




1EW02 Enabling Works – Area South

Report on a programme of archaeological trial trenching for Affinity Water main diversion

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1 Executive Summary

- 1.1.1 The archaeological contractor undertook an archaeological evaluation of the route of the Affinity Water Pipeline Diversion to the east and west of Breakspear Road South, Harefield, London, (hereafter referred to as 'the Site') between 25th and 29th of June 2018. The work was commissioned by Barhale on behalf of Affinity Water, in advance of the pipeline diversion that forms part of the HS2 enabling works. No archaeological finds or features were identified.

2 Introduction

- 2.1.1 Headland Archaeology Ltd was commissioned by Barhale on behalf of Affinity Water to undertake a programme of archaeological works in connection with the diversion of their pipeline as part of the enabling works for HS2.
- 2.1.2 The Affinity Water main diversion (route 1b) is located in CFA6: South Ruislip to Ickenham of Section 2 of the HS2 project and runs across archaeological character area (ACA) 4: Northolt to Newyears Green and ACA 5: Newyears Green to the River Colne. It crosses Archaeological Sub-Zone (ASZ) 8: Pynchester and Brackenbury and ASZ 9: Semi-rural west of Breakspear Road. The site is located on the urban edge of West Ruislip and Ickenham. The water main diversion (route 1b) extends for c.1.1km north-south along Breakspear Road South and runs off to the west at the height of Copthall Road West.
- 2.1.3 The Colne Valley has known potential for Palaeolithic and Mesolithic archaeology and previous work during a gas main installation, by Network Archaeology (2008), identified three cremation vessels and associated activity less than 500m to the west of the Site.
- 2.1.4 The work was undertaken in accordance with the Project Plan (1EW02-CSJ-EV-PLN-S002-000032) and LS-WSI (1EW02-CSJ-EV-PRO-S002-000003) within logistical and safety constraints on site. Please refer to the Project Plans and the LS-WSI for the specific site constraints of the area under evaluation.
- 2.1.5 The trial trenching was required to assess the archaeological potential of the area ahead of the construction of the Affinity Water main diversion.
- 2.1.6 Please refer to Section 8 below, the Project Plan (1EW02-CSJ-PM-REP-S002-000006) and the LS-WSI (doc. no. 1EW02-CSJ-EV-PRO-S002-000003) for more information on the aims and objectives of the exercise and the contribution to GWSI: HERDS Specific Objectives.

3 Site Background

3.1 Previous Archaeological Work

- 3.1.1 A series of documents have been prepared which detail the archaeological and geoarchaeological background to this area. These include a detailed desk-based assessment

(DDBA) for Colne Valley East (Doc ref 1D037-EDP-EV-REP-S000-000004), Colne Valley West (1D037-EDP-EV-REP-C000-000028) and an Environmental Baseline assessment (Doc ref CH-001-006, ES 3.5.2.6.4). A further Geoarchaeological Desk-based Assessment (HS2-HS2-PM-TEM-000-000004) and Palaeo-environmental Desk-based Assessment (1D037-EDP-EV-REP-C000-000033) for the complete Phase 1 HS2 route have been prepared, covering the Colne Valley as Enhanced Study Area 1 (ESA1) the River Pinn.

- 3.1.2 An archaeologically controlled strip, map, sampling and recording project by Network Archaeology (2008) was conducted in the Harefield to Southall gas pipeline area, less than 500m to the west of the Site, in 2007. It found a group of three middle to late Bronze Age cremation vessels: a spread of burnt stone and a small number of associated pits and/or postholes of assumed prehistoric date and two post-medieval/ modern field boundaries with unstratified post-medieval/ modern finds from the topsoil.
- 3.1.3 A recent archaeologically controlled strip, map and sample undertaken by MOLA Headland Infrastructure (MHI) at the north of the above area, in the location of the 48-inch pipe diversion, recorded no evidence of archaeological features or artefacts. The topsoil was a mid-grey-brown silty clay averaging 0.3m deep. It overlay the geological substrate of mottled brown-yellow clay (1EW02-CSJ-EV-REP-S002-000021).
- 3.1.4 Further trenching by MOLA Headland Archaeology ahead of an 18-inch spur gas pipeline diversion at Dews Farm (c.1.1-1.3km to the west of the Site) further revealed archaeological features and artefacts of possible Mesolithic and Iron Age date. The artefacts from the site included flint blades with a date range from the late Mesolithic to the early Bronze Age (1EW02-CSJ-EV-REP-S002-000019).

3.2 Summary of site background

Prehistoric

- 3.2.2 Terrace gravels have been recorded in the Colne Valley area to the west of the Site and have produced numerous Palaeolithic to Mesolithic artefacts, deposits and evidence of human activity. Evidence for Neolithic activity has been found on the western slopes of the Colne valley and it is possible that further evidence can be found on its eastern slopes, which are in the vicinity of the Site. Late Bronze Age finds have been made in the Colne Valley area and near the River Pinn. These consist of Bronze Age cremations at Copthall Covert (RU1021) (Network Archaeology 2008, 339) on the edge of the Colne Valley, a looped bronze axe head near Harefield and thin walled flint tempered pottery near Dewes Pit (CFA07) (DDBA, 6).
- 3.2.3 Further trenching by MOLA Headland Archaeology ahead of an 18-inch spur gas pipeline diversion at Dews Farm, c.1.1-1.3km to the west of the Site, revealed archaeological features and artefacts of possible Mesolithic and Iron Age date. The artefacts from the site included flint blades with a date range from the late Mesolithic to the early Bronze Age (1EW02-CSJ-EV-REP-S002-000019).

Roman

- 3.2.4 Evidence for Romano-British activity in the area includes the place-name 'Pynchester' (RUI001), which may suggest a possible Roman settlement near the Pynchester moated site to the south-east of the Site.
- 3.2.5 The edge of a Romano-British settlement has also been excavated during a watching brief for a pipeline, north of Newyears Green Lane. It is quite possible that this has its origins in the Iron Age (DBBA, 6).

Early Medieval

- 3.2.6 There is scant evidence for early medieval occupation of the area although the nearby settlements of Ruislip (c.2.2.km to the east) and Ickenham (c.1.3km to the southeast) may have early medieval origins (DBBA, 6)

Medieval

- 3.2.7 There are two medieval manorial moated sites located near the Site: Pynchester Farm (RUI001) and Brackenbury Farm (RUI002), which is a Scheduled Monument (No. 1005555). The Affinity Water main diversion (route 1b) runs c.240m north-west of Pynchester Farm and c.50m from Brackenbury Farm. The two farms are set in a semi-rural landscape west of the conurbation of Ickenham (DBBA, 44)
- 3.2.8 Pynchester moated site is quadrangular with rounded corners situated in a meander of the River Pinn. The central island platform, measuring approximately 35m², is surrounded by a moat which varies between 2.5m to 4m wide. Excavations there between 1966 and 1969 revealed the remains of flint walls of a medieval building with a floor constructed using roof tiles and a 3m² hearth. A keyhole oven and curing chamber were also found. A 1531 deed records the name 'Pynchester Ferme'.
- 3.2.9 At the Brackenbury moated site, three sides of a quadrangular moat are extant and are fed by the nearby River Pinn. The southern and deepest part is 8m wide but narrows to 3m on the western side. An outer bank surrounds the moat on three sides and is most prominent on the northern side. The eastern side was filled in, in the 20th century. Brackenbury Farmhouse is 16th century with a substantial 17th century timber framed building known as Brackenbury House adjoining. These are set within the moated area and across the filled section of the moat.

