WP 029(8) Historic Environment Works - Kenilworth to Balsall Common - Enabling Works North Contract

Location Specific Written Scheme of Investigation for Trial Trenching

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1 Executive Summary

1.1 Context

1.1.1 This High Speed 2 (HS2) North Section Phase One Location Specific Written Scheme of Investigation (LS-WSI) sets out the detailed method of investigation for trial trenching between Kenilworth and Balsall Common in Warwickshire and the West Midlands as set out in the Project Plan for Trial Trenching (1EW04-LMJ-EV-PLN-NS01_NL03-029004; see Appendix 1). The trenched area, or "evaluation area", is located between Dalehouse Lane (HS2 Chainage 141270) in the south and Lavender Hall Lane (HS2 Chainage 149960) in the north.

1.1.2 The evaluation area is *c* 8.7km long, covers approximately 145ha located between Kenilworth and Balsall Common, National Grid Reference (NGR) 427691, 275302 (Figure 1, Appendix 2).

1.1.3 In terms of the 2017 Construction Land Requirements (CLRs) this area has been identified within the enabling works and subsequent main works programme for Phase One of HS2 Construction Land Requirement (CLR) parcels; CR02025, CR02027, CR02028, CR02030, CR02116, CR02210, CR02213, CR02214, CR02220, CR02284, CR02503, CR02525, CR02534, CR02540, CR02547, CR02574, CR02696, CR02699, CR02715, CR02720, CR02733, CR02738, CR02739, CR02744, CR02745, CR02746, CR02748, CR02755, CR02761, CR02762, CR02763, CR02879, CR02881, CR02882, CR02956, CR02965. The work will entail ground disturbance which would potentially have an impact on archaeological remains that may be present.

1.1.4 This LS-WSI sets out the aims of the evaluation, defines how the trial trenching programme will be delivered and identifies the timescale and proposed programme for the works. This will include: details of programme management, cost control, resourcing, health and safety and reporting.

1.1.5 The excavation, investigation and recording of 474 trenches (50m long and 2m wide and no more than 1.2m deep) are required to identify the presence, nature, date, extent, survival and significance of known or potential heritage assets which may be affected by the proposed scheme, in order to inform, if required, an appropriate mitigation strategy aimed at reducing or removing any adverse effects.

1.1.6 The area of the site is part of enabling and main works, such work will entail ground disturbance that would potentially have an impact on any archaeological remains that may be present. The details of the proposed works have been discussed in the Project Plan.

1.1.7 The outcome of the archaeological trial trenching will be used to inform decision-making on the requirement for further archaeological investigation at the site.

2 Scope

2.1 Guidance

2.1.1 This LS-WSI has been produced in line with the guidance outlined in the HS2 Technical Standard - Specifications for Historic Environment Investigations (HS2-HS2-EV-STD-000-000035) the HS2 Technical Standard - Specification for Historic Environment Project Plans and Location Specific Written Schemes of Investigation (HS2-HS2-EV-STD-000-000036) and Kenilworth to Balsall Common- Project Plan for Trial Trenching(1EW04-LMJ-EV-PLN- NS01_NL03-029004).

2.1.2 The LS-WSI has also been prepared with reference to the HS2 Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS; HS2- HS2-EV-STR-000-000015).

2.1.3 Specific guidance for the trial trenching methodology and reporting strategies are also referenced in text where appropriate.

2.1.4 This LS-WSI will be submitted to HS2 Ltd for approval prior to work commencing.

2.2 Aims

2.2.1 The aim of the trial trenching is laid out within the Kenilworth and Balsall Common Project Plan for Trial Trenching (1EW04-LMJ-EV-PLN-NS01_NL03-029004) and is follows:

- To determine, as far as reasonably possible, the presence, nature, date, extent, survival and significance of the archaeological resource within the evaluation area, primarily in relation to previously identified GWSI: HERDS research objectives, so that, if necessary, a suitable archaeological mitigation strategy can be put in place to reduce or offset any adverse effects arising from proposed ground disturbance.

2.3 Contribution to GWSI: HERDS Specific Objectives

2.3.1 The trial trenching from Kenilworth to Balsall Common will contribute to the following Specific Objectives as laid out in Table 3 of the Project Plan:

- KC2: Explore the location of Palaeolithic deposits, reconstruct past environments and investigate the relationship between climate variation and phases of hominin activity;
- KC5: Identifying settlement location and developing models for settlement patterns for the Mesolithic, Neolithic and Early Bronze Age;
- KC9: Does a lack of visibility of Neolithic and Bronze Age monuments reflect genuine area distinctiveness, or is this due to variation in geology or investigative techniques?;

- KC15: Can we identify regional patterns in the form and location of Late Bronze Age and Iron Age settlements across the route, and are there associated differences in landscape organisation and enclosure?;
- KC16: Investigate the degree of continuity that existed between Late Bronze Age and Iron Age communities in terms of population, mobility and subsistence strategies;
- KC21: Assess the evidence for regional and cultural distinctiveness along the length of the route in the Romano-British period, with particular regard to the different settlement types encountered along the route;
- KC23: Identify evidence for late Roman occupation and attempt to identify any continuity in settlement patterns between the end of the Romano-British period and the Early Medieval period;
- KC30: Identify the location and form of Early and Middle Saxon settlement and investigate evidence for land use in the period;
- KC31: Identify the location of Middle to Late Saxon settlement, explore processes of settlement nucleation and understand the development of associated field types and agricultural regimes;
- KC33: Investigate the development of water mills from the Anglo-Saxon through to the modern period. How did the technology of milling change, and what implications has this for farming practice?;
- KC34: Undertake research and investigation into Medieval manorial complexes. What was their origin, development and impact on the landscape?;
- KC35: Investigate the impacts on rural communities of social and economic shocks in the mid-14th century and thereafter, and their contribution to settlement desertion;
- KC40: Identify patterns of change within Medieval rural settlement from the 11th to mid-14th century;
- KC43: Investigate the link bet?;ween the development of the railways and broader changes in the historic landscape, such as urban settlement expansion and the decline of the canal network; and
- KC52: Understanding the pattern, form and function of post-Medieval rural vernacular architecture: can we identify regional, intra-regional or temporal variations.

3 Site location, extent and condition

3.1.1 The evaluation area is approximately centred on National Grid Reference (NGR) 427691, 275302 and includes approximately 145ha of land which broadly comprises mostly pasture fields, subdivided by hedgerows and small areas of woodland. Kenilworth lies south west of the southern part of the evaluation area, the centre crosses part of the village of Burton Green and Balsall Common lies to the south west of the northern part of the evaluation area. It is located within the Community Forum Area (CFA) 18: Stoneleigh, Kenilworth and Burton Green and CFA23: Balsall Common and Hampton in Arden.

3.1.2 The evaluation area overlies a hilly landscape which generally fluctuates between 95m OD and 110m OD, with a maximum elevation of c 130m Ordnance Datum (OD) to the west of Broadwells Wood. The lowest points are at Finham Brook, which borders the south of the evaluation area, and its tributaries within the centre and south of the evaluation area, lying at an approximate elevation of between *c* 65.0m OD and *c* 75m OD respectively.

3.1.3 According to British Geological Survey (BGS) online mapping data the underlying solid geology largely comprises Kenilworth Sandstone Formation, Tile Hill Mudstone and Marl and Mercia Mudstone. There is a small band of Kenilworth Sandstone Formation in the north-west and a small band of Gibbet Hill Conglomerate in the south-east. Superficial deposits of Alluvium are recorded in the south of the evaluation area associated with Finham Brook and in the north of the evaluation area associated with a tributary of the River Blythe. A large area of Till is recorded in the centre and north of the evaluation area.

4 Site 8ackground

4.1 8aseline

4.1.1 The evaluation area does not contain any nationally designated (protected) heritage assets, such as World Heritage Sites, Scheduled Monuments, Listed Buildings or Registered Parks and Gardens. The closest Conservation Area is situated on the outskirts of Coventry, *c.* 30m to the north-east of the evaluation area at Gibbet Hill, defined in the Coventry Development Plan 2001.

4.1.2 The closest nationally designated heritage asset lies just to the south of the evaluation area at its northern end; this is the Grade II Listed Barn at Lavender Hall Farm (National Heritage List/NHL Ref: 1054821), which lies to the north of the Grade II* Lavender Hall Farmhouse (NHL Ref. 1075943).

4.1.3 Other Listed Buildings in close proximity to the evaluation area include the Grade II Listed Building Dale House Farmhouse (NHL Ref: 1325994), which lies *c.* 30m to the south-east of the

evaluation area; and the Grade II Listed Building, Crabmill Farmhouse (NHL Ref. 1343223), which lies *c* 45m to the north of the evaluation area.

4.1.4 The ES and HER identified 46 non-designated heritage assets within the evaluation area, (the possible extent of these assets as mapped by the ES and HER is shown on Figures 2 and Figure 3 of the Project Plan). Those of particular significance comprise, from south to north:

- ES ref. STN041: Earthworks to south of Dalehouse Farm, including the potential mill site identified on LiDAR at WA18.22;
- ES ref. STN047: Milburn Deserted Medieval Settlement
- ES ref. STN057 Cropmarks adjacent to Crackley Woods within an area of ridge and furrow
- HER ref. MWA8354: Find spot - Mesolithic Flint;
- HER ref. MWA8358: Find spot - Mesolithic flint scatter;
- ES ref. STN055: Cryfield Grange Deserted Medieval Settlement;
- HER ref. MWA2854: Site of a watermill south-west of Cryfield Grange;
- ES ref. STN062: Hurst Deserted Medieval Settlement;
- ES ref. STN066: Moated site at Bockenden Grange;
- ES ref. BHA016: Medieval fields and eroded ridge and furrow south of Truggist Lane;
- ES ref. BHA019: Medieval fields around Moat House Farm;
- ES ref. BHA043: Medieval fields and ridge and furrow around Ram Hall and Lavender Hall; and
- ES ref. BHA063: Medieval deer park and park pale of the Berkswell Estate.

4.1.5 The Historic Settlement Landscape Study (HSLDDBA: 1EW04-LMJ-EV- REP-N000-029001) identified a number of additional sites within the evaluation area. These include:

- Eight 19th-century buildings and barns, mostly non-extant (id 159, 165, 166, 167, 242, 712, 722 and 201);
- A possible moat - 2 arms seen in Berkswell parish (id 838);
- Little Beanit Farm - complex of extant and non-extant buildings (id167); and

- Odnaull End Farm - extant buildings (id 179).

4.1.6 Archaeological investigations unassociated with HS2 are recorded within the southern section of the evaluation area near Cryfield Grange, comprising a programme of fieldwalking completed for the University of Warwick at three areas (EWA2769, EWA2774 and EWA2768). Mesolithic, possible Neolithic and Bronze Age worked flint was recovered.

4.1.7 There are 48 investigations within the wider landscape, and those within 500m are listed in the Project Plan. The most significant of the previous HER investigations within 500m of the evaluation area comprise.

- EWA7817: Crackley Wood, adjacent to the south of the evaluation area. This event is listed in the HER as an unspecified study of medieval documentary sources, noting the mention of a woodland with possible earthwork banks and ditches dating to this period;
- ESI676: Archaeological Observation recorded three sections across the moat at Moat Farmhouse, Truggist Lane, Berkswell, 0.3km north of the evaluation area. Post medieval pottery was recovered from the fill of the moat;
- ESI653: West Midlands Moated Sites Survey: Interim Report, 0.3km north of the evaluation area;
- EWA2767, MWA8353: Fieldwalking completed for University of Warwick (Field D4), recovered Neolithic to Bronze Age lithics 50m north of the evaluation area near Cryfield Grange;
- EWA2770: Fieldwalking completed for University of Warwick (Field D3), recovered Neolithic to Bronze Age lithics 100m north of the evaluation area near Cryfield Grange; and
- MWA8359: Fieldwalking completed for University of Warwick (Field D4), recovered Neolithic to Bronze Age lithics 50m north of the evaluation area near Cryfield Grange.

4.1.8 The following sections summarise the archaeological and heritage potential of the evaluation area by period.

Palaeolithic (500,000 - 10,000BC)

4.1.9 The Lower and Middle Palaeolithic of the West Midlands is poorly understood. However, the West Midlands is identified (Garwood 2011) as being of particular importance for research into the earlier parts of the Palaeolithic, as it is geographically positioned at the northern extreme of global Lower Palaeolithic occupation. A number of worked stone artefacts of the Lower and

Middle Palaeolithic periods have been recovered to the south of the evaluation area along the Avon Valley.

4.1.10 The River Avon is located c1.4km to the south of the evaluation area, it and its tributaries are thought to have been part of the river system associated with the ancient River Bytham, which is believed to have crossed the HS2 route c.5km to the south of the evaluation area near Cubbington. The Bytham Valley may have been one of the main entry point for early hominins into this area.

4.1.11 The south of the evaluation area is located c.4km to the north-west of Waverley Wood Farm Pit (OFC041), a Lower Palaeolithic site dated to MIS 13, *c.*500 Ka, of national, or perhaps international significance. Worked stone artefacts, including handaxes, the remains of a straight-tusked elephant and other faunal remains were discovered within organic palaeochannel deposits believed to have been associated with the River Bytham.

4.1.12 The superficial geology of the southern part of the evaluation area is largely unmapped, but a small area of river terrace deposits is identified at the south near the Finham Brook and could contain eroded and redeposited archaeology from Lower and Middle Palaeolithic contexts.

4.1.13 The latter part of the Palaeolithic period may be represented by 3 worked flints of possible Late Upper Palaeolithic/Early Mesolithic date (HER ref. MWA8359), which were recovered during fieldwalking to the south east of Roughknowles Wood, at a field situated close to a tributary of Finham Brook and *c* 50m north of the evaluation area.. The DDBA for Hurst (1D037-EDP-EV-REP-030-000038) has suggested that if subject to formal analysis, these may represent evidence for Upper Palaeolithic occupation.

4.1.14 The highest potential for discovery of evidence of this period may be at the south of the evaluation area in proximity to the Finham Brook and its tributaries.

Mesolithic (8,500 - 4,000BC)

4.1.15 Mesolithic finds densities are relatively low in the region when compared to other parts of Britain, although more have been recorded in Warwickshire than in most other parts of the West Midlands. The discovery and excavation of Mesolithic sites is extremely rare and few have produced evidence for features or possible structures.

4.1.16 Activity appears to be focused on well-drained elevated sites close to water sources, although this distribution may be biased by fieldwalking projects concentrated at such areas. Alluvial deposition may have hidden many sites located in river valleys, and finds are recorded on clay soils in other parts of Britain, therefore Mesolithic activity may be far more widespread than previously assumed.

4.1.17 A number of archaeological investigations have been completed for the University of Warwick within, and in proximity to the southern section of the evaluation area. Fieldwalking within the evaluation area has identified 19 Mesolithic flints (HER ref. MWA8354) at a field situated to the south of a tributary of the Finham Brook, and 3 Mesolithic flints (HER ref. MWA8358) between Crackley Wood and Roughknowles Wood. To the north of the evaluation area 3 flints of Late Palaeolithic/Early Mesolithic date have been recovered to the south east of Roughknowles Wood (HER ref. MWA8359) and around Cryfield House (STN061) archaeological fieldwalking identified 54 worked flints of Mesolithic and Neolithic date (HER ref. MWA8346), and archaeological evaluation identified worked flints and undated possible postholes (HER ref. MWA8208), suggesting settlement activity dating from the Mesolithic or Early Neolithic periods.

4.1.18 Elsewhere, a perforated stone disc of possible Mesolithic date (HER ref. MWA2881) is recorded east of Crackley Wood; and a single Mesolithic flint (HER ref. MWA8275) is recorded c100m north-east of the southern end of the evaluation area.

4.1.19 The highest potential for discovery of evidence of this period may be toward the south of the evaluation area in proximity to the Finham Brook and its tributaries.

Neolithic (4,000 - 2,400BC)

4.1.20 Significant concentrations of Early, Middle and Late Neolithic activity appear to be focussed around the margins of the region at the Avon valley (ES) and at the Trent - Tame confluence (DDBA for Balsall Common: 1D037-EDP-EV-REP-N000-000002), where funerary and ceremonial landscapes may be present. The majority of known intra-regional evidence usually comprises small numbers of pits backfilled with "special" deposits, and scatters of worked flint, which may represent widespread occupation of low intensity (ES: CH-001-018). A small number of Neolithic features, perhaps including a concentric ring of posts, and worked flints have been identified c3km north of the evaluation area at Meriden Quarry (HERDS Resource Assessment: Section 11.3.19).

4.1.21 Pollen analysis across the region has suggested that forest clearance began during the third millennium BC. The settlement pattern/economy during the early part of the period may have seen transient, with limited agricultural activity and maintenance of elements of hunter- gatherer activity. The ES suggests that the Mesolithic/Early Neolithic transition may have occurred later in the West Midlands than at areas further to the south.

4.1.22 The DDBA for Hurst (1D037-EDP-EV-REP-030-000038) identified possible evidence for Neolithic activity close to the southern end of the evaluation area. Potential Neolithic worked flint and undated post holes have been discovered during archaeological investigations (see section 2.2.20) c500m north near Cryfield House (ES ref. STN061), perhaps identifying extremely rare settlement activity of the period. Elsewhere, Late Neolithic/early Bronze Age flint scatters (HER

ref. MWA8353) are recorded c300m north near Cryfield Grange (ES ref. STN054), and c100m south near Burton Green (HER ref. MWA3250).

Bronze Age (2,400 - 7,00BC)

4.1.23 The central West Midlands has a significant gap in evidence dating to this period (HERDS Resource Assessment: Section 11.3.3) with known activity and monuments concentrated around the fringes of the West Midlands. Settlement evidence is sparse, suggesting mobile communities, and lithic assemblages are often not closely datable (HERDS Resource Assessment: Section 11.3.12)).

4.1.24 Woodland clearance may have been gradual during early part of the Bronze Age and it has been suggested that the major river valleys such as the Trent, did not witness large-scale clearance until the mid-second millennium BC (HERDS Resource Assessment: Section 11.3.9). Subsequent agricultural exploitation of cleared land during the latter part of the Bronze Age appears to have led to the development of the extensive heathland which dominated much of Warwickshire up to the 18th century (ES: Section 3.2.7).

4.1.25 Settlement sites dating to the Middle and Later Bronze Age are rarely recorded in the West Midlands but when found have been extensive and unenclosed. Burial mounds (barrows) are more numerous and number around 900 if crop mark ring ditches, comprising around half of the identified sites, are included, but known distribution is clustered around the fringes of the region with concentrations on the Warwickshire Avon; near Wolvey in north-east Warwickshire; and at the Trent-Tame confluence in Staffordshire (HERDS Resource Assessment: Section 11.3.12). The south of the evaluation area is close to the Avon valley, where ring ditches and round barrows are fairly common, but the concentration here is by no means as prominent as noted in other areas such as south-west Shropshire or north-east Staffordshire. Burnt mounds are a more common feature of the region (Hurst 2011), and are usually discovered in proximity to watercourses, as has been noted in Birmingham (Hodder 2011). Areas in proximity to the watercourses crossing the evaluation area have high potential to reveal similar sites.

4.1.26 The DDBA of Hurst (1D037-EDP-EV-REP-030-000038) noted a flint scatter dating between the Mesolithic to Bronze Age periods (HER ref. MWA8353) near Roughknowles Wood and undated cropmarks (ES ref. STN068) adjacent to the centre of the evaluation area at Black Waste Wood which may represent Bronze Age activity. The ES notes a looped Palstave axe *c* 50m to the east of the southern part of the evaluation area, in close proximity to a tributary of Finham Brook (HER ref. MSI502). The HER identifies a number of lithic assemblages toward the south of the evaluation area near the tributary of the Finham Brook, which may represent Bronze Age activity: (HER ref. MWA3249, MWA4407, MWA2881 and MWA3250).

Iron Age (700BC - 43AD)

4.1.27 In the Iron Age, settlement evidence in the region becomes more visible with enclosures identified from aerial photographs a particularly common feature. These enclosures often encompass round houses. The settlements appear to be fairly short-lived. Farming increased at this time with some extensive field systems recorded.

4.1.28 The ES and the DDBA for Crewe Farm (1D037-EDP-EV-REP-030-000032) note a scatter of Iron Age coins known as staters (ES ref. STN052) within and in the immediate vicinity of Crackley Wood, toward the south of the evaluation area. Although this is only a scatter of material, and not from a sealed context or feature, it suggests potential for Iron Age activity within the evaluation area. A single Iron Age gold coin (HER ref. MST6922) was identified by metal detectorists c 290m north of the central part of the evaluation area, to the immediate north- east of South Hurst Farm.

4.1.29 Cropmarks (ES ref. STN068) located just outside the centre of the evaluation area at Black Waste Wood, could date to earlier periods (see Section 2.2.29), but may date to this period.

Romano-British (AD43 - 410)

4.1.30 There is considerable evidence of Romano-British activity to the south of the evaluation area. A Romano-British settlement has been identified at Crewe Farm (ES ref. STN031) c 800m south of the evaluation area near Kenilworth Golf Course and evidence for a Roman building (ES ref. STN037) has also been identified within Kenilworth Golf Course itself. The Crewe Farm settlement is believed to be associated with the remains of a scheduled Romano-British settlement (STN034), perhaps a villa estate, recorded c.300m south west of Crewe Farm at Glasshouse Wood.

4.1.31 The ES noted no evidence of Romano-British activity within the evaluation area. However, the DDBA of Hurst (1D037-EDP-EV-REP-030-000038) records the chance find of 40 Roman coins. A brooch identified by metal detectorists (HER ref. MWA2882), has also been found directly on the line of the HS2 route north of Crackley.

4.1.32 Excavations near Cryfield House (ES ref. STN061), c 500m north of the evaluation area, recovered several mosaic fragments and sherds of Roman pottery, including fragments of mortaria. Additional Roman finds have been recovered from Hurst Farm, c 300m north-east of the centre of the evaluation area, including coins, pottery and a brooch (HER ref. MWA6923). EWC North Trial Trenching at Finham Brook (1EW04-LMJ-EV-REP-NS01_NL03-022010), immediately to the south of the evaluation area did not recover any evidence of this date.

Early Medieval I Anglo-Saxon (AD410 - 1066)

4.1.33 Archaeological evidence for early medieval settlement in the region is extremely limited. The ceramic record is sparse as pottery largely disappears from the archaeological record, only re-appearing in the mid Anglo-Saxon period. What does appear to be the case however is that the scattered settlement characteristic of the later prehistoric and Roman periods continues with nucleation into the villages occurring during the latter part of the period, possibly under royal or ecclesiastical influences.

4.1.34 Within and around the evaluation area early medieval settlement is demonstrated by place-name evidence. Balsall means 'Baell(i)'s nook of land/small valley'; Berkswell means 'Be(o)rcol's spring/stream and Barston means 'Beorhtstan's farm/settlement'. During this period, Berkswell, c.700m to the north of the evaluation area, is believed to have been a centre of religious activity. This is suggested by the survival of a spring-fed ashlar-lined basin/tank (ES ref. BHA94) located below the early medieval church.

4.1.35 The DDBAs for Crewe Farm (1D037-EDP-EV-REP-030-000032) and Hurst (1D037-EDP-EV- REP-030-000038) also identify place-name evidence for early medieval occupation within or near to the evaluation area. The DMV at Hurst (ES ref. STN062) takes its name from the Old English word for a wooded hill, and Crackley takes its suffix "-leah" from the Old English meaning a forest, wood, or clearing in a wood.

Medieval (AD1066 - 1540)

4.1.36 The study area is rich in medieval settlements and field systems, reflecting the intensity of medieval activity in the area as a whole, with evidence of deforestation, expansion and contraction of settlements, the development of the manorial system and the growth in power of the church.

4.1.37 Much of the archaeological evidence within or adjacent to the evaluation area pertains to the medieval period. Three deserted medieval settlements (DMV) lie within or adjacent to the evaluation area; at the south of the evaluation area Cryfield Grange (ES ref. STN055) is located to the north, and a potential DMV at Millburn (ES ref. STN047) is located to the south of the evaluation area. Hurst DMV (ES ref. STN062) is located near the centre of the evaluation area and may extend into it.

4.1.38 The reason for the contraction and desertion of the settlements may have been a change in land use imposed by landowners. According to the Victoria County History (VCH: 1945), by the beginning of the reign of Henry VIII out of the 12 houses in Cryfield, only the Grange was left, a consequence of the monks converting arable land to pasture. Other villages in the area, including Milburn (HSLS ref. id 132) and South Hurst (HSLS ref. id 155) also suffered a decline in population

or were entirely depopulated for the same reason; although it is likely that other causes, including the Black Death, contributed to depopulation during the 14th century.

4.1.39 Stoneleigh Abbey (NHL ref. 1000377) is situated c 2.4km south of the evaluation area, the abbey had a large estate and established granges (monastic farms) around the centre and south of the evaluation area at Bockidene (ES ref. STN066), Cryfield (ES ref. STN055,) and Millburn (ES ref. STN045). The VCH (1945) notes that monks assarted woodland near Hurst to form what became the grange at Bockenden (Bockidene) in the 12th century and it can be seen in its own field system on historic maps dating to the 17th century. To the north of the evaluation area, Berkswell increased in influence and the medieval deer park of the Berkswell Estate (ES ref. BHA063) was founded and may surround an early manorial centre.

4.1.40 Woodland clearances (assarting) occurred as manors and moated houses were established, and evidence of this may survive in the fieldscape of the evaluation area to the north of Crackley Wood (ES ref. STN106). The clearance also provided valuable building material, and a high number of timber-framed buildings survive within the surrounding area.

4.1.41 A characteristic feature of high status medieval houses within the area is that they are often surrounded by moats. To the north (c.500m) of the centre of the evaluation area the current Bockenden Grange is surrounded by a moat, and c.350m to the south west a smaller moated site (ES ref. STN066) is located in an arable field situated slightly to the west of Bockendon Grange Farm (ES ref. STN067). None of these sites is located in the evaluation area.

4.1.42 At least three further potential moated sites are recorded in proximity to the evaluation area: one noted from LiDAR survey (WA 18.27) near Milburn Grange (ES ref. STN045) slightly to the south of the southern part of the evaluation area, but with possible associated earthworks extending into it; and two near Berkswell, HER ref. MSI587 is located *c* 70m north-west of the evaluation area and HER ref. MSI601 located *c* 300m north of the north-west of the evaluation area.

4.1.43 The Historic Settlement Landscape Study (1EW04-LMJ-EV- REP-N000-029001) had identified another possible moated site; two arms of a possible moat (HSLDDBA ref. id 838) were noted toward the north of the evaluation; near Moat Hall Farm (ES ref. BHA019). This site may extend into the evaluation area.

4.1.44 Water mills noted in proximity to the evaluation area may have their origins in this period. A mill is identified to the south of Cryfield Grange (HER ref. MWA2854), with a possible leat (HSLDDBA ref. id 160) apparently extending into the evaluation area. The ES notes earthworks (ES ref. STN041) to the east of Dale House Farm, including a mill race and other possible water management features which are within the evaluation area.

4.1.45 Elements of the intensive agricultural usage of the land across the evaluation area and study area remain in the form of ridge and furrow identified as earthworks and cropmarks (ES refs. STN077, STN086, STN095, BHA001, BHA009, BHA011, BHA016, BHA019, BHA043, BHA234, BHA235, BHA236, BHA239, BHA240, BHA241, BHA242, BHA243: HER refs. MWA1208, MSI875). The area surrounding Crackley Wood (ES ref. STN106), which crosses the evaluation area, shows evidence of this woodland clearance and assarting. Undated linear cropmarks, possibly remnants of medieval activity, are located within the evaluation area surrounding Crackley Wood (ES refs. STN049, STN057), and at the north-west of the south-east evaluation area (HER ref. MWA4803). The ES also notes field boundaries or route ways visible on LiDAR that possibly date to this period located within the south of the central area of the evaluation area (ES ref. STN107).

Post Medieval (AD1540 - 1901)

4.1.46 The post-medieval period saw marked changes to regional and national socio-economic conditions, leading to extensive physical changes within the post-medieval landscape of the evaluation area.

4.1.47 The post-medieval landscape in and around the evaluation area is mostly defined by large scale field enclosures and isolated agricultural farmsteads, many surviving from the medieval period; including Milburn Grange (ES ref. STN045) and Dale House Farm (ES ref. STN040), which both lie very close to the southern boundary of the evaluation area. Bockenden Grange (ES ref. STN067), South Hurst Farm (ES ref. STN063) and Beechwood Farm and barn (ES ref. BHA014) are located to the north. Similarly, Cryfield Grange Farm (ES ref. STN054) is located *c* 200m north.

4.1.48 The Historic Settlement Landscape Study (1EW04-LMJ-EV- REP-N000-029001) identifies post-medieval built heritage located close to, or within the evaluation area, such as Beanit Farm (HSLDDBA ref. id167) and Odnaull Farm (HSLDDBA ref. id 179), eight 19th century buildings and barns, mostly non-extant (HSLDDBA refs. id 159, 165, 166, 167, 242, 712, 722 and 201) and Crackley Bridge (HSLDDBA ref. id 133) on the line of the A429.

4.1.49 The disused Kenilworth and Berkswell branch railway line (HER ref. STN105) between Roughknowles Wood and Balsall Common is present within the northern part of the evaluation area. It opened in 1884 and was operated by the London and North-Western Railway until 1922, when it was taken over by the London, Midland and Scotland Railway. The line was closed to passengers in 1965 and to freight in 1969. The Coventry to Leamington Railway was also opened in 1884, and is still in use today, it crosses the south of the evaluation area.

4.1.50 The two potential medieval water mills discussed in Section 2.2.38 were in use during this period and associated features extend into the evaluation area. Extensive earthworks comprising those associated with the water mill, a ditched enclosure, ponds, field boundaries and areas of ridge and furrow have been identified around Dalehouse Farm by LiDAR analysis (WA18.22). The leat

associated with the water mill located to the south of Cryfield Grange Farm has been noted by the HSLDDBA (ref. id 160).

Modern (1901 - present)

4.1.51 The modern period is characterised by improvements to infrastructure and the growth of surrounding villages, towns and cities although the evaluation area has largely remained in agricultural use.

4.2 Previous Investigations

4.2.1 Table 1 lists the archaeological investigations that have been carried out at the site to date with the key outcomes. No site walkover inspection was carried out as part of preparing the DDBA.

Table 1: Previous investigations at the site

Description	Summary of results
LiDAR and Hyperspectral data carried out as part of the ES (CH-004-018 and CH-004-023).	The LiDAR survey which was carried out over the majority of the evaluation area from its southern extent to Crabmill Farm (CH-004-018) identified significant evidence of medieval and post-medieval settlement and land management, in the form of field boundaries (WA18.36, WA18.48, WA18.24), ridge and furrow (WA18.32, WA18.34, WA18.39, WA18.53, WA18.54), ponds (WA18.35, WA18.43, WA18.40, WA18.28), hollows (likely to either be infilled ponds or quarries (WA18.42, WA18.25), a mill (WA18.22) and a possible moat (WA18.27). The LiDAR survey which was carried out over the northern part of the evaluation area (CH-004-023) did not identify any potential archaeological features that were not known previously.
Geophysical Survey carried out as part of the ES (CH-004-018)	Two areas of geophysical survey have been carried out across the evaluation area as part of the ES. One survey area to the south of Gibbet Hill (WSI-CFA18-004) identified numerous linear anomalies with one area of ferrous responses likely to represent a dense spread of ceramic debris. The area of geophysical survey to the north of Kenilworth (WSI-CFA18-003) identified mostly linear anomalies of possible archaeological potential.
Geophysical Survey carried after the publication of the ES (C253-ATK-EV-REP-030-000581)	Geophysical survey carried to the south of South Hurst Farm (WSI-CFA18-005) covers the area of a potential DMV at Hurst. The survey identified numerous anomalies, including two sub-oval shaped features, possibly representing industrial activity. A series of curvilinear weakly positive anomalies in an approximate ring shape were classified as possible archaeology (very weak response); these could be small, discrete, cut features such as surviving sections of ditch or pits. Two weakly positive linear anomalies in an approximate L- shaped plan were also identified along with several weak linear and curvilinear trends across the survey area.

Geophysical Survey carried out as part of WP 29 Area 3: Stoneleigh Park Retaining Wall to Balsall Common (1EW04- LMJ-EV-REP-NS01-NL02-029000)	A geophysical survey was carried out in April 2018 across parts of the evaluation area not previously surveyed, with the exception of the northern part. The survey revealed no definitive archaeological features. Linear and curvilinear anomalies were identified across the evaluation area, but they are weak magnetic responses and therefore an archaeological origin is uncertain.
Geophysical Survey carried out as part of WP 29 Area 4: Balsall Common to Diddington Cutting (1EW04-LMJ-EV-REP-NS04_NL10-029001)	Geophysical survey was planned to cover the northern portion of the evaluation area as part of a wider survey to the north but was not undertaken due to access issues and/or poor ground conditions.
Trial Trenching carried out as part of the HS2 Phase One Enabling Works. Burton Green Report (1EW04-LMJ-EV-REP-NS01_NL04-022003)	A phase of trial trenching was carried out to the east of Burton Green in March 2018. The majority of the trenches were archaeologically negative, with only four archaeological remains identified. The remains consisted of a pit, a field boundary ditch, a clay extraction pit and a possible hollow-way with flanking ditches. No finds were recovered during the evaluation and so the identified features remain undated.
Trial Trenching carried out as part of the HS2 Phase One Enabling Works. Finham Brook Report (1EW04-LMJ-EV-REP-NS01_NL03-022010)	No archaeological features, other than shallow plough furrows, were present within the trial trenches at Finham Brook. During test pit sieving post- medieval/modern pottery, metalwork and glass were recovered. The pottery is of late 18th and 19th century date as is probably the one iron nail found. The glass slag is presumed to be modern as it was recovered from topsoil.
Historic Settlement Landscape Study carried out as part of the HS2 Phase One Enabling Works based upon the Detailed Desk Based Assessment for Historic Settlement Landscape Study (1EW04-LMJ-EV-REP- N000-029001)	A route-wide historic settlement study was undertaken to examine the later medieval and post-medieval settlement. The study identified several previously unknown features. The most significant of these was the two arms of a possible moat at the north of the evaluation area (HSLDDBA asset id 838). The study also identified a possible mill leat to the south of Cryfield Grange Farm just to the north of the evaluation area (id 160). The study also identified post-medieval built heritage both extant and non-extant and mostly dating to the 19th century.

