

# **High Speed Rail (Crewe – Manchester)**

## **Background information and data accompanying SES2 and AP2 ES**

### **Historic environment**

BID HE-004-00000 SES2 and AP2 ES

Historic environment field survey report

MA01: Hough to Walley's Green

MA03: Pickmere to Agden and Hulseheath

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## Department for Transport

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## 1 Introduction

### 1.1 Structure of this report

- 1.1.1 This document sets out historic environment survey information and forms part of the Background Information and Data (BID) documents that accompany the High Speed Two (HS2) High Speed Rail (Crewe – Manchester) Supplementary Environmental Statement 2 (SES2) and Additional Provision 2 Environmental Statement (AP2 ES)<sup>1</sup>.
- 1.1.2 This document sets out data not reported in the Background Information and Data document<sup>2</sup> (the main BID reports) that accompanied the High Speed Two (HS2) High Speed Rail (Crewe – Manchester) Environmental Statement<sup>3</sup> (the main ES) or the Supplementary Environmental Statement 1 (SES1) and Additional Provision 1 Environmental Statement (AP1 ES)<sup>4</sup> both published in 2022. No BID reports were produced for SES1 and AP1 ES.
- 1.1.3 This report covers the following community areas (CA):
- Hough to Walley's Green (MA01); and
  - Pickmere to Agden and Hulseheath (MA03).
- 1.1.4 This document and BID HE-001-00000 which accompanies the SES2 and AP2 ES include baseline data relating to the historic environment for the SES2 and AP2 ES. No additional surveys were undertaken in the Wimboldsley to Lostock Gralam (MA02); Hulseheath to Manchester Airport (MA06); Davenport Green to Ardwick (MA07); and Manchester Piccadilly Station (MA08) community areas covered by the BID HE-001-00000 which accompanies the SES2 and AP2 ES report.
- 1.1.5 The historic environment assessment is detailed in the SES2 and AP2 ES:
- Volume 2, Community Area reports; and
  - Volume 5, Appendix: HE-002-00000.

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<sup>1</sup> High Speed Two Ltd (2023), High Speed Rail (Crewe – Manchester), *Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-supplementary-environmental-statement-2-and-additional-provision-2-environmental-statement>.

<sup>2</sup> High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Background Information and Data*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

<sup>3</sup> High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

<sup>4</sup> High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Supplementary Environmental Statement 1 and Additional Provision 1 Environmental Statement*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-supplementary-environmental-statement-1-and-additional-provision-1-environmental-statement>.

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- 1.1.6 The historic environment SES2 and AP2 ES Volume 5, appendix comprises a summary gazetteer, impact assessment table, and historic landscape character areas (HLCA) (see SES2 and AP2 ES Volume 5, Appendix: HE-002-00000).
- 1.1.7 The detailed gazetteer in BID HE-001-00000 which accompanies the SES2 and AP2 ES, Appendix A sets out unique gazetteer identifier (UID) codes for the heritage assets considered in the impact assessment (e.g. MA02\_0001); these UID are used for reference across all the historic environment reports and maps.
- 1.1.8 All additional identified heritage assets discussed in this document are shown in the SES2 and AP2 ES Volume 5, Historic environment Map Book (no Map Books were produced for SES1 and AP1 ES):
- Map Series HE-01 (Heritage Assets within Study Area); and
  - Map Series HE-02 (Designated Heritage Assets).
- 1.1.9 Where previously described heritage assets are discussed in this report this is cross referenced with the summary gazetteer of heritage assets (Volume 5, Appendix: HE-002-00000 in the main ES) and Historic environment Map Book:
- Map Series HE-01 (Heritage Assets within Study Area); and
  - Map Series HE-02 (Designated Heritage Assets).
- 1.1.10 Where previously discussed Archaeological Sub-Zones (ASZ) are discussed in this report they are cross-referenced with the main ES (see Volume 5, Appendix: HE-002-00000 and Historic environment Map Book: Map Series HE-03 Archaeological Sub-Zones).
- 1.1.11 In order to differentiate between the original scheme and the subsequent changes, the following terms are used:
- ‘the original scheme’ – the Bill scheme submitted to Parliament in 2022, which was assessed in the main ES;
  - ‘the SES1 scheme’ – the original scheme with any changes described in SES1 that are within the existing powers of the Bill; and
  - ‘the AP1 revised scheme’ – the original scheme as amended by SES1 changes and AP1 amendments;
  - ‘the SES2 scheme’ – the original scheme with any changes described in SES1 (submitted in July 2022) and the SES2; and
  - ‘the AP2 revised scheme’ – the original scheme as amended by SES1 and SES2 changes (as relevant) and AP2 amendments.

## 1.2 Surveys undertaken

- 1.2.1 This report contains the results of a series of archaeological surveys. These surveys comprised geophysical survey at various locations along the route, encompassing an area of

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approximately 25 hectares (ha). The locations surveyed are reported within the following community areas:

- Hough to Walley's Green (MA01) community area; and
- Pickmere to Agden and Hulseheath (MA03) community area.

# Part 1: Supplementary Environmental Statement 2

## 2 Geophysical survey

### 2.1 Introduction

- 2.1.1 This report provides the results of geophysical surveys undertaken within the:
- Hough to Walley's Green (MA01) community area; and
  - Pickmere to Agden and Hulseheath (MA03) community area.
- 2.1.2 The geophysical surveys were undertaken in accordance with the guidance and standards set out in:
- Generic written scheme of investigation (GWSI) for non-intrusive archaeological survey set out in the main ES<sup>5</sup>;
  - Standards and Guidance for Archaeological Geophysical Survey<sup>6</sup>;
  - Geophysical Survey in Archaeological Filed Evaluation: Research and Professional Services Guidelines<sup>7</sup>; and
  - Guidelines for the Use of Geophysics in Archaeology, Questions to Ask and Points to Consider<sup>8</sup>.
- 2.1.3 The aims and general method for the geophysical surveys are as set out in the GWSI.
- 2.1.4 Survey locations were identified in accordance with the method for risk assessment and survey prioritisation presented in Technical Note: 'Risk-based approach to prioritising

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<sup>5</sup> High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement, Generic written scheme of investigation for non-intrusive archaeological survey*, Volume 5, Appendix: HE-006-00000. Available online at: <https://www.gov.uk/government/collections/hs2-phase2b-crewe-manchester-environmental-statement>.

<sup>6</sup> Chartered Institute for Archaeologists (CIfA) (2014), *Standards and Guidance for Archaeological Geophysical Survey*, Reading.

<sup>7</sup> David, A., Linford, N. and Linford, P. (2008), *Geophysical Survey in Archaeological Filed Evaluation: Research and Professional Services Guidelines*, English Heritage, Swindon. On 1 April 2015, the part of English Heritage responsible for this guidance note changed its name to Historic England; this note remains valid but has not been updated to reflect this rebranding.

<sup>8</sup> Schmidt, A. R., Linford, P., Linford, N., David, A., Gaffney, C. F., Sarris, A. and Fassbinder, J. (2016), *Europae Archaeologogiae Consilium (EAC) Guidelines for the Use of Geophysics in Archaeology, Questions to Ask and Points to Consider*, Namur, Belgium.



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archaeological surveys' set out in the Environmental Impact Assessment Scope and Methodology Report (SMR) in the main ES<sup>9</sup>.

## 2.2 Survey objectives

### Aims of the survey

- 2.2.1 The aim of the surveys is to establish the presence/absence, extent and character of detectable archaeological assets within the survey area, including both the testing of previously recorded assets and the identification of additional locations of archaeological potential not previously recorded.

### Objectives of the survey

- 2.2.2 The results of the surveys have been combined with data from other archaeological assessments carried out as part of the project, such as desk-top studies, aerial photographic transcription and light detection and ranging (LiDAR) data, in order to analyse the archaeological potential of the survey locations.

## 2.3 Survey methodology

### Data collection

- 2.3.1 The detailed magnetic survey technique was chosen as an efficient and effective method of locating archaeological anomalies. The surveys were undertaken on 14, 15, 27 to 29 and 31 September 2021 using Bartington Grad-01-1000L sensors, variously configured for use on a magnetometer cart (six sensors at 0.8m intervals/eight sensors at 0.5m intervals).

### Data processing

- 2.3.2 A zero median traverse function was used to remove the striping apparent in the raw data. In some cases, where beneficial, a high-pass filter was also applied to smooth the data.
- 2.3.3 The unprocessed and processed data sets have been presented in this report in greyscale format, the unprocessed data at a range of -8nT to 8nT and the processed at -3nT to 3nT. A comparison of the plots shows how the processing has removed the effects of drift in

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<sup>9</sup> High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement, Environmental Impact Assessment Scope and Methodology Report*, Volume 5, Appendix: CT-001-00001. Available online at: <https://www.gov.uk/government/collections/hs2-phase2b-crewe-manchester-environmental-statement>.

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instrument calibration and maximised the clarity and interpretability of the detected anomalies.

## **Data presentation**

- 2.3.4 A general site location plan showing the individual survey areas is shown on Figures 1 and 5 at a scale of 1:75,000. Large-scale, fully processed (greyscale) data, unprocessed magnetometer data and accompanying interpretive plots of each individual survey areas are presented at a scale of 1:2,500 in Figures 2 to 11 inclusive.
- 2.3.5 When interpreting the results, several factors are taken into consideration, including the nature of archaeological features being investigated and the local conditions at the site (geology, topography etc.). Anomalies are categorised by their potential origin and divided into categories that are used in the graphical interpretation of the magnetic data:
- archaeology definitive/probable;
  - archaeology possible;
  - industrial/burnt flint;
  - extraction;
  - agricultural historic;
  - agricultural modern;
  - natural;
  - ferrous;
  - magnetic disturbance;
  - uncertain; and
  - modern service.

## **Assumptions and limitations**

- 2.3.6 The results and subsequent interpretation of data from geophysical surveys should not be treated as an absolute representation of the underlying archaeological and non-archaeological remains. Confirmation of the presence or absence of archaeological remains can only be achieved by intrusive archaeological investigation of sub-surface deposits.
- 2.3.7 The survey data is generally of good quality within the area apart from noise in places due to the abundance of small metallic debris within the topsoil of the surveyed fields. There are several weak to moderately intense linear anomalies which can be attributed to ditches and field drains and some more intense halos from modern fences and other structures around the edges of the surveyed fields.

## 2.4 Geophysical survey results

### Introduction

- 2.4.1 Geophysical survey was undertaken at three locations in the Hough to Walley's Green (MA01) and Pickmere to Agden and Hulseheath (MA03) community areas, comprising:
- MA01\_GP003 Spring Farm, Crewe;
  - MA03\_GP009 North of Flittogate Farm; and
  - MA03\_GP0013 Land at Hough Hall moated ancillary enclosure and fishpond.
- 2.4.2 The survey results are presented for the above areas, providing a brief background to the survey locations, the results obtained and a brief discussion of those results.
- 2.4.3 In the following paragraphs magnetic anomalies identified in the course of the surveys are discussed across each survey area within classification types based on their origin. Only anomalies that are distinctive or unusual are discussed individually. Where appropriate, such congruent groups of anomalies and individual anomalies have been identified by alphanumeric identifiers, e.g. MA01\_GP003.001 refers to a feature or group of features within survey area MA01\_GP003.

