

### A1 in Northumberland: Morpeth to Ellingham

Scheme Number: TR010059

# 6.43 Causey Park Advanced Works Phase 2 Archaeological Mitigation

Rule 8(1)(c)

Infrastructure Planning (Examination Procedure) Rules 2010

Planning Act 2008



#### Infrastructure Planning

Planning Act 2008

# The Infrastructure Planning (Examination Procedure) Rules 2010

## The A1 in Northumberland: Morpeth to Ellingham

Development Consent Order 20[xx]

### Causey Park Advanced Works Phase 2 Archaeological Mitigation

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1 INTRODUCTION 1



#### 1 INTRODUCTION

- 1.1.1. This report details the results of the programme of archaeological mitigation undertaken at Causey Park between March and June 2020, as part of the advanced works for the A1 in Northumberland: Morpeth to Ellingham. The advanced works comprised the diversion of a National Grid high-pressure gas main, a Northern Gas Networks pipeline and a Northern Powergrid overhead electricity line to the south of Causey Park (National Grid Reference (NGR) 418667,594515).
- 1.1.2. The Northumberland Historic Environment Record has identified a cropmark of a possible rectilinear enclosure, located within the works site (HER 11367). The LiDAR assessment identified traces of this feature and established that it is sub-rectangular in form and is largely formed of two sections of ditch. Faint traces of further potential enclosures were also identified in the LiDAR in the immediate vicinity (Appendix 8.3: Light Detection and Ranging (LiDAR) Assessment Part A [APP-223]). The geophysical survey identified eight fragmented linear anomalies of potential archaeological origin in the same area, both within and immediately outside of the works site (see Appendix 8.2: Geophysical Survey Part A [APP-222]), potentially associated with the rectilinear enclosure feature (HER 11367).
- 1.1.3. Due to the potential for archaeological remains in this area, a programme of archaeological mitigation was designed, in consultation with Northumberland County Council (NCC), and set out in Appendix 8.6: Written Scheme of Investigation for an Archaeological Strip, Map and Sample Excavation (National Grid Diversion Works) Part A [APP-266].
- 1.1.4. The advanced works were undertaken prior to the submission of the Development Consent Order in July 2020. In accordance with the Written Scheme of Investigation, an archaeological contractor was appointed to undertake the strip, map and sample exercise and to report the findings. The mitigation did not identify any remains of significant archaeological origin in the area of the advanced works. The attached report will be provided to NCC and will be deposited in the Historic Environment Record.

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**ARCHAEOLOGICAL MITIGATION** 



#### A1 in Northumberland: Causey Park Advanced Works Phase 2

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#### **DOCUMENT VERIFICATION**

### A1 NORTHUMBERLAND: CAUSEY PARK ADVANCED WORKS PHASE 2 ARCHAEOLOGICAL MITIGATION REPORT

Pre-Construct Archaeology Limited Quality Control				
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#### 1. NON-TECHNICAL SUMMARY

- 1.1 Pre-Construct Archaeology were commissioned by WSP, on behalf of Highways England, to undertake an archaeological Strip, Map and Sample (SMS) as part of advanced works for the A1 in Northumberland: Morpeth to Felton improvements. This element of advanced works comprised the diversion of approximately 500m of a National Grid High-Pressure Gas Main (HPGM) (NGR NZ 18497 94580 NZ 18994 95200). The proposed works, which are located *c*. 9km north of Morpeth and 5.5km south of Felton, lie 240m north of Causey Park Bridge and between 60m and 380m west of the existing A1.
- 1.2 The scheme comprises 12.6km of dualling of the existing A1 single carriageway and in order to construct this scheme, a National Grid gas transmission pipeline to the south of the proposed Causey Park Overbridge would need to be diverted (hereafter referred to as the proposed works). An earlier phase of archaeological work involved Strip, Map and Sample, trial trench evaluation and watching brief in association with the diversion of a Northern Gas networks pipeline and a Northern Powergrid overhead electricity line at this location.
- 1.3 The works, as described in this report, comprised archaeological mitigation required for the construction of approximately 650m of new pipe, which will allow the National Grid High-Pressure Gas Main underground pipeline (HPGM) to cross the line of the Scheme at a 90° angle. The existing HPGM crossed the offline section of the Scheme at approximate chainage 17300/1740. The diversion passed through three arable fields and comprised two tie-in locations to the existing HPGM to the northeast and southwest of the Scheme alignment. From the south-western tie-in location, the HPGM was routed north by approximately 350m, and then directly east by approximately 300m to achieve a perpendicular crossing of the new alignment, reconnecting at the north-eastern tie-in location. The section of HPGM between the tie-in points was then abandoned.
- 1.4 The rerouting of the HPGM required the excavation of the new pipe length, that included areas of subsoil storage and a compound area to the east. All areas were reduced by machine to the depth of the natural substratum or archaeological level, whichever was reached first.
- 1.5 The HEDBA (Application Document Reference: TR010041/APP/6.2) provides a detailed archaeological and historical background for the Scheme. Within the southern part of the eastern field (Compound Area), a cropmark of a possible rectilinear enclosure (HER 11367) has been identified by the Northumberland Historic Environment Record. LiDAR assessment undertaken across the site identified traces of this feature (WA37) and established that it is sub-rectangular and is largely formed of two sections of ditch, approximately 0.5m deep in places but generally shallower than this, with the northern one almost right-angled and acting as the north and eastern boundary of the enclosure. The enclosure was potentially of prehistoric date. Faint traces of further potential enclosures were also identified by the LiDAR assessment in the immediate vicinity of the site including

- WA39 and WA30 (Application Document Reference: TR010041/APP/6.2, Appendix 8.3, Figure 4 and 8). The geophysical survey (ASDU 2018) identified eight curvilinear anomalies of potential prehistoric origin within the vicinity of the site.
- 1.6 Recent archaeological work associated with the Scheme involved archaeological Strip, Map and Sample areas in association with the diversion of Northern Gas Networks pipeline and a Northern PowerGrid overhead electricity line and trial trench evaluation undertaken to target anomalies identified by geophysical survey and LiDAR assessment. No archaeological features or deposits were identified in the Strip, Map & Sample areas. Three trial trenches (Trenches 1-3) were undertaken across the eastern part of the site and were sited to test the eastern boundary ditch of the enclosure identified by the HER and LiDAR assessment and two curvilinear geophysical anomalies. Trench 1 was sited to target a curvilinear geophysical anomaly and also the SSE terminus of the easternmost enclosure boundary ditch, Trench 2 was sited to target the eastern boundary ditch and Trench 3 was sited to target a curvilinear geophysical anomaly. In Trench 1 two undated gullies were identified that closely correspond to the curvilinear anomaly identified by geophysical survey and probably represent a ring ditch of prehistoric date. No features were however identified that would account for the anomaly identified by LiDAR assessment in Trench 1. Although no features were identified in Trench 2 that would account for the anomaly identified by LiDAR assessment, two undated shallow gullies were recorded that probably represent prehistoric drainage features. No features were identified in Trench 3 that would account for the curvilinear anomaly.
- 1.7 To mitigate the impact of the diversion works on unknown archaeology assets, a strategy of 'preservation by record' was proposed. This work took the form of an archaeological Strip, Map and Sample excavation within the works site, where any ground disturbance was required. The archaeological work was undertaken in accordance with the Archaeological Method Statement (WSP 2020) that was approved by the Northumberland County Council Conservation Team (NCCCT), the archaeological advisor to the Local Planning Authority.
- The archaeological investigation was carried out between 22nd May-10th June over 16 days and consisted of excavating open areas under Strip, Map and Sample (SMS) conditions. Three phases of activity were encountered: Phase 1: superficial geology; Phase 2: post-medieval field boundary and furrows and Phase 5: modern field drains, boundaries, furrows and topsoil.
- 1.9 No archaeological features or deposits of significance were identified within the Strip, Map and Sample area. The potential archaeological features noted in the geophysical survey and LiDAR assessment were either non-existent or corresponded to variations in the natural geology. Archaeological features identified during the earlier phase of archaeological work in Trenches 1 and 2 did not continue into the Strip, Map and Sample area.