5 Methodology

5.1 Introduction

5.1.1 All works will be undertaken in accordance with the detailed methods set out in this LS-WSI.

5.1.2 The evaluation will comprise the excavation, investigation and recording of 474 trenches; 50m long and 2m wide (Figures 1 and 2, Appendix 2). The targeted trenches are required to identify the presence, nature, date, extent, survival and significance of known or potential heritage assets which may be affected by the proposed scheme, in order to inform, if required, an appropriate mitigation strategy aimed at reducing or removing any adverse effects. A 4% contingency by

area will enable, if necessary, further investigation of targeted archaeology, characterisation of discoveries of previously unknown archaeology and, with the agreement of HS2, mitigation of archaeology which contributes to HERDS Specific Objectives where initial investigation has shown that it is of limited complexity and extent. All trenching will be assigned a unique ID in accordance with the Employer's Asset Information Management Systems (AIMS).

5.1.3 All works will be carried out in accordance with current industry best practice and guidance (CIfA 2014a-c) and in line with the standards set out by HS2 in the HS2 Technical Standard – Specifications for Historic Environment Investigations (HS2-HS2-EV-STD-000-000035).

5.2 Site walkover inspection

5.2.1 The site walkover inspection will comprise visual inspection, with associated notes and photography, to identify and provide further information on heritage assets that are visible above ground, as earthworks and structures. The notes will include a description of the nature of possible heritage assets identified, their dimensions and condition, and an interpretation based on background information and professional opinion. The location and extent of any assets would be sketched at an appropriate scale (eg 1:2500 scale), the location noted via a Global Positioning System (generally accurate to around 3.0-5.0m), with adequate photography (at least two images of each asset). The inspection will include general photographs across the site.

5.2.2 Site walkover inspection, where feasible will identify finds groups within ploughed fields (depending on site conditions) which in turn could inform the targeting of subsequent (contingency) trial trenching across the site. The finds would not be collected but the location may be used for targeted trenches.

5.2.3 Photograph location view directions will be annotated in the field on Ordnance Survey Master Map. This site visit 'photo map' will note:

- who has undertaken the visit and date;
- areas not accessed and why, and other limitations and constraints (eg fenced off, overgrown vegetation, light and weather conditions;
- areas of ground disturbance where archaeological survival may be compromised by visible evidence of ground reduction / terracing / quarrying, and where the ground has been likely built up in recent times (potentially burying remains);
- presence of mature hedgerows that may be protected under the Hedgerow Regulations, and mature woodland; and
- non-archaeological constraints to further investigation (eg overhead powerlines,

livestock, fly tipping, restricted site access etc.

5.3 Pre-trenching walkover

5.3.1 A pre-trenching walkover has been carried out by appropriately qualified members of the archaeological team to identify preferred compound locations, access points, the suitability of the proposed trench locations, and potential environmental and health and safety issues.

5.3.2 During further pre-trenching survey, the proposed trench locations will be verified on the ground in consultation with utilities and service plans provided by HS2. The trench locations will be subject to an initial Cable Avoidance Tool (CAT) scan carried out by a suitably qualified individual in order to verify the presence or absence of any live underground utilities or services in advance of fieldwork commencement.

5.4 Setting out of the trenches

5.4.1 The corner points of each trench will be set out to a horizontal accuracy of ±0.05m using a Real Time Kinematic (RTK) Global Navigation Satellite System (GNSS) in accordance with The Ordnance Survey National Grid and Ordnance Survey Newlyn Datum (ODN), as defined by the OS Active GNSS network and the use of a Virtual Reference System.

5.4.2 A minimum of three Permanent Ground Markers (PGM) shall be created using this system for each trench or group of geographically related trenches.

5.4.3 Surface heights shall be recorded using RTK GNSS and related to PGMs. Ordnance Survey Bench Marks (OSBM) are not to be used.

5.4.4 The location of the trial trenches appended to the Project Plan has yet to be adjusted (Figs. 1 and 2) to avoid overhead utilities (visible on Google Earth Map) and below ground utilities (maps supplied by Cadent via Linesearch) and other currently unknown services visible in geophysical survey results. However, final location of the trenches will be confirmed in consultation with the utility and service plans provided by the Contractor and HS2.

5.5 Excavation methods

5.5.1 Excavation will be undertaken using a mechanical excavator fitted with a toothless ditching bucket and under the direct supervision of a suitably qualified and experienced archaeologist.

5.5.2 Machine excavation will proceed in level spits of approximately 50 to 200mm until either the archaeological horizon or the natural geology is exposed. Where necessary, the base of the trench/surface of archaeological deposits will be cleaned by hand.

5.5.3 Machine excavation will comply with the Employer's Technical Standard - Route wide soil resources plan (HS2-HS2-EV-STD-000-000008).

5.5.4 Excavated materials will be stored in accordance with the Work Package Environmental Management Plan (1EW04-LMJ-EV-PLN-N000-000022).

5.5.5 A sample of the archaeological features and deposits identified will be hand-excavated, sufficient to address the aims of the evaluation. Spoil derived from both machine stripping and hand-excavation will be visually scanned for the purposes of finds retrieval, and where appropriate will also be metal-detected by trained archaeologists. Artefacts and other finds will be collected and bagged by context.

5.5.6 Structures, features, or finds that might reasonably be considered to merit preservation in-situ shall not be unduly damaged.

5.5.7 Where complex archaeological stratification is encountered, deposits will be left in situ and alternative measures, to be agreed with DJV, the Contractor and the Employer, will be taken to assess, as far as is practicable, their depth, recover suitable stratigraphic information, finds and environmental samples. Where modern features are seen to truncate the archaeological stratification, these may be removed, where practicable, in a manner that does not damage the surrounding deposits in order to enable the depth of stratification to be assessed.

5.5.8 If human remains are uncovered, the specific methods outlined below (section 5.9) will be followed.

5.5.9 In order to protect any waterlogged remains during the works, there may be a requirement for trial excavations to be allowed to refill with water overnight. In such cases, hazards to staff or 3rd parties will be minimised.

5.6 Recording

5.6.1 All exposed archaeological deposits and features will be recorded using a pro forma recording system.

5.6.2 A complete drawn record of excavated archaeological features and deposits will be made. This will include plans and sections, drawn to appropriate scales (generally 1:20 or 1:50 for plans, 1:10 for sections) and tied to the OS National Grid. The ODN heights of all principal features will be calculated (as defined by OSGM15 and OSTN15) and the levels added to the drawings.

5.6.3 The locations of the PGM bench markers used and any site Temporary Bench Mark (TBM) used for the evaluation shall also be indicated.

5.6.4 The stratigraphy of all trial trenches will be recorded (even where no archaeological deposits are identified), by means of a representative section for each trench.

5.6.5 A 'Harris matrix' stratification diagram shall be employed to record stratigraphic relationships (Harris et al. 1993), where appropriate. This record shall be compiled and fully checked during the course of the excavations. Spot dating, where appropriate, shall be incorporated onto this diagram during the course of excavations.

5.6.6 Recording of structural evidence revealed below ground level will vary according to the level of special interest of the structure and its relationship to archaeological remains. Structures of little or no significance shall be noted on a site plan. Detailed drawings of important features revealed in investigations may be required in accordance with the aims and objectives of the investigation as defined in the Project Plan.

5.6.7 All hand drawn information shall be digitised and final deliverables will be supplied in an Esri format and adhere to standards set out in the Cultural Heritage GIS Standard (HS2-HS2- GISPE-000-000004). Single context planning shall be used where complex stratigraphy is encountered.

5.6.8 A full photographic record will be made using digital cameras equipped with an image sensor of not less than 10 megapixels in high resolution TIFF (uncompressed) format. This will record both the detail and the general context of the principal features and the site as a whole. Digital images will be subject to managed quality control and curation processes which will embed appropriate metadata within the image and ensure long term accessibility of the image set. Photographs will also be taken of all areas, including access routes, to provide a record of conditions prior to and on completion of the evaluation.

5.7 Reinstatement

5.7.1 All trenches will be backfilled using excavated materials in reverse order from that in which they were excavated and left level on completion. The trenches shall be pumped dry, if required, following Contractor's 'permit to pump' procedure and Wessex Archaeology Environmental Policy. Any necessary protection measures for archaeological remains (in addition to those for below ground infrastructure, services or utilities) shall be completed prior to backfilling. Generally, all backfill material shall consist of non-toxic, uncontaminated, non- putrescible, natural and inert material which shall be compacted and (if necessary) tested (dynamic compaction test or other).

5.8 Finds

5.8.1 All archaeological finds from excavated contexts will be retained, although those from features of modern date (19th century or later) may be recorded on site and not retained, depending on

the site-specific objectives. Where appropriate, soil samples may be taken and sieved to aid in finds recovery. Any finds requiring conservation or specific storage conditions will be dealt with immediately in line with *First Aid for Finds* (Watkinson and Neal 1998).

5.9 Human remains

5.9.1 If unexpected human remains are identified, all work must be undertaken in accordance with the Human remains and monuments procedure (HS2-HS2-EV-PRO-0000-000008) and the Technical Standard Specification for Historic Environment Investigations (HS2-HS2-EV-STD-000-000035).

5.9.2 Wessex Archaeology will notify DJV and LM-JV immediately upon discovery of unexpected human remains. DJV shall notify HS2, so that the human remains procedures can be implemented. DJVs notification to HS2 may initially be made personally or by telephone but shall be confirmed in writing (email will suffice) within 24 hours of discovery.

5.9.3 After notification to DJV Wessex Archaeology will cease all works on unexpected human remains until further instruction is provided by DJV.

5.9.4 Wessex Archaeology will complete any exhumation of human remains in accordance with the requirements of their recognised osteoarchaeologist Jacqueline McKinley. In some circumstances DJV may consult Historic England and other stakeholders for input to exhumation and sampling strategy.

5.9.5 Human remains, once recognised, will be metal-detected immediately to determine whether any metallic grave goods are present. If possible grave goods and other obvious artefacts shall be recorded and lifted on the day of discovery to avoid the risk of vandalism and theft. Where this is not feasible or appropriate, Wessex Archaeology shall ensure, on liaison with the Contractor, that adequate site security is provided. As a minimum, this will require a 24-hour comprehensive security regime until sensitive remains have been recorded and lifted. This is a particular issue for rural sites and 'isolated burials'.

5.9.6 Human remains will be accorded due dignity, care and respect at all times. Wessex Archaeology may need to screen the remains, dependent on their location.

5.10 Treasure

5.10.1 The Contractor will be notified immediately on discovery of any material covered, or potentially covered, by the Treasure Act 1996 (as amended by The Coroners and Justice Act *2009*). All information required by the Treasure Act (ie, finder, location, material, date, associated items etc.) will be reported to the Coroner within 14 days.

5.11 Environmental sampling

5.11.1 In line with the HS2 Technical Standard Specification for Historic Environment Investigations (HS2-HS2-EV-STD-000-000035) an initial sampling strategy is set out below. This strategy is based on the existing information about the evaluation area, gathered from non-intrusive surveys and the HERDS Objectives listed in Section 3 above.

5.11.2 The sampling strategy, along with the HERDS Objectives outlined in Section 3 identify the key elements that should, where present, be sampled during this evaluation. However, the strategy will need to be reviewed throughout the on-site work, and where unexpected features or deposits are identified, revised accordingly to take these into account.

5.11.3 The purpose of sampling at the evaluation stage is to identify the range of environmental materials present, their preservation, significance and distribution.

5.11.4 The evidence from non-intrusive surveys for the evaluation area indicate a number of potential features which should be targeted through sampling. These include alluvial deposits associated with the Finham Brook and its tributaries which may contain evidence of past environments. Evidence associated with deserted medieval settlement, moated sites and land use.

5.11.5 Sampling will therefore target the following, where present, as a minimum:

- Archaeological features (buildings, ditches, pits, gullies, postholes) associated with deserted medieval villages, with potential earlier phases of activity, from different features spread across concentrated areas of settlement activity (to assess the concentration, distribution and survival palaeoenvironmental material);
- Archaeological features (buildings, moats, ditches, pits, gullies, postholes) associated a possible moated site at the north of the evaluation area, from well preserved moats and different features spread across concentrated areas of settlement activity (to assess the concentration, distribution and survival of palaeoenvironmental material);
- All samples will be screened for the presence of hammer-scale and other indicators of industrial processes, particularly in the area of possible burning. Where significant concentrations are identified, this information should be fed-back to the field team, so that where necessary, further samples can be taken to help to define any areas of metalworking, or other industrial processes;
- Floor surfaces where they survive and have not been truncated;
- Deposits representing the main phases of activity (to assess whether there are changes in rates if deposition, or material survival over time);

- Alluvial sequences from deposits adjacent to the Finham Brook and its tributaries (to assess the survival of palaeoenvironmental material).

5.11.6 Sampling will not only just target charcoal rich or wet deposits, but be undertaken on those features outlined above, taking into account advice from Wessex Archaeology's environmental archaeologist. This will ensure that samples are recovered from a representative range of contexts, which adequately characterise past activities, and allows an assessment to be made of the extent to which they help address paleoenvironmental and paleoecologic questions.

5.11.7 It is possible that unexpected deposits or features will be identified during the evaluation within the areas where non-intrusive survey has not revealed any evidence. As these are not covered in the initial sampling strategy above, the need for sampling will be assessed in terms of the specific objectives, and the sampling strategy updated and the features sampled accordingly.

5.11.8 All samples will be taken to address a specific question. The purpose of the sample, and the question it has been taken to address will be recorded on Wessex Archaeology's sample record sheet.

5.11.9 Samples will be taken using ten litre plastic buckets (with lids and handles), or strong polythene bags (double bagged) secured at the neck, for the recovery of bulk 'disturbed' environmental samples. Labelling will follow guidance set out in the Technical Standard Specification for historic environment investigations (HS2-HS2-EV-STD-000-000035).

5.11.10 For non-waterlogged deposits bulk samples will normally be taken in the range of 40-60 litres. Where contexts have a volume of less than that stated above then 100% of the context will be sampled. Each bulk sample will only contain sediment derived from a single context. Where waterlogged deposits are encountered, samples sizes will usually be in the range of 10-20 litres, which is suitable for the recovery of macrofossils from these contexts. Samples shall be protected at all times from temperatures below 5°c and above 25°c and from wetting and drying out due to weather exposure.

5.11.11 Where house floors or other buried land-surfaces are encountered and these are sampled, appropriately sized monolith or kubiena boxes will be used for the recovery of 'undisturbed' monolith samples for soil micromorphology and to sub-sample for microfossils (e.g. pollen and spores, diatoms, ostracods). Where longer sequences are sampled, contiguous column samples will be collected for the retrieval of macrofossils (e.g. molluscs, plant remains and insects). Further guidance on specialist samples is provided in the Technical Standard Specification for historic environment investigations (HS2-HS2-EV-STD-000-000035 - sections 4.21.22-26).

5.11.12 Processing of all bulk soil samples collected for biological assessment should be completed within two weeks of collection. Processing samples at the time of fieldwork will allow this

sampling strategy to be updated and refined where necessary. The preservation state, density and significance of material retrieved shall be assessed by the Wessex Archaeology's recognised specialist Ines Lopez Doriga. Special consideration shall be given to any evidence for recent changes in preservation conditions that may have been caused by alterations in the site environment.

5.11.13 Wessex Archaeology are responsible for the protection of all samples and finds and for their transport (including loading and unloading) to the processing facilities or other location as agreed with the Employer.

6 Reporting

6.1.1 Wessex Archaeology will produce an interim report, very briefly summarising findings of the evaluation, within five working days of the completion of fieldwork.

6.1.2 Wessex Archaeology will produce a fully illustrated final report for the field evaluation, within 25 working days of the completion of fieldwork, with the following structure:

- Executive Summary;
- Introduction, including site location and project background, aims, and GWSI: HERDS Specific Objectives (as identified in this Project Plan);
- Baseline summary, including topography and geology, designated assets; archaeological potential and previous work(s) relevant to the archaeology of the site (e.g. DDBA, previous surveys);
- Detailed Scope and Methodology, to include dates of fieldwork, the areas investigated at each stage and the rationale in relation to the Specific Objectives;
- Results and observations, along with the following supporting sections:
  - Trial trench report;
  - Stratigraphic report;
  - Finds report;
  - Environmental evidence report;
  - Interpretation of results against original expectations and Specific Objectives; and
  - Review of evaluation strategy (i.e. success and confidence rating).

- Conclusions
  - Statement of findings, and summary of significance; and
  - Assessment of achievement (or not) of survey objectives.
- Recommendations and research aims for further investigation (if required), publication and dissemination proposals, including archive deposition;
- References to all primary and secondary sources consulted; and
- Appendices to include illustrations, contextual summary by trench, finds reports, environmental reports, site matrices (where appropriate) and full definitions of the interpretation terms used in the report.

6.1.3 The following figures will be included in the reports:

- General Plan
- Engineering design
- Site location;
- Survey extents;
- Trial trench locations;
- Survey results to include plans and sections of archaeological features, deposits and sequences; and
- Selected photographs of representative and/or significant features and finds.

6.1.4 GIS deliverables will be provided in accordance with the Cultural Heritage GIS Specification (HS2-HS2-GI-SPR-000-000004) while all data supplied shall adhere to HS2 Ltd data standards (HS2-HS2-GI-STD-000-00007).

6.1.5 An online access to the index of archaeological investigations (OASIS) form shall be completed for each event. Electronic copies of the form will only be uploaded upon the written instruction of HS2 Ltd.

7 Archive storage and curation

7.1 Museum

7.1.1 It is recommended that the project archive resulting from the evaluation be deposited with Warwick Museum. Provision has been made for the cost of long-term storage in the post-fieldwork costs. The museum will receive notification of the project prior to fieldwork commencing, and an accession number will be obtained.

7.2 Transfer of title

7.2.1 On completion of the evaluation (or extended fieldwork programme), every effort will be made to persuade the legal owner of any finds recovered (ie, the landowner), with the exception of human remains and any objects covered by the Treasure Act 1996 (as amended by the Coroners and Justice Act 2009), to transfer their ownership to the museum in a written agreement.

7.3 Preparation of archive

7.3.1 The complete project archive, which may include paper records, graphics, artefacts, ecofacts and digital data, will be prepared following the standard conditions for the acceptance of excavated archaeological material by Warwick Museum, and in general following nationally recommended guidelines (SMA 1995; CIfA 2014c; Brown 2011; ADS 2013). The archive will usually be deposited within one year of the completion of the project, with the agreement of the Contractor.

7.4 Selection policy

7.4.1 Wessex Archaeology will follow national guidelines on selection and retention (SMA 1993; Brown 2011, section 4). In accordance with these, and any specific guidance prepared by the museum, a process of selection and retention will be followed so that only those artefacts or ecofacts that are considered to have potential for future study will be retained. The selection policy will be agreed with the museum, and fully documented in the project archive. Material not selected for retention may be used for teaching or reference collections by the museum, or by the Archaeological Contractor.

7.5 Security copy

7.5.1 In line with current best practice (eg, Brown 2011), on completion of the project a security copy of the written records will be prepared in the form of a digital PDF/A file. PDF/A is an ISO-standardised version of the Portable Document Format (PDF) designed for the digital preservation of electronic documents through omission of features ill-suited to long-term archiving.

7.6 Outreach and Social Media

7.6.1 Where possible, and in consultation with DJV, the Contractor and the Employer, Wessex Archaeology will seek opportunities to disseminate the results of the evaluation and engage with the local community through social media, press releases, open days and volunteer involvement, while taking into account issues such as Health & Safety, confidentiality and vandalism.

8 Health, Safety and Environment

8.1.1 Health and safety consideration will be of paramount importance in conducting all fieldwork. Safe working practices will override archaeological considerations at all times. Wessex Archaeology will supply trained, competent and suitably qualified staff to perform the tasks and operate the equipment used on site.

8.1.2 Wessex Archaeology will undertake the work in accordance with the health and Safety at Work Act 1974 and the Management of Health and Safety at Work Regulations 1999 as well as in accordance with the Employer's health and safety requirements and with any site-specific health and safety requirements.

8.1.3 Wessex Archaeology will be responsible for the implementation of, adherence to and reporting of health and safety during the trial trenching.

8.1.4 A draft site-specific Risk Assessment and Method Statement (RAMS) for the trial trenching has been produced and is included as Appendix 3.

8.1.5 All work on site is to be carried out in accordance with the procedures laid out in the RAMS.

8.1.6 All staff deployed onto site are to be fully inducted by the Employer and will have read and signed the RAMS before commencing work.

8.1.7 Wessex Archaeology have still to be made aware by the Contractor of any ecological constraints on the site.

8.1.8 The current land use of the site was assessed during the site walkover survey.

8.1.9 There will be no working under extant tree canopies or in the proximity of tree canopies to avoid potentially cutting through roots as this may have safety implications. There will be no tracking over areas of potential tree roots. Trenches will be micro-sited or not excavated accordingly.

8.1.10 All attempts will be made to limit damage to crops with the Employer responsible for compensation for any loss incurred.

8.1.11 The red line site boundary will be clearly marked so that staff and subcontractors can work within it. No area outside the red line boundary will be surveyed unless specifically authorised by the Employer.

9 Programme and staff

9.1.1 The proposed programme of works is set out below:

Activity	Start Date	End Date
Site walkover inspection	16th October 2018	18th October 2018
Pre-trenching walkover	16th October 2018	18th October 2018
Trenching	3rd December 2018	22nd March 2019
Post-ex analysis and Reporting	25th March 2019	TBC
Archiving	TBC	TBC

9.1.2 All staff working on the site will be appropriately qualified and approved by HS2.

9.1.3 All on site and post-excavation works will be managed by Richard O'Neill, Senior Project Manager. Site works will be conducted by Project Officer Jonathan Buttery and Site Supervisors Simon Brown and Max Higgins, who will be assisted by twelve Site Archaeologists.

10 Site specific details

10.1 Access

10.1.1 Access will be provided by HS2 and the Contractor. Landowner liaison by the Wessex Archaeology is likely to be minimal.

10.1.2 However, should negotiation and interaction with the owners of adjacent land parcels be required this will be undertaken by senior and experienced members of the Wessex Archaeology's field team, supported by senior management.

10.1.3 Communication and engagement with third parties will use the Employer's communication protocols set out in the Employer's and/or Contractor's Community Relations Strategy.

10.1.4 Wessex Archaeology have divided the trenching into 25 parcels for the purpose of access and provided the Contractor with probable access points. These access points have still to be

confirmed. It is assumed at this stage that initial access may be available via: Dalehouse Lane, Kenilworth, CV8 2JZ; off the A429 Kenilworth Road, CV8 2LG; and off Crackley Lane, CV4 7DB.

10.2 Welfare

10.2.1 It is proposed to have three or four compounds established by Wessex Archaeology with trackmatting (as required), fencing and one welfare eco unit on each compound. Provisional compound locations are proposed at Dale House Farm, Kenilworth CV8 2JZ, off the A429 Kenilworth Road CV8 2LG and next to Bockendon Grange, and off Crackley Lane, CV4 7DB. A fourth compound location has still to be determined, probably off Waste Lane.

10.3 Safety and Security

10.3.1 Vehicles will be parked in designated locations only.

10.3.2 No tools or equipment will be left on site overnight.

10.3.3 Procedures to be followed if members of the public are outlined within the RAMS (Appendix 3).

10.3.4 No lone working is permitted.

10.3.5 Overnight and weekend security patrols will be provided at the site compounds.

10.4 Accommodation

10.4.1 Where required, accommodation will be provided as close to the site as possible to reduce environmental impact and driver fatigue.

10.5 Insurance

10.5.1 Both public liability (£10,000,000) and professional indemnity insurance (£5,000,000) are held by Wessex Archaeology.

11 Quality Assurance Processes

11.1.1 Wessex Archaeology will liaise with DJV regarding the works programme and quality assurance of the archaeological works.

11.1.2 In the event of potential delays to programme, Wessex Archaeology will issue an Early Warning Notice (EWN) via CEMAR following internal approval by the Archaeological Contractor's Project Director.

11.1.3 Wessex Archaeology will have direct communication with Contractor on contractual matters and non-archaeological quality assurance; DJV will be informed of any EWNs raised in the course of the works.

11.1.4 Wessex Archaeology is an archaeological organisation registered with the CIfA. It endorses the Code of Practice and the Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology of the CIfA.

11.1.5 The works will be overseen and internally quality-assessed by the Wessex Archaeology's senior management and will be directed by the Wessex Archaeology's Project Director.

11.1.6 All parties will follow HS2 protocols for Intra- and Inter-project communication, which will consist of the following format:

- Weekly progress meetings will be held to discuss the progress of on-site works, forecasting of the works programme and to highlight any potential EWNs; and
- Matters arising from progress meetings will be discussed and meeting minutes will be forwarded to all parties (Wessex Archaeology, DJV, Contractor).

11.1.7 The following interfaces are anticipated on the basis of current information:

- The Contractor (LM-JV);
- The Archaeological Consultant (DJV);
- Third party stakeholders via DJV;
- HS2 via DJV; and
- Other contractors working on separate parts of the evaluation area.

11.1.8 Following completion of work, parts of the evaluation area will be formally signed off by DJV and HS2. Formal sign off will be through a written process utilising a fieldwork sign-off sheet submitted by the Wessex Archaeology to DJV. DJV will review and, subsequent to any required revision, will submit the sign off sheet to HS2 for final approval.

11.1.9 Wessex Archaeology will submit a draft of all reports to asite for review. DJV will provide internal feedback and may require that Wessex Archaeology amends documentation before acceptance. Wessex Archaeology will subsequently upload accepted documents to asite so that the Contractor can issue them to HS2. HS2 may provide feedback and require amendment to submitted documents before final approval.

11.1.10 Wessex Archaeology is an ISO 9001 accredited organisation (certificate number FS 606559), confirming the operation of a Quality Management System which complies with the requirements of ISO 9001:2008 – covering professional archaeological and heritage advice and services. The award of the ISO 9001 certificate, independently audited by the British Standards Institution (BSI), demonstrates Wessex Archaeology's commitment to providing quality heritage services to our clients. ISO (the International Organisation for Standardisation) is the most recognised standards body in the world, helping to drive excellence and continuous improvement within businesses.

11.1.11 Wessex Archaeology operates a computer-assisted project management system. Projects are assigned to individual project managers who are responsible for the successful completion of all aspects of the project. This includes monitoring project progress and quality; controlling the project budget from inception to completion; and all aspects of Health and Safety for the project. At all stages, the project manager will carefully assess and monitor performance of staff and adherence to objectives, timetables and budgets, while the manager's performance is monitored in turn by the team leader or regional director.

11.1.12 All work is monitored and checked whilst in progress on a regular basis by the project manager, and all reports and other documents are checked (where applicable) by the team leader/technical manager, or regional director, before being issued. A series of guideline documents or manuals form the basis for all work. The technical managers in the Graphics, Finds & Analysis, GeoServices and IT sections provide additional assistance and advice.

11.1.13 All staff are responsible for following Wessex Archaeology's quality standards but the overall adherence to and setting of these standards is the responsibility of the senior management team in consultation with the team leaders/regional directors who also ensure projects are adequately programmed and resourced within Wessex Archaeology's portfolio of project commitments.

12 Resourcing requirements and budget

12.1.1 The following resourcing requirements and costs are required to undertake the work: More detailed information has been provided in a pricing schedule.

Activity	Cost
LS WSI (WSI), Site Specific RAMS	£2,440
Site Walkovers	£2,895
Welfare units at compounds (x3) for fourteen weeks including haulage	£14,880
Track matting for compound area (x2) for fourteen weeks, 75 panels including installation, hire, dismantling	£11,000
Heras fencing and pedestrian barriers for compound areas (x3) for fourteen weeks, 18 barriers and 75 panels including delivery, hire and collection	£2,292
Site security systems for three compounds and visits over fourteen weeks	£46,200
Netlon 120 x 50 m rolls and pins	£5,000
Fieldwork - 474 No. trenches @ £950 per trench including plant, management and staff supervision	£426,600
Reporting (including weekly updates, Interim and Evaluation reports)	£49,800
Contingency fieldwork (4% Contingency of c. 145 ha - 58,058m2 - equivalent of *c*. 580 No. 50m x 2m trenches @ £900 per trench/ £9 per m2) including plant, management, and staff supervision	£522,522
Contingency reporting	TBC on fieldwork completion at framework rates
Contingency bog matting for crossing points over buried utilities (including hire/ haulage/ installation and dismantling of x 1 set of bog mats for 3 weeks, including plant and staff time)	£2,995 each

13 References and Acronyms

13.1 References

ADS 2013 Caring for Digital Data in Archaeology: a guide to good practice. Archaeology Data Service & Digital Antiquity Guides to Good Practice

Brown, D H 2011 Archaeological Archives: a guide to best practice in creation, compilation, transfer and curation (revised edition). Archaeological Archives Forum

Chartered Institute for Archaeologists (CIfA) 2014a Standard and Guidance for Archaeological Field Evaluation. Reading, CIfA

CIfA 2014b Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials. Reading, CIfA

CIfA 2014c Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives. Reading, CIfA

English Heritage 2011 Environmental Archaeology: A Guide to the Theory, Practice of Methods, from Sampling and Recovery to Post-excavation (second edition). Portsmouth, English Heritage

Historic England 2015 Management of Research Projects in the Historic Environment: the MoRPHE project managers' guide. Swindon, Historic England

McKinley, J I 2013 Cremation: excavation, analysis and interpretation of material from cremation related contexts, in S Tarlow and L Nilsson Stutz (eds) The Oxford Handbook of the Archaeology of Death and Burial. Oxford University Press 147-71

McKinley, J I and Roberts, C 1993 CIfA Technical Paper 13 Excavation and Post-Excavation Treatment of Cremated and Inhumed Human Remains

SMA 1995 Towards an Accessible Archaeological Archive. Society of Museum Archaeologists

Watkinson, D and Neal, V 1998 First Aid for Finds: practical guide for archaeologists. United Kingdom Institute for Conservation of Historic & Artistic Works

Reference	HS2 document reference no.
Garwood P 2011 Regions, cultural identity and social change, c.4500-1500 BC: the West Midlands in context in *The Undiscovered Country: The Earlier Prehistory of the West Midlands.*	na
Hurst D 2011 Middle Bronze Age to Iron Age: a research assessment overview and agenda in *The Archaeology of the West Midlands: A*	na
Hodder, M 2011 *Birmingham: The Hidden History.*	na
HS2 Technical Standard Specification for historic environment investigations	HS2-HS2-EV-STD-000-000035
HS2 Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS)	HS2-HS2-EV-STR-000-000015
HS2 Cultural Heritage GIS Specification	HS2-HS2-GI-SPE-000-000004
HS2 Geographic Information System Standards	HS2-HS2-GI-STD-000-000002
HS2 CFA18 ES Reports: Stoneleigh, Kenilworth and Burton Green	Volume 5 appendix: CH-001-018, ES 3.5.2.18.4 CH-002-018, ES 3.5.2.18.5 CH-003-018, ES 3.5.2.18.6 CH-004-018, ES 3.5.2.18.7
HS2 CFA23 ES Reports: Balsall Common and Hampton-in-Arden	Volume 5 appendix: CH-001-023, ES 3.5.2.23.4 CH-002-023, ES 3.5.2.23.5 CH-003-023, ES 3.5.2.23.6 CH-004-023, ES 3.5.2.23.7
Report: Detailed Desk Based Assessment at Crewe Farm	1D037-EDP-EV-REP-030-000032
Report: Detailed Desk Based Assessment for Hurst Relict Medieval Landscape	1D037-EDP-EV-REP-030-000038
Report: Detailed Desk Based Assessment for Balsall Common	1D037-EDP-EV-REP-N000-000002

Report: Detailed Desk-Based Assessment: Historic Settlement Landscape	1EW04-LMJ-EV-PLN-N000-029008
Geoarchaeological Desk Based Assessment (GDBA)	1D037-EDP-EV-REP-000-000031
HS2 Report for Trial Trenching at Burton Green	1EW04-LMJ-EV-REP-NS01_NL04-022003
HS2 Report for Trial Trenching at Finham Brook	1EW04-LMJ-EV-REP-NS01_NL03-022010
Victoria County History (VCH) 1945 'The hundreds of Warwickshire', in *A History of the County of Warwick: Volume 3, Barlichway Hundred*, ed. Philip Styles (London, 1945), pp. 1-4. *British History Online* http://www.british-history.ac.uk/vch/warks/vol3/pp1-4 [accessed 28 June 2018].	na
Geophysical Survey Results, Warwickshire	C253-ATK-EV-REP-030-000581

13.2 Acronyms

Acronym	Title
CIfA	Chartered Institute for Archaeologists
EH	English Heritage (now Historic England)
ES	Environmental Statement
GIS	Geographic Information System
GPS	Global Positioning System
HE	Historic England (formerly English Heritage)
HER	Historic Environment Record
HS2	High Speed 2
LPA	Local Planning Authority
OASIS	Online Access to the Index of Archaeological Investigations
RTK	Real Time Kinematic
WSI	Written Scheme of Investigation

Appendix 1: Project Plan

WP 029(8) Historic Environment Works —Kenilworth to 8alsall Common —Enabling Works North Contract

Project Plan for Trial Trenching

Document Number: 1EW04-LMJ-EV-PLN-NS01_NL03-029004

Revision	Author	Checked by	Approved by	Date	Reason for revision
C01	Molly Clyne DJV and Jesse Johnson DJV	Klara Spandl DJV	Alastair Hancock DJV	27/09/2018	Issued for acceptance
C02	Jon Appleby DJV	Glenn Rose DJV	Alastair Hancock DJV	19/11/2018	Issued for acceptance

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1 Executive Summary

1.1.1 This High Speed 2 (HS2) North Section Phase One 'Project Plan' (PP) details the proposed methodology and approach for a programme of evaluation trial trenching between Kenilworth and Balsall Common in Warwickshire and the West Midlands. The trenched area, or "evaluation area", is located between Dalehouse Lane (HS2 Chainage 141270) in the south and Lavender Hall Lane (HS2 Chainage 1499 0) in the north.

