# WP 029 (C) Historic Environment Works - Milburn Grange - Enabling Works North Contract

## Location Specific Written Scheme of Investigation for Archaeological Mitigation

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| P01 | Emma Carter<br>Richard O'Neill<br>Wessex Archaeology | Ivan Machin<br>Wessex Archaeology | Andrew Norton<br>Wessex Archaeology | 11/02/2020 | Issued for acceptance |
| C01 | Emma Carter<br>Richard O'Neill<br>Wessex Archaeology | Max Higgins<br>Wessex Archaeology | Andrew Norton<br>Wessex Archaeology | 20/07/2020 | Issued for acceptance |
| | | | | | |

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# 1 Executive Summary

1.1.1 This High Speed 2 (HS2) North Section Phase One 'Location Specific Written Scheme of Investigation (LS-WSI)' details the proposed methodology and approach for a programme of mitigation at Milburn Grange in Warwickshire. The mitigation area is located between HS2 chainage markers 142210 142470 and encompasses approximately 3.7ha. The area is required as part of the construction land requirements for the enabling works and subsequent main works for HS2 Phase One. The mitigation will examine a concentration of pits, ditches and gullies possibly defining prehistoric settlement activity.

1.1.2 Works detailed within this LS-WSI 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 the historic environment (including heritage assets and their setting) will be addressed during the design and construction of HS2 Phase One.

1.1.3 The mitigation area will be subject to enabling and main works as part of Phase One of HS2 and includes Construction Land Requirement (CLR) CR02720 Canley Brook Retaining Wall. The 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).

1.1.4 The LS-WSI for Mitigation should be read alongside the Kenilworth to Balsall Common Project Plan for Trial Trenching (1EW04-LMJ-EV-PLN-NS01_NL03-029004), Birches Wood Farm and Milburn Grange Interim Report for Trial Trenching (1EW04-LMJ-EV-REP-NS01_NL03-029004), Kenilworth to Balsall Common Evaluation Report for Trial Trenching (1EW04-LMJ_WEX-EV-REP-NS01_NL03-029008), and the Milburn Grange Project Plan for Archaeological Mitigation (1EW04-LMJ_DJV-EV-PLN-NS01_NL04-029007) in order to provide the complete picture of the archaeological investigation of the mitigation area.

1.1.5 The method of archaeological mitigation will be 'Metal Detecting', 'Test Pitting' and 'Archaeological Recording', to examine archaeological remains situated south-east of Kenilworth Road, (see Figure 4 of the Project Plan) where trenches 416, 264 and 265 confirmed presence of two parallel ditches set c. 10 m apart, trench 413 identified two north-east to south-west aligned gullies as well as an isolated pit and a possible continuation of one of the parallel ditches; and trenches 417 and 427 revealed six small pits or post holes with a cluster of three of these features, one cutting a gully terminal, located at the northern of trench 427.

1.1.6 Finds comprised a small assemblage of worked flint from the possible continuation of the parallel ditches and the pit in trench 413, further worked flint from the parallel ditches in trenches 264 and 416 and Late Bronze Age to Middle Iron Age pottery from the three post holes or small pits

clustered at the northern end of trench 427. Two sherds of Romano-British pottery were recovered from one of the parallel gullies in trench 413.

1.1.7 The 'Metal Detecting' and 'Archaeological Recording' will investigate the area of archaeological remains to clarify their nature, extent, date, significance and contribution to Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS) Specific Objectives (HS2-HS2-EV-STR-000-000015).

1.1.8 DJV shall review the results of the Metal Detecting, Test Pitting and Archaeological Recording during regular assurance visits and will assist the Archaeological Contractor in assessing the ability of the recovered evidence to address GWSI: HERDS Specific Objectives.

1.1.9 DJV may identify a need to alter the scope of works, including the scope of archaeological and palaeoenvironmental sampling, to appropriately address Specific Objectives, and would liaise with the Employer in this eventuality. Final agreement of alteration to scope may involve HERDS meetings between the Archaeological Contractor, DJV, the Employer and stakeholders. The Employer will determine whether an agreed alteration to scope necessitates production of an addendum to this LS-WSI.

