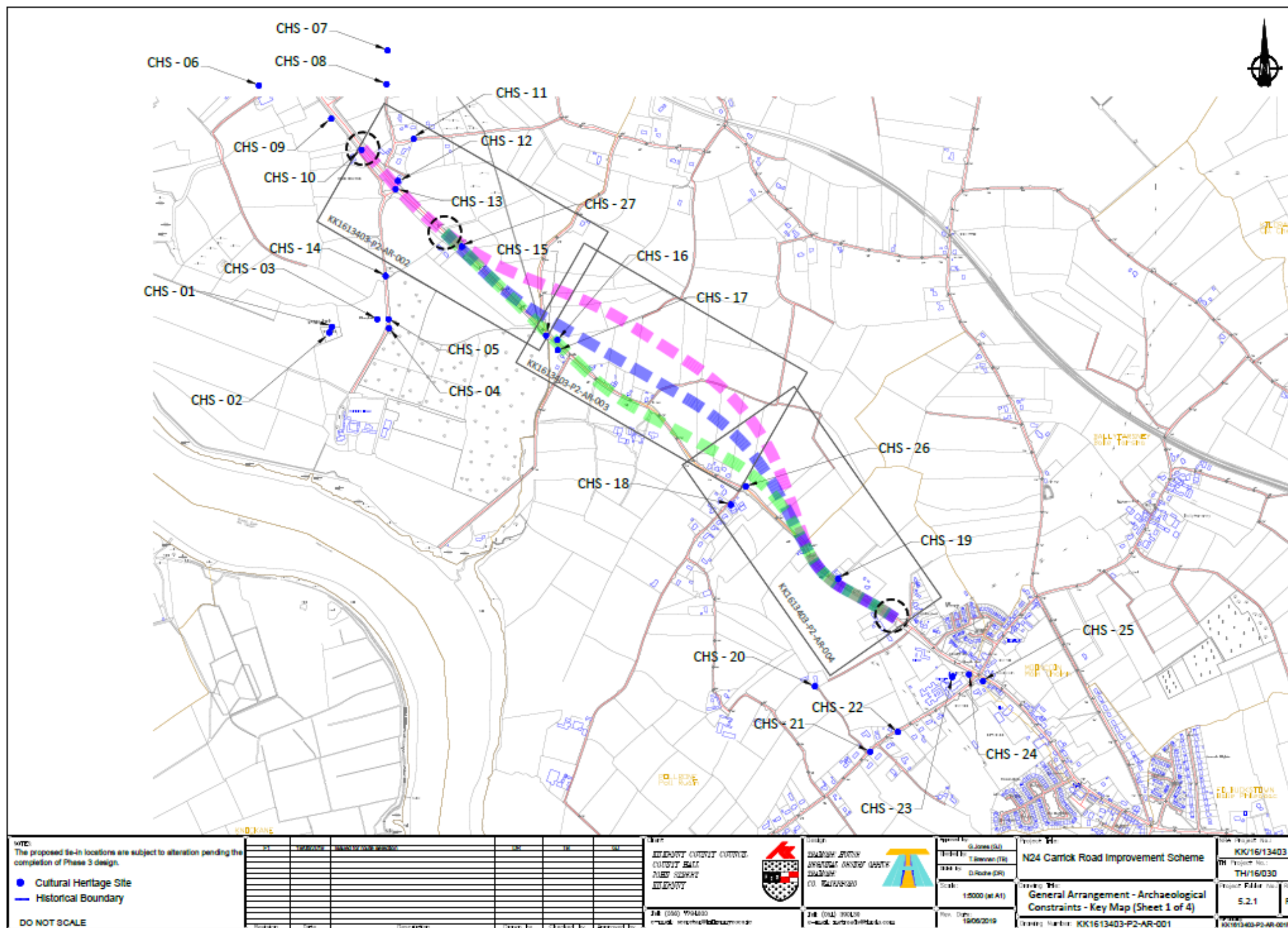


Fig. 2 Extent of route options. Locations of heritage sites identified in this and the previous assessment indicated.



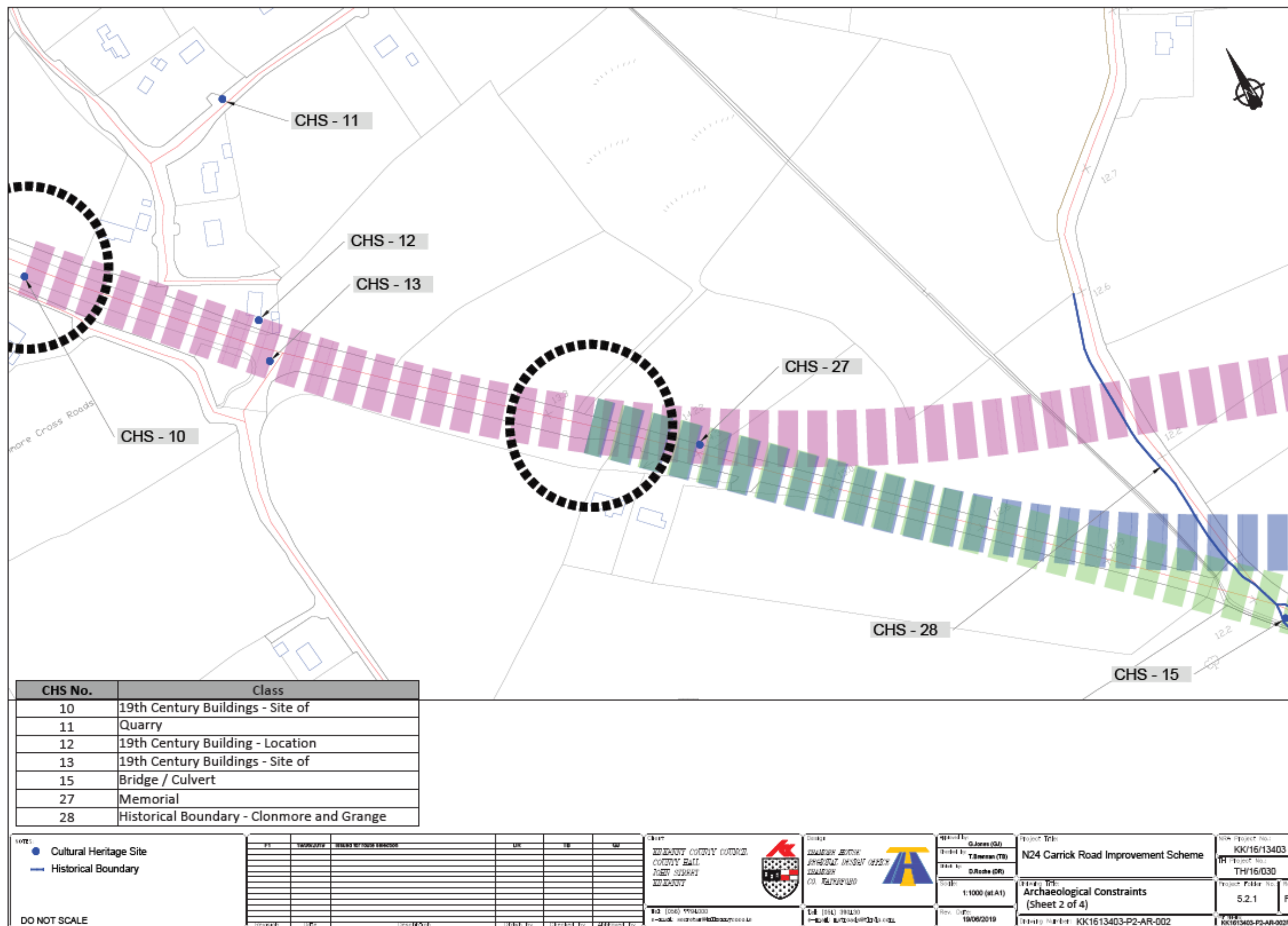


Fig. 3 Route options – western end of project. Locations of heritage sites identified in this and the previous assessment indicated..



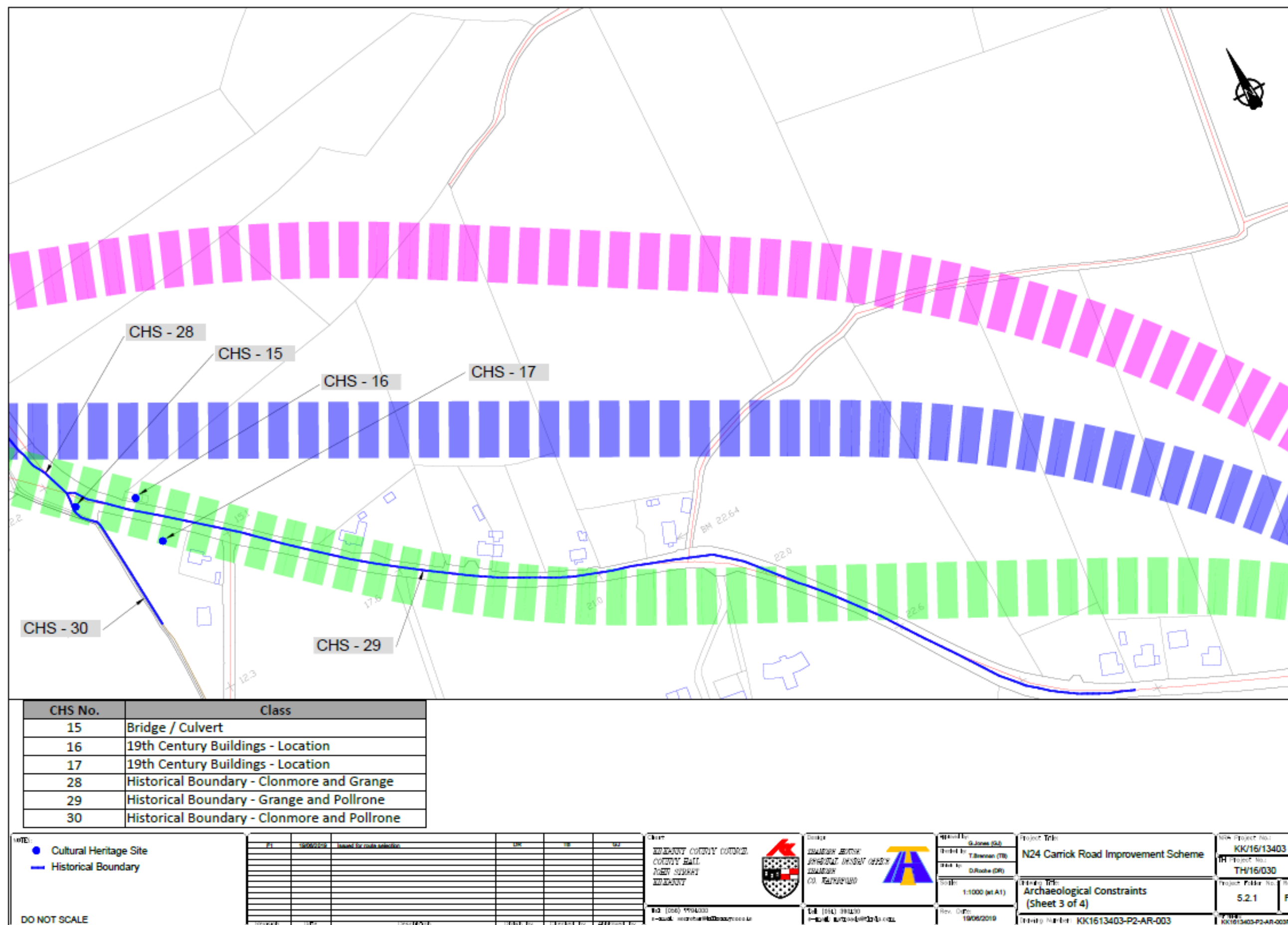


Fig. 4 Route options – middle portion of project. Locations of heritage sites identified in this and the previous assessment indicated.

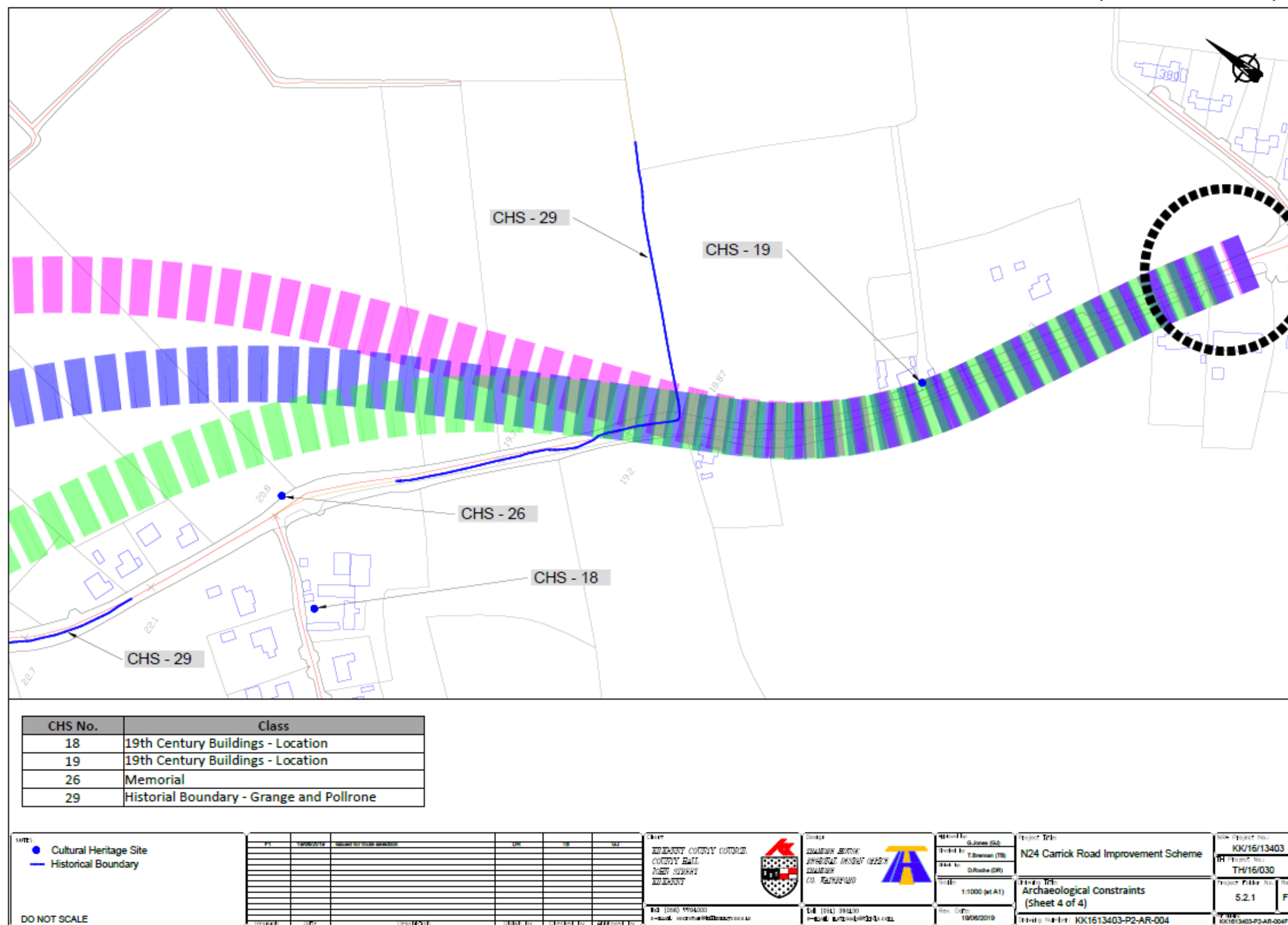


Fig. 5 Route options – eastern end of project. Locations of heritage sites identified in this and the previous assessment indicated.



## Plates



Pl. 1 Clonmore, Looking east along the Green and Blue Route options.



Pl. 2 Lands at Clonmore, looking northeast, along the Magenta Route option.



Pl. 3 Lands at Clonmore, looking northwest, along the Green, Blue and Magenta Route options.



Pl. 4 Lands at Clonmore, looking southwest, along the Magenta Route option.



Pl. 5 The Skelpstown Stream in Clonmore, taken from CHS-15 looking north, where it is crossed by the Blue Route. CHS-28 is visible to the right.



Pl. 6 Lands at Grange, looking east along the Magenta Route.





Pl. 7 Lands at Grange, looking northeast along the Magenta Route.



Pl. 8 Lands at Grange, looking southeast along the Blue Route.



Pl. 9 Lands at Grange, looking north, across the Magenta, Blue and Green Route options.



Pl. 10 Lands at Grange, looking northwest along the Magenta, Blue and Green route options.



Pl. 11 CHS-12 from south.



Pl. 12 CHS-16 from east.





Pl. 13 CHS-17 from north.



Pl. 14 CHS-19 from south.



Pl. 15 CHS-27 from south.



Pl. 16 CHS-28 from east.

## Catalogue of Cultural Heritage Sites (CHS)

Lists all sites that have been assigned a CHS number during the course of the preliminary archaeological assessment and route option impact assessment

| CHS no. | RMP / NIAH no. | Townland | Class                    | 1st edition 6 inch map (1839)  | 1st edition 25 inch map (1901)  | Present condition <sup>34</sup>        | ITM E  | ITM N  | Route Option Impacts |      |       |
|---------|----------------|----------|--------------------------|--|---|--|--------|--------|----------------------|------|-------|
|         |                |          |                          |  |   |  |        |        | Magenta              | Blue | Green |
| CHS-01  | KK042-006001-  | Clonmore | Church                   | Labelled 'Clonmore Church (in ruins)'.   | Labelled 'Clonmore Church (in ruins)'.  | Upstanding.                            | 648496 | 617337 | None                 | None | None  |
| CHS-02  | KK042-006002-  | Clonmore | Graveyard                | Labelled 'Grave Yard'.   | Labelled 'Grave Yard'.  | Upstanding.                            | 648488 | 617319 | None                 | None | None  |
| CHS-03  | KK042-007----  | Clonmore | Ritual site - holy well  | Labelled 'Toberaghcanice'.   | Labelled 'Toberaghcanice', drain depicted flowing southwest from well past graveyard.           | Pasture field.                         | 648637 | 617361 | None                 | None | None  |
| CHS-04  | NIAH 12404221  | Clonmore | Gate lodge               | A long rectangular building is depicted on the northside of a T-junction between the Clonmore Cross to Clonmore road and a road extending eastwards. | The present gate lodge building is depicted on the east side of the driveway of Clonmore House. | Upstanding.                            | 648673 | 617333 | None                 | None | None  |
| CHS-05  | NIAH 12404222  | Clonmore | Gates / railings / walls | No gateway is depicted.  | The location of the gateway is indicated, though the gateway itself is not depicted..           | Upstanding.                            | 648672 | 617361 | None                 | None | None  |
| CHS-06  | n/a            | Clonmore | Settlement               | Nucleated settlement labelled 'Clonmore'.  | Nucleated settlement labelled 'Riverquarter'.   | Riverquarter village.                  | 648269 | 618087 | None                 | None | None  |
| CHS-07  | n/a            | Clonmore | Settlement               | Nucleated settlement labelled 'Skelpstown'.  | Nucleated settlement labelled 'Skelpstown'.   | Skelpstown village.                    | 648669 | 618196 | None                 | None | None  |
| CHS-08  | n/a            | Clonmore | Building & limekiln      | A single rectangular building is depicted in an triangular enclosure, a limekiln is depicted at the southwest corner of the building                 | The enclosure is depicted at this location, but no structures are shown.                        | Occupied by the Skelpstown Access Road | 648666 | 618091 | None                 | None | None  |

<sup>34</sup> Ascertained from examination of OSI aerial photographs, satellite imagery (i.e. Digital Globe, Bing and Google Maps), Google Street View and inspection from the public road

| CHS no. | RMP / NIAH no. | Townland | Class     | 1st edition 6 inch map (1839)   | 1st edition 25 inch map (1901)   | Present condition <sup>34</sup>   | ITM E  | ITM N  | Route Option Impacts |      |       |
|---------|----------------|----------|-----------|---|--|---|--------|--------|----------------------|------|-------|
|         |                |          |           |   |  |   |        |        | Magenta              | Blue | Green |
| CHS-09  | n/a            | Clonmore | Building  | A single rectangular building within a sub-rectangular enclosure on the south side of the Mooncoin to Piltown road (N24). The building does not face directly onto the road.                                | A small rectangular field is depicted at this location, but no structures are shown.   | Agricultural land.  | 648494 | 617984 | None                 | None | None  |
| CHS-10  | n/a            | Clonmore | Buildings | A cluster of three or four small buildings on the south side of the Mooncoin to Piltown road (N24). The buildings face directly onto the road.  | The two easternmost buildings have been demolished and replaced by two buildings set back from the roadside.                   | Demolished, occupied by the realigned N24 and an access road to dwelling and lands.   | 648588 | 617887 | Direct               | None | None  |
| CHS-11  | n/a            | Clonmore | Quarry    | Quarry (rock) depicted extending through two fields along north side of the roadway leading to Grange village.  | Depicted, labelled 'Quarry (disused)'.   | Occupied by gardens associated with dwelling houses.  | 648750 | 617921 | None                 | None | None  |
| CHS-12  | n/a            | Clonmore | Building  | A single rectangular building within a triangular enclosure on the north side of the Mooncoin to Piltown road (N24), immediately east of Clonmore Cross. The building does not face directly onto the road. | A second smaller building has been constructed at the east end of the plot, its gable faces onto the Mooncoin to Piltown road. | Demolished, occupied by a modern dwelling and outbuildings. Elements of the easternmost building depicted on the historic mapping may be incorporated in one of the outbuildings. | 648703 | 617791 | Direct               | None | None  |

| CHS no. | RMP / NIAH no. | Townland | Class            | 1st edition 6 inch map (1839)   | 1st edition 25 inch map (1901)   | Present condition <sup>34</sup>   | ITM E  | ITM N  | Route Option Impacts |          |        |
|---------|----------------|----------|------------------|---|--|---|--------|--------|----------------------|----------|--------|
|         |                |          |                  |   |  |   |        |        | Magenta              | Blue     | Green  |
| CHS-13  | n/a            | Clonmore | Buildings        | Two buildings within an elongated sub-rectangular plot on the south side of the Mooncoin to Piltown road (N24), the plot extends southwest to the Clonmore Cross to Clonmore road. The larger of the buildings is rectangular and faces directly onto the Mooncoin to Piltown road. The smaller building has a square plan and is set back from the road. | The linear plot has been combined with a triangular field to the west to create a larger triangular plot. Three buildings (one of which may incorporate the rectangular building depicted on the 6" survey) are grouped around a courtyard open to the east and accessed off the Mooncoin to Piltown road. | Demolished, occupied by the realigned N24 Clonmore Cross junction.  | 648694 | 617765 | Direct               | None     | None   |
| CHS-14  | n/a            | Clonmore | Building         | A single rectangular building is depicted on the west side of the road leading to Clonmore Church and Grave Yard.   | No building depicted at this location.   | Agricultural land.  | 648663 | 617495 | None                 | None     | None   |
| CHS-15  | n/a            | Clonmore | Bridge / culvert | The Mooncoin to Piltown road (N24) is depicted crossing an unnamed stream, which rises in a spring just west of Skelpstown village. The natural course of the stream appears to have been altered so that the road crosses it at right angles.  | The map shows that the course of the stream has been realigned for approx.. 860 m upstream of the bridge / culvert. It is not clear if any alteration was made to the bridge / culvert.  | The N24 crosses the stream at the same location. The culvert has a concrete parapet on its upstream side, this appears to be built over a masonry headwall. The downstream side was overgrown and could not be inspected. | 649162 | 617310 | None                 | Indirect | Direct |



| CHS no. | RMP / NIAH no. | Townland | Class     | 1st edition 6 inch map (1839)   | 1st edition 25 inch map (1901)   | Present condition <sup>34</sup>   | ITM E  | ITM N  | Route Option Impacts |      |        |
|---------|----------------|----------|-----------|---|--|---|--------|--------|----------------------|------|--------|
|         |                |          |           |   |  |   |        |        | Magenta              | Blue | Green  |
| CHS-16  | n/a            | Pollrone | Buildings | A cluster of three small buildings on the north side of the Mooncoin to Piltown road (N24). The buildings face directly onto the road.  | The two easternmost buildings have been demolished.  | A derelict single-storey stone-built building located on the north side of the existing N24. Map regression analysis suggests that this is likely to be the building depicted on the historic mapping   | 649199 | 617284 | None                 | None | Direct |
| CHS-17  | n/a            | Pollrone | Buildings | A cluster of four buildings on the south side of the Mooncoin to Piltown road (N24) in a triangular enclosure. One building faces directly onto the road, parallel to it. Two buildings extend perpendicular from the roadside. A fourth building is located at the back of the plot. | The two buildings perpendicular to the Mooncoin to Piltown road (N24) have been combined.        | A derelict single storey stone-built building which map regression analysis suggested was the fourth building depicted on the historic mapping stood in field to the west of a modern dwelling. It has recently been demolished. A tubular metal gate indicates the former access on the road side. | 649201 | 617253 | None                 | None | Direct |
| CHS-18  | n/a            | Pollrone | Buildings | Two buildings located on the east side of a side road extending southwest from the Mooncoin to Piltown road (N24). One of them is L-shaped, they are arranged around a courtyard open to the northwest (i.e. facing the road).  | A building has been added to the rear (southeast) of the buildings grouped around the courtyard. | Occupied by a farmhouse and outbuildings grouped around a courtyard.  | 649737 | 616784 | None                 | None | None   |

| CHS no. | RMP / NIAH no. | Townland | Class     | 1st edition 6 inch map (1839)   | 1st edition 25 inch map (1901)   | Present condition <sup>34</sup>  | ITM E  | ITM N  | Route Option Impacts |        |        |
|---------|----------------|----------|-----------|---|--|--|--------|--------|----------------------|--------|--------|
|         |                |          |           |   |  |  |        |        | Magenta              | Blue   | Green  |
| CHS-19  | n/a            | Pollrone | Buildings | Three buildings are located along the north side of the Mooncoin to Piltown road (N24). One rectangular building faces directly onto the road, a T-shaped building extends back from the road and forms a courtyard with the other building. The third building is located across a laneway east of the road-side building and is oriented perpendicular to the road. | The T-shaped building has been altered so that it is a rectangular building on the north side of the courtyard.    | Demolished, occupied by a dwelling house and a ruined stone-built building to the east. Map regression analysis suggests that this may be the easternmost building depicted on the historic mapping. | 650070 | 616554 | Direct               | Direct | Direct |
| CHS-20  | n/a            | Pollrone | Buildings | A cluster of five buildings approx.. 325 m southwest of the Mooncoin to Piltown road (N24) located at the end of a laneway. The buildings are grouped around a courtyard  | Seven individual buildings are depicted. Some of these may have replaced buildings depicted on the earlier survey. | Occupied by a modern dwelling and farmyard.  | 649998 | 616220 | None                 | None   | None   |
| CHS-21  | n/a            | Pollrone | Building  | A single rectangular building located at the southern corner of a triangular field, faces onto the Mooncoin to Pollrone road.   | No building depicted at this location.   | Occupied by a modern dwelling.   | 650170 | 616017 | None                 | None   | None   |
| CHS-22  | n/a            | Pollrone | Building  | A single small rectangular building located in a small triangular plot. The building projects into the Mooncoin to Pollrone road.   | A second small building has been added to the west of the earlier building.  | Occupied by a modern dwelling.   | 650256 | 616078 | None                 | None   | None   |
| CHS-23  | n/a            | Pollrone | Building  | A single L-shaped building on the south side of and facing onto the Mooncoin to Piltown road (N24) just west of Mooncoin village. The building is located at the north end of a triangular plot.  | No building depicted at this location. The location is part of the lands associated with St Kieran's church.       | Occupied by the church carpark.  | 650425 | 616249 | None                 | None   | None   |

| CHS no. | RMP / NIAH no. | Townland | Class      | 1st edition 6 inch map (1839)   | 1st edition 25 inch map (1901)  | Present condition <sup>34</sup>   | ITM E  | ITM N  | Route Option Impacts |      |       |
|---------|----------------|----------|------------|---|---|---|--------|--------|----------------------|------|-------|
|         |                |          |            |   |   |   |        |        | Magenta              | Blue | Green |
| CHS-24  | n/a            | Pollrone | Buildings  | An F-shaped building on the north side of and facing onto the Mooncoin to Piltown road (N24) just west of Mooncoin village. A small square building is depicted directly to the north. The buildings are located within a trapezoidal plot. | A third building, L-shaped plan, has been built facing onto the Mooncoin to Piltown road (N24). | Occupied by two dwellings.  | 650477 | 616257 | None                 | None | None  |
| CHS-25  | n/a            | Mooncoin | Settlement | Nucleated settlement labelled 'Mooncoin'.   | Nucleated settlement labelled 'Mooncoin'.   | Mooncoin village  | 650521 | 616236 | None                 | None | None  |
| CHS-26  | n/a            | Grange   | Memorial   | Not depicted  | Not depicted  | Roadside memorial on the north side of the N24 close to a junction with a local road. Comprises a low mortared random rubble stone wall into which a limestone plaque has been inserted. To the front a rectangular gravelled area is retained by a stone surround. It commemorates Mark Coughlan who died on 17/06/2000. | 649783 | 616841 | None                 | None | None  |

| CHS no. | RMP / NIAH no. | Townland            | Class             | 1st edition 6 inch map (1839)  | 1st edition 25 inch map (1901)   | Present condition <sup>34</sup>  | ITM E  | ITM N  | Route Option Impacts |        |                       |
|---------|----------------|---------------------|-------------------|--|--|--|--------|--------|----------------------|--------|-----------------------|
|         |                |                     |                   |  |  |  |        |        | Magenta              | Blue   | Green                 |
| CHS-27  | n/a            | Clonmore            | Memorial          | Not depicted   | Not depicted   | Roadside memorial on the north side of the N24. Comprises a polished stone headstone on a cut limestone plinth erected in front of a rendered and painted concrete wall with painted concrete coping. It commemorates Linda Holden of Clonmore, Mooncoin, who died as a result of a road traffic accident on 04/03/1991. | 648900 | 617586 | Direct               | Direct | Direct                |
| CHS-28  | n/a            | Clonmore and Grange | Historic boundary | Boundary along the west side of a local road. Depicted as a boundary between the Civil Parishes of Pollrone and Clonmore and the townlands of Grange and Clonmore.   | No change to location or extents. Classified as the 'Union & R.D. Bdy' between Carrick-on-Suir and Waterford Poor Law Unions and Carrick-on-Suir No.3 and Waterford No. 2 Rural Districts. | Hedgerow along local road.   | n/a    | n/a    | Yes                  | Yes    | Yes                   |
| CHS-29  | n/a            | Grange and Pollrone | Historic boundary | Boundary depicted as running along centre of Mooncoin to Piltown road (N24), west of Mooncoin it turns north and runs along a field boundary. Depicted as a boundary between the Civil Parishes of Pollrone and Clonmore and the townlands of Grange and Pollrone. | No change to location or extents.  | N24 road centreline and field boundary (earthen bank and hedgerow).  | n/a    | n/a    | Yes                  | Yes    | Yes (3 no. locations) |



| CHS no. | RMP / NIAH no. | Townland              | Class             | 1st edition 6 inch map (1839)  | 1st edition 25 inch map (1901)   | Present condition <sup>34</sup> | ITM E | ITM N | Route Option Impacts |      |       |
|---------|----------------|-----------------------|-------------------|--|--|---------------------------------|-------|-------|----------------------|------|-------|
|         |                |                       |                   |  |  |                                 |       |       | Magenta              | Blue | Green |
| CHS-30  | n/a            | Clonmore and Pollrone | Historic boundary | Stream. Depicted as a boundary between the Civil Parishes of Pollrone and Clonmore and the townlands of Pollrone and Clonmore. | No change to location or extents. Classified as the 'Union & R.D. Bdy' between Carrick-on-Suir and Waterford Poor Law Unions and Carrick-on-Suir No.3 and Waterford No. 2 Rural Districts. | Stream (Skelpstown Stream).     | n/a   | n/a   | None                 | None | Yes   |

## **Appendix 5: Earthsound Geophysical Survey Report**

**N24 Carrick Road Improvement Scheme,  
Clonmore, Grange and Pollrone townlands,  
Co. Kilkenny**

*Archaeological Consultancy Services Contract Stage  
(i)i Geophysical Surveys*

ITM: 649589 / 617125

Detection Licence No. 21R0129

Survey Director: Heather Gimson

Survey undertaken on behalf of  
*Kilkenny County Council*

H. Gimson BA (Hons) MSc MIAI  
U. Garner BSc (Hons) MSc



EAG 429

19 July 2021

Prospect House, Drumagh, Claremorris, County Mayo, Ireland

[earthsound.ie](http://earthsound.ie)

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## Summary of Results

*Between the 11<sup>th</sup> and 29<sup>th</sup> June 2021, a geophysical survey commissioned by Kilkenny County Council was conducted over 18 pre-selected sites of archaeological interest along the proposed N24 Carrick Road Improvement Scheme. Magnetometer surveys were undertaken at a sample resolution of 0.5m x 0.25m over 18 survey areas (9.5 ha). Resistivity surveys were undertaken at a sample resolution of 0.5m x 0.25m over 7 sites of a total area of 2.5 ha.*

*The survey was conducted upon a bedrock geology of Waulsortian Limestones massive unbedded mud-limestone and Silverspring Formation bedded chert and dark-grey limestone overlain by various soils, including acid brown earths, brown podzolics, surface water gleys, ground water gleys and some alluvium. The majority of the survey area was covered in short grass.*

*The geophysical surveys undertaken for this report have revealed a landscape which contains agricultural division (both those shown on historic mapping and previously unknown boundaries), cultivation furrows and a series of ditches which are of unknown origin. A series of arcing potential archaeological ditches were detected within survey area GP01 and GP03.*

*Survey area GP04 revealed a possible archaeological enclosure with potential internal divisions. Two areas of enhancement were also detected which could relate to archaeology, agriculture or soil importation, one of which contains a linear ditch and some possible pits. Numerous areas of disturbed or compacted ground were also detected. GP05 revealed the presence of an enclosure ditch which contains internal divisions and possible pits. On the edge of this enclosure two smaller potential archaeological sites were detected.*

*GP06 identified two area of potential archaeological enhancement, a series of boundary ditches and sub-circular ditches were also detected along with possible pits. Survey areas GP09, GP10 and GP11 were found to contain an enhanced magnetic background which is bounded to the north by a ditch. Within this zone of enhancement a series of compact and dug zones / features were detected, as well as a large number of possible pits or postholes suggesting that the areas contain substantial remains associated with archaeology, quarrying or soil deposition.*

*GP14, GP15 and probably GP16 contain five magnetic ring-ditches with clear entrances and central pits. A portion of enclosure ditch was detected in GP14. Surrounding these features a large number of potential ring-ditches and enclosure ditches were detected as well as possible pits or postholes indicating the presence of a potential large archaeological landscape which may relate to multi-phased habitation.*

## Statement of Indemnity

*A geophysical survey is a scientific procedure that produces observations of results which are influenced by specific variables. The results and subsequent interpretation of the geophysical survey presented here should not be treated as an absolute representation of the underlying archaeological features, but as a hypothesis that must be proved or disproved. **Direct investigations are recommended to confirm the findings of this report.** Verification can only be provided via intrusive means, such as Test Trench excavations.*

## **1 Introduction**

### **1.1 Brief Description of the Proposed Development**

Earthsound Geophysics Ltd. were commissioned by Kilkenny County Council to carry out a geophysical survey along preselected areas of the N24 Carrick Road Improvement Scheme at Clonmore, Grange and Pollrone townlands, County Kilkenny.