#### 2. INTRODUCTION

#### 2.1 Project Background

- 2.1.1 This report details the results of an archaeological Strip, Map and Sample (SMS) undertaken as part of advanced works for the A1 in Northumberland at Causey Park (Figure 1 & 2). The archaeological investigation was commissioned by WSP on behalf of Highways England and was undertaken by Pre-Construct Archaeology Limited (PCA).
- 2.1.2 The desk-based assessment (Application Document Reference: TR10041/APP/6.2) identified a cropmark of a possible rectilinear enclosure (HER 11367). LiDAR assessment identified traces of the possible enclosure and established that it was sub-rectangular and formed of two sections of ditch approximately 0.5m deep in places. Faint traces of further potential enclosures were also identified by LiDAR assessment within the immediate vicinity (Application Document Reference: TR010041/APP/6.2, Appendix 8.3, Figure 4 and 8). The enclosures are considered to be of possible prehistoric date.
- 2.1.3 The geophysical survey identified several fragmented linear anomalies of potential archaeological origin within the gas pipeline trench. Prior to the recent archaeological work these geophysical anomalies were thought to represent features associated with the rectilinear enclosure feature.
- 2.1.4 To mitigate the impact of the work on potential archaeological assets a strategy of 'preservation by record was proposed'. This work took the form of an archaeological SMS excavation within the propose gas pipeline.
- 2.1.5 The scope of works for the archaeological mitigation was set out in a Method Statement produced by WSP (2020). The aim of the SMS was to record any archaeological features uncovered during the excavation of the gas pipeline during the diversion works and clarify the presence, nature, date and significance of any of the geophysical anomalies. The Method Statement was produced in consultation with the Northumberland County Council Conservation Team (NCCCT).
- 2.1.6 The Online Access to the Index of Archaeological Investigation (OASIS) reference number of the project is preconst1-398339.

#### 2.2 Site Location and Description

2.2.1 The proposed works, which are located *c.* 9km north of Morpeth and 5.5km south of Felton, lie within three fields to the west of the A1 at Causey Bridge centred at National Grid Reference NZ 18857 95034 (Figure 1 and 2).

#### 2.3 Geology and Topography

2.3.1 The solid geology underlying the site comprises mudstone, siltstone and sandstone of the Stainmore Formation, formed during the Carboniferous Period. This is overlain by till,

- Devensian (Diamicton), formed up to two million years ago when the local environment was dominated by ice age conditions (*British Geological Survey* website).
- 2.3.2 The topography of the site can be split into three areas: Fields 1-3. Field 1 (Plates 1-5) was adjacent to the layby at Causey Bridge and sloped gently downwards from 83.87m AOD at the entrance of the site to 81.79m AOD c. 220m to the northwest at the eastern stopple pit (Plate 3). From here the land sloped down westwards for c. 165m with the lowest recorded elevation at 78.79m AOD adjacent to the first crossing point into Field 2 (Plate 6).
- 2.3.3 Within Field 2 (Plate 6-9) the land rose to the west for *c*. 85.7m to a maximum height of 81.72m AOD, dropping to 80.75m AOD at the second crossing point (Plate 8 & 9) into Field 3 *c*. 90m to the south. Field 3 (Plate 8-13) roughly sloped down from west to east and south to north. The height of the westernmost stopple pit (Plate 13) lay at 87.58m AOD *c*. 272m to the south of the second crossing point (Plate 8 & 9).

#### 2.4 Planning Background

2.4.1 The archaeological investigation was required, as part of the planning process (predetermination), to inform the Local Planning Authority (LPA), Northumberland County Council of the character, date, extent and degree of survival of archaeological remains at the site. The advanced works form part of a Development Consent Order application (DCO, Application Document Reference: TR3101110/APP/3.1) and was required in accordance to the National Policy Statement for National Networks (NPS NN 5.142).

#### 2.5 Archaeological and Historical Background

The detailed review of the archaeological potential of the Scheme is presented in the HEDBA (Application Document Reference: TR010041/APP/6.2, Appendix 8.1) and Chapter 8: Cultural Heritage of the ES (Application Document Reference: TR010041/APP/6.1), drawing on the evidence provided from the geophysical survey (Application Document Reference: TR010041/APP/6.2, Appendix 8.2) and lidar assessment (Application Document Reference: TR010041/APP/6.2, Appendix 8.3). The following section presents the archaeological potential for the proposed works area only, presented by period and is taken from the Method Statement produced by WSP (2020).

#### **Prehistoric**

2.5.1 The Palaeolithic period is typically represented by isolated finds such as the lithics found at Eltringham, near Prudhoe, c.25 km south-east of the proposed works area, however, there is no evidence of Palaeolithic activity recorded in close proximity. The Mesolithic period is represented in the Scheme Study Area by several pieces of worked Mesolithic flint found near West Moor Farm, approximately 4 km to the north. In the wider landscape, the Mesolithic period is represented by a Mesolithic settlement site at Howick, approximately 20 km north-east of Felton. The Neolithic period is represented by isolated finds consisting of an arrowhead and three stone axe heads. Notably, two of the stone axe heads were located in an area where, documentary evidence suggests, there was an undated earthwork 75 m in diameter. The location lies 3.5 km to the north and is now occupied by the disused East Thirston Moor Camp RAF airfield. Bronze Age activity within the area consists of a bowl barrow burial monument, which lies 1.5 km to the north. It is believed that the primary burial in this barrow is undisturbed. There is no evidence of Iron Age activity within the Scheme boundary, however, a complex of un-investigated cropmarks within the Study Area at Silver Hill may date to the period.

#### Romano-British

2.5.2 The proposed works area lies 19 km to the north of Hadrian's Wall and as a result there was limited Roman influence over patterns of land use and settlement in the landscape. It is, therefore, thought that many of the field systems, enclosed settlements and farmsteads identified as cropmarks could have seen continuity in use from the Iron Age to the Romano-British period. Cropmark complexes comprising rectilinear enclosures and circular features, which may reflect Romano-British activity, have been identified throughout the area, including at Northgate Farm, West Shield Hill Farmhouse and Fenrother and at Silver Hill.

#### **Early Medieval**

2.5.3 There is no evidence of Early Medieval activity recorded near the proposed works area, although it is well represented in the wider landscape. The Anglo-Saxon kingdoms of Bernicia and Deira covered the Northumbria region and between the seventh and eighth centuries the "Golden Age of Northumbria" arose with monasteries being built at Lindisfarne and Hexham. In the late 8th century, the Vikings infamously raided the east coast, beginning at Lindisfarne however, there is little Viking evidence available.