1.1.10 Discovery of unexpected finds of national importance shall be in accordance with HS2 Procedure for the Unexpected Discovery of Archaeological Remains of National Importance (HS2-HS2-EV-PRO-000-000009).

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

1.1.12 The GWSI: HERDS Specific Objectives for Knowledge Creation (KC) guiding the Project Plan focuses on are listed below:

- KC5: Identifying settlement location and developing models for settlement patterns for the Mesolithic, Neolithic and Early Bronze Age.
- 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 landscape organisation enclosure?
- KC16: Investigate the degree on 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 difference settlement types encountered along the route.

# 2 Location/ Site Background

## 2.1 Baseline

2.1.1 This LS-WSI has been produced in line with guidance outlined in the 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 mitigation area is situated between Kenilworth and Coventry in an agricultural field located immediate south-east of Kenilworth Road (A429). It is centered on Nation Grid Reference (NGR) 430206 273815 and encompasses 3.7 hectares (ha) of land.

2.1.3 The mitigation area will be subject to enabling and main works as part of Phase One of Hs2, and includes Construction Land Requirement (CLR) CLR02720 Canley Brook Retaining Wall. The work will entail ground disturbance which will have an impact on archaeological remains.

2.1.4 The mitigation is situated within the Finham Brook Valley Archaeological Character Area (ACA3).The ACAs were split further in the Environmental Statement; therefore, the mitigation area is located within the following Archaeological Character Sub-Zone:

- CFA18–10: North-west Avon Slopes. A steep slope located on Kenilworth Sandstone. Some archaeological potential is noted due to the area's proximity to the water, although the steep topography will have probably deterred settlement in the pre-medieval periods.

2.1.5 The method of mitigation will be 'Metal Detecting', 'Test Pitting' and 'Archaeological Recording', to examine an area of to examine an area of potential Late Bronze Age to Middle Iron Age settlement activity, and any other significant archaeological remains present, in order to clarify their nature, date, significance and contribution to GWSI: HERDS Specific Objectives.

2.1.6 Table 1 lists HS2 archaeological investigations carried out at the site to date, with key outcomes.

Table 1: Previous investigations at the site

| Description | Summary of results |
|---|---|
| HS2 Phase 1 Enabling Works North – WP 29(B) Birches Wood Farm and Milburn Grange (Kenilworth to Balsall Common): Report for Trial Trenching (Trenches 315-441) (1EW04-LMJ_WEX-EV-REP-NS01_NL03-029004) | The trial trenching confirmed the presence of archaeological features previously identified by geophysical survey. Finds from ditches and small pits or post holes comprised nine worked flints and Late Bronze Age to Middle Iron Age pottery. Finds post-dating the prehistoric periods comprised two sherds of Romano-British pottery recovered from a gully. |
| Geophysical Survey carried out as part of the ES – CN015 land off Coventry Road (A429), near Kenilworth, | A concentration of linear, curvilinear and discrete magnetic anomalies suggested the presence of significant archaeology at the mitigation area. |

| | |
|---|---|
| Warwickshire (Volume 5 Technical Appendix CH-004-018) | |
| Detailed Desk-Based Assessment for Historic Landscape Settlement Study (1EW04-LMJ-EV-REP-N000-029001) | The farmstead of Milburn Grange (id 132), approximately 80 m south-east of the mitigation, is recorded on historic OS mapping and on an interpretation of the Kenilworth Enclosure map dated to 1756. |
| LiDAR and hyperspectral survey carried out as part of the ES (CH-004-018) | The LiDAR survey identified two sides of a possible moat along with earthworks suggesting a pair of possible house platforms c.100m to the south-east of the mitigation area, near Milburn Grange (Survey ID WA18.27). Ridge and furrow situated to the south of the mitigation area was included in the same survey ID. |
| LiDAR Survey Re-appraisal (1EW04-LMJ_DJV-EV-REP-N000-029004) | The re-appraisal did not identify any additional features within the mitigation area. The re-appraisal flagged an area of ridge and furrow (APS18.054) located to the south of the mitigation area, which was previously identified in the ES as part of Milburn Grange (WA18.27) but was not described separately |

## 2.2 Site Conditions

### Topography and geology

2.2.1 The mitigation area is situated on a south-sloping plateau at c. 78 m above Ordnance Datum (OD). The plateau is located c.170 m north-east and c. 50 m south-east of a meander of the Canley Brook. To the south-west of the mitigation area, the land descends gradually to c .68 m OD adjacent to the brook, but the slope gradient is steeper to the north-west where the brook has cut into the underlying geology.