The N24 Carrick Road Improvement Scheme will comprise the realignment of the N24 for a distance of approximately 2 km in the townlands of Clonmore, Grange and Pollrone. The geophysical surveys were undertaken over eighteen pre-determined sites encompassing a total area of 9.5 hectares with the intention of detecting any previously unknown archaeological remains. The techniques to be used on each site were pre-determined by Kilkenny County Council, with changes being made as needed dependent upon geological conditions.

Target resistivity surveys were also undertaken on seven sites, encompassing a total area of 2.5 hectares, to trace potential archaeological anomalies or to provide better definition on the types of anomalies detected.

### **1.2 Aims of the Survey**

Kilkenny County Council required an archaeological geophysical survey of the route of the N24 Carrick Road Improvement Scheme. The survey was carried out in accordance with the brief prepared by the TII Archaeology section supplied by Kilkenny County Council, using a combination of Magnetic Gradiometer and Electromagnetic Resistivity. The aims of the Stage (i) i Geophysical Survey Services were to:

- identify any geophysical anomalies of possible archaeological origin within the specified survey areas.
- accurately locate these anomalies and present the findings in map form.
- describe the anomalies and discuss their likely provenance in a written report.
- incorporate all of the above in a report to the Client.
- preparation and submission of archives of the project data and report

### **1.3 Description of the Survey Area**

The climatic conditions were mixed periods of sunshine and rain with overcast weather also present. The weather is unlikely to have had an impact on the results obtained as the EMI apparent electrical resistivity surveys map contrasts at depth rather than at the surface.

The survey areas are located upon a bedrock geology of Waulsortian massive unbedded mud-limestone and Silverspring Formation bedded chert and dark-grey limestone overlain by various soils, including acid brown earths, brown podzolics, surface water gleys, ground water gleys and some alluvium.

The individual survey areas are listed in Table 1 below.

| Survey Area   | Townland | ITM-E  | ITM-N  | Description      | Magnetometer Survey<br>(ha) | Earth Resistance<br>Survey |
|---------------|----------|--------|--------|------------------|-----------------------------|----------------------------|
| N24CR GP-01   | Clonmore | 648758 | 617763 | Pasture          | 0.41                        |                            |
| N24CR GP-02   | Clonmore | 648826 | 617690 | Pasture          | 0.43                        |                            |
| N24CR GP-03   | Clonmore | 648901 | 617614 | Pasture          | 0.33                        |                            |
| N24CR GP-04   | Clonmore | 649043 | 617490 | Pasture          | 1.46                        | 0.5                        |
| N24CR GP-05   | Clonmore | 649003 | 617437 | Pasture          | 1.05                        | 0.4                        |
| N24CR GP-06   | Grange   | 649210 | 617344 | Pasture          | 0.60                        | 0.32                       |
| N24CR GP-07   | Grange   | 649301 | 617283 | Pasture          | 0.52                        |                            |
| N24CR GP-08   | Grange   | 649401 | 617233 | Agricultural use | 0.31                        |                            |
| N24CR GP-09   | Grange   | 649494 | 617183 | Agricultural use | 0.40                        | 0.2                        |
| N24CR GP-10   | Grange   | 649589 | 617125 | Pasture          | 0.34                        | 0.3                        |
| N24CR GP-11   | Grange   | 649665 | 617080 | Pasture          | 0.25                        |                            |
| N24CR GP-12   | Grange   | 649730 | 617030 | Pasture          | 0.27                        |                            |
| N24CR GP-13   | Grange   | 649786 | 616976 | Pasture          | 0.28                        |                            |
| N24CR GP-14   | Grange   | 649857 | 616884 | Pasture          | 0.56                        |                            |
| N24CR GP-15   | Grange   | 649894 | 616785 | Pasture          | 0.31                        | 0.3                        |
| N24CR GP-16   | Pollrone | 649946 | 616730 | Pasture          | 0.49                        | 0.48                       |
| N24CR GP-17   | Pollrone | 650021 | 616630 | Agricultural use | 0.54                        |                            |
| N24CR GP-18   | Pollrone | 650065 | 616515 | Agricultural use | 0.99                        |                            |
| <b>Total:</b> |          |        |        |                  | <b>9.54</b>                 | <b>2.5</b>                 |

Table 1.1: Stage (i)i Geophysical Survey Services

#### 1.4 Archaeological Background and Statutory Protections

No known monument exists within the proposed scheme. The National Monuments Acts (1930-2014) prohibit the unauthorised use of detecting devices on archaeological sites as well as unauthorised searches for archaeological objects using such devices. All elements of the survey were carried out in accordance with a written method statement and an application for a detection licence from the Department of Housing, Local Government and Heritage to carry out the work. The Detection Licence was issued under Licence number 21R0129 to Heather Gimson.

#### 1.5 Health and Safety requirements

A health and safety statement was submitted to Kilkenny County Council/TII prior to the commencement of work.

## 2 Methodology

The fieldwork was carried out between the 11<sup>th</sup> and 29<sup>th</sup> June 2021 by U. Garner and D. Regan of Earthsound Geophysics Ltd.

A Magnetometer survey was carried out using a LEA MAX Förster gradiometer system.

Apparent Electrical Resistivity data were collected using a GF Instruments CMD Mini-Explorer. The magnetometer survey areas covered a total of 9.54 hectares and resistivity survey areas covered a total of 2.5 hectares. The Magnetometer and Resistivity surveys were undertaken gridlessly with each data point logged using a Trimble RTK GPS VRS Now system.

Detailed magnetometer and earth resistance surveys were carried out within the survey area. The techniques have been used in commercial and research archaeological projects for many years and are considered the most appropriate techniques for a detailed investigation of the underlying archaeology (Aspinall *et al.* 2008, Clark 1996, Scollar *et al.* 1990, Gaffney & Gater 2003).

Where possible, the use of multiple geophysical techniques allows a greater confidence to be placed in the interpretation of detected anomalies. Their combined application can be used to determine the geometry, compositional material and the extent of an archaeological target.

### 2.1 Magnetometer Survey

|  |   |
|--|---|
| <b>Instrument</b>                        | Eastern Atlas LEA MAX <sup>1505</sup> System  |
| <b>Components</b>                        | LEA D2, 10-channel digitiser  |
| <b>Data Acquisition Resolution</b>       | 0.5m x 0.1m   |
| <b>Sensors</b>                           | 8 x Förster FEREX <sup>®</sup> 4.032 CON650 fluxgate gradiometers   |
| <b>Platform</b>                          | LEA MAX <sup>1505</sup> System cart   |
| <b>Data Acquisition Method</b>           | Gridless, using a Trimble RTK GPS VRS Now system to an accuracy of 5cm  |
| <b>Sensitivity</b>                       | <0.2 nT   |
| <b>Data Logger</b>                       | Panasonic Toughbook CF-H2 Field computer  |
| <b>Calibration</b>                       | According to manufacturers guidelines (Pilz & Goossens 2015)  |
| <b>Data Processing</b>                   | Ealdec: Profile decoding<br>Ealmat.m: Normalisation, drift correction<br>Process-it:<br>Surfer 8: Data Gridding (0.5m x 0.25m), using the Kriging Gridding Method |
| <b>Graphical Display / Dynamic Range</b> | Greyscale -2nT (white) to 2nT (black)   |



## 2.2 Electromagnetic Induction Survey

|   |  |
|---|--|
| <b>EMI Measurement</b>                            | Apparent Electrical Resistivity ( $ER_a$ )   |
| <b>Instrument</b>                                 | GF Instruments CMD-MiniExplorer  |
| <b>Data Acquisition Resolution</b>                | 0.5m x 0.2s  |
| <b>Coil Configuration / Effective depth range</b> | Vertical Coplanar Coil configuration (VPC) or 'half-depth', effective depth range: 0.25m, 0.5m, 0.9m   |
| <b>Platform</b>                                   | SparrowHawk-1000 cart system   |
| <b>Data Acquisition Method</b>                    | Continuous mode, Gridless, using a Trimble RTK GPS VRS Now system to an accuracy of 5cm  |
| <b>Measuring Range</b>                            | $ER_a$ : 1000mS/m, resolution 0.1mS/m  |
| <b>Data Logger</b>                                | CMD Control Unit   |
| <b>Calibration</b>                                | According to manufacturers guidelines (GF Instruments 2010)  |
| <b>Data Processing</b>                            | CMD Data Transfer: conversion to Apparent Electrical Resistivity ( $ER_a$ ) from Apparent Electrical Conductivity (Quadrature)<br>Process-it: Drift correction using a moving filter, Despiking, Low Pass Gaussian Filter, Interpolation |
| <b>Graphical Display / Dynamic Range</b>          | Greyscale -23 mS/m (white) to 23 mS/m (black)  |

## 2.3 Reporting, Mapping & Archiving

The geophysical survey and report follow the recommendations outlined by relevant best practice guidance documents as a minimum standard (Bonsall *et al.* 2014; David *et al.* 2008; Gaffney *et al.* 2002, Schmidt *et al.* 2015).

Ordnance Survey of Ireland mapping was supplied by Kilkenny County Council.

Geophysical data, the figures presented here and the text have been archived following the recommendations of the Archaeology Data Service (Schmidt & Ernenwein 2011).

### 3 Results & Discussion

*The interpretation figures should not be looked at in isolation but in conjunction with the relevant discussion section and with the information contained in the Appendices. Features are highlighted in the interpretation diagrams and are described and interpreted within the text.*

*Any recommendations for test trenching only applies to anomalies which are located within the lands subject to CPO.*

#### 3.1 N24CR GP01

|                                   |                              |                                   |                               |             |                   |         |                                   |                       |  |                 |                    |
|-----------------------------------|------------------------------|-----------------------------------|-------------------------------|-------------|-------------------|---------|-----------------------------------|-----------------------|--|-----------------|--------------------|
| <b>Survey Methodology:</b>        |                              | <b>Magnetometer</b>               |                               |             |                   |         | <b>Townland:</b>                  |                       | <b>Clonmore</b>  |                 |                    |
| <b>ITM Coordinate:</b>            |                              | 648758,617763                     |                               |             |                   |         | <b>OD height of Survey Area</b>   |                       | 16 m OD  |                 |                    |
| <b>Survey Weather Conditions:</b> |                              | Sunny and dry                     |                               |             |                   |         | <b>Survey Date and Area (Ha):</b> |                       | 11/06/210.41 Ha  |                 |                    |
| <b>Heritage Constraint Ref:</b>   |                              | -                                 |                               |             |                   |         |                                   |                       |  |                 |                    |
| <b>Site Description:</b>          |                              | Flat field containing short grass |                               |             |                   |         |                                   |                       |  |                 |                    |
| <b>Figure No.:</b>                |                              | 4 & 5                             |                               |             |                   |         |                                   |                       |  |                 |                    |
| No.                               | Form of Anomaly              | ITM NGR (E,N)                     | Possible Source(s) of Anomaly |             |                   |         |                                   | Comment               |  | Recommendation  |                    |
|                                   |                              |                                   | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils                   | Interference / Modern |  | Test Excavation | Geophysical Survey |
| 01-1                              | Curvilinear magnetic anomaly | 648731.031,617786.876             | ✓                             |             | ✓                 |         |                                   |                       | A curving ditch or cut feature, which measures c. 16.5m E-W and is up to 4m wide. It is located very close to the NW field boundary and connects to ditch 01-3. Possibly archaeological or agricultural in origin. | ✓               |                    |
| 01-2                              | Linear magnetic anomaly      | 648752.475,617786.087             | ✓                             |             | ✓                 |         |                                   |                       | Possible ditch, measuring c. 31m N-S. Possibly archaeological or agricultural in origin.   | ✓               |                    |
| 01-3                              | Linear magnetic anomaly      | 648761.148,617783.722             | ✓                             |             | ✓                 |         |                                   |                       | Possible ditch, measuring c. 34m EW and running into anomaly 01-1 at W. Possibly archaeological or agricultural.   | ✓               |                    |
| 01-4                              | Curvilinear magnetic anomaly | 648781.330,617765.274             | ✓                             |             | ✓                 |         |                                   |                       | A slightly curving possible ditch, measuring c. 14.5m NE-SW. This feature could relate to archaeology or agriculture.  | ✓               |                    |
| 01-5                              | Curvilinear magnetic anomaly | 648763.670,617751.872             | ✓                             |             | ✓                 |         |                                   |                       | A curvilinear possible ditch, measuring c. 23.4m N-S. Possibly archaeological or agricultural in origin.   | ✓               |                    |

|                                   |   |                                   |                               |             |                   |                                   |                 |                       |  |                 |                    |
|-----------------------------------|---|-----------------------------------|-------------------------------|-------------|-------------------|-----------------------------------|-----------------|-----------------------|--|-----------------|--------------------|
| <b>Survey Methodology:</b>        |   | <b>Magnetometer</b>               |                               |             |                   | <b>Townland:</b>                  |                 | <b>Clonmore</b>       |  |                 |                    |
| <b>ITM Coordinate:</b>            |   | 648758,617763                     |                               |             |                   | <b>OD height of Survey Area</b>   |                 | 16 m OD               |  |                 |                    |
| <b>Survey Weather Conditions:</b> |   | Sunny and dry                     |                               |             |                   | <b>Survey Date and Area (Ha):</b> |                 | 11/06/21              | 0.41 Ha  |                 |                    |
| <b>Heritage Constraint Ref:</b>   |   | -                                 |                               |             |                   |                                   |                 |                       |  |                 |                    |
| <b>Site Description:</b>          |   | Flat field containing short grass |                               |             |                   |                                   |                 |                       |  |                 |                    |
| <b>Figure No.:</b>                |   | 4 & 5                             |                               |             |                   |                                   |                 |                       |  |                 |                    |
| No.                               | Form of Anomaly                                 | ITM NGR (E,N)                     | Possible Source(s) of Anomaly |             |                   |                                   |                 | Comment               |  | Recommendation  |                    |
|                                   |   |                                   | Ditch                         | Archaeology | Poss. Archaeology | Ferrous                           | Geology / Soils | Interference / Modern |  | Test Excavation | Geophysical Survey |
| 01-6                              | Linear magnetic anomaly                         | 648763.513,617742.569             | ✓                             |             | ✓                 |                                   |                 |                       | Linear archaeological or agricultural ditch, measuring c. 24m NE-SW. this feature could extend into anomaly 01-4, but no direct relationship could be seen in the geophysical results.                         | ✓               |                    |
| 01-7                              | Curvilinear magnetic anomaly                    | 648776.757,617737.838             | ✓                             |             | ✓                 |                                   |                 |                       | A curving possible ditch, measuring c. 9.5m N-S which could relate to archaeology or agriculture.  | ✓               |                    |
|                                   | Multiple linear and curvilinear magnetic trends | Multiple locations                |                               |             |                   |                                   | ✓               |                       | A number of possible ditches or cut features which may be archaeological , agricultural or geological in nature  |                 |                    |
|                                   | Multiple parallel linear magnetic trends        | Multiple locations                |                               |             |                   |                                   | ✓               |                       | Multiple cultivation furrows throughout the survey area.   |                 |                    |
|                                   | Highly magnetic responses                       | Multiple locations                |                               |             |                   |                                   |                 | ✓                     | High magnetic disturbance along the field boundaries is caused by ferrous fencing materials. A large dipolar anomaly in the field could be caused by large buried ferrous objects or other modern disturbance. |                 |                    |

### 3.2 N24CR GP02

| Survey Methodology:        |  | Magnetometer                                   |                                  |             |                   |         |                 | Townland:                  |  | Clonmore |                 |                    |
|----------------------------|--|--|----------------------------------|-------------|-------------------|---------|-----------------|----------------------------|--|----------|-----------------|--------------------|
| ITM Coordinate:            |  | 648826,617690                                  |                                  |             |                   |         |                 | OD height of Survey Area   |  | 15 m OD  |                 |                    |
| Survey Weather Conditions: |  | Overcast                                       |                                  |             |                   |         |                 | Survey Date and Area (Ha): |  | 15/06/21 | 0.43 Ha         |                    |
| Heritage Constraint Ref:   |  | -  |                                  |             |                   |         |                 |                            |  |          |                 |                    |
| Site Description:          |  | Flat field containing short grass              |                                  |             |                   |         |                 |                            |  |          |                 |                    |
| Figure No.:                |  | 4 & 5  |                                  |             |                   |         |                 |                            |  |          |                 |                    |
| No.                        | Form of Anomaly                          | ITM NGR (E,N)                                  | Possible Source(s)<br>of Anomaly |             |                   |         |                 |                            | Comment  |          | Recommendation  |                    |
|                            |  |  | Ditch                            | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |  |          | Test Excavation | Geophysical Survey |
| 02-1                       | Linear magnetic anomaly                  | 648796.984,617724.789                          | ✓                                |             | ✓                 |         |                 |                            | Possible ditch, c. 40m in length which runs parallel to the N field boundary. Probably agricultural in origin and possibly associated with the adjacent cultivation furrows. |          | ✓               |                    |
| 02-2                       | Curvilinear magnetic anomaly             | 648800.555,617697.289                          | ✓                                |             | ✓                 |         |                 |                            | A slightly curving possible ditch, measuring c. 13.3m N-S. Possibly archaeological or agricultural in origin.  |          | ✓               |                    |
| 02-3                       | Parallel linear magnetic anomalies       | 648835.377,617694.611<br>648844.127,617683.539 | ✓                                |             | ✓                 |         |                 |                            | Two parallel possible ditches, c. 85m in length. These relate to a relic field boundary marked on the historic 6in and 25in OS maps.   |          | ✓               |                    |
| 02-4                       | Curvilinear magnetic anomaly             | 648865.020,617675.146                          | ✓                                |             | ✓                 |         |                 |                            | Possible archaeological or agricultural ditch or cut feature, measuring c. 19.6m NE-SW.  |          | ✓               |                    |
|                            | Multiple parallel linear magnetic trends | Multiple locations                             |                                  |             |                   |         | ✓               |                            | Multiple cultivation furrows throughout the survey area.   |          |                 |                    |
|                            | Highly magnetic responses                | Multiple locations                             |                                  |             |                   |         |                 | ✓                          | High magnetic disturbance along the field boundary is caused by ferrous fencing materials.   |          |                 |                    |



### 3.3 N24CR GP03

|                                   |  |  |                               |             |                   |         |                                   |                       |   |                 |                    |
|-----------------------------------|--|--|-------------------------------|-------------|-------------------|---------|-----------------------------------|-----------------------|---|-----------------|--------------------|
| <b>Survey Methodology:</b>        |  | <b>Magnetometer</b>                            |                               |             |                   |         | <b>Townland:</b>                  |                       | <b>Clonmore</b>   |                 |                    |
| <b>ITM Coordinate:</b>            |  | 648901,617614                                  |                               |             |                   |         | <b>OD height of Survey Area</b>   |                       | 15 m OD   |                 |                    |
| <b>Survey Weather Conditions:</b> |  | Sunny and dry                                  |                               |             |                   |         | <b>Survey Date and Area (Ha):</b> |                       | 11/06/21  | 0.33 Ha         |                    |
| <b>Heritage Constraint Ref:</b>   |  | -  |                               |             |                   |         |                                   |                       |   |                 |                    |
| <b>Site Description:</b>          |  | Flat field containing short grass              |                               |             |                   |         |                                   |                       |   |                 |                    |
| <b>Figure No.:</b>                |  | 4 & 5  |                               |             |                   |         |                                   |                       |   |                 |                    |
| No.                               | Form of Anomaly                          | ITM NGR (E,N)                                  | Possible Source(s) of Anomaly |             |                   |         |                                   | Comment               |   | Recommendation  |                    |
|                                   |  |  | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils                   | Interference / Modern |   | Test Excavation | Geophysical Survey |
| 03-1                              | Linear magnetic anomaly                  | 648877.606,617640.465                          | ✓                             |             | ✓                 |         |                                   |                       | Possible ditch or cut feature, c. 44.8m in length which runs parallel to the N field boundary. Probably agricultural in origin.   | ✓               |                    |
| 03-2                              | Linear negatively magnetic anomaly       | 648897.784,617627.430                          |                               |             | ✓                 |         |                                   |                       | Remains of a bank or relic field wall, measuring c. 45.4m NE-SW and flanked by two ditches 03-3. Probably agricultural in origin.   | ✓               |                    |
| 03-3                              | Parallel linear magnetic anomalies       | 648901.892,617632.608<br>648895.820,617623.501 | ✓                             |             | ✓                 |         |                                   |                       | Two parallel ditches either side of bank or wall 03-2, c. 30m and 46m in length. These features probably relate to an old agricultural field division.  | ✓               |                    |
| 03-4                              | Linear magnetic anomaly                  | 648897.784,617616.586                          | ✓                             |             | ✓                 |         |                                   |                       | Possible archaeological or archaeological ditch or cut feature, measuring c. 22m NE-SW.   | ✓               |                    |
| 03-5                              | Curvilinear magnetic anomaly             | 648926.475,617594.007                          | ✓                             |             | ✓                 |         |                                   |                       | A curving possible ditch feature containing a number of possible pits, postholes or deposits, c. 28.7m in length and up to 4m wide. This feature could be archaeological in origin but does not appear to continue in the adjacent field. | ✓               |                    |
|                                   | Multiple parallel linear magnetic trends | Multiple locations                             |                               |             |                   |         | ✓                                 |                       | Multiple cultivation furrows throughout the survey area.  |                 |                    |
|                                   | Highly magnetic responses                | Multiple locations                             |                               |             |                   |         |                                   | ✓                     | High magnetic disturbance along the field boundaries is caused by ferrous fencing materials and dumping along the field boundaries.   |                 |                    |

### 3.4 N24CR GP04

| Survey Methodology:        |   | Magnetometer  |                               |             |                   |         |                 | Townland:                  |   | Clonmore |                 |                    |
|----------------------------|---|---|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|---|----------|-----------------|--------------------|
| ITM Coordinate:            |   | 649043,617490   |                               |             |                   |         |                 | OD height of Survey Area   |   | 13 m OD  |                 |                    |
| Survey Weather Conditions: |   | Sunny and dry   |                               |             |                   |         |                 | Survey Date and Area (Ha): |   | 15/06/21 | 1.46 Ha         |                    |
| Heritage Constraint Ref:   |   | -   |                               |             |                   |         |                 |                            |   |          |                 |                    |
| Site Description:          |   | Relatively flat field containing short grass. A small watercourse runs along the eastern boundary (Clonmore Stream) which has been canalised and was probably more extensive prior to land improvements carried out in the last 200-300 years. This stream represents the lowest part of the field and the adjacent areas could have been susceptible to historic flooding. The land was very poached in parts. |                               |             |                   |         |                 |                            |   |          |                 |                    |
| Figure No.:                |   | 5 & 6   |                               |             |                   |         |                 |                            |   |          |                 |                    |
| No.                        | Form of Anomaly                         | ITM NGR (E,N)   | Possible Source(s) of Anomaly |             |                   |         |                 |                            | Comment   |          | Recommendation  |                    |
|                            |   |   | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |   |          | Test Excavation | Geophysical Survey |
| 04-1                       | Linear magnetic anomaly                 | 648951.345,617569.897   | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 39.8m E-W and joining anomaly 04-3 at E. Probably represents a relict field division.  |          | ✓               |                    |
| 04-2                       | Curvilinear magnetic anomaly            | 648941.821,617563.82  | ✓                             |             | ✓                 |         |                 |                            | Possible ditch or cut feature, measuring c. 16.8m NE-SW. Possibly archaeological or agricultural in origin.   |          | ✓               |                    |
| 04-3                       | Linear magnetic anomaly                 | 648969.916,617548.706   | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 54m N-S and joining 04-1 and former field boundary 04-8 at S. Represents a relict field boundary.  |          | ✓               |                    |
| 04-4                       | Curvilinear negatively magnetic anomaly | 648972.655,617559.302   |                               |             | ✓                 |         |                 |                            | A curving compact earth or stone feature, measuring c. 11.8m N-S and 11m E-W which runs alongside ditches 04-3 and 04-5. This feature possibly represents the remains of a bank or wall of archaeological or agricultural origin. |          | ✓               |                    |
| 04-5                       | Curvilinear magnetic anomaly            | 648974.440,617557.992   | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, c. 11.5m in length which joins to 04-3 at E and runs parallel to 04-4. This feature may enclose 04-4 or may be agricultural in origin.  |          | ✓               |                    |
| 04-6                       | Linear magnetic anomaly                 | 648961.940,617554.064   | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 54.8m in length and running parallel to relict field boundary 04-8 and the current N field boundary. Probably represents a relict field division.  |          | ✓               |                    |
| 04-7                       | Isolated magnetic response              | 649000.869,617545.492   |                               |             | ✓                 |         | ✓               |                            | A possible pit or area of burning, up to 2.5m in diameter. This feature could be archaeological or agricultural in nature.  |          | ✓               |                    |
| 04-8                       | Linear magnetic anomaly                 | 648989.440,617529.421   | ✓                             |             | ✓                 |         |                 |                            | A relict field boundary marked on the historic 25in OS map, c. 46.8m E-W.   |          | ✓               |                    |
| 04-9                       | Curvilinear magnetic anomaly            | 649002.565,617521.117   | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch, measuring c. 27.5m N-S. May be related to anomaly 04-10 and could be archaeological or agricultural in origin.  |          | ✓               |                    |

| Survey Methodology:        |                              | Magnetometer  |                               |             |                   |         | Townland:                  |                       | Clonmore   |                 |                    |
|----------------------------|------------------------------|---|-------------------------------|-------------|-------------------|---------|----------------------------|-----------------------|--|-----------------|--------------------|
| ITM Coordinate:            |                              | 649043,617490   |                               |             |                   |         | OD height of Survey Area   |                       | 13 m OD  |                 |                    |
| Survey Weather Conditions: |                              | Sunny and dry   |                               |             |                   |         | Survey Date and Area (Ha): |                       | 15/06/21   | 1.46 Ha         |                    |
| Heritage Constraint Ref:   |                              | -   |                               |             |                   |         |                            |                       |  |                 |                    |
| Site Description:          |                              | Relatively flat field containing short grass. A small watercourse runs along the eastern boundary (Clonmore Stream) which has been canalised and was probably more extensive prior to land improvements carried out in the last 200-300 years. This stream represents the lowest part of the field and the adjacent areas could have been susceptible to historic flooding. The land was very poached in parts. |                               |             |                   |         |                            |                       |  |                 |                    |
| Figure No.:                |                              | 5 & 6   |                               |             |                   |         |                            |                       |  |                 |                    |
| No.                        | Form of Anomaly              | ITM NGR (E,N)   | Possible Source(s) of Anomaly |             |                   |         |                            | Comment               |  | Recommendation  |                    |
|                            |                              |   | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils            | Interference / Modern |  | Test Excavation | Geophysical Survey |
| 04-10                      | Curvilinear magnetic anomaly | 649008.994,617519.689   | ✓                             |             | ✓                 |         |                            |                       | A curving possible ditch, measuring c. 12.7m NE-SW. This runs concentric to anomaly 04-9 and may be related. Possibly archaeological or agricultural in origin.  | ✓               |                    |
| 04-11                      | Linear magnetic anomaly      | 649018.875,617497.070   | ✓                             |             | ✓                 |         |                            |                       | A relic field boundary marked on the historic 6in OS map, measuring c. 54.5m N-S, marking the boundary of the drier ground to the west and an area probably more susceptible to historic flooding.   | ✓               |                    |
| 04-12                      | Linear magnetic anomaly      | 649032.684,617508.260   | ✓                             |             | ✓                 |         |                            |                       | Possible ditch or cut feature, measuring c. 25.6m E-W and turning S at the E end for c. 6.3m. The anomaly probably links to 04-11 and is likely to be agricultural.  | ✓               |                    |
| 04-13                      | Curvilinear magnetic anomaly | 649058.428,617518.647   | ✓                             |             | ✓                 |         |                            |                       | A curving possible ditch, measuring c. 8.5m NE-SW. Possibly archaeological or agricultural.  | ✓               |                    |
| 04-14                      | Linear magnetic anomaly      | 649054.500,617510.552   | ✓                             |             | ✓                 |         |                            |                       | Possible ditch or cut feature, measuring c. 15m E-W. Possibly related to 04-12 and probably agricultural in origin.  | ✓               |                    |
| 04-15                      | Zone of magnetic enhancement | 649073.161,617490.343   |                               |             | ✓                 |         | ✓                          | ✓                     | An area of enhanced magnetism measuring c. 76m N-S by 31.6m E-W. The enhancement contains numerous dipolar and highly magnetic signatures suggesting that may have been caused by relatively modern disturbance, possibly associated with the infilling of former watercourse of the Clonmore Stream. However an archaeological, agricultural or geological explanation cannot be ruled out. | ✓               |                    |
| 04-16                      | Linear magnetic anomaly      | 649068.161,617507.486   | ✓                             |             | ✓                 |         |                            |                       | Possible ditch located within zone of magnetic enhancement 04-15, measuring c. 40.7m N-S. This feature could relate to archaeological or agricultural processes or be associated with the possible modern disturbance of 04-15.  | ✓               |                    |