### MA01\_GP003 Spring Farm, Crewe

#### Survey location

- 2.4.4 The survey area is divided into three fields with a combined extent of 9.99ha, on land at Spring Farm, close to Moss Lane in the south-eastern corner of the parish of Minshull Vernon centred on NGR 369521, 359177. The western boundary of the site is largely defined by a farm track and the eastern edge by the West Coast Main Line (WCML). The survey area was under grass at the time of the survey. A small pond lay in the middle of the central field and an electricity pylon stood near the eastern edge. The survey area was situated at 50m Above Ordnance Datum (AOD) and was topographically flat. The underlying geology was mapped as Sidmouth Mudstone Group with superficial glacial till deposits.
- 2.4.5 The survey area was located within the Warmingham and Coppenhall Moss archaeological sub-zone (ASZ) (MA01\_AC03.001; see the main ES Volume 5, Appendix: HE-002-0MA01<sup>10</sup>). The ASZ covers areas of former wetland mosses to the north of present-day Crewe. The ASZ is within HLCA MA01\_HLCA03: Crewe Mosslands, and the current use is agricultural land, with medieval field systems evident around Church Coppenhall and distinctive linear, post-medieval moss room enclosures around Warmingham Moss. Otherwise, the ASZ is

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<sup>10</sup> High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement*, Volume 5, Appendix: HE-002-0MA01. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

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characterised by former post-medieval houses such as Bradfield Green (MA01\_0081), Moss Lane (MA01\_0164) and Warmingham Moss (MA01\_0165). The construction and maintenance of the Grand Junction Railway built in 1837 (MA01\_0038, now the WCML) that runs north by north-east to south by south-west across the ASZ will have removed earlier archaeological remains in proximity to it. The extent of the surviving wetland moss is unknown. However, there is the potential for preserved archaeological remains and organic deposits as identified during the Cheshire Wetland Survey undertaken in the 1990s<sup>11</sup>. These have the potential for palaeoenvironmental remains that can provide evidence of past environments dating to the prehistoric to medieval periods. The Cheshire HER records a single Neolithic axe find spot within the ASZ.

- 2.4.6 The land to the east of the WCML was investigated by geophysical survey in 2019<sup>12</sup> (MA01\_GP002). The survey revealed a fragmentary system of ditches and a large number of small, rectangular features that were interpreted as possible kilns or other industrial features of unknown date.

## Survey results

### Archaeology possible

- 2.4.7 The survey data contains nothing which can be interpreted as definite or possible archaeology.

### Extraction

- 2.4.8 A zone of intense magnetic noise at the northern tip of the survey area (see Figures 3 and 4, MA01\_GP003.001) corresponds to a former pond depicted on various late 19th to early 20th century Ordnance Survey maps. This anomaly is interpreted as a former marl pit<sup>13</sup>, later used as a pond. The high magnetic response was probably caused by the magnetic properties of the material used to backfill these ponds.

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<sup>11</sup> Leah, M.D., Wells, C., Huckerby, E. and Appleby, C. (1997), *North West Wetlands Survey 4: The Wetlands Survey 4: The Wetlands of Cheshire*, Lancaster University Archaeological Unit.

<sup>12</sup> High Speed Two Ltd (2022), High Speed Rail (Crewe –Manchester), *Background Information and Data, Hough to Walley's Green, Historic Environment Field Survey Report, BID HE-004-0MA01*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

<sup>13</sup> Marl pits were an early method of agricultural improvement. They were dug in Cheshire from the medieval period onwards to extract marl, a calcareous soil, which was then spread on fields to improve soil fertility.

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### Agricultural historic

- 2.4.9 Several linear anomalies (see Figures 3 and 4, MA01\_GP003.003 to MA01\_GP003.007) correspond to former field boundaries known from the 1849 Minshull Vernon Tithe Map<sup>14</sup> and later Ordnance Survey maps. Other anomalies (see Figures 3 and 4, MA01\_GP003.008 to MA01\_GP003.010) appear to form part of the same pattern, although not corresponding to anything recorded on historic mapping; it is possible these represent further field boundaries which had fallen out of use prior to the surveying of the tithe map.
- 2.4.10 A small L-shaped anomaly (see Figures 3 and 4, MA01\_GP003.011) at the western edge of the central field is comparable in appearance to the field boundary anomalies. It has been categorised as 'agriculture historic' because its sharply angular form and its association with a small patch of ferrous debris suggest it may not be of great age. A possible interpretation would be a small, ditched enclosure or compound contemporary with the 19th century fields.

### Agricultural modern

- 2.4.11 Sets of parallel linear anomalies, aligned broadly with the orientation of the field boundaries, cover almost the entirety of the central field. They are very likely to represent field drains. Sporadic weak linear anomalies in the northern and southern fields probably also represent drains.

### Ferrous

- 2.4.12 Ferrous anomalies are small but intense magnetic anomalies, typically of dipolar form, caused by ferrous (iron or steel) material. They are widespread and abundant throughout the survey data. Most will relate to pieces of buried scrap metal of no archaeological interest.
- 2.4.13 Positive and negative magnetic halos (not depicted on the interpretation figures) occur around the edges of the survey data. They are caused by large adjacent magnetic objects, including fences, agricultural machinery and the gantries and other infrastructure on the adjoining WCML.

### Magnetic disturbance

- 2.4.14 Small pockets of densely clustered ferrous anomalies are depicted on the interpretation figures as 'magnetic disturbance'. One lies adjacent to feature MA01\_GP003.011 and may indicate a patch of associated debris but none of the other examples have any obvious importance within this survey area.

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<sup>14</sup> Unknown (1849), *Tithe Map of Minshull Vernon in the Parish of Middlewich in the County of Chester*, Cheshire Archives and Local Studies, Ref: EDT 273/2.

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- 2.4.15 It is possible that another zone of magnetic noise mid-way along the eastern boundary of the northern field (see Figures 3 and 4, MA01\_GP003.002) could indicate another former marl pit<sup>13</sup> but this is inconclusive.

### Modern service

- 2.4.16 A very large positive halo in the southern field is the magnetic response from an upstanding electricity pylon (see Figures 3 and 4, MA01\_GP003.012).

### Conclusions

- 2.4.17 The survey identified some ditches which correspond to field boundaries depicted on the 1849 Minshull Vernon tithe map<sup>14</sup> and other ditches which seem, from their positions and alignments, to form part of the same field system. There is also one small rectilinear feature in the west of the survey area which might represent an enclosure of 19th to 20th century date.
- 2.4.18 There is one patch of magnetic noise in the north of the survey area which corresponds to a former marl pit, later used as a pond, known from historic mapping. Another patch of magnetic noise in the same field might represent a second pond or quarry pit or else a superficial pocket of debris from the construction of the adjacent WCML.
- 2.4.19 Whilst the survey on site MA01\_GP002, to the immediate east of the present site, detected a large number of small magnetic anomalies of possible industrial origin, no comparable anomalies occur in the present dataset.

## MA03\_GP009 North of Flittogate Farm

### Survey location

- 2.4.20 The survey site MA03\_GP009 consists of 9.39ha. Only one field was available for survey. As such, the available survey area comprised a single pasture field approximately 1ha in size. This was located immediately north of Flittogate Farm and east of Flittogate Lane in the parish of Pickmere centred on NGR 370786, 378360. The survey area stands a little above 50m AOD on a gentle north-facing slope. The underlying geology was mapped as Northwich Halite Formation with superficial glacial till deposits.
- 2.4.21 The field in which the survey was undertaken was located within the Providence Farm ASZ (MA03\_AC01.003; see the main ES Volume 5, Appendix: HE-002-0MA03<sup>15</sup>). The ASZ covers the plain on higher ground between Smokers Brook and Wincham Brook in the south and Tabley Brook and Arley Brook to the north. It is bounded to the east by the Chester to

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<sup>15</sup> High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement*, Volume 5, Appendix: HE-002-0MA03. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

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Manchester Roman road (MA03\_0119). The ASZ is within HLCA MA03\_HLCA01: Pickmere and the current use is agricultural land with isolated farmsteads and dwellings with a late post-medieval field pattern. The eastern corner was formerly part of Tabley Park but is now the Cheshire Showground. The topographically higher land indicates a potential for prehistoric funerary monuments such as round barrows near the High Legh Knutsford Ridge. It is possible that Roman roadside settlement may be located along the route of the Chester to Manchester Roman road (MA03\_0119) to the east. Despite this, the only recorded evidence for remains from these periods is an Iron Age/Roman farmstead and enclosure in the neighbouring Tabley Brook/ Arley Brook ASZ (MA03\_AC01.005; see the main ES Volume 5, Appendix: HE-002-0MA03<sup>15</sup>). There is a potential for medieval settlement from surviving farmsteads within the ASZ. The possible location of the Tabley Inferior possible deserted settlement (MA03\_0110) is located within the ASZ. The place name evidence of Arley Moss and Bate Heath refers to open land or forest clearings. This suggests that some of the area was not farmland in the medieval period.

## Survey results

### Archaeology possible

- 2.4.22 Three weak linear anomalies, all aligned roughly north to south (see Figures 7 and 8, MA03\_GP009.001 to MA03\_GP009.003) and a shorter anomaly aligned roughly east to west (see Figures 3 and 4, MA03\_GP009.004) are categorised as possible archaeology. These cannot be related to 19th or 20th century boundary ditches on Ordnance Survey maps and are possibly buried archaeological remains relating to earlier phases of development of Flittogate Farm (MA03\_0081; see the main BID report, BID HE-001-00000 which accompanies the SES2 and AP2 ES).

### Ferrous

- 2.4.23 Most of the ferrous anomalies will relate to scrap metal in the plough soil as previously identified in the MA01\_GP003 survey area. One larger example (see Figures 7 and 8, MA03\_GP009.005), with a marked positive halo, occurs in the centre of the survey area and corresponds to a surface obstruction fenced off with chicken wire observed when the geophysical survey was undertaken.

### Magnetic disturbance

- 2.4.24 The southern portion of the survey data is dominated by a swathe of 'magnetic disturbance', comprising a dense concentration of ferrous anomalies (see Figures 7 and 8, MA03\_GP009.006). This corresponds to the location of the former farm buildings noted on the early 1970s aerial photograph. It is likely to indicate a spread of debris associated with the demolition of buildings.

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### Modern service

- 2.4.25 An alternating set of large positive and negative magnetic halos at the northern edge of the survey data are from a buried pipe. The pipe itself lies mostly outside of the survey area, with only a short length clipping across the north-eastern corner (see Figures 7 and 8, MA03\_GP009.007).
- 2.4.26 A dendritic pattern of intense linear anomalies in the west of the survey area indicates a set of pipes or drains (see Figures 7 and 8, MA03\_GP009.008). The arrangement of the anomalies would be most consistent with drains, but their intensity points towards metal pipes rather than the more usual ceramic ones.

### Conclusions

- 2.4.27 Four features have been interpreted as possible ditches and categorised as 'possible archaeology'. There is no evidence of to date them and they do not appear on Ordnance Survey maps. The possible archaeological anomalies may relate to earlier phases of development of Flittogate Farm (MA03\_0081; see the main BID report, BID HE-001-00000 which accompanies the SES2 and AP2 ES).
- 2.4.28 Much of the survey area shows evidence of modern activity. There is a pipeline in the northern corner of the field, a dense arrangement of drains or pipes in the west. There is a large zone of disturbed ground in the south where some 20th century farm buildings formerly stood.

## MA03\_GP0013 Land at Hough Hall moated ancillary enclosure and fishpond

### Survey location

- 2.4.29 The survey area consists of 13.72ha of land centred on NGR 370786, 378360. It is located immediately west of Hulseheath Lane in the parish of Mere, Cheshire and borders, but does not include the scheduled Hough Hall moated site, ancillary enclosure and fishpond (MA03\_0049). At the time of the survey, the area was split into three arable fields and a part of a smaller grass field. The moated site was located in part of the latter field which was not surveyed as it was not within the study area. The survey area has a north-facing aspect, with the ground surface sloping down from approximately 73m AOD in the south to 60m AOD in the north. The underlying geology was mapped as Bollin Mudstone Formation with superficial glacial till deposits.