2.2.2 The British Geological Survey (BGS) online mapping data shows that the solid geology of the mitigation area consists of the Kenilworth Sandstone Formation. The BGS does not record superficial deposits at the mitigation area, but a thin band of alluvium is shown flanking the Canley Brook to the south and west. The Geoarchaeological Desk Based Assessment (GDBA: 1D037-EDP-EV-REP-000-000031) places the mitigation area in Geoarchaeological Character Zone GCZ32 (Stoneleigh to Burton) and notes the presence of restricted alluvial deposits associated with the Canley Brook. The results of the trial trenching illustrate that the top/sub - ploughsoil is c.0.45 m – 0.70 m deep with the weathered surface of the Kenilworth Sandstone (with occasional unweathered outcrops) is situated below.

### Summary of archaeological potential and significance

2.2.3 There are no world heritage sites, scheduled monuments, registered battlefields, registered parks and gardens or listed buildings within the mitigation area. The closest designated heritage asset is the Grade II Listed Dale House Farmhouse (NHL ref. 1325994) is located approximately 760 m south-east of the mitigation area.

2.2.4 The Warwickshire HER does not identify any previous investigations at the mitigation area. The HER does record three archaeological investigations, not associated with HS2, within 500 m of the mitigation area:

- HER ref. EWA2768: Fieldwalking as part of evaluation at University of Warwick (Field D10) carried out in July 1996.
- HER ref. EWA2774: Fieldwalking as part of evaluation at University of Warwick (Field D11) carried out in February 1996.
- HER ref. EWA10669: Archaeological evaluation on land north of Common Lane, Kenilworth in August 2017.

2.2.5 The 2013 Environmental Statement (ES) identified ten non-designated heritage assets which at least partially fall within 500 m of the mitigation area (the location of these assets as mapped by the ES is shown on Figure 2 in Appendix C of the Project Plan.

- ES ref. STN041: Earthworks to south of Dalehouse Farm. The site of a watermill which was in use during the post-medieval period.
- ES ref. STN044: Ridge-and-furrow south of Millburn Grange. Ridge-and-furrow earthworks and former field boundaries noted on aerial photos aligned north to south.
- ES ref. STN045: Milburn Grange. Later 18th century brick house faces to the east into its attendant yard (which is now, largely covered by modern prefabricated buildings). Part of the complex, however, includes historic 18th or 19th century barns to the west. Two sides of a possible moat, identified by LiDAR, are nearby.
- ES ref. STN047: Milburn deserted medieval settlement. The possible site of the medieval deserted settlement of Milburn. A series of earthworks may represent the remains of the settlement. The site is located in the area either side of Milburn viaduct.
- ES ref. STN048: Crackley Bridge.
- ES ref. STN049: Cropmark east of Crackley. Undated linear cropmark.
- ES ref. STN050: Crackley Gate. Thatched house which is shown on the 1887 OS map and the 1843 tithe map.
- ES ref. STN057: Two parallel curvilinear cropmarks that may represent a former trackway or possible watercourse. Also rectilinear and curvilinear cropmarks 100 m 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.

- ES ref. STN105: Disused railway line complete with cutting, earthworks and other surface remains.
- ES ref. STN106: 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.

2.2.6 The land to the north-west of the mitigation area contains significant evidence of prehistoric activity, including:

- Three Late Upper Palaeolithic/Early Mesolithic worked flints have been recovered south-east of Roughknowles Wood (HER ref. MWA8359).
- Nineteen Mesolithic worked flints are recorded at low lying land to the south of the Canley Brook (HER ref. MWA8354).
- Three Mesolithic flints (HER ref. MWA8358) are recorded between Crackley Wood and Roughknowles Wood.
- A perforated stone disc of possible Mesolithic date (HER ref. MWA2881) is recorded east of Crackley Wood.
- A large assemblage of Mesolithic/Neolithic worked flint and undated post holes have been discovered during fieldwalking and excavation located c.1.5 km north-west near Cryfield House (ES ref. STN061; HER ref's. MWA8208, MWA8346), perhaps identifying extremely rare early prehistoric settlement activity.
- Late Neolithic/early Bronze Age flint scatters (HER ref. MWA8353) are recorded c.700 m north-north-west near Cryfield Grange (ES ref. STN054) and further to the north-west near Burton Green (HER ref. MWA3250).
- Widespread lithic assemblages of potential Bronze Age date have been recovered at land flanking the Canley Brook (HER ref. MWA3249, MWA4407, MWA2881 and MWA3250).