#### **Late Medieval**

- 2.5.4 The origins of the townships within the area surrounding the proposed works site can be traced back to the 13th and 14th centuries and many of the region's churches were founded in this period. Elements of Felton's Church of St Michael and All Angels date to the 13th century and the Church of St Cuthbert in Hebron is thought to have medieval chancel walls of 12th century origin. There is also evidence for a settlement known as Helm, located approximately 1.5 km north of Causey Park Bridge and the site of a 13th century Chapel is recorded 1km to the north.
- 2.5.5 Following the Norman Conquest, 16 motte and bailey castles were built within the region including at Morpeth and Mitford. Several monasteries were established in the area from the mid-12th century, including at Newminster, near Morpeth. The early part of this period also saw the steady increase in the population resulting in the establishment of new settlements and their gradual growth, including Morpeth.
- 2.5.6 War with Scotland and the Black Death outbreak in the 14th century led to population decline and the shrinking of settlements, with some villages being abandoned altogether. There is evidence for this in the Study Area at Bockenfield, Burgham and at Helm. During the 15th century, existing defences at the castles were strengthened and a new type of building, "the tower house", was introduced in many Northumberland villages as part of the Lord's residence. One example of a tower house is located at Causey Park, although documentary evidence points to this being of 16th century date.

#### Post-medieval

2.5.7 The Post-Medieval period appears to be one of the most prosperous periods for the area surrounding the Scheme, and there are a large number of heritage assets near the Scheme from this period. The majority of these assets are buildings, milestone markers and headstones. The Grade II\* Sundial from Causey Park, approximately 700 m to the west of the proposed work site, is rare, and contains the dated name of a local man: "William Ogle 1703". The agricultural heritage assets within the area indicate the prosperity of the agricultural sector during this time. Many landowners reorganised their fields and converted arable land into intensive pasture, resulting in the preservation of areas of ridge and furrow cultivation as earthworks throughout the area.

#### Industrial

2.5.8 In the wider landscape coal mining became the dominant industry within the region and improved transport links allowed for greater trade links and a steady supply of workers. As a result, the population grew and between 1801 and 1891 it doubled in Northumberland. This increase was reflected in the expansion of towns and villages.

#### Modern

2.5.9 World War II remains dominate evidence of the Modern period within the landscape around the area. RAF Eshott Airfield was built between World War I and World War II and the site contained accommodation, air raid shelters and hangers. Further evidence comprises a crash site of a Republic P47 Thunderbolt and a Royal Air Force Spitfire, a Grade II Listed Pillbox near West Thirston and a tank depot at Felton Park.

#### **Buried Archaeological Remains within the Scheme**

- 2.5.10 The HEDBA (Application Document Reference: TR010041/APP/6.2) notes that within the southern part of the eastern field (Compound Area), a cropmark of a possible rectilinear enclosure (HER 11367) has been identified by the Northumberland Historic Environment Record. The LiDAR assessment (Wessex Archaeology 2018) identified traces of this feature (WA37) and established that it is sub-rectangular and largely formed of two sections of ditch, approximately 0.5m deep in places but generally shallower than this, with the northern one almost right-angled and acting as the north and eastern boundary of the enclosure. In addition to the ditch sections, traces of a slight bank are visible on the western side. The enclosed area, covering 2.2 hectares, is defined by the top of a slope. The enclosure was potentially of prehistoric date. Faint traces of further potential enclosure were also identified in the LiDAR in the immediate vicinity of the site including WA39 and WA30 (Application Document Reference: TR010041/APP/6.2, Appendix 8.3, Figure 4 and 8).
- 2.5.11 The geophysical survey (ASDU 2018) identified eight fragmented linear anomalies of potential archaeological origin in the same area, both within and immediately outside of the proposed works site. An archaeological origin has yet to be established, however they are potentially associated with the rectilinear enclosure feature (HER 11367).
- 2.5.12 Recent archaeological work associated with the scheme involved archaeological Strip, Map and Sample areas in association with the diversion of Northern Gas Networks pipeline and a Northern Powergrid overhead electricity line and trial trench evaluation undertaken to target anomalies identified by geophysical survey and lidar assessment. No archaeological features or deposits were identified in the Strip, Map & Sample areas. Three trial trenches were sited to target the easternmost boundary ditch of the enclosure identified by the HER and LiDAR assessment (Trench 2) and trenches (Trenches 1 & 3) were sited to target two curvilinear geophysical anomalies with Trench 1 also sited to test the SSE terminus of the easternmost enclosure boundary ditch. Although no features were identified in Trench 2 that would account for the anomaly identified by LiDAR assessment, two undated shallow gullies were recorded that probably represent prehistoric drainage features. Trench 1, sited to target a curvilinear anomaly identified by geophysical survey and part of the eastern boundary ditch identified by LiDAR assessment, recorded two undated gullies that closely correspond to the geophysical anomaly and probably represent a ring ditch of prehistoric date No feature was identified in Trench 1 that would account for the anomaly identified by

LiDAR assessment. No features were identified in Trench 3 that would account for the curvilinear anomaly.

#### 3. PROJECT AIMS AND RESEARCH OBJECTIVES

#### 3.1 Project Aims

- 3.1.1 The aim of the investigation was to clarify the presence, nature, date and extent of any archaeological remains that might be present within the site. To mitigate the impact on the identified archaeological remains, and as yet unknown assets, a strategy of 'preservation by record' was proposed. This work took the form of an archaeological SMS excavation within the proposed works site, where any ground disturbance was required. The SMS took place within the pipeline corridor, haul road, subsoil storage areas and the compound area.
- 3.1.2 SMS is usually reserved for larger areas to capture an overall plan of remains, the different phases present and the activity represented. It involves rapid archaeological excavation, recording and sampling and is suitable for large areas of impact where complex/deep archaeological remains are not anticipated. The strategy aims to record remains without causing significant delays to the construction programme.
- 3.1.3 An archaeological excavation, which includes the approach of Strip, Map and Sample is defined by the Chartered Institute for Archaeologists as 'a programme of controlled, intrusive fieldwork with defined research objectives which examines, records and interprets archaeological deposits, features and structures and, as appropriate, retrieves artefacts, ecofacts and other remains within a specified area or site on land, inter-tidal zone or underwater. The records made, and objects gathered during fieldwork are studied and the results of that study published in detail appropriate to the project design' (CIfA 2014a).
- 3.1.4 The results of the works will inform an appropriate mitigation strategy for any archaeological remains, if required.

#### 3.2 Research Objectives

- 3.2.1 The project was undertaken with reference to the research framework set out in *Shared Visions: The North-East Regional Research Framework for the Historic Environment* (NERRF) (Petts and Gerrard 2006), which highlights the importance of research as a vital element of development-led archaeological work. By setting out key research priorities for all periods of the past, NERRF allows archaeological projects to be related to wider regional and national priorities for the study of archaeology and the historic environment.
- 3.2.2 The Method Statement (WSP 2020) sets out the research aims of the works and are summarised as follows:
  - Are there any remains of the rectilinear enclosure within the proposed works area?
  - Can a date for the rectilinear enclosure identified through cropmark and LiDAR assessment be determined?
  - Can the function and purpose of the enclosure be determined?