1.1.2 The evaluation area is *c* 8.7km long, covers approximately 145ha and is dictated by the construction land requirements for the enabling works and subsequent main works for HS2 Phase One and by accessible areas of open land. The enabling and main works will entail ground disturbance which may have an impact on the historic environment (i.e. known or possible buried heritage assets/archaeological remains and above ground heritage assets/structures of historic interest) within the evaluation area. Certain extents of the land required for construction will not be subject to ground disturbance and therefore have not been included within the "evaluation area".

1.1.3 Trial trenching is required to identify the presence, nature, date, extent, survival and significance of below ground heritage assets which may be affected by the enabling and main works. The evaluation will inform, if required, mitigation strategies aimed at reducing or removing adverse effects of the scheme.

1.1.4 Works within this Project Plan are permitted by the High Speed Rail (London-West Midlands) Act (the Act), which provides powers for the construction and operation of HS2 Phase One, and the Heritage Memorandum, which sets out how historic environment (including heritage assets and their setting) will be addressed during the design and construction of HS2 Phase One.

1.1.5 The Project Plan uses results of previous investigations, including the HERDS Resource Assessment, to define the trial trenching strategy and, where appropriate, the targeting of trial trenches. The previous investigations include:

- research carried out as part of the 2013 Phase One Environmental Statement (ES), including hyperspectral and LiDAR survey, subsequent widespread geophysical survey,
- a Detailed Desk Based Assessment (DDBA) covering the Relict Medieval Landscape of Hurst (1D037-EDP-EV-REP-030-000038) for a small portion of the southern part of the evaluation area, and a DDBA covering Crewe Farm (1D037-EDP-EV-REP-030-000032) also at the southern end of the evaluation area.
- studies completed by Design Joint Venture (DJV) during EWC North, such as trial trenching under Work Package (WP) 22 at Burton Green (1EW04-LMJ-EV-REP-

NS01_NL04-022003) in the centre of the evaluation area and at Finham Brook (1EW04-LMJ-EV-REP-NS01_NL03-022010) in the southern-most part of the evaluation area.

- The Historic Settlement Landscape Study (1EW04-LMJ-EV-REP-N000-029001), Heritage Asset Density Mapping and the Geoarchaeological Desk Based Assessment (GDBA: 1D037-EDP-EV-REP-000-000031) were also consulted.

1.1. The current baseline evidence suggests moderate potential for Palaeolithic, Mesolithic, Neolithic and Bronze Age activity, especially at the south of the evaluation area in proximity to Finham Brook and Crackley Wood. The potential for Bronze Age and Neolithic remains may be enhanced by the evaluation area's close proximity to the Avon valley where a number of known sites are located. The majority of evidence for the earlier prehistoric periods within, or close to the evaluation area consists of finds of worked stone tools. Potential for the discovery of Iron Age and Romano-British remains is uncertain; settlement remains dating to the Iron Age or Romano-British period have not previously been discovered within the evaluation area, but Iron Age coin scatters are recorded in the area surrounding Crackley Wood and there is considerable evidence for Romano-British occupation c1km to the south-near Crewe Farm. Current evidence suggests that the potential for early medieval remains is limited. The highest potential identified by baseline research relates to medieval and post-medieval settlement, agriculture and small-scale industry.

1.1.7 The purpose of this Project Plan is to:

- outline the scope and aims of archaeological field evaluation and how this will contribute to specific research objectives, in accordance with the Generic Written Scheme of Investigation Historic Environment Research and Delivery Strategy (GWSI: HERDS);
- outline the approach and methodology to be employed during the evaluation. A detailed methodology will be covered in the Location Specific Written Scheme of Investigation (LS-WSI); and
- set out the proposed deliverables and reporting mechanisms.

1.1.8 The baseline information shows that the trial trenching will contribute to GWSI: HERDS Specific Objectives addressing Palaeolithic to post-medieval activity, settlement and landscape. The trenching also has the potential to reveal unknown archaeological features and may therefore contribute to other GWSI: HERDS Specific Objectives, in particular those examining the prehistoric and early medieval periods. The GWSI: HERDS Specific Objectives guiding the project plan are listed below:

- KC2: Explore the location of Palaeolithic deposits, reconstruct past environments and investigate the relationship between climate variation and phases of hominin activity;

- KC5: Identifying settlement location and developing models for settlement patterns for the Mesolithic, Neolithic and Early Bronze Age;
- KC9: Does a lack of visibility of Neolithic and Bronze Age monuments reflect genuine area distinctiveness, or is this due to variation in geology or investigative techniques?;
- KC15: Can we identify regional patterns in the form and location of Late Bronze Age and Iron Age settlements across the route, and are there associated differences in landscape organisation and enclosure?;
- KC1 : Investigate the degree of continuity that existed between Late Bronze Age and Iron Age communities in terms of population, mobility and subsistence strategies;
- KC21: Assess the evidence for regional and cultural distinctiveness along the length of the route in the Romano-British period, with particular regard to the different settlement types encountered along the route;
- KC23: Identify evidence for late Roman occupation and attempt to identify any continuity in settlement patterns between the end of the Romano-British period and the Early Medieval period;
- KC30: Identify the location and form of Early and Middle Saxon settlement and investigate evidence for land use in the period;
- KC31: Identify the location of Middle to Late Saxon settlement, explore processes of settlement nucleation and understand the development of associated field types and agricultural regimes;
- KC33: Investigate the development of water mills from the Anglo-Saxon through to the modern period. How did the technology of milling change, and what implications has this for farming practice?
- KC34: Undertake research and investigation into Medieval manorial complexes. What was their origin, development and impact on the landscape?
- KC35: Investigate the impacts on rural communities of social and economic shocks in the mid-14th century and thereafter, and their contribution to settlement desertion;
- KC40: Identify patterns of change within Medieval rural settlement from the 11th to mid-14th century;
- KC43: Investigate the link between the development of the railways and broader changes in the historic landscape, such as urban settlement expansion and the decline of the canal network; and
- KC52: Understanding the pattern, form and function of post-Medieval rural vernacular

architecture: can we identify regional, intra-regional or temporal variations?

2 Location / Site Background

2.1 Baseline

2.1.1 This Project Plan has been prepared in accordance with guidelines set out in *HS2 Technical Standard Specification for historic environment project plans and location specific written schemes of investigation* (HS2-HS2-EV-STD-000-000036).

2.1.2 The southern half of evaluation area is located in the Warwick District of Warwickshire and the northern half is located in the Solihull District of the West Midlands. It runs for c8.5km between Dalehouse Lane (HS2 Chainage 141270) in the south and Lavender Hall Lane (HS2 Chainage 149960) in the north. The closest conurbation is the town of Kenilworth, which is situated 400m to the south-west at the southern end.

2.1.3 The evaluation area is approximately centred on National Grid Reference (NGR) 4 275302 and includes approximately 145ha of land which broadly comprises mostly pasture fields, subdivided by hedgerows and small areas of woodland. Kenilworth lies south west of the southern part of the evaluation area, the centre crosses part of the village of Burton Green and Balsall Common lies to the south west of the northern part of the evaluation area. It is located within the Community Forum Area (CFA) 18: Stoneleigh, Kenilworth and Burton Green and CFA23: Balsall Common and Hampton in Arden. The boundary lies to the north of Waste Lane at Chainage 147600.

2.1.4 The evaluation area will be subject to enabling works and subsequent main works as part of Phase One of HS2, and includes the following Construction Land Requirement (CLR) parcels; CR02025, CR02027, CR02028, CR02030, CR02116, CR02210, CR02213, CR02214, CR02220, CR02284, CR02503, CR02525, CR02534, CR02540, CR02547, CR02574, CR02696, CR02699, CR02715, CR02720, CR02733, CR02738, CR02739, CR02744, CR02745, CR02746, CR02748, CR02755, CR02761, CR02762, CR02763, CR02879, CR02881, CR02882, CR02956, CR02965. The work will entail ground disturbance which would potentially have an impact on archaeological remains that may be present.

2.1.5 Most of the southern part of the evaluation area is located across the Ar Character Area (ACA004), except the southern tip which falls within the (ACA003). The northern part of the evaluation area, between Waste Lar Lane, is located across the Wider Berkswell Estate Archaeological Chara The ACAs were split further within the ES into Archaeological Characte Zones these areas the evaluation area is located within the following

- CFA18-12 Finham Brook north-west slope: Gentle slopes towards th with well-drained soils which have archaeological potential for pre-Medi

- CFA18-13 Finham Brook floodplain: flat agricultural land with underlying alluvium deposited over many episodes of localised flooding which may seal archaeology;
- CFA18-10 North-west Avon slopes: The south-eastern end of the evaluation area extends over the Avon valley side;
- CFA18-15 Finham Brook (west): Gently sloping agricultural land towards the brook valley with well-drained soils which have archaeological potential for pre-Medieval settlement;
- CFA18-1 Finham Brook (north-east): Gently sloping agricultural land towards the brook valley with well-drained soils which have archaeological potential for pre-Medieval settlement;
- CFA18-17 Finham Brook (north-west): Gently sloping agricultural land towards the brook valley with well-drained soils which have archaeological potential for pre-Medieval settlement;
- CFA18-18 West of Finham Brook Valley: Gently rising agricultural hills across which a number of surviving Medieval ridge and furrow systems of earthworks;
- CFA18-19 Burton Green (north west): Largely flat open agricultural fields containing known Medieval settlement activity;
- CFA23-01 Land west of Hodgett's Lane: Slight valley slope across agricultural land and known historic settlement;
- CFA23-02 Beechwood Farm: High agricultural land sloping slightly from south to north;
- CFA23-03 Transport networks: Covering the disused railway line and the existing railway line;
- CFA23-04 Moat at Moat House Farm: Possible associated settlement evidence to be found in close proximity. Flat, high agricultural land;
- CFA23-05 Ridge and furrow around Barratts Lane Farm: High agricultural land;
- CFA23-0 Berkswell House: Grounds of the house sloping east to west. These remain intact today and may preserve Medieval agricultural features;
- CFA23-07 Land east of Baulk Lane: Sloping river valley in use as agricultural land, known areas of ridge and furrow with potential for further remains;
- CFA23-08 Land around Berkswell Station: Relatively flat land containing a recreational fishing lake. Archaeological deposits will have been removed by the creation of the fishing lakes and the train tracks;

- CFA23-10 River terrace deposits and ridge and furrow near Lavender Hall: agricultural land sloping towards Bayleys Brook;
- CFA23-11 Ridge and furrow and moated site at Ram Hall: modern agricultural land use;
- CFA23-13 Glacio-fluvial deposits west of Park Lane: gently sloping agricultural land from north to south; and
- CFA23-14 Parkland at Berkswell: agricultural land and woodland sloping from south to north, with possibility of preserved deposits.

2.1.6 The archaeological works detailed in this project plan comprise 'Trial Trenching', which is intended to identify, investigate and record known archaeological remains, and where present, unknown archaeological remains. This will clarify their nature, date, significance and the contribution they can make to HERDS Specific Objectives.

2.1.7 A project plan for sample archaeological test pitting is currently being prepared to assess the presence of prehistoric or early medieval artefacts within the ploughsoil. The test pitting will examine select areas located within the Archaeological Character Sub-Zones for the presence of prehistoric and early medieval evidence, which is often difficult to define with trial trenching. The ploughsoil assemblages will be used to examine varying levels of activity by period in the landscape as part of a route wide study.

2.1.8 Table 1 lists the archaeological investigations that have been carried out within the evaluation area to date, with the key outcomes.

Table 1: Previous investigations at the evaluation area

Description	Summary of results
LiDAR and Hyperspectral data carried out as part of the ES (CH-004-018 and CH-004-023).	The LiDAR survey which was carried out over the majority of the evaluation area from its southern extent to Crabmill Farm (CH-004-018) identified significant evidence of medieval and post-medieval settlement and land management, in the form of field boundaries (WA18.36, WA18.48, WA18.24), ridge and furrow (WA18.32, WA18.34, WA18.39, WA18.53, WA18.54), ponds (WA18.35, WA18.43, WA18.40, WA18.28), hollows (likely to either be infilled ponds or quarries (WA18.42, WA18.25), a mill (WA18.22) and a possible moat (WA18.27). The LiDAR survey which was carried out over the northern part of the evaluation area (CH-004-023) did not identify any potential archaeological features that were not known previously.
Geophysical Survey carried out as part of the ES (CH-004-018)	Two areas of geophysical survey have been carried out across the evaluation area as part of the ES. One survey area to the south of Gibbet Hill (WSI-CFA18-004) identified numerous linear anomalies with one area of ferrous responses likely to represent a dense spread of ceramic debris. The area of geophysical survey to the north of Kenilworth (WSI-CFA18-003) identified mostly linear anomalies of possible archaeological potential.
Geophysical Survey carried after the publication of the ES	Geophysical survey carried to the south of South Hurst Farm (WSI-CFA18-005) covers the area of a potential DMV at Hurst. The survey identified numerous anomalies, including two

Description	Summary of results
((253-ATK-EV-REP-030-000581)	sub-oval shaped features, possibly representing industrial activity. A series of curvilinear weakly positive anomalies in an approximate ring shape were classified as possible archaeology (very weak response); these could be small, discrete, cut features such as surviving sections of ditch or pits. Two weakly positive linear anomalies in an approximate L-shaped plan were also identified along with several weak linear and curvilinear trends across the survey area.
Geophysical Survey carried out as part of WP 29 Area 3: Stoneleigh Park Retaining Wall to Balsall Common (1EW04-LMJ-EV-REP-NS01-NL02-029001)	A geophysical survey was carried out in April 2018 across parts of the evaluation area not previously surveyed, with the exception of the northern part. The survey revealed no definitive archaeological features. Linear and curvilinear anomalies were identified across the evaluation area, but they are weak magnetic responses and therefore an archaeological origin is uncertain.
Geophysical Survey carried out as part of WP 29 Area 4: Balsall Common to Diddington Cutting (1EW04-LMJ-EV-REP-NS04_NL10-029001)	Geophysical survey was planned to cover the northern portion of the evaluation area as part of a wider survey to the north but was not undertaken due to access issues and/or poor ground conditions.
Trial Trenching carried out as part of the HS2 Phase One Enabling Works. Burton Green Report (1EW04-LMJ-EV-REP-NS01_NL04-022003)	A phase of trial trenching was carried out to the east of Burton Green in March 2018. The majority of the trenches were archaeologically negative, with only four archaeological remains identified. The remains consisted of a pit, a field boundary ditch, a clay extraction pit and a possible hollow-way with flanking ditches. No finds were recovered during the evaluation and so the identified features remain undated.
Trial Trenching carried out as part of the HS2 Phase One Enabling Works. Finham Brook Report (1EW04-LMJ-EV-REP-NS01_NL03-022010)	No archaeological features, other than shallow plough furrows, were present within the trial trenches at Finham Brook. During test pit sieving post-medieval/modern pottery, metalwork and glass were recovered. The pottery is of late 18th and 19th century date as is probably the one iron nail found. The glass slag is presumed to be modern as it was recovered from topsoil.
Historic Settlement Landscape Study carried out as part of the HS2 Phase One Enabling Works based upon the Detailed Desk Based Assessment for Historic Settlement Landscape Study (1EW04-LMJ-EV-REP-N000-029001)	A route-wide historic settlement study was undertaken to examine the later medieval and post-medieval settlement. The study identified several previously unknown features. The most significant of these was the two arms of a possible moat at the north of the evaluation area (HSLDDBA asset id 838). The study also identified a possible mill leat to the south of Cryfield Grange Farm just to the north of the evaluation area (id 1 0). The study also identified post-medieval built heritage both extant and non-extant and mostly dating to the 19th century.

2.2 Site Conditions

Topography and geology

2.2.1 The evaluation area overlies a hilly landscape which generally fluctuates between 95m OD and 110m OD, with a maximum elevation of *c* 130m Ordnance Datum (OD) to the west of

Broadwells Wood. The lowest points are at Finham Brook, which borders the south of the evaluation area, and its tributaries within the centre and south of the evaluation area, lying at an approximate elevation of between c65.0m OD and c75m OD respectively

2.2.2 According to British Geological Survey (BGS) online mapping data the underlying solid geology largely comprises Kenilworth Sandstone Formation, Tile Hill Mudstone and Marl and Mercia Mudstone. There is a small band of Kenilworth Sandstone Formation in the north-west and a small band of Gibbet Hill Conglomerate in the south-east. Superficial deposits of Alluvium are recorded in the south of the evaluation area associated with Finham Brook and in the north of the evaluation area associated with a tributary of the River Blythe. The site is located approximately 1.5km north of the River Avon of which the Finham Brook is a tributary. A large area of Till is recorded in the centre and north of the evaluation area.

Summary of archaeological potential and significance

2.2.3 The evaluation area does not contain any nationally designated (protected) heritage assets, such as World Heritage Sites, Scheduled Monuments, Listed Buildings or Registered Parks and Gardens. The closest Conservation Area is situated on the outskirts of Coventry, *c* 30m to the north-east of the evaluation area at Gibbet Hill, defined in the Coventry Development Plan 2001.

2.2.4 The closest nationally designated heritage asset lies just to the south of the evaluation area at its northern end; this is the Grade II Listed Barn at Lavender Hall Farm (National Heritage List/NHL Ref: 1054821), which lies to the north of the Grade II* Lavender Hall Farmhouse (NHL Ref. 1075943).

2.2.5 Other Listed Buildings in close proximity to the evaluation area include the Grade II Listed Building Dale House Farmhouse (NHL Ref: 1325994), which lies c30m to the south east of the evaluation area; and the Grade II Listed Building, Crabmill Farmhouse (NHL Ref. 1343223), which lies *c* 45m to the north of the evaluation area.

2.2.6 The ES and HER identified 46 non-designated heritage assets within, or close to the evaluation area, (the possible extent of these assets as mapped by the ES and HER is shown on Figure 2 and Figure 3). The assets within the evaluation area are listed in Appendix B. Assets of particular significance comprise, from south to north

- ES ref. STN041: Earthworks to south of Dalehouse Farm, including identified on LiDAR at WA18.22;
- ES ref. STN047: Milburn Deserted Medieval Settlement;
- ES ref. STN057 Cropmarks adjacent to Crackley Woods within an ar
- HER ref. MWA8354: Find spot- Mesolithic Flint;

- HER ref. MWA8358: Find spot – Mesolithic flint scatter;
- ES ref. STN055: Cryfield Grange Deserted Medieval Settlement;
- HER ref. MWA2854: Site of a watermill south-west of Cryfield Grange;
- ES ref. STN062: Hurst Deserted Medieval Settlement;
- ES ref. STN106: A scatter of Iron Age coins known as staters within and in the vicinity of Crackley Wood
- ES ref. STN066: Moated site at Bockenden Grange;
- ES ref. BHA016: Medieval fields and eroded ridge and furrow south of Truggist Lane;
- ES ref. BHA019: Medieval fields around Moat House Farm;
- ES ref. BHA043: Medieval fields and ridge and furrow around Ram Hall and Lavender Hall; and
- ES ref. BHA063: Medieval deer park and park pale of the Berkswell Estate.

2.2.7 The Historic Settlement Landscape Study (HSLDDBA: 1EW04-LMJ-EV- REP-N000-029001) identified a number of additional sites within the evaluation area. These are plotted on Figures 5-11 and include:

- Eight 19th-century buildings and barns, mostly non-extant (id 159, 165, 166, 167, 242, 712, 722 and 201);
- A possible moat – 2 arms seen in Berkswell parish (id 838);
- Little Beanit Farm – complex of extant and non-extant buildings (id167); and
- Odnaull End Farm – extant buildings (id 179).

2.2.8 Archaeological investigations unassociated with HS2 are recorded within the southern section of the evaluation area near Cryfield Grange, comprising a programme of fieldwalking completed for the University of Warwick at three areas (EWA2769, EWA2774 and EWA2768). Mesolithic, possible Neolithic and Bronze Age worked flint was recovered.

2.2.9 There are 48 archaeological investigations within the wider landscape, shown on Figure 4. The most significant of the previous HER investigations within 500m of the evaluation area comprise.

- EWA7817: Crackley Wood, adjacent to the south of the evaluation area. This event is listed in the HER as an unspecified study of medieval documentary sources, noting the mention of a woodland with possible earthwork banks and ditches dating to this period;

- ESI 7 : Archaeological Observation recorded three sections across the moat at Moat Farmhouse, Truggist Lane, Berkswell, 0.3km north of the evaluation area. Post medieval pottery was recovered from the fill of the moat;
- ESI 53: West Midlands Moated Sites Survey: Interim Report, 0.3km north of the evaluation area;
- EWA27 7, MWA8353: Fieldwalking completed for University of Warwick (Field D4), recovered Neolithic to Bronze Age lithics 50m north of the evaluation area near Cryfield Grange;
- EWA2770: Fieldwalking completed for University of Warwick (Field D3), recovered Neolithic to Bronze Age lithics 100m north of the evaluation area near Cryfield Grange; and
- MWA8359: Fieldwalking completed for University of Warwick (Field D4), recovered Neolithic to Bronze Age lithics 50m north of the evaluation area near Cryfield Grange.

2.2.10 The following sections summarise the archaeological and heritage potential of the evaluation area by period.

Palaeolithic (500,000 " 10,000BC)

2.2.11 The Lower and Middle Palaeolithic of the West Midlands is poorly understood. However, the West Midlands is identified (Garwood 2011) as being of particular importance for research into the earlier parts of the Palaeolithic, as it is geographically positioned at the northern extreme of global Lower Palaeolithic occupation. A number of worked stone artefacts of the Lower and Middle Palaeolithic periods have been recovered to the south of the evaluation area along the Avon Valley.

2.2.12 The River Avon is located c1.4km to the south of the evaluation area, it and its tributaries are thought to have been part of the river system associated with the ancient River Bytham, which is believed to have crossed the HS2 route c.5km to the south of the evaluation area near Cubbington. The Bytham Valley may have been one of the main entry point for early hominins into this area.

2.2.13 The south of the evaluation area is located c.4km to the north-west of Waverley Wood Farm Pit (OFC041), a Lower Palaeolithic site dated to MIS 13, *c.*500 Ka, of national, or perhaps international significance. Worked stone artefacts, including handaxes, the remains of a straight-tusked elephant and other faunal remains were discovered within organic palaeochannel deposits believed to have been associated with the River Bytham.

2.2.14 The superficial geology of the southern part of the evaluation area is largely unmapped, but a small area of river terrace deposits is identified at the south near the Finham Brook and could contain eroded and redeposited archaeology from Lower and Middle Palaeolithic contexts.

2.2.15 The latter part of the Palaeolithic period may be represented by 3 worked flints of possible Late Upper Palaeolithic/Early Mesolithic date (HER ref. MWA8359), which were recovered during fieldwalking to the south east of Roughknowles Wood, at a field situated close to a tributary of Finham Brook and *c* 50m north of the evaluation area.. The DDBA for Hurst (1D037-EDP-EV-REP-030-000038) has suggested that if subject to formal analysis, these may represent evidence for Upper Palaeolithic occupation.

2.2.1 The highest potential for discovery of evidence of this period may be at the south of the evaluation area in proximity to the Finham Brook and its tributaries.

Mesolithic (8,500 – 4,000BC)

2.2.17 Mesolithic finds densities are relatively low in the region when compared to other parts of Britain, although more have been recorded in Warwickshire than in most other parts of the West Midlands. The discovery and excavation of Mesolithic sites is extremely rare and few have produced evidence for features or possible structures.

2.2.18 Activity appears to be focused on well-drained elevated sites close to water sources, although this distribution may be biased by fieldwalking projects concentrated at such areas. Alluvial deposition may have hidden many sites located in river valleys, and finds are recorded on clay soils in other parts of Britain, therefore Mesolithic activity may be far more widespread than previously assumed.

2.2.19 A number of archaeological investigations have been completed for the University of Warwick within, and in proximity to the southern section of the evaluation area. Fieldwalking within the evaluation area has identified 19 Mesolithic flints (HER ref. MWA8354) at a field situated to the south of a tributary of the Finham Brook, and 3 Mesolithic flints (HER ref. MWA8358) between Crackley Wood and Roughknowles Wood. To the north of the evaluation area 3 flints of Late Palaeolithic/Early Mesolithic date have been recovered to the south east of Roughknowles Wood (HER ref. MWA8359) and around Cryfield House (STNo 1) archaeological fieldwalking identified 54 worked flints of Mesolithic and Neolithic date (HER ref. MWA834), and archaeological evaluation identified worked flints and undated possible postholes (HER ref. MWA8208), suggesting settlement activity dating from the Mesolithic or Early Neolithic periods.

2.2.20 Elsewhere, a perforated stone disc of possible Mesolithic date (HER ref. MWA2881) is recorded east of Crackley Wood; and a single Mesolithic flint (HER ref. MWA8275) is recorded c100m north-east of the southern end of the evaluation area.

2.2.21 The highest potential for discovery of evidence of this period may be toward the south of the evaluation area in proximity to the Finham Brook and its tributaries.

Neolithic (4,000 " 2,400BC)

2.2.22 Significant concentrations of Early, Middle and Late Neolithic activity appear to be focussed around the margins of the region at the Avon valley (ES) and at the Trent - Tame confluence (DDBA for Balsall Common: 1D037-EDP-EV-REP-N000-000002), where funerary and ceremonial landscapes may be present. The majority of known intra-regional evidence usually comprises small numbers of pits backfilled with "special" deposits, and scatters of worked flint, which may represent widespread occupation of low intensity (ES: CH-001-018). A small number of Neolithic features, perhaps including a concentric ring of posts, and worked flints have been identified c3km north of the evaluation area at Meriden Quarry (HERDS Resource Assessment: Section 11.3.19).

2.2.23 Pollen analysis across the region has suggested that forest clearance began during the third millennium BC. The settlement pattern/economy during the early part of the period may have seen transient, with limited agricultural activity and maintenance of elements of hunter-gatherer activity. The ES suggests that the Mesolithic/Early Neolithic transition may have occurred later in the West Midlands than at areas further to the south.

2.2.24 The DDBA for Hurst (1D037-EDP-EV-REP-030-000038) identified possible evidence for Neolithic activity close to the southern end of the evaluation area. Potential Neolithic worked flint and undated post holes have been discovered during archaeological investigations (see section 2.2.20) c500m north near Cryfield House (ES ref. STN0 1), perhaps identifying extremely rare settlement activity of the period. Elsewhere, Late Neolithic/early Bronze Age flint scatters (HER ref. MWA8353) are recorded c300m north near Cryfield Grange (ES ref. STN054), and c100m south near Burton Green (HER ref. MWA3250).

Bronze Age (2,400 " 700BC)

2.2.25 The central West Midlands has a significant gap in evidence dating to this period (HERDS Resource Assessment: Section 11.3.3) with known activity and monuments concentrated around the fringes of the West Midlands. Settlement evidence is sparse, suggesting mobile communities, and lithic assemblages are often not closely datable (HERDS Resource Assessment: Section 11.3.12)).

2.2.2 Woodland clearance may have been gradual during early part of the Bronze Age and it has been suggested that the major river valleys such as the Trent, did not witness large-scale clearance until the mid-second millennium BC (HERDS Resource Assessment: Section 11.3.9). Subsequent agricultural exploitation of cleared land during the latter part of the Bronze Age appears to have led to the development of the extensive heathland which dominated much of Warwickshire up to the 18th century (ES: Section 3.2.7).

2.2.27 Settlement sites dating to the Middle and Later Bronze Age are rarely recorded in the West Midlands but when found have been extensive and unenclosed. Burial mounds (barrows) are more numerous and number around 900 if crop mark ring ditches, comprising around half of

the identified sites, are included, but known distribution is clustered around the fringes of the region with concentrations on the Warwickshire Avon; near Wolvey in north-east Warwickshire; and at the Trent-Tame confluence in Staffordshire (HERDS Resource Assessment: Section 11.3.12). The south of the evaluation area is close to the Avon valley, where ring ditches and round barrows are fairly common, but the concentration here is by no means as prominent as noted in other areas such as south-west Shropshire or north-east Staffordshire. Burnt mounds are a more common feature of the region (Hurst 2011), and are usually discovered in proximity to watercourses, as has been noted in Birmingham (Hodder 2011). Areas in proximity to the watercourses crossing the evaluation area have high potential to reveal similar sites.

2.2.28 The DDBA of Hurst (1D037-EDP-EV-REP-030-000038) noted a flint scatter dating between the Mesolithic to Bronze Age periods (HER ref. MWA8353) near Roughknowles Wood and undated cropmarks (ES ref. STNo 8) adjacent to the centre of the evaluation area at Black Waste Wood which may represent Bronze Age activity. The ES notes a looped Palstave axe *c* 50m to the east of the southern part of the evaluation area, in close proximity to a tributary of Finham Brook (HER ref. MSI502). The HER identifies a number of lithic assemblages toward the south of the evaluation area near the tributary of the Finham Brook, which may represent Bronze Age activity: (HER ref. MWA3249, MWA4407, MWA2881 and MWA3250).

Iron Age (700BC " 43AD)

2.2.29 In the Iron Age, settlement evidence in the region becomes more visible with enclosures identified from aerial photographs a particularly common feature. These enclosures often encompass round houses. The settlements appear to be fairly short-lived. Farming increased at this time with some extensive field systems recorded.

2.2.30 The ES and the DDBA for Crewe Farm (1D037-EDP-EV-REP-030-000032) note a scatter of Iron Age coins known as staters (ES ref. STN052) within and in the immediate vicinity of Crackley Wood, toward the south of the evaluation area. Although this is only a scatter of material, and not from a sealed context or feature, it suggests potential for Iron Age activity within the evaluation area. A single Iron Age gold coin (HER ref. MST 922) was identified by metal detectorists *c* 290m north of the central part of the evaluation area, to the immediate north-east of South Hurst Farm.

2.2.31 Cropmarks (ES ref. STNo 8) located just outside the centre of the evaluation area at Black Waste Wood, could date to earlier periods (see Section 2.2.29), but may date to this period.

Romano-British (AD43 " 410)

2.2.32 There is considerable evidence of Romano-British activity to the south of the evaluation area. A Romano-British settlement has been identified at Crewe Farm (ES ref. STN031) c 800m south of the evaluation area near Kenilworth Golf Course and evidence for a Roman building (ES ref. STN037) has also been identified within Kenilworth Golf Course itself. The Crewe Farm

settlement is believed to be associated with the remains of a scheduled Romano-British settlement (STN034), perhaps a villa estate, recorded c.300m south west of Crewe Farm at Glasshouse Wood.

2.2.33 The ES noted no evidence of Romano-British activity within the evaluation area. However, the DDBA of Hurst (1D037-EDP-EV-REP-030-000038) records the chance find of 40 Roman coins. A brooch identified by metal detectorists (HER ref. MWA2882), has also been found directly on the line of the HS2 route north of Crackley.

2.2.34 Excavations near Cryfield House (ES ref. STNo 1), c 500m north of the evaluation area, recovered several mosaic fragments and sherds of Roman pottery, including fragments of mortaria. Additional Roman finds have been recovered from Hurst Farm, c 300m north-east of the centre of the evaluation area, including coins, pottery and a brooch (HER ref. MWA 923). EWC North Trial Trenching at Finham Brook (1EW04-LMJ-EV-REP-NS01_NL03-022010), immediately to the south of the evaluation area did not recover any evidence of this date.

Early Medieval I Anglo-Saxon (AD410 " 1066)

2.2.35 Archaeological evidence for early medieval settlement in the region is extremely limited. The ceramic record is sparse as pottery largely disappears from the archaeological record, only re-appearing in the mid Anglo-Saxon period. What does appear to be the case however is that the scattered settlement characteristic of the later prehistoric and Roman periods continues with nucleation into the villages occurring during the latter part of the period, possibly under royal or ecclesiastical influences.

2.2.3 Within and around the evaluation area early medieval settlement is demonstrated by place- name evidence. Balsall means 'Baell(i)'s nook of land/small valley'; Berkswell means 'Be(o)rcol's spring/stream and Barston means 'Beorhtstan's farm/settlement'. During this period, Berkswell, c.700m to the north of the evaluation area, is believed to have been a centre of religious activity. This is suggested by the survival of a spring-fed ashlar-lined basin/tank (ES ref. BHA94) located below the early medieval church.