2.2.7 The wider landscape also includes a number of recorded Romano-British sites including:

- Glasshouse Wood Scheduled Monument (NHL ref: 1005723), which lies c.2 km to the south-south-east of the mitigation area. The Scheduled Monument includes remains of a Roman building, a cremation burial and an associated field system, in part comprising banks, ditches and lynchets surviving as earthworks. The site has been interpreted as a potential villa estate.

- Crewe Farm Romano-British settlement (ES ref. STN031) c.1.9 km south-east of the mitigation area. Timber buildings with tiled roofs were set within a rectilinear enclosure and recovered pottery comprised a large number of forms widely used during the 1st and 2nd centuries AD.

2.2.8 Anglo-Saxon evidence is mainly restricted to place-names, such as the village of Stoneleigh, c.2.7 km to the south-east, although a single plough-truncated early Anglo-Saxon urned cremation burial has recently been discovered by EWC North trial trenching situated c.2 km to the south-east. The Domesday Survey of AD1086 lists thirty ploughs, two mills, two priests, woodland four leagues long and two leagues broad providing food for 2000 pigs at Stoneleigh which suggests the character of the wider area during the latter part of this period.

2.2.9 Documentary evidence shows that the area may have retained significant stands of woodland for much of the medieval period, although slowly affected by piecemeal assarting for agricultural use. The mitigation area is located close to the former extent of Crackley Assarted Woodland (ES ref. STN106).

2.2.10 A possible deserted medieval settlement (DMV: ES ref. STN047) is situated c.100 m to the south of the mitigation area around an extant farmstead at Milburn Grange (ES ref. STN045). Earthworks and cropmarks suggest presence of a settlement, perhaps including a moated site, with surrounding areas of ridge and furrow.

2.2.11 The land had predominantly been brought into agricultural use by the post medieval period and the mitigation area retains this character to the present day.

2.2.12 The following sections summarise the archaeological evidence identified during EWC North evaluation of the mitigation area.

### *Archaeological Evidence*

2.2.13 The mitigation area examines an area where EWC North trenches 416, 264 and 265 revealed two parallel ditches set some 10 m apart; trench 413 identified a possible continuation of one of the parallel ditches, also two north-east to south-west aligned gullies and a pit; trenches 417 and 427 revealed six small pits or post holes. A cluster of three of these pits or post holes, one cutting a gully terminal, were located at the northern end of trench 427.

2.2.14 Finds comprised a small assemblage of worked flint from the parallel ditches at trenches 264 and 416; further worked flint from the possible continuation of the parallel ditches and the pit at trench 413 and Late Bronze Age to Middle Iron Age pottery from the three post holes or small pits clustered at the northern end of trench 427. Finds post-dating the prehistoric periods comprised two sherds of Romano-British pottery recovered from one of the gullies at trench 413;

the gullies may form part of a horseshoe-shaped feature interpreted from results of geophysical survey.

# 3 Aims and Specific Objectives

3.1.1 The aims and objectives of the mitigation are laid out within the Milburn Grange Project Plan for Archaeological Mitigation (1EW04-LMJ_DJV-EV-PLN-NS01_NL04-029007).

3.1.2 The aims and objectives of the mitigation will be:

## *General*

- To expose surviving archaeology at the mitigation area, through the application of an archaeologically controlled soil strip using plant equipped with a toothless bucket.
- To archaeologically excavate and record all significant archaeological features within the mitigation area, in order to clarify the nature, date, extent and survival of any remains revealed and thus contribute to understanding of their heritage significance. The mitigation will provide a permanent archaeological record for the purposes of contributing to specific GWSI: HERDS Specific Objectives (see below).
- To carry out post-excavation assessment and analysis of recovered material.
- To publish the results of the mitigation to bring the findings into the public and academic domain.