- Are there any internal features preserved within the enclosure?
- Are there any external features associated with the enclosure?
- Is there any evidence for human activity not associated with the rectilinear enclosure within the proposed works area?
- Are the geophysical survey anomalies of archaeological origin. If so, what do they represent?
- How reliable is the geophysical survey for predicting the presence of and density of the archaeological remains?
- 3.2.3 An appropriate level of reporting on the work was required, including, if necessary, full analysis and publication of any notable archaeological findings upon completion of the Strip, Map and Sample work. Thus, the results of the work constitute the preservation by record of any archaeological remains encountered and subsequently removed during the course of works.

#### 4. ARCHAEOLOGICAL METHODOLOGY

#### 4.1 Fieldwork

- 4.1.1 The fieldwork was undertaken in compliance with the codes and practice of the Chartered Institute for Archaeologists and the relevant CIfA standard and guidance document (CIfA 2014 a & b). PCA is a CIFA 'Registered Organisation'. All fieldwork and post-excavation was carried out in accordance with the Yorkshire, the Humber & The North East: Regional Statement of Good Practice (SYAS 2011).
- 4.1.2 The project was managed in line with principles set out in Historic England's 'Management of Research Projects in the Historic Environment' (MoRPHE) published in 2006.
- 4.1.3 All archaeological staff involved in the project were suitably qualified and experienced for their project roles. The project was overseen for PCA by Aaron Goode, Project Manager at PCA's Durham Office. All relevant Health and Safety legislation, regulations and codes of practice were respected. PCA's Health and Safety (H&S) Policy is the starting point for managing H&S at all locations where PCA carries out its operations.
- 4.1.4 The scope of the work for the archaeological mitigation was set out in a detailed Method Statement compiled by WSP (2020).
- 4.1.5 This phase of archaeological investigation was carried out between the 22nd March to 10th June 2020 over 16 days and consisted of excavating the proposed route of the pipeline, haul road and subsoil storage locations and the compound area (Figure 2).
- 4.1.6 The SMS areas were set-out by the clients representative on site using a Leica Viva Smart Rover Global Navigation Satellite System (GNSS), with pre-programmed co-ordinate data determined by an office-based CAD operative.
- 4.1.7 Ground level in the SMS was reduced using 20-tonne tracked excavators utilising a toothless ditching bucket. Successive spits of no more than 100mm depth were removed until either the top of the first archaeological horizon or the top of superficial geological deposits was reached. All ground reduction was carried out under archaeological supervision.
- 4.1.8 Superficial geology was encountered within all areas. No archaeology was observed within the SMS with only post-medieval and modern furrows and boundary ditches being noted. The size of the excavation area was scaled back from the original layout to avoid the archaeology features identified in the trenches during the earlier phase of archaeological evaluation. The total area monitored during the works measured 2.83 hectares (Figure 2).
- 4.1.9 The investigation of archaeological levels was by hand, with cleaning, examination and recording both in plan and in section, where appropriate. Investigations within the trenches followed the normal principles of stratigraphic excavation and were conducted in accordance

- with the methodology set out in the field manual of PCA (PCA 2009) and the Museum of London Site Manual (Museum of London 1994).
- 4.1.10 Deposits and cut features were individually recorded on the *pro-forma* 'Trench Recording Sheet' and 'Context Recording Sheet'. All site records were marked with the unique-number CPN20 (site code).
- 4.1.11 The height of all principal strata and features was calculated in metres above Ordnance Datum (m AOD). A detailed photographic record of the evaluation was prepared using SLR digital photography. All detailed photographs included a legible graduated metric scale. The photographic record illustrated both in detail and general context archaeological exposures and specific features in all trenches.

#### 4.2 Post-excavation

- 4.2.1 The stratigraphic data for the project comprises written and photographic records. A total of 34 archaeological contexts were defined within the Strip, Map & Sample area (Appendix 2). Post-excavation work involved checking and collating site records, grouping contexts and phasing the stratigraphic data. A written summary of the archaeological sequence was then compiled, as described in Section 5.
- 4.2.2 During the works, no artefactual material was recovered from the archaeological features and deposits encountered.
- 4.2.3 The complete Site Archive, in this case comprising only the written, drawn and photographic records (including all material generated electronically during post-excavation) will be packaged for long term curation. In preparing the Site Archive for deposition, all relevant standards and guidelines documents referenced in the Archaeological Archives Forum guidelines document (Brown 2007) will be adhered to, in particular a well-established United Kingdom Institute for Conservation (UKIC) document (Walker, UKIC 1990) and the most recent CIfA publication relating to arching (CIfA 2014b).
- 4.2.4 At the time of writing the Site Archive was housed at the Durham Office of PCA, The Rope Works, Broadwood View, Chester-le-Street, County Durham, DH3 3AF. When complete, the site Archive will be deposited at the Great North Museum, Newcastle-upon-Tyne, under the site code CPN20.

#### 5. RESULTS: THE ARCHAEOLOGICAL SEQUENCE

During the archaeological investigation, separate stratigraphic entities were assigned unique and individual context numbers, which are indicated in the following text as, for example [123]. The context numbers for the Strip, Map & Sample area have been assigned contexts from [5000] onwards to separate them from the earlier phase of works. The archaeological sequence is described by placing stratigraphic sequences within broad phases, assigned on a site-wide basis in this case. An attempt has been made to add interpretation to the data and correlate these phases with recognised historical and geological periods. The figures can be found in Appendix 1 with the context index and stratigraphic matrix located in Appendix 2 and 3 respectively. A selection of plates can be found within Appendix 4.

#### 5.1 Phase 1: Superficial Geology

5.1.1 Phase 1 represents superficial geological deposits that were observed within the Strip, Map and Sample areas and comprised dark yellowish-brown boulder clay (5001). The table below summarises the depth below ground level and metres above Ordnance Datum (AOD) height of geological deposits within the trenches:

Area	Context	Depth (below ground level)	m /	AOD
		(below ground level)	Highest	Lowest
Field 1		0.22m	83.17m (SE)	78.65m (NW)
Field 2	(5001)	>0.34m	81.48m (S)	78.21m (E)
Field 3		0.3m	86.88 (S)	80.49m (N)

Summary of superficial geology depths and levels

#### 5.2 Phase 2: Post-medieval

- 5.2.1 Phase 2 represents post-medieval agricultural activity comprising a field boundary in Field 2 and a field systems (furrows) within Field 1.
- 5.2.2 Within Field 2, boundary ditch G1 was exposed for 101m NE/SW (Figure 3 and 4; Plate 14 and 15). Two slots were excavated though the boundary ditch that was filled with natural silting deposit G2 comprising a mixture of dark grey silty clay and clayey silt. Within the historic map sequence, the boundary ditch can be seen on the first edition Ordnance Survey map of 1866. The table below summarises the dimensions of each slot:

21.411	Phase 2: Ditch Group 1			
Slot No.	Width	Width		nAOD
	Width Depth	Берит	Тор	Base
[5030]	1.42m	0.54m	80.59m	80.05m
[5033]	1.32m	0.51m	78.53m	77.97m

Ditch Group 1 dimension

5.2.3 Post-medieval agricultural use of the site survived within Field 1 that comprised an extensive, regular arrangement of ENE/WSW aligned furrows [5019]=[5024] (Figure 3; Plate

16-18). Six ENE/WSW aligned furrows were exposed across Field 1 for a maximum distance of 114.3m long and had dimensions of up to 0.60m wide by 70mm deep. The furrows were filled with dark brownish grey clayey silt (5018)=(5023) that contained the occasional sherd of post-medieval pottery or fragment of clay tobacco pipe (not retained). The furrows all followed the natural topography of the field, sloping down to the boundary of Field 2 to the west and were spaced approximately 9m apart. Such spacing is normally associated with 'broad' ridge and furrow typical of the medieval period, however, due to late post-medieval material being recorded in the fill, they have been placed within the post-medieval period.