## Background Information and Data accompanying Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

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MA01 and MA03

### Historic environment field survey report

- 2.4.30 The survey area was located within the North Cheshire Sandstone Ridge and Bucklow Hill ASZ (MA02\_AC02.003; see the main ES Volume 5, Appendix: HE-002-0MA02<sup>16</sup>). The ASZ comprises a low ridge of the Helsby sandstone formation extending from Knutsford in the south-west towards Lymm in the north-east. Bucklow Hill sits at the edge of this slight plateau raised above the Bollin Valley. The land type is defined by areas of former marginal land including place names such as Hulse Heath, Moss Farm, and Moss Lane indicating heath and boggy land that was subsequently improved and enclosed. The ASZ is within the MA03\_HLCA04: Hulseheath which characterises the area as broadly post-medieval enclosure fields, with settlement clusters at Hoo Green, Booth Bank and Hulseheath.
- 2.4.31 There remains the possibility that the ridge was a focus for prehistoric settlement, in particular above 70m AOD overlooking the surrounding lower valleys and areas of mosses, lowland heath and meres. Excavation as part of the construction of the A556 has produced evidence of a Bronze Age funerary landscape at Bucklow Hill. This included a ring-ditch from a ploughed-out Bronze Age round barrow, and twelve inhumation graves and cremation graves. The North Cheshire Ridge Roman road (MA03\_0116) forms the southern boundary of the ASZ. There is the potential that this formed the focus for roadside settlement in the Roman period.
- 2.4.32 The area appears to have been settled in the early medieval period. There are several settlements recorded in the Domesday Survey, during the medieval period including High Legh, Hough Hall<sup>17</sup> and Bucklow Hill. Other place name evidence includes Hoo Green, suggesting a spur of land. Evidence of early medieval and medieval settlement is present in the form of moated sites. The remains of Millington deserted medieval settlement (MA03\_0118) may be located within the ASZ. Where the ASZ is bisected by the M56 and the A556 Chester Road, remains are unlikely to survive.
- 2.4.33 Hough Hall moated site, ancillary enclosure and fishpond (MA03\_0049) was previously partially excavated, revealing remains of buildings that were abandoned between 1300 and 1500. The 1848 Mere tithe map<sup>18</sup> depicts two cottages on the west side of Hulseheath Lane, circa 50m and 250m south of the moated site. Neither appears on the 1876 Ordnance Survey map<sup>19</sup> so they were presumably demolished before that date. The southern of the two cottages lies within the survey area and the northern lies just outside of it.

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<sup>16</sup> High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement*, Volume 5, Appendix: HE-002-0MA02. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

<sup>17</sup> Higham N.J. (1988), Hough Hall: Trial Excavation of a Moated Platform in Mere Township, *Medieval Settlement Research Group Annual Report 3*, P20.

<sup>18</sup> Unknown (1848) *Tithe Map of the Township of Mere in the Parish of Rostherne in the County of Chester*, held at; Cheshire Archives and Local Studies, Ref: EDT 269/2.

<sup>19</sup> Ordnance Survey (1876), *Cheshire County Series, Map Sheet XXVI, 2<sup>nd</sup> edition, Scale 1: 10,560*.

## Background Information and Data accompanying Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

Historic environment  
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Historic environment field survey report

### Survey results

#### Archaeology possible

- 2.4.34 Where the survey has been conducted across the site of the former cottage on Hulseheath Lane, it has detected a vaguely defined area of weak magnetic noise. Amongst this are a few small discrete positive anomalies (see Figures 10 and 11, MA03\_GP013.001). This magnetic response does not reveal the exact location or ground-plan of the cottage. It does suggest an area of disturbance with a few rubbish pits and patches of magnetically enhanced debris (for example hearth ash and brick rubble) expected on the site of a former building.
- 2.4.35 Approximately 30m south-west of the cottage site there is an 'n-shaped' curvilinear anomaly, approximately 14m long by 10m wide (see Figures 10 and 11, MA03\_GP013.002). The most plausible interpretation of this would be part of a small, ditched enclosure. This could have been a garden plot, animal pen or similar feature associated with the cottage.
- 2.4.36 A small concentration of magnetic anomalies near the southern end of the survey area (see Figures 10 and 11, MA03\_GP013.003) may indicate a cluster of pits or pockets of industrial debris (for example ash and burnt soil). The date of these features is uncertain but could be archaeological evidence of the remains of the post-medieval cottage off Hulseheath Lane, its garden and surrounding activity (MA03\_0186; see BID report, BID HE-001-00000 which accompanies SES2 and AP2 ES).
- 2.4.37 No archaeological features have been detected in proximity scheduled Hough Hall moated site, ancillary enclosure and fishpond (MA03\_0049), located outside and to the north-east of the survey area.

#### Extraction

- 2.4.38 A large patch of intense magnetic noise (see Figures 10 and 11, MA03\_GP013.004) located towards the centre of the northern field corresponds to a former pond that is depicted on 1848 Mere tithe map<sup>18</sup>. This anomaly is interpreted as a former marl pit<sup>13</sup>, later used as a pond. The high magnetic response was probably caused by the magnetic properties of the material used to backfill these ponds.

#### Agricultural historic

- 2.4.39 Several linear anomalies (see Figures 10 and 11, MA03\_GP013.005 to MA03\_GP013.0010) correspond to former field boundaries known from 1848 Mere tithe map and later Ordnance Survey maps.
- 2.4.40 Anomaly MA03\_GP013.006 corresponds to an infilled stream course which feeds the moat and fishpond of the scheduled Hough Hall moated site. It is visible as a magnetic disturbance in fields to the south and north of the farm track.

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### Historic environment field survey report

- 2.4.41 Anomaly MA03\_GP013.009 is notably stronger than the other field boundary anomalies, with an intensity of approximately 10 to 15nT. This anomaly, along with anomalies MA03\_GP013.007 and MA03\_GP013.008, corresponds to one side of a very small rectangular plot that is depicted on 1848 Mere tithe map<sup>18</sup> known as 'Meadow'. The plot appears to be associated with a small building and garden immediately to the south known as 'Cottage and Garden', of the same landowner.
- 2.4.42 Anomaly MA03\_GP013.011 resembles the definite field boundary anomalies and it is possible that it represents an earlier iteration of the current field boundary that lies a little to its south. However, given the lack of map evidence to support this conjecture, an interpretation as a modern drain is considered more probable.

## **Agricultural Modern**

- 2.4.43 The survey data contains several weak linear anomalies of alternating magnetic polarity (i.e. composed of alternate positive and negative segments). Such anomalies are typical of modern field drains.
- 2.4.44 A negative linear anomaly parallels the line of Hulseheath Lane in the southern field of the survey area. This is most probably an artifact of modern cultivation, marking the limit of the plough headland at the edge of the field.

## **Natural**

- 2.4.45 A small number of weak, amorphous positive anomalies in the northern half of the survey area seem likely to be geological in origin but cannot be interpreted more specifically.

## **Ferrous**

- 2.4.46 Most of the ferrous anomalies relate to pieces of rubbish and scrap metal in the plough soil as previously identified in the MA03\_GP009 survey area. Positive and negative magnetic halos occur sporadically around the edges of the fields. They are caused by large adjacent metal objects, such as gates and parked vehicles. One set of small halos (see Figures 10 and 11, MA03\_GP013.012) mimics the typical response of a small metal pipe but can be attributed to a barbed wire fence alongside a farm track.

## **Magnetic disturbance**

- 2.4.47 Small pockets of magnetic disturbance were noted across the survey area and indicate patches of made ground containing modern hardcore and rubbish. These were likely to have been used to consolidate soft pieces of ground or fill in depressions.

## Background Information and Data accompanying Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

Historic environment  
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### Modern service

- 2.4.48 A very intense and complex magnetic anomaly at the western edge of the survey marks the position of two adjacent pipelines (see Figures 10 and 11, MA03\_GP013.13). Continuations of the same pipes were previously detected in survey area MA03\_GP011<sup>20</sup>.

### Conclusions

- 2.4.49 The survey has detected a small number of possible archaeological features on the eastern boundary of the survey area, alongside Hulseheath Lane. These lie close to the site of a cottage (MA03\_0186; see the SES2 AP2 BID report, BID HE-001-00000 which accompanies the SES2 and AP2 ES) which is depicted on the 1848 Mere tithe map<sup>18</sup>.
- 2.4.50 A group of small magnetic anomalies near the southern end of the survey area may indicate a cluster of pits or pockets of industrial debris (for example ash and burnt soil). It is unclear whether these are archaeological features or what their date may be.
- 2.4.51 No archaeological features have been detected in proximity Hough Hall moated site, ancillary enclosure and fishpond (MA03\_0049). An anomaly MA03\_GP013.006 corresponds with an infilled stream course which feeds the moat and fishpond of the scheduled Hough Hall moated site. This discharges from the moat and connects with a tributary of Millington Clough further to the north.

## 2.5 Geophysical survey conclusions

- 2.5.1 The geophysical surveys undertaken at three locations have provided additional information on the archaeological character of the Hough to Walley's Green (MA01) and Pickmere to Agden and Hulseheath (MA03) areas. The ground conditions and overall data quality was good throughout.
- 2.5.2 Within MA01\_GP003, ditches identified correspond to field boundaries depicted on the 1849 Minshull Vernon tithe map and other ditches which seem, from their positions and alignments, to form part of the same field system. There is also one small rectilinear feature in the west of the survey area which might represent an enclosure of 19th to 20th century date.
- 2.5.3 Elsewhere magnetic noise corresponds to former marl pits. Whilst the survey on site MA01\_GP002, to the immediate east of MA01\_GP003, detected a large number of small magnetic anomalies of possible industrial origin, no comparable anomalies occur in the present dataset.

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<sup>20</sup> High Speed Two Ltd (2022), High Speed Rail (Crewe –Manchester), *Background Information and Data, Historic Environment Field Survey Report*, BID HE-004-00MA03. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

## Background Information and Data accompanying Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

Historic environment

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- 2.5.4 Within survey area MA03\_GP009, four features have been interpreted as possible ditches and categorised as 'possible archaeology'. There is no evidence of their date, although they are likely associated with earlier phases of the development of Flittogate Farm (MA03\_0081; see the main BID report, BID HE-001-00000 which accompanies the SES2 and AP2 ES). Much of the survey area shows evidence of recent disturbance. There is a pipeline in the northern corner of the field, a dense arrangement of drains or pipes in the west and a large zone of disturbed ground in the south where some 20th century farm buildings formerly stood.
- 2.5.5 An infilled stream course which feeds the moat and fishpond of the scheduled Hough Hall moated site (MA03\_0049) was identified during geophysical survey MA03\_GP013. This discharges from the moat and connects with a tributary of Millington Clough further to the north. The survey detected a small number of possible archaeological features on the eastern boundary of the survey area, alongside Hulseheath Lane (MA03\_0186; see the main BID report HE-001-00000 which accompanies the SES2 and AP2 ES). These lie close to the site of a small building and garden known as 'Cottage and Garden' on the 1848 Mere tithe map<sup>18</sup> which were both owned by Thomas John Langford Brooke. A group of small magnetic anomalies near the southern end of the survey area may indicate a cluster of pits or pockets of industrial debris (for example ash and burnt soil). It is unclear whether these are archaeological features or what their date may be.