## *Specific*

- To determine (via metal detector survey and test pitting) whether artefacts are present in the ploughsoil and examine whether the date and distribution of finds offers any information about zoning of activity.
- To examine whether the character of activity can be identified; whether any focus of settlement is present, or if the ditches and other features present characterise agricultural use.
- To examine potential zoning of types of activity during different phases of use.
- To confirm how many phases of activity are present.
- To provide a secure chronological framework for the phases of activity through recovery of finds, supplemented by scientific dating.
- To examine the environment and economy of different phases of activity through recovery of palaeoenvironmental and ecofactual information.

3.1.3 The mitigation will aim to meet the GWSI: HERDS Specific Objectives, set out below, and is proposed to reduce or offset any adverse effects arising from proposed ground disturbance.

## Contribution to GWSI: HERDS Specific Objectives

3.1.4 The GWSI: HERDS provides a comprehensive list of Specific Objectives for the historic environment for the whole HS2 Phase One North Section. The Project Plan has identified those objectives which are relevant for the mitigation works.

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

3.1.6 Table 2 sets out the Specific Objectives of the historic environment works. Through delivery of these works, and the addressed aims set out in the table, the archaeological recording will create knowledge and outputs that may contribute to these Specific Objectives.

Table 2: GWSI: HERDS Specific Objectives and mitigation strategy aims

| **GWSI: HERDS Specific Objective** | **Comment** | **Mitigation strategy aim** |
|---|---|---|
| KC5: Identifying settlement location and developing models for settlement patterns for the Mesolithic, Neolithic and Early Bronze Age | Nine pieces of struck flint were recovered from archaeological features located at the mitigation area during trial trenching.<br><br>The area to the north-west has been subject to a number of non-HS2 archaeological investigations; Flint scatters of Late Upper Palaeolithic/Early Mesolithic and subsequent prehistoric periods have been identified close to the Canley Brook and at higher ground to the north-north-east of the brook.<br><br>Some of the archaeological features investigated during trial trenching also contained Late Bronze Age (LBA) to Middle Iron Age (MIA) pot sherds. The nine struck flints may be contemporary with this activity, but none were diagnostic and they may be | Test pitting will examine a 1ha area (with a contingency for additional test pits) to determine the presence, absence, character, distribution, density of prehistoric artefacts in the ploughsoil.<br><br>The test pitting will aim to contribute to understanding of settlement location and pattern during earlier prehistoric periods at an area where widespread evidence of earlier prehistoric activity has previously been identified. |

| GWSI: HERDS Specific Objective | Comment | Mitigation strategy aim |
|---|---|---|
| | residual material of earlier prehistoric periods. | |
| 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? | A small assemblage of worked flint and Late Bronze Age (LBA) to Middle Iron Age (MIA) pot sherds was recovered from archaeological features during trial trenching.<br><br>The investigated features form the focus of the mitigation and are currently interpreted as defining prehistoric settlement activity. | The form, scale, material culture, economy and environment of LBA-MIA activity will be investigated in order to enable greater understanding of contemporary local landscape organisation and comparison with evidence at other parts of the route. |
| KC16: Investigate the degree of continuity that existed between Late Bronze Age and Iron Age communities in terms of population, mobility and subsistence strategies. | Finds from features at the mitigation area are broadly dated through the LBA to MIA. | Investigation of the form, scale, material culture, environment and economy of the settlement and establishment of secure time depth through stratigraphic, artefactual and scientific dating evidence would contribute to this KC. |
| 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. | Two RB pot sherds were recovered from a gully investigated during trial trenching and may identify a phase of settlement activity of this period. | Determine the scale and character of the Romano-British phase of activity at the mitigation area and its contribution to this HERDS Objectives.<br><br>The mitigation area will be metal detected prior to soil stripping to examine potential presence and distribution of RB metallic artefacts within the ploughsoil. |

# 4 Scope and Methodology

## 4.1 Introduction

4.1.1 The mitigation fieldwork set out in this LS-WSI comprises 'Metal Detecting', 'Test Pitting' 'Archaeological Recording' at an area encompassing 3.7 ha (Appendix 2, Figures 1-2). The mitigation is designed to meet HS2 GWSI: HERDS Specific Objectives in order to establish the

presence, nature, date, extent, survival and significance of archaeological remains and their contribution to the HS2 GWSI: HERDS Specific Objectives.