| Survey Methodology:        |   | Magnetometer  |                               |             |                   |         |                 | Townland:                  |  | Clonmore        |                    |
|----------------------------|---|---|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|--|-----------------|--------------------|
| ITM Coordinate:            |   | 649043,617490   |                               |             |                   |         |                 | OD height of Survey Area   |  | 13 m OD         |                    |
| Survey Weather Conditions: |   | Sunny and dry   |                               |             |                   |         |                 | Survey Date and Area (Ha): |  | 15/06/21        | 1.46 Ha            |
| Heritage Constraint Ref:   |   | -   |                               |             |                   |         |                 |                            |  |                 |                    |
| Site Description:          |   | Relatively flat field containing short grass. A small watercourse runs along the eastern boundary (Clonmore Stream) which has been canalised and was probably more extensive prior to land improvements carried out in the last 200-300 years. This stream represents the lowest part of the field and the adjacent areas could have been susceptible to historic flooding. The land was very poached in parts. |                               |             |                   |         |                 |                            |  |                 |                    |
| Figure No.:                |   | 5 & 6   |                               |             |                   |         |                 |                            |  |                 |                    |
| No.                        | Form of Anomaly                                 | ITM NGR (E,N)   | Possible Source(s) of Anomaly |             |                   |         |                 | Comment                    |  | Recommendation  |                    |
|                            |   |   | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |  | Test Excavation | Geophysical Survey |
| 04-17                      | Multiple isolated magnetic responses            | 649075.125,617479.986<br>Multiple locations   |                               |             | ✓                 |         | ✓               | ✓                          | Four possible pits or postholes located within the zone of magnetic enhancement 04-15 and in an area of high magnetic disturbance. These anomalies may be archaeological, agricultural or modern in origin.              | ✓               |                    |
| 04-18                      | Linear magnetic trend                           | 649052.536,617469.540   | ✓                             |             | ✓                 |         |                 |                            | A relic field boundary feature marked on the historic 6in and 25in OS maps, measuring c. 70m E-W.  | ✓               |                    |
| 04-19                      | Linear magnetic anomaly                         | 649057.044,617449.406   | ✓                             |             | ✓                 |         |                 |                            | Possible ditch or cut feature, measuring c. 25m E-W. Possibly archaeological or agricultural in origin, could be related to the adjacent cultivation furrows.  | ✓               |                    |
| 04-20                      | Linear magnetic anomaly                         | 649092.402,617445.656   | ✓                             |             | ✓                 |         |                 |                            | Possible ditch or cut feature, measuring c. 27.8m E-W and interlinking with 04-24. Probably agricultural in origin.  | ✓               |                    |
| 04-21                      | Linear magnetic anomaly                         | 649085.616,617435.477   | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 457.7m EW with a slight bend near its centre. Possibly archaeological or agricultural in origin.  | ✓               |                    |
| 04-22                      | Zone of magnetic enhancement                    | 649103.027,617413.245   |                               |             | ✓                 |         | ✓               | ✓                          | An area of magnetic enhancement, measuring c. 36m NE-SW by 15m NW-SE in size. This may be caused by archaeological or agricultural activities or could be associated with a former palaeochannel of the Clonmore Stream. | ✓               |                    |
| 04-23                      | Curvilinear magnetic anomaly                    | 649104.852,617401.092   | ✓                             |             | ✓                 |         |                 |                            | Possible ditch or cut feature, measuring c. 21.8m NE-SW and located within zone of magnetic enhancement 04-22. Possibly archaeological or agricultural in nature.  | ✓               |                    |
| 04-24                      | Curvilinear magnetic anomaly                    | 649105.408,617419.267   | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 52m N-S. The ditch joins anomaly 04-20 at N, runs through zone of magnetic enhancement 04-22 and turns slightly towards SE at the S end. Probably agricultural in origin.                   | ✓               |                    |
|                            | Multiple linear and curvilinear magnetic trends | Multiple locations  |                               |             |                   |         | ✓               |                            | A number of possible ditches or cut features which may be archaeological , agricultural or geological in nature  |                 |                    |



| <b>Survey Methodology:</b>        |  | <b>Magnetometer</b>   |                               |             |                   |         | <b>Townland:</b>                  |                       | <b>Clonmore</b>   |                 |                    |
|-----------------------------------|--|---|-------------------------------|-------------|-------------------|---------|-----------------------------------|-----------------------|---|-----------------|--------------------|
| <b>ITM Coordinate:</b>            |  | 649043,617490   |                               |             |                   |         | <b>OD height of Survey Area</b>   |                       | 13 m OD   |                 |                    |
| <b>Survey Weather Conditions:</b> |  | Sunny and dry   |                               |             |                   |         | <b>Survey Date and Area (Ha):</b> |                       | 15/06/21                      1.46 Ha   |                 |                    |
| <b>Heritage Constraint Ref:</b>   |  | -   |                               |             |                   |         |                                   |                       |   |                 |                    |
| <b>Site Description:</b>          |  | Relatively flat field containing short grass. A small watercourse runs along the eastern boundary (Clonmore Stream) which has been canalised and was probably more extensive prior to land improvements carried out in the last 200-300 years. This stream represents the lowest part of the field and the adjacent areas could have been susceptible to historic flooding. The land was very poached in parts. |                               |             |                   |         |                                   |                       |   |                 |                    |
| <b>Figure No.:</b>                |  | 5 & 6   |                               |             |                   |         |                                   |                       |   |                 |                    |
| No.                               | Form of Anomaly                          | ITM NGR (E,N)   | Possible Source(s) of Anomaly |             |                   |         |                                   | Comment               |   | Recommendation  |                    |
|                                   |  |   | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils                   | Interference / Modern |   | Test Excavation | Geophysical Survey |
|                                   | Multiple parallel linear magnetic trends | Multiple locations  |                               |             |                   |         | ✓                                 |                       | A small number of cultivation furrows in the SE section of the survey area.   |                 |                    |
|                                   | Highly magnetic responses                | Multiple locations  |                               |             |                   |         |                                   | ✓                     | High magnetic disturbance along the field boundaries is caused by ferrous fencing materials. There is also disturbance caused by an electric fence dividing the field at the time of survey and some other disturbances such as buried ferrous objects. |                 |                    |

| Survey Methodology:        |  | Resistivity   |                               |             |                   |         |                 | Townland:                  |  | Clonmore        |                 |                    |
|----------------------------|--|---|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|--|-----------------|-----------------|--------------------|
| ITM Coordinate:            |  | 649043,617490   |                               |             |                   |         |                 | OD height of Survey Area   |  | 13 m OD         |                 |                    |
| Survey Weather Conditions: |  | Sunny and dry   |                               |             |                   |         |                 | Survey Date and Area (Ha): |  | 17/06/21 0.5 Ha |                 |                    |
| Heritage Constraint Ref:   |  | -   |                               |             |                   |         |                 |                            |  |                 |                 |                    |
| Site Description:          |  | Relatively flat field containing short grass. A small watercourse runs along the eastern boundary (Clonmore Stream) which has been canalised and was probably more extensive prior to land improvements carried out in the last 200-300 years. This stream represents the lowest part of the field and the adjacent areas could have been susceptible to historic flooding. The land was very poached in parts. |                               |             |                   |         |                 |                            |  |                 |                 |                    |
| Figure No.:                |  | 14 & 15   |                               |             |                   |         |                 |                            |  |                 |                 |                    |
| No.                        | Form of Anomaly                            | ITM NGR (E,N)   | Possible Source(s) of Anomaly |             |                   |         |                 |                            | Comment  |                 | Recommendation  |                    |
|                            |  |   | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |  |                 | Test Excavation | Geophysical Survey |
| 04-25                      | Two curvilinear high resistivity anomalies | 648988.038,617518.174   |                               |             | ✓                 |         |                 |                            | Two interconnecting compact earth or stone features, measuring 15m and 22m in length. Could relate to archaeological, agricultural or geology.   |                 | ✓               |                    |
| 04-26                      | Arcing high resistivity anomaly            | 649002.21,617526.781  |                               |             | ✓                 |         |                 |                            | Arcing compact earth or stone feature, 21m in length which could be archaeological in origin. Possibly associated with 04-9 and 04-10.   |                 | ✓               |                    |
| 04-27                      | Sub-circular high resistivity anomaly      | 649027.05,617518.395  |                               |             | ✓                 |         |                 |                            | Two sections of an arcing compact earth or stone feature, possibly encircling an area 24m in diameter. This feature could be archaeological in origin and possibly represents a continuation of 04-9. A number of small internal divisions were also detected which could be archaeological in origin. |                 | ✓               |                    |
| 04-28                      | Area of high resistivity                   | 649012.584,617517.461   |                               |             | ✓                 |         | ✓               |                            | Zone of compact earth or stone feature, 25m in length and 6m in width which could relate to archaeological, agricultural or geological processes.  |                 | ✓               |                    |
| 04-29                      | Right-angled low resistivity anomaly       | 649001.013,617505.694   | ✓                             |             | ✓                 |         |                 |                            | Right-angled ditch or cut feature, 32m in length which is likely to represent an agricultural boundary.  |                 | ✓               |                    |
| 04-30                      | Area of high resistivity                   | 649012.858,617485.204   |                               |             | ✓                 |         | ✓               |                            | Zone of compact earth or stone feature, 8m in length and 10m in width which could relate to archaeological, agricultural or geological processes.  |                 | ✓               |                    |
| 04-31                      | Linear low resistivity anomaly             | 649018.158,617503.99  | ✓                             |             | ✓                 |         |                 |                            | Linear ditch or cut feature which corresponds to the townland boundary shown on the historic 6in OS map and also detected in 04-11.  |                 | ✓               |                    |
| 04-32                      | Linear low resistivity anomaly             | 649021.201,617507.65  | ✓                             |             | ✓                 |         |                 |                            | Linear ditch or cut feature, 8m in length which may be associated with or crosses 04-27.   |                 | ✓               |                    |
| 04-33                      | Area of low resistivity                    | 649029.062,617501.401   | ✓                             |             | ✓                 |         | ✓               |                            | Zone of waterlogged or disturbed earth, 12m in length and 8m in width which could be archaeological, agricultural or geological in origin.   |                 | ✓               |                    |
| 04-34                      | Right-angled high resistivity anomaly      | 649040.643,617501.539   |                               |             | ✓                 |         |                 |                            | Right-angled compact earth or stone feature, 39m in length which may relate to a boundary feature.   |                 | ✓               |                    |

| Survey Methodology:        |                                      | Resistivity   |                               |             |                   |         |                 | Townland:                  |   | Clonmore |                 |                    |
|----------------------------|--------------------------------------|---|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|---|----------|-----------------|--------------------|
| ITM Coordinate:            |                                      | 649043,617490   |                               |             |                   |         |                 | OD height of Survey Area   |   | 13 m OD  |                 |                    |
| Survey Weather Conditions: |                                      | Sunny and dry   |                               |             |                   |         |                 | Survey Date and Area (Ha): |   | 17/06/21 | 0.5 Ha          |                    |
| Heritage Constraint Ref:   |                                      | -   |                               |             |                   |         |                 |                            |   |          |                 |                    |
| Site Description:          |                                      | Relatively flat field containing short grass. A small watercourse runs along the eastern boundary (Clonmore Stream) which has been canalised and was probably more extensive prior to land improvements carried out in the last 200-300 years. This stream represents the lowest part of the field and the adjacent areas could have been susceptible to historic flooding. The land was very poached in parts. |                               |             |                   |         |                 |                            |   |          |                 |                    |
| Figure No.:                |                                      | 14 & 15   |                               |             |                   |         |                 |                            |   |          |                 |                    |
| No.                        | Form of Anomaly                      | ITM NGR (E,N)   | Possible Source(s) of Anomaly |             |                   |         |                 |                            | Comment   |          | Recommendation  |                    |
|                            |                                      |   | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |   |          | Test Excavation | Geophysical Survey |
| 04-35                      | Curvilinear high resistivity anomaly | 649044.732,617512.886   |                               |             | ✓                 |         |                 |                            | Compact earth or stone feature, 33m in length which leads from 04-27 and may represent a boundary feature.  |          | ✓               |                    |
| 04-36                      | Arcing low resistivity anomaly       | 649039.28,617524.509  | ✓                             |             | ✓                 |         |                 |                            | Arcing ditch or cut feature, 14m in length which may be archaeological or geological in origin.   |          | ✓               |                    |
| 04-37                      | Area of high resistivity             | 649054.604,617523.775   |                               |             | ✓                 |         | ✓               |                            | Zone of compact earth or stone feature, 9m in length and 7m in width which could relate to archaeological, agricultural or geological processes.  |          | ✓               |                    |
| 04-38                      | Area of low resistivity              | 649063.118,617518.147   | ✓                             |             | ✓                 |         | ✓               |                            | Zone of waterlogged or disturbed earth, 9m in length and 5m in width which could be archaeological, agricultural or geological in origin.   |          | ✓               |                    |
| 04-39                      | Curvilinear low resistivity anomaly  | 649063.118,617518.147   | ✓                             |             | ✓                 |         |                 |                            | Ditch or cut feature, 16m in length which may be archaeological or geological in origin.  |          | ✓               |                    |
| 04-40                      | Area of low resistivity              | 649066.551,617502.087   | ✓                             |             | ✓                 |         | ✓               |                            | Zone of waterlogged or disturbed earth, 15m in length and 7m in width which could be archaeological, agricultural or geological in origin. This feature may be associated with 04-45.   |          | ✓               |                    |
| 04-41                      | Series of high resistivity anomalies | 649080.053,617503.123   |                               |             | ✓                 |         |                 |                            | Series of interconnecting or arcing compact earth or stone features which are located in the southeastern corner of the survey area. Possibly forming two enclosing features these anomalies could relate to archaeological, agricultural or geology. |          | ✓               |                    |
| 04-42                      | Curvilinear low resistivity anomaly  | 649077.402,617497.445   | ✓                             |             | ✓                 |         |                 |                            | Ditch or cut feature, 12m in length which may be archaeological or geological in origin and may relate to 04-40.  |          | ✓               |                    |
| 04-43                      | Curvilinear low resistivity anomaly  | 649062.886,617492.083   | ✓                             |             | ✓                 |         |                 |                            | Arcing ditch or cut feature, 21m in length which may be archaeological, agricultural or geological in origin.   |          | ✓               |                    |
| 04-44                      | Arcing low resistivity anomaly       | 649053.418,617487.225   | ✓                             |             | ✓                 |         |                 |                            | Arcing ditch or cut feature, 12m in length which may be archaeological or geological in origin.   |          | ✓               |                    |

|                                   |                          |   |                               |             |                   |                                   |                 |                       |  |                 |                    |
|-----------------------------------|--------------------------|---|-------------------------------|-------------|-------------------|-----------------------------------|-----------------|-----------------------|--|-----------------|--------------------|
| <b>Survey Methodology:</b>        |                          | <b>Resistivity</b>  |                               |             |                   | <b>Townland:</b>                  |                 | <b>Clonmore</b>       |  |                 |                    |
| <b>ITM Coordinate:</b>            |                          | 649043.617490   |                               |             |                   | <b>OD height of Survey Area</b>   |                 | 13 m OD               |  |                 |                    |
| <b>Survey Weather Conditions:</b> |                          | Sunny and dry   |                               |             |                   | <b>Survey Date and Area (Ha):</b> |                 | 17/06/21 0.5 Ha       |  |                 |                    |
| <b>Heritage Constraint Ref:</b>   |                          | -   |                               |             |                   |                                   |                 |                       |  |                 |                    |
| <b>Site Description:</b>          |                          | Relatively flat field containing short grass. A small watercourse runs along the eastern boundary (Clonmore Stream) which has been canalised and was probably more extensive prior to land improvements carried out in the last 200-300 years. This stream represents the lowest part of the field and the adjacent areas could have been susceptible to historic flooding. The land was very poached in parts. |                               |             |                   |                                   |                 |                       |  |                 |                    |
| <b>Figure No.:</b>                |                          | 14 & 15   |                               |             |                   |                                   |                 |                       |  |                 |                    |
| No.                               | Form of Anomaly          | ITM NGR (E,N)   | Possible Source(s) of Anomaly |             |                   |                                   |                 | Comment               |  | Recommendation  |                    |
|                                   |                          |   | Ditch                         | Archaeology | Poss. Archaeology | Ferrous                           | Geology / Soils | Interference / Modern |  | Test Excavation | Geophysical Survey |
| 04-45                             | Area of high resistivity | 649053.418,617487.225   |                               |             | ✓                 |                                   | ✓               |                       | Zone of compact earth or stone feature, 10m in diameter which could relate to archaeological, agricultural or geological processes.        | ✓               |                    |
| 04-46                             | Area of low resistivity  | 649045.266,617493.028   | ✓                             |             | ✓                 |                                   | ✓               |                       | Zone of waterlogged or disturbed earth, 12m in length and 7m in width which could be archaeological, agricultural or geological in origin. | ✓               |                    |



### 3.5 N24CR GP05

| Survey Methodology:        |   | Magnetometer                                   |                               |             |                   |         |                 | Townland:                  | Clonmore   |                 |                    |
|----------------------------|---|--|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|--|-----------------|--------------------|
| ITM Coordinate:            |   | 649003,617437                                  |                               |             |                   |         |                 | OD height of Survey Area   |  | 16 m OD         |                    |
| Survey Weather Conditions: |   | Sunny and dry                                  |                               |             |                   |         |                 | Survey Date and Area (Ha): |  | 15/06/211.05 Ha |                    |
| Heritage Constraint Ref:   |   | -  |                               |             |                   |         |                 |                            |  |                 |                    |
| Site Description:          |   | Slightly undulating cut silage field           |                               |             |                   |         |                 |                            |  |                 |                    |
| Figure No.:                |   | 5 & 6  |                               |             |                   |         |                 |                            |  |                 |                    |
| No.                        | Form of Anomaly                         | ITM NGR (E,N)                                  | Possible Source(s) of Anomaly |             |                   |         |                 | Comment                    |  | Recommendation  |                    |
|                            |   |  | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |  | Test Excavation | Geophysical Survey |
| 05-1                       | Linear magnetic anomaly                 | 648926.711,617484.821                          | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 18m N-S. Possible archaeology or agricultural in origin.  | ✓               |                    |
| 05-2                       | Parallel linear magnetic anomalies      | 648945.640,617491.607<br>648939.926,617481.369 | ✓                             |             | ✓                 |         |                 |                            | Two parallel ditches corresponding to a relic field boundary marked on the historic 25in OS map.   | ✓               |                    |
| 05-3                       | Multiple isolated magnetic responses    | 648953.497,617464.821<br>Multiple locations    |                               |             | ✓                 |         |                 |                            | A number of possible pits or postholes located in the north half of the survey area, which may be of archaeological or agricultural origin.                      | ✓               |                    |
| 05-4                       | Curvilinear negatively magnetic anomaly | 648954.330,617471.012                          |                               |             | ✓                 |         |                 |                            | A possible compact earth or stone feature such as a bank, wall or stone-filled drain, measuring c. 37m NE-SW. Possibly archaeological or agricultural in origin. | ✓               |                    |
| 05-5                       | Curvilinear magnetic anomaly            | 648981.667,617476.458                          | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch or cut feature, measuring c. 16m E-W of archaeological or agricultural significance.  | ✓               |                    |
| 05-6                       | Linear magnetic anomaly                 | 648988.452,617442.708                          | ✓                             |             | ✓                 |         |                 |                            | Possible ditch or cut feature, measuring c. 52m N-S. Possibly archaeological or agricultural in origin.  | ✓               |                    |
| 05-7                       | Linear negatively magnetic anomaly      | 649008.274,617450.030                          |                               |             | ✓                 |         |                 |                            | A possible compact earth or stone feature such as a bank, wall or stone-filled drain, measuring c. 109m NW-SE. Probably agricultural in origin.                  | ✓               |                    |
| 05-8                       | Semi-circular magnetic anomaly          | 649004.375,617439.464                          | ✓                             |             | ✓                 |         |                 |                            | A small possible ditched feature, measuring c. 5m in diameter. Possibly archaeological or geological in origin.  | ✓               |                    |
| 05-9                       | Linear magnetic anomaly                 | 648994.375,617418.750                          | ✓                             |             | ✓                 |         |                 |                            | Possible ditch or cut feature, measuring c. 7m N-S. The ditch may be agricultural but the adjacent possible pits could indicate an archaeological significance.  | ✓               |                    |
| 05-10                      | Curvilinear magnetic anomaly            | 649016.458,617417.232                          | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch, measuring c. 9m E-W. Possibly archaeological or agricultural and possibly associated with the adjacent possible pits.                  | ✓               |                    |
| 05-11                      | Curvilinear magnetic anomaly            | 649012.530,617403.780                          | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch, measuring c. 4.6m NW-SE. this anomaly may represent a continuation of 05-10 and may be associated with the adjacent possible pits.     | ✓               |                    |

| Survey Methodology:        |   | Magnetometer                         |                               |             |                   |         |                 | Townland:                  |   | Clonmore         |                    |
|----------------------------|---|--------------------------------------|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|---|------------------|--------------------|
| ITM Coordinate:            |   | 649003,617437                        |                               |             |                   |         |                 | OD height of Survey Area   |   | 16 m OD          |                    |
| Survey Weather Conditions: |   | Sunny and dry                        |                               |             |                   |         |                 | Survey Date and Area (Ha): |   | 15/06/21 1.05 Ha |                    |
| Heritage Constraint Ref:   |   | -                                    |                               |             |                   |         |                 |                            |   |                  |                    |
| Site Description:          |   | Slightly undulating cut silage field |                               |             |                   |         |                 |                            |   |                  |                    |
| Figure No.:                |   | 5 & 6                                |                               |             |                   |         |                 |                            |   |                  |                    |
| No.                        | Form of Anomaly                                 | ITM NGR (E,N)                        | Possible Source(s) of Anomaly |             |                   |         |                 | Comment                    |   | Recommendation   |                    |
|                            |   |                                      | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |   | Test Excavation  | Geophysical Survey |
| 05-12                      | Right-angled magnetic anomaly                   | 649020.268,617407.470                | ✓                             |             | ✓                 |         |                 |                            | Possible ditch or cut feature, measuring c. 7m N-S. Possibly associated with 05-10 and 05-11.   | ✓                |                    |
| 05-13                      | Linear magnetic anomaly                         | 649026.935,617409.970                | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 44.4m NE-SW. Probably represents a relict agricultural boundary and may contain two pits or tree bowls on its edge.  | ✓                |                    |
| 05-14                      | Curvilinear magnetic anomaly                    | 649046.935,617403.105                | ✓                             |             | ✓                 |         |                 |                            | A C-shaped possible ditch or cut feature, measuring c. 8.9m NW-SE and 10m NE-SW. Possibly archaeological or agricultural in origin. The ditch contains a number of pits or deposits within it and possibly encloses further pits. | ✓                |                    |
| 05-15                      | Curvilinear magnetic anomaly                    | 649066.141,617379.772                | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch, spanning c. 54m NW-SE. This possibly represents an enclosure ditch of archaeological or agricultural origin. A number of possible pits exist within the confines of the ditch.                          | ✓                |                    |
| 05-16                      | Right-angled magnetic anomaly                   | 649046.042,617376.865                | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 12m N-S and 16m E-W. Possibly archaeological or agricultural and may be associated with 05-15.   | ✓                |                    |
|                            | Multiple linear and curvilinear magnetic trends | Multiple locations                   |                               |             |                   |         | ✓               |                            | A number of possible ditches or cut features which may be archaeological , agricultural or geological in nature   | ✓                |                    |
|                            | Multiple parallel linear magnetic trends        | Multiple locations                   |                               |             |                   |         | ✓               |                            | A small number of cultivation furrows in the NW half of the survey area.  |                  |                    |
|                            | Highly magnetic responses                       | Multiple locations                   |                               |             |                   |         |                 | ✓                          | High magnetic disturbance along the field boundary is caused by ferrous fencing materials.  |                  |                    |

| Survey Methodology:        |                                      | Resistivity                          |                               |             |                   |         |                 | Townland:                  |   | Clonmore        |                    |
|----------------------------|--------------------------------------|--------------------------------------|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|---|-----------------|--------------------|
| ITM Coordinate:            |                                      | 649003,617437                        |                               |             |                   |         |                 | OD height of Survey Area   |   | 16 m OD         |                    |
| Survey Weather Conditions: |                                      | Sunny and dry                        |                               |             |                   |         |                 | Survey Date and Area (Ha): |   | 29/06/21        | 0.4 Ha             |
| Heritage Constraint Ref:   |                                      | -                                    |                               |             |                   |         |                 |                            |   |                 |                    |
| Site Description:          |                                      | Slightly undulating cut silage field |                               |             |                   |         |                 |                            |   |                 |                    |
| Figure No.:                |                                      | 14 & 15                              |                               |             |                   |         |                 |                            |   |                 |                    |
| No.                        | Form of Anomaly                      | ITM NGR (E,N)                        | Possible Source(s) of Anomaly |             |                   |         |                 | Comment                    |   | Recommendation  |                    |
|                            |                                      |                                      | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |   | Test Excavation | Geophysical Survey |
| 05-17                      | Curvilinear high resistivity anomaly | 649007.594,617409.085                |                               |             | ✓                 |         |                 |                            | Compact earth or stone feature, 15m in length which could relate to archaeological, agricultural or geological processes.   | ✓               |                    |
| 05-18                      | Curvilinear high resistivity anomaly | 649012.663,617415.879                |                               |             | ✓                 |         |                 |                            | Compact earth or stone feature, 10m in length which could be related to 05-21 and is likely to be associated with 05-10, 05-11 and 05-12.   | ✓               |                    |
| 05-19                      | Arcing low resistivity anomaly       | 649023.376,617426.071                | ✓                             |             | ✓                 |         |                 |                            | Arcing ditch or cut feature which cuts between 05-18 and 05-21. This ditch could be archaeological or agricultural in origin.   | ✓               |                    |
| 05-20                      | Isolated high resistivity anomaly    | 649017.532,617414.058                |                               |             | ✓                 |         | ✓               |                            | Isolated possible near surface stone or stone capped pit. Situated between 05-18 and 05-21, this anomaly matches the location of a pit revealed in the magnetometer data (05-10). | ✓               |                    |
| 05-21                      | Arcing high resistivity anomaly      | 649022.119,617411.061                |                               |             | ✓                 |         |                 |                            | Arcing earth or stone feature, 17m in length which may represent an enclosing element which surrounds 05-10 and 05-12.  | ✓               |                    |
| 05-22                      | Area of low resistivity              | 649032.585,617404.218                |                               |             | ✓                 |         | ✓               |                            | Large zone of disturbed or waterlogged earth, 16m by 10m which may be associated with archaeological, agricultural or geological processes.                                       | ✓               |                    |
| 05-23                      | Area of high resistivity             | 649046.868,617410.559                |                               |             | ✓                 |         | ✓               |                            | Zone of compact earth or stone, 6m in length which may be associated with geology, archaeology or agriculture.  | ✓               |                    |
| 05-24                      | Area of high resistivity             | 649036.949,617392.525                |                               |             | ✓                 |         | ✓               |                            | Zone of compact earth or stone, 7m in length which may be associated with geology, archaeology or agriculture. This feature may also be associated with 05-25.                    | ✓               |                    |
| 05-25                      | Arcing high resistivity anomaly      | 649047.391,617392.35                 |                               |             | ✓                 |         |                 |                            | Arcing compact earth or stone feature, 40m in length which is likely to be an archaeological enclosure and matches the location of 05-15.   | ✓               |                    |
| 05-26                      | Linear high resistivity anomaly      | 649051.072,617389.473                |                               |             | ✓                 |         |                 |                            | Linear compact earth or stone feature, 9m in length which is likely to represent an internal division within 05-25.   | ✓               |                    |
| 05-27                      | Arcing high resistivity anomaly      | 649043.885,617380.688                |                               |             | ✓                 |         |                 |                            | Linear compact earth or stone feature, 21m in length. This feature could represent a continuation of 05-26 and is likely to represent an internal division within 05-25.          | ✓               |                    |

| Survey Methodology:        |                                  | Resistivity                          |                               |             |                   |         | Townland:                  |                       | Clonmore   |                 |                    |
|----------------------------|----------------------------------|--------------------------------------|-------------------------------|-------------|-------------------|---------|----------------------------|-----------------------|--|-----------------|--------------------|
| ITM Coordinate:            |                                  | 649003.617437                        |                               |             |                   |         | OD height of Survey Area   |                       | 16 m OD  |                 |                    |
| Survey Weather Conditions: |                                  | Sunny and dry                        |                               |             |                   |         | Survey Date and Area (Ha): |                       | 29/06/21   |                 | 0.4 Ha             |
| Heritage Constraint Ref:   |                                  | -                                    |                               |             |                   |         |                            |                       |  |                 |                    |
| Site Description:          |                                  | Slightly undulating cut silage field |                               |             |                   |         |                            |                       |  |                 |                    |
| Figure No.:                |                                  | 14 & 15                              |                               |             |                   |         |                            |                       |  |                 |                    |
| No.                        | Form of Anomaly                  | ITM NGR (E,N)                        | Possible Source(s) of Anomaly |             |                   |         |                            | Comment               |  | Recommendation  |                    |
|                            |                                  |                                      | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils            | Interference / Modern |  | Test Excavation | Geophysical Survey |
| 05-28                      | Isolated low resistivity anomaly | 649049.027,617384.179                | ✓                             |             | ✓                 |         |                            |                       | Possible pit or dug feature which is located within 05-25 and is likely to be archaeological in origin.  | ✓               |                    |
| 05-29                      | Arcing high resistivity anomaly  | 649064.677,617394.366                |                               |             | ✓                 |         |                            |                       | Arcing compact earth or stone feature, 12m in length which could be archaeological, agricultural or geological.  | ✓               |                    |
| 05-30                      | Arcing high resistivity anomaly  | 649060.325,617375.363                |                               |             | ✓                 |         |                            |                       | Compact earth or stone feature, 36m in length which is likely to represent an internal division within enclosure 05-15 / 05-25.                                | ✓               |                    |
| 05-31                      | Area of high resistivity         | 649073.648,617360.224                |                               |             | ✓                 |         | ✓                          |                       | Zone of high resistivity, 28m in length and 8m in width which is likely to be associated with enclosure 05-15 / 05-25.   | ✓               |                    |
| 05-32                      | Linear low resistivity anomaly   | 649056.178,617363.401                | ✓                             |             | ✓                 |         |                            |                       | Linear ditch or cut feature, 10m in length which is likely to be archaeological in origin and represent an internal division within enclosure 05-15 / 05-25.   | ✓               |                    |
| 05-33                      | Arcing low resistivity anomaly   | 649060.397,617361.464                | ✓                             |             | ✓                 |         |                            |                       | Ditch or cut feature, 19m in length which is likely to be archaeological in origin and represent an internal division within enclosure 05-15 / 05-25.          | ✓               |                    |
| 05-34                      | Linear high resistivity anomaly  | 649060.397,617361.464                |                               |             | ✓                 |         |                            |                       | Compact earth or stone feature, 8m in length which is likely to be archaeological in origin and represent an internal division within enclosure 05-15 / 05-25. | ✓               |                    |