5.2.4 No ridges associated with the furrows survived due to extensive ploughing regimes in the 20th century (multiple plough scars from modern farm machinery were observed across the site).

#### 5.3 Phase 3: Modern Activity

- 5.3.1 Phase 3 is represented by modern activity dating from the 20th to 21st century. This comprised field boundaries, furrows, field drains and topsoil.
- 5.3.2 Within Field 1, boundary ditch G3 was exposed for 230m NNW/SSE separating furrows [5003] to the east and furrows [5008] to the west. Four slots were excavated through the boundary ditch G3 that was up to 1.50m wide by 0.50m deep ditch (Figure 3 & 5; Plate 19-20). Its single backfilled G4 comprised dark brownish grey silty clay from which no finds where recovered. This ditch closely corresponds with a boundary that first appeared on the Ordnance Survey of 1947. This boundary was still depicted on subsequent mapping evidence dating from 1978-1992 and therefore was probably backfilled sometime in the late 20th or early 21st century. The table below summarises the dimensions of each slot:

	Phase 2: Ditch Group 3				
Slot No.	Width	D = 104/n	mAOD		
		Depth	Тор	Base	
[5006]	1.30m	0.50m	82.12m	81.62m	
[5011]	1.10m	0.46m	81.21m	80.75m	
[5014]	1.60m	0.45m	80.99m	80.54m	
[5017]	1.10m	0.34m	81.82m	81.48m	

Ditch Group 3 dimension

- 5.3.3 Three NNW/SSE aligned furrows [5003] recorded to the ENE of Ditch G3 were similarly aligned to the ditch and six NE/SW aligned furrows [5008] recorded to the ESE of Ditch G3 did not extend beyond or truncate Ditch G3 suggesting the furrows and the boundary ditch were contemporary in date.
- 5.3.4 Three NNW/SSE aligned furrows [5003] were exposed for a maximum distance of 75m and were spaced between 2.1m to 4.6m apart (Figure 3). The furrows had dimensions of 1.50m wide by 0.15m deep and were filled with dark greyish brown silty clay (5002) that contained

occasional inclusions of ceramic building material possibly derived from ploughed out field drains.

- 5.3.5 Furrows [5008] were more extensive with six of the NE/SW aligned features exposed for a maximum length of c. 50.90m (Figure 3; Plate 21-22). The furrows had dimensions of 1.20m wide by 0.11m deep and were spaced between 3.60m to 5.60m apart. Each furrow contained a single dark brownish grey sandy clay fill (5007). No ridges associated with the furrows survived due to extensive ploughing regimes in the 20th century (multiple plough scars from modern farm machinery were observed across Field 1, spaced approximately 0.40m apart).
- 5.3.6 A modern field drain [5021] was noted running parallel to the high-pressure gas main within the eastern stopple pit area. The 0.6m wide and 0.80m deep drain was exposed for 77.73m NE/SW and contained 0.15m diameter plastic drainage pipe (5022). It was backfilled with dark brownish grey sandy clay (5020).
- 5.3.7 Within Field 2 an NNW/SSE aligned modern field boundary [5026] was noted running parallel to the eastern boundary of the field (Plate 23). The ditch had dimensions of 0.80m wide by 0.30m deep and was exposed for 34.76m long. Its single dark grey sandy clay backfill (5025) contained occasional flecks of ceramic building material and fragments of wood.
- 5.3.8 Topsoil was encountered across the site and comprised dark greyish brown silty clay (5000). The table below summarises the thickness and metres above Ordnance Datum height for topsoil within the Strip, Map and sample area.

Area	Context	Thickness	m .	AOD
			Highest	Lowest
Field 1		0.22m	83.39m (SE)	78.87m (NW)
Field 2	(5000)	>0.34m	82.19m (SE)	78.71m (E)
Field 3		0.3m	87.58m (SW)	80.62m (NW)

Summary of topsoil thickness and levels

#### 6. CONCLUSIONS AND RECOMMENDATIONS

#### 6.1 Conclusions

- 6.1.1 The archaeological investigations comprised the Strip, Map and Sample of the pipeline diversion corridor, hauls roads, subsoil storage areas and compound. Geological deposits, post-medieval agricultural remains and modern boundaries, furrows and drains were encountered. This activity was assigned to three phases of activity:
  - Phase 1: Superficial geological deposits comprising glaciofluvial deposits of clay and clayey sand were encountered within all Strip, Map and Sample areas;
  - Phase 2: Post-medieval field boundary in Field 2 that is depicted on the first edition
     Ordnance Survey map of 1866. Also included a group of furrows within Field 1.
  - Phase 3: Modern remains dating from the early 20th century to present day. This
    activity comprised two groups of furrows where the ridges had been ploughed out
    by later agricultural practices. Also included a modern field boundary in Field 2 and
    a field drain in Field 1. Topsoil was encountered in all Strip, Map & Sample areas.
- 6.1.2 No features of archaeological significance were recorded within any of the Strip, Map and Sample areas. The potential archaeological features noted in the geophysical survey and LiDAR assessment were either non-existent or corresponded to variations in the natural geology. Furthermore, the scale of the works was reduced in size that meant geophysical anomalies previously within the HPGM corridor now lay outside of the corridor were not impacted on by the groundworks. Potential prehistoric archaeology features observed within Trenches 1 and 2 during the earlier phase of evaluation work also lay outside of the HPGM corridor and did not continue into the Phase 2 Strip, Map and Sample area.

#### 6.2 Recommendations

6.2.1 No further work is required on the information recovered during this phase of archaeological investigation, with the Site Archive (including this report), forming the permanent record of the strata encountered.

#### 7. REFERENCES

#### 7.1 Bibliography

- Brown, D.H., 2007. Archaeological Archives. A guide to best practice in creation, compilation, transfer and curation, Archaeological Archives Forum.
- Chartered Institute for Archaeologists (ClfA), 2014a. Standard and guidance for an archaeological evaluation, ClfA.
- Chartered Institute for Archaeologists (ClfA), 2014b. Code of Conduct, ClfA.
- Chartered Institute for Archaeologists (CIfA), 2014dc. Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives, CIfA.
- Department for Transport, 2014. National Policy Statement for National Networks.
- English Heritage, 2006. *Management of Research Projects in the Historic Environment*, English Heritage.
- Ministry of Housing, Communities & Local Government, 2019. *National Planning Policy Framework*.
- Museum of London, 1994. Archaeological Site Manual, Third Edition, Museum of London.
- PCA, 2009. Fieldwork Induction Manual, PCA Operations Manual I. Unpublished document.
- PCA, 2020. A1 in Northumberland Improvement Scheme: Causey Park Advanced Works: Archaeological Mitigation Phase 1. Unpublished report.
- Petts, D. and Gerrard, C., 2006. *Shared Visions: North East Regional Research Framework for the Historical Environment*, English Heritage, Durham County Council and Durham University.
- ASDU, 2018. A1 Morpeth to Felton: Geophysical Survey. Unpublished document.
- SYAS 2011. Yorkshire, the Humber & The North East: A Regional Statement of Good Practice for Archaeology in the Development Process.
- Walker, K., 1990. Guidelines for the Preparation of Excavation Archives for Long-term Storage, Archaeology Section, United Kingdom Institute for Conservation.
- Wessex Archaeology, 2018. *A1 Morpeth to Felton: LiDAR Assessment*. Unpublished Report No. 210460.01
- WSP, 2020. A1 in Northumberland: Causey Park Advanced Works. Method Statement for Archaeological Mitigation. Unpublished document.