## 4.2 Location Specific Written Scheme of Investigation

4.2.1 This Location Specific Written Scheme of Investigation (LS-WSI) for the Metal Detecting, Test Pitting and Archaeological Recording has been prepared in accordance with HS2 Technical Standard – Specification for Historic Environment Project Plans and Location Specific Written Schemes of Investigation (HS2-HS2-EV-STD-000-000036). The LS-WSI provides the detailed method of investigation, including excavation, sampling, recording, area of mitigation, dimensions, access arrangements, welfare, accommodation, site safety, RAMS, etc.

4.2.2 DJV shall review mitigation results during regular assurance visits. DJV will assist the Archaeological Contractor in assessing the ability of the recovered evidence to address GWSI: HERDS Specific Objectives. DJV may identify a need to alter the scope of works, including the scope of archaeological and palaeoenvironmental sampling, to appropriately address Specific Objectives, and would liaise with the Employer in this eventuality. Final agreement of alteration to scope may involve HERDS meetings between the Archaeological Contractor, DJV, the Employer and stakeholders. The Employer will determine whether an agreed alteration to scope necessitates production of an addendum to the LS-WSI.

## 4.3 Mitigation

### Metal Detector Survey

4.3.1 Metal detector Survey is a systematic non-intrusive prospection method that will identify, recover and enable plotting of the location of metal artefacts from the ploughsoil and targeted excavation of archaeological features containing metallic artefacts.

4.3.2 The Metal Detector Survey will examine the areas of Test Pitting and Archaeological Recording before and after soil stripping and will be directed and controlled by professional archaeologists. The Archaeological Contractor may contact experienced amateur metal detectorists with knowledge of working on archaeological sites, to take part in the metal detector survey.

4.3.3 The survey will be carried out in accordance with HS2 Technical Standard Specification for Historic Environment Investigations (HS2-HS2-EV-STD-000-000035) and with reference to:

- Historic England: Our Portable Past, 2018.
- Portable Antiquities Advisory Group: Code of Practice for Responsible Metal Detecting in England and Wales, 2017.

4.3.4 Appropriate instrumentation, survey design, and data processing are essential for success. In the field, control of data quality and spatial accuracy are critical. Data shall be gathered using multi-frequency metal detector/s with Pulse Induction (PI) technology.

4.3.5 A series of 2 m interval transects will be established within the mitigation area. Closer spacing of transects, or more intensive investigation of areas, could be applied iteratively should a survey indicate the presence of a concentration of metallic responses.

4.3.6 Metal detecting will progress along each transect. Each sweep of the metal detector will cover a width of c. 2.0 m (1.0 m each side of the transect). The metal detector search head will be kept as close to the ground surface as possible.

4.3.7 The survey will target all metals in order to maximise the recovery of significant artefacts.

4.3.8 No artefacts should be removed from a depth greater than the ploughsoil or topsoil/subsoil. Artefacts will be placed into a finds bag labelled with a unique ID number and their individual locations plotted using RTK GNSS.

4.3.9 Where investigation to locate a metal detected object reveals the presence of an undisturbed archaeological feature sealed by ploughsoil or topsoil/subsoil, the archaeological feature will not be excavated during the metal detecting, but its location will be recorded with RTK GNSS and this information will inform the other phases of mitigation. The georeferenced spatial data captured will be incorporated into GIS, to allow data analysis and interrogation, along with comparison with other datasets (e.g. geology, fieldwalking data, historic maps etc.). Artefacts of undoubted late post medieval and modern date will be discarded.

4.3.10 The Archaeological Contractor will liaise with the Contractor to ensure that the WP29 Site Security Plan (1EW04-LMJ-SC-N000-029001) is followed, and enhanced security provided, to protect any significant metallic artefacts, including those subject to the Treasure Act 1996 (see 4.3.77 – 4.3.83 below), from theft or damage if it is not feasible to excavate, record and remove such artefacts on the day of discovery. Any enhanced security measures will be maintained until excavation, recording and removal of significant artefacts is complete.