Post-Medieval and Modern

- 3.2.10 The landscape west of Breakspear Road South is largely one of post-medieval enclosures and roads which generally follow the alignment of medieval lanes. However, Harvil Road has been straightened and the landscape has been impacted by the railway line and embankment, which is located between the northern and central areas of the Site.
- 3.2.11 Along the route of the Affinity Water main, there is also some ridge and furrow (Fo7&Fo8) and a boundary marker (Fog) visible on LiDAR surveys of the area, indicating the medieval and post-medieval rural character of the landscape.

- 3.2.12 In the late post-medieval and modern periods the area was characterised by suburban and infrastructure developments. The Great Western, London and North Eastern and Great Central Joint Railways were constructed between 1899 and 1906. Airfields were established at Royal Air Force (RAF) Northolt (RUI010) and RAF West Ruislip (RUI011) during World War I, c. 3km to the southeast of the Site.

3.3 Geology and topography of the site

- 3.3.1 A detailed desk-based assessment (DDBA) (Doc ref 1D037-EDP-EV-REP-S000-000004) and the Colne Valley West (1D037-EDP-EV-REP-C000-000028) and Environmental Baseline assessment (Doc ref CH-001-006, ES 3.5.2.6.4) was completed for this area.
- 3.3.2 A further Geoarchaeological Desk-based Assessment (HS2-HS2-PM-TEM-000-000004) and Palaeo-environmental Desk-based Assessment (1D037-EDP-EV-REP-C000-000033) for the complete Phase 1 HS2 route has been prepared, covering the Colne Valley as Enhanced Study Area 1 (ESA1) the River Pinn, GCZ4 is identified within the Geological Desk-based Assessment as having moderate geological potential.
- 3.3.3 The Geoarchaeological DBA indicates that deposit modelling of the Colne Valley (ESA1) was limited due to a small amount of boreholes in this area. The deposit model created by a transect of boreholes across the area gives some guidance as to the location of the Holocene floodplain and superficial deposits across the Colne Valley. Alluvial areas and the Holocene floodplain are projected further to the west of the Site, but it corroborates the potential for some superficial deposits in the vicinity of the River Pinn.
- 3.3.4 The British Geological Survey (BGS) records the presence of alluvium within the valley of the River Pinn (DBBA, 63), although superficial deposits are largely absent across the Colne East area. If these deposits are present, they could have the potential to contain waterlogged material, archaeological remains and sources of palaeoenvironmental data.
- 3.3.5 The northern and southern areas of the Site were underlain by London Clay bedrock geology and the central area by Lambeth Group clay, silt and sand (<http://www.bgs.ac.uk>; Fig 1). No superficial deposits are recorded by the British Geological Survey for the site-specific areas, however during fieldwork the topsoil and subsoil were identified as silty-clay. In the central area, geological substrate was sterile clay but siltier and sandier in comparison to the north and south areas. It may have been alluvial in origin but was sterile, homogenous, compacted and undisturbed material, and did not show laminations or variations associated with inundation events.
- 3.3.6 Elevation varied across the three areas, but all were between 40m and 45m AOD. The northern area sloped gently down to the south, the southern area was a small plateau with a slight slope to the southeast and the central area was flat.
- 3.3.7 Current land use of the Site consists of pasture and vacant floodplain. It is immediately surrounded by the 20th century suburban expansion of Ruislip and Ickenham. A large golf course is located to the north-east of the Site with the River Pinn to the east and adjacent to the central area.

4 Specific Objectives and Aims

4.1 Needs and aims

4.1.1 Trial trenching was required to determine, as far as reasonably possible, the nature of the archaeological resource within the Site.

4.1.2 The objective of the investigation was to obtain information about the archaeological resource along the route in order to provide an assessment of its character, extent, knowledge value and ability to contribute to Specific Objectives. The outcomes of the trial trenching will be used to inform the requirement and strategy of further archaeological investigation in the form of archaeological mitigation.

4.1.3 The aims of the trial trenching were to:

- assess the extent and nature of archaeological remains within the survey boundaries;
- characterise the nature of any archaeological remains within the survey boundaries;
- assess the significance of any archaeological remains within the survey boundaries;
- assess the change to the significance of the identified heritage assets as a result of the proposed scheme;
- suggest measures, if appropriate and feasible, for further archaeological investigation to mitigate identified significant impacts;
- contribute to the delivery of GWSI: HERDS Specific Objectives as specified in Section 3.2;
- generate results that can be assessed in conjunction with archaeological works undertaken to the west of the River Colne and place the archaeology of the area within its wider landscape context.

4.1.4 The supporting documentary material (see 3.1.1), the previous fieldwork and historical data summarised below indicated that there was high potential for buried archaeological remains at the Site. Any potential archaeological remains were considered most likely to date from the Bronze Age to the post-medieval period because of the proximity to the Pinn and Colne Rivers and Thames Terrace Gravels, which have known potential arising from the alluvial deposits, and to the upstanding medieval features such as Brackenbury Farm Moat.

4.2 Contribution to Specific Objectives

4.2.1 Through delivery of the works set out in Section 4 and through addressing the aims set out above (Section 3.1) the archaeological evaluation was devised to create knowledge and outputs that would contribute to the following specific objectives in the following ways:

Table 1 Contributions to specific objectives

Specific Objectives	Contribution
KC5: Identifying settlement location and developing models for settlement patterns for the Mesolithic, Neolithic and Early Bronze Age.	Due to the potential for prehistoric settlement in the floodplain of the Colne on the western part of the Site as evidenced by CVA021 and CVA010, this trial trench evaluation and topsoil sample sieving may

	<p>find evidence for prehistoric activity, which has potential to be modelled on the basis of further mitigation work. Data generated from the evaluation will also act as a point of comparison with results from the archaeological works at the west of the River Colne.</p>
<p>KC11: Does the high density of prehistoric settlement evidence in the Colne Valley reflect a genuine focus of activity or does it reflect a bias in the archaeological record?</p>	<p>The trial trench evaluation, along with topsoil sample sieving, will clarify the location, extent, survival, condition and significance of any heritage assets present on the Site. The results, whether positive or negative, will contribute to our understanding of prehistoric settlement distribution densities and indicate if further archaeological work could address the question in the archaeological record. The results will also be compared to those from archaeological works at the west of the River Colne to place any prehistoric settlement evidence in its wider landscape context.</p>
<p>KC14: Enhance existing understanding of the Late Upper Palaeolithic- Early Mesolithic transition through investigation of sites in the Colne Valley and other locations along the route.</p>	<p>The trial trench evaluation and topsoil sample sieving will provide a level of baseline data to assist in addressing this objective by identifying the potential of this area close to the river valley for Palaeolithic deposits, in formulating strategies for further investigation, and in refining the objective. Results from the evaluation will be assessed with reference to data generated by archaeological works at the west of the River Colne.</p>
<p>KC19: The Romano-British period saw the beginning of a more established infrastructure network. Can we investigate the development of these routes, trackways and roads and the influence they had on landscape change?</p>	<p>The trial trench evaluation has the potential to clarify the route of the Roman road from Verulamium to Lelham (heritage asset RU1012). The results, whether positive or negative, will contribute to our understanding of the Roman infrastructure network and the influence it had on the landscape.</p>
<p>KC34: Undertake research and investigation into medieval manorial complexes. What was their origin, development and impact on the landscape?</p>	<p>Several medieval manorial Farms are located within the ACAs (Dews Farm, Brackenbury Farm and Pynchester Farm); Land in the area may have belonged to the manorial complexes, Brackenbury Farm Moat is immediately to the north of the Site, and ditches/boundaries dated to the medieval period could give an indication of enclosure or land division. The DDBA indicates that the area probably had a mixed agricultural use due to areas of dense ancient woodland used for pig keeping, fields for grazing and increasingly open land for cultivation. Ditches and field boundaries could give an indication of how a field system was developed and could potentially be related to the manorial complex system. Ditches with organic material have the potential to be</p>

	sampled in order to find out how the Site was cultivated.
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5 Scope and Methodology

5.1 Archaeological Recording Scope

5.1.1 Archaeological recording was undertaken in accordance with specific guidance produced by HS2, namely the Project Plan and LS-WSI for archaeological fieldwork at the Copthall Cutting for the Affinity Water main diversion (route 1b) (1EW02-CSJ-EV-PLN-S002-000032 & 1EW02-CSJ-EV-PRO-S002-000003 respectively) and the Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS) (HS2-HS2-EV-STR-000-000015).