2.2.37 The DDBAs for Crewe Farm (1D037-EDP-EV-REP-030-000032) and Hurst (1D037-EDP-EV-REP-030-000038) also identify place-name evidence for early medieval occupation within or near to the evaluation area. The DMV at Hurst (ES ref. STNo 2) takes its name from the Old English word for a wooded hill, and Crackley takes its suffix "-leah" from the Old English meaning a forest, wood, or clearing in a wood.

Medieval (AD1066 " 1540)

2.2.38 The study area is rich in medieval settlements and field systems, reflecting the intensity of medieval activity in the area as a whole, with evidence of deforestation, expansion and contraction of settlements, the development of the manorial system and the growth in power of the church

2.2.39 Much of the archaeological evidence within or adjacent to the evaluation area pertains to the medieval period. Three deserted medieval settlements (DMV) lie within or adjacent to the evaluation area; at the south of the evaluation area Cryfield Grange (ES ref. STN055) is located to the north, and a potential DMV at Millburn (ES ref. STN047) is located to the south of the evaluation area. Hurst DMV (ES ref. STNo 2) is located near the centre of the evaluation area and may extend into it.

2.2.40 The reason for the contraction and desertion of the settlements may have been a change in land use imposed by landowners. According to the Victoria County History (VCH: 1945), by the beginning of the reign of Henry VIII out of the 12 houses in Cryfield, only the Grange was left, a consequence of the monks converting arable land to pasture. Other villages in the area, including Milburn (HSLS ref. id 132) and South Hurst (HSLS ref. id 155) also suffered a decline in population or were entirely depopulated for the same reason; although it is likely that other causes, including the Black Death, contributed to depopulation during the 14th century.

2.2.41 Stoneleigh Abbey (NHL ref. 1000377) is situated c 2.4km south of the evaluation area, the abbey had a large estate and established granges (monastic farms) around the centre and south of the evaluation area at Bockidene (ES ref. STNo), Cryfield (ES ref. STN055,) and Millburn (ES ref. STN045). The VCH (1945) notes that monks assarted woodland near Hurst to form what became the grange at Bockenden (Bockidene) in the 12th century and it can be seen in its own field system on historic maps dating to the 17th century. To the north of the evaluation area, Berkswell increased in influence and the medieval deer park of the Berkswell Estate (ES ref. BHA0 3) was founded and may surround an early manorial centre.

2.2.42 Woodland clearances (assarting) occurred as manors and moated houses were established, and evidence of this may survive in the fieldscape of the evaluation area to the north of Crackley Wood (ES ref. STN10). The clearance also provided valuable building material, and a high number of timber-framed buildings survive within the surrounding area.

2.2.43 A characteristic feature of high status medieval houses within the area is that they are often surrounded by moats. To the north (c.500m) of the centre of the evaluation area the current Bockenden Grange is surrounded by a moat, and c.350m to the south west a smaller moated site (ES ref. STNo) is located in an arable field situated slightly to the west of Bockendon Grange Farm (ES ref. STNo 7). None of these sites is located in the evaluation area.

2.2.44 At least three further potential moated sites are recorded in proximity to the evaluation area: one noted from LiDAR survey (WA 18.27) near Milburn Grange (ES ref. STN045) slightly to the south of the southern part of the evaluation area, but with possible associated earthworks extending into it; and two near Berkswell, HER ref. MSI587 is located *c* 70m north-west of the evaluation area and HER ref. MSI 01 located *c* 300m north of the north-west of the evaluation area.

2.2.45 The Historic Settlement Landscape Study (1EW04-LMJ-EV- REP-N000-029001) had identified another possible moated site; two arms of a possible moat (HSLDDBA ref. id 838) were noted toward the north of the evaluation; near Moat Hall Farm (ES ref. BHA019). This site may extend into the evaluation area.

2.2.4 Water mills noted in proximity to the evaluation area may have their origins in this period. A mill is identified to the south of Cryfield Grange (HER ref. MWA2854), with a possible leat (HSLDDBA ref. id 1 0) apparently extending into the evaluation area. The ES notes earthworks (ES ref. STN041) to the east of Dale House Farm, including a mill race and other possible water management features which are within the evaluation area.

2.2.47 Elements of the intensive agricultural usage of the land across the evaluation area and study area remain in the form of ridge and furrow identified as earthworks and cropmarks (ES refs. STN077, STN08 , STN095, BHA001, BHA009, BHA011, BHA01 , BHA019, BHA043, BHA234, BHA235, BHA23 , BHA239, BHA240, BHA241, BHA242, BHA243: HER refs. MWA1208, MSI875). The area surrounding Crackley Wood (ES ref. STN10), which crosses the evaluation area, shows evidence of this woodland clearance and assarting. Undated linear cropmarks, possibly remnants of medieval activity, are located within the evaluation area surrounding Crackley Wood (ES refs. STN049, STN057), and at the north-west of the south-east evaluation area (HER ref. MWA4803). The ES also notes field boundaries or route ways visible on LiDAR that possibly date to this period located within the south of the central area of the evaluation area (ES ref. STN107).

Post Medieval (AD1540 " 1901)

2.2.48 The post-medieval period saw marked changes to regional and national socio-economic conditions, leading to extensive physical changes within the post-medieval landscape of the evaluation area.

2.2.49 The post-medieval landscape in and around the evaluation area is mostly defined by large scale field enclosures and isolated agricultural farmsteads, many surviving from the medieval period; including Milburn Grange (ES ref. STN045) and Dale House Farm (ES ref. STN040), which both lie very close to the southern boundary of the evaluation area. Bockenden Grange (ES ref. STN0 7), South Hurst Farm (ES ref. STN0 3) and Beechwood Farm and barn (ES ref. BHA014) are located to the north. Similarly, Cryfield Grange Farm (ES ref. STN054) is located *c* 200m north.

2.2.50 The Historic Settlement Landscape Study (1EW04-LMJ-EV- REP-N000-029001) identifies post-medieval built heritage located close to, or within the evaluation area, such as Beanit Farm (HSLDDBA ref. id1 7) and Odnaull Farm (HSLDDBA ref. id 179), eight 19th century buildings and barns, mostly non-extant (HSLDDBA refs. id 159, 1 5, 1 , 1 7, 242, 712, 722 and 201) and Crackley Bridge (HSLDDBA ref. id 133) on the line of the A429.

2.2.51 The disused Kenilworth and Berkswell branch railway line (HER ref. STN105) between Roughknowles Wood and Balsall Common is present within the northern part of the evaluation area. It opened in 1884 and was operated by the London and North-Western Railway until 1922, when it was taken over by the London, Midland and Scotland Railway. The line was closed to passengers in 19 5 and to freight in 19 9. The Coventry to Leamington Railway was also opened in 1884, and is still in use today, it crosses the south of the evaluation area.

2.2.52 The two potential medieval water mills discussed in Section 2.2.38 were in use during this period and associated features extend into the evaluation area. Extensive earthworks comprising those associated with the water mill, a ditched enclosure, ponds, field boundaries and areas of ridge and furrow have been identified around Dalehouse Farm by LiDAR analysis (WA18.22). The leat associated with the water mill located to the south of Cryfield Grange Farm has been noted by the HSLDDBA (ref. id 1 0).

Modern (1901 " present)

2.2.53 The modern period is characterised by improvements to infrastructure and the growth of surrounding villages, towns and cities although the evaluation area has largely remained in agricultural use.

Proposals

2.2.54 The proposed works across the route are outlined in the HS2 Design Element Statement (DES). The DES specifies the following works within the evaluation area:

- (140-L1) - Glasshouse Wood Cutting
- (141-L1) - Finham Brook Viaduct
- (141-L2) - Kenilworth Cutting
- (141-L3) - Dalehouse Embankment
- (141-L4) - Finham Brook Embankment
- (141-S1) - Dalehouse Lane Overbridge
- (142-L2) - Crackley Road Cutting
- (142-L3) - Canley Brook Retaining Wall
- (142-S2) - Coventry to Leamington Spa Rail Overbridge
- (142-S3) - A429 Kenilworth Road Overbridge
- (142-S4) - Crackley ATS

- (142-S) - Millburn Grange Farm Accommodation Overbridge
- (143-L1) - Crackley Wood Embankment
- (143-L2) - Roughknowles Wood Cutting
- (143-L3) - Canley Brook Viaduct
- (143-L4) - North Crackley Cutting
- (143-S1) - Bridleway W1 4 Overbridge
- (143-S2) - Crackley Wood Culvert
- (144-L1) - Broadwells Wood Embankment
- (144-L2) - Bockenden Cutting
- (144-S1) - Crackley Lane Overbridge
- (144-S4) - Broadwells Wood Drop Inlet Culvert
- (145-S1) - Footpath W1 8 Accommodation Underpass
- (14 -L1) - Burton Green Tunnel
- (14 -L2) - Burton Green Retaining Structure
- (14 -S2) - Cromwell Lane Reinstatement
- (14 -S8) - Kenilworth Greenway Realignment
- (147-L2) - Waste Lane Embankment
- (147-S2) - Footpath M18 Accommodation Overbridge
- (147-S4) - B4101 Waste Lane Overbridge
- (147-S) - Burton Green ATFS
- (148-L1) - Beechwood Embankment
- (148-S1) - Beechwood Culvert
- (148-S2) - Footpath M191Underpass
- (148-S3) - Carol Green Rail Underbridge
- (148-S5) - Beechwood Farm Accommodation
- (148-S) - Truggist Hill Culvert

- (148-S7) - Lanscombe Culvert
- (149-L1) - Balsall Common Viaduct
- (149-L2) - Lavender Hall Embankment
- (149-L3) - Park Lane Cutting
- (149-S1) - Footpath M191 Underpass
- (150-S1) - Lavender Hall Lane Overbridge
- (150-S4) - A452/Park Lane Roundabout

2.2.55 The construction elements above will comprise the following specific works:

- Tunnel External Extent;
- Infrastructure Mitigation Works;
- Overhead Electricity Towers;
- Modified Electricity Cables;
- Modified Water Mains;
- Construction Traffic Routes;
- Satellite Construction Compounds;
- Noise Barriers;
- New Public Right of Ways;
- Watercourse Diversion;
- Ditches (along-side track);
- Flood Compensation Areas;
- Planting Hedgerows;
- Ecological Mitigation Planting;
- Temporary Earthworks Stockpile;
- Landscape Mitigation Planting;
- Attenuation Ponds;
- Electricity Sub-Stations; and

- Demolitions.

Archaeological Implications

2.2.56 Since the evaluation area has not previously been developed, most archaeological remains are likely to lie immediately below the ploughsoil, mostly as negative features cut into the underlying superficial geology. Due to the longstanding agricultural use of the evaluation area, it is probable that any shallow archaeological remains will have been affected by modern ploughing. This generally reworks the upper 0.3m (0.4m for crops such as potatoes). The bases of cut features such as pits and ditches, and structural footings potentially survive intact.

2.2.57 It is unlikely that the presence or absence of Palaeolithic remains will be determined by the shallow trial trenching set out in this document and HERDS Objectives relevant to possible Palaeolithic remains will be addressed through alternative methodologies. Initial work will comprise preparation of a geoarchaeological deposit model as set out in a separate project plan (1EW04-LMJ-EV-PLN-N000-029009).

2.2.58 The works listed in sections 2.2.46 and 2.2.47 will damage or remove any potential below ground archaeology. The types of potential impact from construction are summarised below.

Soil removal

2.2.59 It is assumed for the purposes of this report that soil will be removed across the route of HS2, but that soil removal will be less comprehensive at areas subject to impacts such as ecological mitigation or diversion of utilities. Soil removal will occur prior to landscaping and construction, including areas designated for temporary works to establish access routes, compounds and topsoil storage. It would potentially truncate or destroy any archaeological remains present through machine excavation, rutting and compaction resulting from movement of plant.

Earthworks

2.2.60 Work associated with construction of embankments may damage or remove shallow archaeological remains through excavation, movement of plant and compression caused by introduced material.

2.2.61 Excavation of cuttings will entirely remove any shallow archaeological remains that might have survived the preliminary topsoil strip. The cuttings also have the potential to impact deeply buried remains of the prehistoric periods.

Pond Excavation

2.2.62 The assumed excavation depths for attenuation ponds and associated drainage ditches is between 1.5–2.0m below ground level (mbgl). These depths would partially or completely remove any archaeological assets from within their footprint.

Planting

2.2.63 The works include Landscape Mitigation Planting, which may include introduction of hedgerows, stands of woodland and areas of woodland edge. Ground intrusion from the proposed tree planting and subsequent root action is assumed to reach a depth of 1.0–1.5mbgl, removing or disturbing significantly any archaeological remains at the location of the planting.

2.2.64 ### *Site Fencing*

There may be localised impacts resulting from the construction of the foundation posts for the hanging posts of fence gates and end struts. The level of impact is assumed to be around 1.0–1.5m deep, potentially disturbing archaeological assets within their footprint.

3 Aims and specific objectives

3.1.1 The aim of this Project Plan is to:

- Define the aims and scope of the programme of field evaluation (trial trenches) and how the work will contribute to specific objectives, in accordance with the GWSI: HERDS;
- Outline the overall approach and methodology to be employed; and
- Set out the proposed deliverables and reporting mechanisms.

3.1.2 All historic environment work on HS2 is guided by the Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS) (Ref HS2-HS2-EV-STR-000-000015). Its purpose is to establish the objectives and mechanisms for designing and carrying out all historic environment related investigations, so that the work has specific aims, rather than an approach of simply mitigating impacts in order to collect information.

3.1.3 The aim of the field evaluation is to determine, as far as reasonably possible, the presence, nature, date, extent, survival and significance of the archaeological resource within the evaluation area, primarily in relation to previously identified GWSI: HERDS research objectives, so that, if necessary, a suitable archaeological mitigation strategy can be put in place to reduce or offset any adverse effects arising from proposed ground disturbance.

Contribution to GWSI: HERDS Objectives

3.1.4 The GWSI: HERDS document provides a comprehensive list of Specific Objectives for the historic environment for the whole HS2 Phase One North Section. This project plan has identified those objectives which are relevant for the field evaluation.

3.1.5 The identified Specific Objectives have been selected based on information collated to date (see Section 2). The Specific Objectives may be revised relative to the results of the evaluation. For example, unexpected archaeological remains may be encountered which could contribute to other Specific Objectives. If other Specific Objectives are identified during the evaluation, the scope of works shall be updated to address those Objectives.

3.1. Table 2 sets out the Specific Objectives of the works. Through delivery of these works, and the addressed aims set out in the table, the trial trenching will create knowledge and outputs that will contribute to these Specific Objectives. Trenches targeting specific assets, or which have potential to provide information about specific HERDS Objectives, are listed in Sections 4.3.7 to 4.3.15.

Table 2 GWSI: HERDS Specific Objectives and evaluation strategy aims

GWSI: HERDS Specific Objective	Comment	Evaluation strategy aim
KC2: Explore the location of Palaeolithic deposits, reconstruct past environments and investigate the relationship between climate variation and phases of hominin activity	Whilst there are no recorded Palaeolithic remains in the evaluation area possible Palaeolithic flints have been recovered *c* 200m to the north in close proximity to the tributaries of Finham Brook. It is possible that residual flints may be found associated with Finham Brook in the south of the evaluation area. The superficial river terrace deposits in the south-eastern extent of the evaluation area (associated with Finham Brook), may contain eroded and redeposited archaeology from Lower and Middle Palaeolithic contexts or seal underlying deposits.	Trial trenching has the potential to recover residual artefactual remains within the Finham Valley. Any artefacts discovered would contribute to this HERDS Objective. The trenching may also define limited contextual information relating to deposits containing artefacts and palaeoenvironmental evidence of the Palaeolithic period, which could be targeted with other methods.

GWSI: HERDS Specific Objective	Comment	Evaluation strategy aim
KC5: Identifying settlement location and developing models for settlement patterns for the Mesolithic, Neolithic and Early Bronze Age	A Mesolithic flint scatter (HER ref. MWA8354 has been found within the south of the evaluation area and further flint scatters of this date extend to the north. Close to the flint scatters, evaluation located to the south of Cryfield House Farm revealed evidence for a multi-period site containing flints and postholes dating from the Mesolithic to Early Neolithic periods. Deposits near to and associated with the Finham Brook in the south-east of the evaluation area, and associated tributaries which spread across the evaluation area, have the potential to contain palaeoenvironmental and archaeological remains associated with these periods. Alluvial deposits may also be masking later prehistoric features.	Trial trenching has the potential to identify *in situ* remains or deposits associated with these periods, particularly within the south of the evaluation area in the location of the known lithic scatters. Where initial trenching provides information that certain areas may have greater potential for presence of such remains, results will inform use of contingency. Any information recovered would contribute to this HERDS Objective.
KC9: Does a lack of visibility of Neolithic and Bronze Age monuments reflect genuine area distinctiveness, or is this due to variation in geology or investigative techniques?	Neolithic activity has been identified from flint scatters located toward the south of the evaluation area. The area of the Finham Brook and its tributary have the potential to yield evidence of monuments of the periods and might allow a comparison to be made with known monuments further south within the Avon valley .	Trial trenching has the potential to identify monuments associated with these periods, particularly within the vicinity of the watercourses toward the south of the evaluation area. Any information recovered would contribute to this HERDS Objective.

GWSI: HERDS Specific Objective	Comment	Evaluation strategy aim
KC15: Can we identify regional patterns in the form and location of Late Bronze Age and Iron Age settlements across the route, and are there associated differences in landscape organisation and enclosure? KC1 : Investigate the degree of continuity that existed between Late Bronze Age and Iron Age communities in terms of population, mobility and subsistence strategies	Alluvial deposits associated with the Finham Valley have the potential to contain waterlogged archaeology and organic deposits of the periods. A Bronze Age flint scatter has been found near Roughknowles Wood, slightly to the north of the evaluation area, and cropmarks just north of the evaluation area at Black Waste Wood (STNo 8) may also date to the Bronze Age. Iron Age staters have been found near Crackley Wood and a further IA coin has been found near South Hurst Farm. The alluvial deposits associated with watercourses may well mask evidence for these periods.	Trial trenching has the potential to identify remains relating to these periods, and to help map potential areas of activity. Any positive or negative evidence will contribute to these Objectives.
KC21: Assess the evidence for regional and cultural distinctiveness along the length of the route in the Romano-British period, with particular regard to the different settlement types encountered along the route KC23: Identify evidence for late Roman occupation and attempt to identify any continuity in settlement patterns between the end of the Romano-British period and the early medieval period	There is considerable evidence of Romano-British activity in the wider area, particularly to the south of Finham Brook and at Hurst Farm. Excavations at Cryfield Farm recovered mosaic and mortaria fragments and metal work. Within the evaluation area a broach has been found at Crackley. Documentary evidence shows that there was Anglo-Saxon settlement in the area. The DDBAs for Crewe Farm and Hurst and Crackley identify place-name evidence for early medieval occupation of the evaluation area.	Trial trenching has the potential to further the understanding of the development and organisation of Romano-British settlement and agriculture, as well as the possibility of continuity of settlement or transition into the early medieval period (KC23). Whilst evidence from these periods is not substantial, any new evidence found would have the potential to contribute to these HERDS Objectives.
KC30: Identify the location and form of Early and Middle Saxon settlement and investigate evidence for land use in the period KC31: Identify the location of Middle to Late Saxon settlement, explore processes of settlement nucleation and understand the development of associated field types and agricultural regimes	Place-name evidence, shows early medieval occupation of the evaluation area, and indicates potential for settlement and/or associated agricultural activity relating to this period to be identified.	Trial trenching has the potential to identify the nature, extent, survival, date and significance of any remains relating to this period. Any evidence will contribute to these HERDS Objectives.

GWSI: HERDS Specific Objective	Comment	Evaluation strategy aim
KC33: Investigate the development of water mills from the Anglo-Saxon through to the modern period. How did the technology of milling change, and what implications has this for farming practice?	LiDAR survey has identified the earthwork remains of a post-medieval water mill (STN041), with associated water management systems at Dalehouse Farm. The site of a second watermill has been identified just north of the evaluation area at Cryfield Grange (HER ref. MWA2854) and its leat extends into the evaluation area. Both may have early origins There a number of other streams within the evaluation area which may be associated with as yet unknown and perhaps earlier mills.	Trial trenching has the potential to identify mill sites and the development of water management systems from the Anglo-Saxon through to the modern period. Investigation of the mill site at STN041 will provide information on the technology used, any evidence for an earlier mill on the site and may provide evidence of change over time. Any other mills discovered will significantly contribute to this HERDS Objective.
KC34: Undertake research and investigation into medieval manorial complexes. What was their origin, development and impact on the landscape?	Manorial complexes are known to the north of the evaluation area, relating to Berkswell manor, and in the south of the evaluation area relating to Stoneleigh Abbey (STN012). A possible moat is located within the north of the evaluation area (HSLDDBA ref. id 838). Bockenden Grange is associated with a number of possible moats. Numerous other moated sites are located in the immediate vicinity of the evaluation area (HER ref. MWA28 2, MWA28 3, MWA28 1, MSI587, MSI587, and MSI853). Evidence of medieval agriculture has been recoded mainly in the form of ridge and furrow across the evaluation area (e.g. STN057, BH043).	Trial trenches located moats within the evaluation area will provide evidence on the nature of the moats and may identify any evidence of manors on the site. Investigation will allow further understanding of the development of manorial sites including their functional layout and construction details. The moats themselves may also provide waterlogged palaeoenvironmental remains for evidence of localised farming practices. Trenching of id 838 will aim to clarify the nature, extent, survival, date and significance of any remains associated with this possible moated site. Any further moats or manorial sites found within the evaluation area also have the potential to further this understanding and contributing to this HERDS Objective. Further investigation of ridge and furrow will help understand the overall management of the landscape associated with possible manorial sites.

GWSI: HERDS Specific Objective	Comment	Evaluation strategy aim
KC35: Investigate the impacts on rural communities of social and economic shocks in the mid-14th century and thereafter and their contribution to settlement desertion KC40: Identify patterns of change within medieval rural settlement from the 11th to mid-14th century	Three DMVs are partially located within or very close to evaluation; Hurst DMV (STNo 2), Cryfield DMV (STN055) and Milburn DMV (STN047). By the early 15th century, much of the evaluation area had been turned over to pasture, and the settlements of Milburn, Hurst and Cryfield were severely depopulated and later abandoned. A prime reason for this may have been the change to pasture although the social and economic reasons behind it may be more complex.	Trial trenching has the potential to identify the extent of medieval settlement prior to desertion and to look at their form and function. It may be possible to identify whether depopulation was sudden or took a while to occur. Trenching may also show any common patterns of change within the settlements. Trenching may provide information on changing land use and farming practices which may in turn have affected or been affected by settlement change. Dating evidence from features such as ridge and furrow might be obtained to examine the chronology of these changes.
KC43: Investigate the link between the development of the railways and broader changes in the historic landscape, such as urban settlement expansion and the decline of the canal network	How has settlement and agriculture been affected throughout the post-medieval period not just by the development of local industry and transport infrastructure but by wider socio-economic factors. These might be influences associated with the development of industry and increase in populations in the wider area associated with Birmingham and Stafford, but also events further afield associated with regional migration, and scientific and technological development. Establishing a link between the development of the railways and these changes could be established here given that a section of the disused Kenilworth and Berkswell branch railway line runs through the evaluation area.	Evidence relating to late post medieval agricultural and population changes will contribute to this HERDS Objectives. For example, the Historic Settlement DDBA has noted in Berkswell and Burton Green that there were considerably more buildings in the mid-19th century than seen today. Their presence reflects a specific need at the time, perhaps relating to the coming of the railways, which diminished in the late 19th century as the buildings disappeared. In other areas the opening up of the landscape was seen through increasing field size - was this related to railways affecting farming in this area?

GWSI: HERDS Specific Objective	Comment	Evaluation strategy aim
KC52: Understanding the pattern, form and function of post-medieval rural vernacular architecture: can we identify regional, intra-regional or temporal variations	Whilst there are no proposals to undertake trial trenching associated with existing houses, it is possible that as yet unknown post-medieval houses may be discovered through trenching. There is also evidence from historic maps of non-extant buildings and barns in the evaluation area, evaluation of a sample of which would help explain their form and function.	Any evidence of post-medieval occupation would contribute to knowledge of this HERDS Objective

4 Scope and Methodology

4.1 Introduction

4.1.1 The investigative fieldwork outlined in this Project Plan comprises Trial Trenching. The work has been designed to meet HS2 GWSI: HERDS Specific Objectives. The Trenches are targeted to features identified by previous surveys, including Geophysical and Lidar Survey and will also investigate 'blank' areas, where features have not previously been identified. It would determine, as far as reasonably possible, the presence, nature, date, extent, survival and significance and contribution to GWSI: HERDS Specific Objectives of archaeological remains discovered within the evaluation area.

4.2 Location Specific Written Scheme of Investigation

4.2.1 A Location Specific Written Scheme of Investigation (LS-WSI) will be produced by the Archaeological Contractor. This will provide the detailed method of investigation, including survey area, access arrangements, welfare, accommodation, site safety, RAMS, etc. The LS-WSI will be approved by HS2 prior to starting work.

4.3 Trial Trench Evaluation

4.3.1 The aim of the evaluation will be to examine known archaeology and investigate the presence or absence of unknown archaeological features, structures, deposits, artefacts and/or ecofacts. Where present the investigation will define the character, extent, quality and preservation of archaeological remains in order to determine their contribution to Specific Objectives identified in this project plan, and to examine whether other Specific Objectives should be added. The results of the evaluation will inform any subsequent archaeological mitigation strategy, including design adjustment, where possible, to avoid significant remains.

4.3.2 There will be 474 trenches opened during the evaluation, they are located with reference to construction land requirements, on open accessible land and their locations are indicated on Figures 5 to 11. A 4% contingency by area will be used, with agreement of HS2 and as appropriate, for further investigation of areas of high potential where results of initial trenching have been negative, to further define and characterise targeted archaeology, characterisation of or discoveries of previously unknown archaeology and the mitigation of archaeology which contributes to HERDS Specific Objectives where initial investigation has shown that it is of limited complexity and extent. All trenching will be assigned a unique ID in accordance with the Employer's Asset Information Management Systems (AIMS).

4.3.3 The evaluation will be carried out by a suitably qualified Archaeological Contractor. The trial trenches will generally be 50.0m long and 2.0m wide, and no more than 1.2m deep. Where deeper excavation is considered necessary, for example at areas of colluvium or alluvium, trench sides will be shored or stepped.

4.3.4 Trenches are positioned to provide coverage across the entirety of the evaluation area, with any areas left blank being due to logistical issues of access, space, presence of utilities, or inappropriate ground conditions for excavation. The areas accessible for trial trenching (the "evaluation area") are shown on Figures 5-11, they are dictated by the construction land requirements and current land use.

4.3.5 The distribution of the trenches across the evaluation area will contribute to the Specific HERDS Objectives for the trial trenching (see Section 3 above). This is due to the 'Knowledge (reation' aims (KC2, KC5, KC9, KC15, KC1 , KC21, KC23, KC30, KC31, KC33, KC34, KC35, KC40 KC43 and KC52) relating to objectives for all periods.

4.3. In conjunction with HERDS Objectives, the trial trenching will further determine the nature of a selection of specific non-designated heritage assets identified in the ES, HER data and the Historic Settlement DDBA.

4.3.7 All trenches targeting alluvial areas associated with Finham Brook and its tributaries have a small potential to discover Palaeolithic flints. A Mesolithic flint scatter (HER ref. MWA8354) is located at the south of the evaluation area. Therefore, trenches 389-409 examine the alluvium in this area where a tributary of Finham Brook extends towards the south of Roughknowles Wood. Trenches 410-474 already targeted on the water mill and associated water management systems at Dale House Farm will also aim to identify the presence of re-deposited finds, waterlogged archaeology and organic deposits associated with the prehistoric periods. Any evidence dating to the Palaeolithic and Mesolithic will inform HERDS Objectives KC2 and KC5. Alluvium may also be masking later prehistoric sites and any evidence discovered dating to these periods would inform HERDS Objective KC9, KC15 and KC1 .

4.3.8 A scatter of Iron Age coins (staters) has been found near Crackley Wood and Roman mosaic and mortaria fragments have been found to the north of Cryfield House Farm (STN052). Trenches at South Hurst may find evidence for the Iron Age associated with the find spot of a coin and evidence of Romano-British activity seen close by (Trenches 307-322). Trenches at Hurst may also find evidence of its Saxon origins, indicated by place-name evidence and continuity from the Roman to Saxon periods (Trenches 274-310). Any evidence dating to these periods would inform HERDS Objective KC21 and KC15, KC23, KC30 and KC31.

4.3.9 The trenches located at the southern end of the evaluation area near Dalehouse Lane may pick up additional traces of Roman activity as identified to the south around Kenilworth Golf Club and Crewe Farm, although previous trenches immediately to the south were negative. Any evidence dating to this period would inform HERDS Objective KC21 and KC23.

4.3.10 Trench 78 will examine a possible moated site identified by the Historic Landscape Settlement DDBA (id 838). At the north-west of the evaluation area; further trenches (32-44) will assess any potential connection with a moated site at Berkswell; HER ref. MSI587 located at Ram Hall c.70m north-west of the evaluation area. Trenches 250 and 251 will examine land to the south of moated sites at Bockenden Grange. The trenches have the potential to clarify the nature, extent, survival, date and significance of remains associated with the medieval manorial complexes and consequentially aid Specific Objective KC34.

4.3.11 Trenches 2 1-298 will target the site of the DMV at Hurst (STN0 2), within the centre of the evaluation area. The trenches then extend south towards Crackley Wood around which evidence of woodland assarting has been recorded which may relate to the settlement at Hurst and its later abandonment (Trenches 315-341). The trenches at Hurst and near Crackley Wood may also pick up evidence of Anglo-Saxon settlement suggested by analysis of their place-names thereby contributing to KC30 and KC31 and possibly any continuation of settlement at Hurst from the Romano-British period to the Saxon period, thereby contributing to KC23.

4.3.12 Trenches 320 and 321 are located to the south of the DMV of Cryfield Grange (STN055) and trenches 427-430 are to be targeted on the DMV at Millburn (STN047). Trenches 420, 425-42 and 431-441 will extend north of the DMV of Millburn to assess potential field boundaries identified by LiDAR analysis (WA18.24).

4.3.13 Trenches targeting medieval land use will look at the ridge and furrow to the south of Rams Hall (BHA043) (Trenches 1-55), to the south of Truggist Lane (BHA01) (Trenches 75-102), the ridge and furrow and cropmarks at Crackley Wood (STN057) (Trenches 331-31 , 322-341, and 3 8-375), and the area immediately to the south east of the park pale at Berkswell Park (BHA0 3) (Trenches 1-5). These trenches looking at both the shrunken settlements and evidence for agriculture will aim to clarify the nature, extent, survival, date and significance of associated remains, and attempt to identify patterns of change within medieval rural settlement and land use from the 11th to mid-14th century, prior to the desertion of the

settlements. This will contribute to HERDS Knowledge Creation objectives KC30, KC31, KC35 and KC40.

4.3.14 LiDAR survey has identified the earthwork remains of a post-medieval watermill (STN041) with associated water management systems (WA18.22) in the south of the evaluation area at Dalehouse Farm. Trenches 410-474 will aim to examine these remains and will extend north-east along the western banks of Finham Brook to identify any additional and/or earlier associated water management systems, mills or earlier deposits which may be obscured by alluvium. All trenches located alongside the tributaries running through the evaluation area have the potential to discover evidence of early mills. The trenches have the potential to clarify the nature, extent, survival, date and significance of remains associated with a post-medieval mill site which may have earlier origins and consequentially inform the HERDS Objective KC33.

4.3.15 A number of trenches have been targeted on non-extant post-medieval buildings to further inform KC52 looking at the character and pattern of vernacular post-medieval architecture. These include two 19th century buildings (HSLS id 708, 724) (trench 214, 173) and a 19th century barn (HSLS id 159) (trench 47).

4.3.1 Trench location is dependent on confirmation of utilities and services present in the evaluation area at the time of fieldwork. Trenches may be relocated to avoid existing services and utilities or for other reasons, e.g. to avoid ecological or physical constraints.

4.3.17 Tasks that will be undertaken comprise:

- Set up;
- Mechanical excavation to remove soils, in order to expose potential archaeological horizons;
- Archaeological hand excavation and the identification and recording of any archaeological features exposed;
- Selective environmental sampling, processing and assessment; and
- Post-investigation reporting and archiving.

Setting Out

4.3.18 All spatial setting out and recording shall be in accordance with The Ordnance Survey National Grid and Ordnance Survey Newlyn Datum (ODN) as defined by the OS Active GNSS network and use of a Virtual reference system. A minimum of three Permanent Ground Markers (PGM) shall be created using this system for each trench or group of geographically related trenches.

4.3.19 Trenches shall be set out and recorded to a minimum horizontal accuracy of +/– 0.05m. The corner points of each trench location shall be set out with Real Time Kinematic (RTK) Global Navigation Satellite System (GNSS) equipment or other suitable automated equipment referenced from the PGMs.

4.3.20 Surface heights shall be recorded using RTK GNSS and related to PGMs. Ordnance Survey Bench Marks (OSBM) are not to be used. Levelling accuracy shall be within 0.1m Ök: where 'k' is the total distance levelled in kilometres.

4.3.21 The Archaeological Contractor shall ensure that all trench or excavation limits, and significant archaeology detail are surveyed 'as dug' in relation to the project grid before leaving the evaluation area. Ground level height data to Ordnance Datum (OD) shall be recorded for each trench, along with the levels of the top of the superficial drift deposits (where present) and the top of the solid geology. Levels of key archaeological horizons and features will also be recorded.