### 3.6 N24CR GP06

| Survey Methodology:        |                                      | Magnetometer                                   |                               |             |                   |         |                 | Townland:                  |  | Grange          |                 |                    |
|----------------------------|--------------------------------------|--|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|--|-----------------|-----------------|--------------------|
| ITM Coordinate:            |                                      | 649210,617344                                  |                               |             |                   |         |                 | OD height of Survey Area   |  | 19 m OD         |                 |                    |
| Survey Weather Conditions: |                                      | Overcast                                       |                               |             |                   |         |                 | Survey Date and Area (Ha): |  | 10/06/21 0.6 Ha |                 |                    |
| Heritage Constraint Ref:   |                                      | -  |                               |             |                   |         |                 |                            |  |                 |                 |                    |
| Site Description:          |                                      | Slightly sloping pasture field                 |                               |             |                   |         |                 |                            |  |                 |                 |                    |
| Figure No.:                |                                      | 6 & 7  |                               |             |                   |         |                 |                            |  |                 |                 |                    |
| No.                        | Form of Anomaly                      | ITM NGR (E,N)                                  | Possible Source(s) of Anomaly |             |                   |         |                 |                            | Comment  |                 | Recommendation  |                    |
|                            |                                      |  | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |  |                 | Test Excavation | Geophysical Survey |
| 06-1                       | Zones of magnetic enhancement        | 649201.696,617369.717<br>649194.631,617368.086 |                               |             | ✓                 |         | ✓               |                            | Two zones of magnetic enhancement, one is linear and measures approximately 13.5m by 3.5m and the second forms a U-shape, c. 13m by 9.5m in size. Both contain multiple possible pits or postholes and may be archaeology or of agricultural origin. |                 | ✓               |                    |
| 06-2                       | Semi-circular magnetic anomaly       | 649196.425,617354.336                          | ✓                             |             | ✓                 |         |                 |                            | A possible curving ditch feature, measuring c. 5.3m in diameter N-S. Possibly archaeological in origin.  |                 | ✓               |                    |
| 06-3                       | Linear magnetic anomaly              | 649195.120,617330.098                          | ✓                             |             | ✓                 |         |                 |                            | Possible archaeological or agricultural ditch, c. 40.4m N-S.   |                 | ✓               |                    |
| 06-4                       | Curvilinear magnetic anomaly         | 649213.490,617330.424                          | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch, measuring c. 34m NW-SE and roughly parallel to ditch 06-6. Possibly archaeological or agricultural in origin.  |                 | ✓               |                    |
| 06-5                       | Curvilinear magnetic anomaly         | 649208.164,617340.641                          | ✓                             |             | ✓                 |         |                 |                            | A small possible cut feature, measuring c. 2.4m by 1.6m in size. Possibly archaeological, agricultural or geological in origin.  |                 | ✓               |                    |
| 06-6                       | Curvilinear magnetic anomaly         | 649210.501,617341.049                          | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch, measuring c. 16.3m in length and roughly parallel to ditch 06-4. Possibly archaeological in origin.  |                 | ✓               |                    |
| 06-7                       | Curvilinear magnetic anomaly         | 649219.957,617341.864                          | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch, measuring c. 9.2m E-W. Possibly archaeological in nature.  |                 | ✓               |                    |
| 06-8                       | Multiple isolated magnetic responses | 649209.033,617360.451<br>Multiple locations    |                               |             | ✓                 |         | ✓               |                            | A number of possible pits or postholes located mostly near the centre of the survey area. They may be archaeological, agricultural or geological.  |                 | ✓               |                    |
| 06-9                       | Curvilinear magnetic anomaly         | 649233.163,617340.070                          | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch, measuring c. 14.5m NW-SE. Possibly archaeological or agricultural in origin.   |                 | ✓               |                    |
| 06-10                      | Linear magnetic anomaly              | 649235.283,617346.918                          | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 35.5m E-W with a slight bend at E. Possible archaeology or agricultural in origin.  |                 | ✓               |                    |
| 06-11                      | Linear magnetic anomaly              | 649246.696,617333.549                          | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, c. 42.5m in length which could represent an archaeological or agricultural boundary  |                 | ✓               |                    |

|                                   |  |                     |  |  |  |  |                                   |  |               |  |
|-----------------------------------|--|---------------------|--|--|--|--|-----------------------------------|--|---------------|--|
| <b>Survey Methodology:</b>        |  | <b>Magnetometer</b> |  |  |  |  | <b>Townland:</b>                  |  | <b>Grange</b> |  |
| <b>ITM Coordinate:</b>            |  | 649210,617344       |  |  |  |  | <b>OD height of Survey Area</b>   |  | 19 m OD       |  |
| <b>Survey Weather Conditions:</b> |  | Overcast            |  |  |  |  | <b>Survey Date and Area (Ha):</b> |  | 10/06/21      |  |

| Survey Methodology:        |                                      | Resistivity                    |                               |             |                   |         |                 | Townland:                  |   | Grange           |                    |
|----------------------------|--------------------------------------|--------------------------------|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|---|------------------|--------------------|
| ITM Coordinate:            |                                      | 649210,617344                  |                               |             |                   |         |                 | OD height of Survey Area   |   | 19 m OD          |                    |
| Survey Weather Conditions: |                                      | Overcast                       |                               |             |                   |         |                 | Survey Date and Area (Ha): |   | 18/06/21 0.32 Ha |                    |
| Heritage Constraint Ref:   |                                      | -                              |                               |             |                   |         |                 |                            |   |                  |                    |
| Site Description:          |                                      | Slightly sloping pasture field |                               |             |                   |         |                 |                            |   |                  |                    |
| Figure No.:                |                                      | 14 & 15                        |                               |             |                   |         |                 |                            |   |                  |                    |
| No.                        | Form of Anomaly                      | ITM NGR (E,N)                  | Possible Source(s) of Anomaly |             |                   |         |                 | Comment                    |   | Recommendation   |                    |
|                            |                                      |                                | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |   | Test Excavation  | Geophysical Survey |
| 06-12                      | Arcing high resistivity anomaly      | 649194.637,617370.222          |                               |             | ✓                 |         |                 |                            | Arcing compact earth or stone feature, 33m in length which could represent archaeological, agricultural or geological processes.                                  | ✓                |                    |
| 06-13                      | Linear high resistivity anomaly      | 649201.343,617345.551          |                               |             | ✓                 |         |                 |                            | Linear compact earth or stone feature, 9m in length which is located at the S end of 06-12. The anomalies may be related and 06-13 appears to terminate at 06-22. | ✓                |                    |
| 06-14                      | Linear high resistivity anomaly      | 649204.439,617367.317          |                               |             | ✓                 |         |                 |                            | Linear compact earth or stone feature, 41m in length which is likely to represent a relict field boundary associated with 06-19 and 06-20.                        | ✓                |                    |
| 06-15                      | Area of high resistivity             | 649199.353,617373.292          |                               |             | ✓                 |         | ✓               |                            | Zone of archaeological or geological compact earth or stone feature, 7m in length.  | ✓                |                    |
| 06-16                      | Low resistivity anomaly              | 649181.016,617353.319          | ✓                             |             | ✓                 |         |                 |                            | Linear ditch or cut feature, 21m in length. Likely to be agricultural in origin.  | ✓                |                    |
| 06-17                      | Low resistivity anomaly              | 649188.488,617348.077          | ✓                             |             | ✓                 |         |                 |                            | Linear ditch or cut feature, 15m in length. Likely to be agricultural in origin.  | ✓                |                    |
| 06-18                      | Curvilinear high resistivity anomaly | 649196.839,617356.845          |                               |             | ✓                 |         |                 |                            | Compact earth or stone feature, 44m in length. This feature is likely to represent a relict boundary.   | ✓                |                    |
| 06-19                      | Linear high resistivity anomaly      | 649211.376,617358.016          |                               |             | ✓                 |         |                 |                            | Linear compact earth or stone feature, 29m in length which interlinks with 06-20 and may represent part of a field boundary system associated with 06-14.         | ✓                |                    |
| 06-20                      | Linear high resistivity anomaly      | 649232.544,617344.246          |                               |             | ✓                 |         |                 |                            | Linear compact earth or stone feature, 49m in length which likely interlinks with 06-20 and 06-14 creating a relict field system.                                 | ✓                |                    |
| 06-21                      | Area of high resistivity             | 649223.037,617347.44           |                               |             | ✓                 |         | ✓               |                            | Zone of archaeological or geological compact earth or stone feature, 10m in width.  | ✓                |                    |
| 06-22                      | Area of high resistivity             | 649205.471,617339.714          |                               |             | ✓                 |         | ✓               |                            | Zone of archaeological or geological compact earth or stone feature, 13m in width.  | ✓                |                    |
| 06-23                      | Arcing low resistivity anomaly       | 649218.483,617336.414          | ✓                             |             | ✓                 |         |                 |                            | Arcing possible ditch or cut feature, 48m in length which may relate to archaeological, agricultural or geological activity.                                      | ✓                |                    |
| 06-24                      | Arcing low resistivity anomaly       | 649237.186,617343.319          | ✓                             |             | ✓                 |         |                 |                            | Arcing possible ditch or cut feature, 49m in length which may relate to archaeological, agricultural or geological activity and crosses 06-23.                    | ✓                |                    |
| 06-25                      | Arcing low resistivity anomalies     | 649233.524,617330.191          | ✓                             |             | ✓                 |         |                 |                            | Two interconnecting possible ditch or cut features, 19m and 9m in length which may be related to 06-23 and/or 06-24.  | ✓                |                    |

### 3.7 N24CR GP07

| Survey Methodology:        |                                      | Magnetometer                   |                               |             |                   |         |                 | Townland:                  |   | Grange                                |                 |                    |
|----------------------------|--------------------------------------|--------------------------------|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|---|---------------------------------------|-----------------|--------------------|
| ITM Coordinate:            |                                      | 649301,617283                  |                               |             |                   |         |                 | OD height of Survey Area   |   | 22 m OD                               |                 |                    |
| Survey Weather Conditions: |                                      | Overcast                       |                               |             |                   |         |                 | Survey Date and Area (Ha): |   | 10/06/21                      0.52 Ha |                 |                    |
| Heritage Constraint Ref:   |                                      | -                              |                               |             |                   |         |                 |                            |   |                                       |                 |                    |
| Site Description:          |                                      | Slightly sloping pasture field |                               |             |                   |         |                 |                            |   |                                       |                 |                    |
| Figure No.:                |                                      | 8 & 9                          |                               |             |                   |         |                 |                            |   |                                       |                 |                    |
| No.                        | Form of Anomaly                      | ITM NGR (E,N)                  | Possible Source(s) of Anomaly |             |                   |         |                 |                            | Comment   |                                       | Recommendation  |                    |
|                            |                                      |                                | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |   |                                       | Test Excavation | Geophysical Survey |
| 07-1                       | Curvilinear magnetic anomaly         | 649229.672,617300.839          | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch, measuring c. 12.3m NW-SE. Possibly archaeological or agricultural in origin.  |                                       | ✓               |                    |
| 07-2                       | Linear magnetic anomaly              | 649300.807,617299.919          | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 5.5m NE-SW. Possibly archaeological or agricultural in origin.   |                                       | ✓               |                    |
| 07-3                       | V-shaped magnetic anomaly            | 649307.169,617287.444          | ✓                             |             | ✓                 |         |                 |                            | A V-shaped possible ditch or two joining ditches, measuring c. 7.7m and 7.2m in length. Possibly archaeological or agricultural in origin.                  |                                       | ✓               |                    |
| 07-4                       | Linear magnetic anomaly              | 649297.315,617272.725          | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 38.4m E-W. Probably agricultural in origin.  |                                       | ✓               |                    |
| 07-5                       | Linear magnetic anomaly              | 649304.051,617276.218          | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 24m NE-SW. Probably agricultural in origin and possibly associated with the cultivation furrows.                               |                                       | ✓               |                    |
| 07-6                       | Three curvilinear magnetic anomalies | 649327.627,617287.819          | ✓                             |             | ✓                 |         |                 |                            | Three curving ditches or cut features, two of them join, measuring between 5m and 7.8m in length. Possibly archaeological or agricultural in origin.        |                                       | ✓               |                    |
| 07-7                       | Isolated magnetic response           | 649318.022,617273.099          |                               |             | ✓                 |         |                 |                            | A large possible pit or area of burning, up to 3.8m in diameter. May be related to anomaly 07-6, possibly archaeological or agricultural in origin.         |                                       | ✓               |                    |
| 07-8                       | Curvilinear magnetic anomaly         | 649347.586,617264.866          | ✓                             |             | ✓                 |         |                 |                            | A possible ditch, measuring c. 76m E-W and curving at E end where it continues c. 24m in N direction. This feature could represent a relict field division. |                                       | ✓               |                    |
| 07-9                       | Arcing magnetic anomaly              | 649317.523,617261.373          | ✓                             |             | ✓                 |         |                 |                            | Arcing possible ditch, measuring c. 4.3m in diameter. Possibly archaeological or agricultural in origin.  |                                       | ✓               |                    |
|                            | Multiple parallel linear trends      | Multiple locations             |                               |             |                   |         | ✓               |                            | Multiple cultivation furrows throughout the survey area.  |                                       |                 |                    |



### 3.8 N24CR GP08

|                                   |                                 |  |                                  |             |                   |         |                                   |                       |   |                 |                    |
|-----------------------------------|---------------------------------|--|----------------------------------|-------------|-------------------|---------|-----------------------------------|-----------------------|---|-----------------|--------------------|
| <b>Survey Methodology:</b>        |                                 | <b>Magnetometer</b>                            |                                  |             |                   |         | <b>Townland:</b>                  |                       | <b>Grange</b>   |                 |                    |
| <b>ITM Coordinate:</b>            |                                 | 649401,617233                                  |                                  |             |                   |         | <b>OD height of Survey Area</b>   |                       | 23 m OD   |                 |                    |
| <b>Survey Weather Conditions:</b> |                                 | Sunny  |                                  |             |                   |         | <b>Survey Date and Area (Ha):</b> |                       | 14/06/21  | 0.31 Ha         |                    |
| <b>Heritage Constraint Ref:</b>   |                                 | -  |                                  |             |                   |         |                                   |                       |   |                 |                    |
| <b>Site Description:</b>          |                                 | Flat agricultural field containing low crop    |                                  |             |                   |         |                                   |                       |   |                 |                    |
| <b>Figure No.:</b>                |                                 | 8 & 9  |                                  |             |                   |         |                                   |                       |   |                 |                    |
| No.                               | Form of Anomaly                 | ITM NGR (E,N)                                  | Possible Source(s)<br>of Anomaly |             |                   |         |                                   | Comment               |   | Recommendation  |                    |
|                                   |                                 |  | Ditch                            | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils                   | Interference / Modern |   | Test Excavation | Geophysical Survey |
| 08-1                              | Sub-oval magnetic anomaly       | 649373.167,617242.880                          | ✓                                |             | ✓                 |         |                                   |                       | A sub-oval possible ditched feature with a wide gap at N and measuring c. 14.3m N-S and 10.6m E-W. Possibly archaeological or agricultural in origin. | ✓               |                    |
| 08-2                              | Two isolated magnetic responses | 649379.279,617233.524<br>649381.524,617239.886 |                                  |             | ✓                 |         | ✓                                 |                       | Two possible pits or post holes which may be archaeological or agricultural in origin.  | ✓               |                    |
|                                   | Multiple parallel linear trends | Multiple locations                             |                                  |             |                   |         | ✓                                 |                       | Multiple cultivation furrows throughout the survey area.  |                 |                    |
|                                   | Highly magnetic responses       | Multiple locations                             |                                  |             |                   |         |                                   | ✓                     | High magnetic disturbance along the field boundaries is caused by ferrous fencing materials.  |                 |                    |

### 3.9 N24CR GP09

| Survey Methodology:        |  | Magnetometer                                   |                               |             |                   |         |                 | Townland:                  |  | Grange          |                    |
|----------------------------|--|--|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|--|-----------------|--------------------|
| ITM Coordinate:            |  | 649494,617183                                  |                               |             |                   |         |                 | OD height of Survey Area   |  | 24 m OD         |                    |
| Survey Weather Conditions: |  | Sunny  |                               |             |                   |         |                 | Survey Date and Area (Ha): |  | 14/06/21 0.4 Ha |                    |
| Heritage Constraint Ref:   |  | -  |                               |             |                   |         |                 |                            |  |                 |                    |
| Site Description:          |  | Flat agricultural field containing low crop    |                               |             |                   |         |                 |                            |  |                 |                    |
| Figure No.:                |  | 8 & 9  |                               |             |                   |         |                 |                            |  |                 |                    |
| No.                        | Form of Anomaly                        | ITM NGR (E,N)                                  | Possible Source(s) of Anomaly |             |                   |         |                 | Comment                    |  | Recommendation  |                    |
|                            |  |  | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |  | Test Excavation | Geophysical Survey |
| 09-1                       | Linear magnetic anomaly                | 649470.888,617209.417                          | ✓                             |             | ✓                 |         |                 |                            | A possible ditch or cut feature, which is c. 19.5m in length and up to 3.5m wide. Possibly archaeological or agricultural in origin.   | ✓               |                    |
| 09-2                       | Curvilinear magnetic anomaly           | 649464.151,617195.758                          | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 12.6m in length and joins ditch 09-3 at S and 09-1 at N. Possibly archaeological or agricultural in origin.   | ✓               |                    |
| 09-3                       | Linear magnetic anomaly                | 649494.277,617184.531                          | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 103m E-W. Probably represents an agricultural boundary.   | ✓               |                    |
| 09-4                       | Zone of magnetic enhancement           | 649519.288,617175.892                          |                               |             | ✓                 |         | ✓               |                            | A zone of magnetic enhancement containing a number of possible archaeological features (09-5, 09-6, 09-7, 09-8, 09-9, & 09-10) and an area of high magnetic disturbance. This enhancement may be caused by archaeological activities or be the product of soil deposition. | ✓               |                    |
| 09-5                       | Multiple isolated magnetic responses   | 649496.335,617175.924<br>Multiple locations    |                               |             | ✓                 |         | ✓               |                            | A number of possible pits or postholes located in the SE half of the survey area. Possibly relate to archaeological, agricultural or geological activity or be the product of soil deposition associated with 09-4.  | ✓               |                    |
| 09-6                       | Curvilinear magnetic anomaly           | 649490.722,617164.697                          | ✓                             |             | ✓                 |         |                 |                            | A curvilinear possible ditch, measuring c. 39.2 NE-SW and forming the NW edge of an area of magnetic enhancement 09-4 and may correspond to the edge of the archaeological or deposition area.   | ✓               |                    |
| 09-7                       | Isolated magnetic response             | 649498.207,617155.528                          |                               |             | ✓                 |         | ✓               |                            | A large possible cut feature or area of burning, measuring c. 6.4m by 4.2m in size and located within zone of magnetic enhancement 09-4. Possibly archaeological or agricultural in origin.  | ✓               |                    |
| 09-8                       | Two parallel linear magnetic anomalies | 649513.924,617174.271<br>649516.544,617174.770 | ✓                             |             | ✓                 |         |                 |                            | Two parallel possible ditches, c. 38.6m and 19.5m N-S and running through zone of magnetic enhancement 09-4. Possibly agricultural as they run parallel to the cultivation furrows.  | ✓               |                    |

| <b>Survey Methodology:</b>        |  | <b>Magnetometer</b>                            |                               |             |                   |         | <b>Townland:</b>                  |                       | <b>Grange</b>   |                 |                    |
|-----------------------------------|--|--|-------------------------------|-------------|-------------------|---------|-----------------------------------|-----------------------|---|-----------------|--------------------|
| <b>ITM Coordinate:</b>            |  | 649494,617183                                  |                               |             |                   |         | <b>OD height of Survey Area</b>   |                       | 24 m OD   |                 |                    |
| <b>Survey Weather Conditions:</b> |  | Sunny  |                               |             |                   |         | <b>Survey Date and Area (Ha):</b> |                       | 14/06/21 0.4 Ha   |                 |                    |
| <b>Heritage Constraint Ref:</b>   |  | -  |                               |             |                   |         |                                   |                       |   |                 |                    |
| <b>Site Description:</b>          |  | Flat agricultural field containing low crop    |                               |             |                   |         |                                   |                       |   |                 |                    |
| <b>Figure No.:</b>                |  | 8 & 9  |                               |             |                   |         |                                   |                       |   |                 |                    |
| No.                               | Form of Anomaly                        | ITM NGR (E,N)                                  | Possible Source(s) of Anomaly |             |                   |         |                                   | Comment               |   | Recommendation  |                    |
|                                   |  |  | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils                   | Interference / Modern |   | Test Excavation | Geophysical Survey |
| 09-9                              | Curvilinear magnetic anomaly           | 649522.282,617162.420                          | ✓                             |             | ✓                 |         |                                   |                       | A curving possible ditch, measuring c. 12.8m N-S. Possibly archaeological or agricultural in origin and could be related to 09-8 and/or 09-10.  | ✓               |                    |
| 09-10                             | Two zones of high magnetism            | 649528.644,617170.903<br>649530.016,617156.682 |                               |             | ✓                 |         |                                   |                       | Two amorphous areas of burning, cut features containing magnetic materials or soil disturbance, measuring c. 8.1m by 7.3m and 10.6m by 5m in size and located with a zone of magnetic enhancement 09-4. Possibly relates to archaeological activities or soil deposition. | ✓               |                    |
|                                   | Multiple linear and curvilinear trends | Multiple locations                             |                               |             |                   |         | ✓                                 |                       | A number of possible ditches or cut features which may be archaeological , agricultural or geological in nature   | ✓               |                    |
|                                   | Multiple parallel linear trends        | Multiple locations                             |                               |             |                   |         | ✓                                 |                       | Multiple cultivation furrows throughout the survey area.  |                 |                    |
|                                   | Highly magnetic responses              | Multiple locations                             |                               |             |                   |         |                                   | ✓                     | High magnetic disturbance along the field boundaries is caused by ferrous fencing materials.  |                 |                    |

| Survey Methodology:        |   | Resistivity                                 |                               |             |                   |         |                 | Townland:                  |   | Grange          |                 |                    |
|----------------------------|---|---|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|---|-----------------|-----------------|--------------------|
| ITM Coordinate:            |   | 649494,617183                               |                               |             |                   |         |                 | OD height of Survey Area   |   | 24 m OD         |                 |                    |
| Survey Weather Conditions: |   | Overcast                                    |                               |             |                   |         |                 | Survey Date and Area (Ha): |   | 18/06/21 0.2 Ha |                 |                    |
| Heritage Constraint Ref:   |   | -   |                               |             |                   |         |                 |                            |   |                 |                 |                    |
| Site Description:          |   | Flat agricultural field containing low crop |                               |             |                   |         |                 |                            |   |                 |                 |                    |
| Figure No.:                |   | 15 & 16                                     |                               |             |                   |         |                 |                            |   |                 |                 |                    |
| No.                        | Form of Anomaly                             | ITM NGR (E,N)                               | Possible Source(s) of Anomaly |             |                   |         |                 |                            | Comment   |                 | Recommendation  |                    |
|                            |   |   | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |   |                 | Test Excavation | Geophysical Survey |
| 09-11                      | Series of linear high resistivity anomalies | 649507.999,617181.614<br>Multiple locations |                               |             | ✓                 |         |                 |                            | Series of roughly parallel linear compact earth or stone features which cross the northern portion of the survey area. These are likely to relate to agricultural processes such as cultivation banks or ridges.            | ✓               |                 |                    |
| 09-12                      | Low resistivity anomaly                     | 649498.975,617188.755                       | ✓                             |             | ✓                 |         |                 |                            | Ditch or cut feature which runs parallel to 09-01. This feature is likely to represent a cultivation furrow or agricultural boundary ditch.   | ✓               |                 |                    |
| 09-13                      | Arcing high resistivity anomaly             | 649499.226,617169.964                       |                               |             | ✓                 |         |                 |                            | Arcing ditch or cut feature, 17m in length which could relate to archaeological, agricultural or geological processes. The anomaly is located within 09-6 and could be related.   | ✓               |                 |                    |
| 09-14                      | Arcing high resistivity anomaly             | 649503.612,617179.485                       |                               |             | ✓                 |         |                 |                            | Compact earth or stone feature, 36m in length which matches the northern portion of 09-6 and could be archaeological or agricultural in origin.   | ✓               |                 |                    |
| 09-15                      | Curvilinear resistivity anomaly             | 649522.573,617171.733                       |                               |             | ✓                 |         |                 |                            | Compact earth or stone feature, 32m in length which could represent a continuation to the agricultural processes seen in 09-11 or could bound 09-16.  | ✓               |                 |                    |
| 09-16                      | Series of high resistivity zones            | 649535.557,617161.032<br>Multiple locations |                               |             | ✓                 |         | ✓               |                            | Series of compact earth or stone areas which are located on the southern edge of the survey area. These areas could relate to archaeological material or soil deposition, they are likely to be similar in nature to 09-10. | ✓               |                 |                    |
| 09-17                      | Linear high resistivity anomaly             | 649536.619,617173.224                       |                               |             | ✓                 |         |                 |                            | Linear compact earth or stone feature, 8m in length which may be related to or join portions of 09-16. This feature could be archaeological, agricultural or associated with soil deposition.                               | ✓               |                 |                    |
| 09-18                      | Arcing high resistivity anomaly             | 649544.929,617167.758                       |                               |             | ✓                 |         |                 |                            | Compact earth or stone feature, 9m in length which leads from 09-16. This feature is likely to be similar to 09-17.   | ✓               |                 |                    |

### 3.10 N24CR GP10

|                                   |                                      |  |                               |             |                   |         |                 |                                   |   |                  |                    |
|-----------------------------------|--------------------------------------|--|-------------------------------|-------------|-------------------|---------|-----------------|-----------------------------------|---|------------------|--------------------|
| <b>Survey Methodology:</b>        |                                      | <b>Magnetometer</b>  |                               |             |                   |         |                 | <b>Townland:</b>                  |   | <b>Grange</b>    |                    |
| <b>ITM Coordinate:</b>            |                                      | 649589,617125  |                               |             |                   |         |                 | <b>OD height of Survey Area</b>   |   | 25 m OD          |                    |
| <b>Survey Weather Conditions:</b> |                                      | Sunny  |                               |             |                   |         |                 | <b>Survey Date and Area (Ha):</b> |   | 14/06/21 0.34 Ha |                    |
| <b>Heritage Constraint Ref:</b>   |                                      | -  |                               |             |                   |         |                 |                                   |   |                  |                    |
| <b>Site Description:</b>          |                                      | Undulating pasture field with a patch of uncut grass and nettles with some stones. Analysis of LiDAR data for the area suggests the presence of shallow irregular depressions as well as a possible low profile irregular mound, all of which could be associated with historic excavation or quarrying. |                               |             |                   |         |                 |                                   |   |                  |                    |
| <b>Figure No.:</b>                |                                      | 8 & 9  |                               |             |                   |         |                 |                                   |   |                  |                    |
| No.                               | Form of Anomaly                      | ITM NGR (E,N)  | Possible Source(s) of Anomaly |             |                   |         |                 | Comment                           |   | Recommendation   |                    |
|                                   |                                      |  | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern             |   | Test Excavation  | Geophysical Survey |
| 10-1                              | Zone of magnetic enhancement         | Covering most of the survey area   |                               |             | ✓                 |         | ✓               | ✓                                 | A zone of general magnetic enhancement with numerous possible archaeological deposits spanning most of the survey area. All of the following anomalies (10-2 to 10-17) are located within this zone and it could relate to archaeology, agriculture or soil deposition. | ✓                |                    |
| 10-2                              | Linear magnetic anomaly              | 649565.232,617143.119  | ✓                             |             | ✓                 |         |                 |                                   | Possible ditch, c. 7.3m in length. Possibly archaeological or agricultural in origin.   | ✓                |                    |
| 10-3                              | Curvilinear magnetic anomaly         | 649560.328,617130.959  | ✓                             |             | ✓                 |         |                 |                                   | Possible curving ditch, measuring c. 9m in NW-SE. Possibly archaeological or agricultural in origin.  | ✓                |                    |
| 10-4                              | Multiple isolated magnetic responses | 649581.393,617133.662<br>Multiple locations  | ✓                             |             | ✓                 |         |                 |                                   | Numerous possible pits or postholes located throughout the survey area. These could represent archaeological or agricultural processes or be associated with soil importation.  | ✓                |                    |
| 10-5                              | Linear magnetic anomaly              | 649576.411,617141.153  |                               |             | ✓                 |         | ✓               |                                   | Possible ditch, measuring c. 21m E-W. Possibly archaeological or agricultural in origin.  | ✓                |                    |
| 10-6                              | Curvilinear magnetic anomaly         | 649584.562,617140.740  | ✓                             |             | ✓                 |         |                 |                                   | Possible archaeological or agricultural ditch, measuring c. 6m E-W.   | ✓                |                    |
| 10-7                              | Zone of high magnetism               | 649573.625,617114.718  |                               |             | ✓                 |         |                 |                                   | Possible archaeological deposit, c. 11m by 4m in size. Could also relate to agricultural or geological processes or soil deposition.  | ✓                |                    |
| 10-8                              | Zone of high magnetism               | 649586.618,617113.696  |                               |             | ✓                 |         |                 |                                   | Possible archaeological deposit, up to 26.6m by 6.6m in size. Possibly archaeological or agricultural in origin or associated with soil deposition, excavation or quarrying. Matches the location of a shallow depression in the LiDAR data.                            | ✓                |                    |



| Survey Methodology:        |   | Magnetometer   |                               |             |                   |         | Townland:                  |                       | Grange   |                 |                    |
|----------------------------|---|--|-------------------------------|-------------|-------------------|---------|----------------------------|-----------------------|--|-----------------|--------------------|
| ITM Coordinate:            |   | 649589,617125  |                               |             |                   |         | OD height of Survey Area   |                       | 25 m OD  |                 |                    |
| Survey Weather Conditions: |   | Sunny  |                               |             |                   |         | Survey Date and Area (Ha): |                       | 14/06/210.34 Ha  |                 |                    |
| Heritage Constraint Ref:   |   | -  |                               |             |                   |         |                            |                       |  |                 |                    |
| Site Description:          |   | Undulating pasture field with a patch of uncut grass and nettles with some stones. Analysis of LiDAR data for the area suggests the presence of shallow irregular depressions as well as a possible low profile irregular mound, all of which could be associated with historic excavation or quarrying. |                               |             |                   |         |                            |                       |  |                 |                    |
| Figure No.:                |   | 8 & 9  |                               |             |                   |         |                            |                       |  |                 |                    |
| No.                        | Form of Anomaly                         | ITM NGR (E,N)  | Possible Source(s) of Anomaly |             |                   |         |                            | Comment               |  | Recommendation  |                    |
|                            |   |  | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils            | Interference / Modern |  | Test Excavation | Geophysical Survey |
| 10-9                       | Zone of high magnetism                  | 649600.340,617093.696  |                               |             | ✓                 |         |                            |                       | Possible archaeological deposit, c. 5.7m by 3.8m in size. Possibly archaeological or agricultural in origin. Similar in composition to 10-7 and 10-8.  | ✓               |                    |
| 10-10                      | Zone of high magnetism                  | 649605.304,617140.265  |                               |             | ✓                 |         |                            |                       | Possible archaeological deposit, c. 9.5m by 5.4m in size. Possibly archaeological or agricultural in origin and similar in composition to 10-7, 10-8 and 10-9.   | ✓               |                    |
| 10-11                      | Zone of high magnetism                  | 649617.275,617132.820  |                               |             | ✓                 |         |                            |                       | Possible archaeological deposit, c. 7.3m by 3.7m in size. Similar in composition to 10-7, 10-8, 10-9 and 10-10. Matches the location of a shallow depression in the LiDAR data.  | ✓               |                    |
| 10-12                      | Curvilinear magnetic anomaly            | 649612.749,617129.900  | ✓                             |             | ✓                 |         |                            |                       | Possible ditch, measuring c. 15.3m E-W. Possibly archaeological or agricultural and possibly bounding 10-11.   | ✓               |                    |
| 10-13                      | Linear negatively magnetic anomaly      | 649604.720,617119.535  |                               |             | ✓                 |         |                            |                       | A possible bank, wall or stone-filled drain, c. 25.4m N-S. This runs parallel to the plough furrows and is likely to represent an agricultural boundary.   | ✓               |                    |
| 10-14                      | Curvilinear negatively magnetic anomaly | 649614.939,617117.491  |                               |             | ✓                 |         |                            |                       | A possible compact earth or stone feature forming a rough C-shape with a maximum diameter of 21.5m. Possibly archaeological or agricultural in origin and possibly surrounding 10-15 and 10-16, both of which were detected as depression in the LiDAR data.   | ✓               |                    |
| 10-15                      | Zone of high magnetism                  | 649616.983,617113.258  |                               |             | ✓                 |         |                            |                       | Possible archaeological deposit, c. 7m by 5.6m in size. Located in the bend of anomaly 10-14 and may be related. This anomaly is also roughly located at a slightly raised and overgrown area in the field. Matches the location of a shallow depression and possibly bounds a low-profile irregular mound seen in the LiDAR data. | ✓               |                    |
| 10-16                      | Zone of high magnetism                  | 649601.800,617110.922  |                               |             | ✓                 |         |                            |                       | Possible archaeological deposit, c. 6.5m by 4.5m in size. Matches the location of a shallow depression and possibly bounds a low-profile irregular mound seen in the LiDAR data.   | ✓               |                    |