#### 7.2 Online Sources

The **British Geological Survey** website: www.bgs.ac.uk. This was consulted for information regarding the geology of the study area.

#### 8. ACKNOWLEDGEMENTS AND CREDITS

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#### **PCA Credits**

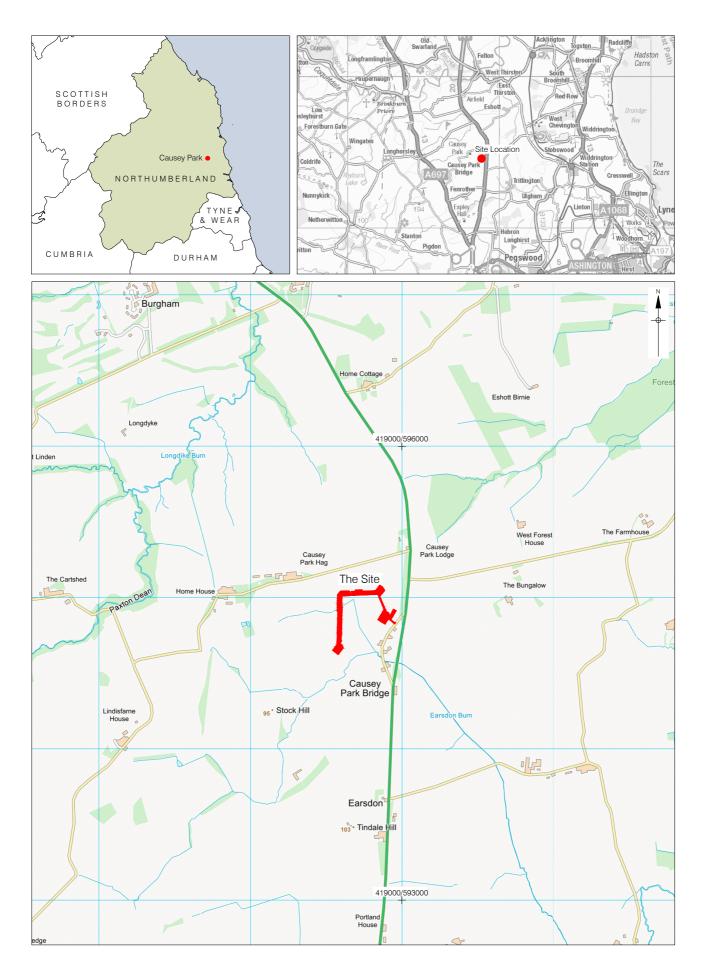
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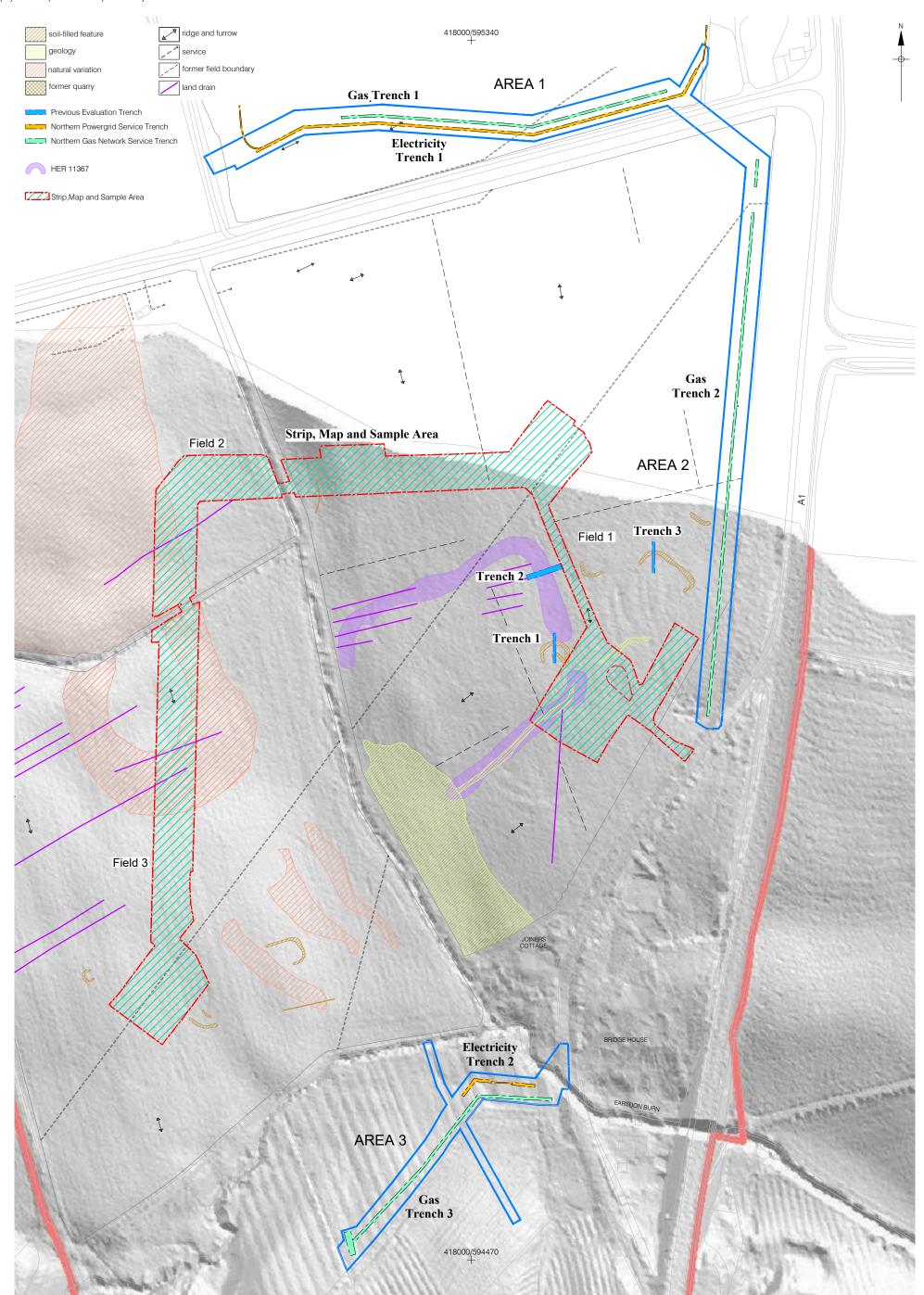
Report: Scott Vance