4.3.11 Recovered finds will be examined and assessed by a recognised Finds Specialist, who will produce a short finds report.

4.3.12 Artefact distribution plots and brief reports will be produced at survey completion. Artefact concentrations will inform subsequent stages of mitigation.

4.3.13 Tasks that will be undertaken comprise:

- Set up including engaging appropriate local community groups for participation.

- Undertaking of metal detector survey by, or under the supervision of a professional archaeologist.
- Recording location of finds using RTK GNSS technology.
- Plotting finds in GIS.
- Inclusion of results in interim and final reporting, incorporating the Finds Specialist assessment.

## Test Pitting

4.3.14 Prior to soil stripping for the Archaeological Recording, test pitting will be completed to characterise if agricultural activity has truncated archaeological features or deposits by examining presence, absence, character, distribution and density of archaeological artefacts within the top/subsoil - ploughsoil. To achieve this a grid of 1 m square machine dug test-pits (with contingency for an additional 25 x 1 m square test pits to increase sample density or expand the area examined), will be opened in a 100 m x 100 m block approximately centred on a curvilinear geophysics anomaly located c.20 m north-east of trial trench 265, and over the densest concentration of archaeological features defined by trial trenching.

4.3.15 The test pits will be excavated at a 10 m sample interval and located to NGR using RTK GNSS. Areas previously stripped for trial trenching will not be subject to Test Pitting. A contingency of a maximum of 25 additional test pits may be used to extend the test pit area, or increase sample density where results warrant further investigation. Summary finds assessment of the initial test pitting results will be presented by the Archaeological Contractor to DJV at completion of 100 m x 100 m block of test pitting, and may trigger use of the additional test pitting subsequent to review of results with stakeholders and agreement of the Employer.

4.3.16 Deposits within the test-pits will be machine-excavated in sequence: ploughsoil, subsoil or other soil horizons (if present) and then the first c.0.1 m of the geological substrate. The sequence of deposits will be carefully recorded, with emphasis placed upon the identification of any intermixing of ploughsoil, subsoil/soil horizons and the geological substrate.

4.3.17 Excavated soils and sediments will be dry sieved (if feasible) initially using an 8 – 10 mm mesh for recovery of artefacts. A sample (20%) of the sieved soils shall be subject to a second phase of sieving using a 4 mm mesh to test for presence of small artefacts, e.g. lithic micro-debitage. If significant assemblages of artefacts are identified during the second phase of sieving then all of the context containing these artefacts will be re-sieved through the 4 mm mesh. If the nature of the soils prevents dry sieving then wet sieving will be used.

4.3.18 The mitigation area is located in an arable field and archaeological features may have suffered some level of truncation through plough damage. However, if undisturbed subsoil, or palaeosol horizons are recognised during excavation of test pits archaeological features may not have suffered plough damage. Where undisturbed soil horizons are present, and results of sieving are repeatedly negative for finds pre-dating the post medieval period, the Archaeological Contractor will notify DJV and sieving of ploughsoil may be discontinued, with agreement of the Employer.

4.3.19 Any archaeological finds noted during machine excavation of soils or substrate will be bagged individually and their 3D locations will be recorded by RTK GNSS. Archaeological finds recovered by sieving of soils will also be bagged individually, but will only be located to context and test pit.

4.3.20 Sieving stations will be set-up in close proximity to the test-pits, where feasible, to allow the spoil to be sieved as soon as it is excavated. Larger artefacts recovered by sieving will bagged individually and will be located by context and test pit. Concentrations of small easily damaged artefacts, such as lithic micro-debitage, from any single context will be bagged collectively, but should be stored in a rigid container, such as a plastic storage box, separate from heavier artefacts.

4.3.21 Any recovered artefacts will be examined throughout the phase of Test Pitting in order to monitor the effectiveness of the methodology and provide feedback on the chronology and character of artefacts recovered. Information gathered will be used to enhance and inform the Archaeological Recording.

4.3.22 Any clusters of burnt flint or fire-cracked stone will be highlighted, as this material may provide an indication of the proximity of hearths.

4.3.23 The fills of any archaeological features or deposits revealed by Test Pitting will usually not be investigated during this phase of work. The location of features or deposits will be recorded using RTK GNSS for further investigation during the Archaeological Recording.