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Historic environment  
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 MA01 and MA03  
 Historic environment field survey report

**Table 1: Gazetteer of identified features within MA01**

Reference	Asset UID	Anomaly category	Feature type	Period	Comment	Figure	NGR
MA01_GP003.001	-	Extraction	Marl pit	Post-medieval	Highly magnetic material within a former pond, shown on the 1849 Minshull Vernon tithe map. Extraction for marling.	Figures 3 and 4	369455 359513
MA01_GP003.002	-	Magnetic disturbance	-	Post-medieval	Highly magnetic material. Unclear whether the response is from a former pond, shown on the 1849 Minshull Vernon tithe map.	Figures 3 and 4	369505 359435
MA01_GP003.003	-	Agricultural historic	Field boundary	Post-medieval	A former field boundary identified on the 1849 Minshull Vernon Tithe Map.	Figures 3 and 4	369463 369463
MA01_GP003.004	-	Agricultural historic	Field boundary	Post-medieval	A former field boundary identified on the 1849 Minshull Vernon tithe map.	Figures 3 and 4	369452 359196
MA01_GP003.005	-	Agricultural historic	Field boundary	Post-medieval	A former field boundary identified on the 1849 Minshull Vernon tithe map.	Figures 3 and 4	369584 358976
MA01_GP003.006	-	Agricultural historic	Field boundary	Post-medieval	A former field boundary identified on the 1849 Minshull Vernon tithe map.	Figures 3 and 4	369618 358912
MA01_GP003.007	-	Agricultural historic	Field boundary	Post-medieval	A former field boundary identified on the 1849 Minshull Vernon tithe map.	Figures 3 and 4	369656 358858
MA01_GP003.008	-	Agricultural historic	Field boundary	Post-medieval	A former field boundary following the alignment of other field boundaries within the area. Although not depicted on the 1849 Minshull Vernon tithe map or later Ordnance Survey maps.	Figures 3 and 4	369482 359257
MA01_GP003.009	-	Agricultural historic	Field boundary	Post-medieval	A former field boundary following the alignment of other field boundaries within the area. Although not depicted on the 1849 Minshull Vernon tithe map or later Ordnance Survey maps.	Figures 3 and 4	369596 359073
MA01_GP003.010	-	Agricultural historic	Field boundary	Post-medieval	A former field boundary following the alignment of other field boundaries within the	Figures 3 and 4	369512 359240

**Background Information and Data accompanying Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**

Historic environment  
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Reference	Asset UID	Anomaly category	Feature type	Period	Comment	Figure	NGR
					area. Although not depicted on the 1849 Minshull Vernon tithe map or later Ordnance Survey maps.		
MA01_GP003.011	-	Agricultural historic	Ditched enclosure	Unknown	L-shaped anomaly with a sharply angular form indicating a possible small enclosure contemporary with the 19th century field patterns.	Figures 3 and 4	369428 359127
MA01_GP003.012	-	Modern service	-	Modern	A very large positive halo in the southern field is the magnetic response from an upstanding electricity pylon.	Figures 3 and 4	369635 358963

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 MA01 and MA03  
 Historic environment field survey report

**Table 2: Gazetteer of identified features within MA03**

Reference	Asset UID	Anomaly category	Feature type	Period	Comment	Figure	NGR
MA03_GP009.001	MA03_0081	Archaeology possible	Ditch	Undated	Part of a group of four weak anomalies which may represent former ditches and the earlier phases of the development of Flittogate Farm.	Figures 7 and 8	370695 378244
MA03_GP009.002	MA03_0081	Archaeology possible	Ditch	Undated	Part of a group of four weak anomalies which may represent former ditches and the earlier phases of the development of Flittogate Farm.	Figures 7 and 8	370719 378215
MA03_GP009.003	MA03_0081	Archaeology possible	Ditch	Undated	Part of a group of four weak anomalies which may represent former ditches and the earlier phases of the development of Flittogate Farm.	Figures 7 and 8	370724 378231
MA03_GP009.004	MA03_0081	Archaeology possible	Ditch	Undated	Part of a group of four weak anomalies which may represent former ditches and the earlier phases of the development of Flittogate Farm.	Figures 7 and 8	370700 378259
MA03_GP009.005	-	Ferrous	-	Modern	Positive halo corresponding to a surface obstruction fenced off with chicken wire.	Figures 7 and 8	370701 378245
MA03_GP009.006	-	Magnetic disturbance	-	Modern	Swathe of magnetic disturbance corresponding to a spread of demolition rubble at the location of former farm buildings on 1970s mapping.	Figures 7 and 8	370708 378203
MA03_GP009.007	-	Modern service	-	Modern	A modern buried service.	Figures 7 and 8	370696 378280
MA03_GP009.008	-	Modern service	-	Modern	A pattern of intense linear anomalies relating to a set of pipes or drains.	Figures 7 and 8	370669 378218
MA03_GP013.001	MA03_0186	Archaeology possible	Disturbance	Post-medieval	An area of magnetic noise with a few small discrete positive anomalies, possible area of disturbance with rubbish pits from a former cottage along Hulseheath Lane.	Figures 10 and 11	372053 383149
MA03_GP013.002	MA03_0186	Archaeology possible	Ditch enclosure	Post-medieval	N-shaped curvilinear anomaly representing part of a small, ditched enclosure.	Figures 10 and 11	372025 383121
MA03_GP013.003	MA03_0186	Archaeology possible	Pits	Undated	Concentration of magnetic anomalies indicating a cluster of pits or pockets of industrial debris.	Figures 10 and 11	371908 383038



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 BID HE-004-00000 SES2 and AP2 ES  
 MA01 and MA03  
 Historic environment field survey report

Reference	Asset UID	Anomaly category	Feature type	Period	Comment	Figure	NGR
MA03_GP013.004	-	Extraction	Marl pit	Post-medieval	Highly magnetic material within a former pond, shown the 1848 Mere tithe map. Extraction for marling.	Figures 10 and 11	372116 383523
MA03_GP013.005	-	Agricultural historic	Field boundary	Post-medieval	A former field boundary identified on the 1848 Mere tithe map.	Figures 10 and 11	372120 383550
MA03_GP013.006	-	Agricultural historic	Field boundary	Post-medieval	A former field boundary identified on the 1848 Mere tithe map. This corresponds with a small water course which feeds the moat and fishpond of the scheduled Hough Hall moated site.	Figures 10 and 11	372007 383322
MA03_GP013.007	-	Agricultural historic	Field boundary	Post-medieval	A former field boundary identified on the 1848 Mere tithe map.	Figures 10 and 11	371998 383189
MA03_GP013.008	-	Agricultural historic	Field boundary	Post-medieval	A former field boundary identified on the 1848 Mere tithe map.	Figures 10 and 11	371906 383209
MA03_GP013.009	-	Agricultural historic	Field boundary	Post-medieval	A former field boundary identified on the 1848 Mere tithe map. The anomaly is notably stronger than others within the survey area and may contain a high concentration of domestic or industrial debris.	Figures 10 and 11	372011 383179
MA03_GP013.010	-	Agricultural historic	Field boundary	Post-medieval	A former field boundary identified on the 1848 Mere tithe map.	Figures 10 and 11	371964 383048
MA03_GP013.011	-	Agricultural historic	Field boundary	Post-medieval	A former field boundary not identified on any maps, possibly representing an earlier iteration of the current field boundaries.	Figures 10 and 11	371881 383189
MA03_GP013.012	-	Ferrous	-	Modern	Set of small halos in the survey area from a barbed wire fence alongside a farm track.	Figures 10 and 11	372002 383080
MA03_GP013.013	-	Modern service	-	Modern	Two adjacent pipelines along the western edge of the survey area.	Figures 10 and 11	371964 383055

## Background Information and Data accompanying Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement

Historic environment  
BID HE-004-00000 SES2 and AP2 ES  
MA01 and MA03  
Historic environment field survey report

### 3 References

Chartered Institute for Archaeologists (CIfA) (2020), *Standards and Guidance for Archaeological Geophysical Survey*, Reading.

David, A., Linford, N. and Linford, P. (2008), *Geophysical Survey in Archaeological Field Evaluation: Research and Professional Services Guidelines*, English Heritage, Swindon.

Higham N. J. (1988), Hough Hall: Trial Excavation of a Moated Platform in Mere Township, *Medieval Settlement Research Group Annual Report 3*, P20.

High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement*, Volume 5. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

High Speed Two Ltd (2022), High Speed Rail (Crewe–Manchester), *Environmental Statement, Environmental Impact Assessment Scope and Methodology Report, Volume 5: Appendix CT-001-00001*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Environmental Statement, Generic written scheme of investigation for non-intrusive archaeological survey*, Volume 5, Appendix: HE-002-00000. Available online at: <https://www.gov.uk/government/collections/hs2-phase2b-crewe-manchester-environmental-statement>.

High Speed Two Ltd (2022), High Speed Rail (Crewe –Manchester), *Background Information and Data, Hough to Walley's Green, Historic Environment Field Survey Report, BID HE-004-0MA01*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

High Speed Two Ltd (2022), High Speed Rail (Crewe –Manchester), *Background Information and Data, Pickmere to Agden and Hulseheath, Historic Environment Field Survey Report, BID HE-004-0MA03*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-environmental-statement>.

High Speed Two Ltd (2022), High Speed Rail (Crewe – Manchester), *Supplementary Environmental Statement 1 and Additional Provision 1 Environmental Statement*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-supplementary-environmental-statement-1-and-additional-provision-1-environmental-statement>.

High Speed Two Ltd (2023), High Speed Rail (Crewe – Manchester), *Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement*. Available online at: <https://www.gov.uk/government/collections/hs2-phase-2b-crewe-manchester-supplementary-environmental-statement-2-and-additional-provision-2-environmental-statement>.

Leah, M. D. Wells, C. Huckerby, E. and Appleby. C. (1997), *North West Wetlands Survey 4: The Wetlands Survey 4: The Wetlands of Cheshire*, Lancaster University Archaeological Unit.

## **Background Information and Data accompanying Supplementary Environmental Statement 2 and Additional Provision 2 Environmental Statement**