Project Manager: Aaron Goode

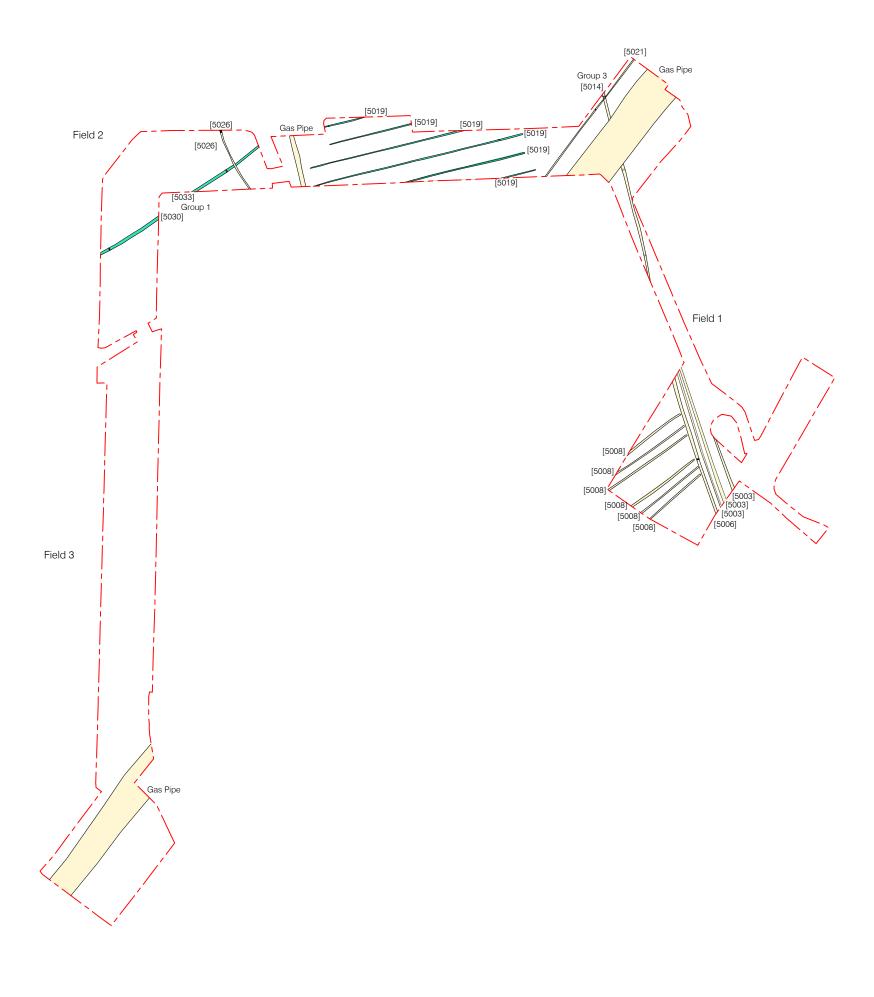
CAD: Ray Murphy

#### **APPENDIX 1: FIGURES**

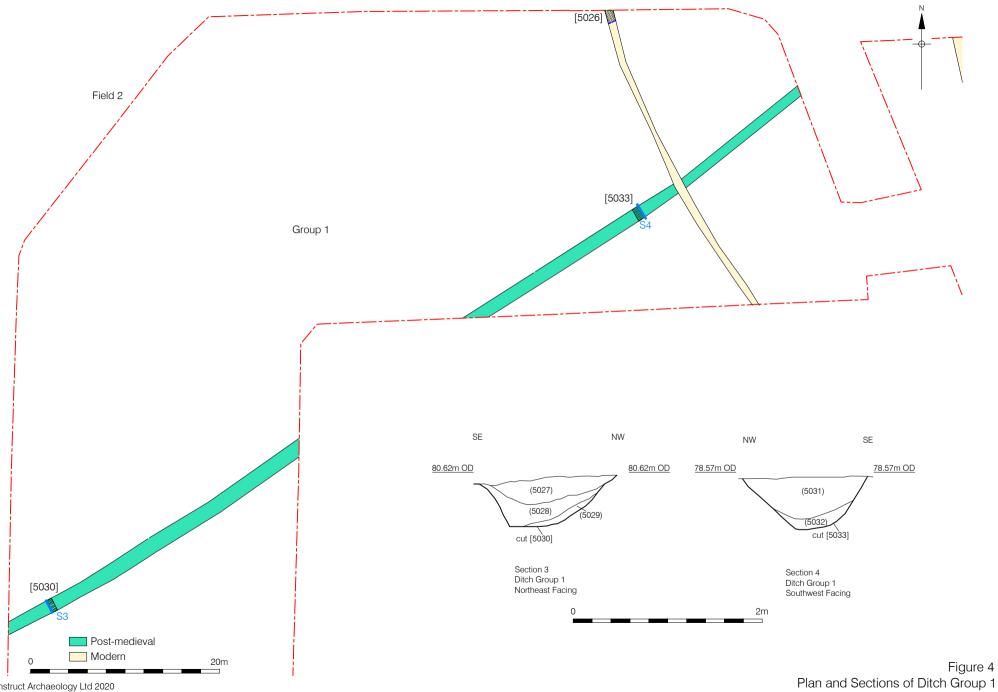






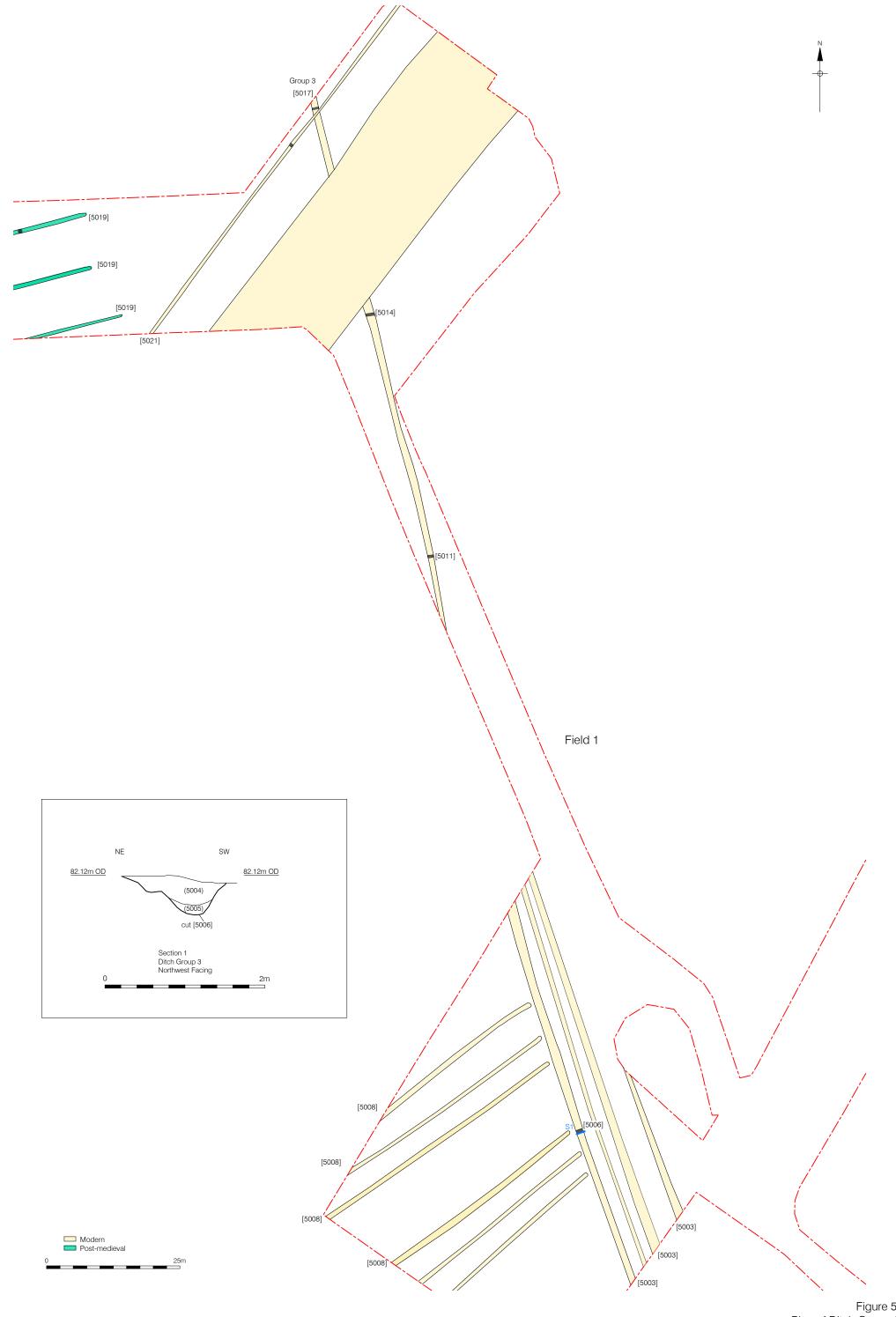






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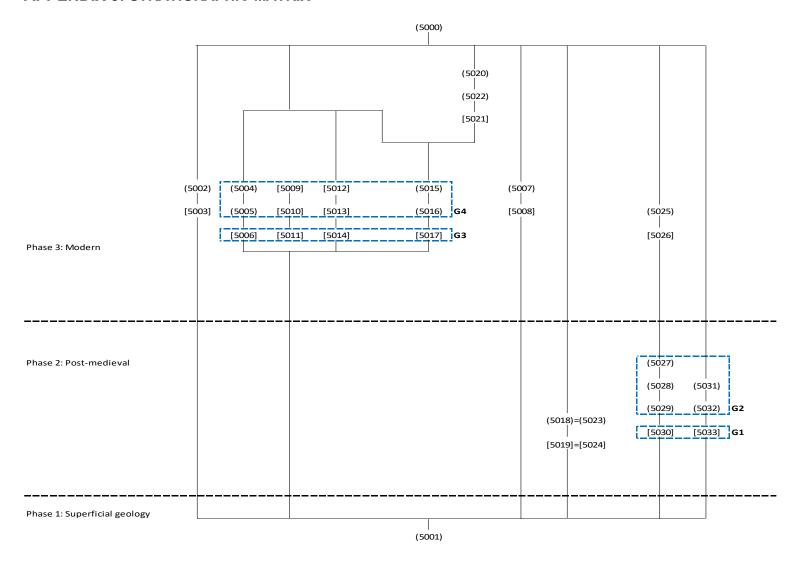
Plan 1:400 and Sections 1:40 at A4



#### **APPENDIX 2: CONTEXT INDEX**

Context	Phase	Group	Type 1	Type 2	Fill of	Interpretation
5000	3		Deposit	Layer		Topsoil
5001	1		Deposit	Layer		Superficial geology
5002	3		Deposit	Fill	[5003]	Fill of furrows [5003]
5003	3		Cut	Linear		Furrows
5004	3	4	Deposit	Fill	[5006]	Fill of field boundary [5006]
5005	3	4	Deposit	Fill	[5006]	Fill of field boundary [5006]
5006	3	3	Cut	Linear		Field boundary
5007	3		Deposit	Fill	[5008]	Fill of furrows [5008]
5008	3		Cut	Linear		Furrows
5009	3	4	Deposit	Fill	[5011]	Fill of field boundary [5011]
5010	3	4	Deposit	Fill	[5011]	Fill of field boundary [5011]
5011	3	3	Cut	Linear		Field boundary
5012	3	4	Deposit	Fill	[5014]	Fill of field boundary [5014]
5013	3	4	Deposit	Fill	[5014]	Fill of field boundary [5014]
5014	3	3	Cut	Linear		Field boundary
5015	3	4	Deposit	Fill	[5017]	Fill of field boundary [5017]
5016	3	4	Deposit	Fill	[5017]	Fill of field boundary [5017]
5017	3	3	Cut	Linear		Field boundary
5018	2		Deposit	Fill	[5019]	Fill of furrow [5019]. Same as [5023]
5019	2		Cut	Linear		Furrow. Same as [5024]
5020	3		Deposit	Fill	[5021]	Fill of field drain [5021]
5021	3		Cut	Linear		Field drain
5022	3		Other	Pipe	[5021]	Field drain in [5021]
5023	2		Deposit	Fill	[5024]	Fill of furrow [5024]. Same as [5018]
5024	2		Cut	Linear		Furrow. Same as [5019]
5025	3		Deposit	Fill	[5026]	Fill of modern boundary ditch [5026]
5026	3		Cut	Linear		Modern boundary ditch
5027	2	2	Deposit	Fill	[5030]	Fill of boundary ditch [5030]
5028	2	2	Deposit	Fill	[5030]	Fill of boundary ditch [5030]