|                                   |                                 |  |                                  |             |                   |                                   |                 |                       |  |                 |                    |
|-----------------------------------|---------------------------------|--|----------------------------------|-------------|-------------------|-----------------------------------|-----------------|-----------------------|--|-----------------|--------------------|
| <b>Survey Methodology:</b>        |                                 | <b>Magnetometer</b>  |                                  |             |                   | <b>Townland:</b>                  |                 | <b>Grange</b>         |  |                 |                    |
| <b>ITM Coordinate:</b>            |                                 | 649589,617125  |                                  |             |                   | <b>OD height of Survey Area</b>   |                 | 25 m OD               |  |                 |                    |
| <b>Survey Weather Conditions:</b> |                                 | Sunny  |                                  |             |                   | <b>Survey Date and Area (Ha):</b> |                 | 14/06/21              | 0.34 Ha  |                 |                    |
| <b>Heritage Constraint Ref:</b>   |                                 | -  |                                  |             |                   |                                   |                 |                       |  |                 |                    |
| <b>Site Description:</b>          |                                 | Undulating pasture field with a patch of uncut grass and nettles with some stones. Analysis of LiDAR data for the area suggests the presence of shallow irregular depressions as well as a possible low profile irregular mound, all of which could be associated with historic excavation or quarrying. |                                  |             |                   |                                   |                 |                       |  |                 |                    |
| <b>Figure No.:</b>                |                                 | 8 & 9  |                                  |             |                   |                                   |                 |                       |  |                 |                    |
| No.                               | Form of Anomaly                 | ITM NGR (E,N)  | Possible Source(s)<br>of Anomaly |             |                   |                                   | Comment         |                       | Recommendation   |                 |                    |
|                                   |                                 |  | Ditch                            | Archaeology | Poss. Archaeology | Ferrous                           | Geology / Soils | Interference / Modern |  | Test Excavation | Geophysical Survey |
| 10-17                             | Zone of high magnetism          | 649608.807,617092.236  |                                  |             | ✓                 |                                   |                 |                       | Possible archaeological deposit, c. 5.6m by 7.4m in size. Matches the location of a shallow depression and possibly bounds a low-profile irregular mound seen in the LiDAR data. | ✓               |                    |
|                                   | Linear magnetic trends          | Multiple locations   |                                  |             |                   |                                   | ✓               |                       | A number of possible ditches or cut features which may be archaeological , agricultural or geological in nature  | ✓               |                    |
|                                   | Multiple parallel linear trends | Multiple locations   |                                  |             |                   |                                   | ✓               |                       | Multiple cultivation furrows throughout the survey area.   |                 |                    |

| Survey Methodology:        |  | Resistivity  |                               |             |                   |         |                 | Townland:                  |  | Grange          |                    |
|----------------------------|--|--|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|--|-----------------|--------------------|
| ITM Coordinate:            |  | 649589,617125  |                               |             |                   |         |                 | OD height of Survey Area   |  | 25 m OD         |                    |
| Survey Weather Conditions: |  | Overcast   |                               |             |                   |         |                 | Survey Date and Area (Ha): |  | 18/06/21 0.3 Ha |                    |
| Heritage Constraint Ref:   |  | -  |                               |             |                   |         |                 |                            |  |                 |                    |
| Site Description:          |  | Undulating pasture field with a patch of uncut grass and nettles with some stones. Analysis of LiDAR data for the area suggests the presence of shallow irregular depressions as well as a possible low profile irregular mound, all of which could be associated with historic excavation or quarrying. |                               |             |                   |         |                 |                            |  |                 |                    |
| Figure No.:                |  | 15 & 16  |                               |             |                   |         |                 |                            |  |                 |                    |
| No.                        | Form of Anomaly                                | ITM NGR (E,N)  | Possible Source(s) of Anomaly |             |                   |         |                 | Comment                    |  | Recommendation  |                    |
|                            |  |  | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |  | Test Excavation | Geophysical Survey |
| 10-18                      | Curvilinear high resistivity anomaly           | 649564.957,617145.741  |                               |             | ✓                 |         |                 |                            | Possible stone or compact earth feature, 14m in length which might be archaeological, agricultural or associated with soil deposition as possibly indicated in 10-1.   | ✓               |                    |
| 10-19                      | Curvilinear high resistivity anomaly           | 649556.305,617127.465  |                               |             | ✓                 |         |                 |                            | Possible stone or compact earth feature, 13m in length. Possibly archaeological, agricultural or associated with soil deposition.  | ✓               |                    |
| 10-20                      | Three isolated high resistivity anomalies      | 649566.411,617132.405<br>Multiple locations  |                               |             | ✓                 |         |                 |                            | Three near surface stones or possible stone capped pits. These anomalies coincide with a portion of 10-4 and could relate to archaeological or agricultural processes or be associated with soil deposition. | ✓               |                    |
| 10-21                      | Arcing high resistivity anomaly                | 649573.056,617129.06   |                               |             | ✓                 |         |                 |                            | Possible stone or compact earth feature, 16m in length. Possibly archaeological, agricultural or associated with soil deposition.  | ✓               |                    |
| 10-22                      | Curvilinear high resistivity anomaly           | 649566.728,617122.99   |                               |             | ✓                 |         |                 |                            | Possible stone or compact earth feature, 8m in length. Possibly archaeological, agricultural or associated with soil deposition. Possibly associated with 10-21.   | ✓               |                    |
| 10-23                      | Linear high resistivity anomaly                | 649573.209,617116.971  |                               |             | ✓                 |         |                 |                            | Possible stone or compact earth feature, 5m in length. Possibly archaeological, agricultural or associated with soil deposition.   | ✓               |                    |
| 10-24                      | Arcing high resistivity anomaly                | 649589.197,617141.091  |                               |             | ✓                 |         |                 |                            | Possible stone or compact earth feature, 26m in length. This feature could indicate archaeological remains and may be associated with 10-25, 10-26 and 10-27.  | ✓               |                    |
| 10-25                      | Two interconnecting high resistivity anomalies | 649585.29,617137.038   |                               |             | ✓                 |         |                 |                            | Two interconnecting possible stone or compact earth features, 8m and 6m in length. These features could indicate internal divisions within 10-24.  | ✓               |                    |
| 10-26                      | Curvilinear low resistivity anomaly            | 649580.941,617136.648  | ✓                             |             | ✓                 |         |                 |                            | Possible ditch or cut feature, 7m in length which could indicate internal divisions within 10-24.  | ✓               |                    |
| 10-27                      | Curvilinear low resistivity anomaly            | 649590.246,617133.629  | ✓                             |             | ✓                 |         |                 |                            | Possible ditch or cut feature, 12m in length which could abound 10-24.   | ✓               |                    |

| Survey Methodology:        |   | Resistivity  |                               |             |                   |         | Townland:                  |                       | Grange   |                 |                    |
|----------------------------|---|--|-------------------------------|-------------|-------------------|---------|----------------------------|-----------------------|--|-----------------|--------------------|
| ITM Coordinate:            |   | 649589,617125  |                               |             |                   |         | OD height of Survey Area   |                       | 25 m OD  |                 |                    |
| Survey Weather Conditions: |   | Overcast   |                               |             |                   |         | Survey Date and Area (Ha): |                       | 18/06/21                      0.3 Ha   |                 |                    |
| Heritage Constraint Ref:   |   | -  |                               |             |                   |         |                            |                       |  |                 |                    |
| Site Description:          |   | Undulating pasture field with a patch of uncut grass and nettles with some stones. Analysis of LiDAR data for the area suggests the presence of shallow irregular depressions as well as a possible low profile irregular mound, all of which could be associated with historic excavation or quarrying. |                               |             |                   |         |                            |                       |  |                 |                    |
| Figure No.:                |   | 15 & 16  |                               |             |                   |         |                            |                       |  |                 |                    |
| No.                        | Form of Anomaly                               | ITM NGR (E,N)  | Possible Source(s) of Anomaly |             |                   |         |                            | Comment               |  | Recommendation  |                    |
|                            |   |  | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils            | Interference / Modern |  | Test Excavation | Geophysical Survey |
| 10-28                      | Series of low resistivity zones               | 649584.197,617123.687<br>Multiple locations  |                               |             | ✓                 |         | ✓                          |                       | Series of zones of waterlogged or disturbed soil. These features could relate to archaeological, agricultural, geological processes or be associated with soil deposition. And could be related to some of the magnetometer anomalies such as 10-7, 10-8, 10-16 etc. | ✓               |                    |
| 10-29                      | Series of high resistivity zones              | 649597.974,617129.334<br>Multiple locations  |                               |             | ✓                 |         | ✓                          |                       | Series of zones of compact earth or stone. These features could relate to archaeological, agricultural, geological processes or be associated with soil deposition and could be related to some of the magnetometer anomalies such as 10-7, 10-8, 10-16 etc.         | ✓               |                    |
| 10-30                      | Two interconnecting low resistivity anomalies | 649597.974,617129.334  | ✓                             |             | ✓                 |         |                            |                       | Two interconnecting ditches which are likely to relate to a former field division or archaeological boundary.  | ✓               |                    |

### 3.11 N24CR GP11

|                                   |                                      |   |                               |             |                   |         |                 |                                   |   |                   |                 |                    |
|-----------------------------------|--------------------------------------|---|-------------------------------|-------------|-------------------|---------|-----------------|-----------------------------------|---|-------------------|-----------------|--------------------|
| <b>Survey Methodology:</b>        |                                      | <b>Magnetometer</b>   |                               |             |                   |         |                 | <b>Townland:</b>                  |   | <b>Grange</b>     |                 |                    |
| <b>ITM Coordinate:</b>            |                                      | 649665,617080   |                               |             |                   |         |                 | <b>OD height of Survey Area</b>   |   | 24 m OD           |                 |                    |
| <b>Survey Weather Conditions:</b> |                                      | Raining   |                               |             |                   |         |                 | <b>Survey Date and Area (Ha):</b> |   | 16/06/21 0.254 Ha |                 |                    |
| <b>Heritage Constraint Ref:</b>   |                                      | -   |                               |             |                   |         |                 |                                   |   |                   |                 |                    |
| <b>Site Description:</b>          |                                      | Undulating pasture field. Analysis of LiDAR data for the area suggests the presence of shallow irregular depressions as well as a possible low profile linear mound or ridge, all of which could be associated with historic excavation or quarrying. |                               |             |                   |         |                 |                                   |   |                   |                 |                    |
| <b>Figure No.:</b>                |                                      | 8 & 9   |                               |             |                   |         |                 |                                   |   |                   |                 |                    |
| No.                               | Form of Anomaly                      | ITM NGR (E,N)   | Possible Source(s) of Anomaly |             |                   |         |                 |                                   | Comment   |                   | Recommendation  |                    |
|                                   |                                      |   | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern             |   |                   | Test Excavation | Geophysical Survey |
| 11-1                              | Zone of magnetic enhancement         | 649651.997,617091.958<br>NW section of the survey area  |                               |             | ✓                 |         | ✓               | ✓                                 | Likely a continuation of zone of magnetic enhancement 10-1 in the field to the E and also contains features 11-2 to 11-5. This part of the field was undulating and may have been quarried and or suffered soil deposition, either of which would account for the enhancement. An archaeological source for the enhancement can however not be ruled out. |                   | ✓               |                    |
| 11-2                              | Zone of high magnetism               | 649651.340,617100.498   |                               |             | ✓                 |         |                 |                                   | Possible archaeological deposit, c. 12.6m by 8.4m in size. Matches the location of a shallow depression in the LiDAR data.  |                   | ✓               |                    |
| 11-3                              | Zone of high magnetism               | 649646.084,617087.359   |                               |             | ✓                 |         |                 |                                   | Possible archaeological deposit, c. 11.5m by 5.1m in size. Matches the location of a shallow depression in the LiDAR data.  |                   | ✓               |                    |
| 11-4                              | Curvilinear magnetic anomaly         | 649645.646,617079.257   | ✓                             |             | ✓                 |         |                 |                                   | A curving possible ditch or cut feature, measuring c. 13.4m NW-SE and 12.8m NE-SW. Possibly archaeological or agricultural in origin or associated with 11-1. Matches the location of a low profile linear mound or ridge in the LiDAR data.  |                   | ✓               |                    |
| 11-5                              | Zone of high magnetism               | 649669.734,617081.447   |                               |             | ✓                 |         |                 |                                   | Possible archaeological deposit, c. 16m by 6.5m in size. Matches the location of a shallow depression in the LiDAR data.  |                   | ✓               |                    |
| 11-6                              | Multiple isolated magnetic responses | 649679.142,617079.600<br>Multiple locations   |                               |             | ✓                 |         | ✓               |                                   | Numerous possible pits, post holes and small cut features located throughout the survey area. These could be archaeological, agricultural or associated with 11-1.  |                   | ✓               |                    |
| 11-7                              | Linear magnetic anomaly              | 649690.537,617079.038   | ✓                             |             | ✓                 |         |                 |                                   | Possible ditch, measuring c. 31m N-S. Possibly archaeological or related to a relict agricultural boundary.   |                   | ✓               |                    |
|                                   | Multiple parallel linear trends      | Multiple locations  |                               |             |                   |         | ✓               |                                   | Multiple cultivation furrows throughout the survey area.  |                   |                 |                    |



### 3.12 N24CR GP12

| Survey Methodology:        |                                    | Magnetometer                                   |                               |             |                   |         |                 | Townland:                  |  | Grange   |                 |                    |
|----------------------------|------------------------------------|--|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|--|----------|-----------------|--------------------|
| ITM Coordinate:            |                                    | 649730,617030                                  |                               |             |                   |         |                 | OD height of Survey Area   |  | 22 m OD  |                 |                    |
| Survey Weather Conditions: |                                    | Overcast                                       |                               |             |                   |         |                 | Survey Date and Area (Ha): |  | 10/06/21 | 0.27 Ha         |                    |
| Heritage Constraint Ref:   |                                    | -  |                               |             |                   |         |                 |                            |  |          |                 |                    |
| Site Description:          |                                    | Flat pasture field                             |                               |             |                   |         |                 |                            |  |          |                 |                    |
| Figure No.:                |                                    | 10 & 11  |                               |             |                   |         |                 |                            |  |          |                 |                    |
| No.                        | Form of Anomaly                    | ITM NGR (E,N)                                  | Possible Source(s) of Anomaly |             |                   |         |                 |                            | Comment  |          | Recommendation  |                    |
|                            |                                    |  | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |  |          | Test Excavation | Geophysical Survey |
| 12-1                       | Linear magnetic anomaly            | 649711.097,617065.094                          | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 18.9m E-W. Possibly archaeological or agricultural in origin.   |          | ✓               |                    |
| 12-2                       | Linear magnetic anomaly            | 649708.177,617053.561                          | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 25.4m E-W. Possibly archaeological or agricultural in origin.   |          | ✓               |                    |
| 12-3                       | Curving magnetic anomaly           | 649712.410,617054.291                          |                               |             | ✓                 |         |                 |                            | A possible ditch or cut feature, measuring c. 9.5m in length and up to 2.5m wide. Possibly archaeological or agricultural in origin. |          | ✓               |                    |
| 12-4                       | Curvilinear magnetic anomaly       | 649718.250,617033.561                          | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch, measuring c. 40.8m N-S. Possibly archaeological or agricultural in origin.                                 |          | ✓               |                    |
| 12-5                       | Linear magnetic anomaly            | 649715.184,617023.926                          | ✓                             |             | ✓                 |         |                 |                            | Possible archaeological or agricultural ditch, measuring c. 12m NE-SW.   |          | ✓               |                    |
| 12-6                       | Negatively magnetic linear anomaly | 649728.761,617037.941                          |                               |             | ✓                 |         |                 |                            | A possible bank, wall or stone-filled drain, measuring c. 56m N-S. Probably a relict agricultural boundary.                          |          | ✓               |                    |
| 12-7                       | Isolated magnetic responses        | 649731.389,617042.320<br>649731.389,617023.780 |                               |             | ✓                 |         | ✓               |                            | Two isolated possible pits or postholes. Possibly archaeological or agricultural in origin.  |          | ✓               |                    |
|                            | Multiple parallel linear trends    | Multiple locations                             |                               |             |                   |         | ✓               |                            | Multiple cultivation furrows throughout the survey area.   |          |                 |                    |

### 3.13 N24CR GP13

|                                   |  |  |                                  |             |                   |         |                                   |                       |  |                 |                    |
|-----------------------------------|--|--|----------------------------------|-------------|-------------------|---------|-----------------------------------|-----------------------|--|-----------------|--------------------|
| <b>Survey Methodology:</b>        |  | <b>Magnetometer</b>                            |                                  |             |                   |         | <b>Townland:</b>                  |                       | <b>Grange</b>  |                 |                    |
| <b>ITM Coordinate:</b>            |  | 649786,616976                                  |                                  |             |                   |         | <b>OD height of Survey Area</b>   |                       | 22 m OD  |                 |                    |
| <b>Survey Weather Conditions:</b> |  | Raining  |                                  |             |                   |         | <b>Survey Date and Area (Ha):</b> |                       | 10/06/21   | 0.28 Ha         |                    |
| <b>Heritage Constraint Ref:</b>   |  | -  |                                  |             |                   |         |                                   |                       |  |                 |                    |
| <b>Site Description:</b>          |  | Flat pasture field                             |                                  |             |                   |         |                                   |                       |  |                 |                    |
| <b>Figure No.:</b>                |  | 10 & 11  |                                  |             |                   |         |                                   |                       |  |                 |                    |
| No.                               | Form of Anomaly                        | ITM NGR (E,N)                                  | Possible Source(s)<br>of Anomaly |             |                   |         |                                   | Comment               |  | Recommendation  |                    |
|                                   |  |  | Ditch                            | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils                   | Interference / Modern |  | Test Excavation | Geophysical Survey |
| 13-1                              | Two parallel linear magnetic anomalies | 649775.273,616993.977<br>649780.237,616990.473 | ✓                                |             | ✓                 |         |                                   |                       | Two parallel ditches, c. 54m E-W, corresponding to a relic field boundary marked on the historic first edition 6in OS map. | ✓               |                    |
| 13-2                              | Linear magnetic anomaly                | 649781.989,616982.979                          | ✓                                |             | ✓                 |         |                                   |                       | Possible ditch, measuring c. 31.5m N-S. Possibly archaeological or agricultural in origin.                                 | ✓               |                    |
| 13-3                              | Curvilinear magnetic anomaly           | 649787.723,616974.293                          | ✓                                |             | ✓                 |         |                                   |                       | Possible ditch, measuring c. 32m E-W with may interlink with 12-2. Possibly archaeological or agricultural in origin.      | ✓               |                    |
|                                   | Multiple parallel linear trends        | Multiple locations                             |                                  |             |                   |         | ✓                                 |                       | Multiple cultivation furrows throughout the survey area.   |                 |                    |

### 3.14 N24CR GP14

| Survey Methodology:        |  | Magnetometer                                   |                               |             |                   |         |                 | Townland:                  |   | Grange           |                 |                    |
|----------------------------|--|--|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|---|------------------|-----------------|--------------------|
| ITM Coordinate:            |  | 649857,616884                                  |                               |             |                   |         |                 | OD height of Survey Area   |   | 21 m OD          |                 |                    |
| Survey Weather Conditions: |  | Sunny and dry                                  |                               |             |                   |         |                 | Survey Date and Area (Ha): |   | 16/06/21 0.56 Ha |                 |                    |
| Heritage Constraint Ref:   |  | -  |                               |             |                   |         |                 |                            |   |                  |                 |                    |
| Site Description:          |  | Flat cut silage field                          |                               |             |                   |         |                 |                            |   |                  |                 |                    |
| Figure No.:                |  | 10 & 11  |                               |             |                   |         |                 |                            |   |                  |                 |                    |
| No.                        | Form of Anomaly                        | ITM NGR (E,N)                                  | Possible Source(s) of Anomaly |             |                   |         |                 |                            | Comment   |                  | Recommendation  |                    |
|                            |  |  | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |   |                  | Test Excavation | Geophysical Survey |
| 14-1                       | Linear magnetic anomaly                | 649825.548,616951.991                          | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 32.3m N-S. Possibly archaeological or agricultural in origin.  |                  | ✓               |                    |
| 14-2                       | Linear magnetic anomaly                | 649822.920,616902.063                          | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 31.4m N-S. Possibly archaeological or agricultural in origin.  |                  | ✓               |                    |
| 14-3                       | Two linear magnetic anomalies          | 649850.001,616898.389<br>649851.071,616861.114 | ✓                             |             | ✓                 |         |                 |                            | Two segments of a possible ditch, measuring c. 51.7m and 30.6m N-S and separated by a c. 3m wide gap. Probably agricultural.  |                  | ✓               |                    |
| 14-4                       | Multiple isolated magnetic responses   | 649859.636,616888.560<br>Multiple locations    |                               |             | ✓                 |         | ✓               |                            | A number of possible pits or postholes located in a few small clusters in the S half of the survey area. These may be archaeological, agricultural or geological in origin. |                  | ✓               |                    |
| 14-5                       | Curvilinear magnetic anomaly           | 649867.714,616886.127                          | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 6.2m NE-SW. Possibly archaeological or agricultural in origin and possibly associated with 14-5.   |                  | ✓               |                    |
| 14-6                       | Two parallel linear magnetic anomalies | 649870.049,616889.922<br>649870.536,616883.012 | ✓                             |             | ✓                 |         |                 |                            | Two parallel possible ditches, c. 21.7m and 27.8m in length. Probably agricultural in origin.   |                  | ✓               |                    |
| 14-7                       | Zone of magnetic enhancement           | 649869.466,616868.219                          |                               |             | ✓                 |         | ✓               | ✓                          | A zone of magnetic enhancement measuring c. 19m by 50m in size. This anomaly could represent archaeological activity and may be related to ditches 14-6, 14-8 and 14-10.    |                  | ✓               |                    |
| 14-8                       | Linear magnetic anomaly                | 649877.446,616881.455                          | ✓                             |             | ✓                 |         |                 |                            | A relic field boundary ditch, c. 20.5m in length and marked on the historic 6in and 25 in OS maps. Continues as ditch 14-10 to the S.                                       |                  | ✓               |                    |
| 14-9                       | Linear magnetic anomaly                | 649858.938,616850.457                          | ✓                             |             | ✓                 |         |                 |                            | A relic field boundary, measuring c. 53m in length and marked on the historic 6in and 25 in OS maps.  |                  | ✓               |                    |
| 14-10                      | Linear magnetic anomaly                | 649882.377,616852.745                          | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, which measures c. 39m N-S and appears to be a continuation of historic field boundary 14-8.   |                  | ✓               |                    |
| 14-11                      | Linear magnetic anomaly                | 649899.620,616856.005                          | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 10m NE-SW. Possibly archaeological or agricultural in origin.  |                  | ✓               |                    |

|                                   |  |                       |                                  |             |                   |         |                 |                                   |  |                 |                    |
|-----------------------------------|--|-----------------------|----------------------------------|-------------|-------------------|---------|-----------------|-----------------------------------|--|-----------------|--------------------|
| <b>Survey Methodology:</b>        |  | <b>Magnetometer</b>   |                                  |             |                   |         |                 | <b>Townland:</b>                  |  | <b>Grange</b>   |                    |
| <b>ITM Coordinate:</b>            |  | 649857,616884         |                                  |             |                   |         |                 | <b>OD height of Survey Area</b>   |  | 21 m OD         |                    |
| <b>Survey Weather Conditions:</b> |  | Sunny and dry         |                                  |             |                   |         |                 | <b>Survey Date and Area (Ha):</b> |  | 16/06/21        | 0.56 Ha            |
| <b>Heritage Constraint Ref:</b>   |  | -                     |                                  |             |                   |         |                 |                                   |  |                 |                    |
| <b>Site Description:</b>          |  | Flat cut silage field |                                  |             |                   |         |                 |                                   |  |                 |                    |
| <b>Figure No.:</b>                |  | 10 & 11               |                                  |             |                   |         |                 |                                   |  |                 |                    |
| No.                               | Form of Anomaly                        | ITM NGR (E,N)         | Possible Source(s)<br>of Anomaly |             |                   |         |                 | Comment                           |  | Recommendation  |                    |
|                                   |  |                       | Ditch                            | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern             |  | Test Excavation | Geophysical Survey |
| 14-12                             | Curvilinear magnetic anomaly           | 649890.569,616840.567 | ✓                                |             | ✓                 |         |                 |                                   | A curving possible ditch feature, measuring c. 4.5m NW-SE and may contain a number of possible pits. Possibly archaeological in origin.                                      | ✓               |                    |
| 14-13                             | Linear magnetic anomaly                | 649876.651,616820.324 | ✓                                |             | ✓                 |         |                 |                                   | Possible ditch, measuring c. 29m E-W. Probably agricultural in origin.   | ✓               |                    |
| 14-14                             | Sub-circular magnetic anomaly          | 649875.483,616815.068 | ✓                                | ✓           |                   |         |                 |                                   | A possible ring-ditch or sub-circular enclosure with an outer diameter of c. 6.3m to 7.1m which runs into the field boundary at SE. Contains one possible pit at its centre. | ✓               |                    |
|                                   | Multiple parallel linear trends        | Multiple locations    |                                  |             |                   |         | ✓               |                                   | Multiple cultivation furrows throughout the survey area.   |                 |                    |
|                                   | Multiple linear and curvilinear trends | Multiple locations    |                                  |             |                   |         | ✓               |                                   | A number of possible ditches or cut features which may be archaeological , agricultural or geological in nature  |                 |                    |