5.2 Methodology for the archaeological recording

General considerations

5.2.2 Archaeological recording was undertaken by Headland Archaeology to the general requirements as described in the GWSI: HERDS (Section 7.3) and the LS-WSI (1EW02-CSJ-EV-PRO-S002-000003).

Fieldwork

5.2.3 Twenty trenches were excavated and backfilled between 25th June to 29th June 2018. Two sondages, to test the alluvial potential of the geological substrate, were excavated in the southern ends of Trenches 10 and 12.

5.2.4 Eight trenches had to be moved or altered due to local constraints, see Table 2 below. The trenches in the northern area were re-orientated or shortened to avoid the haul road that had already been constructed. The haul road was scoped out of the evaluation in advance of fieldwork (see Project Plan, Section 1, paragraph 1.1.5) as its construction methodology did not have the potential to damage, deform or destroy archaeology because it had a limited sub-surface impact and therefore it was not considered necessary to test under it. Trenches that were moved or re-orientated in the northern area were made as long as practically possible given the confined space and resulted in a higher percentage tested of the available area. The reduced area available for evaluation meant there was not practical space to extend trenches.

5.2.5 Trench 14 was removed from its original planned location because of access issues and tentatively planned to be located between Trenches 9 and 10 in order to evaluate the unconfirmed location of a drill shaft (see Project Plan, Section 4, paragraph 4.1.3). The location of the drill shaft was not confirmed through consultation and in compliance with the Project Plan, Section 4, paragraph 4.1.3, Trench 14 could not be excavated over the drill shaft location.

Table 2 Proposed Trench locations, constraints and action taken in the field

Trench No.	Original Location and Constraint	Action Taken
Trench 02	Originally orientated WNW-ESE. East end extended into existing haul road.	Northern end remained the same, trench re-orientated to NW-SE.
Trench 03	Originally orientated north-south. North end extended into existing haul road.	Re-orientated NW-SE and shortened.
Trench 04	Originally orientated NE-SW. North end extended into existing haul road and south end was too close to security fencing.	Orientation retained, trench shortened.
Trench 05	Originally orientated east-west. East end extended into existing haul road and west end was too close to security fencing.	Orientation retained, trench shortened.
Trench 06	Originally orientated NW-SE. East end extended into existing haul road and west end was too close to security fencing.	Orientation retained, trench shortened.
Trench 08	Originally orientated NE-SW. North end extended into existing haul road and south end extended into compound.	Re-orientated to north-south and shortened.
Trench 09	Originally orientated NW-SE at northern end of floodplain but was found to extend across boundary fence and into railway embankment.	Orientation retained, and trench moved further southeast.
Trench 14	Location not defined in advance. Hypothetically placed over drill shaft location, which was not confirmed, or where further testing required.	Location of drill shaft not confirmed, testing not feasible within agreed programme. Not excavated.
Trench 17	Originally orientated WNW-ESE. An unmapped post and wire fence intersected west end of trench.	Orientation retained, and trench moved further to ESE.

5.2.6 Following systematic CAT scanning for potential unknown underground services, the trial trenches were excavated to the level of the undisturbed geological substrate or the archaeological horizon, whichever was higher, using a mechanical excavator with toothless ditching bucket under archaeological direction.

5.2.7 The Project Plan (1EW02-CSJ-EV-PLN-S002-000032) proposed that topsoil sampling in the locations of the trenches would be undertaken on the trenches to determine potential for the retrieval of artefacts, particularly flint tools of prehistoric date, and that the samples would be sieved and checked for any flints and other finds. At the start of the fieldwork it became apparent that the soil conditions and the high clay content resulted in spoil being extracted in large compacted blocks that could not be broken through a sieve. A change in methodology was employed such that each trench was divided into three, and one bucket load of topsoil was taken from each section and spread out adjacent to the trench. The sample was then broken up by hand and subject to a fingertip search. A test pit number would have been assigned to any finds retrieved during the process. Over much of the Site's extent the content of the topsoil was generated by recent agricultural and other modern activities (e.g. dumping) and the fingertip search only produced modern material that was not retained.

- 5.2.8 The archaeological recording was undertaken in accordance with the code of practice of the Chartered Institute for Archaeologists (CIfA) along with the Technical Standard Specification for historic environment investigations (HS2-HS2-EV-STD-000-000035). Contexts were given unique numbers. All recording was completed on pro forma record sheets that conform to accepted archaeological standards and every stratigraphic relationship was recorded.
- 5.2.9 At least one representative section at 1:10 or 1:20 scale of each trench was drawn from ground level to the base of excavation.
- 5.2.10 An overall site plan at an appropriate scale and relative to the National Grid was compiled by GPS surveying. The site was tied accurately to the Ordnance Survey National Grid and Newlyn Datum (OD) by the subcontractor's Geomatics Team. A digital photographic record was taken with metric scales as appropriate.

5.3 Publication and dissemination proposal, including archive deposition

- 5.3.1 A summary report was prepared for submission to the OASIS database (OASIS ID:321389) on completion of the archaeological works at this site. All archive preparation will be undertaken in accordance with guidelines published by the CIfA on behalf of the Archaeological Archive Forum (July 2017) and Historic environment digital data management and archiving procedure along with the Technical Standard Specification for historic environment investigations (HS2-HS2-EV-STD-000-000035). The resultant archive will be deposited with a suitable repository.
- 5.3.2 There is no proposal at present for the result of the evaluation to be published beyond those mentioned above.

6 Assumptions and limitations

- 6.1.1 It was assumed, given the details in the DDBA, Project Plan and LS-WSI, that the methodology and placement of the 20 planned trenches were considered appropriate to the scope and requirements of the Site.
- 6.1.2 There was some question as to the placement of Trench 14. The original planned location was unavailable due to access issues, and this was identified in the Project Plan. The alternative option, described in the Project Plan, was to place the trench over the drill shaft near Trenches 09 and 10 but the location of the shaft was not instructed (see Project Plan 1EW02-CSJ-EV-PLN-S002-000032, Section 4.1.3).
- 6.1.3 No archaeological remains were uncovered and therefore the 1% contingency was not required or instructed (see Project Plan 1EW02-CSJ-EV-PLN-S002-000032, Section 4.1.2).

7 Results

7.1 Stratigraphic report

- 7.1.1 The topsoil varied between 0.18m and 0.36m deep. It was a loose mid brown silty-clay and overlay a loose orange-yellow or grey-yellow silty-clay subsoil found in Trenches 1, 2, 8, 9, 10-13 and 15-20. No subsoil was identified in the remaining trenches.
- 7.1.2 The geological substrate in the northern and southern areas was a sterile grey-yellow or orange clay. In the central area the geological substrate was also a sterile grey-yellow or orange slightly silty- and sandy-clay. The two sondages, to test the alluvial potential of the geological substrate excavated in Trenches 10 and 12, showed that the geological substrate continued to be sterile grey-yellow or orange slightly silty- and sandy-clay throughout the depth of the sondage. It may have been alluvial in origin but was sterile, homogenous, compacted and undisturbed material, and did not show laminations or variations associated with inundation events.
- 7.1.3 No archaeological features were identified.