Mechanical excavation

4.3.22 Trial trenches shall be excavated to the first archaeological level, the top of the natural geology or usually a maximum depth of 1.2m, if no remains of archaeological interest have been identified. Areas of deeper stratigraphy which may include or cover archaeological remains, such as colluvial or alluvial sequences, may need to be excavated to the base of the stratigraphic sequence and in this instance trenches shall be shored, or stepped and kept free of water, in order to allow appropriate investigation.

4.3.23 Excavation will be undertaken using a mechanical excavator with toothless ditching bucket. Machining shall be carried out under the constant supervision of the Archaeological Contractor to excavate the ground in spits. The Archaeological Contractor shall use their professional judgement to determine the appropriate depth of each spit. The Archaeological Contractor will agree any variations to the excavation methodology with DJV and shall record this in writing for inclusion in the final report. Each spit shall be examined carefully to assist the recovery of any archaeologically significant artefacts and thus to determine when to cease machining. It is the responsibility of the Archaeological Contractor to ensure that the finished surface is machined to a suitably 'clean' state in order to identify, define and investigate any exposed archaeological deposits. If the surface is not sufficiently clean, hand cleaning of the surface will be required. Machine excavation will comply with the Employer's Technical Standard - Route wide soil resources plan (HS2-HS2-EV-STD-000-000008).

4.3.24 The Archaeological Contractor shall ensure that water is discharged and excavated materials from archaeological excavations are stored in accordance with the Contractor's environmental protection requirements (as set out in the package Works Information and their Environmental Management Plan) and any relevant consents for the worksite. The

Archaeological Contractor shall monitor discharge rates and, if necessary, conductivity of discharge waters to ensure compliance.

4.3.25 Deep stratigraphy, such as colluvial or alluvial sequences, may be encountered, where this is revealed, and where feasible, trenches, or sondages shall be excavated to the base of the stratigraphic sequence, and shall be appropriately shored and kept free of water to allow 'person entry' to the excavations i.e. to allow the Archaeological Contractor to undertake investigation and recording to fulfil the aims of the work. The Archaeological Contractor will ensure that all works undertaken in deep stratigraphy will comply with the Employer's Technical Standard – Temporary Works (HS2-HS2-CV-STD-000-000005).

4.3.26 Within alluvial sequences the Archaeological Contractor shall pay particular attention to establishing the vertical extent of layers of archaeological potential and shall be aware that horizons of cultural activity may be present within horizons of sterile alluvium. The Archaeological Contractor shall supervise the excavation of each trench in such a manner so as to allow a cumulative or continuous trench section face to be recorded.

4.3.27 Should any material be excavated that is deemed to be contaminated or potentially contaminated it shall be investigated, controlled (e.g. placed separately from clean material) and removed in accordance with the Contractor's environmental protection requirements (as set out in their Environmental Management Plan).

Fieldwork Recording

4.3.28 Archaeological recording shall be undertaken by the Archaeological Contractor to the general requirements as described in the GWSI: HERDS (section 7.6). A sufficient sample of the archaeological features and deposits revealed must be sampled/or fully excavated to allow the resolution of the aims and objectives of the work. Structures, features, or finds which might reasonably be considered to merit preservation in-situ shall not be unduly damaged.

4.3.29 Where areas of extensive archaeological stratification are encountered, the horizontal and vertical extent of archaeological stratification shall be assessed by the Archaeological Contractor through implementation of an appropriate strategy including either the excavation of features cut into horizontal stratification, limited test pitting or auguring. The aim shall be to recover suitable stratigraphic, finds and environmental samples from the full, intended depth of the trench, as far as is practicable. The exact methodology may need to be designed by the Archaeological Contractor during the excavation of individual trenches and agreed with DJV and the Contractor.

4.3.30 Metal detectors will be used by experienced staff to scan for metallic finds during the excavation of key archaeological features or deposits. The spoil arising from trenching will also be scanned by metal detectors during the excavations.

4.3.31 In order to protect any waterlogged remains during the works, the Archaeological Contractor may identify a requirement for trial excavations to be allowed to refill with water overnight. In such cases, the Archaeological Contractor shall ensure that any hazards to staff or 3rd parties are minimised.

4.3.32 Archaeological recording is to include, as a minimum:

- At least one representative section at (1:10 or 1:20 scale) of each evaluation trench, from ground level to the base of the excavation;
- the written record of individual context descriptions on appropriate pro-forma;
- plans at appropriate scales (1:10, 1:20 or 1:50);
- single context planning should be used only if appropriate (i.e. where there is a complex sequence);
- photographs and other appropriate drawn and written records; and
- other sections, including the half-sections of individual layers of features shall be drawn as appropriate to 1:10 or 1:20 scale.

4.3.33 A 'site location plan', indicating site north shall be prepared at 1:1250. Individual 'trench plans' at 1:200 (or 1:100) shall be prepared which show the location of archaeology investigated in relation to the investigation area. The location of site plans will be identified using OSGB co-ordinates.

4.3.34 Section drawings shall be located on the relevant plan and OSGB co-ordinates recorded. The locations of the PGM bench markers used and any site Temporary Bench Mark (TBM) used for the evaluation shall also be indicated.

4.3.35 A record of the full extent in plan of all archaeological deposits as revealed in the investigation shall be made. These plans will normally be based on digital survey data (digital planning methods shall be agreed in advance with HS2), supplemented where appropriate by hand drawn records on polyester based drawing film (at a scale of 1:10 or 1:20 unless otherwise agreed with the HS2). All hand-drawn information shall be digitised (or preferably generated digitally in the first instance), and final deliverables will be supplied in an Esri format and adhere to standards set out in the *Cultural Heritage GIS Standard* (HS2-HS2-GI-SPE-000-000004). Single context planning shall be used where complex stratigraphy is encountered.

4.3.3 A 'Harris matrix' stratification diagram shall be employed to record stratigraphic relationships (Harris *et al.* 1993) where appropriate. This record shall be compiled and fully checked by the Archaeological Contractor during the course of the excavations. Spot dating shall be incorporated onto this diagram during the course of excavations.

4.3.37 Recording of structural evidence revealed below ground level will vary according to the level of special interest of the structure and its relationship to archaeological remains. Structures of little or no significance shall be noted on a site plan. Detailed drawings of important features revealed in investigations may be required in accordance with the aims and objectives of the investigation as defined in the Project Plan.

4.3.38 The photographic record will be in digital format, resulting in high resolution TIFF (uncompressed) images. Photographs will illustrate both the detail and context of the principal archaeological features discovered. In addition, the Archaeological Contractor shall take appropriate record photographs to illustrate work in progress. All photographic records will include information detailing: site name and number/code, date, context, scale and orientation.

Human Remains

4.3.39 If unexpected human remains are identified, all work must be undertaken in accordance with the *Human remains and monuments procedure* (HS2-HS2-EV-PRO-0000-000008) and the Technical Standard Specification for Historic Environment Investigations (HS2-HS2-EV-STD-000-000035).

4.3.40 The Archaeological Contractor shall notify DJV and LM-JV immediately upon discovery of unexpected human remains. DJV shall notify HS2, so that the human remains procedures can be implemented. DJVs notification to HS2 may initially be made personally or by telephone but shall be confirmed in writing (email will suffice) within 24 hours of discovery.

4.3.41 After notification to DJV the Archaeological Contractor will cease all works on unexpected human remains until further instruction is provided by DJV.

4.3.42 The Archaeological Contractor will complete any exhumation of human remains in accordance with the requirements of their recognised osteoarchaeologist. In some circumstances DJV may consult Historic England and other stakeholders for input to exhumation and sampling strategy.

4.3.43 Human remains, once recognised, will be metal-detected immediately to determine whether any metallic grave goods are present. If possible grave goods and other obvious artefacts shall be recorded and lifted on the day of discovery to avoid the risk of vandalism and theft. Where this is not feasible or appropriate, the Archaeological Contractor shall ensure, on liaison with the Contractor, that adequate site security is provided. As a minimum, this will require a 24-hour comprehensive security regime until sensitive remains have been recorded and lifted. This is a particular issue for rural sites and 'isolated burials'.

4.3.44 Human remains will be accorded due dignity, care and respect at all times. The Archaeological Contractor may need to screen the remains, dependent on their location.

Environmental Sampling

4.3.45 In line with the HS2 Technical Standard Specification for Historic Environment Investigations (HS2-HS2-EV-STD-000-000035) an initial sampling strategy is set out below (Section 4.3.49). This strategy is based on the existing information about the evaluation area, gathered from non-intrusive surveys and the HERDS Objectives listed in Table 2.

4.3.4 The sampling strategy, along with the HERDS Objectives outlined in Table 2 identify the key elements that should, where present, be sampled during this evaluation. However, the strategy will need to be reviewed throughout the on-site work, and where unexpected features or deposits are identified, revised accordingly to take these into account.

4.3.47 The purpose of sampling at the evaluation stage is to identify the range of environmental materials present, their preservation, significance and distribution.

4.3.48 The evidence from non-intrusive surveys for the evaluation area indicate a number of potential features which should be targeted through sampling. These include alluvial deposits associated with the Finham Brook and its tributaries which may contain evidence of past environments. Evidence associated with deserted medieval settlement, moated sites and land use.

4.3.49 Sampling will therefore target the following, where present, as a minimum:

- Archaeological features (buildings, ditches, pits, gullies, postholes) associated with deserted medieval villages, with potential earlier phases of activity, from different features spread across concentrated areas of settlement activity (to assess the concentration, distribution and survival palaeoenvironmental material);
- Archaeological features (buildings, moats, ditches, pits, gullies, postholes) associated with a possible moated site at the north of the evaluation area, from well preserved moats and different features spread across concentrated areas of settlement activity (to assess the concentration, distribution and survival of palaeoenvironmental material);
- All samples will be screened for the presence of hammer-scale and other indicators of industrial processes, particularly in the area of possible burning. Where significant concentrations are identified, this information should be fed-back to the field team, so that where necessary, further samples can be taken to help to define any areas of metalworking, or other industrial processes;
- Floor surfaces where they survive and have not been truncated;
- Deposits representing the main phases of activity (to assess whether there are changes in rates of deposition, or material survival over time);

- Alluvial sequences from deposits adjacent to the Finham Brook and its tributaries (to assess the survival of palaeoenvironmental material).

4.3.50 Sampling will not only just target charcoal rich or wet deposits, but be undertaken on those features outlined above, taking into account advice from the Archaeological Contractor's environmental archaeologist. This will ensure that samples are recovered from a representative range of contexts, which adequately characterise past activities, and allows an assessment to be made of the extent to which they help address palaeoenvironmental and palaeoeconomic questions.

4.3.51 It is possible that unexpected deposits or features will be identified during the evaluation within the areas where non-intrusive survey has not revealed any evidence. As these are not covered in the initial sampling strategy above, the need for sampling will be assessed in terms of the Specific Objectives (both those in Table 2 as well as the remaining HERDS Objectives), the sampling strategy updated and the features sampled accordingly.

4.3.52 All samples will be taken to address a specific question. The purpose of the sample, and the question it has been taken to address will be recorded on The Archaeological Contractor's sample record sheet.

4.3.53 Samples will be taken using ten litre plastic buckets (with lids and handles), or strong polythene bags (double bagged) secured at the neck, for the recovery of bulk 'disturbed' environmental samples. Labelling will follow guidance set out in the Technical Standard Specification for historic environment investigations (HS2-HS2-EV-STD-000-000035).

4.3.54 For non-waterlogged deposits bulk samples will normally be taken in the range of 40- 0 litres. Where contexts have a volume of less than that stated above then 100% of the context will be sampled. Each bulk sample will only contain sediment derived from a single context. Where waterlogged deposits are encountered, samples sizes will usually be in the range of 10-20 litres, which is suitable for the recovery of macrofossils from these contexts. Samples shall be protected at all times from temperatures below 5°c and above 25°c and from wetting and drying out due to weather exposure.

4.3.55 Where house floors or other buried land-surfaces are encountered and these are sampled, appropriately sized monolith or kubiena boxes will be used for the recovery of 'undisturbed' monolith samples for soil micromorphology and to sub-sample for microfossils (e.g. pollen and spores, diatoms, ostracods). Where longer sequences are sampled, contiguous column samples will be collected for the retrieval of macrofossils (e.g. molluscs, plant remains and insects). Further guidance on specialist samples is provided in the Technical Standard Specification for historic environment investigations (HS2-HS2-EV-STD-000-000035 - sections 4.21.22-2)

4.3.5 Processing of all bulk soil samples collected for biological assessment should be completed within two weeks of collection. Processing samples at the time of fieldwork will allow this sampling strategy to be updated and refined where necessary. The preservation state, density and significance of material retrieved shall be assessed by the Archaeological (ontractor's recognised specialist. Special consideration shall be given to any evidence for recent changes in preservation conditions that may have been caused by alterations in the environment.

4.3.57 The Archaeological Contractor shall be responsible for the protection of all samples and finds and for their transport (including loading and unloading) to the processing facilities or other location as agreed with the Employer.

Preservation in situ

4.3.58 Where preservation *in situ* has been identified as an option for areas, or it becomes clear during the evaluation that certain parts of the evaluation area might be retained *in situ* within the scheme design, The Archaeological Contractor will ensure that suitable samples are taken to assess the state of preservation (as set out in Historic England guidance on Preserving Archaeological Remains).

8ackfilling

4.3.59 The trenches shall be pumped dry (by the Archaeological Contractor) and any necessary protection measures for archaeological remains (in addition to those for below ground infrastructure, services or utilities) shall be completed prior to backfilling. Generally, all backfill material shall consist of non-toxic, uncontaminated, non-putrescible, natural and inert material which shall be compacted and (if necessary) tested (dynamic compaction test or other) in accordance with a specification provided by the Contractor. Surface conditions shall be reinstated to the required standard.

4.3. 0 The Archaeological Contractor shall ensure, in liaison with DJV, that adequate protection is provided for any archaeological remains. Any specific archaeological requirements relating to backfilling including use of materials to mark excavated depth, such as geotextiles, shall be specified by the Archaeological Contractor in the LS-WSI.

5 Post-Investigation Reporting and Archiving

5.1.1 The Archaeological Contractor will produce an interim report, very briefly summarising findings of the evaluation, within five working days of the completion of fieldwork.

5.1.2 The Archaeological Contractor will produce a fully illustrated final report for the field evaluation, within 25 working days of the completion of fieldwork, with the following structure:

- Executive Summary;
- Introduction, including site location and project background, aims, and GWSI: HERDS Specific Objectives (as identified in this Project Plan);
- Baseline summary, including topography and geology, designated assets; archaeological potential and previous work(s) relevant to the archaeology of the evaluation area (e.g. DDBA, previous surveys);
- Detailed Scope and Methodology, to include dates of fieldwork, the areas investigated at each stage and the rationale in relation to the Specific Objectives;
- Results and observations, along with the following supporting sections:
  - Trial trench evaluation
  - Stratigraphic report
  - Finds report
  - Environmental evidence report
  - Interpretation of results against original expectations and Specific Objectives
  - Review of evaluation strategy (i.e. success and confidence rating)
- Conclusions:
  - Statement of findings, and summary of significance
  - Assessment of achievement (or not) of the Specific Objectives
- Recommendations and research aims for further investigation (if required), publication and dissemination proposals, including archive deposition;
- References to all primary and secondary sources consulted;
- Appendices should include illustrations, contextual summary by trench, finds reports, environmental reports, site matrices (where appropriate) and full definitions of the interpretation terms used in the report.

5.1.3 The following figures will be included in the trial trenching report:

- General plan (mandatory);
- Engineering design (mandatory);
- Site location;

- Survey extents;
- Trial trench locations;
- Survey results to include plans and section of archaeological features, deposits and sequences;
- Selected photographs of representative and/or significant features and finds.

5.1.4 If the Archaeological Contractor foresees a requirement for extension to completion of either stage of reporting they will immediately notify DJV so that extension can be discussed with HS2.

6 Dissemination

6.1.1 The project archive and finds will be deposited with the appropriate museums archive, as identified in the LS-WSI.

6.1.2 Digital and hard copies of the report will be submitted to the relevant Historic Environment Record (HER) and the National Record for the Historic Environment (NRHE) in Swindon.

6.1.3 Significant discoveries will be reported in summary in the local archaeological society journal and/or other relevant journal as appropriate.

6.1.4 In accordance with professional standard practice the Archaeological Contractor will complete an 'Online AccesS to the Index of archaeological investigationS' ('OASIS') record.

6.1.5 A digital copy of the final report will be submitted to the Archaeological Data Service (ADS).

7 Information Management

7.1.1 GIS deliverables will be provided by the Archaeological Contractor in accordance with the *Cultural Heritage GIS Specification* (HS2-HS2-GI-SPE-000-000004). CAD files will be GIS compatible and follow standards set out in the same Specification. Figures may be produced using CAD but final deliverables must be supplied in GIS format.

7.1.2 Mapping and spatial data deliverables will conform to HS2 GIS Standards as set out in HS2-HS2-GI-STD-000-000002 and other associated referenced documents.

7.1.3 The standard template for reports (HS2-HS2-PM-TEM-000-000004) will be used.

8 Quality Assurance Processes

8.1.1 The Archaeological Contractor will liaise with DJV regarding the works programme and quality assurance of the archaeological works. In the event of potential delays to programme,

the Archaeological Contractor will issue an Early Warning Notice (EWN) via CEMAR following internal approval by the Archaeological (ontractor's Project Director.

8.1.2 The Archaeological Contractor will have direct communication with the Contractor on contractual matters and non-archaeological logistics and quality assurance. DJV will be informed of any EWNs raised in the course of the works.

8.1.3 The works will be overseen and internally quality-assessed by the Archaeological (ontractor's senior management and will be directed by the Archaeological (ontractor's Project Director.

8.1.4 All parties will follow HS2 protocols for Intra- and Inter-project communication, which will consist of the following format:

- Weekly progress meetings will be held to discuss the progress of on-site works, forecasting of the works programme and to highlight any potential EWNs;
- Matters arising from progress meetings will be discussed and meeting minutes will be forwarded to all parties (Archaeological Contractor, DJV, Contractor).

8.1.5 The following interfaces are anticipated on the basis of current information:

- The Contractor (LM-JV);
- The Archaeological Consultant (DJV);
- Third party stakeholders via DJV;
- The Employer (HS2) via DJV;
- Other contractors working on separate parts of the evaluation area.

8.1. Following completion of work, parts of the evaluation area will be formally signed off by DJV and HS2. Formal sign off will be through a written process utilising a fieldwork sign-off sheet submitted by the Archaeological Contractor to DJV. DJV will review and, subsequent to any required revision, will submit the sign off sheet to HS2 for final formal approval.

8.1.7 The Archaeological Contractor will submit a draft of all reports to asite for review. DJV will provide internal feedback and may require that the Archaeological Contractor amends documentation before acceptance. The Archaeological Contractor will subsequently upload accepted documents to asite so that the Contractor can issue them to HS2. HS2 may provide feedback and require amendment to submitted documents before final approval.

9 Evidence of Engagement

9.1.1 Table 3 below sets out the stakeholder engagement in preparing this Project Plan.

Table 3 record of stakeholder engagement

Consultee and date	Comment	How this has been addressed in the Project Plan
C01 Project Plan sent to Anna Stocks (Warwickshire County Archaeologist) on 24/09/2018	Comments received on 08/10/2018	Comments reviewed and amendments incorporated.

10 References

Reference	HS2 document reference no.
Garwood P 2011 Regions, cultural identity and social change, c.4500-1500 BC: the West Midlands in context in *The Undiscovered Country: The Earlier Prehistory of the West Midlands.*	na
Hurst D 2011 Middle Bronze Age to Iron Age: a research assessment overview and agenda in *The Archaeology of the West Midlands: A Framework for Research.*	na
Hodder, M 2011 *Birmingham: The Hidden History.*	na
HS2 Technical Standard Specification for historic environment investigations	HS2-HS2-EV-STD-000-000035
HS2 Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS)	HS2-HS2-EV-STR-000-000015
HS2 Cultural Heritage GIS Specification	HS2-HS2-GI-SPE-000-000004
HS2 Geographic Information System Standards	HS2-HS2-GI-STD-000-000002
HS2 CFA18 ES Reports: Stoneleigh, Kenilworth and Burton Green	Volume 5 appendix: CH-001-018, ES 3.5.2.18.4 CH-002-018, ES 3.5.2.18.5 CH-003-018, ES 3.5.2.18.6 CH-004-018, ES 3.5.2.18.7

HS2 CFA23 ES Reports: Balsall Common and Hampton-in-Arden	Volume 5 appendix: CH-001-023, ES 3.5.2.23.4 CH-002-023, ES 3.5.2.23.5 CH-003-023, ES 3.5.2.23. CH-004-023, ES 3.5.2.23.7
Report: Detailed Desk Based Assessment at Crewe Farm	1D037-EDP-EV-REP-030-000032
Report: Detailed Desk Based Assessment for Hurst Relict Medieval Landscape	1D037-EDP-EV-REP-030-000038
Report: Detailed Desk Based Assessment for Balsall Common	1D037-EDP-EV-REP-N000-000002
Report: Detailed Desk-Based Assessment: Historic Settlement Landscape	1EW04-LMJ-EV-PLN-N000-029008
Geoarchaeological Desk Based Assessment (GDBA)	1D037-EDP-EV-REP-000-000031
HS2 Report for Trial Trenching at Burton Green	1EW04-LMJ-EV-REP-NS01_NL04-022003
HS2 Report for Trial Trenching at Finham Brook	1EW04-LMJ-EV-REP-NS01_NL03-022010
Victoria County History (VCH) 1945 'The hundreds of Warwickshire', in *A History of the County of Warwick: Volume 3, Barlichway Hundred*, ed. Philip Styles (London, 1945), pp. 1-4. *British History Online* http://www.british-history.ac.uk/vch/warks/vol3/pp1-4 [accessed 28 June 2018].	na
Geophysical Survey Results, Warwickshire	(253-ATK-EV-REP-030-000581

11 Figures

11.1.1 The following figures are attached as Appendix A:

- Figure 1: Location Plan
- Figure 2: Heritage Assets 1/2
- Figure 3: Heritage Assets 2/2
- Figure 4: Previous Investigations
- Figure 5: Trench Plan 1/7

- Figure : Trench Plan 2/7
- Figure 7: Trench Plan 3/7
- Figure 8: Trench Plan 4/7
- Figure 9: Trench Plan 5/7
- Figure 10: Trench Plan /7
- Figure 11: Trench Plan 7/7

11.1.2 The detailed proposals drawings have not been included in this project plan but where appropriate to informing the evaluation strategy they have been referred to in the text. Trench layout may be subject to change once the final geophysics report has been received and, for example, due to environmental and utility constraints at the evaluation area.

12 Glossary of Terms

12.1.1 The following terms have been used in this report:

- Archaeological Contractor - the organisation undertaking the evaluation on behalf of the Contractor.
- Contractor - LM JV: the body responsible for the terms and conditions, policies, procedures and payments.
- Detailed Desk 8ased Assessment (DD8A) - 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.
- DJV - the body responsible to the Contractor for assurance of historic environment work and all communication with the Employer and other stakeholders regarding the archaeological strategy, scope and method of work.
- Employer - Hs2 Ltd.
- Exhumation - removal of human burials from an archaeological site.
- 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.
- Health and Safety Compliance Manager - The manager with responsibility for site inspections, reporting and issuing of recommendations for the Site Supervisor and

Project Manager to implement.

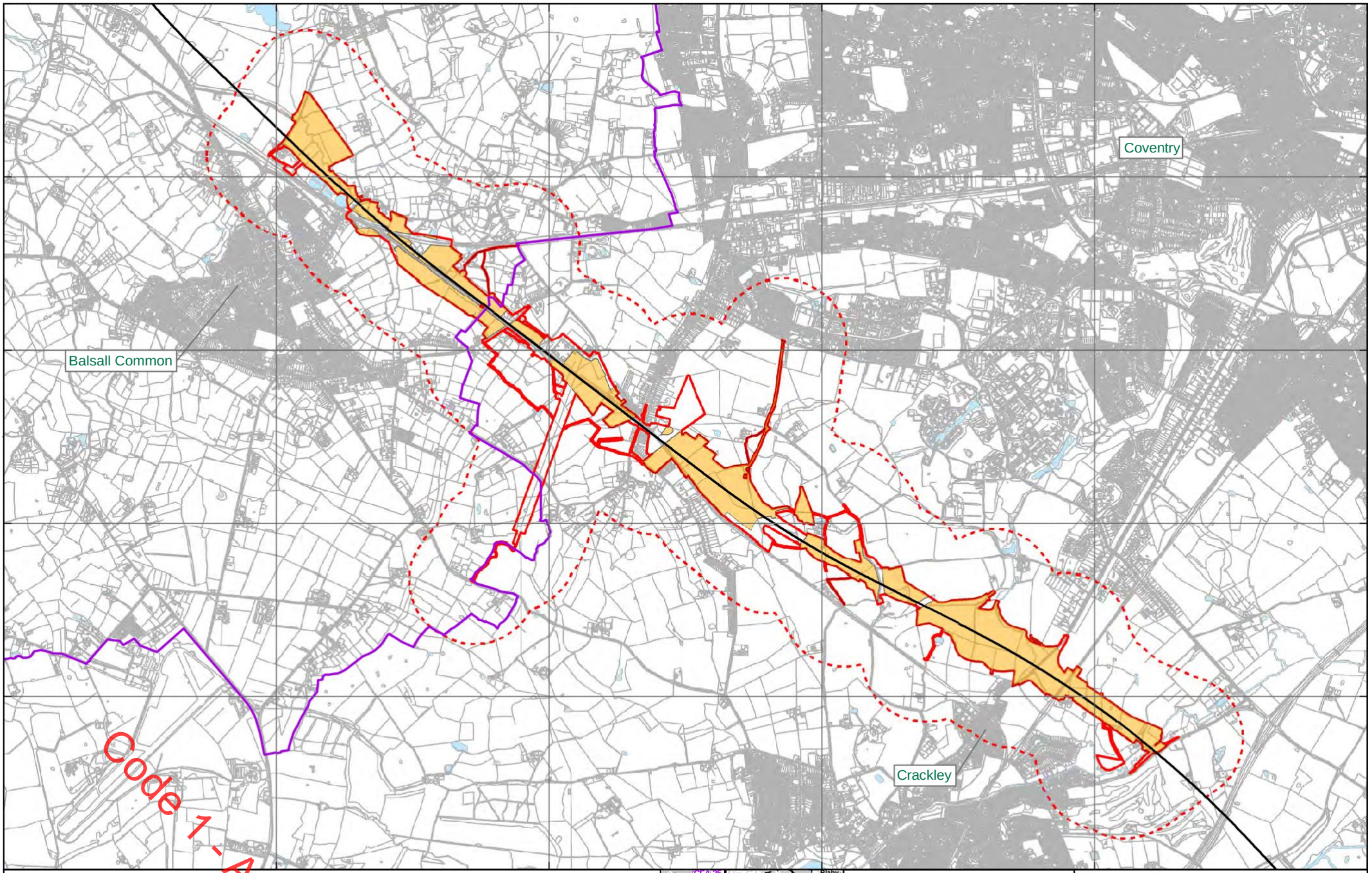
- Location - a specific HS2 worksite or group of worksites that are being addressed as a combined historic environment investigation programme of assessment, evaluation and further investigation.
- Project Manager - acts as administrator of the contract, handling certification, compensation events etc., with an obligation to act fairly and impartially as an agent of the Employer. An office-based manager who is the client's principal point of contact and who has overall responsibility for the project budget and delivery
- Project Plans - specification document for each specific package of activity (e.g. a survey, desk-based assessment, excavation, recording project). The plans would respond to the Specific Objectives set out in the GWSI: HERDS and be delivered within an agreed budget and timeframe.
- Senior Archaeologist - a site-based manager provided by the Archaeological Contractor who is responsible for the direction of the works and the field team.
- Works - the specific historic environment assessment, evaluation or further investigation works at each location.

Acronyms

ADS	Archaeology Data Service
CLR	Construction Land Requirement
DDBA	Detailed Desk-Based Assessment
ES	Environmental Statement
ESA	Enhanced Study Area (as part of GDBA)
GCZ	Geoarchaeological Character Zone (as part of GDBA)
GDBA	Geoarchaeological Desk-Based Assessment
GIS	Geographical Information System
GWSI: HERDS	Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy
HE	Historic England (Formally English Heritage)
HER	Historic Environment Record
LLAU	Limits of Land to be Acquired or Used
LS-WSI	Location Specific Written Scheme of Investigation

NRHE	National Record for the Historic Environment
OASIS	Online AccesS to the Index of archaeological investigationS
PDF	Portable Document Format

Appendix A —Figures



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- District/Borough boundary
- Watercourse
- Water Body

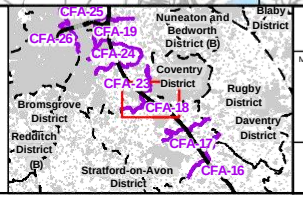

Figure 1

Map Name

Kenilworth to Balsall Common Location Plan

Community Forum Area CFA18 & CFA23

HS2 Ltd accept no responsibility for any circumstances, which arise from the reproduction of this map after alteration, amendment or abbreviation or if it is issued in part or issued incomplete in any way.