### 3.15 N24CR GP15

| Survey Methodology:        |                                | Magnetometer          |                               |             |                   |         |                 | Townland:                  |   | Grange           |                 |                    |
|----------------------------|--------------------------------|-----------------------|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|---|------------------|-----------------|--------------------|
| ITM Coordinate:            |                                | 649894,616785         |                               |             |                   |         |                 | OD height of Survey Area   |   | 21 m OD          |                 |                    |
| Survey Weather Conditions: |                                | Sunny and dry         |                               |             |                   |         |                 | Survey Date and Area (Ha): |   | 15/06/21 0.31 Ha |                 |                    |
| Heritage Constraint Ref:   |                                | -                     |                               |             |                   |         |                 |                            |   |                  |                 |                    |
| Site Description:          |                                | Flat pasture field    |                               |             |                   |         |                 |                            |   |                  |                 |                    |
| Figure No.:                |                                | 10 & 11               |                               |             |                   |         |                 |                            |   |                  |                 |                    |
| No.                        | Form of Anomaly                | ITM NGR (E,N)         | Possible Source(s) of Anomaly |             |                   |         |                 |                            | Comment   |                  | Recommendation  |                    |
|                            |                                |                       | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |   |                  | Test Excavation | Geophysical Survey |
| 15-1                       | Sub-circular magnetic anomaly  | 649881.374,616792.887 | ✓                             | ✓           |                   |         |                 |                            | A ring-ditch or sub-circular enclosure with an outer diameter of c. 13m to 14m and an opening at S. Contains two possible pits near its centre.                     |                  | ✓               |                    |
| 15-2                       | Linear magnetic anomaly        | 649867.489,616787.016 | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, c. 5.8m E-W between the field boundary and ring-ditch 15-1. May continue as ditch 15-3 to the E. Possibly archaeological or agricultural in origin. |                  | ✓               |                    |
| 15-3                       | Linear magnetic anomaly        | 649896.946,616780.592 | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, c. 16m E-W which may continue as ditch 15-2 to the W. Possibly archaeological or agricultural in origin.  |                  | ✓               |                    |
| 15-4                       | Sub-circular magnetic anomaly  | 649886.889,616798.630 | ✓                             | ✓           |                   |         |                 |                            | A ring-ditch with an outer diameter of c. 6m to 6.4m and a possible opening at NE.  |                  | ✓               |                    |
| 15-5                       | Semi-circular magnetic anomaly | 649896.021,616811.817 | ✓                             | ✓           |                   |         |                 |                            | The western section of a ring-ditch with a diameter of c. 5.5m. This feature runs into the field boundary at NW.  |                  | ✓               |                    |
| 15-6                       | Curvilinear magnetic anomaly   | 649893.880,616807.210 | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, c. 8.8m N-S and intersecting possible ring-ditch 15-5. Possibly archaeological or agricultural in origin.   |                  | ✓               |                    |
| 15-7                       | Linear magnetic anomaly        | 649900.239,616811.687 | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 4.2m N-S. Possibly archaeological or agricultural in origin.   |                  | ✓               |                    |
| 15-8                       | U-shaped magnetic anomaly      | 649908.803,616813.763 | ✓                             |             | ✓                 |         |                 |                            | A roughly U-shaped possible ditch feature, measuring c. 8m N-S and 3.5m E-W. This feature could be archaeological or agricultural in origin.                        |                  | ✓               |                    |
| 15-9                       | Sub-circular magnetic anomaly  | 649905.040,616802.474 | ✓                             | ✓           |                   |         |                 |                            | A ring-ditch or sub-circular enclosure with an outer diameter of c. 7.9m to 8.5m and has a possible opening at NW. Contains a possible pit near its centre.         |                  | ✓               |                    |
| 15-10                      | Sub-circular magnetic anomaly  | 649917.757,616808.508 | ✓                             | ✓           |                   |         |                 |                            | Segment of an enclosure ditch, measuring c. 5.2m N-S. Probably archaeological and extending beyond the survey area.   |                  | ✓               |                    |
| 15-11                      | Linear magnetic anomaly        | 649915.551,616796.440 | ✓                             |             | ✓                 |         |                 |                            | Possible ditch or cut feature, measuring c. 21.7m N-S. Possibly archaeological or agricultural in origin.   |                  | ✓               |                    |



|                                   |  |   |                               |             |                   |         |                 |                                   |  |                  |                 |                    |
|-----------------------------------|--|---|-------------------------------|-------------|-------------------|---------|-----------------|-----------------------------------|--|------------------|-----------------|--------------------|
| <b>Survey Methodology:</b>        |  | <b>Magnetometer</b>                         |                               |             |                   |         |                 | <b>Townland:</b>                  |  | <b>Grange</b>    |                 |                    |
| <b>ITM Coordinate:</b>            |  | 649894,616785                               |                               |             |                   |         |                 | <b>OD height of Survey Area</b>   |  | 21 m OD          |                 |                    |
| <b>Survey Weather Conditions:</b> |  | Sunny and dry                               |                               |             |                   |         |                 | <b>Survey Date and Area (Ha):</b> |  | 15/06/21 0.31 Ha |                 |                    |
| <b>Heritage Constraint Ref:</b>   |  | -   |                               |             |                   |         |                 |                                   |  |                  |                 |                    |
| <b>Site Description:</b>          |  | Flat pasture field                          |                               |             |                   |         |                 |                                   |  |                  |                 |                    |
| <b>Figure No.:</b>                |  | 10 & 11                                     |                               |             |                   |         |                 |                                   |  |                  |                 |                    |
| No.                               | Form of Anomaly                        | ITM NGR (E,N)                               | Possible Source(s) of Anomaly |             |                   |         |                 |                                   | Comment  |                  | Recommendation  |                    |
|                                   |  |   | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern             |  |                  | Test Excavation | Geophysical Survey |
| 15-12                             | Curvilinear magnetic anomaly           | 649910.750,616795.921                       | ✓                             |             | ✓                 |         |                 |                                   | A curving possible ditch, measuring c. 6.9m NE-SW. Possibly archaeological or agricultural in origin.  |                  | ✓               |                    |
| 15-13                             | Multiple isolated magnetic responses   | 649905.658,616792.646<br>Multiple locations |                               |             | ✓                 |         | ✓               |                                   | Numerous possible pits or postholes detected throughout the survey area. Given their proximity to a number of ring-ditches and enclosures these are likely to be archaeological in origin. |                  | ✓               |                    |
|                                   | Multiple linear and curvilinear trends | Multiple locations                          |                               |             |                   |         | ✓               |                                   | A number of possible ditches or cut features which may be archaeological , agricultural or geological in nature  |                  | ✓               |                    |
|                                   | Highly magnetic responses              | Multiple locations                          |                               |             |                   |         |                 | ✓                                 | High magnetic disturbance along the field boundaries is caused by ferrous fencing materials.   |                  |                 |                    |

| Survey Methodology:        |  | Resistivity           |                               |             |                   |         |                 | Townland:                  |   | Grange          |                    |
|----------------------------|--|-----------------------|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|---|-----------------|--------------------|
| ITM Coordinate:            |  | 649894,616785         |                               |             |                   |         |                 | OD height of Survey Area   |   | 21 m OD         |                    |
| Survey Weather Conditions: |  | Raining               |                               |             |                   |         |                 | Survey Date and Area (Ha): |   | 23/06/21 0.3 Ha |                    |
| Heritage Constraint Ref:   |  | -                     |                               |             |                   |         |                 |                            |   |                 |                    |
| Site Description:          |  | Flat pasture field    |                               |             |                   |         |                 |                            |   |                 |                    |
| Figure No.:                |  | 17 & 18               |                               |             |                   |         |                 |                            |   |                 |                    |
| No.                        | Form of Anomaly                                | ITM NGR (E,N)         | Possible Source(s) of Anomaly |             |                   |         |                 | Comment                    |   | Recommendation  |                    |
|                            |  |                       | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |   | Test Excavation | Geophysical Survey |
| 15-14                      | Curvilinear high resistivity anomaly           | 649904.551,616811.266 |                               |             | ✓                 |         |                 |                            | Compact earth or stone boundary, 81m in length this crosses the survey area. This feature is likely to represent a relict field boundary.   | ✓               |                    |
| 15-15                      | Linear high resistivity anomaly                | 649912.672,616817.227 |                               |             | ✓                 |         |                 |                            | Compact earth or stone boundary, 14m in length which interlinks with 15-14 and is likely to have formed part of the field system.   | ✓               |                    |
| 15-16                      | Curvilinear high resistivity anomaly           | 649909.544,616823.241 |                               |             | ✓                 |         |                 |                            | Compact earth or stone feature, 18m in length. This feature could be archaeological or agricultural in origin and may continue as 15-18.  | ✓               |                    |
| 15-17                      | Arcing low resistivity anomaly                 | 649919.626,616798.299 | ✓                             |             | ✓                 |         |                 |                            | Arcing ditch or cut feature which represents an archaeological enclosure, also detected in magnetometer data 15-10.   | ✓               |                    |
| 15-18                      | Zone of high resistivity                       | 649915.626,616796.467 |                               |             | ✓                 |         | ✓               |                            | Zone of compact earth or stone, 28m in length and 5m in width. Possibly related to 15-16 or could be agricultural or geological in origin.  | ✓               |                    |
| 15-19                      | Linear low resistivity anomaly                 | 649907.822,616793.825 | ✓                             |             | ✓                 |         |                 |                            | Linear ditch or cut feature. Probably represents an agricultural boundary and could be related to 15-21.  | ✓               |                    |
| 15-20                      | Arcing low resistivity anomaly                 | 649900.849,616801.074 | ✓                             |             | ✓                 |         |                 |                            | Arcing ditch or cut feature, 28m in length and possibly enclosing a diameter of 13m. The location of the anomaly means that it would cut 15-4 and 15-9.   | ✓               |                    |
| 15-21                      | Linear low resistivity anomaly                 | 649889.252,616797.65  | ✓                             |             | ✓                 |         |                 |                            | Linear ditch, 26m in length, which probably represents a relict agricultural boundary and may overcut 15-20.  | ✓               |                    |
| 15-22                      | Isolated low resistivity anomaly               | 649883.57,616801.47   | ✓                             |             | ✓                 |         |                 |                            | Large possible pit or cut feature, c.3m in diameter which could be archaeological or agricultural in origin.  | ✓               |                    |
| 15-23                      | Linear high resistivity anomaly                | 649878.775,616794.843 |                               |             | ✓                 |         |                 |                            | Linear compact earth or stone feature, 18m in length, possibly agricultural and may be related to 15-24.  | ✓               |                    |
| 15-24                      | Two interconnecting high resistivity anomalies | 649881.523,616782.763 |                               |             | ✓                 |         |                 |                            | Two interconnecting linear compact earth or stone features which cross the southern half of the survey area. These are likely to represent relict agricultural boundaries and are possibly associated with 15-14 and 15-15. | ✓               |                    |

| Survey Methodology:        |   | Resistivity                                 |                               |             |                   |         | Townland:                  |                       | Grange   |                 |                    |
|----------------------------|---|---|-------------------------------|-------------|-------------------|---------|----------------------------|-----------------------|--|-----------------|--------------------|
| ITM Coordinate:            |   | 649894,616785                               |                               |             |                   |         | OD height of Survey Area   |                       | 21 m OD  |                 |                    |
| Survey Weather Conditions: |   | Raining                                     |                               |             |                   |         | Survey Date and Area (Ha): |                       | 23/06/21 0.3 Ha  |                 |                    |
| Heritage Constraint Ref:   |   | -   |                               |             |                   |         |                            |                       |  |                 |                    |
| Site Description:          |   | Flat pasture field                          |                               |             |                   |         |                            |                       |  |                 |                    |
| Figure No.:                |   | 17 & 18                                     |                               |             |                   |         |                            |                       |  |                 |                    |
| No.                        | Form of Anomaly                               | ITM NGR (E,N)                               | Possible Source(s) of Anomaly |             |                   |         |                            | Comment               |  | Recommendation  |                    |
|                            |   |   | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils            | Interference / Modern |  | Test Excavation | Geophysical Survey |
| 15-25                      | Arcing low resistivity anomaly                | 649907.183,616782.483                       | ✓                             |             | ✓                 |         |                            |                       | Arcing ditch, 55m in length and c.27m in diameter which is likely to be archaeological in origin. This possible enclosure ditch contains a number of internal features (15-26, 15-27 & 15-28) and appears to overcut 15-1. | ✓               |                    |
| 15-26                      | Arcing high resistivity anomaly               | 649907.183,616782.483                       |                               |             | ✓                 |         |                            |                       | Arcing compact earth feature, 13m in length which is likely to represent an internal division within 15-25.  | ✓               |                    |
| 15-27                      | Arcing high resistivity anomaly               | 649901.871,616783.107                       |                               |             | ✓                 |         |                            |                       | Arcing compact earth feature, 12m in length which is likely to represent an internal division within 15-25.  | ✓               |                    |
| 15-28                      | Arcing low resistivity anomaly                | 649901.221,616778.979                       | ✓                             |             | ✓                 |         |                            |                       | Arcing ditch or cut feature, 14m in length which is likely to represent an internal division within 15-25.   | ✓               |                    |
| 15-29                      | Series of isolated high resistivity anomalies | 649900.179,616768.123<br>Multiple locations |                               |             | ✓                 |         | ✓                          |                       | Series of compact earth or stone deposits which could be archaeological or geological in origin. A number of these anomalies are located close to or within possible archaeological features.                              | ✓               |                    |
| 15-30                      | Two isolated low resistivity anomalies        | 649885.942,616773.02<br>Multiple locations  |                               |             | ✓                 |         | ✓                          |                       | Two possible pits or post holes which are located close to 15-25 and could be archaeological in origin,  | ✓               |                    |
| 15-31                      | Arcing low resistivity anomaly                | 649870.965,616780.985                       | ✓                             |             | ✓                 |         |                            |                       | Arcing possible archaeological ring-ditch, 15m in length and 9m in diameter. Possibly associated with 15-32 and 15-33. Similar to 15-4 and 15-9.   | ✓               |                    |
| 15-32                      | Isolated high resistivity anomaly             | 649868.018,616783.911                       |                               |             | ✓                 |         | ✓                          |                       | Possible near surface stone or compact earth deposit which is located in the centre of 15-31. This anomaly could be archaeological or geological in origin.  | ✓               |                    |
| 15-33                      | Isolated low resistivity anomaly              | 649867.856,616777.465                       |                               |             | ✓                 |         | ✓                          |                       | Possible pit or post hole which is located in the centre of 15-31. This anomaly could be archaeological in origin.   | ✓               |                    |
| 15-34                      | Arcing low resistivity anomaly                | 649888.91,616759.685                        | ✓                             |             | ✓                 |         |                            |                       | Arcing possible archaeological ring-ditch, 17m in length and 10m in diameter. Similar to 15-31 as well as 15-4 & 15-9.   | ✓               |                    |

### 3.16 N24CR GP16

| Survey Methodology:        |                                | Magnetometer                      |                               |             |                   |         |                 | Townland:                  |   | Grange           |                    |
|----------------------------|--------------------------------|-----------------------------------|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|---|------------------|--------------------|
| ITM Coordinate:            |                                | 649946,616730                     |                               |             |                   |         |                 | OD height of Survey Area   |   | 21 m OD          |                    |
| Survey Weather Conditions: |                                | Sunny and dry                     |                               |             |                   |         |                 | Survey Date and Area (Ha): |   | 15/06/21 0.49 Ha |                    |
| Heritage Constraint Ref:   |                                | -                                 |                               |             |                   |         |                 |                            |   |                  |                    |
| Site Description:          |                                | Slightly sloping cut silage field |                               |             |                   |         |                 |                            |   |                  |                    |
| Figure No.:                |                                | 12 & 13                           |                               |             |                   |         |                 |                            |   |                  |                    |
| No.                        | Form of Anomaly                | ITM NGR (E,N)                     | Possible Source(s) of Anomaly |             |                   |         |                 | Comment                    |   | Recommendation   |                    |
|                            |                                |                                   | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |   | Test Excavation  | Geophysical Survey |
| 16-1                       | Curvilinear magnetic anomaly   | 649902.030,616738.447             | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch or cut feature, measuring c. 6m NW-SE. Possibly archaeological in origin.  | ✓                |                    |
| 16-2                       | Linear magnetic anomaly        | 649906.299,616739.972             | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 18.6m N-S. Possibly archaeological or agricultural in origin.  | ✓                |                    |
| 16-3                       | Linear magnetic anomaly        | 649913.014,616727.903             | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 15.3m N-S. Possibly archaeological or agricultural in origin.  | ✓                |                    |
| 16-4                       | Linear magnetic anomaly        | 649919.146,616730.531             | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 18m NE-SW which runs parallel to the extant field boundaries and therefore is likely to be agricultural.   | ✓                |                    |
| 16-5                       | Semi-circular magnetic anomaly | 649914.961,616749.315             | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch, measuring c. 6.3m in diameter. Possibly archaeological in origin and may be associated with or continue as the adjacent possible pits or postholes. May also be associated with 16-6.       | ✓                |                    |
| 16-6                       | Curvilinear magnetic anomaly   | 649924.499,616744.157             | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch, measuring c. 6.2m in diameter NE-SW. Possibly archaeological in origin and may be associated with or continue as the adjacent possible pits or postholes. May also be associated with 16-5. | ✓                |                    |
| 16-7                       | Linear magnetic anomaly        | 649917.686,616764.595             | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 5.6m NE-SW. Possibly archaeological or agricultural in origin. May be associated with the adjacent possible pits or postholes.   | ✓                |                    |
| 16-8                       | Linear magnetic anomaly        | 649929.462,616770.142             | ✓                             |             | ✓                 |         |                 |                            | Possible ditch, measuring c. 4.6m E-W. Possibly archaeological or agricultural in origin and may be associated with 16-9.   | ✓                |                    |
| 16-9                       | Semi-circular magnetic anomaly | 649930.922,616763.037             | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch or cut feature, measuring c. 7.2m in diameter. Possibly archaeological in origin.  | ✓                |                    |
| 16-10                      | Curvilinear magnetic anomaly   | 649936.178,616775.008             | ✓                             |             | ✓                 |         |                 |                            | A curvilinear possible ditch, measuring c. 8.5m N-S. Possibly archaeological or agricultural in origin.   | ✓                |                    |

| Survey Methodology:        |  | Magnetometer                                   |                               |             |                   |         |                 | Townland:                  | Grange  |                  |                    |
|----------------------------|--|--|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|---|------------------|--------------------|
| ITM Coordinate:            |  | 649946,616730                                  |                               |             |                   |         |                 | OD height of Survey Area   |   | 21 m OD          |                    |
| Survey Weather Conditions: |  | Sunny and dry                                  |                               |             |                   |         |                 | Survey Date and Area (Ha): |   | 15/06/21 0.49 Ha |                    |
| Heritage Constraint Ref:   |  | -  |                               |             |                   |         |                 |                            |   |                  |                    |
| Site Description:          |  | Slightly sloping cut silage field              |                               |             |                   |         |                 |                            |   |                  |                    |
| Figure No.:                |  | 12 & 13  |                               |             |                   |         |                 |                            |   |                  |                    |
| No.                        | Form of Anomaly                        | ITM NGR (E,N)                                  | Possible Source(s) of Anomaly |             |                   |         |                 | Comment                    |   | Recommendation   |                    |
|                            |  |  | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |   | Test Excavation  | Geophysical Survey |
| 16-11                      | Semi-circular magnetic anomaly         | 649945.326,616770.045                          | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch, measuring c. 6.8m in diameter. Possibly archaeological in origin and similar to 15-9  | ✓                |                    |
| 16-12                      | Two parallel linear magnetic anomalies | 649943.477,616730.353<br>649949.770,616732.689 | ✓                             |             | ✓                 |         |                 |                            | Two parallel ditches, c. 59m in length, corresponding to a relic field boundary marked on the historic first edition 6in OS map.  | ✓                |                    |
| 16-13                      | Multiple isolated magnetic responses   | 649940.882,616747.936<br>Multiple locations    |                               |             | ✓                 |         | ✓               |                            | Numerous possible pits or postholes throughout the survey area. These may be archaeological or agricultural in origin.  | ✓                |                    |
| 16-14                      | Curvilinear magnetic anomaly           | 649961.222,616736.354                          | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch, measuring c. 6.9m N-S. Possibly archaeological or agricultural in origin and similar in composition to 16-5, 16-6, 16-9 and 16-11.                | ✓                |                    |
| 16-15                      | Semi-circular magnetic anomaly         | 649968.813,616719.809                          | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch, measuring c. 7.5m in diameter. Possibly archaeological or agricultural in origin and similar in composition to 16-5, 16-6, 16-9, 16-11 and 16-14. | ✓                |                    |
| 16-16                      | Curvilinear magnetic anomaly           | 649969.300,616727.109                          | ✓                             |             | ✓                 |         |                 |                            | A curving possible ditch, measuring c. 10.7m N-S which may be associated with 16-15. Possibly archaeological or agricultural in origin.                                     | ✓                |                    |
| 16-17                      | Two parallel linear magnetic anomalies | 649963.850,616708.520<br>649970.014,616710.985 | ✓                             |             | ✓                 |         |                 |                            | Two parallel ditches, c. 45m in length, corresponding to a relic field boundary marked on the historic first edition 6in OS map.  | ✓                |                    |
|                            | Multiple parallel linear trends        | Multiple locations                             |                               |             |                   |         | ✓               |                            | Multiple cultivation furrows throughout the survey area.  |                  |                    |
|                            | Highly magnetic responses              | Multiple locations                             |                               |             |                   |         |                 | ✓                          | High magnetic disturbance along the field boundaries is caused by ferrous fencing materials.  |                  |                    |



| Survey Methodology:        |   | Resistivity                                 |                               |             |                   |         |                 | Townland:                  |  | Grange          |                    |
|----------------------------|---|---|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|--|-----------------|--------------------|
| ITM Coordinate:            |   | 649946,616730                               |                               |             |                   |         |                 | OD height of Survey Area   |  | 21 m OD         |                    |
| Survey Weather Conditions: |   | Raining                                     |                               |             |                   |         |                 | Survey Date and Area (Ha): |  | 23/06/210.48 Ha |                    |
| Heritage Constraint Ref:   |   | -   |                               |             |                   |         |                 |                            |  |                 |                    |
| Site Description:          |   | Slightly sloping cut silage field           |                               |             |                   |         |                 |                            |  |                 |                    |
| Figure No.:                |   | 17 & 18                                     |                               |             |                   |         |                 |                            |  |                 |                    |
| No.                        | Form of Anomaly                               | ITM NGR (E,N)                               | Possible Source(s) of Anomaly |             |                   |         |                 | Comment                    |  | Recommendation  |                    |
|                            |   |   | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |  | Test Excavation | Geophysical Survey |
| 16-18                      | Curvilinear low resistivity anomaly           | 649922.563,616767.577                       | ✓                             |             | ✓                 |         |                 |                            | Possible ditch or cut feature, 32m in length. Possibly archaeological or agricultural in origin.   | ✓               |                    |
| 16-19                      | Linear low resistivity anomaly                | 649920.354,616759.508                       | ✓                             |             | ✓                 |         |                 |                            | Linear ditch or cut feature, 20m in length. Possibly archaeological or agricultural in origin.   | ✓               |                    |
| 16-20                      | Curvilinear low resistivity anomaly           | 649919.636,616755.489                       | ✓                             |             | ✓                 |         |                 |                            | Possible ditch or cut feature, 32m in length. Possibly archaeological or agricultural in origin. Possibly associated with 16-5, 16-6 and 16-24.  | ✓               |                    |
| 16-21                      | Linear high resistivity anomaly               | 649908.352,616752.714                       |                               |             | ✓                 |         |                 |                            | Linear compact earth or stone feature, 34m in length which is likely to have once interlinked with anomaly 24 in the adjacent field (site N24CR GP16)                                    | ✓               |                    |
| 16-22                      | Curvilinear high resistivity anomaly          | 649911.967,616743.319                       |                               |             | ✓                 |         |                 |                            | Compact earth or stone feature, 24m in length which could be archaeological, agricultural or geological in origin.   | ✓               |                    |
| 16-23                      | Curvilinear high resistivity anomaly          | 649922.089,616734.069                       |                               |             | ✓                 |         |                 |                            | Compact earth or stone feature, 22m in length which could be archaeological, agricultural or geological in origin.   | ✓               |                    |
| 16-24                      | Sub-circular low resistivity anomaly          | 649922.523,616746.644                       | ✓                             |             | ✓                 |         |                 |                            | Sub-circular ditched feature, 7m in diameter NE-SW and 5.6m SW-NE. This anomaly sits between 16-5 and 16-6 and could be related to these features. It could be archaeological in origin. | ✓               |                    |
| 16-25                      | Arcing low resistivity anomaly                | 649934.526,616751.703                       | ✓                             |             | ✓                 |         |                 |                            | Possible ditch or cut feature, 16m in length. Possibly archaeological or agricultural in origin.   | ✓               |                    |
| 16-26                      | Linear low resistivity anomaly                | 649940.903,616735.141                       | ✓                             |             | ✓                 |         |                 |                            | Linear ditch or cut feature, 69m in length which cuts the survey area. This is likely to represent a former field division or field boundary.  | ✓               |                    |
| 16-27                      | Series of isolated high resistivity anomalies | 649934.815,616728.287<br>Multiple locations |                               |             | ✓                 |         | ✓               |                            | Four isolated compact earth or stone anomalies which were detected in the centre of the survey area. These could relate to archaeological deposits or near surface stone.                | ✓               |                    |
| 16-28                      | Arcing low resistivity anomaly                | 649932.356,616716.869                       | ✓                             |             | ✓                 |         |                 |                            | Possible ditch or cut feature, 25m in length. Possibly archaeological, geological or agricultural in origin.   | ✓               |                    |

| Survey Methodology:        |  | Resistivity                       |                               |             |                   |         |                 | Townland:                  |   | Grange           |                    |
|----------------------------|--|-----------------------------------|-------------------------------|-------------|-------------------|---------|-----------------|----------------------------|---|------------------|--------------------|
| ITM Coordinate:            |  | 649946,616730                     |                               |             |                   |         |                 | OD height of Survey Area   |   | 21 m OD          |                    |
| Survey Weather Conditions: |  | Raining                           |                               |             |                   |         |                 | Survey Date and Area (Ha): |   | 23/06/21 0.48 Ha |                    |
| Heritage Constraint Ref:   |  | -                                 |                               |             |                   |         |                 |                            |   |                  |                    |
| Site Description:          |  | Slightly sloping cut silage field |                               |             |                   |         |                 |                            |   |                  |                    |
| Figure No.:                |  | 17 & 18                           |                               |             |                   |         |                 |                            |   |                  |                    |
| No.                        | Form of Anomaly                                | ITM NGR (E,N)                     | Possible Source(s) of Anomaly |             |                   |         |                 | Comment                    |   | Recommendation   |                    |
|                            |  |                                   | Ditch                         | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |   | Test Excavation  | Geophysical Survey |
| 16-29                      | Linear low resistivity anomaly                 | 649945.082,616705.45              | ✓                             |             | ✓                 |         |                 |                            | Linear possible ditch or cut feature, 13m in length. Possibly archaeological or agricultural in origin.   | ✓                |                    |
| 16-30                      | Zone of low resistivity                        | 649964.337,616692.598             | ✓                             |             | ✓                 |         | ✓               |                            | Zone of waterlogged or disturbed soil, measuring 13m by 11m. Possibly archaeological, geological or agricultural in origin.   | ✓                |                    |
| 16-31                      | Curvilinear low resistivity anomaly            | 649968.169,616714.429             | ✓                             |             | ✓                 |         |                 |                            | Possible ditch or cut feature, 45m in length. Possibly archaeological or agricultural in origin.  | ✓                |                    |
| 16-32                      | Two interconnecting high resistivity anomalies | 649976.504,616728.531             |                               |             | ✓                 |         |                 |                            | Two interconnecting stone or compact earth features which are likely to represent a relict field boundary system. Possibly contemporary with 16-21.   | ✓                |                    |
| 16-33                      | Arcing low resistivity anomaly                 | 649961.278,616729.877             | ✓                             |             | ✓                 |         |                 |                            | Arcing possible ditch or cut feature, 27m in length and 13.6m in diameter. This feature could be archaeological in origin and may be associated with the isolated compact earth anomaly at its centre | ✓                |                    |

### 3.17 N24CR GP17

|                                   |                                 |                                   |                                  |             |                   |         |                 |                                   |   |                 |                    |
|-----------------------------------|---------------------------------|-----------------------------------|----------------------------------|-------------|-------------------|---------|-----------------|-----------------------------------|---|-----------------|--------------------|
| <b>Survey Methodology:</b>        |                                 | <b>Magnetometer</b>               |                                  |             |                   |         |                 | <b>Townland:</b>                  |   | <b>Grange</b>   |                    |
| <b>ITM Coordinate:</b>            |                                 | 650021,616630                     |                                  |             |                   |         |                 | <b>OD height of Survey Area</b>   |   | 20 m OD         |                    |
| <b>Survey Weather Conditions:</b> |                                 | Overcast                          |                                  |             |                   |         |                 | <b>Survey Date and Area (Ha):</b> |   | 15/06/21        | 0.54 Ha            |
| <b>Heritage Constraint Ref:</b>   |                                 | -                                 |                                  |             |                   |         |                 |                                   |   |                 |                    |
| <b>Site Description:</b>          |                                 | Slightly sloping cut silage field |                                  |             |                   |         |                 |                                   |   |                 |                    |
| <b>Figure No.:</b>                |                                 | 12 & 13                           |                                  |             |                   |         |                 |                                   |   |                 |                    |
| No.                               | Form of Anomaly                 | ITM NGR (E,N)                     | Possible Source(s)<br>of Anomaly |             |                   |         |                 | Comment                           |   | Recommendation  |                    |
|                                   |                                 |                                   | Ditch                            | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern             |   | Test Excavation | Geophysical Survey |
| 17-1                              | Linear magnetic anomaly         | 650014.933,616631.343             | ✓                                |             | ✓                 |         |                 |                                   | A historic field boundary ditch which is marked on the first edition 6in OS map, c. 51m in length.              | ✓               |                    |
|                                   | Multiple linear trends          | Multiple locations                |                                  |             |                   |         | ✓               |                                   | A number of possible ditches or cut features which may be archaeological , agricultural or geological in nature | ✓               |                    |
|                                   | Multiple parallel linear trends | Multiple locations                |                                  |             |                   |         | ✓               |                                   | Multiple cultivation furrows throughout the survey area.  |                 |                    |
|                                   | Highly magnetic responses       | Multiple locations                |                                  |             |                   |         |                 | ✓                                 | High magnetic disturbance along the field boundaries is caused by ferrous fencing materials.                    |                 |                    |

### 3.18 N24CR GP18

| Survey Methodology:        |  | Magnetometer                                   |                                  |             |                   |         |                 | Townland:                  |   | Grange   |                 |                    |
|----------------------------|--|--|----------------------------------|-------------|-------------------|---------|-----------------|----------------------------|---|----------|-----------------|--------------------|
| ITM Coordinate:            |  | 650065,616515                                  |                                  |             |                   |         |                 | OD height of Survey Area   |   | 24 m OD  |                 |                    |
| Survey Weather Conditions: |  | Overcast                                       |                                  |             |                   |         |                 | Survey Date and Area (Ha): |   | 10/06/21 | 0.99 Ha         |                    |
| Heritage Constraint Ref:   |  | -  |                                  |             |                   |         |                 |                            |   |          |                 |                    |
| Site Description:          |  | Slightly sloping cut silage field              |                                  |             |                   |         |                 |                            |   |          |                 |                    |
| Figure No.:                |  | 12 & 13  |                                  |             |                   |         |                 |                            |   |          |                 |                    |
| No.                        | Form of Anomaly                        | ITM NGR (E,N)                                  | Possible Source(s)<br>of Anomaly |             |                   |         |                 |                            | Comment   |          | Recommendation  |                    |
|                            |  |  | Ditch                            | Archaeology | Poss. Archaeology | Ferrous | Geology / Soils | Interference / Modern      |   |          | Test Excavation | Geophysical Survey |
| 18-1                       | Two parallel linear magnetic anomalies | 649987.760,616558.007<br>649995.740,616560.343 | ✓                                |             | ✓                 |         |                 |                            | Two parallel field boundary ditches, c. 50.5m and 48.5m in length, and corresponding to a former field boundary marked on historic 6in and 25in OS maps.                        |          | ✓               |                    |
| 18-2                       | Linear magnetic anomaly                | 650056.450,616516.363                          | ✓                                |             | ✓                 |         |                 |                            | A historic field boundary ditch which is marked on historic 6in and 25in OS maps, c. 48m in length.   |          | ✓               |                    |
| 18-3                       | Curvilinear magnetic anomaly           | 650054.503,616502.640                          | ✓                                |             | ✓                 |         |                 |                            | A curvilinear possible ditch, measuring c. 78m NW-SE. Possibly archaeological or of agricultural origin.  |          | ✓               |                    |
| 18-4                       | Linear magnetic anomaly                | 650078.530,616487.239                          | ✓                                |             | ✓                 |         |                 |                            | A possible ditch, measuring c. 37m NW-SE. Possibly archaeological or of agricultural origin.  |          | ✓               |                    |
|                            | Multiple curvilinear trends            | Multiple locations                             |                                  |             |                   |         | ✓               |                            | A number of possible ditches or cut features which may be archaeological , agricultural or geological in nature   |          | ✓               |                    |
|                            | Multiple parallel linear trends        | Multiple locations                             |                                  |             |                   |         | ✓               |                            | Multiple cultivation furrows throughout the survey area.  |          |                 |                    |
|                            | Highly magnetic responses              | Multiple locations                             |                                  |             |                   |         |                 | ✓                          | High magnetic disturbance along the field boundaries is caused by ferrous fencing materials. There are also some modern services and possible boreholes within the survey area. |          |                 |                    |

## **4 Conclusion**

### **4.1 Summary of Results**

The geophysical surveys undertaken for this report have revealed a landscape which contains agricultural division (both those shown on historic mapping and previously unknown boundaries), cultivation furrows and a series of ditches which are of unknown origin.

A series of arcing potential archaeological ditches were detected within survey area GP01 and GP03. These anomalies were only partially detected as they run into extant field boundaries making their origin difficult to fully determine.

Survey area GP04 revealed a possible archaeological enclosure with potential internal divisions. Two areas of enhancement were also detected which could relate to archaeology, agriculture or soil importation. The northern of these enhanced areas is more likely to be caused by relatively modern activity as it contains several dipolar and highly magnetic signatures as well as a linear ditch and some possible pits. Numerous areas of disturbed or compacted ground were also detected.

Survey area GP05 revealed the presence of an enclosure ditch which contains internal divisions and possible pits. On the edge of this enclosure two smaller potential archaeological sites were detected comprising of segments of ditches and associated pits or postholes.

The surveys undertaken in GP06 identified two area of potential archaeological enhancement which contained a number of possible pits. A series of boundary ditches and sub-circular ditches were also detected along with possible pits, which suggest the presence of potential archaeological remains.

Survey areas GP09, GP10 and GP11 were found to contain an enhanced magnetic background which is bounded to the north by a ditch. Within this zone of enhancement a series of compact and dug zones / features were detected, as well as a large number of possible pits or postholes. There has definitely been substantial activity within these fields but due to the complexity and amount of anomalies found, the geophysical survey failed to clarify if the activity relates to archaeological remains, quarrying or substantial soil deposition.

Definitive archaeological remains were however, detected in survey areas GP14, GP15 and probably GP16. Five magnetic ring-ditches were detected which have clear entrances and often contain central pits. A portion of enclosure ditch was detected in GP14. Surrounding these features a large number of potential ring-ditches and enclosure ditches were detected as well as possible pits or postholes. The complexity of the geophysical signatures detected within areas GP14, GP15 and GP16 indicate that a large archaeological landscape exists with multiple monuments present. The presence of multiple overcutting features could also potentially suggest the presence of multi-phased habitation.

Any recommendations in this report for test trenching only applies to anomalies which are located within the lands subject to CPO.

### **4.2 Dissemination**

The results of this survey were submitted to Kilkenny County Council. Additional copies will be distributed in accordance with the Consent to use a Detection Device.