Historic environment

BID HE-004-00000 SES2 and AP2 ES

MA01 and MA03

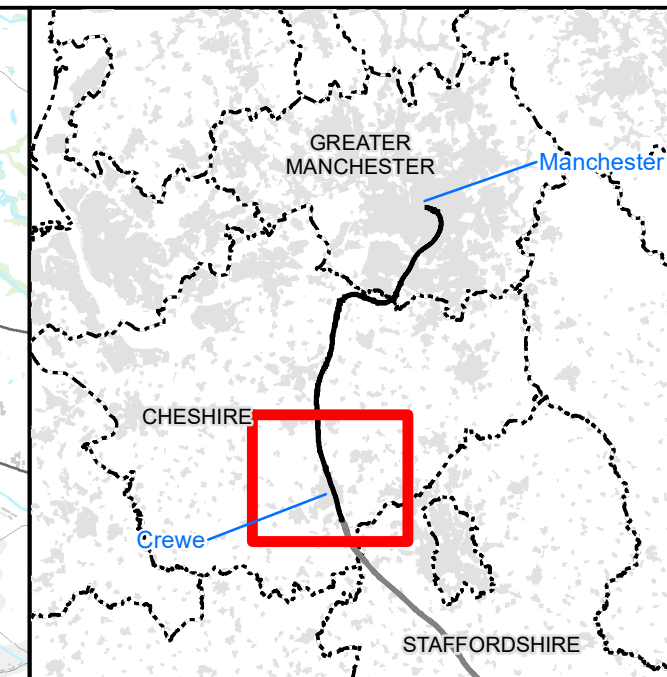
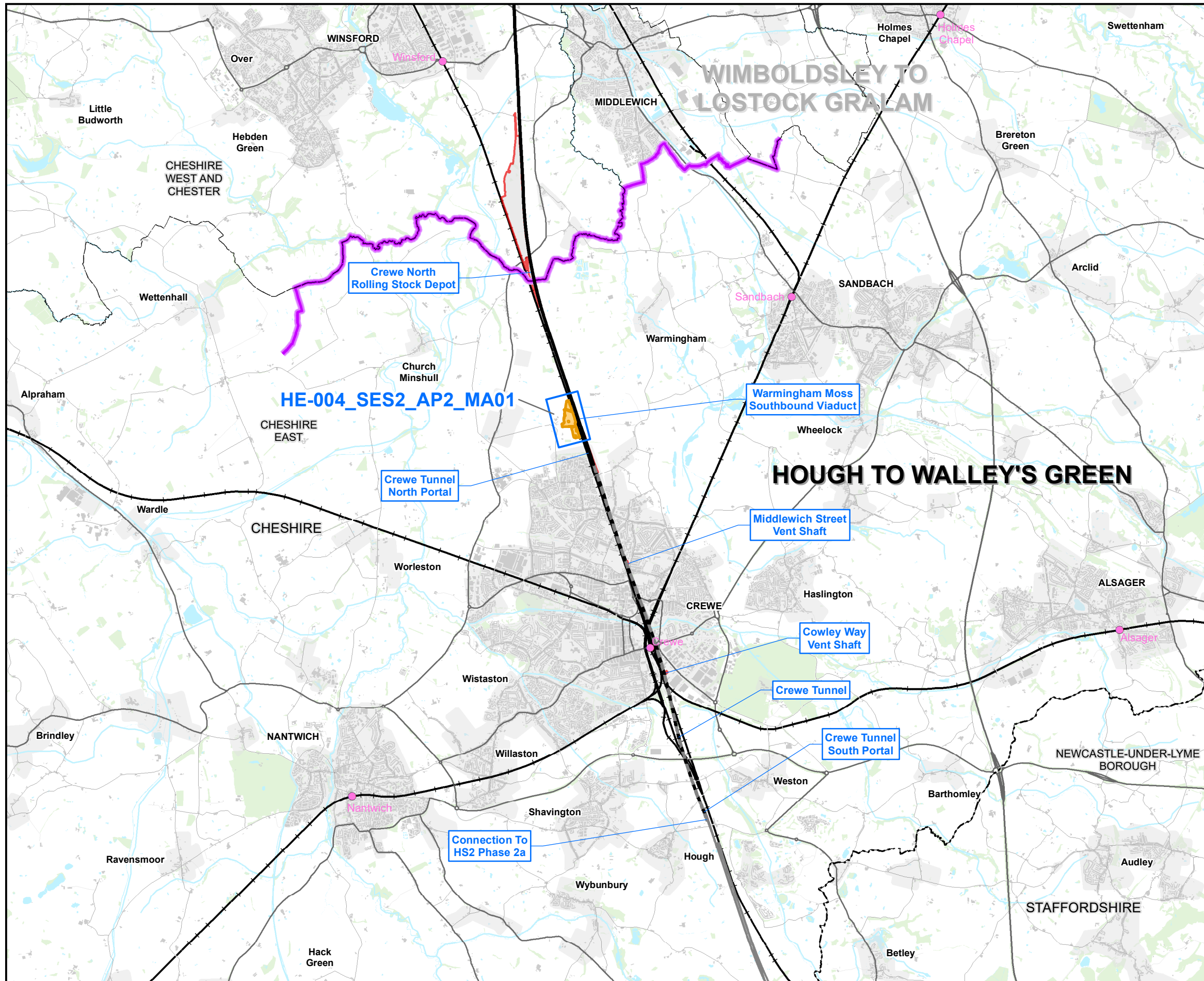
Historic environment field survey report

Ordnance Survey (1876), *Cheshire County Series, Map Sheet XXVI*, 2nd edition, Scale 1: 10,560.

Schmidt, A. R., Linford, P., Linford, N., David, A., Gaffney, C. F., Sarris, A. and Fassbinder, J. (2016), *Europae Archaeologogiae Consilium (EAC) Guidelines for the Use of Geophysics in Archaeology, Questions to Ask and Points to Consider*, Namur, Belgium.

Unknown (1848) *Tithe Map of the Township of Mere in the Parish of Rostherne in the County of Chester*, held at; Cheshire Archives and Local Studies, Ref: EDT 269/2.

Unknown (1849), *Tithe Map of Minshull Vernon in the Parish of Middlewich in the County of Chester*, Cheshire Archives and Local Studies, Ref: EDT 273/2.



**Map Series Information:**

These maps show the results of the geophysical surveys in relation to the land required for the construction of the Proposed Scheme.

Main Map Legend	
	Route in tunnel
	Route on surface
	Depot, station, headhouse or portal building
	Community area boundary
	Existing railway station
	County boundary
	District/Borough boundary
	Map sheets included in this community area
	Map sheets not included in this community area
	Survey areas

Map Number	HE-004_SES2_AP2_MA01_Figure1
Map Name	Geophysical Survey Index map
Community Area MA01: Hough to Walley's Green	

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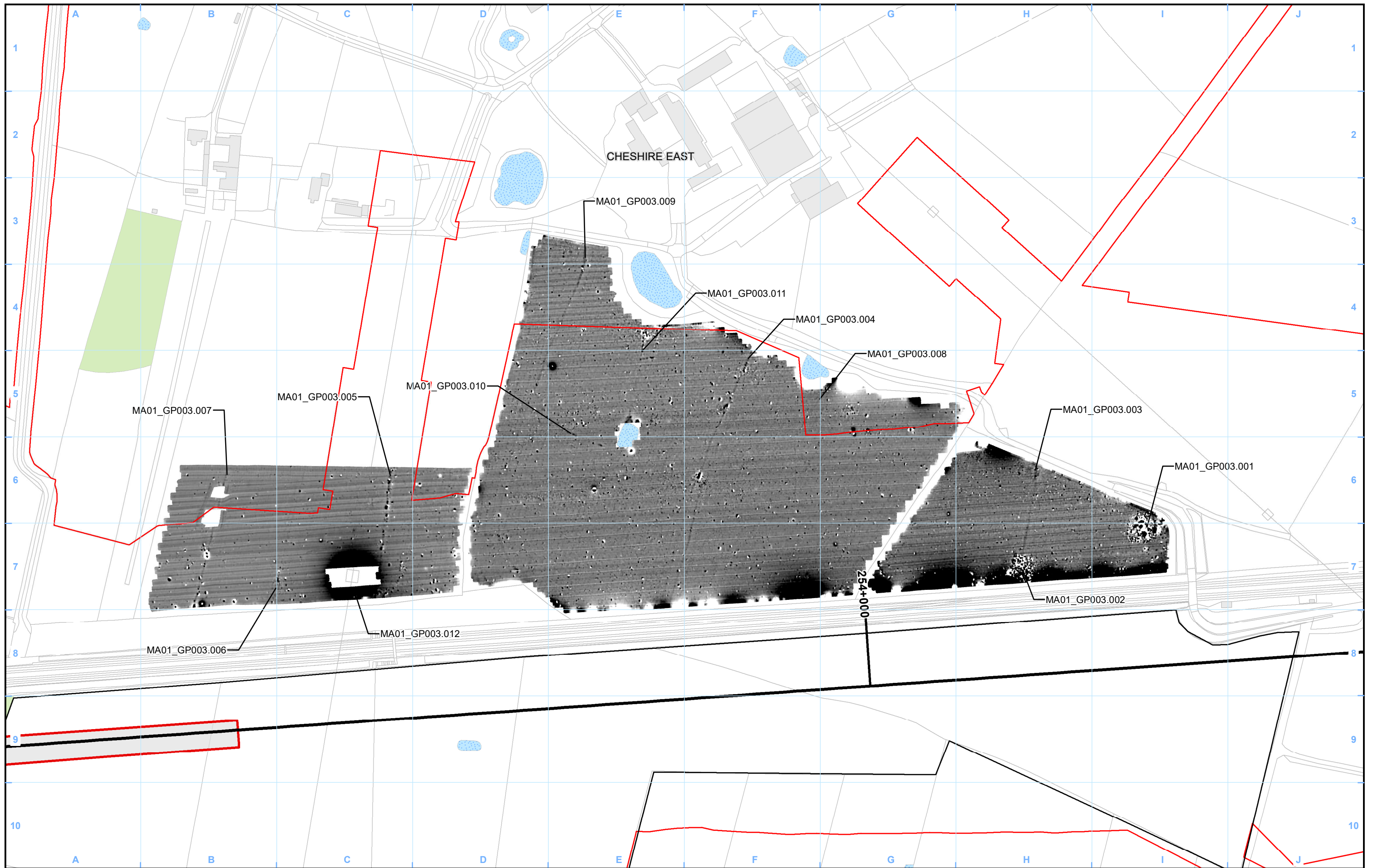
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Date: 27/04/23

Note: Not all data layers in the legend are represented on every map.



- Legend**
- Route in tunnel
  - Route on surface
  - Depot, station, headhouse or portal building
  - Land potentially required during construction
  - Community area boundary
  - County boundary
  - Watercourse
  - Water body
  - Survey area

**Unprocessed Greyscale (nT)**

Value

High : 8

Low : -8

Map Number  
HE-004\_SES2\_AP2\_MA01\_Figure2

Map Name  
Site MA01\_GP003  
Unprocessed Greyscale

Community Area MA01:  
Hough to Walley's Green

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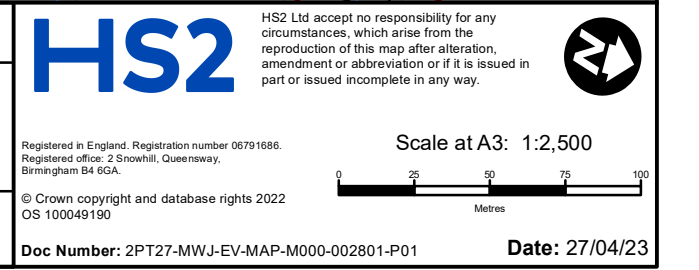
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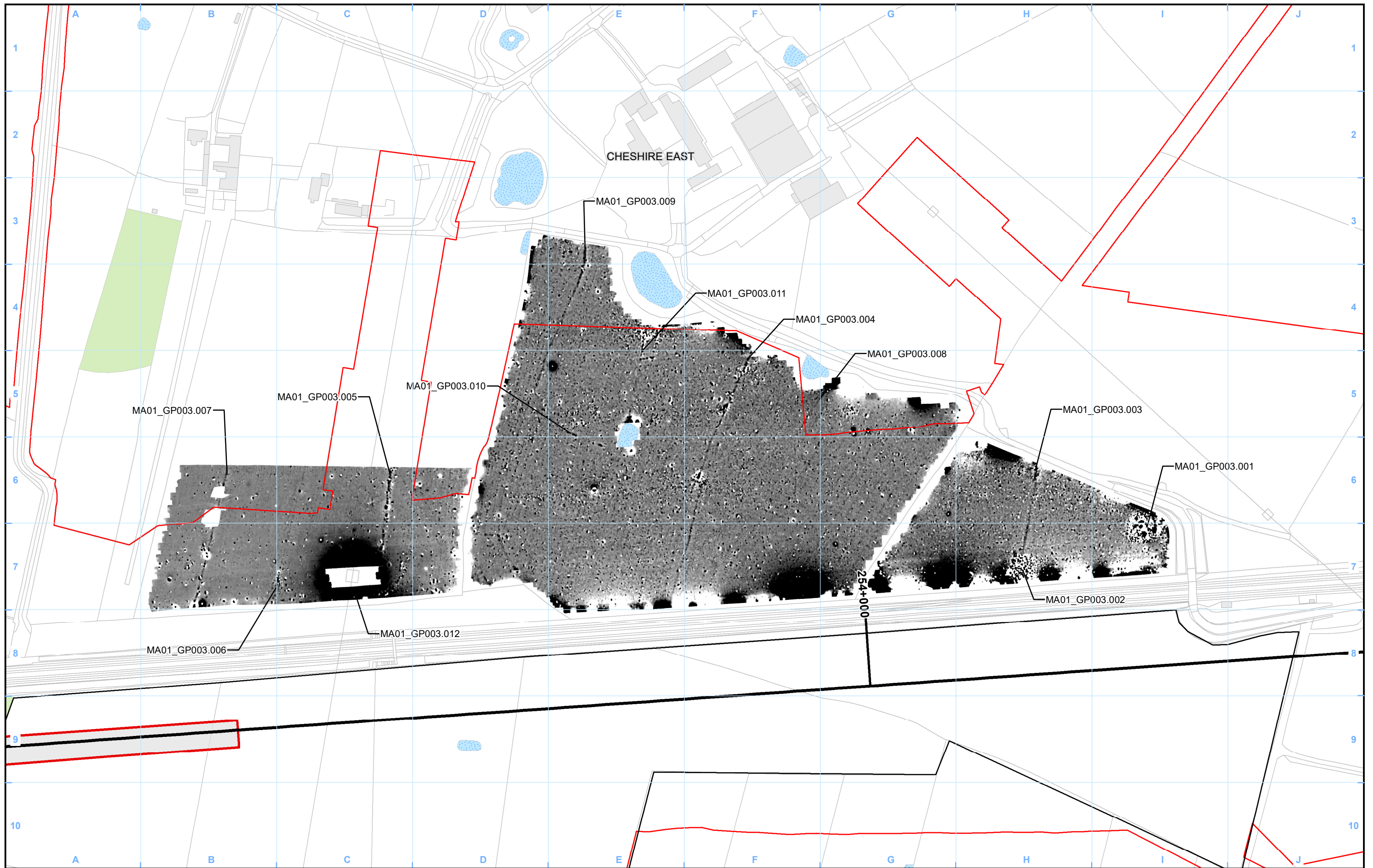
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Date: 27/04/23