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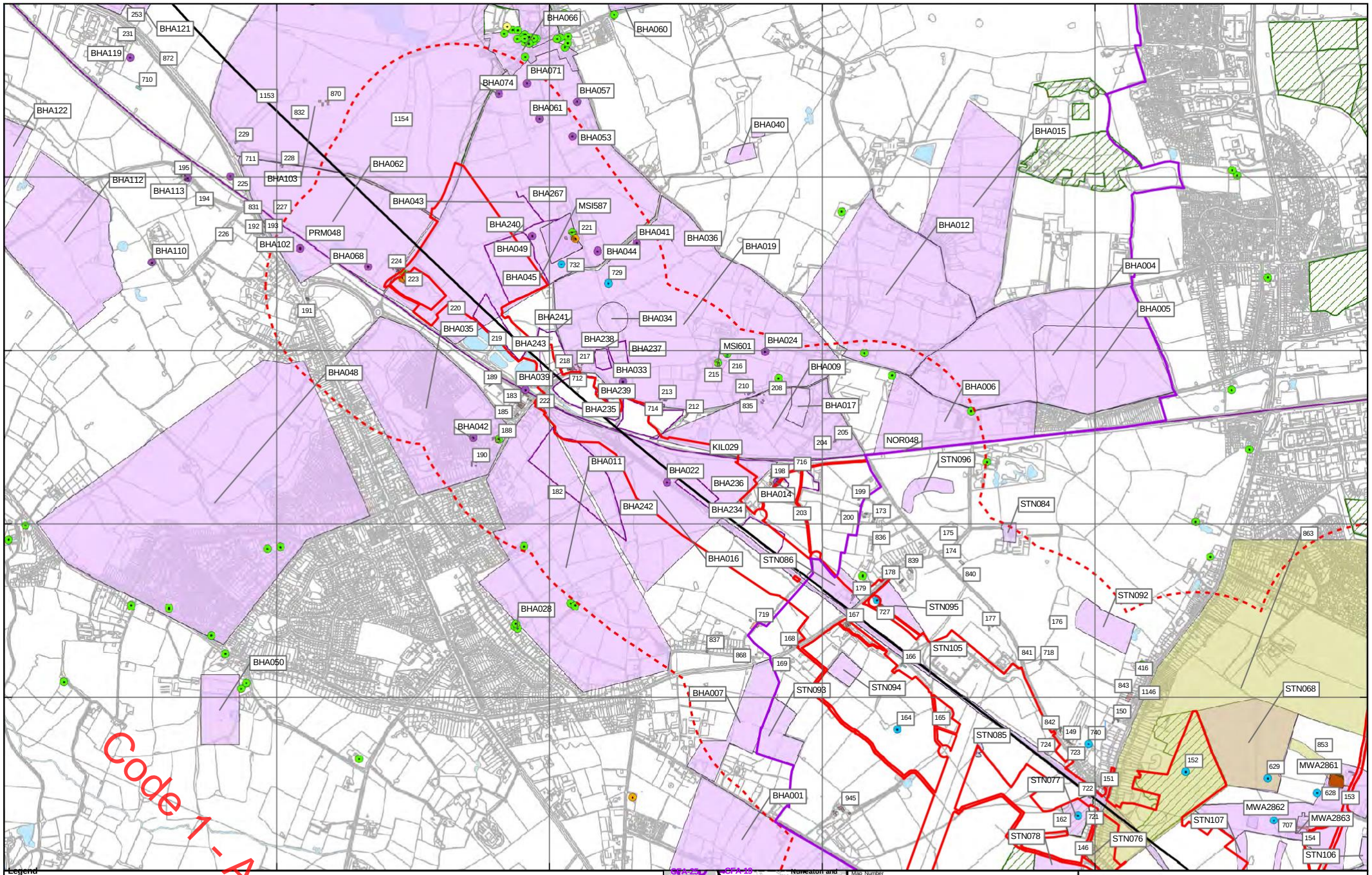

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- 500m Boundary
- Community forum boundary
- STNXX Heritage Asset Reference ID (2013 ES)
- District/Borough boundary
- Watercourse
- Water Body
- Ancient Woodland
- Scheduled Monument
- Registered Parks and Gardens
- Non Designated Heritage Site (point)
- Non Designated Heritage Site (Line)
- Non Designated Heritage Site

Listed Building

- Grade I
- Grade II*
- Grade II
- Barn
- Brickworks
- Building
- Farmstead
- Landscape Feature
- Smithy
- Place names

Map Number

Figure 2

Map Name

Kenilworth to Balsall Common Heritage Assets 1/2

Community Forum Area CFA18 & CFA23

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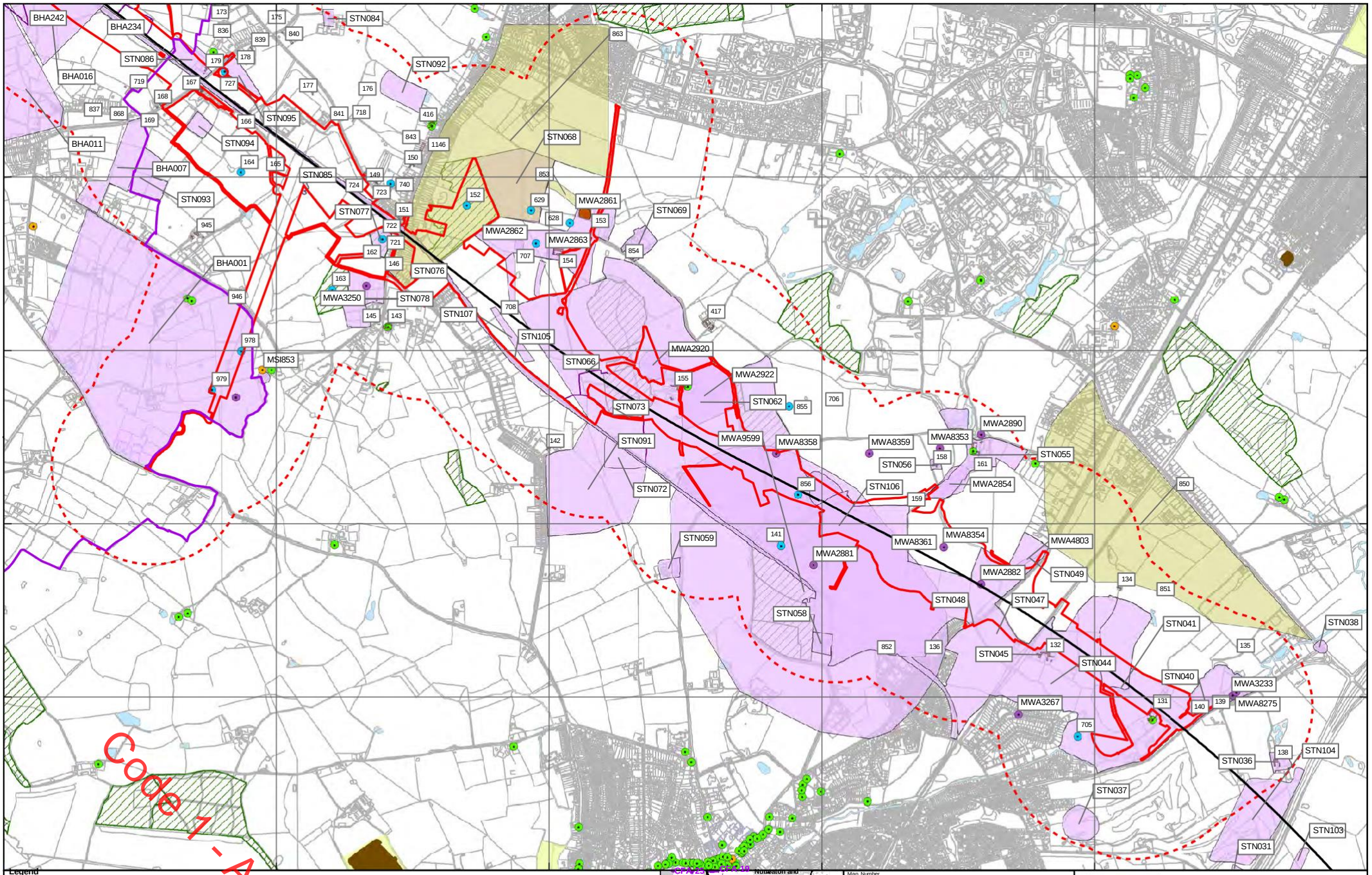

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- Ancient Woodland
- Scheduled Monument
- Registered Parks and Gardens
- Non Designated Heritage Site (point)
- Non Designated Heritage Site (Line)
- Non Designated Heritage Site
- **Listed Building**
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- Grade II*
- Grade II
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- Brickworks
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- Farmstead
- Landscape Feature
- Smithy
- Place names

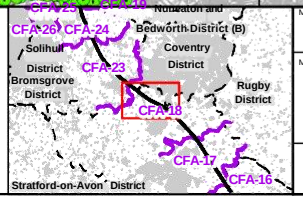

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Figure 3

Map Name

Kenilworth to Balsall Common Heritage Assets 2/2

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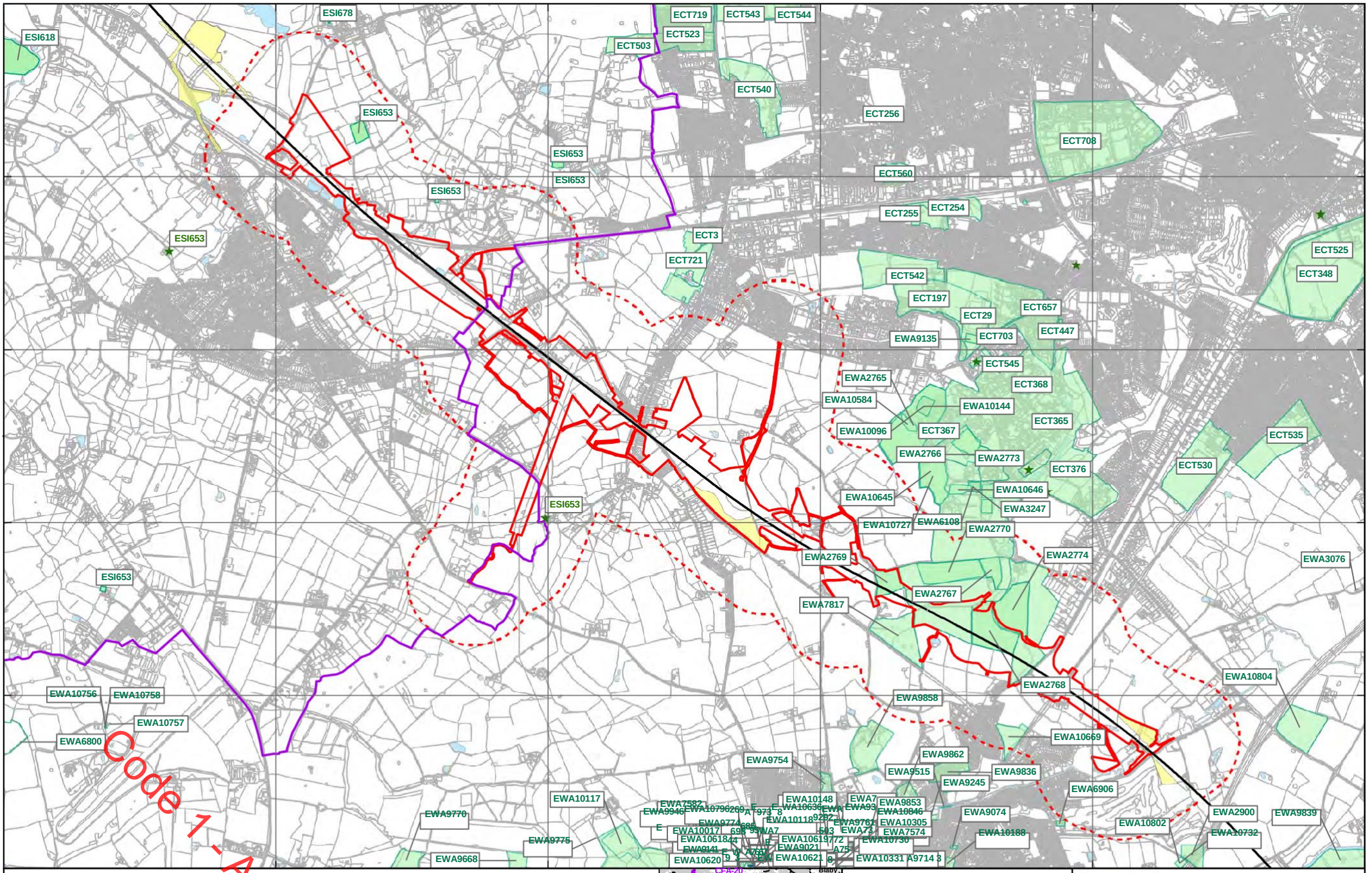

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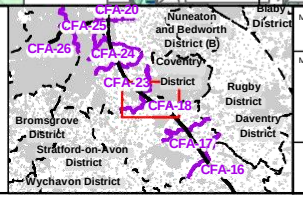
- District/Borough boundary
- Watercourse
- Water Body
- Previous trial trenching investigations
- Historic environmental record point
- Historic environmental record linear
- Historic environmental record area
- EWAXX HER Unique Ref ID (2013 ES)



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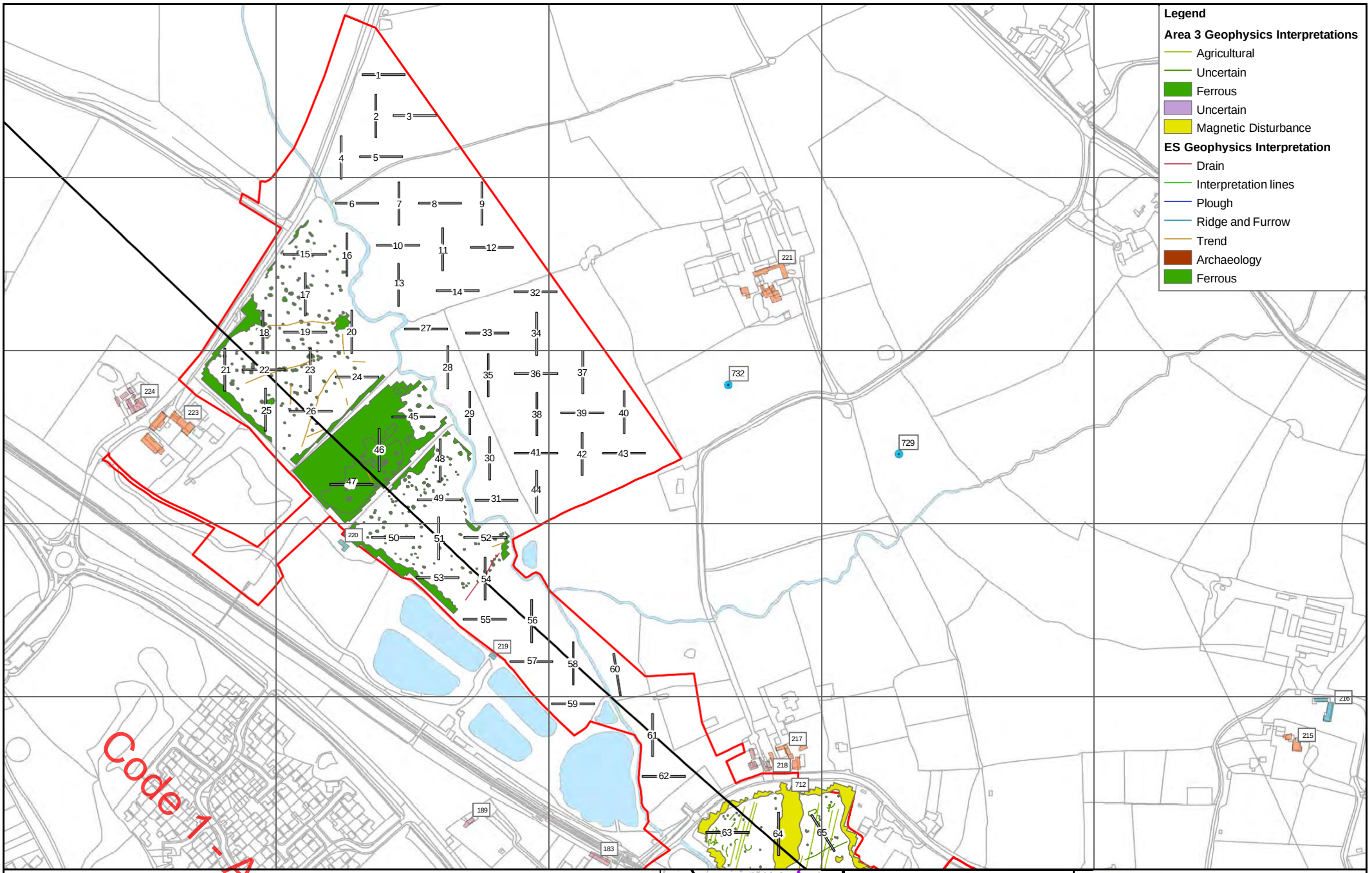

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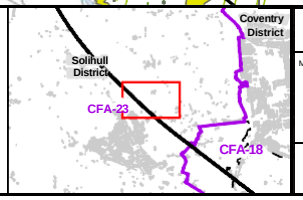
- Water Body
- Trenches
- Place Names
- Barn
- Brickworks
- Building
- Farmstead
- Landscape Feature
- Smithy



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Map Name

Kenilworth to Balsall Common Trench Plan 1/7

Community Forum Area CFA18 & CFA23

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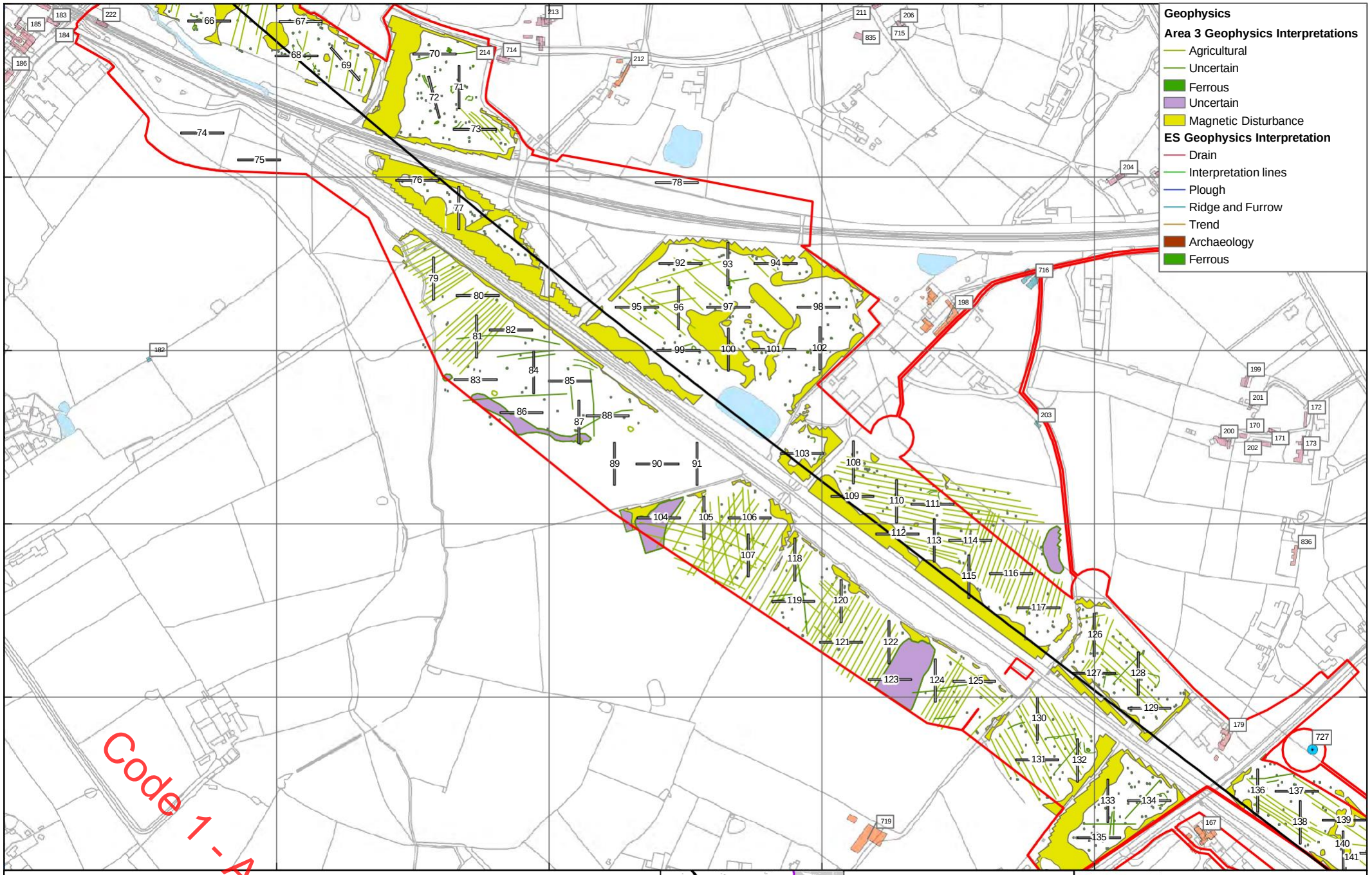

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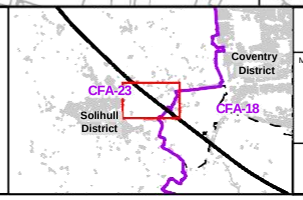

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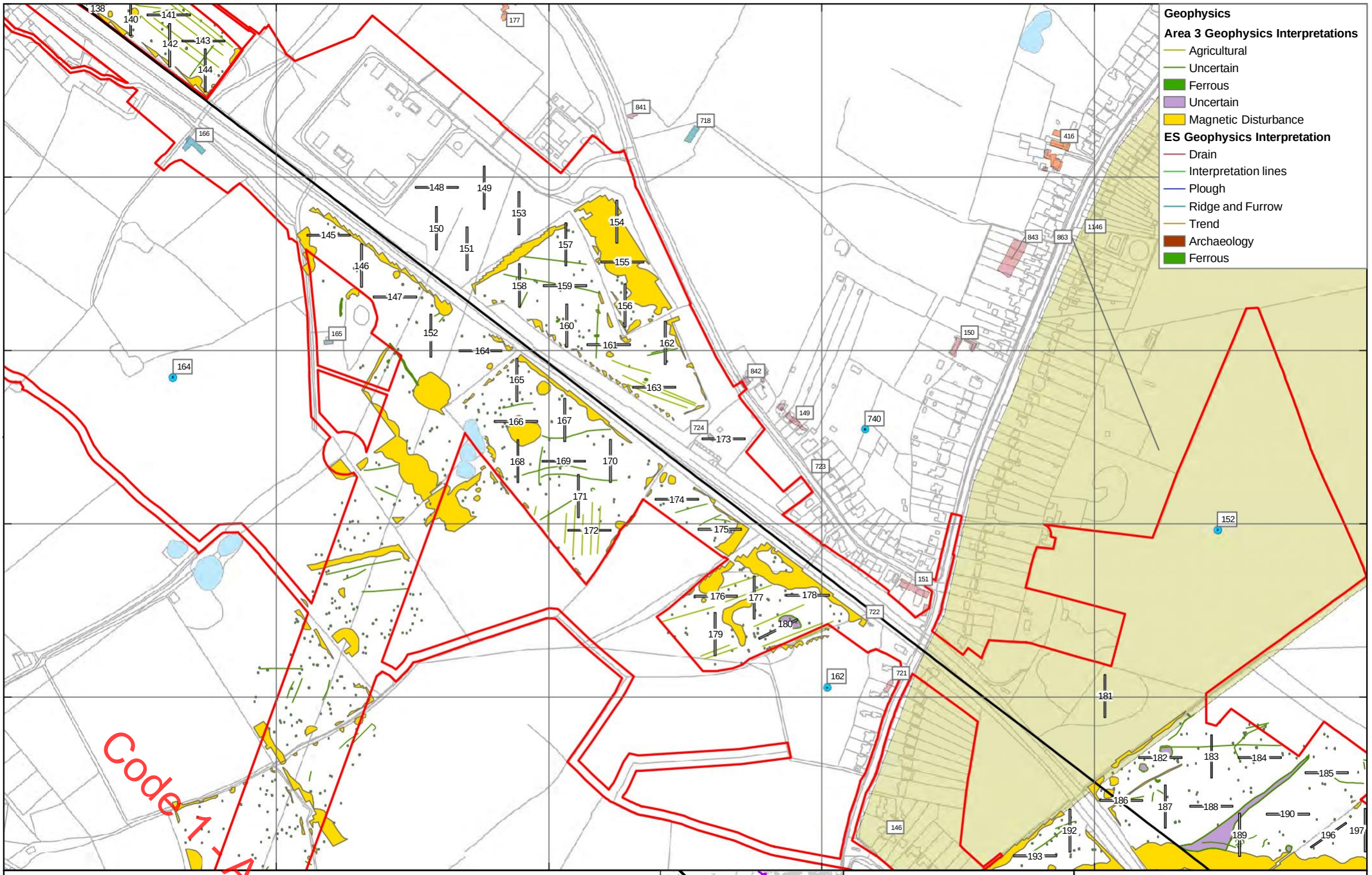

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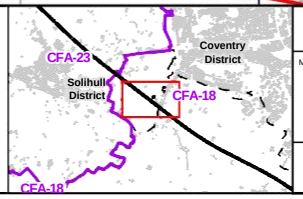

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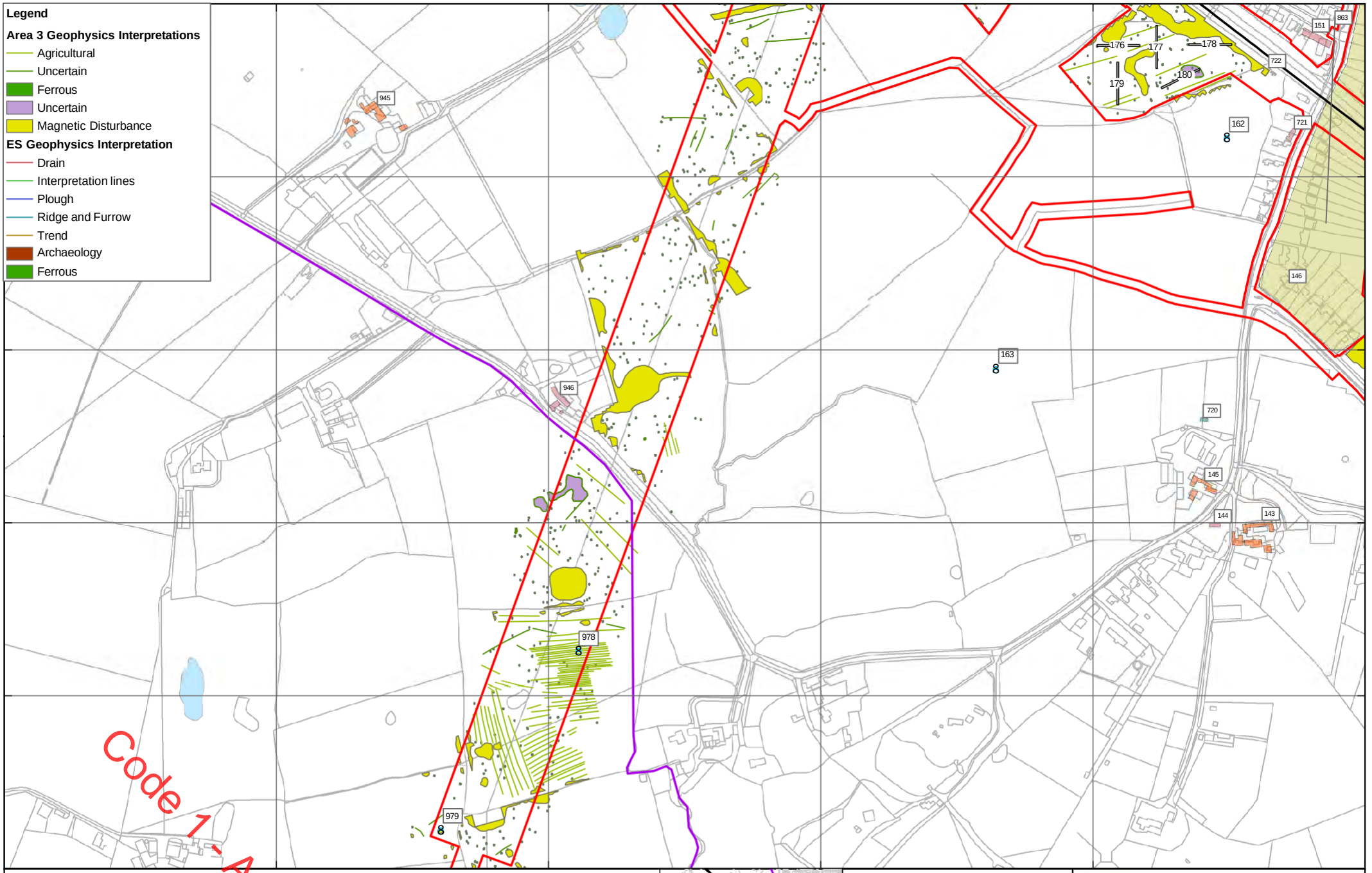

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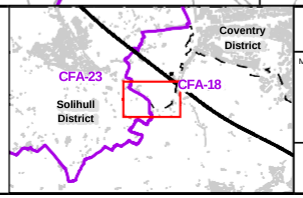

Figure 8

Map Name

Kenilworth to Balsall Common Trench Plan 4/7

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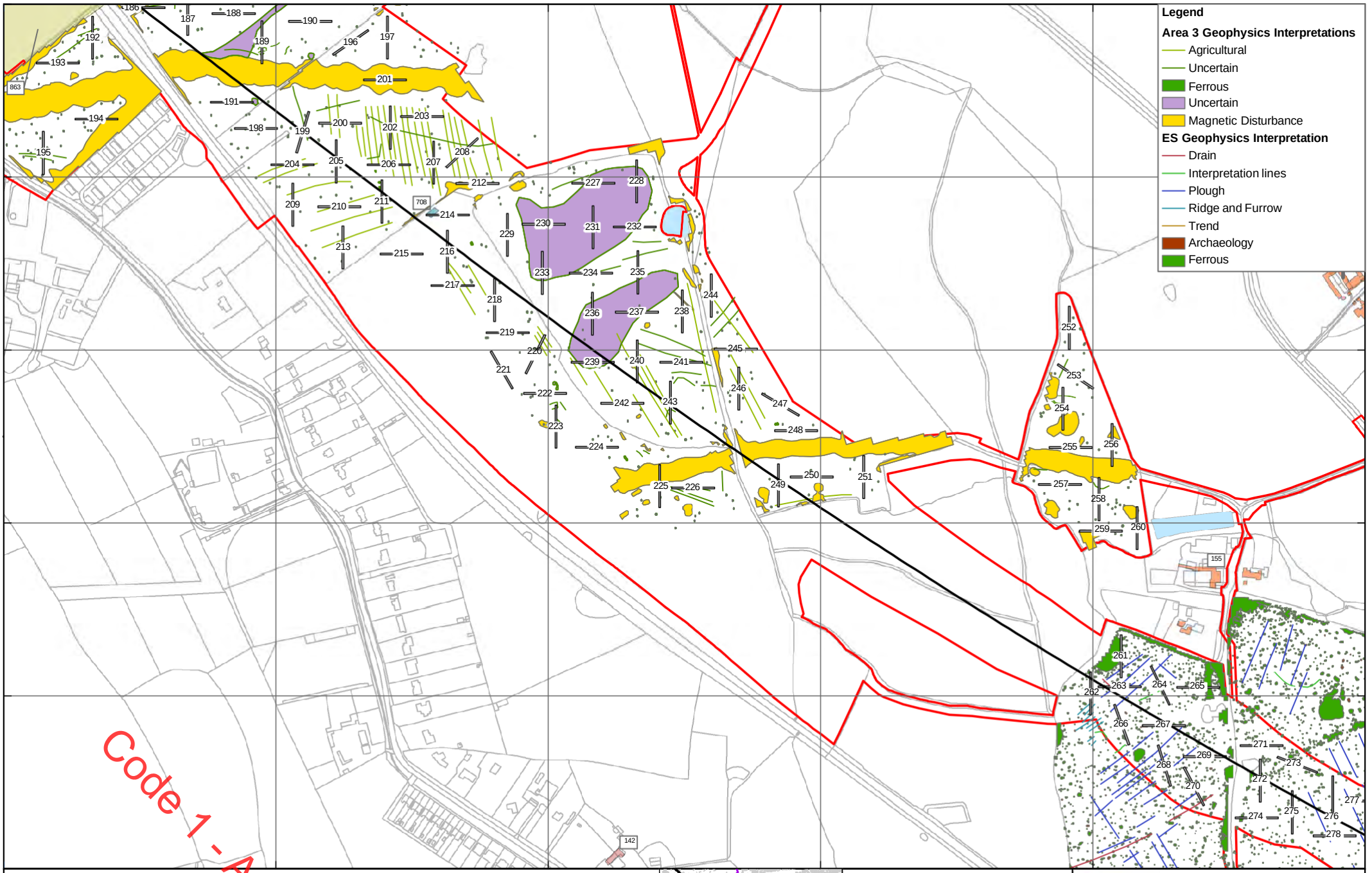

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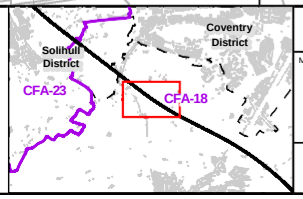

Figure 9

Map Name

Kenilworth to Balsall Common Trench Plan 5/7

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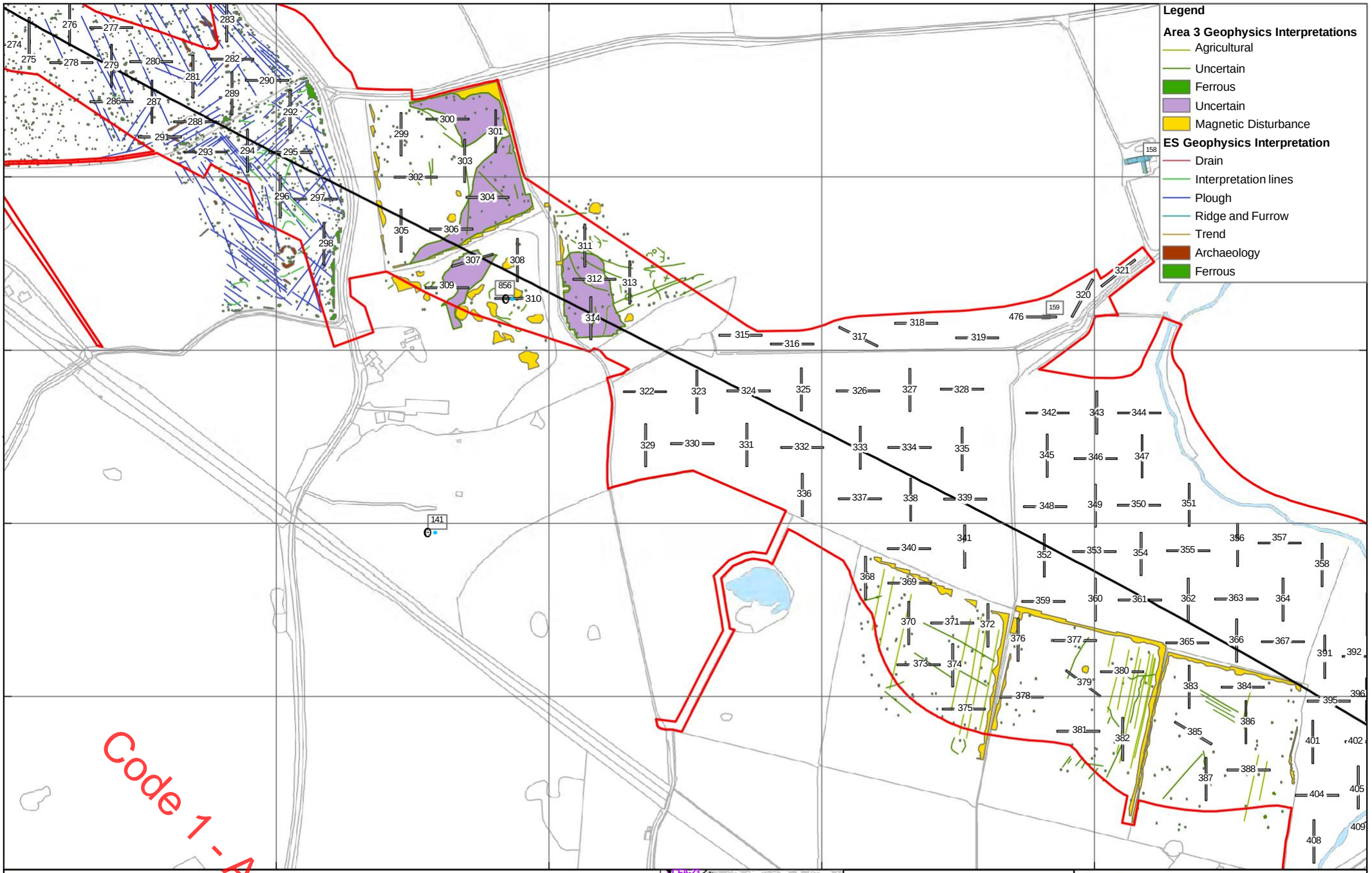

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- Place Names
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- Building
- Farmstead
- Landscape Feature
- Smithy