## 5 Acknowledgements

|                   |   |
|-------------------|---|
| <b>Report:</b>    | Heather Gimson BA (Hons) MSc MIAI<br>Ursula Garner BSc (Hons) MSc |
| <b>Fieldwork:</b> | Ursula Garner BSc (Hons) MSc<br>Darren Regan BSc (Hons) MA        |
| <b>Graphics:</b>  | Heather Gimson BA (Hons) MSc MIAI<br>Ursula Garner BSc (Hons) MSc |

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- Figure 4: Magnetometer interpretation: GP01-GP03
- Figure 5: Magnetometer data: GP04-GP06
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## Technical Appendix

### Appendix 1: Anomaly Classifications

#### Magnetometer

Magnetometer surveys are undertaken using magnetic gradiometers which measure the magnetic content of the underlying soils. Measurements are gained using sensors which calculate the difference between the geological / pedological background and anthropogenic remains associated with archaeological activity.

##### Positive Magnetic Anomalies

Burnt features, particularly kilns, but also hearths, furnaces and burnt (specifically 'burnt', not 'heated') mounds of stone will create a strongly magnetic anomaly due to thermoremanence. Cut features, such as pits, ditches or wooden postholes will create anomalies that will vary in shape and magnetic intensity depending on which material they were backfilled by (Fassbinder 2015). For cut features backfilled (or 'refilled') by

- magnetically enhanced topsoil – the refill will generate a positive magnetic anomaly
- homogeneous topsoil – the refill will generate an anomaly proportional to the size and volume of the archaeological feature.

The magnetic anomaly shape and intensity will also be determined by concentrations of pottery, ash or burned material, solid rocks or other material.

##### Negative Magnetic Anomalies

Negative magnetic anomalies have a number of causes (Fassbinder 2015):

- The material remains of the archaeological feature may have a lower magnetic susceptibility (MS) than the adjacent topsoil. In some cases the MS of a ditch may appear as both a positive and negative anomaly, reflecting the variable MS of the refill material. Some stone foundations can also appear as weakly magnetic or negative magnetic anomalies.
- If a cut feature is immediately refilled by the same material e.g. a grave cut excavated before a funeral is (almost) immediately refilled by the human body and the same (unaltered) sediment that was excavated before.
- Geochemical processes (see Fassbinder 2015) can alter the magnetic response, e.g. an archaeological feature identified by a positive anomaly can convert to a negative anomaly due to the combination of stagnant moisture and a changing groundwater table.

##### Dipolar Anomalies

A dipolar anomaly is a response to buried ferrous objects, often in the topsoil. Iron spikes generally are not removed in geophysical data; although often modern in origin (iron agricultural implements, rubbish), they can be indicative of archaeological material.

##### Absence of Anomalies

It is also possible that archaeological features exist that exhibit no magnetic contrast and hence cannot be identified by magnetometer survey.

## Anomaly classification used to interpret Magnetometer data

After Gaffney & Gater (2003) and Gaffney *et al.* (2000).

**A known archaeological feature type e.g. Ditch / Wall / Structure etc:** An anomaly with a magnetic gradient that contrasts strongly with the surrounding sub-soil, where the presence of a type of archaeological feature is known from supporting evidence.

**Archaeology:** A linear, curvilinear or isolated anomaly with a magnetic gradient that contrasts strongly with the surrounding sub-soil, without any supporting evidence from another source.

- **Ditch / Wall:** A linear, curvilinear, annular or penannular anomaly with a magnetic gradient that contrasts strongly with the surrounding sub-soil. A positive polarity suggests a ditch; a negative polarity suggests a stone-filled ditch or wall.
- **Burnt Mound / Spread:** A horseshoe or ovoid shaped anomaly with a positive magnetic gradient that contrasts strongly with the surrounding sub-soil. An associated trough may be observed as a positive/negative anomaly, a hearth may also be expected nearby. Isolated responses in the vicinity could represent spreads of (or ploughed out) heat shattered stones.
- **Hearth:** A small isolated area (<2m diameter) of higher magnetic gradient than the surrounding sub-soil (typically >6nT).
- **Pit:** A small isolated area (>1-2m diameter) of moderate to high magnetic gradient, judged to be caused by a pit-type feature with a fill more magnetic than the surrounding soil.

**Industrial:** An isolated anomaly with a strong positive gradient (>30nT), judged not to be surface iron. This type of anomaly is typically caused by the remains of kilns or furnaces.

**Magnetic Enhancement:** A broad area of moderate positive magnetic gradient that contrasts with the surrounding sub-soil. May represent cultural noise associated with occupation or soil disturbance, judged to be of archaeological origin.

**Ferrous:** Dipolar anomalies indicating ferrous responses, judged to be in the near-surface.

**Cultivation:** Parallel linear responses of positive or negative polarity. Strong responses may indicate added magnetic material (e.g. burnt deposits) as fertiliser. Lower magnetic gradient anomalies 'beneath' the furrow overprint may be obscured. Higher magnetic gradient anomalies may be visualised *in situ* or ploughed out 'beneath' the furrow overprint.

**Possible Archaeology:** A linear, curvilinear or isolated anomaly with a magnetic gradient that contrasts weakly with the surrounding sub-soil, without any supporting evidence from another source. Such categories may represent possible archaeological or geological sources.

**Modern Disturbance:** Area where the ground has been disturbed in the recent past. Characterised by very large magnetic gradients and a high level of noise often accompanied by concentrations of dipolar, near-surface ferrous responses. This category also represents anomalies whose source may lie beyond the survey area, such as fencelines, vehicles or modern buildings.

**Modern Pipe:** Straight, linear anomaly with very large magnetic gradients alternating regularly between positive and negative polarity.

**Previous Excavation?:** Area of uniform magnetic signal contained within a well-defined boundary in regions otherwise densely covered with archaeological anomalies.

**Geology:** Anomalies of possible geomorphological origin.

## Electromagnetic Apparent Electrical Resistivity

Electromagnetic instruments transmit an alternating current which induces a primary and subsequently a secondary electromagnetic field which interacts with the underlying soils. One of the subsequent responses is the Apparent Electrical Conductivity of the soil, which are subsequently calculated via automated software to Apparent Electrical Resistivity ( $ER_a$ ).

### Anomaly classification used to interpret $ER_a$ data

After Gaffney & Gater (2003) and Gaffney *et al.* (2000).

**A known archaeological feature type e.g. Ditch / Wall / Structure etc:** An anomaly with a  $ER_a$  that contrasts strongly with the surrounding sub-soil, where the presence of a type of archaeological feature is known from supporting evidence.

**Archaeology:** A linear, curvilinear or isolated anomaly with an  $ER_a$  that contrasts strongly with the surrounding sub-soil, without any supporting evidence from another source.

- **Ditch / Wall:** A discrete linear, curvilinear, annular or penannular anomaly with an  $ER_a$  that contrasts strongly with the surrounding sub-soil. A low  $ER_a$  suggests a ditch; a high  $ER_a$  suggests a stone-filled ditch or wall.
- **Mound of Stones:** A discrete horseshoe or ovoid shaped anomaly with a higher  $ER_a$  than the surrounding sub-soil.
- **Pit:** A small isolated area (>1-2m diameter) of  $ER_a$  that contrasts with the surrounding sub-soil, judged to be caused by a pit-type feature.
- **Cultivation:** Parallel linear responses of high or low  $ER_a$ .
- **Disturbed Soil:** A broad area of moderate  $ER_a$  change that contrasts with the surrounding sub-soil. May represent cultural noise associated with soil disturbance, judged to be of archaeological origin.

#### High $ER_a$ Anomalies

Soils comprised of materials of a higher  $ER_a$  than the surrounding soil will exhibit anomalies of 'higher resistivity'. These are likely to include stone walls, masonry, rubble, cobbled or gravel surfaces, as well as near surface geology.

#### Low $ER_a$ Anomalies

Soils that are comprised of materials of a lower  $ER_a$  than the surrounding soil will exhibit anomalies of 'lower resistivity'. These are likely to include ditches, drainage ditches and pits, as well as palaeochannels, drained soils, a high water table, deep topsoil, springs, boggy areas, areas adjacent to rivers and clay soils.

**Modern Disturbance:** Area where the ground has been disturbed in the recent past. Characterised by a high level of noise and very large  $ER_a$  gradients.

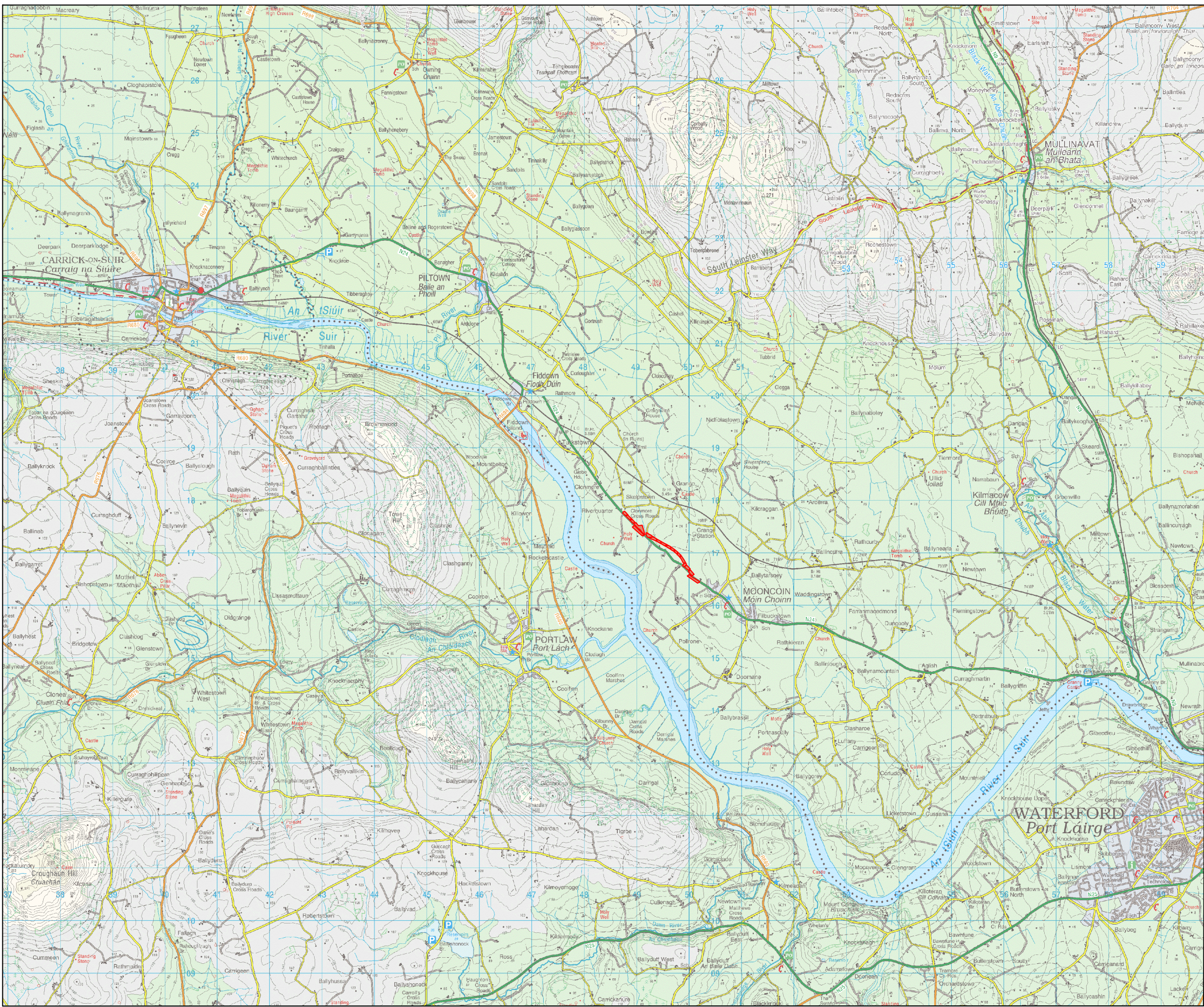
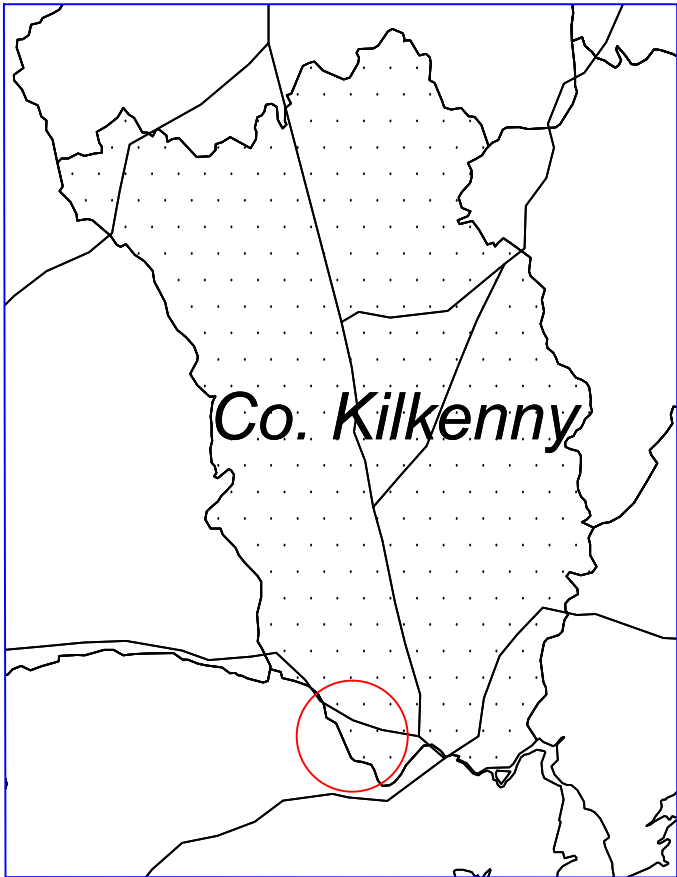
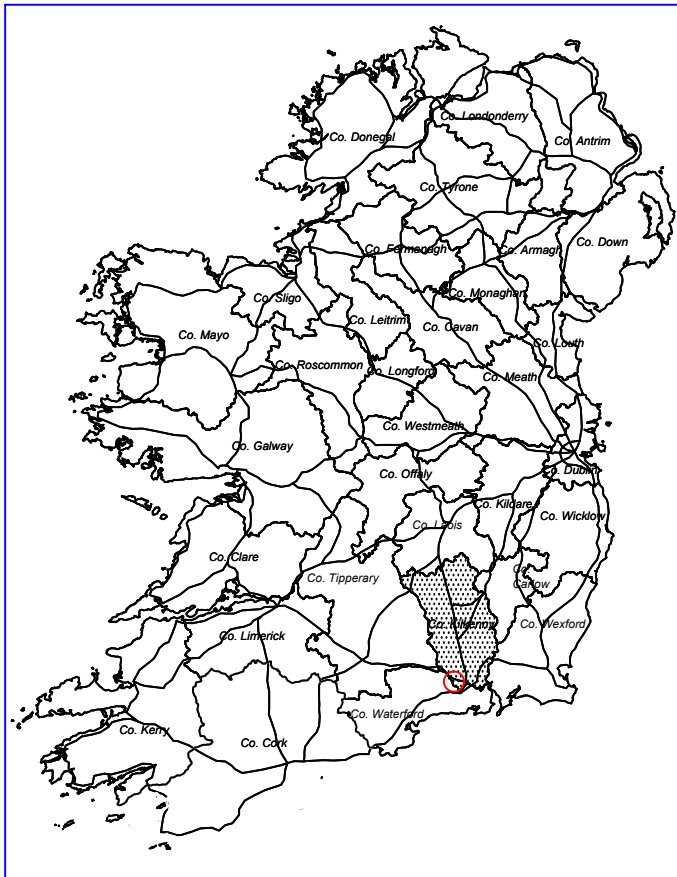
**Modern Pipe:** Straight, linear anomaly with an  $ER_a$  contrast.

**Geology:** Anomalies of possible geomorphological origin.

#### Absence of Anomalies

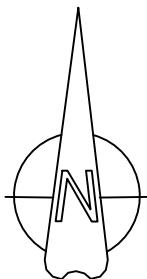
It is also possible that archaeological features exist that exhibit no resistivity contrast and hence cannot be identified by Apparent Electrical Resistivity survey.





**Legend**

— Geophysical Survey Area



Site Location: N24 Carrick Road Improvement Scheme, Clonmore, Grange & Pollrone, Co. Kilkenny

Client: Kilkenny County Council

Drawing Courtesy of: OSI

Date: 11/05/21

Drawing No.: 21-026a/01

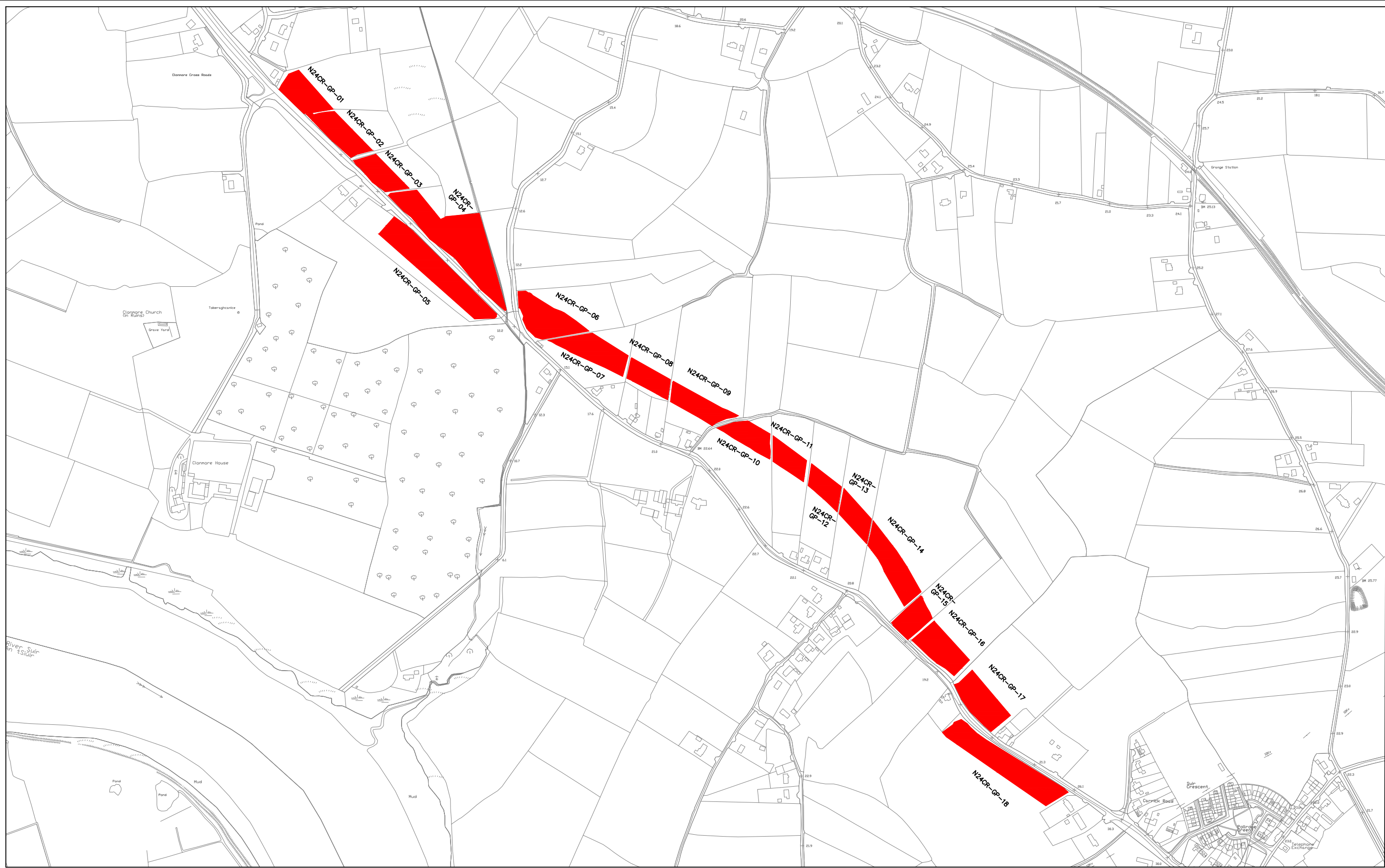
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0m 2km 4km

**Figure No. 1: Location Map**

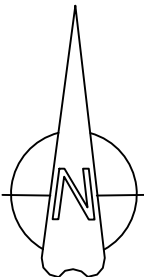






**Legend**

- Basemap
- Geophysical Survey Area



Site Location: N24 Carrick Road Improvement Scheme, Clonmore, Grange & Pollrone, Co. Kilkenny

Client: Kilkenny County Council

Drawing Courtesy of: OSI

Date: 11/05/21

Drawing No.: 21-026a/02

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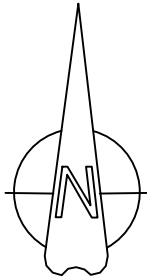
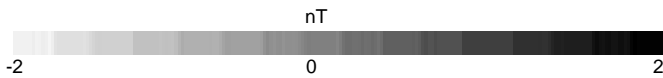
**Figure No. 2: Detailed Location Map**





**Legend**

- Basemap
- Geophysical Survey Area



Site Location: N24 Carrick Road Improvement Scheme, Clonmore, Grange & Pollrone, Co. Kilkenny

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Date: 30/06/21

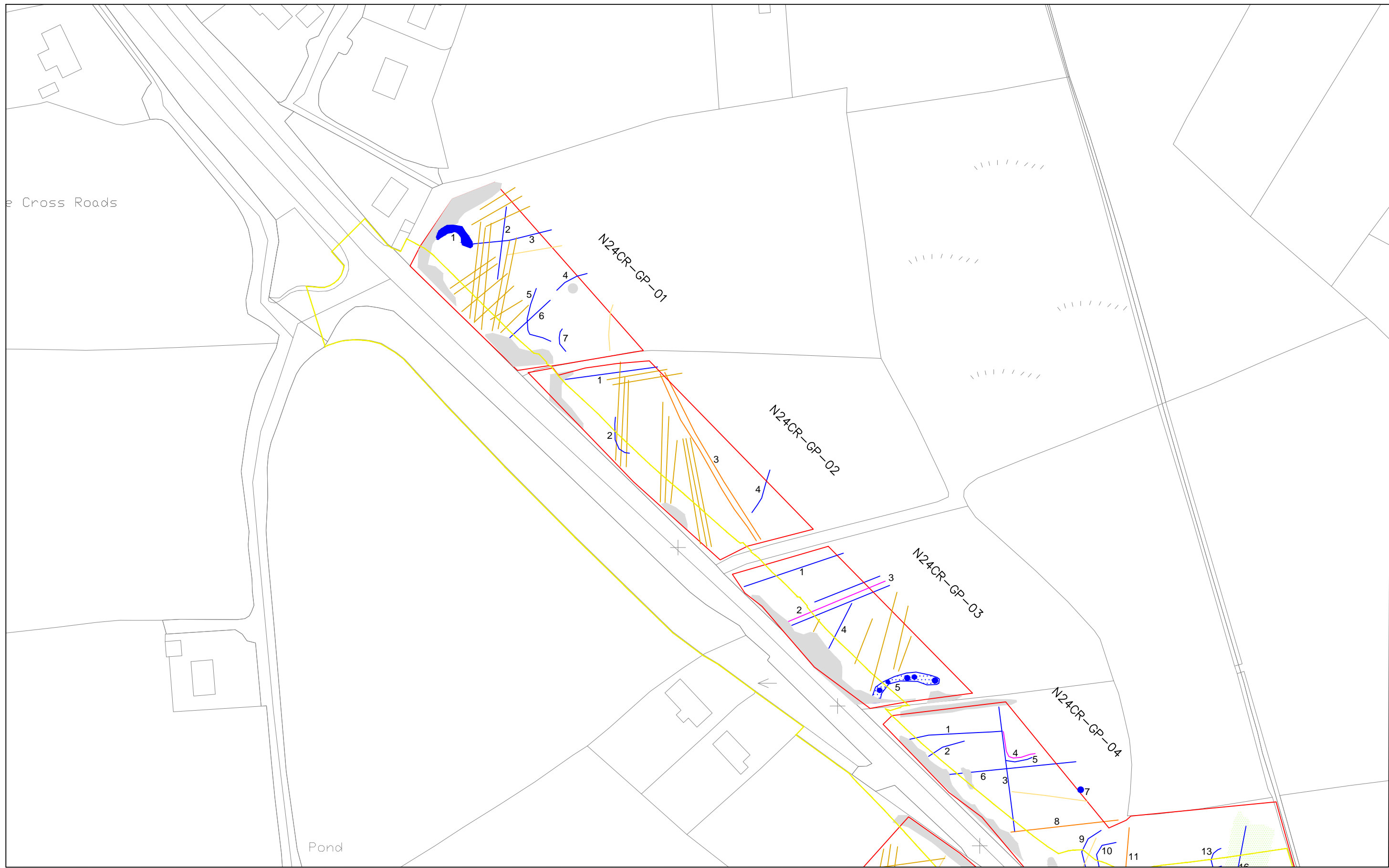
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**Figure No. 3: Magnetometer Data - GP01-03**



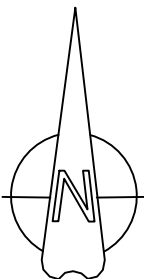


**Legend**

- Basemap
- Geophysical Survey Area
- Proposed CPO Boundary

- Archaeology
- Possible Archaeology
- Negative Magnetic Anomaly
- Magnetic Enhancement

- Cultivation
- Modern Disturbance
- Feature on Historic OS
- Trend



Site Location: N24 Carrick Road Improvement Scheme, Clonmore, Grange & Pollrone, Co. Kilkenny

Client: Kilkenny County Council

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Date: 09/07/21

Drawing No.: 21-026a/04

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**Figure No. 4: Magnetometer Interpretation:  
GP01-GP03**

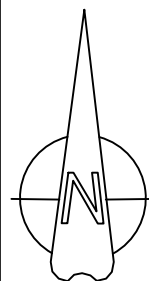
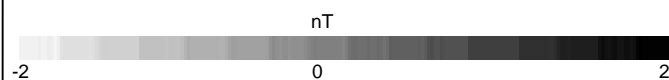






**Legend**

- Basemap
- Geophysical Survey Area



Site Location: N24 Carrick Road Improvement Scheme, Clonmore, Grange & Pollrone, Co. Kilkenny

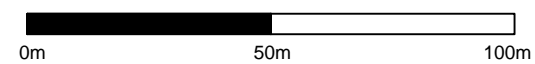
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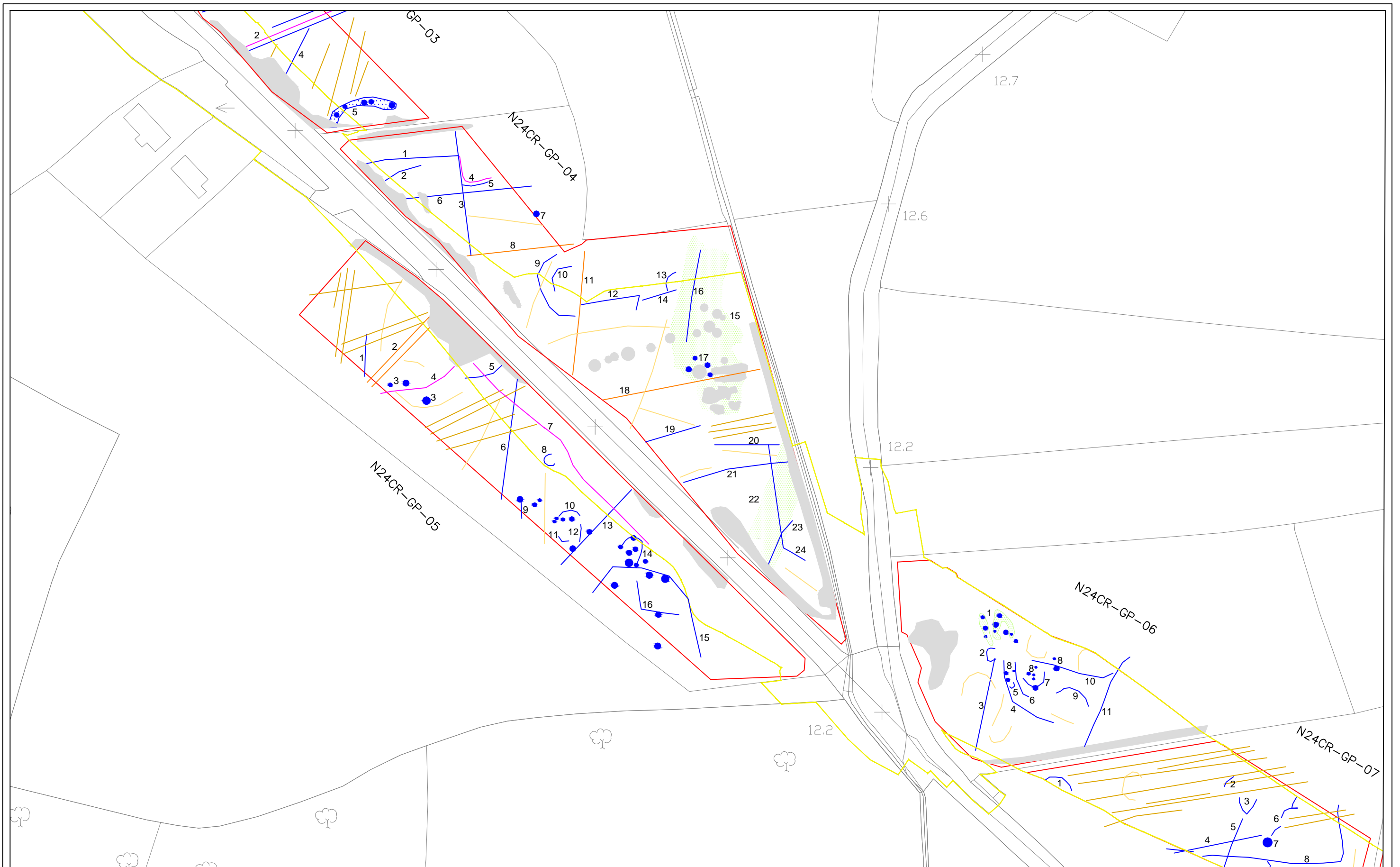
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**Figure No. 5: Magnetometer Data - GP04-06**

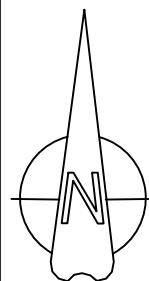






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| — Geophysical Survey Area | <span style="background-color: blue; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Possible Archaeology         | <span style="background-color: grey; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Modern Disturbance       |
| — Proposed CPO Boundary   | <span style="background-color: magenta; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Negative Magnetic Anomaly | <span style="background-color: orange; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Feature on Historic OS |
|                           | <span style="background-color: lightgreen; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Magnetic Enhancement   | <span style="background-color: yellow; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Trend                  |



Site Location: N24 Carrick Road Improvement Scheme, Clonmore, Grange & Pollrone, Co. Kilkenny

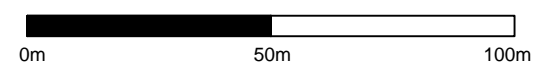
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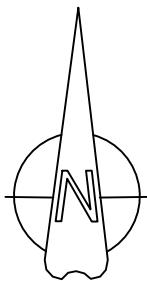
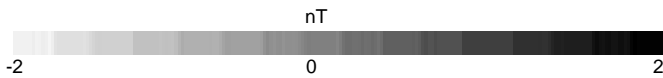
**Figure No. 6: Magnetometer Interpretation: GP04-GP06**





**Legend**

- Basemap
- Geophysical Survey Area



Site Location: N24 Carrick Road Improvement Scheme, Clonmore, Grange & Pollrone, Co. Kilkenny