Plate 1 Trench 02 looking southeast



Plate 2 Southwest facing section of Trench 03



Plate 3 Trench 13, looking northeast



Plate 4 Southeast facing section of Trench 10 sondage



Plate 5 Trench 19 looking southeast



Plate 6 Northwest facing section of Trench 20

7.2 Finds report

7.2.1 No finds were retrieved from the archaeological evaluation at the Site.

7.3 Environmental evidence report

7.3.1 The absence of archaeological remains or features/deposits of palaeoenvironmental potential meant that there was no need to collect environmental samples.

7.4 Interpretation against Specific Objectives

7.4.1 Observations of how the results of this investigation contribute to the research objectives, as set out in the Project Plan, are detailed in Table 3:

Table 3 Contribution to Specific Objectives

Specific Objective	Contribution
KC5: Identifying settlement location and developing models for settlement patterns for the Mesolithic, Neolithic and Early Bronze Age.	The results contribute only in that they identify a location not used for settlement in the Mesolithic, Neolithic and Early Bronze Age and this in turn can contribute to a wider study of settlement pattern during these periods.
KC11: Does the high density of prehistoric settlement evidence in the Colne Valley reflect a genuine focus of activity or does it reflect a bias in the archaeological record?	This is not possible to determine from this investigation.

Specific Objective	Contribution
KC14: Enhance existing understanding of the Late Upper Palaeolithic- Early Mesolithic transition through investigation of sites in the Colne Valley and other locations along the route.	This is not possible to determine from this investigation.
KC19: The Romano-British period saw the beginning of a more established infrastructure network. Can we investigate the development of these routes, trackways and roads and the influence they had on landscape change?	The results contribute only in that they identify a location unlikely to have been used as routes for tracks or roads in the Romano-British period and this in turn can contribute to a wider study of the pattern of land use and landscape change.
KC34: Undertake research and investigation into medieval manorial complexes. What was their origin, development and impact on the landscape?	The results contribute only to identify that there was either no impact or that any impact on the landscape from the manorial complexes nearby was such that it did not leave any evidence eg. light agricultural activities.

8 Recommendations and Research Aims for Further Investigation

- 8.1.1 The HERDS document highlights that Mesolithic activity is known in the Colne Valley and that Bronze Age activity is present to the west of the Site. This activity does not appear to have extended east into the Site and therefore no further work is recommended in this location.

9 Conclusions

- 9.1.1 There were no archaeological features or artefacts found in any of the trenches.
- 9.1.2 The survey objectives were met in that any potential archaeology was investigated within the survey boundaries. As there were no archaeological features within the survey boundaries, so the success of this objective is limited.

10 Statement of Significance

- 10.1.1 The Site has no archaeological significance deriving from features or artefacts. However, the absence of evidence contributes in a limited way to the pattern and understanding of past land use in this area.

11 Publication and Dissemination Proposals

- 11.1.1 These results do not merit publication, except in a general project-wide capacity. This report forms the primary means of dissemination, along with the site archive. The site archive will be

prepared in line with the Technical Standards: Historic Environment Physical Archive and Digital Data Management and Archiving Procedures (HS2-HS2-EV-STD-000-000039 and HS2-HS2-EV-STD-000-000040).

12 Glossary and References

12.1 Glossary of terms

The following terms have been used in this report:

Contractor – the organisation undertaking the evaluation on behalf of the Employer, on this occasion, Headland Archaeology (UK) Ltd.

Detailed Desk Based Assessment (DDBA) – analytical document that builds on the information gathered previously in the Environmental Statement to address particular issues, questions or uncertainties within a given area. It may be developed to provide a more detailed understanding of the resource in an area to inform design development or construction programming.

Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS) – the framework for delivering all historic environment investigations undertaken as part of the HS2 Phase 1 programme.

Location – a specific HS2 worksite or group of worksites that are being addressed as a combined historic environment investigation programme of assessment, evaluation and investigation.

Project Plans – specification document for each specific package of activity (e.g. a survey, desk-based assessment, excavation, recoding project). The plans would respond to the Specific Objectives set out in the GWSI: HERDS and be delivered within an agreed budget.

Works – the specific historic environment assessment, evaluation or investigation works at each location.

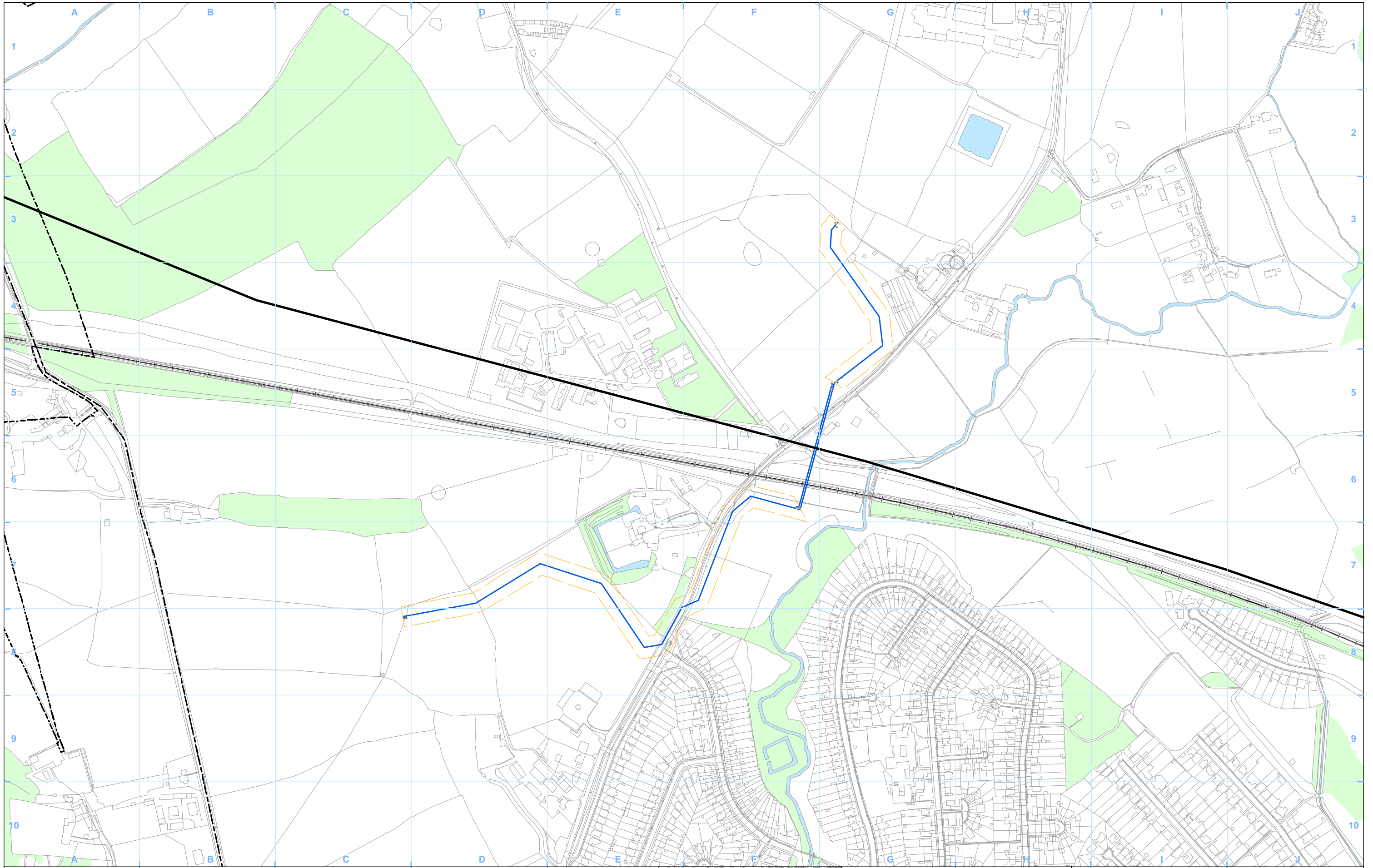
12.2 References

Title	Reference
LS-WSI for Trial Trenching for Affinity Water main diversion	1EW02-CSJ-EV-PRO-S002-000003 Revision P01
Project Plan for an Archaeological fieldwork at the Copthall cutting for the Affinity Water main diversion (route 1b)	1EW02-CSJ-PM-REP-S002-000006