**Legend**

Route in tunnel	Watercourse	<b>Processed Greyscale (nT)</b> Value High : 3 Low : -3
Route on surface	Water body	
Depot, station, headhouse or portal building	Survey area	
Land potentially required during construction		
Community area boundary		
County boundary		
District/Borough boundary		

Map Number  
**HE-004\_SES2\_AP2\_MA01\_Figure3**

Map Name  
**Site MA01\_GP003  
Greyscale**

Community Area MA01:  
Hough to Walley's Green

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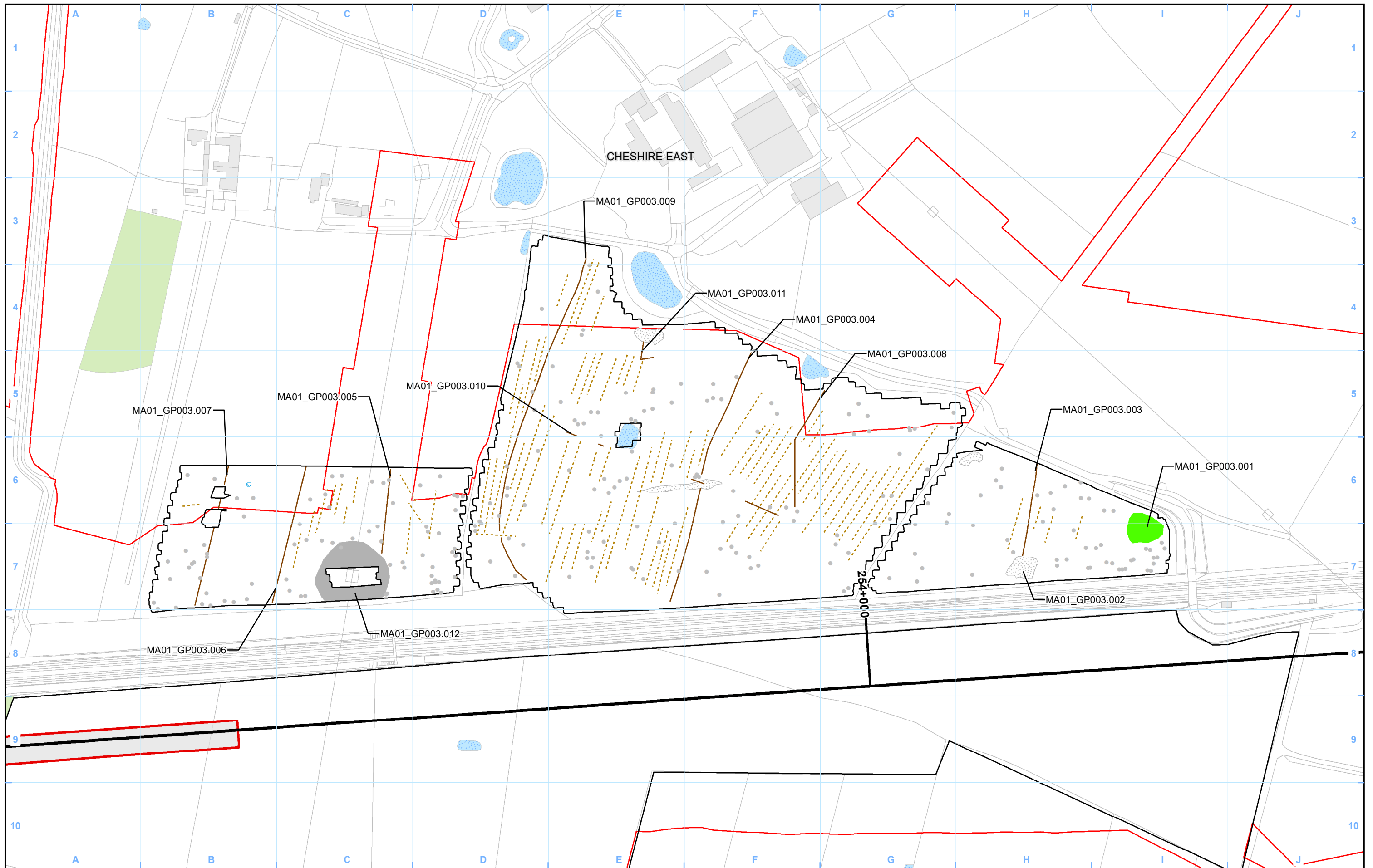
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Doc Number: 2PT27-MWJ-EV-MAP-M000-002802-P01

Scale at A3: 1:2,500

0 25 50 75 100  
Metres

Date: 27/04/23



Legend			
	Route in tunnel		Watercourse
	Route on surface		Water body
	Depot, station, headhouse or portal building		Agriculture historic
	Land potentially required during construction		Natural
	Community area boundary		Ferrous
	County boundary		Archaeology definitive/probable
	District/Borough boundary		Archaeology possible
			Archaeology possible
			Industrial/burnt-fired
			Extraction
			Uncertain
			Modern service
			Archaeology definitive/probable
			Survey area

Map Number  
HE-004\_SES2\_AP2\_MA01\_Figure4

Map Name  
**Site MA01\_GP003  
Interpretation**

Community Area MA01:  
Hough to Walley's Green

**HS2**

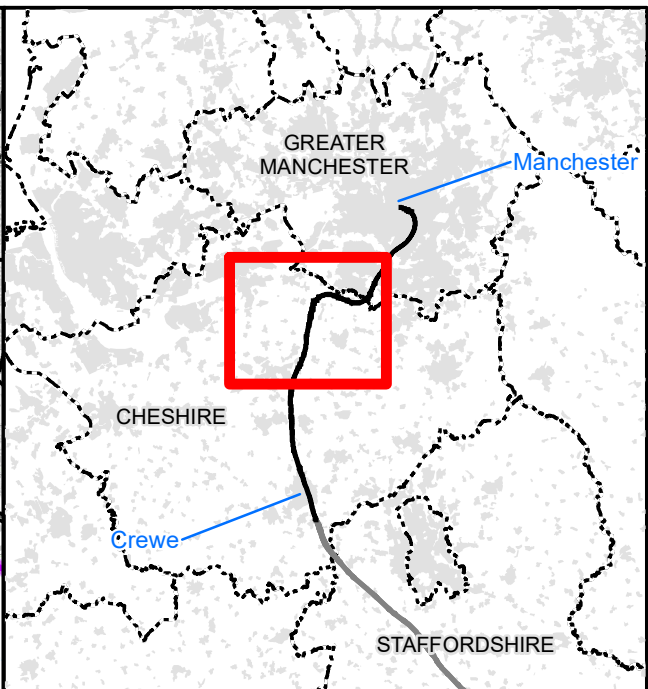
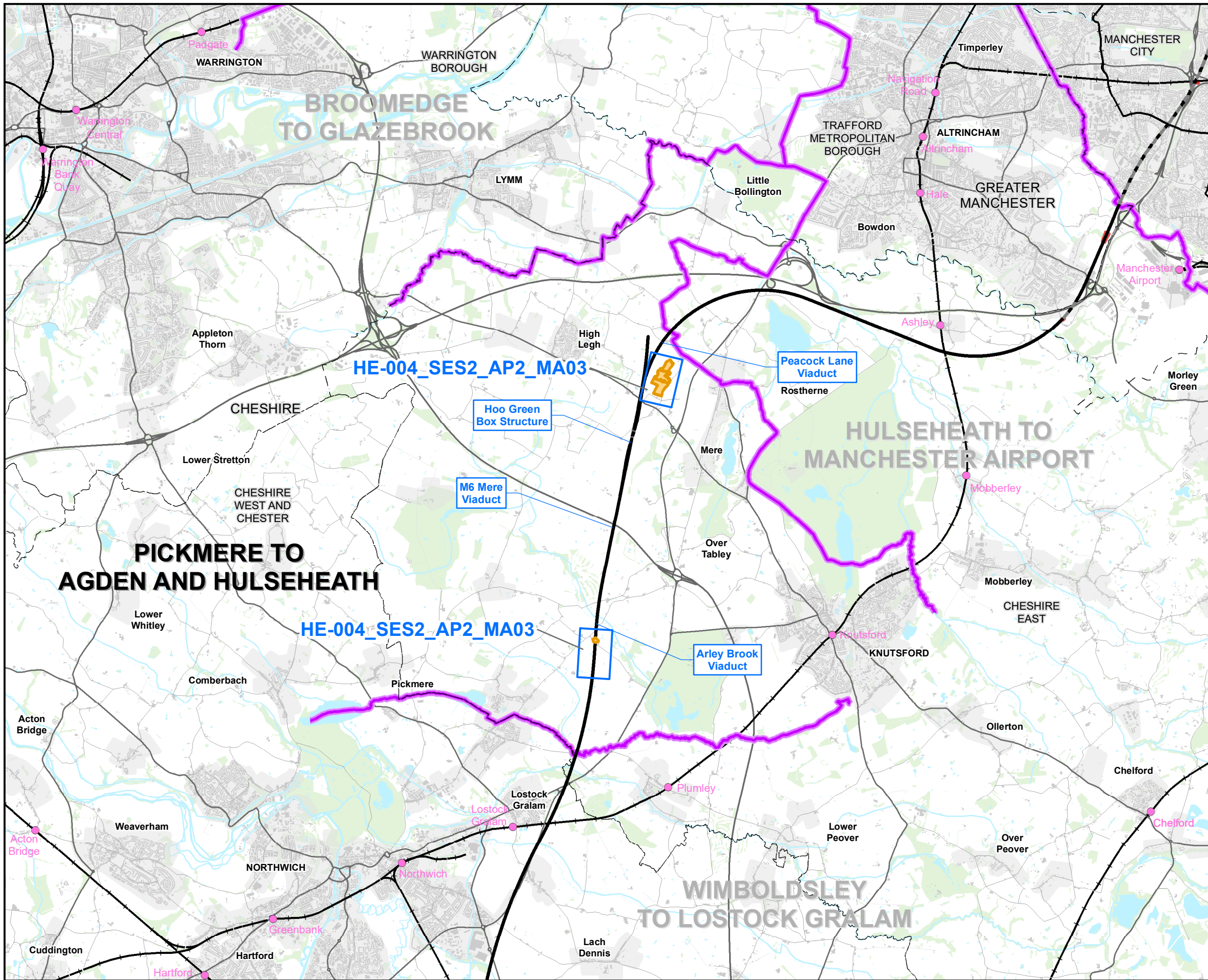
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**Map Series Information:**  
 These maps show the results of the geophysical surveys in relation to the land required for the construction of the Proposed Scheme.