5029	2	2	Deposit	Fill	[5030]	Fill of boundary ditch [5030]
5030	2	1	Cut	Linear		Field boundary
5031	2	2	Deposit	Fill	[5033]	Fill of field boundary [5033]
5032	2	2	Deposit	Fill	[5033]	Fill of field boundary [5033]
5033	2	1	Cut	Linear		Field boundary

#### **APPENDIX 3: STRATIGRAPHIC MATRIX**



#### **APPENDIX 4: PHOTOGRAPHIC PLATES**

Plate 1: Field 1: Material storage compound: view northeast, scale: 2m



Plate 2: Field 1: Compound area: view north, scale: 2m



Plate 3: Field 1: Eastern stopple pit area: view southwest, scale: 2m



Plate 4: Field 1: North-western end of pipeline: view west, scale: 2m



Plate 5: Field 1: North-western end of pipeline: view east, scale: 2m



Plate 6: Field 2 (crossing point in background): view east, scale: 2m



Plate 7: Field 2: view south, scale: 2m



Plate 8: Crossing point area between Field 2 and 3: view NW, scale: 2m



Plate 9: Crossing point are between Field 2 and 3: view southwest, scale: 2m



Plate 10: Field 3: view north, scale: 2m



Plate 11: Field 3: view south, scale: 2m



Plate 12: Field 3, view northwest, scale: 2m



Plate 13: Field 3: Western stopple pit area: view southwest, scale: 2m



Plate 14: Boundary ditch G1 slot [5030], view west, scale: 1m



Plate 15: Boundary ditch G1 slot [5033]: view northeast, scale: 1m



Plate 16: Furrows [5019]/[5024]: view northeast, scale: 2m



Plate 17: Furrows [5019]/[5024]: view northeast, scale: 2m



Plate 18: Excavated slot through furrow [5019]/[5024]: view east, scale: 0.5m



Plate 19: Boundary ditch G3 slot [5006]: view south-southeast, scale: 1m



Plate 20: Boundary ditch G3 slot [5014]: view north, scale: 1m



Plate 21: Furrows [5008]: view northwest, scale: 2m



Plate 22: Furrows [5008]: view north, scale: 2m



Plate 23: Field boundary [5026]: view south, scale: 1m





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