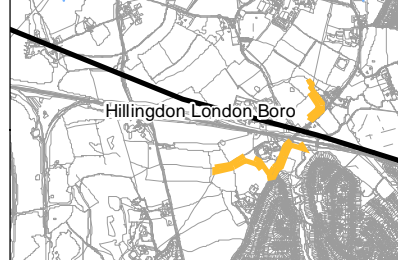
Title	Reference
Colne Valley East Detailed Desk Based Assessment	1D037-EDP-EV-REP-S000-000004
HS2 Phase One Environmental Statement and Supplementary Environmental Statements	CH-001-006, ES 3.5.2.6.4 CH-002-006, ES 3.5.2.6.5 CH-003-006, ES 3.5.2.6.6 CH-004-006, ES 3.5.2.6.7
Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy	HS2-HS2-EV-STR-000-000015
Technical Standard: Historic Environment Physical Archive Procedure	HS2-HS2-EV-STD-000-000039
Technical Standard: Historic Environment Digital Data Management and Archiving Procedure	HS2-HS2-EV-STD-000-000040
Network Archaeology, 2008, Harefield to Southall Proposed Gas Pipeline, Archaeological Controlled Strip:	HAS56/report/v2.0

13 Appendices

Appendix 1 Figures



- Legend**
- hybrid bill alignment
 - easement outline
 - trial trench
 - water main
 - watercourse
 - water body



Map Number **Figure 1**

Map Name
**Site location;
 Copthall cutting for the Affinity Water main diversion
 (route 1b)**

**Community Forum Area CFA-6
 South Ruislip to Ickerham**

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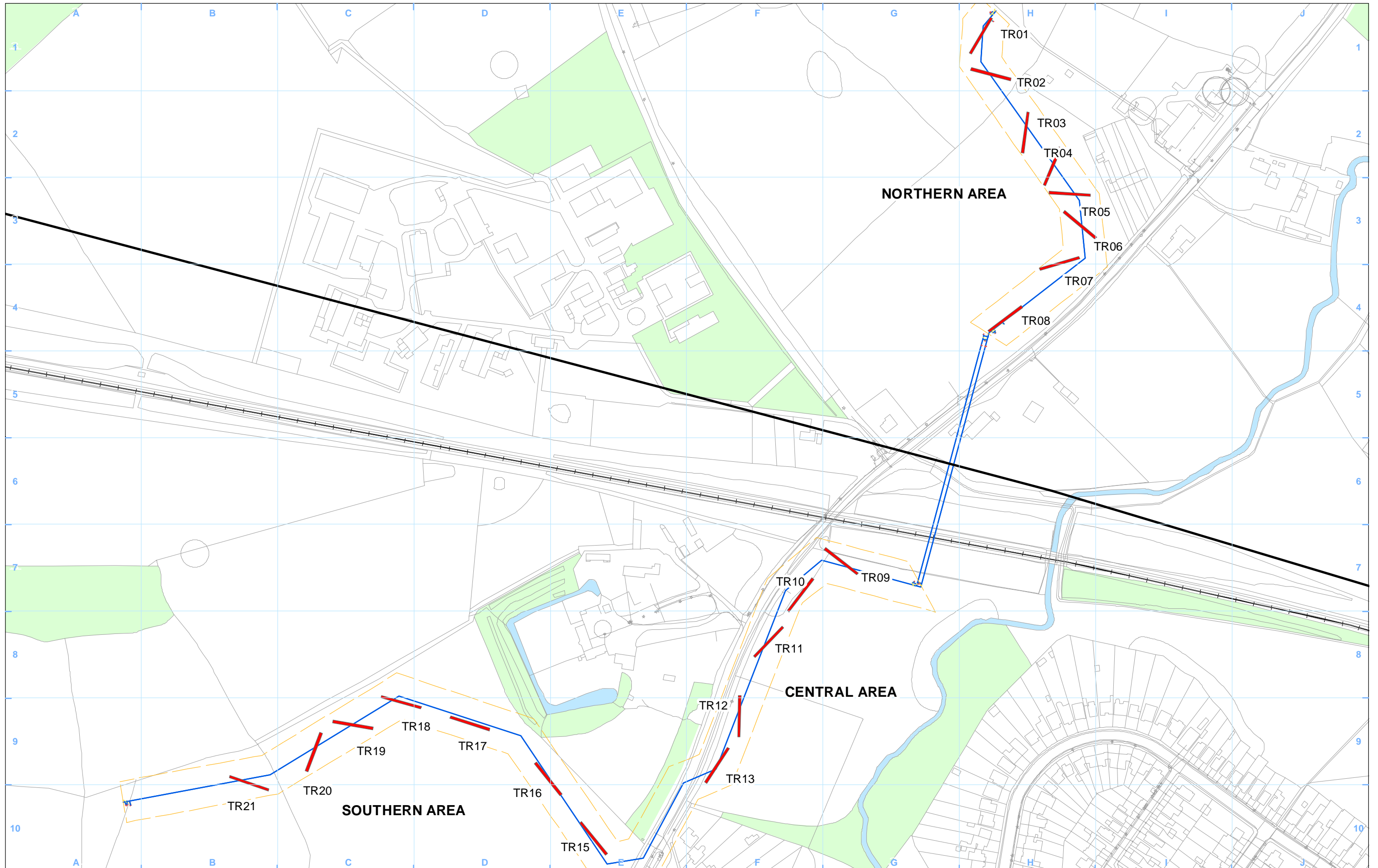
Doc Number: tbc

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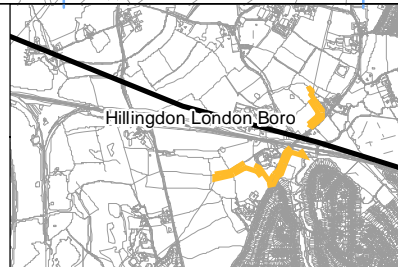
Metres

Date: 11/07/18



Legend

- hybrid bill alignment
- easement outline
- trial trench
- water main
- water body
- watercourse



Map Number
Figure 2

Map Name
Original trench location plan;
Cophall cutting for the Affinity Water main diversion
(route 1b)