**Main Map Legend**

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Community area boundary
- Existing railway station
- County boundary
- District/Borough boundary
- Map sheets included in this community area
- Map sheets not included in this community area
- Survey areas

Map Number  
**HE-004\_SES2\_AP2\_MA03\_Figure5**

Map Name  
**Geophysical Survey Index map**

Community Area MA03:  
 Pickmere to Agden and Hulseheath

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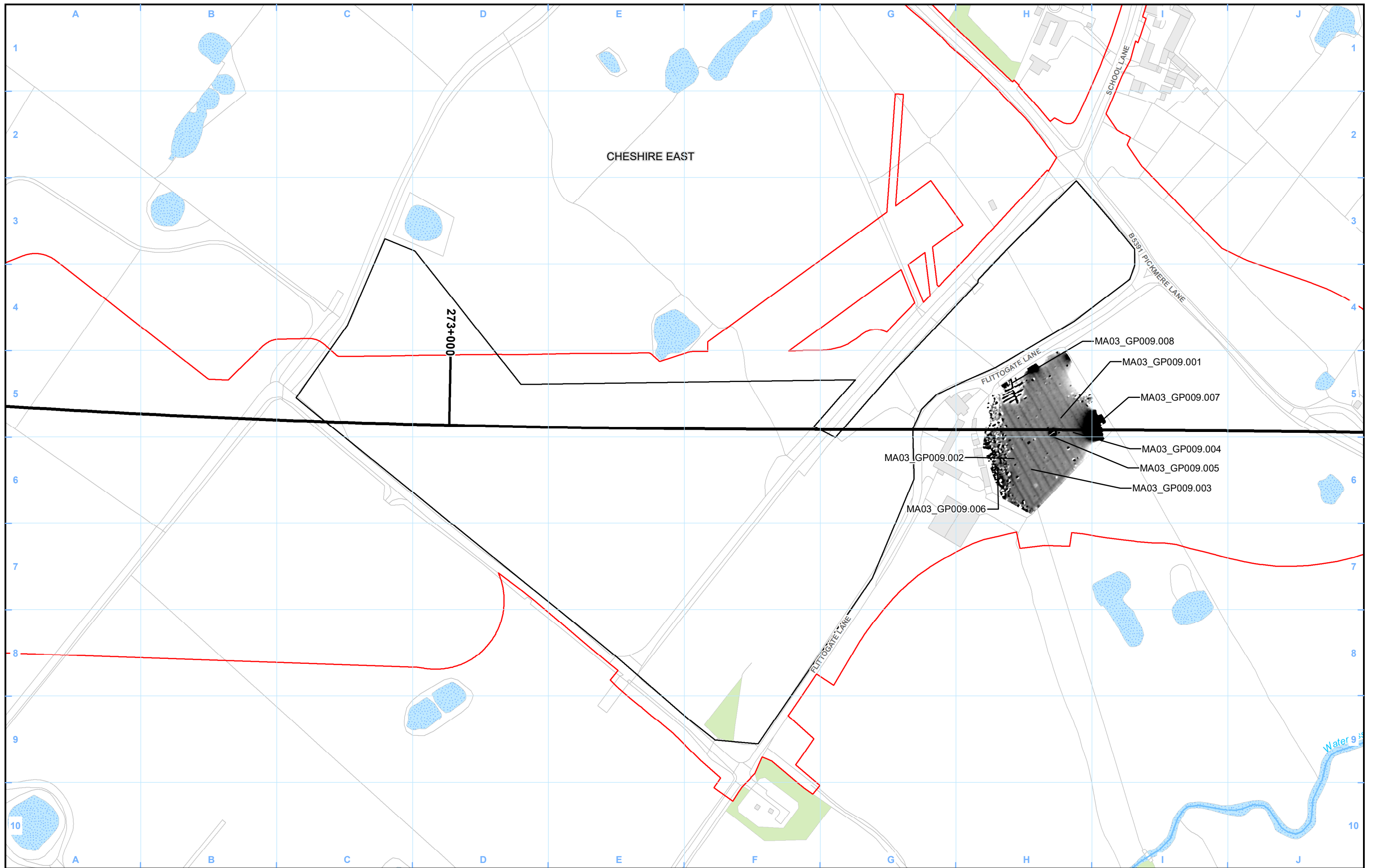
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Doc Number: 2PT27-MWJ-EV-MAP-M000-002451-P01 **Date: 27/04/23**





**Legend**

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community area boundary
- County boundary
- Watercourse
- Water body
- Survey area

**Unprocessed Greyscale (nT)**

Value

High : 8

Low : -8

Map Number  
**HE-004\_SES2\_AP2\_MA03\_Figure6**

Map Name  
**Site MA03\_GP009  
Unprocessed Greyscale**

Community Area MA03:  
Pickmere to Agden and Hulseheath

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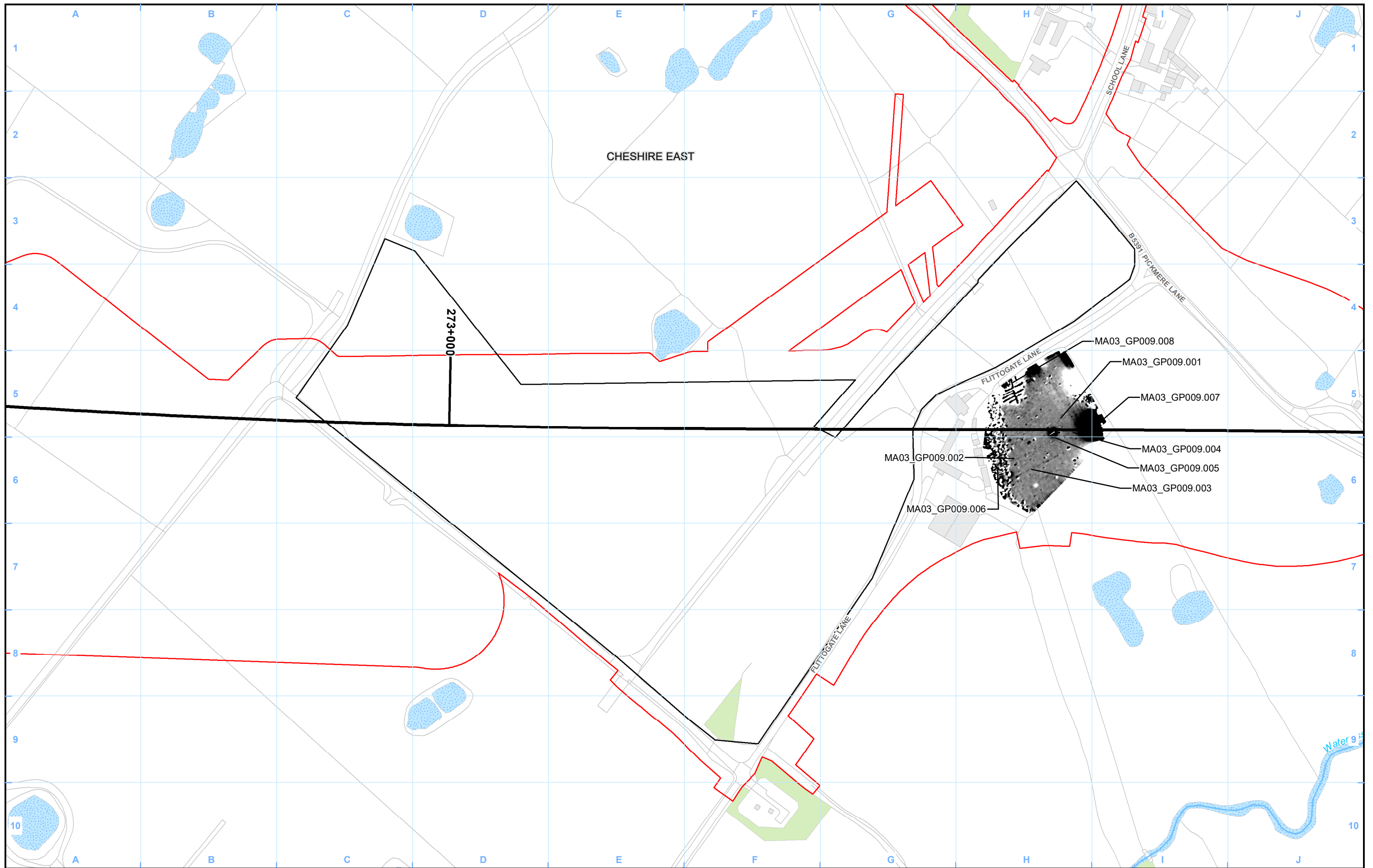
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0 25 50 75 100 Metres

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**Legend**

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community area boundary
- County boundary
- District/Borough boundary
- Watercourse
- Water body
- Survey area