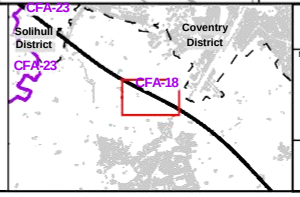


Figure 10

Map Name

Kenilworth to Balsall Common Trench Plan 6/7

Community Forum Area CFA18 & CFA23

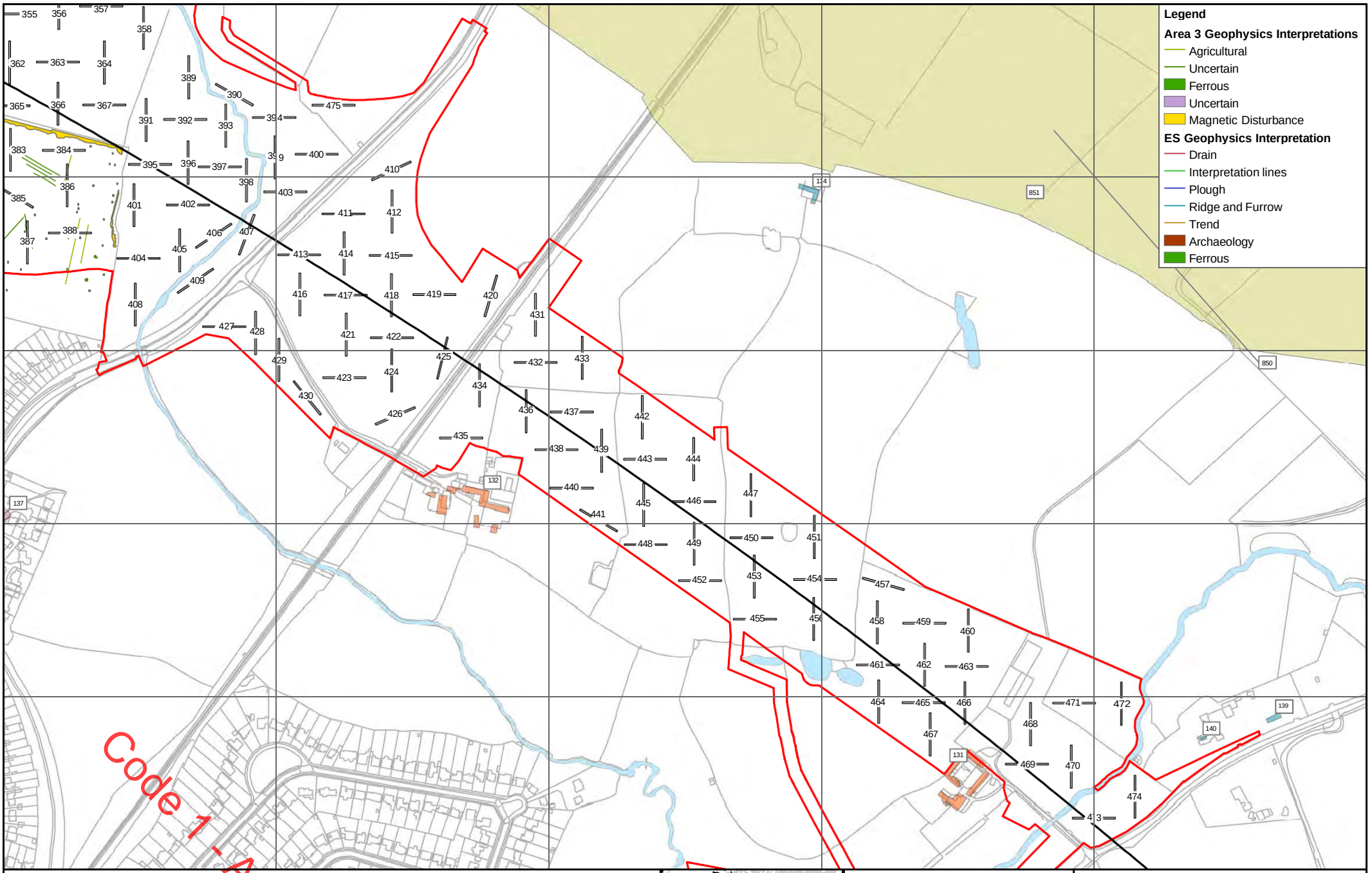
Q

Scale at A3: 1:4,000

0 40 80 120 160 Metres

Doc Number: -

Date: 15/11/18



Code 1 - Accepted

Legend

- Route in tunnel
- Route on surface
- Land potentially required during construction
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water Body
- Trenches
- Place Names
- Barn
- Brickworks
- Building
- Farmstead
- Landscape Feature
- Smithy

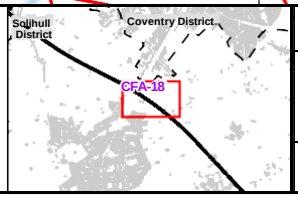


Figure 11

Map Name

Kenilworth to Balsall Common Trench Plan 7/7

Community Forum Area CFA18 & CFA23

Q

Scale at A3: 1:4,000

0 40 80 120 160 Metres

Doc Number: -

Date: 15/11/18

Appendix 8 —Heritage Assets

Asset ID	Asset Name	Asset Description
ES ref. STN10	Crackley Assarted Woodland	This is a narrow area of older landscape, surrounded mostly by large and very large post-war fields. The landscape asset consists of fields and woodlands showing characteristics of woodland clearance and assarting, much of which may be of relatively early date.
HER ref. MWA 93	Site of gravel pits north-west of Dale House	Gravel pits marked on 188 mapping.
ES ref. STN045	Milburn Grange	The later 18th century brick house faces to the east into its attendant yard (which is now, largely covered by modern prefabricated buildings).
HER ref. MWA7839	Imperial railway	The site of a post-medieval railway.
HER ref. MWA9599	Find spot	Iron Age Staters.
ES ref. STN048	Crackley Bridge	Post-medieval bridge.
HER ref. MWA2882	Find spot	Roman coins.
ES ref. STN049	Cropmark east of Crackley	Undated linear cropmark.
HER ref. MWA4803	Undated linear cropmark	Linear features shown on historic photography.
HER ref. MWA83 1	Find spot	Prehistoric or Anglo Saxon pottery sherd.
ES ref. STN057	Cropmarks adjacent to Crackley Woods	Two parallel curvilinear cropmarks that may represent a former trackway or possible watercourse. Also rectilinear and curvilinear cropmarks 100m to the east of Crackley Wood. The cropmarks are also located within an area of ridge-and-furrow earthworks. All set within area of former medieval woodland.
HER ref. MWA2922	Undated linear features	Possible enclosures shown on aerial photography.
ES ref. STN073	Hedgerow to south of Broadwells Wood	Length of important hedgerow running along southern edge of Broadwells Wood.
HER ref. MWA2920	Quarry	Site of a quarry, Crackly Lane

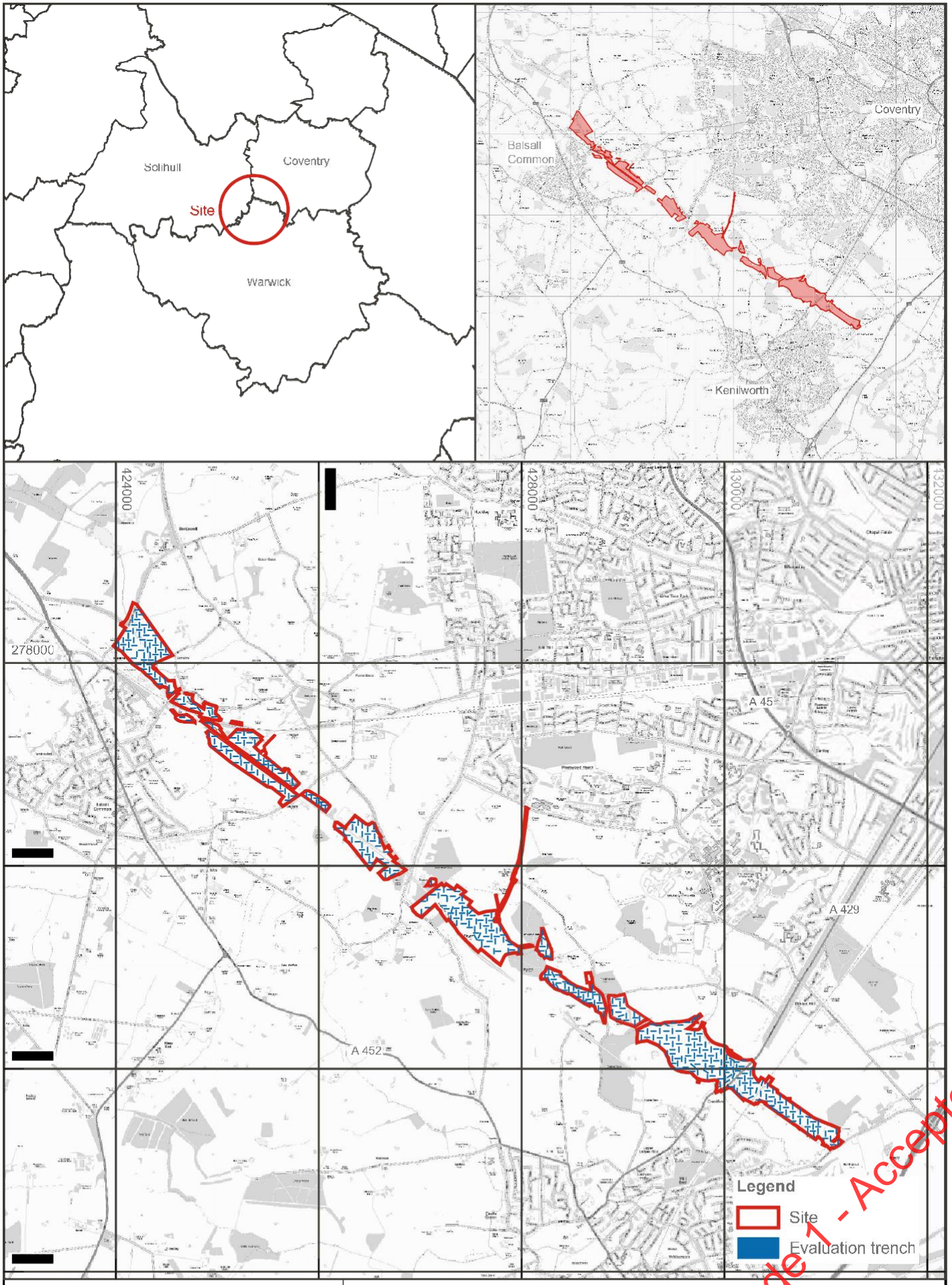
Asset ID	Asset Name	Asset Description
ES ref. BHA001	Medieval and post-medieval fields	Feature identified through aerial photography interpretation. Eroded ridge and furrow with possible evidence of additional steam ploughing.
HER ref. MSI875	Ridge and furrow	Feature located west of Hob Lane.
ES ref. STN107	Red Lane Field Boundaries	Dispersed medieval/post-medieval field boundaries or route ways shown on LiDAR.
HER ref. MWA1208	Ridge and furrow	Feature located to the south-east of Hob Farm.
ES ref. STN105	Railway	Disused railway line complete with cutting, earthworks and other surface remains.
ES ref. STN077	Ridge-and-furrow earthworks in Little Poors Wood	Area of ridge-and-furrow within Little Poors Wood on an east-north-east to west-south-west alignment. Shown in LiDAR plots.
ES ref. STN085	Ponds south of Beanit Spinney	Two sets of interlinked post-medieval/modern ponds in the fields to the east of the woodland. Shown on LiDAR plots.
ES ref. STN095	Crabmill Farm cropmarks	Ridge-and-furrow visible on aerial photographs, aligned north-west to south-east. Ponds and linear features are shown on LiDAR plots.
ES ref. STN08	Field boundaries	Former linear field boundaries directly associated with possible house platforms or ditched enclosures and ridge-and-furrow. Medieval/post-medieval in date.
ES ref. BHA234	Ridge and furrow located to the south of Beechwood Farm	Feature identified through LiDAR analysis, south of Beechwood Farm.
ES ref. BHA01	Medieval fields and eroded ridge and furrow south of Truggist Lane	Feature identified through aerial photography interpretation. Eroded ridge and furrow located east and south-east of Balsall Common.
ES ref. BHA23	Ridge and furrow located to the west of Beechwood Farm	Feature identified through LiDAR analysis, west of Beechwood Farm.
ES ref. BHA022	Dismantled Kenilworth to Balsall Common line	Kenilworth to Balsall Common branch of the LNWR, opened 2 March 1884, line lifted 19 5.
ES ref. BHA009	Medieval fields	Feature identified through aerial photography interpretation, eroded ridge and furrow.
ES ref. BHA011	Eroded ridge and furrow east of Balsall Common	Feature identified through aerial photography interpretation. Eroded ridge and furrow.

Asset ID	Asset Name	Asset Description
ES ref. BHA235	Ridge and furrow located to the south of Truggist Lane	Feature identified through LiDAR analysis, south of Truggist Lane.
ES ref. BHA239	Garden & Ridge and furrow associated with Berkswell House	Identified on mapping and through LiDAR analysis, south of Truggist Lane.
ES ref. BHA242	Ridge and furrow	Feature identified through LiDAR analysis, west of Sunnyside Farm.
ES ref. BHA241	Ridge and furrow located to the north-east of Berkswell Railway Station	Feature identified through LiDAR analysis, north-east of Berkswell Station.
ES ref. BHA243	Ridge and furrow located to the north of Berkswell Railway Station	Feature identified through LiDAR analysis, north of Berkswell Station.
ES ref. BHA240	Ridge and furrow between Lavender Hall and Ram Hall	Feature identified through LiDAR analysis, between Lavender Hall and Ram Hall.

Appendix C —Archaeological Events

Event ID	Event Description
EWA27 7	Fieldwalking as part of Evaluation at University of Warwick (Field D4), 50m north of the evaluation area
ESI741	Archaeological geophysical survey at Nailcote Farm, Solihull, om north of the evaluation area
EWA2770	Fieldwalking as part of Evaluation at University of Warwick (Field D3), 100m north of the evaluation area
EWA 90	Watching brief at Knowle Hill, Kenilworth, 0.5km to the south-east of the evaluation area

Appendix 2: Location Plan and Trench Plan



Map Number

Figure 1

Map Name

Kenilworth to Balsall Common Location Plan

Community Forum Area CFA18 & CFA23
Stoneleigh, Kenilworth & Burton Greer

Doc Number: -

Scale At A4: 1:50 000 (main graphic)

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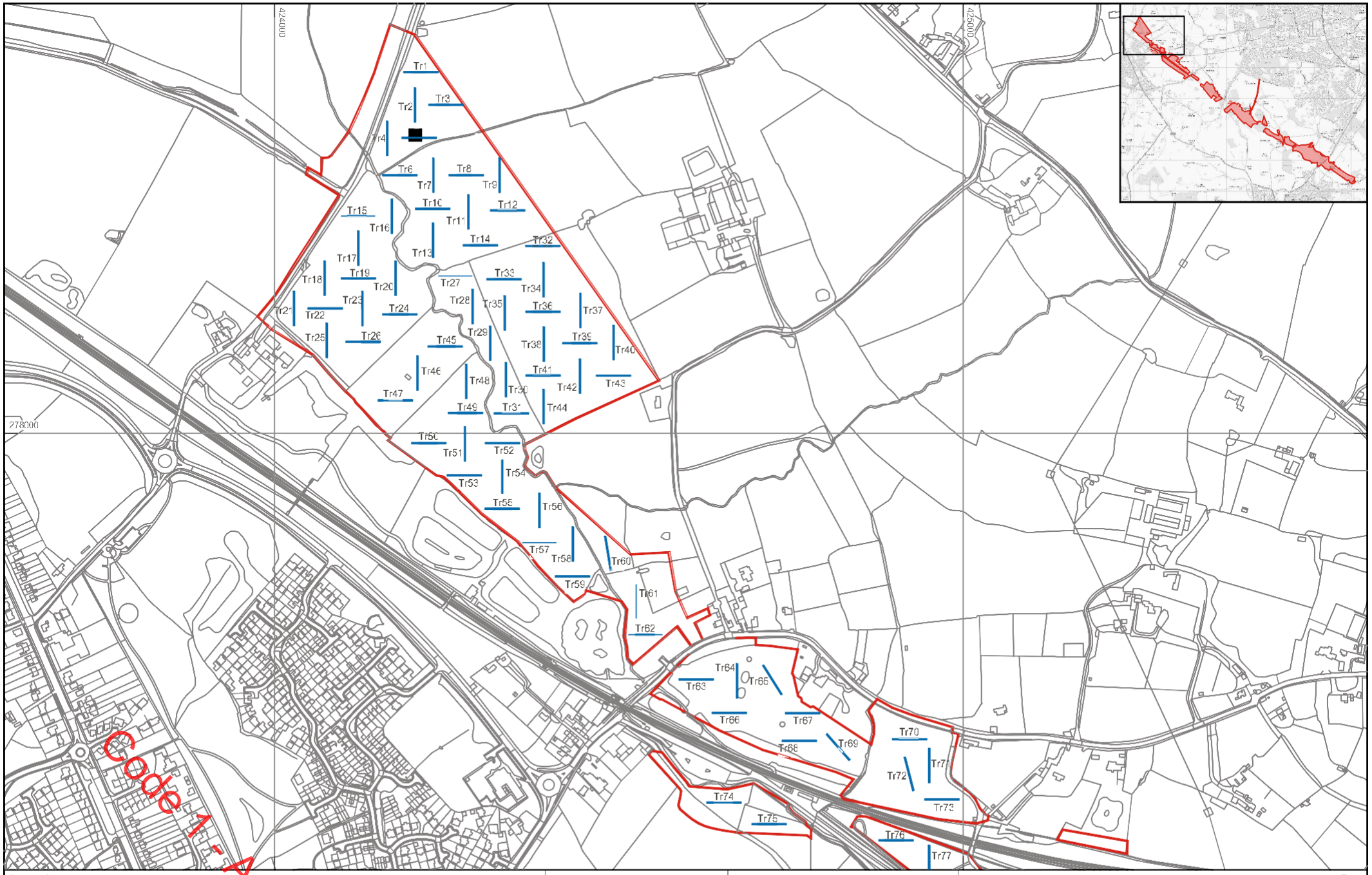
Date: 09/11/18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Code 1 - Accepted
Legend
Site
Evaluation trench
Figure 2
Community Forum Area CFA18 & CFA23
Stoneleigh, Kenilworth & Burton Green
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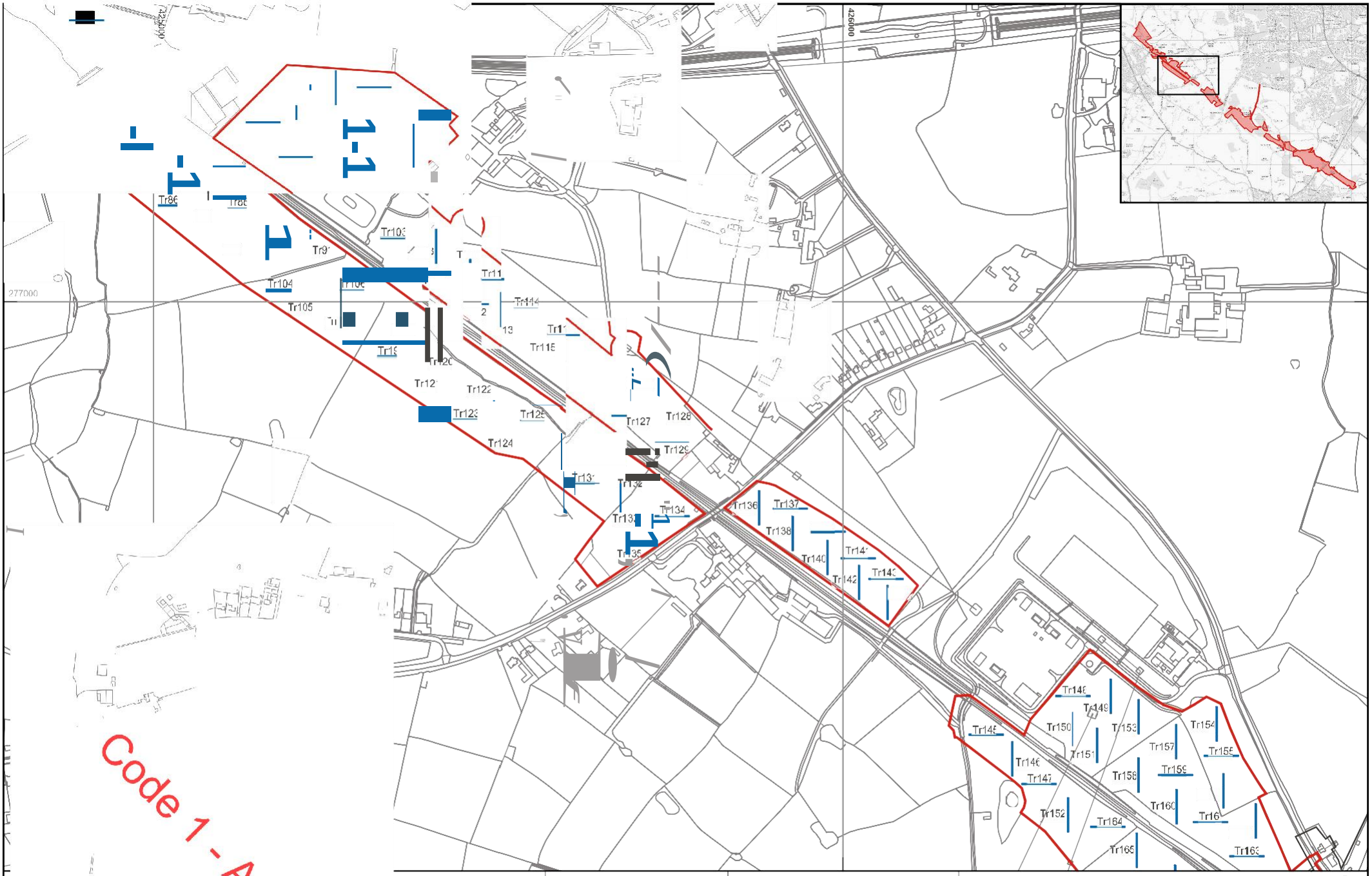
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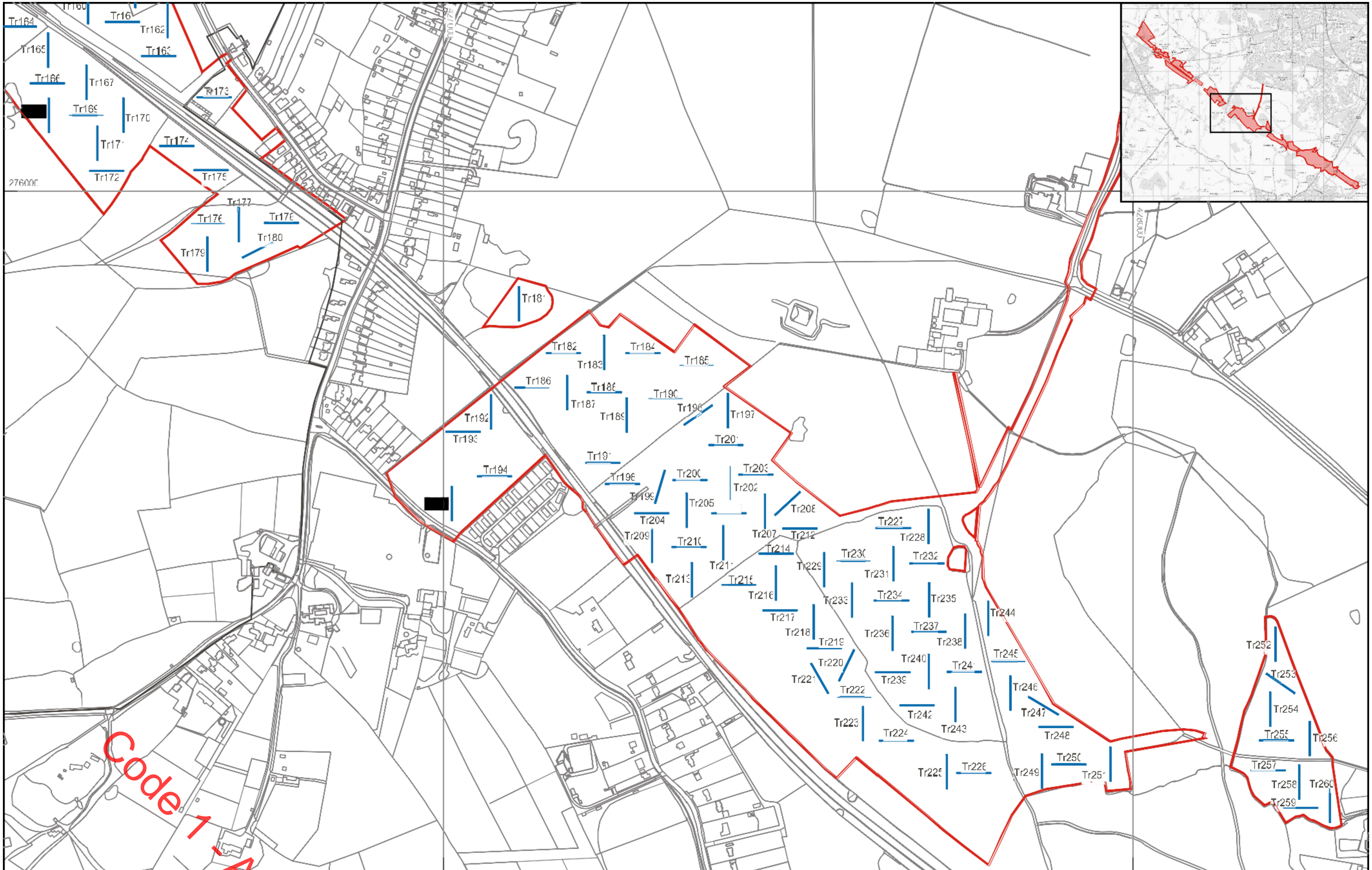
Site
Code 1 - Accepted
Figure 3
Kenilworth to Balsall Common
Trench plan
hs2
Scale At A3: 1:5000
Date 09/11/18
Doc Number: -



Legend
Site
Evaluation trench

[redacted]

Figure 4

Map Name

[redacted]

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Scale At A3: 1:5000

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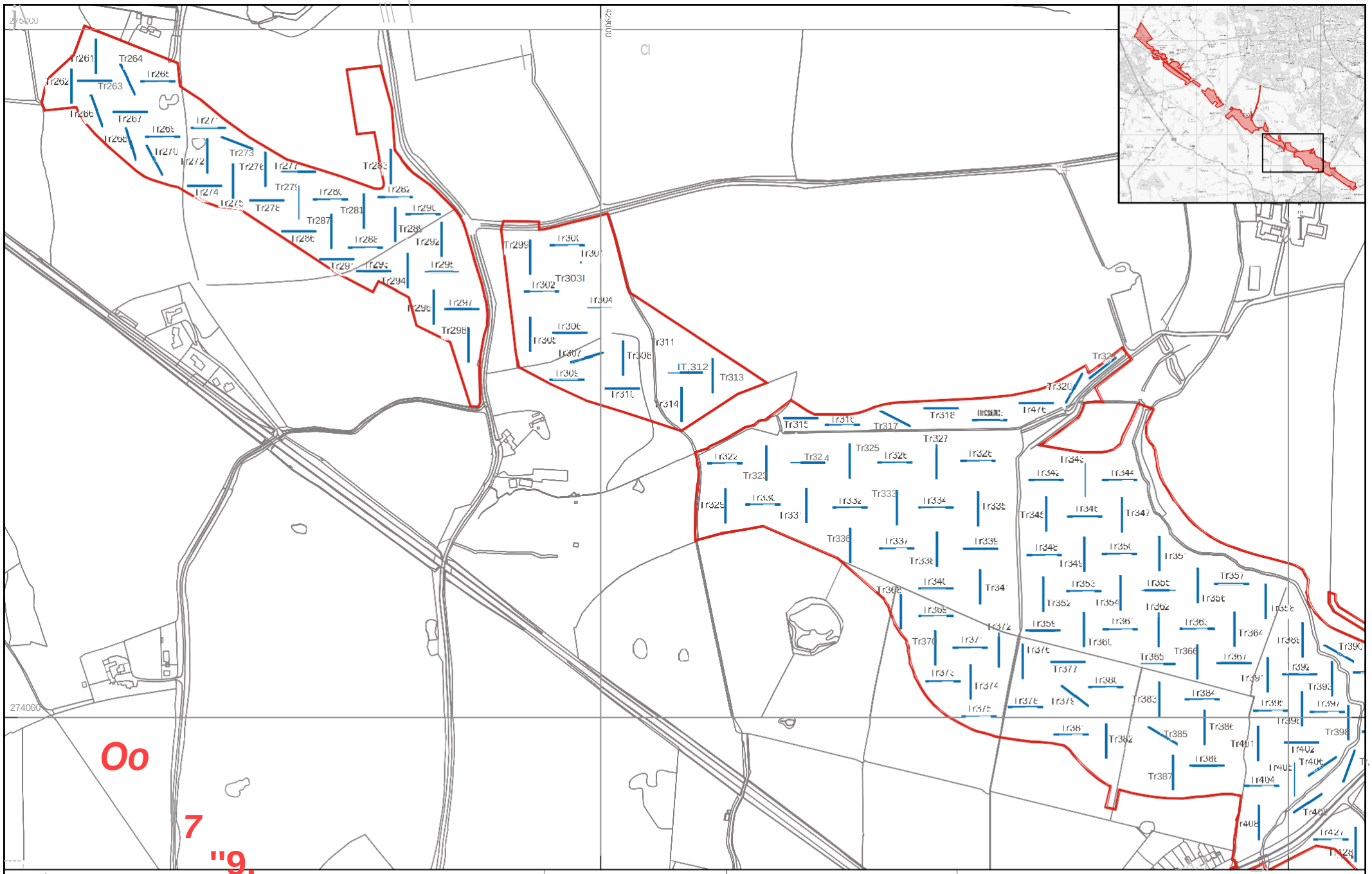
Date 09/11/18



Legend

Site

Evaluation trench

MapNu r

Figure 5

MapNamE

Kenilworth to Balsall Common

Trench plan

Community Forum Area CFA18 & CFA23

Stoneleigh, Kenilworth & Burton Green

hs2

Scale At A3: 1:5000

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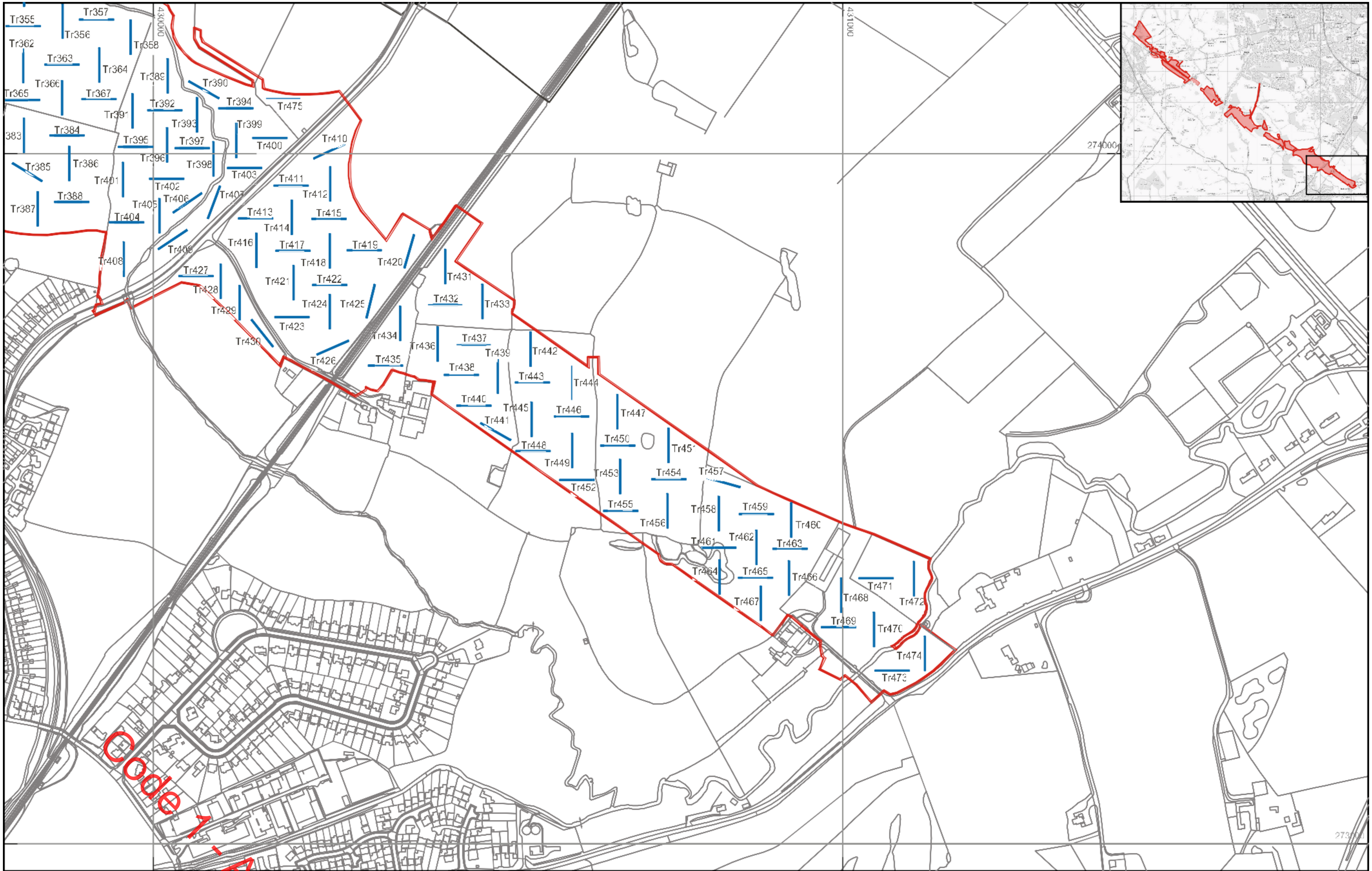
Date 09/11/18