Community Forum Area CFA-6
South Ruislip to Ickerham

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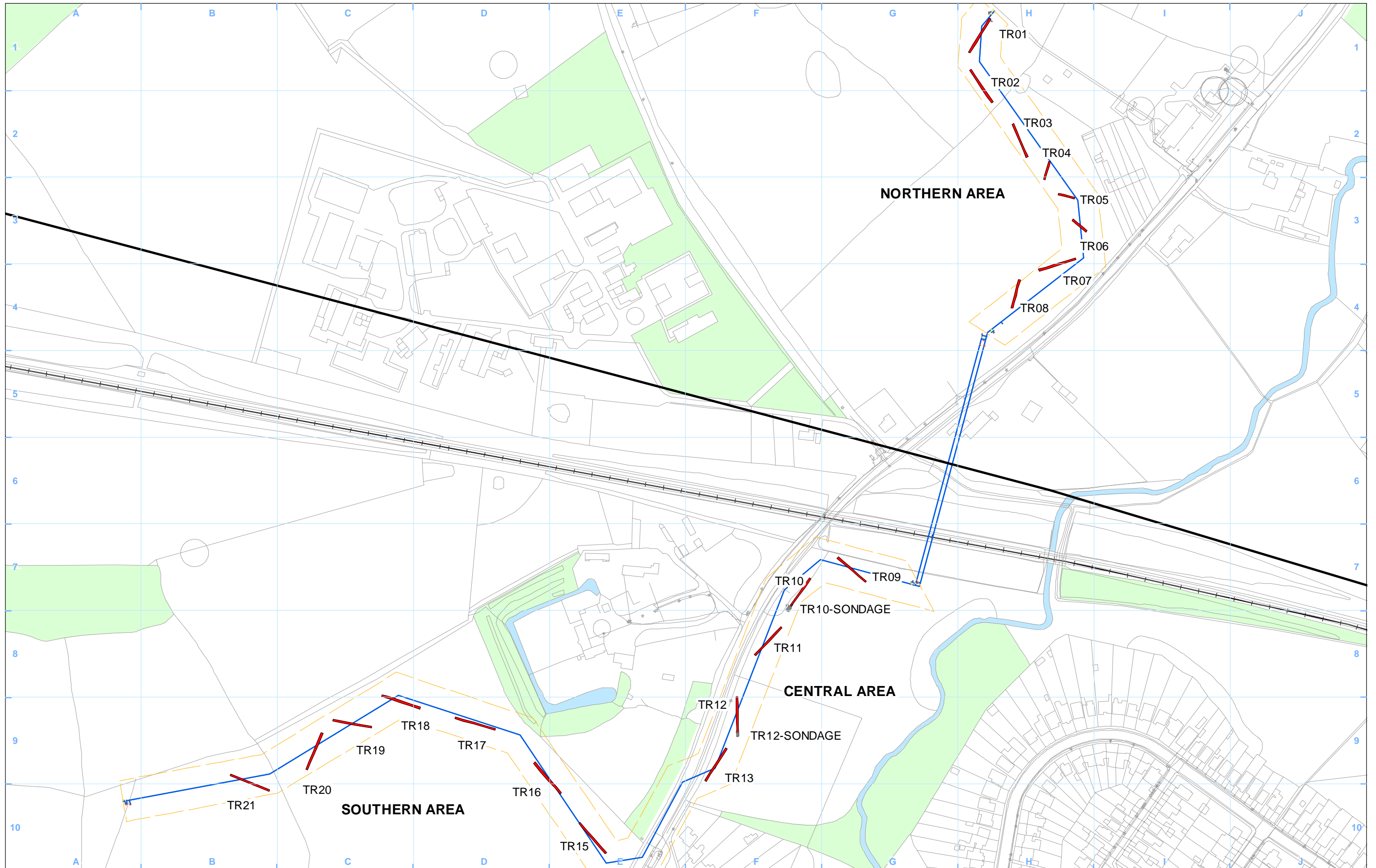
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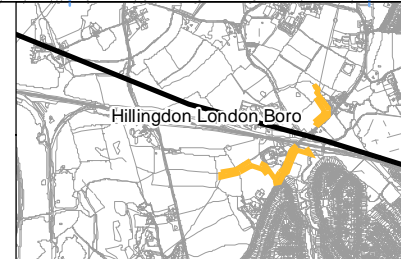
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Doc Number: tbc

Date: 11/07/18



- Legend**
- hybrid bill alignment
 - easement outline
 - trial trench
 - sondage
 - water main
 - water body
 - watercourse



Map Number
Figure 3

Map Name
**Actual trench location plan;
Copthall cutting for the Affinity Water main diversion
(route 1b)**

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Doc Number: tbc

Scale at A3: 1:2,500

0 25 50 75 100
Metres

Date: 11/07/18

Appendix 2 Contextual summary by trench

The following tables present all contexts recorded during the trial trenching in trench order. Please note that topsoil, subsoil and natural deposits were not given a context in all trial trenches.

Trench Number	001	Orientation:	NE-SW		
Length	30m	Width	1.80m		
Minimum depth to geological deposit/level of archaeological significance	0.50m BGL	Maximum depth to geological deposit/level of archaeological significance	0.60m BGL		
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)			
		Diameter	Length	Width	Depth
(01)	Topsoil: Brown-grey clayey-silt				0.25m
(02)	Subsoil: Orange-yellow silty-clay				0.50m
(03)	Geological substrate: Orange-yellow clay				-
(04)	Fill of land drain [05]				0.45m
[05]	Cut of land drain				0.45m

Trench Number	002	Orientation:	NW-SE		
Length	30m	Width	1.80m		
Minimum depth to geological deposit/level of archaeological significance	0.18m BGL	Maximum depth to geological deposit/level of archaeological significance	0.60m BGL		
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)			
		Diameter	Length	Width	Depth
(01)	Topsoil: Brown-grey clayey-silt				0.25m
(02)	Geological substrate: Orange-yellow clay				-
(03)	Fill of land drain [04]				0.42m
[04]	Cut of land drain				0.42m

Trench Number	003	Orientation:	NW-SE		
Length	27.5m	Width	1.80m		
Minimum depth to geological deposit/level of archaeological significance	0.25m BGL	Maximum depth to geological deposit/level of archaeological significance	0.45m BGL		
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)			
		Diameter	Length	Width	Depth
(01)	Topsoil: Brown-grey clayey-silt				0.25m

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trenching for Affinity Water main diversion

(02)	Geological substrate: Grey-yellow sandy-clay				-
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Trench Number	004	Orientation:	N-S		
Length	14.5m	Width	1.80m		
Minimum depth to geological deposit/level of archaeological significance	0.36m BGL	Maximum depth to geological deposit/level of archaeological significance	0.45m BGL		
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)			
		Diameter	Length	Width	Depth
(01)	Topsoil: Brown-grey clayey-silt				0.36m
(02)	Geological substrate: Grey-yellow clay				-

Trench Number	005	Orientation:	E-W		
Length	13.5m	Width	1.80m		
Minimum depth to geological deposit/level of archaeological significance	0.25m BGL	Maximum depth to geological deposit/level of archaeological significance	0.45m BGL		
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)			
		Diameter	Length	Width	Depth
(01)	Topsoil: Brown-grey clayey-silt				0.25m
(02)	Geological substrate: Orange-yellow clay				-

Trench Number	006	Orientation:	NW-SE		
Length	14m	Width	1.80m		
Minimum depth to geological deposit/level of archaeological significance	0.30m BGL	Maximum depth to geological deposit/level of archaeological significance	0.50m BGL		
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)			
		Diameter	Length	Width	Depth
(01)	Topsoil: Brown-grey clayey-silt				0.30m
(02)	Geological substrate: Grey-yellow clay				-

Trench Number	007	Orientation:	NE-SW		
Length	30m	Width	1.80m		
Minimum depth to geological deposit/level of archaeological significance	0.34m BGL	Maximum depth to geological deposit/level of archaeological significance	0.50m BGL		
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)			
		Diameter	Length	Width	Depth

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		Diameter	Length	Width	Depth
(01)	Topsoil: Brown-grey clayey-silt				0.34m
(02)	Geological substrate: Grey-yellow clay				-

Trench Number		008	Orientation:			N-S
Length		21.5m	Width			1.80m
Minimum depth to geological deposit/level of archaeological significance		0.43m BGL	Maximum depth to geological deposit/level of archaeological significance			0.48m BGL
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)				
		Diameter	Length	Width	Depth	
(01)	Topsoil: Brown-grey clayey-silt				0.19m	
(02)	Subsoil: Orange-yellow silty-clay				0.43m	
(03)	Geological substrate: Orange-yellow clay				-	
(04)	Fill of land drain [05]				0.44m	
[05]	Cut of land drain				0.44m	