**Processed Greyscale (nT)**

Value

- High : 3
- Low : -3

Map Number  
**HE-004\_SES2\_AP2\_MA03\_Figure7**

Map Name  
**Site MA03\_GP009  
Greyscale**

Community Area MA03:  
Pickmere to Agden and Hulseheath

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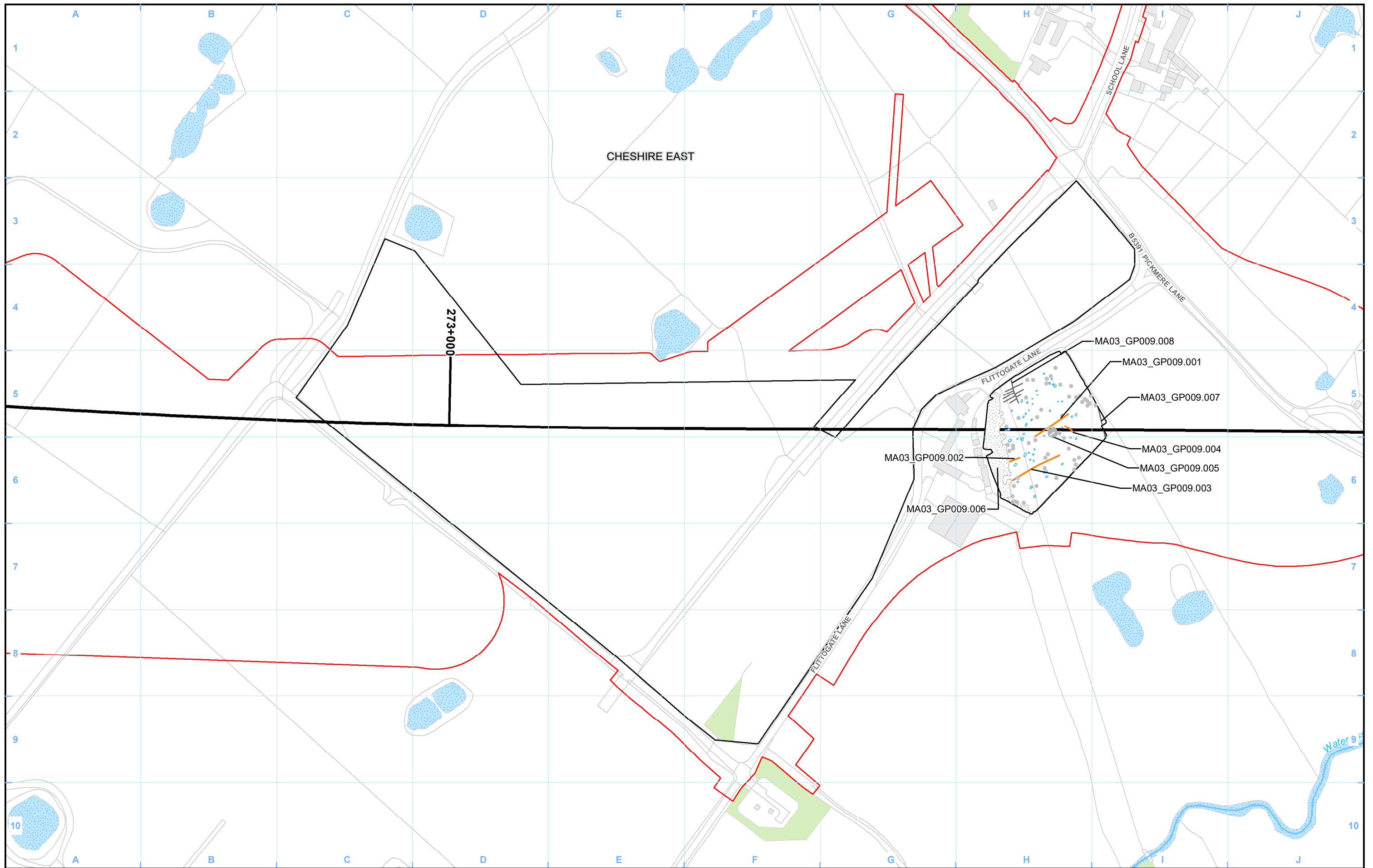
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Legend			
	Route in tunnel		Watercourse
	Route on surface		Water body
	Depot, station, headhouse or portal building	<b>Geophysical survey results</b>	
	Land potentially required during construction		Archaeology definitive/probable
	Community area boundary		Archaeology possible
	County boundary		Industrial/burnt-fired
	District/Borough boundary		Extraction
	Agriculture historic		Natural
	Archaeology possible		Ferrous
	Agricultural historic		Magnetic disturbance
	Agricultural modern		Uncertain
	Natural		Modern service
	Uncertain		Archaeology definitive/probable
	Modern service		Survey area

Map Number  
HE-004\_SES2\_AP2\_MA03\_Figure8

Map Name  
**Site MA03\_GP009  
Interpretation**

Community Area MA03:  
Pickmere to Agden and Hulseheath

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**Legend**

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community area boundary
- County boundary
- Watercourse
- Water body
- Survey area

**Unprocessed Greyscale (nT)**

Value

- High : 8
- Low : -8

Map Number  
HE-004\_SES2\_AP2\_MA03\_Figure9

Map Name  
**Site MA03\_GP013**  
**Unprocessed Greyscale**

Community Area MA03:  
Pickmere to Agden and Hulseheath

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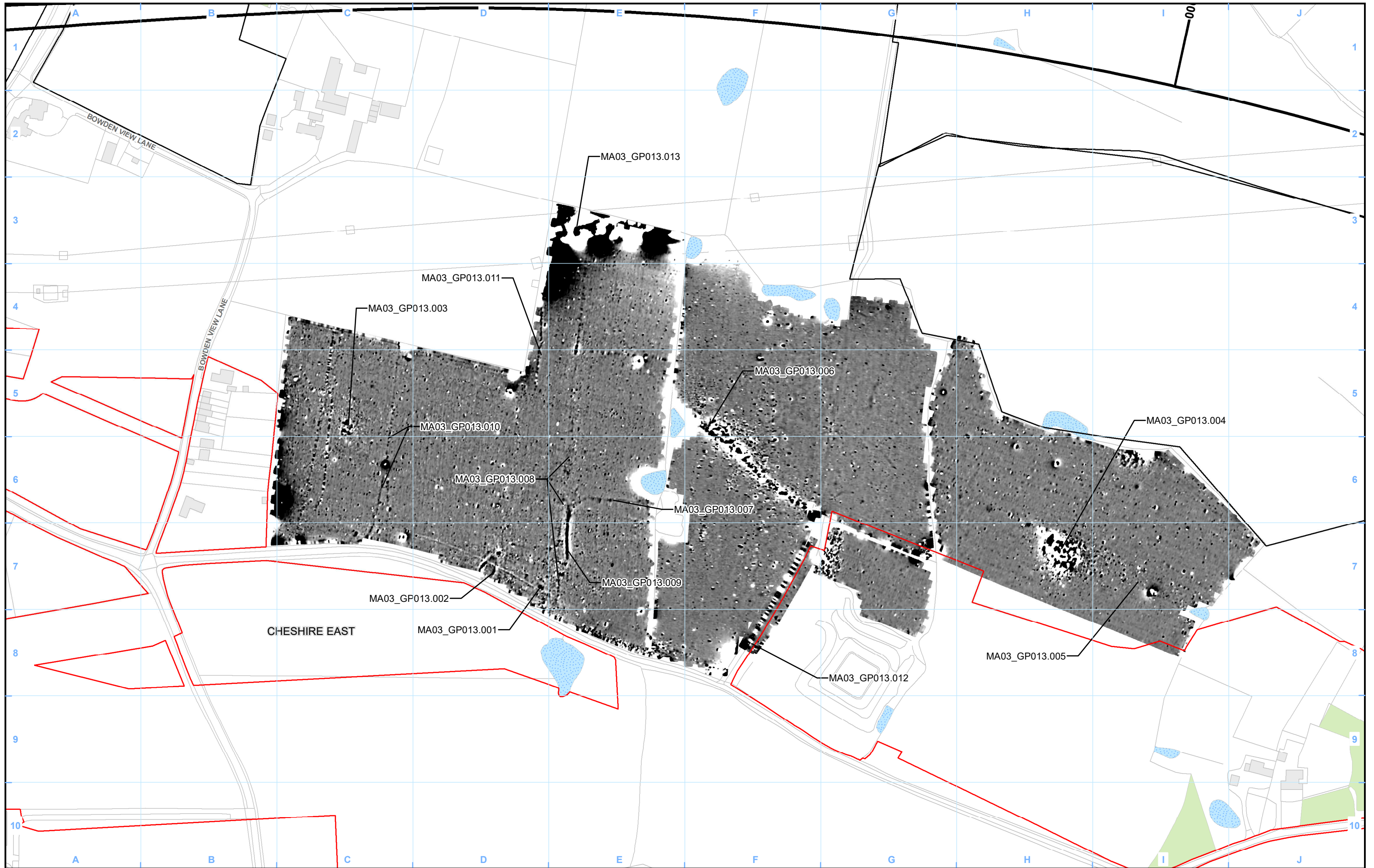
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0 25 50 75 100  
Metres

Doc Number: 2PT27-MWJ-EV-MAP-M000-002461-P01      Date: 27/04/23



**Legend**

- Route in tunnel
- Route on surface
- Depot, station, headhouse or portal building
- Land potentially required during construction
- Community area boundary
- County boundary
- District/Borough boundary
- Watercourse
- Water body
- Survey area

**Processed Greyscale (nT)**

Value

- High : 3
- Low : -3

Map Number  
**HE-004\_SES2\_AP2\_MA03\_Figure10**

Map Name  
**Site MA03\_GP013  
Greyscale**

Community Area MA03:  
Pickmere to Agden and Hulseheath

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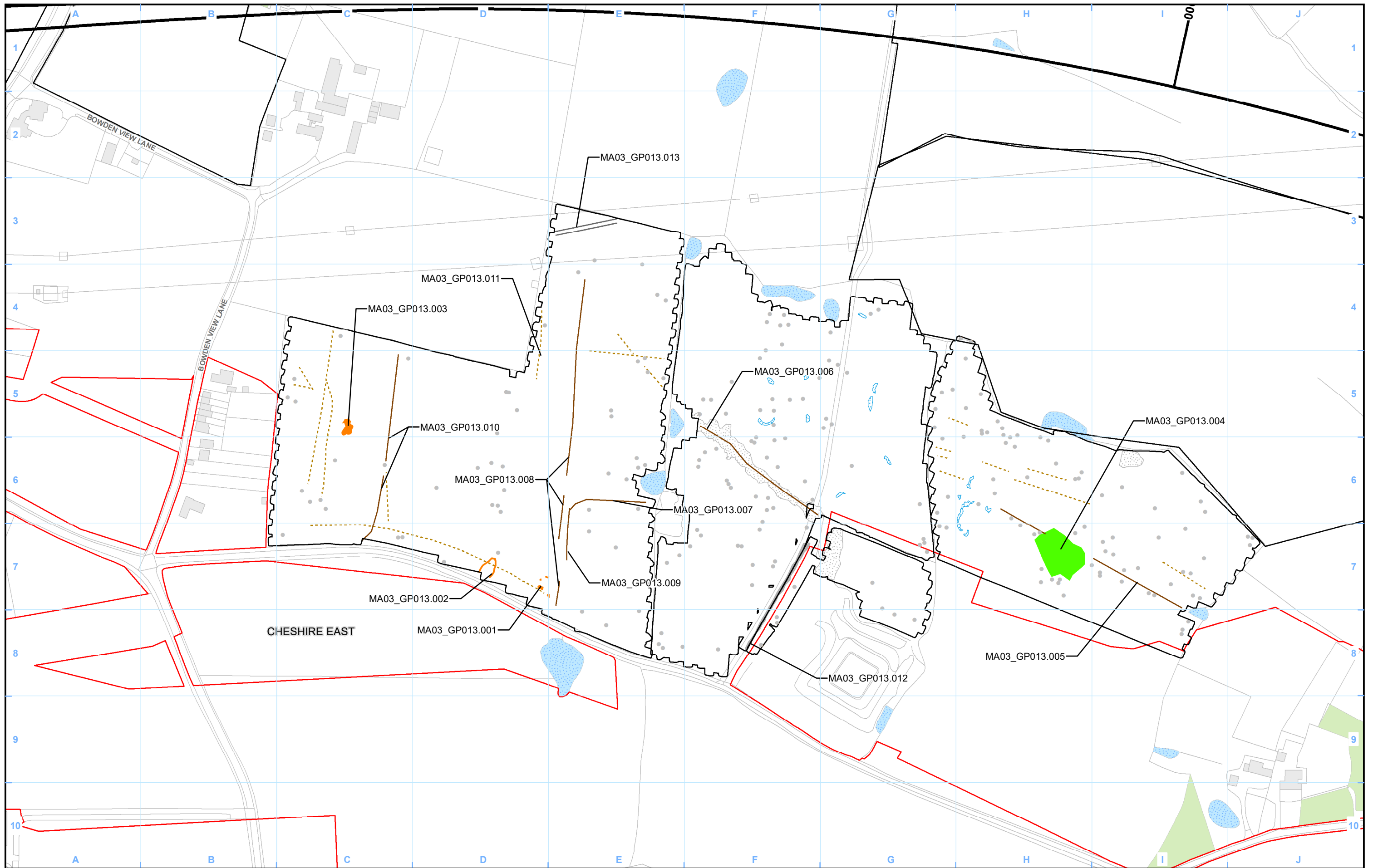
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Date: 27/04/23



Legend			
	<b>Geophysical survey results</b>		

Map Number  
HE-004\_SES2\_AP2\_MA03\_Figure11

Map Name  
**Site MA03\_GP013  
Interpretation**

Community Area MA03:  
Pickmere to Agden and Hulseheath

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