Doc Number: -



Legend

Site

Evaluation trench

Map Number: Figure 6

Map Name: Kenilworth to Balsall Common Trench plan

Community Forum Area CFA18 & CFA23
Stoneleigh, Kenilworth & Burton Green

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Scale At A3: 1:5000

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Doc Number: -

Date: 09/11/18

Appendix 3: Risk Assessment and Method Statement: Kenilworth to Balsall Common Trial Trenching

Project Risk Assessment

Site address	**Kenilworth to Balsall Common:** **Compound A: Dale House farm, Dale house Ln CV8 2JZ** **Compound B:track off A429 Kenilworth Road CV8 2FF** **Compound C: Bockendon Grange, off Crackley Lane CV4 7DB** **Compound D: TBC**	**Start Date:**	**3rd December 2018**	**Doc. Ref. 01**	**213060.01**
		Completion Date:	**22nd March 2019**		
Scope of Works	**Archaeological Evaluation Trial Trenching comprising 474 x 50m x 2m trenches**	**Client/ Principal Contractor**		**HS2/ Laing O'Rourke Murphy Joint Venture (LMJV)**	
Significant Hazard / Risk associated with the work	**Working with plant** **Hand Excavation** **Deep Excavation** **Buried and overhead services** **Contamination** **Driving** **Ecology**	**Responsible Persons**	**PM: Richard O'Neill** **Arch Supervisors: Jonathan Buttery; Simon Brown** **First Aid: Jonathan Buttery; Simon Brown**		
		Emergency Procedures	**Nearest A&E Hospital:** Warwick Hospital Lakin Road Warwick Warwickshire, CV34 5BW Tel: [redacted]		
Additional Information / Documentation	**In the event of work ceasing due to health and safety reasons, the contractor and/or client is to be informed within 24 hours (contractor detail provided in contacts in red). This notification should be undertaken by the Project Manager in the first instance. In the absence of the Project Manager the Emergency Response Team (ERT) as detailed on the Emergency Response Procedure (attached) should be informed.**				

Risk Assessment Completed by:	**Print**	**Emma Carter**	**Signed**		**Position**	**Archaeological Supervisor**	**Date**	**05/11/2018**
Risk Assessment Approved by:	**Print**	**Richard O'Neill**	**Signed**		**Position**	**Project Manager**	**Date**	**08/11/2018**

Site Specific Risk Assessment

Completed before starting on site

Hazard	Consequence	Affected S/C/P	Initial Risk Rating			Control Measures	Residual Risk Rating			Monitor
			L	S	RR		L	S	RR	
General plant operations	Injury to WA staff, visitors, other contractors or other plant during machine excavation, including crushing and entrapment	S/C/P	2	3	6	• A permit to dig will be produced and issued by Wessex Archaeology prior to excavation. • Hi-vis vests, safety boots and safety helmet will be worn by all persons on site at all times. • All plant operators will be CITB certificated. All plant operators must have CPCS and valid driving license. • All plant operators will be made aware of WA working practices. • WA will netlon fence off all open trenches • All plant movement will be monitored. • All staff will be made aware of plant movement in their area. • Exclusion zone will be maintained and managed by the banksman during all plant movements and mechanical excavation. • No staff, vehicles or unused plant will be within the working radius of plant.	1	2	2	WA/ Contractor/ Client
	Noise, Vibration and Air Pollution	S/C/P	2	2	4	• WA standard working hours are 0800 – 1600 hrs, weekdays only. Weekend working or extended hours to be avoided. • All plant to be maintained in good working order at all times, and switched off whenever not required.	1	2	2	WA/ Contractor/ Client

	Fire	S/C/P	2	2	4	• All plant to be equipped with on-board fire extinguishers, or site accommodation fire extinguishers to be kept near to hand during plant operations. • Staff/ subcontractors to vigorously tackle fire only if considered safe to do so – if in doubt call the emergency services immediately and ensure all personnel, visitors, members of the public etc. are kept well back.	1	2	2	WA/ Contractor/ Client
	Theft and/or damage (potentially impacting on local environment)	S/C/P	2	2	4	• Care will be taken to store plant away from the main road and site entrance, in a place not clearly visible from public rights of way. Plant will be fenced off with Heras type fencing. Plant will also be secured by the Plant Contractor. • Security will be provided at the compound locations including remotely monitored cameras, patrols and response to incidents.	1	2	2	WA/ Contractor/ Client
Fuel oil management	Injury to WA staff, visitors and other contractors, and damage to the local environment through contamination	S/C/P	2	2	4	• All plant will be fuelled off-site or in areas designated by the Contractor. Spill kits to be retained for plant and vehicles.	1	2	2	WA/ Contractor/ Client
Hand-excavation	Injury to WA staff, visitors and other contractors whilst using hand tools	S/C/P	2	2	4	• All tools will be inspected prior to removal from Sheffield. All damaged, broken or otherwise unusable hand tools to be marked as such and put to one side, either at Sheffield or on site. • Sustained (i.e. in excess of one working day) repetitive manual activity will be avoided where possible. • All on-site grid pegs will be fitted with safety caps • Heavy lifting to be avoided where possible. If unavoidable then all staff to receive appropriate training. • All tools will be used for the purpose for which they were intended.	1	2	2	WA/ Contractor/ Client

						• At all times WA staff shall be made aware of other persons working in the vicinity.				
Deep excavation	Injury to WA staff, visitors or other contractors due to trench collapse	S/C/P	2	3	6	• **Excavation area sides will be stepped or battered as ground conditions demand, regardless of depth.** • Access to areas on site will be agreed prior to starting works. Access points to trenches will be identified and battered in order to facilitate safe access into the excavation area. • No persons other than WA, Contractor, Client or curatorial staff will enter deep excavations at any time. • If required, groundwater will be pumped out following the LM 'permit to pump' procedure and WA Environmental policy	1	3	3	WA/ Contractor/ Client
	Injury to WA staff, visitors or other contractors due to fall into excavations	S/C/P	2	3	6	• Excavation areas and deep excavated features will be demarcated by netlon fencing. • Appropriate hazard signs (i.e. "Danger Deep Excavation") to be erected at all reasonable access points to the site if necessary. • Excavated spoil will be neatly piled at least 1m away from the edge of a trench. • All visitors to the site will be made aware of the location of any deep excavations.	1	3	3	WA/ Contractor/ Client
Farm environment	Physical injury from livestock	S/C/P	2	2	4	• Do not enter areas where you will potentially be in direct contact with livestock, unless approval is given by the farmer. • No excavation to take place within areas of livestock. WA will liaise with the Contractor regarding land owner • requirements prior to works commencing to ensure access and appropriate places to track plant are agreed.	1	2	2	WA/ Contractor/ Client

		Likelihood		
		1	2	3
Severity	3	3	6	9
	2	2	4	6
	1	1	2	3

Good
Acceptable
Needs further controls

1= Low
2 = Med
3 = High

	Transfer of animal to animal infections (FMD, SVD, anthrax, fowl pest, etc) or zoonoses (transfer of animal diseases to humans).	S/C/P	2	2	4	• Do not attempt to touch animals. • Wash off all animal faeces or other forms of contamination before leaving site and/or moving between different areas of landholding. • Do not work in the vicinity of animals if suspected or known to be pregnant, recovering from respiratory illness, undergoing chemo-therapy or similar forms or medication, or have other health concerns that may be exacerbated by exposure to farm animals. • Appropriate PPE (overalls, gloves, respirators etc.) to be worn at all times where direct contact with or working in very close proximity to livestock, or where they have been housed in the recent past, is unavoidable. • Washing facilities to be provided in accordance with H&S requirements. All staff to use such prior to eating.	1	2	2	WA/ Contractor/ Client
	Injury to agricultural equipment, livestock etc.	P	2	2	4	• Ensure all equipment, and particularly grid pegs and nails, are collected on completion of fieldwork.	1	2	2	WA/ Contractor/ Client
Utilities buried hazards	Injury to WA staff, other contractors and plant (including utilities) due to rupturing of or contact with utilities (buried or overhead).	S/C	2	3	6	• The Contractor will provide Wessex Archaeology with the full results of utility searches. These will be provided prior to the commencement of fieldwork. Wessex Archaeology will consult its own search vis Linesearch, geophysical survey results and online aerial imagery via Google Earth. **Trench locations will be adjusted to avoid the anticipated position of existing services (eg gas pipelines, overhead power lines and further unknown services identified by geophysical survey)**. • The trial trenches have been designed to avoid the utilities with a minimum 10m wayleave easement between trenches and utilities. Crossing points with bog	1	3	3	WA/ Contractor/ Client

		Likelihood		
		1	2	3
Severity	3	3	6	9
	2	2	4	6
	1	1	2	3

	Good
	Acceptable
	Needs further controls
1= Low	
2 = Med	
3 = High	

						• mats will likely be required for traversing over buried utilities as required by the utility owner. Goal posts will be required for overhead lines. Wessex Archaeology will mark out the position of the trenches with GPS. The Contractor (LM) or WA will arrange for Cadent to mark out gas pipelines to ensure there will be no clash prior to any excavation in the area. If a fuel line is present then the Contractor (LM) or WA will arrange for the relevant Lands Technician to mark out the wayleave easement to confirm there will be no clash prior to any excavation in the area. • There will be no excavation over gas or fuel services at any time, therefore the services will never be exposed. • A 13t tracked excavator will likely need to track over buried services to reach the work site; this will be less ground loading than the agricultural machinery currently operating on the land. • Site and surrounding area will be visually inspected in detail for any clues to indicate buried services in the area. • The excavation area will be with a proprietary cable detector (i.e. a CAT). • Machine stripping to be carried out in discrete 0.1 m spits under constant supervision, and periodically re-checked using the CAT. • If buried services are suspected or anticipated then hand-excavation may be required to initially establish the location and alignment of such services. Work will be carried out in line with HSG47. • Any cable or pipe encountered will be considered live at all times, and will be protected from any subsequent damage.				

		Likelihood		
		1	2	3
Severity	3	3	6	9
	2	2	4	6
	1	1	2	3

Good
Acceptable
Needs further controls

1= Low
2 = Med
3 = High

						• Trenches will be relocated and/ or adjusted in dimensions to avoid existing utilities. • Plant will not operate beneath overhead utilities. Goalposts will be erected in accordance with GS6 for plant travelling beneath overhead power lines lower than 10m. Power lines higher than 10m and away from main access routes will be demarked by orange netlon fencing and appropriate signage.				
Environment and Ecology	Ground surface damage	S/C/P	2	2	4	• Access to sensitive areas shall be restricted, where possible, to the scheduled investigation work only. All vehicle and plant movements shall be kept to an absolute minimum. • All trial trench locations shall be agreed with the LM Land Access Team and the ECoW (WSP) prior to the commencement of any site clearance or access preparation. • WA shall comply with any Special Requirements and the clauses identified when constructing temporary accesses. All constructed temporary accesses shall be removed upon completion of the investigation. • WA shall take all precautions necessary to protect sensitive areas of the site and reduce disruption. Please note that the areas identified below are for guidance only and not necessarily exhaustive. • General environmental constraints and specific mitigation measures are recorded in the Crewe Farm draft Environmental Appraisal	1	2	2	WA/ Contractor /ECoW
	Animal Habitat destruction	S/C/P	2	2	4	• The ECoW will provide in advance daily briefings to the archaeological team regarding the location and presence of great crested newts, badger setts, bats and any other ecological constraints.	1	2	2	WA/ Contractor/ ECoW

		Likelihood		
		1	2	3
Severity	3	3	6	9
	2	2	4	6
	1	1	2	3

Good
Acceptable
Needs further controls

1= Low
2 = Med
3 = High

						• No work will be undertaken in any such areas identified as exclusion zones for ecological reasons, and such constraints will be recorded in the day book records in the H&S file. • Ecological surveys should identify ecological assets that could be potentially impacted upon by work to be carried out by the archaeological team: • Where there are important hedgerows in the vicinity of a small number of hedgerows, trenches will be located 10m+ of hedgerows; • Where there is ancient woodland in proximity to trenches, trenches will be located 20m+ of woodland; • Where there are potential bat roosts within 10m of a trench and/or a known roost within 20m of a proposed trench, trenches will be relocated to 20m+ of the potential and confirmed bat roost and work carried out in daylight hours only; • Where there are Great Crested Newt (GCN) ponds within 250m of proposed evaluation trenches an ecological watching brief/ hand search will be carried out in advance of trench excavation. Long grass in the area of trenches may need to be strimmed and hand searched by the ECoW in advance of trench excavation. Trenches may need to be relocated if within newt fencing relocation zones already established; • The ECoW will advise on the presence of all badger setts throughout the scheme, but all staff will remain vigilant to the possibility that new setts may be established during the project timeframe. All badger setts and other burrows, either known or encountered, will be afforded a minimum 30m exclusion zone				

		Likelihood		
		1	2	3
Severity	3	3	6	9
	2	2	4	6
	1	1	2	3

	Good
	Acceptable
	Needs further controls
1= Low	
2 = Med	
3 = High	

						• (fenced) and the location bought to the attention of the ECoW immediately. •				
Contamination	Injury to WA staff, visitors and other contractors, and damage to the local environment through contamination	S/C/P	2	3	6	The Client / Contractor will advise of any known contaminants. The Wessex Archaeology Project Archaeologist has UKATA approved asbestos awareness training. If any asbestos is observed, work will immediately stop and the Contractor and/or Client will be informed. Work will only commence after the safe removal of any asbestos and the Contractor and/or Client has deemed the area to be safe. • Health & Safety procedures outlined by the Principal Contractor at induction will be followed and appropriate levels of PPE utilised where necessary. • SHOULD CONTAMINATION BE ENCOUNTERED THIS RAMS WILL NEED TO BE FULLY REVIEWED AND REVISED. • Smoking will not be allowed on site or in site welfare facilities	1	3	3	WA/ Contractor/ Client
Unexploded Ordnance (UXO)		S/C/P	2	3	6	• There is no anticipated UXO risk. • Staff will retain a copy of WA UXO guidelines on site at all times and will familiarise themselves with the guidelines prior to fieldwork commencement. • On finding UXO the procedure to be followed is: - ***Do not touch or move the UXO;*** - ***Remove all personnel to a safe distance – minimum 100 metres;*** - ***Mark the site so it is easily identifiable (Picket and tape is recommended);***	1	3	3	WA/ Contractor/ Client

		Likelihood		
		1	2	3
Severity	3	3	6	9
	2	2	4	6
	1	1	2	3

Good
Acceptable
Needs further controls

1= Low
2 = Med
3 = High

						- ***Telephone 999 and inform the police of the emergency. Inform the Contractor and/or Client of the emergency so that emergency plans can be implemented***				
Extreme weather conditions	Hot weather working (i.e. dehydration, sun burn, sun stroke etc.)	S/C/P	2	2	4	• Sun cream, min. SPF15 (though SPF30+ recommended) with good UVA and UVB protection to be applied regularly to exposed skin. • Regular breaks to be taken in shade to limit exposure to sun. • Appropriate clothing to be worn - Full PPE including Hi Vis tops, steel toe-capped boots and hard hats to be worn at all times. • Drinking water to be available on site, and consumed at regular intervals – **do not wait until thirsty, thirst is a symptom of dehydration**. • If necessary, wear sunglasses that offer good UV protection, particularly where glare may be a factor (e.g. investigations on chalk, sites on or near large bodies of water etc.).	1	2	2	WA/ Contractor/ Client
	Exposure to wet, cold and/ or storm conditions, risk of lighting strike, hypothermia	S/C/P	2	3	6	• Appropriate waterproof clothing to be carried, and worn when necessary. • No fieldwork to be undertaken during electric storms. • Dry clothing to be available, as necessary. • Mobile phone (and preferably emergency whistle) to be carried at all time. If employees possess a second mobile phone (i.e. a personal phone), then this must be carried too, and all numbers made available to Head Office, colleagues, line manager etc.	1	2	2	WA/ Contractor/ Client

		Likelihood		
		1	2	3
Severity	3	3	6	9
	2	2	4	6
	1	1	2	3

Good
Acceptable
Needs further controls

1= Low
2 = Med
3 = High

Driving	Injury to WA staff, WA equipment, plant and members of the public resulting from road traffic accidents.	S/C/P	2	3	6	• Nominated drivers must familiarise themselves in advance with routes for all journeys, as well as routes to local A&E services and any other destinations considered likely/ necessary as part of project work. If roadmaps are unavailable, or the nominated driver does not have access to internet-based route-planners (e.g. http://maps.google.co.uk/) then the project manager must obtain route details and attach below. • All equipment will be securely stowed during transit, with a fixed bulkhead separating equipment and passengers. • All vehicle manoeuvring will only occur with the assistance of appropriately located 'banksmen'. • Tyres, water, oil and petrol will be checked daily. • Extreme caution will be exercised when entering or leaving public highways. • Mobile phones will be turned off before commencing any journey, and will not be used at all whilst driving. • Access to site will via local roads and designated routes only. Access to areas on site needs to be agreed prior to starting works. • Gas bottles will not be carried, hot drinks will either be bought locally, or provided in vacuum flasks. • All drivers are to be fully aware of the Gross Vehicle Weight (GVW) of all vehicles driven. If in any doubt a public weighbridge is to be used to confirm weight of the vehicle.	1	2	2	WA/ Contractor/ Client
General Measures	General measures for implementation to maximise any reduction in risk rating.					• A mobile phone contact will be available at all times for use in emergencies. • Where feasible, all WA personnel will be CSCS card-holders, or in the case of visitors, be accompanied by CSCS card-holders at all times.				

	Likelihood		
Severity	1	2	3
3	3	6	9
2	2	4	6
1	1	2	3

Good
Acceptable
Needs further controls

1= Low
2 = Med
3 = High

						• Anything that is or seems to be unsafe will be reported to the WA project officer/supervisor immediately • A first aid kit will be available to WA staff and others at all times (i.e. in the messing area and vehicles). • Directions to the first aid kit, a copy of WA Health & Safety policy, a HSE guidance poster, a valid insurance certificate and a copy of this Risk Assessment will be on display within the messing area. • A fire extinguisher will be located in each welfare unit deployed on site. • The WA Site Supervisors will provide a site induction to all members of staff prior to the commencement of work and ensure that they have read and signed this risk assessment. Any visitors to site must be made aware of and sign the risk assessment prior to entering site, and any potential health and safety issues highlighted e.g. deep excavation areas				

		Likelihood		
		1	2	3
Severity	3	3	6	9
	2	2	4	6
	1	1	2	3

	Good
	Acceptable
	Needs further controls
1= Low	
2 = Med	
3 = High	

Dynamic Risk Assessment

Completed after work has started

Hazard	Consequence	Affected S/C/P	Risk Rating L	S	RR	Control Measures	Residual Risk Rating L	S	RR	Monitor	Staff informed

wessex archaeology

RISK ASSESSMENT BRIEFING LOG

Name	Signature	Date	Company

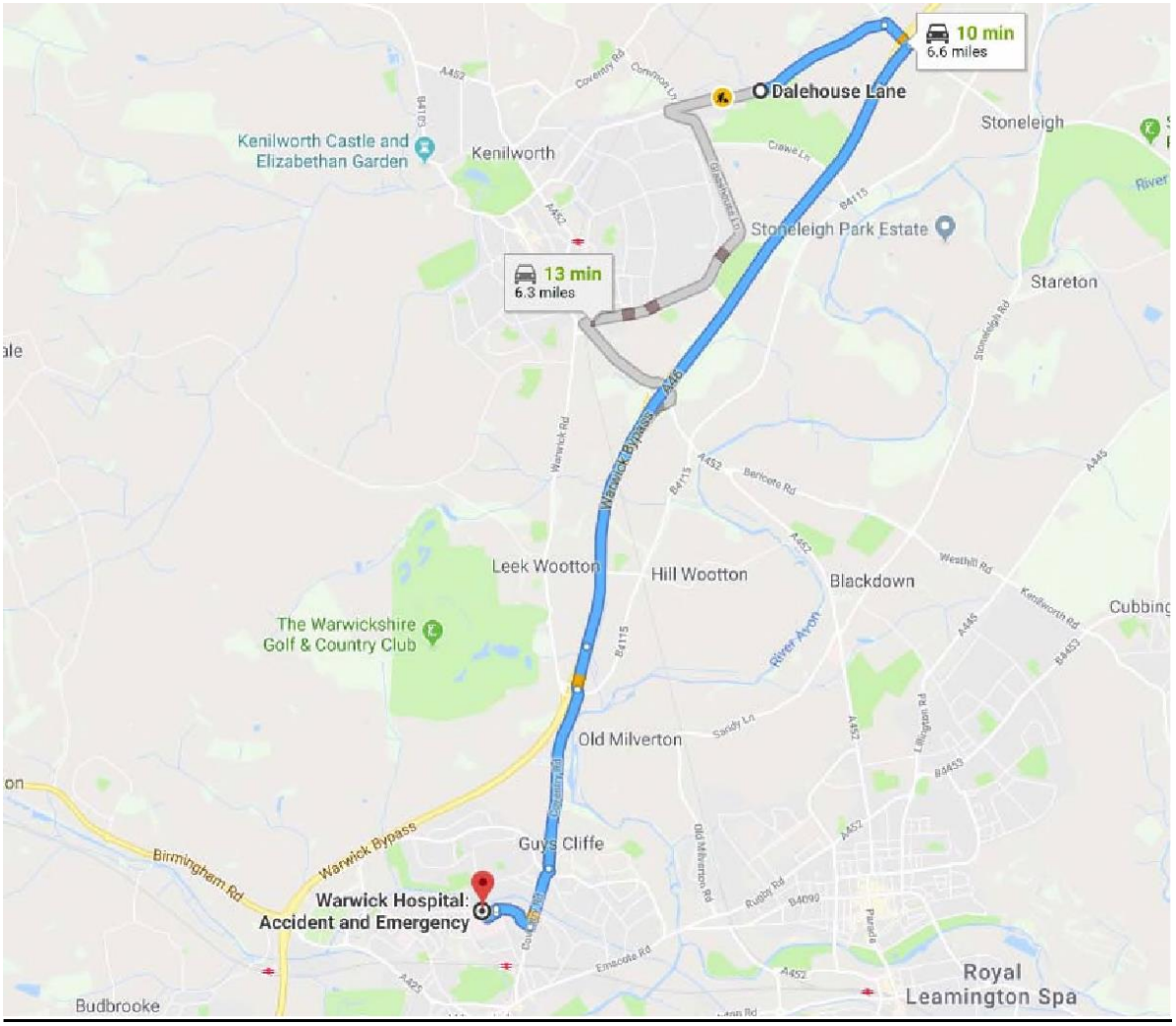
CONTACTS

Name	Role	Telephone	Address
Richard O'Neill	Senior Project Manager	[redacted]	C/o Wessex Archaeology
Ian Phillips	SH&E Manager	[redacted]	C/o Wessex Archaeology
Jonathan Buttery	Project Officer	[redacted]	C/o Wessex Archaeology
Simon Brown	Site Supervisor	[redacted]	C/o Wessex Archaeology
Rob Arnold	Construction Manager	[redacted]	Laing O'Rourke Murphy Joint Venture
Paul Hunt	Assistant Project Manager	[redacted]	Laing O'Rourke Murphy Joint Venture
Rob Early	Heritage Manger		DJV
Alastair Hancock	Technical Lead – Archaeology and Heritage.	[redacted]	DJV
Glenn Rose	Senior Consultant	[redacted]	Laing O'Rourke Murphy Joint Venture
Hollie Ridley	H & S Manager	[redacted]	Laing O'Rourke Murphy Joint Venture
Isaac Acquah	Project Engineer (Land Access)	[redacted]	Laing O'Rourke Murphy Joint Venture
Warwick Hospital	**Accident and Emergency**	[redacted]	**Lakin Road Warwick CV34 5BW**

		Likelihood		
		1	2	3
Severity	3	3	6	9
	2	2	4	6
	1	1	2	3

	Good
	Acceptable
	Needs further controls
1= Low	
2 = Med	
3 = High	

Compound A: Dale house Farm



		Likelihood		
		1	2	3
Severity	3	3	6	9
	2	2	4	6
	1	1	2	3

	Good
	Acceptable
	Needs further controls
1= Low	
2 = Med	
3 = High	

Code 1 - Accepted

10 min (6.6 miles)

via A46

Fastest route, the usual traffic

Dalehouse Ln
Kenilworth

- Get on A46 from Dalehouse Ln

  2 min (1.2 mi)

- Follow A46 to Coventry Rd/A429. Take the exit for A429 from A46

  4 min (3.7 mi)

- Continue on Coventry Rd/A429 to your destination in Warwick

  5 min (1.7 mi)

Warwick Hospital: Accident and Emergency
Warwick Hospital, Lakin Rd, Warwick CV34 5BW

		Likelihood		
		1	2	3
Severity	3	3	6	9
	2	2	4	6
	1	1	2	3

	Good
	Acceptable
	Needs further controls
1= Low	
2 = Med	
3 = High	

Compound B: off A429 Kenilworth Road (Stoneleigh Park) CV8 2FF

Google Maps Crackley Barn to Warwick Hospital: Accident and Emergency Drive 7.8 miles, 15 min

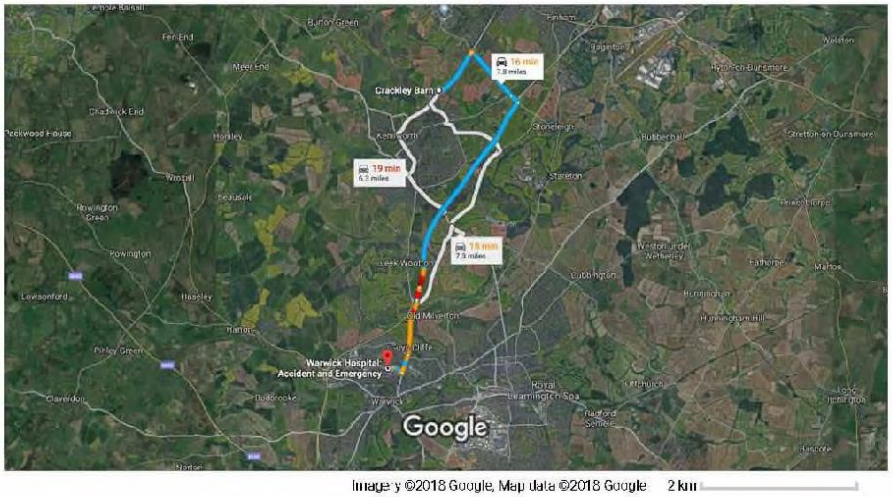


Image ©2018 Google, Map data ©2018 Google 2 km

Crackley Barn
Crackley Crescent, Kenilworth CV8 2FF

Take Stoneleigh Rd, A46 and Coventry Rd/A429 to Guys Cross Park Rd in Warwick

10 min (7.4 mi)

1. Head north-east on Coventry Rd/A429
   Continue to follow A429

0.9 mi

2. At the roundabout, take the 3rd exit onto Stoneleigh Rd

1.[illegible] mi

3. At the roundabout, take the 1st exit and stay on Stoneleigh Rd

0.2 mi

4. Turn right to merge onto A46 towards Stratford/M40/Warwick

3.7 mi

5. Take the A429 exit towards Warwick

0.2 mi

6. At the roundabout, take the 2nd exit onto Coventry Rd/A429

1.0 mi

		Likelihood		
		1	2	3
Severity	3	3	6	9
	2	2	4	6
	1	1	2	3

	Good
	Acceptable
	Needs further controls
1= Low	
2 = Med	
3 = High	

Code 1 - Accepted

7. At the roundabout, take the 2nd exit and stay on Coventry Rd/A429

0.3 mi

Continue on Guys Cross Park Rd to your destination

2 min (0.4 mi)

8. Turn right onto Guys Cross Park Rd

0.2 mi

9. Turn left onto Lakin Rd

105 ft

10. Turn right

308 ft

11. Turn right

Destination will be on the left

246 ft

Warwick Hospital: Accident and Emergency

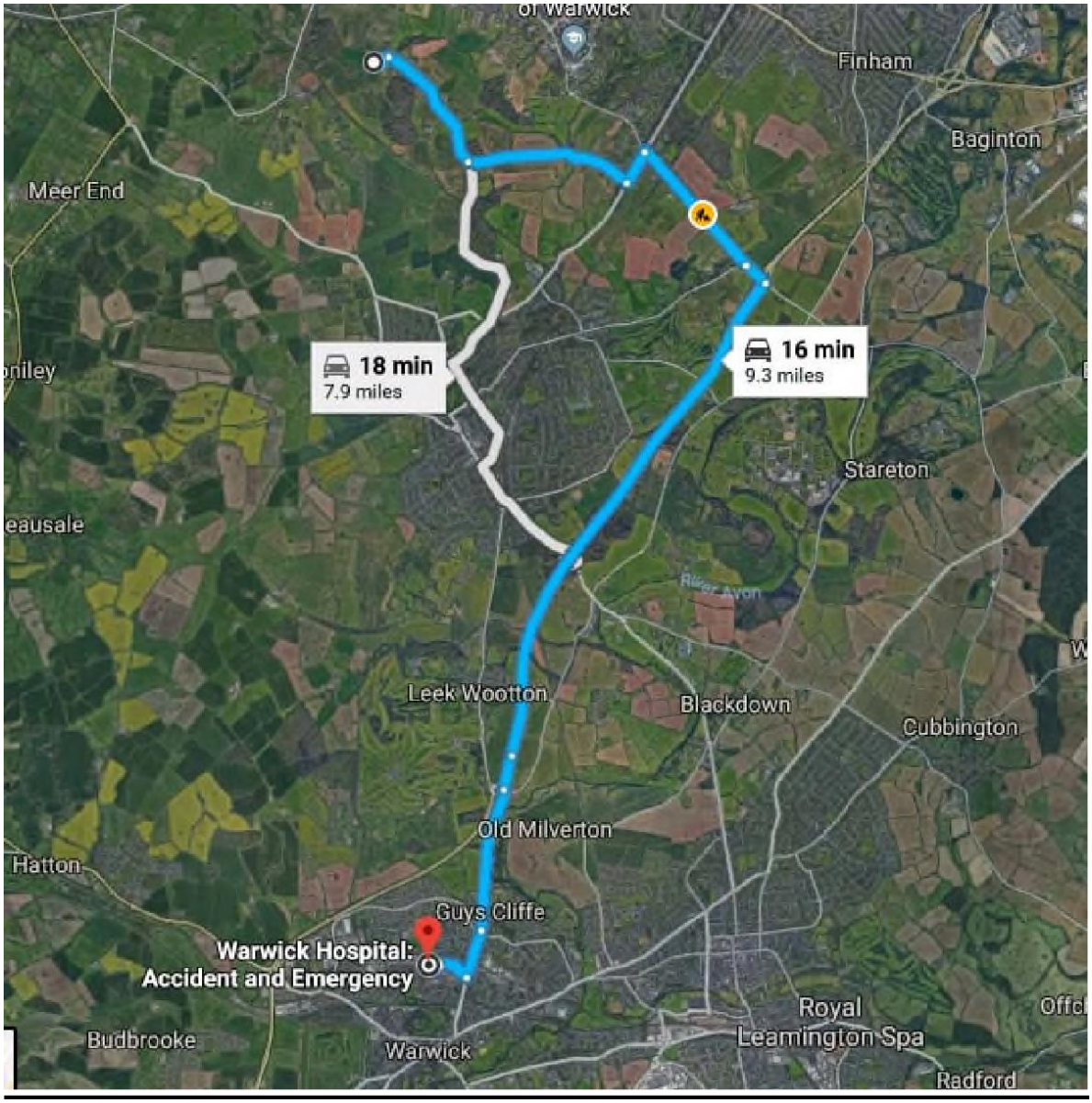
Warwick Hospital, Lakin Rd, Warwick CV34 5BW

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

		1	2	3
	3	3	6	9
Severity	2	2	4	6
	1	1	2	3

	Good
	Acceptable
	Needs further controls
1= Low	
2 = Med	
3 = High	

Compound C: Bockendon Grange, off Crackley Lane, CV4 7DB



		Likelihood		
		1	2	3
Severity	3	3	6	9
	2	2	4	6
	1	1	2	3

	Good
	Acceptable
	Needs further controls
1= Low	
2 = Med	
3 = High	

Code 1 - Accepted

16 min (9.3 miles)

via A46

Fastest route

Stoneleigh

- Follow Crackley Ln and Cryfield Grange Rd to Kenilworth Rd/A429 in Coventry

  5 min (2.2 mi)

- Take Stoneleigh Rd, A46 and Coventry Rd/A429 to Guys Cross Park Rd in Warwick

  10 min (6.8 mi)

- Continue on Guys Cross Park Rd to your destination

  2 min (0.4 mi)

Warwick Hospital: Accident and Emergency

Warwick Hospital, Lakin Rd, Warwick CV34 5BW

These directions are for planning purposes only. You may find that construction projects, traffic, weather, or other events may cause conditions to differ from the map results, and you should plan your route accordingly. You must obey all signs or notices regarding your route.

		Likelihood		
		1	2	3
Severity	3	3	6	9
	2	2	4	6
	1	1	2	3

	Good
	Acceptable
	Needs further controls
1= Low	
2 = Med	
3 = High	

Compound D: Location TBC

		Likelihood		
		1	2	3
Severity	3	3	6	9
	2	2	4	6
	1	1	2	3

	Good
	Acceptable
	Needs further controls
1= Low	
2 = Med	
3 = High	