Trench Number		009	Orientation:			NW-SE
Length		30m	Width			1.80m
Minimum depth to geological deposit/level of archaeological significance		0.34m BGL	Maximum depth to geological deposit/level of archaeological significance			0.40m BGL
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)				
		Diameter	Length	Width	Depth	
(01)	Topsoil: Brown-grey clayey-silt				0.24m	
(02)	Subsoil: Grey-brown silty-clay				0.34m	
(03)	Geological substrate: Grey-yellow sandy-clay				-	

Trench Number		010	Orientation:			NE-SW
Length		30m	Width			1.80m
Minimum depth to geological deposit/level of archaeological significance		0.43m BGL	Maximum depth to geological deposit/level of archaeological significance			0.60m BGL
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)				
		Diameter	Length	Width	Depth	
(01)	Topsoil: Brown-grey clayey-silt				0.23m	
(02)	Subsoil: Grey-yellow silty-clay				0.43m	
(03)	Geological substrate: Grey-yellow sandy-clay				-	

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Trench Number	011	Orientation:	NE-SW		
Length	30m	Width	1.80m		
Minimum depth to geological deposit/level of archaeological significance	0.40m BGL	Maximum depth to geological deposit/level of archaeological significance	0.50m BGL		
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)			
		Diameter	Length	Width	Depth
(01)	Topsoil: Brown-grey clayey-silt				0.29m
(02)	Subsoil: Orange-yellow silty-clay				0.40m
(03)	Geological substrate: Grey-orange clay				-
(04)	Fill of/modern pipe for agricultural water pipe [05]				0.13m
[05]	Narrow cut/disturbance for agricultural water pipe (04)				0.13m

Trench Number	012	Orientation:	N-S		
Length	30m	Width	1.80m		
Minimum depth to geological deposit/level of archaeological significance	0.37m BGL	Maximum depth to geological deposit/level of archaeological significance	0.54m BGL		
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)			
		Diameter	Length	Width	Depth
(01)	Topsoil: Brown-grey clayey-silt				0.24m
(02)	Subsoil: Grey-yellow silty-clay				0.37m
(03)	Geological substrate: Grey-yellow sandy-clay				-

Trench Number	013	Orientation:	N-S		
Length	30m	Width	1.80m		
Minimum depth to geological deposit/level of archaeological significance	0.42m BGL	Maximum depth to geological deposit/level of archaeological significance	0.54m BGL		
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)			
		Diameter	Length	Width	Depth
(01)	Topsoil: Brown-grey clayey-silt				0.29m
(02)	Subsoil: Grey-brown silty-clay				0.42m
(03)	Geological substrate: Grey-orange clay				-
(04)	Fill of modern pit [05]				0.54m
[05]	Cut of modern pit probably associated with services along adjacent road				0.54m

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Trench Number	014	Orientation:	-		
Length	-	Width	-		
Minimum depth to geological deposit/level of archaeological significance	-	Maximum depth to geological deposit/level of archaeological significance	-		
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)			
		Diameter	Length	Width	Depth
	Not excavated				

Trench Number	015	Orientation:	NW-SE		
Length	30m	Width	1.80m		
Minimum depth to geological deposit/level of archaeological significance	0.42m	Maximum depth to geological deposit/level of archaeological significance	0.60m		
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)			
		Diameter	Length	Width	Depth
(01)	Topsoil: Brown-grey clayey-silt				0.25m
(02)	Subsoil: Grey-brown silty-clay				0.42m
(03)	Geological substrate: Grey-yellow silty-clay				-
(04)	Fill of service trench [05]				0.50m
[05]	Cut of/area of disturbance from disused modern pipe trench				0.50m
(06)	Modern ceramic pipe and concrete fill of service trench [05]				0.50m

Trench Number	016	Orientation:	NW-SE		
Length	30m	Width	1.80m		
Minimum depth to geological deposit/level of archaeological significance	0.35m	Maximum depth to geological deposit/level of archaeological significance	0.70m		
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)			
		Diameter	Length	Width	Depth
(01)	Topsoil: Brown-grey clayey-silt				0.20m
(02)	Subsoil: Grey-brown silty-clay				0.35m
(03)	Geological substrate: Grey-yellow sandy-clay				-
(04)	Deposit: Grey silt				0.57m
(05)	Deposit: Grey silt				0.47m

Trench Number	017	Orientation:	E-W		
Length	30m	Width	1.80m		

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Minimum depth to geological deposit/level of archaeological significance	0.31m	Maximum depth to geological deposit/level of archaeological significance	0.42m		
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)			
		Diameter	Length	Width	Depth
(01)	Topsoil: Brown-grey clayey-silt				0.23m
(02)	Subsoil: Grey-brown silty-clay				0.31m
(03)	Geological substrate: Grey-yellow sandy-clay				-

Trench Number	018	Orientation:	E-W		
Length	30m	Width	1.80m		
Minimum depth to geological deposit/level of archaeological significance	0.30m	Maximum depth to geological deposit/level of archaeological significance	0.45m		
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)			
		Diameter	Length	Width	Depth
(01)	Topsoil: Brown-grey clayey-silt				0.20m
(02)	Subsoil: Grey-brown clayey-silt				0.30m
(03)	Geological substrate: Grey-yellow sandy-clay				-

Trench Number	019	Orientation:	E-W		
Length	30m	Width	1.80m		
Minimum depth to geological deposit/level of archaeological significance	0.35m	Maximum depth to geological deposit/level of archaeological significance	0.45m		
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)			
		Diameter	Length	Width	Depth
(01)	Topsoil: Brown-grey clayey-silt				0.25m
(02)	Subsoil: Grey-brown clayey-silt				0.35m
(03)	Geological substrate: Grey-orange clay				-

Trench Number	020	Orientation:	NE-SW		
Length	30m	Width	1.80m		
Minimum depth to geological deposit/level of archaeological significance	0.30m	Maximum depth to geological deposit/level of archaeological significance	0.39m		
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)			
		Diameter	Length	Width	Depth

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(01)	Topsoil: Brown-grey clayey-silt				0.22m
(02)	Subsoil: Grey-brown clayey-silt				0.30m
(03)	Geological substrate: Grey-orange clay				-

Trench Number	021	Orientation:			NW-SE
Length	30m	Width			1.80m
Minimum depth to geological deposit/level of archaeological significance	0.20m	Maximum depth to geological deposit/level of archaeological significance			0.38m
Context No.	Description (Layer, Cut, Fill)	Dimensions (as appropriate)			
		Diameter	Length	Width	Depth
(01)	Topsoil: Brown-grey clayey-silt				0.20m
(02)	Geological substrate: Orange-grey silty-clay				-

Appendix 3 Context register

Context No	Description
0101	Topsoil - Loose mid brownish grey silty clay with occasional amounts of angular stones
0102	Subsoil - Loose orangey yellow silty clay with moderate amounts of angular and sub-angular stones
0103	Geological substrate- Firm light orangey yellow clay and moderate amounts of rounded gravels
0104	Fill of modern land drain [0105]
0105	Cut of modern land drain
0201	Topsoil - Loose mid brownish grey clayey silt with occasional amounts of small rounded stones
0202	Geological substrate - Light orangey yellow clayey silty with moderate amounts of angular and sub-angular gravels
0203	Fill of modern land drain [0204]
0301	Topsoil - Loose mid brownish grey clayey silt with occasional amounts of small rounded stones
0302	Geological substrate - Light greyish yellow sandy clay with frequent amounts of sub-rounded stones
0401	Topsoil - Loose mid brownish grey clayey silt with occasional amounts of small angular stones
0402	Geological substrate - Light greyish yellow clay with frequent amounts of angular stones and rounded pebbles
0501	Topsoil - Loose mid brownish grey clayey silty with occasional small pebbles
0502	Geological substrate - Mid orangey yellow clay with light greyish yellow patches and frequent amounts of gravel
0601	Topsoil - Loose mid brownish grey clayey silt with moderate small rounded pebbles and angular stones and modern ceramic building material fragments
0602	Geological substrate - Light greyish yellow clay with patches of frequent gravels