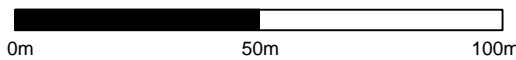
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Drawing Courtesy of: OSI

Date: 30/06/21

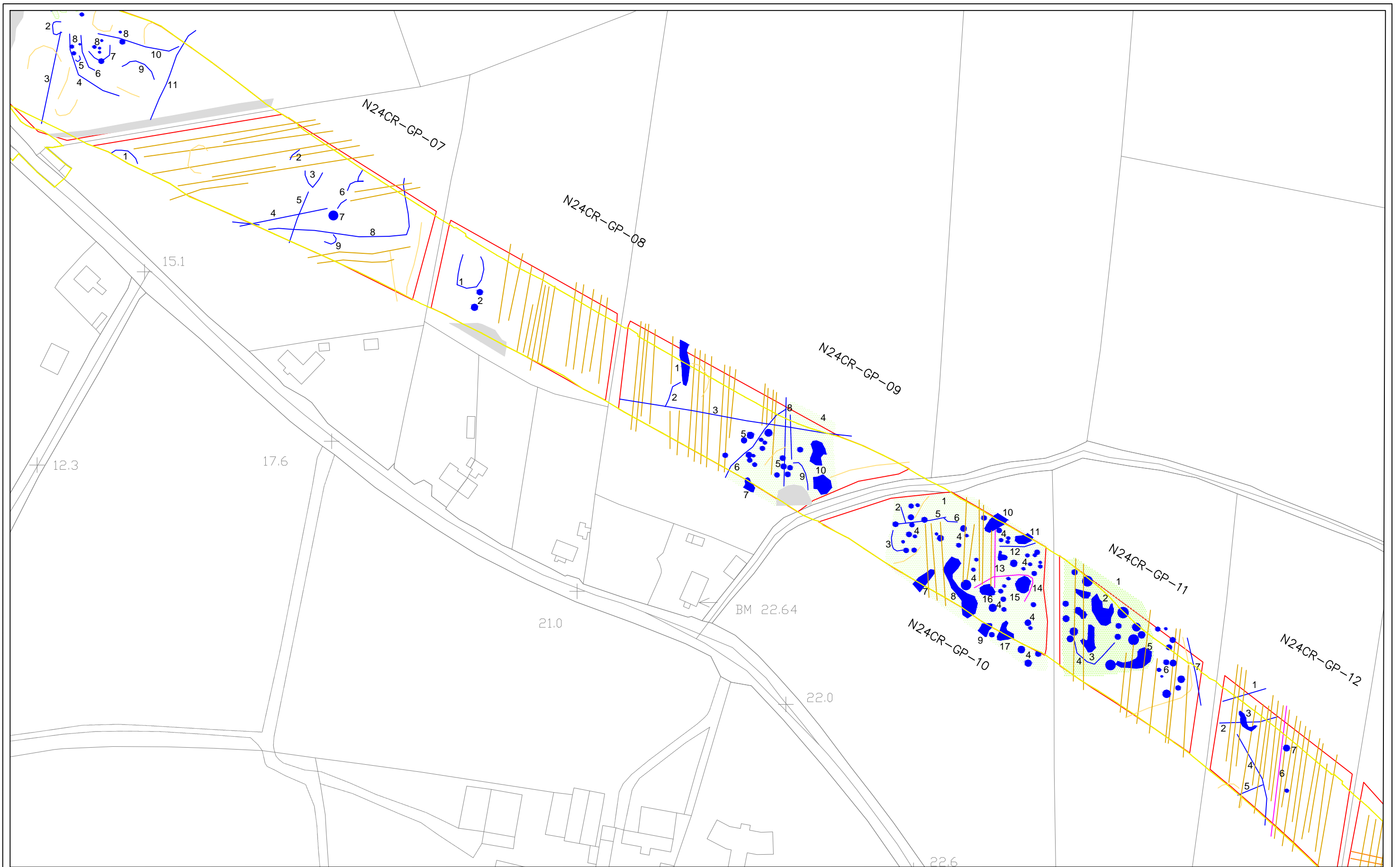
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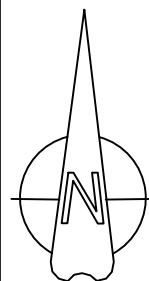
**Figure No. 7: Magnetometer Data - GP07-11**





### Legend

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| — Geophysical Survey Area | <span style="background-color: blue; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Possible Archaeology         | <span style="background-color: grey; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Modern Disturbance       |
| — Proposed CPO Boundary   | <span style="background-color: magenta; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Negative Magnetic Anomaly | <span style="background-color: orange; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Feature on Historic OS |
|                           | <span style="background-color: lightgreen; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Magnetic Enhancement   | <span style="background-color: gold; border: 1px solid black; display: inline-block; width: 15px; height: 10px;"></span> Trend                    |



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**Figure No. 8: Magnetometer Interpretation:  
GP07-GP11**

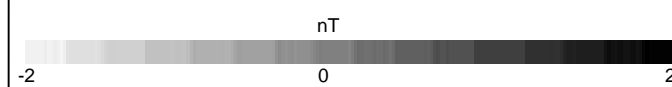


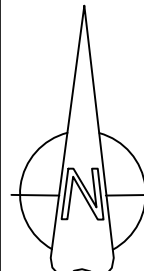




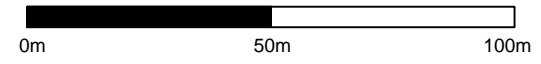
**Legend**

- Basemap
- Geophysical Survey Area




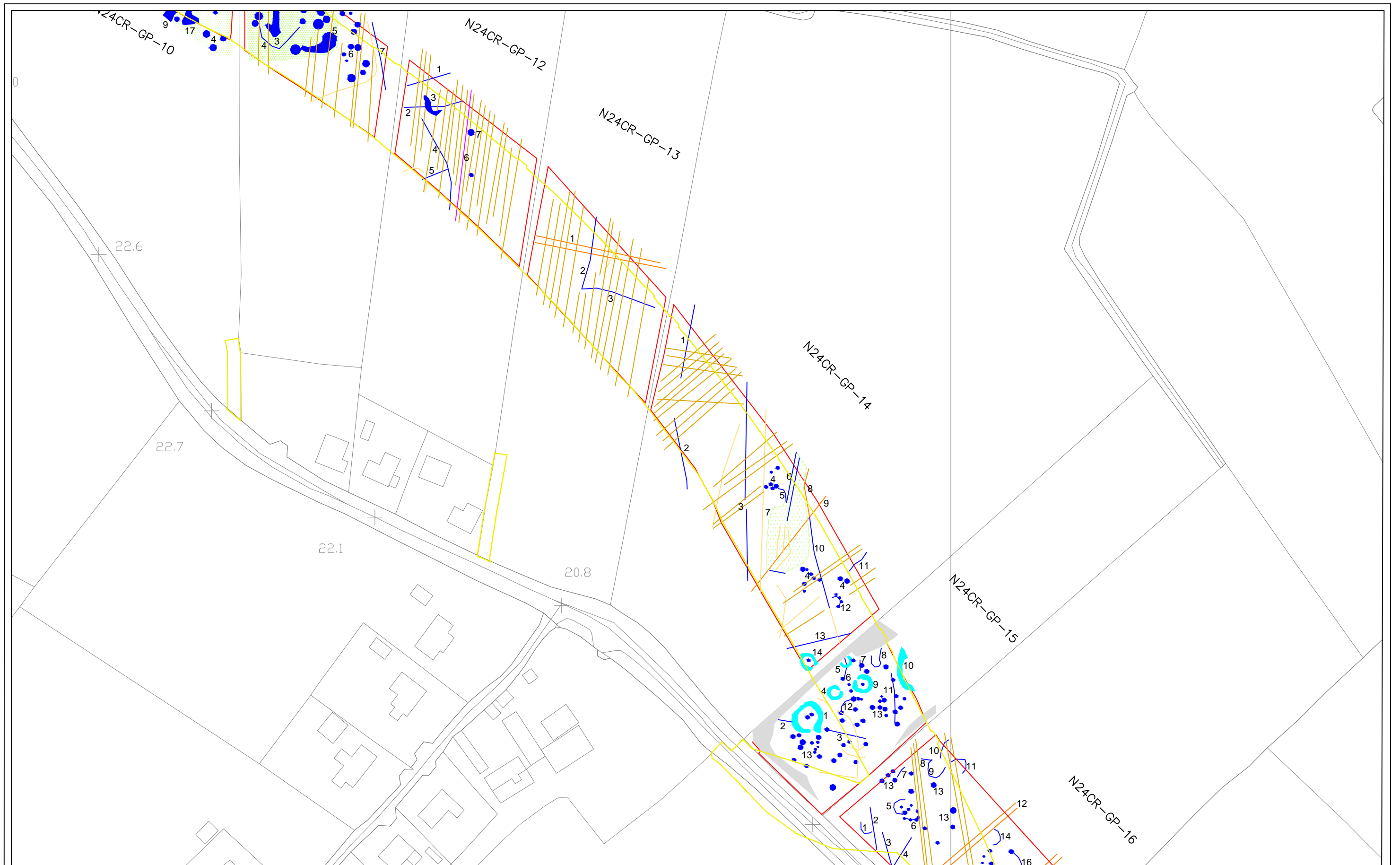


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| Site Location: N24 Carrick Road Improvement Scheme, Clonmore, Grange & Pollrone, Co. Kilkenny             |                |                         |
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| Drawing Courtesy of: OSI  | Date: 30/06/21 | Drawing No.: 21-026a/09 |
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**Figure No. 9: Magnetometer Data - GP12-15**





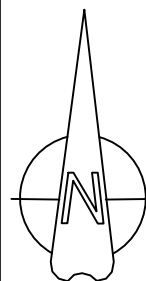
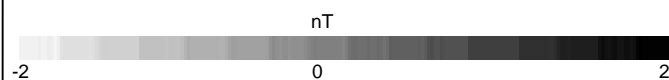
|  |  |  |      |  |  |  |   |  |  |
|--|--|--|------|--|--|--|---|--|--|
| <b>Legend</b><br>— Basemap<br>— Geophysical Survey Area<br>— Proposed CPO Boundary<br>■ Archaeology<br>■ Possible Archaeology<br>■ Negative Magnetic Anomaly<br>■ Magnetic Enhancement<br>■ Cultivation<br>■ Modern Disturbance<br>■ Feature on Historic OS<br>■ Trend |  |  | <br> | Site Location: N24 Carrick Road Improvement Scheme, Clonmore, Grange & Pollrone, Co. Kilkenny<br>Client: Kilkenny County Council<br>Drawing Courtesy of: OSI |  |  | Date: 09/07/21<br>Drawing No.: 21-026a/10 |  |  |
| Ordnance Survey Ireland Licence No. AR 0047321<br>Copyright Ordnance Survey Ireland Government of Ireland  |  |  |      |  |  | <b>Figure No. 10: Magnetometer Interpretation: GP12-GP15</b> |   |  |  |
|  |  |  |      |  |  |  |   |  |  |





**Legend**

- Basemap
- Geophysical Survey Area



Site Location: N24 Carrick Road Improvement Scheme, Clonmore, Grange & Pollrone, Co. Kilkenny

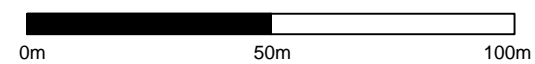
Client: Kilkenny County Council

Drawing Courtesy of: OSI

Date: 30/06/21

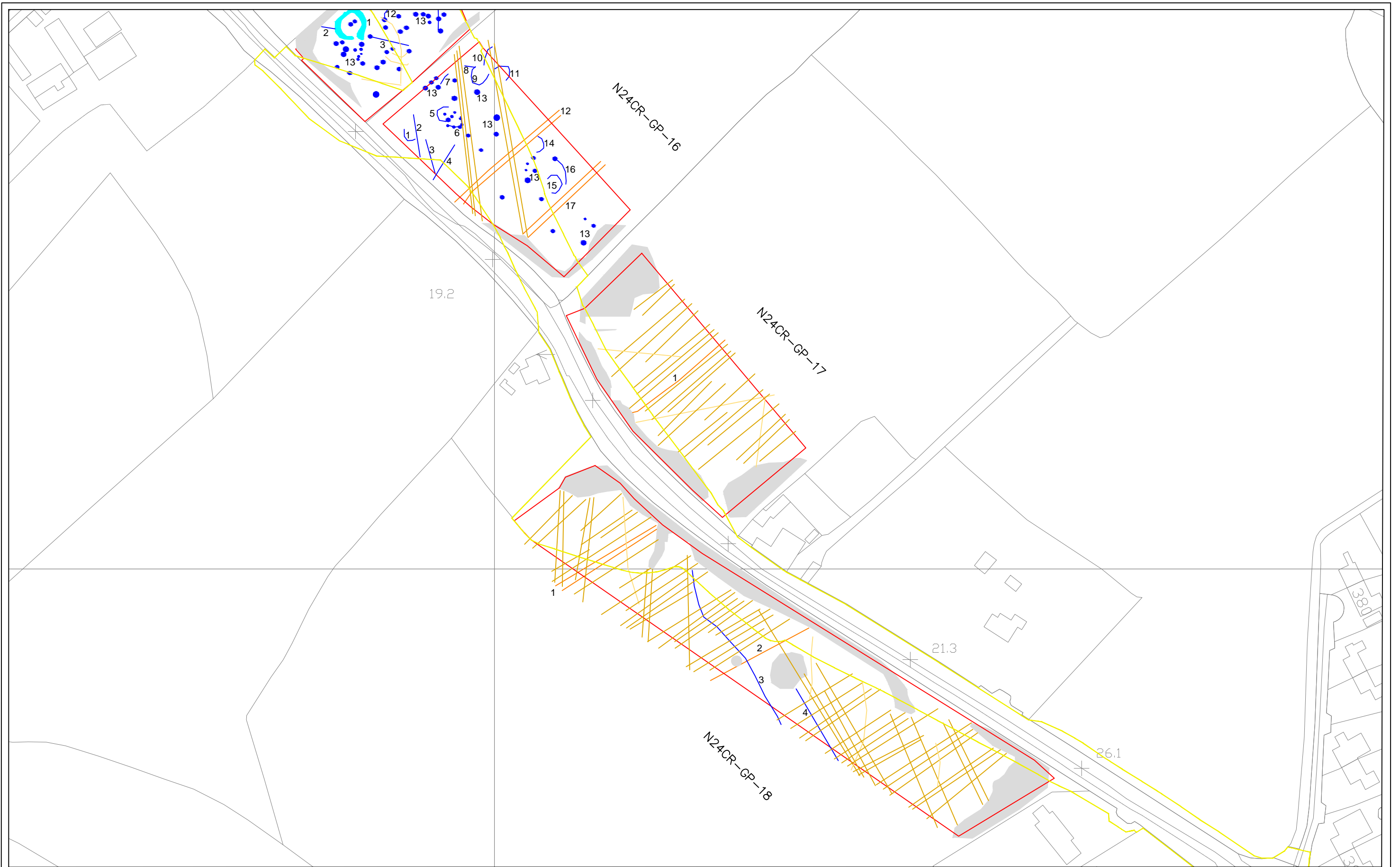
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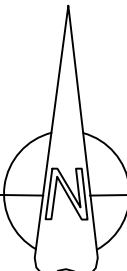
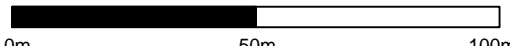

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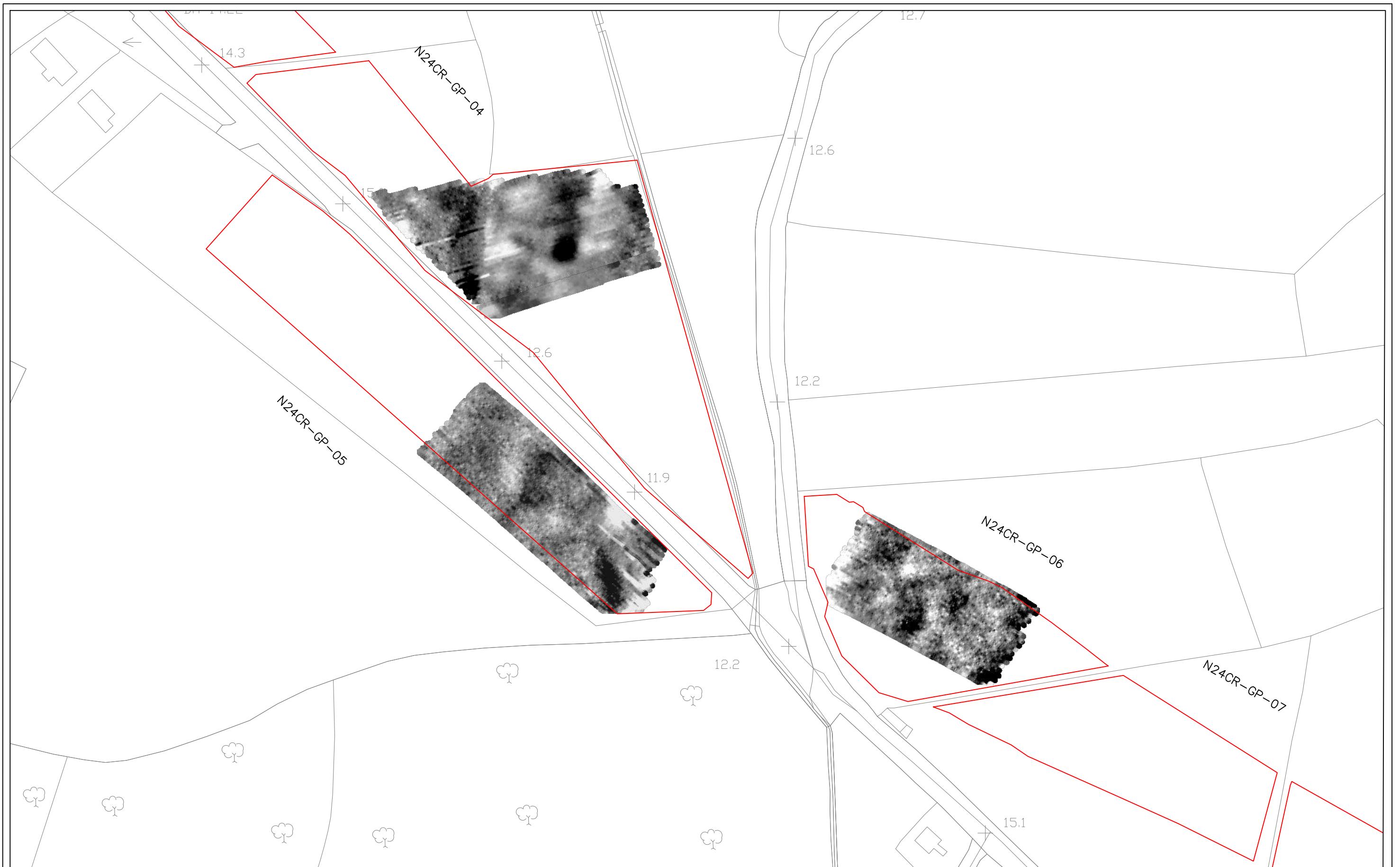


**Figure No. 11: Magnetometer Data - GP16-18**



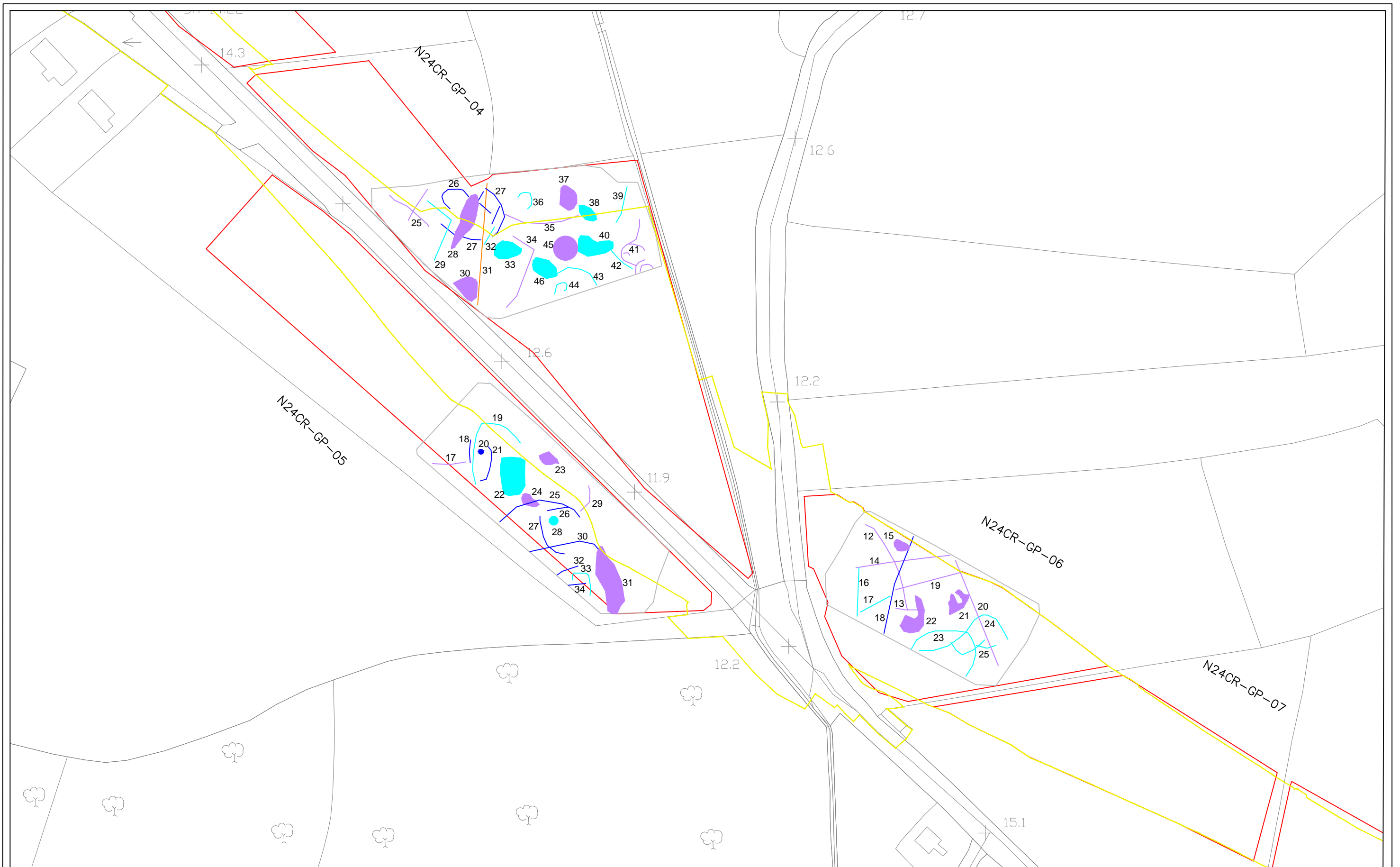


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|--|--|--|---|--|--|--|---|--|--|
| <b>Legend</b><br>— Basemap<br>— Geophysical Survey Area<br>— Proposed CPO Boundary<br>■ Archaeology<br>■ Possible Archaeology<br>■ Negative Magnetic Anomaly<br>■ Magnetic Enhancement<br>■ Cultivation<br>■ Modern Disturbance<br>■ Feature on Historic OS<br>■ Trend |  |  |  |  | Site Location: N24 Carrick Road Improvement Scheme, Clonmore, Grange & Pollrone, Co. Kilkenny<br>Client: Kilkenny County Council<br>Drawing Courtesy of: OSI |  |   | <b>Figure No. 12: Magnetometer Interpretation: GP16-GP18</b> |  |
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|   |  |   |   |   |
|---|--|---|---|---|
| <b>Legend</b><br>— Basemap<br>— Geophysical Survey Area<br><br>   |  | Site Location: N24 Tower Road Junction Improvement Scheme, Belline & Rogerstown, Co. Kilkenny |   | <b>Figure No. 13: Resistivity Data: GP04-GP06</b> |
|   |  | Client: Kilkenny County Council   |   |   |
|   |  | Drawing Courtesy of: OSI  | Date: 12/07/21<br>Drawing No.: 21-026a/13 |   |
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|--|--|--|--|---|---|
| <b>Legend</b><br><ul style="list-style-type: none"> <li>Basemap</li> <li>Geophysical Survey Area</li> <li>Resistivity Survey Area</li> <li>Proposed CPO Boundary</li> <li>Possible Archaeology</li> <li>Low Resistance Anomaly</li> <li>High Resistance Anomaly</li> <li>Feature on Historic OS</li> </ul> |  |  | Site Location: N24 Carrick Road Improvement Scheme, Clonmore, Grange & Pollrone, Co. Kilkenny<br>Client: Kilkenny County Council<br>Drawing Courtesy of: OSI | Date: 12/07/21<br>Drawing No.: 21-026a/14 | <b>Figure No. 14: Resistivity Interpretation: GP04-GP06</b> |
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**Legend**

- Basemap
- Geophysical Survey Area

mS/m

-23 0 23

Site Location: N24 Carrick Road Improvement Scheme, Clonmore, Grange & Pollrone, Co. Kilkenny

Client: Kilkenny County Council

Drawing Courtesy of: OSI

Date: 12/07/21

Drawing No.: 21-026a/15

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0m 50m 100m

**Figure No. 15: Resistivity Data: GP09-GP10**



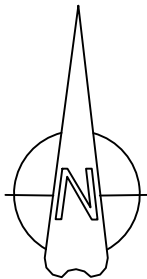
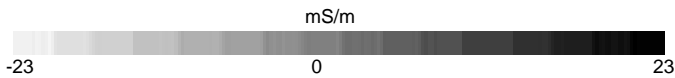


|  |  |  |  |
|--|--|--|--|
| <p><b>Legend</b></p> <ul style="list-style-type: none"> <li>Basemap</li> <li>Geophysical Survey Area</li> <li>Resistivity Survey Area</li> <li>Proposed CPO Boundary</li> <li>Possible Archaeology</li> <li>Low Resistance Anomaly</li> <li>High Resistance Anomaly</li> <li>Feature on Historic OS</li> </ul> |  | <p>Site Location: N24 Carrick Road Improvement Scheme, Clonmore, Grange &amp; Pollrone, Co. Kilkenny</p> <p>Client: Kilkenny County Council</p> <p>Drawing Courtesy of: OSI</p> <p>Date: 12/07/21</p> <p>Drawing No.: 21-026a/16</p> <p>Ordnance Survey Ireland Licence No. AR 0047321</p> <p>Copyright Ordnance Survey Ireland Government of Ireland</p> <p>0m 50m 100m</p> | <p><b>Figure No. 16: Resistivity Interpretation: GP09-GP10</b></p> |
|--|--|--|--|



**Legend**

- Basemap
- Geophysical Survey Area



Site Location: N24 Carrick Road Improvement Scheme, Clonmore, Grange & Pollrone, Co. Kilkenny

Client: Kilkenny County Council

Drawing Courtesy of: OSI

Date: 12/07/21

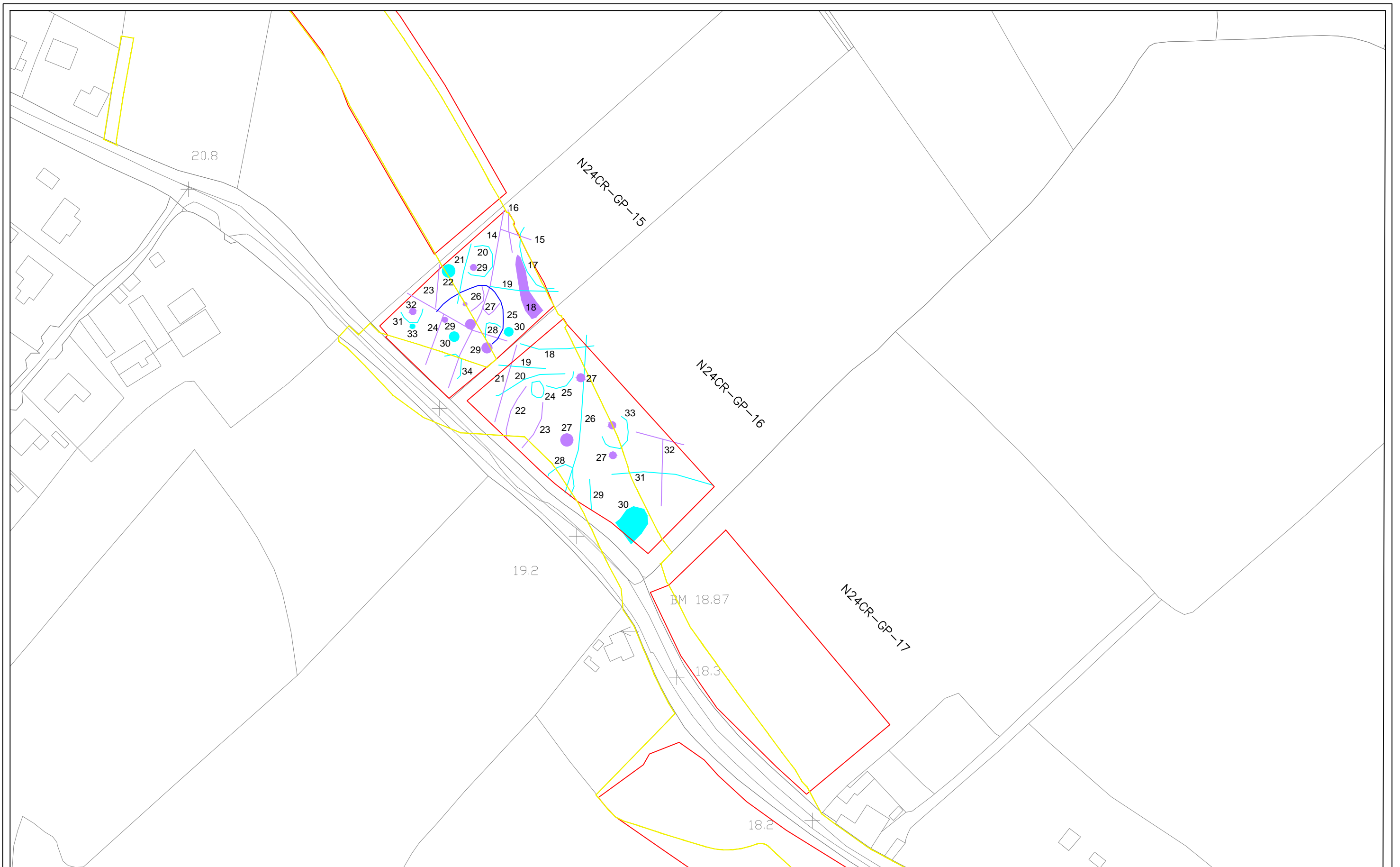
Drawing No.: 21-026a/17

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**Figure No. 17: Resistivity Data: GP15-GP16**





|   |  |   |  |  |  |   |  |
|---|--|---|--|--|--|---|--|
| <b>Legend</b><br>— Basemap<br>— Geophysical Survey Area<br>— Resistivity Survey Area<br>— Proposed CPO Boundary |  | Possible Archaeology<br>Low Resistance Anomaly<br>High Resistance Anomaly<br>Feature on Historic OS |  | <br>Site Location: N24 Carrick Road Improvement Scheme, Clonmore, Grange & Pollrone, Co. Kilkenny<br>Client: Kilkenny County Council<br>Drawing Courtesy of: OSI<br>Date: 12/07/21<br>Drawing No.: 21-026a/18<br>Ordnance Survey Ireland Licence No. AR 0047321<br>Copyright Ordnance Survey Ireland Government of Ireland<br> |  | <b>Figure No. 18: Resistivity Interpretation: GP15-GP16</b><br> |  |
|---|--|---|--|--|--|---|--|