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0701	Topsoil - Loose mid brownish grey clayey silt with occasional amounts of small rounded pebbles
0702	Geological substrate - Light greyish yellow clay with patches of moderate to frequent rounded stones
0801	Topsoil - Light brownish grey clayey silt with moderate amounts of rounded pebbles
0802	Subsoil - Loose light greyish yellow clayey silty with frequent rounded gravels
0803	Geological substrate - Light greyish yellow clay with frequent gravel patches
0804	Fill of modern land drain [0805]
0805	Cut of modern land drain
0901	Topsoil - Loose mid brownish grey clayey silt with occasional amounts of small rounded pebbles and angular stones
0902	Subsoil - Moderately firm mid greyish brown silty clay with occasional amounts of small rounded pebbles
0903	Geological substrate - Light greyish yellow sandy clay with occasional patches of medium sized angular stones and pebbles
1001	Topsoil - Loose mid brownish grey clayey silt with occasional amounts of small to medium rounded pebbles, ceramic building material, pottery fragments and charcoal
1002	Subsoil - Moderately firm mid greyish yellow silty clay with moderate amounts of small rounded pebbles and ceramic building material and tile
1003	Geological substrate - Light greyish yellow sandy clay with moderate patches of light greyish sandy clay, frequent amounts of small to medium rounded pebbles and manganese fragments
1101	Topsoil - Loose mid brownish grey clay silty with moderate amounts of small rounded pebbles
1102	Subsoil - Moderately firm mid greyish brown silty clay with moderate amounts of small rounded pebbles
1103	Geological substrate - Firm light greyish orange clay with moderate angular gravels
1104	Fill of modern water pipe [1105]
1105	Cut of modern water pipe

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1201	Topsoil - Loose mid brownish grey silty clay with occasional amounts of small rounded pebbles
1202	Subsoil - Moderately firm mid greyish brown silty clay with occasional small angular gravels
1203	Geological substrate - Firm light greyish orange clay with small patches of moderately sized gravel
1301	Topsoil - Mid brownish grey clayey silt with moderate amounts of small angular stones
1302	Subsoil - Mid greyish brown silty clay with occasional amounts of small rounded pebbles
1303	Geological substrate - Light greyish orange sandy clay
1304	Fill of modern disturbance [1305]. Soft spongy mid greyish orange silty clay with moderate charcoal patches
1305	Cut of modern disturbance
1101	Topsoil - Loose mid brownish grey clay silty with moderate amounts of small rounded pebbles
1102	Subsoil - Moderately firm mid greyish brown silty clay with moderate amounts of small rounded pebbles
1103	Geological substrate - Firm light greyish orange clay with moderate angular gravels
1501	Topsoil - Loose mid brownish grey clayey silty with moderate amounts of rounded pebbles
1502	Subsoil - Moderately firm light greyish brown clayey silt with occasional small to medium rounded pebbles and small ceramic building material fragments
1503	Geological substrate - Firm light greyish yellow silty clay with moderate to frequent amounts of small to medium rounded pebbles
1504	Fill of modern service [1505]. Mid brownish grey silty clay with occasional amounts of large stone and moderate amounts of ceramic building material
1505	Cut of modern service
1506	Fill of modern service [1505]. Thick brownish yellow clay with frequent amounts of large gravels.

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1601	Topsoil - Loose mid brownish grey clayey silt with occasional amounts of rounded pebbles and angular stones
1602	Subsoil - Moderately firm light greyish brown with moderate amounts of small to medium rounded pebbles
1603	Geological substrate - Light greyish yellow sandy clay with moderate amounts of small angular stones and rounded pebbles
1604	Small patch of burning. Loose dark grey silt with frequent charcoal fragments and moderate amounts of small gravels
1605	Small patch of burning. Loose dark grey silt with frequent charcoal fragments and moderate amounts of chalk flecks and rooting
1701	Topsoil - Loose mid brownish grey clayey silt with moderate amounts of small angular stones
1702	Subsoil - Moderately firm light greyish brown silty clay with occasional chalk flecks, moderate amounts of small angular stones and occasional ceramic building material fragments
1703	Geological substrate - Firm light greyish yellow sandy clay with frequent manganese flecks and moderate amounts of small to medium rounded pebbles
1801	Topsoil - Loose light brownish grey clayey silt with occasional amounts of medium sized pebbles
1802	Subsoil - Light greyish brown clayey silt with occasional ceramic building material fragments, moderate amounts of small to medium sized angular gravels and chalk flecks
1803	Geological substrate - Light greyish yellow sandy clay with occasional chalk flecks, moderate amounts of small rounded pebbles and medium sized angular stones
1901	Topsoil - Mid brownish grey clayey silt with occasional amounts of small angular stones and ceramic building material fragments
1902	Subsoil - Light brownish grey clayey silt with occasional amounts of small angular stones
1903	Geological substrate - Firm mid greyish orange clay with occasional amount of ceramic building material fragments and moderate to frequent amounts of small to medium sized pebbles
2001	Topsoil - Mid brownish grey clayey silt with occasional amounts of small rounded pebbles

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2002	Subsoil - Light greyish brown clayey silt with occasional amounts of small rounded pebbles and angular stones
2003	Geological substrate - Light greyish orange clay with patches of moderate to frequent small to medium sized angular stones and pebbles and ceramic building material fragments
2101	Topsoil - Loose mid greyish brown clayey silt with frequent rooting and moderate amounts of sub-rounded stones
2102	Geological substrate - Mid orangey grey silty clay with occasional sub-rounded stones and chalk flecks

Appendix 4 Photographic Register

Photo No	Direction Facing	Description
001	NW	SE facing section of TR01
002	SW	TR01 after trenching
003	SW	NE facing section of TR02
004	SE	TR02 after trenching
005	NE	SW facing section of TR03
006	SE	TR03 after trenching
007	E	W facing section of TR03
008	-	VOID
009	N	TR04 after trenching
010	NE	TR05 after trenching
011	NW	SE facing section of TR05
012	NW	TR06 after trenching
013	SW	NE facing section of TR06
014	SE	TR07 after trenching
015	SW	SE facing section of TR07
016	SW	NE facing section of TR08
017	NW	TR08 after trenching
018	NW	TR09 after trenching
019	SW	NE facing section of TR09
020	SE	NW facing section of TR10
021	NE	TR10 after trenching
022	SE	NW facing section of TR11
023	NE	TR11 after trenching
024	W	E facing section of TR12
025	N	TR12 after trenching
026	NW	SE facing section of TR13

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027	NE	TR13 after trenching
028	SW	NE facing section of sondage in TR12
029	NE	Shot of sondage in TR12
030	NW	SE facing section of sondage on TR10
031	NE	Shot of sondage in TR10
032	NE	SW facing section of TR15
033	NW	TR15 after trenching
034	SW	NE facing section of TR16
035	NW	TR16 after trenching
036	N	S facing section of TR17
037	E	TR17 after trenching
038	NE	SW facing section of TR18
039	SE	TR18 after trenching
040	SE	TR19 after trenching
041	SE	NW facing section of TR20
042	NE	TR20 after trenching
043	NE	SW facing section of TR19
044	SW	NE facing section of TR21
045	SE	TR21 after trenching
001	NW	SE facing section of TR01
002	SW	TR01 after trenching
003	SW	NE facing section of TR02