## Archaeological Recording

4.3.24 The mitigation area will be stripped by a tracked excavator using a bladed ditching bucket to the first significant archaeological horizon, the surface of natural deposits / features with palaeoenvironmental potential or to the underlying drift geology. Following surface cleaning and identification of features the final excavation process will be determined by DJV in consultation with the Employer. Summary methods and minimum sample size is considered in period specific sections below:

### *Prehistoric Periods*

4.3.25 During archaeological investigation and recording of prehistoric archaeological remains:

- If concentrations of lithic artefacts are identified at the stripped surface of the mitigation area, areas of intensive excavation will be agreed with the Employer. Intensive excavation will comprise gridding of the areas agreed with the Employer into 1 m squares, which will be hand excavated in 0.05 m spits. A minimum of three spits will be removed, with further spits being excavated, as necessary, until the lowest spit is completely free of any artefacts. Lithic artefacts discovered during hand excavation of each spit will be recorded in 3D by RTK GNSS and will be bagged individually. All spoil from each spit will be dry, or wet sieved initially using an 8 – 10 mm mesh for recovery of artefacts. A sample (20%) of the sieved soils shall be subject to a second phase of sieving using a 4 mm mesh to test for presence of small artefacts, e.g. lithic micro-debitage. If significant assemblages of artefacts are identified during the second phase of sieving, then all of the context containing these artefacts will be re-sieved through the 4 mm mesh.
- Pits, industrial features/deposits, post alignments, structural gullies or other structural evidence will initially be half sectioned, quadranted, or investigated by hand using an alternative excavation strategy agreed with DJV, then 100% hand excavated after investigation, recording and appropriate sampling has been completed.
- Settlement enclosure ditches will be subject to excavation by hand (minimum 50%) to characterise their significance, form, function, condition and date; at the same time retrieving a fully representative artefact/ecofact assemblage. Complete excavation of enclosure ditches may be necessary if finds density is low, or they contain particularly significant artefactual, industrial or environmental evidence.
- Agricultural enclosure ditches will be subject to excavation by hand (minimum 20%) to characterise their significance, form, function, condition and date; at the same time retrieving a fully representative artefact/ecofact assemblage. Complete excavation may be necessary if they contain particularly significant artefactual, industrial or environmental evidence.
- It is not anticipated that other types of extensive prehistoric land division, such as linear ditches, will be present at the mitigation area, but if such features are identified a detailed excavation strategy will be agreed with the Employer in consultation with stakeholders.
- It is not anticipated that prehistoric monuments will be identified at the mitigation area, but if features associated with monuments are identified they will initially be half sectioned, quadranted, or investigated by hand using an alternative excavation strategy agreed with the Employer. These features will usually be 100% hand excavated after initial investigation, recording and appropriate sampling has been completed.

- The excavated fills of prehistoric features will be sieved through an 8-10 mm mesh to retrieve small artefacts which may not be noticed during hand excavation.
- All terminal ends of ditches will be excavated by hand.
- All feature intersections will be excavated by hand to determine stratigraphic relationships.
- Particular attention shall be given to recording potential evidence of structured deposition of artefacts or ecofacts within features.
- Inhumations, cremations and other deposits relating to funerary activity will be 100% excavated by hand following established guidance and the methodology set out in Sections 4.3.46-4.3.52 of the Project Plan.
- Standard palaeoenvironmental bulk samples will be collected from securely stratified deposits and fills of features distributed across the mitigation area paying regard to observed levels of truncation, equitable sampling of different phases and any perceived zoning of activity at the sites. Other types of palaeoenvironmental environmental sampling may be used for suitable fills and deposits, e.g. retrieval of monoliths for sediment characterisation/pollen assessment, or other purposive environmental samples (Sections 4.3.53 – 4.3.70 of the Project Plan).
- Excavation, handling, processing, conservation and storage of finds will be completed so that, for example, pot sherds can be subject to residue analysis. The Archaeological Contractor will follow the advice of recognised specialists for field and post excavation procedures for finds which may be subject to scientific analysis, as summarised in available guidance (e.g. HE 2017).
- The stripped surface of the mitigation area will be re-examined on a weekly basis during fieldwork to determine whether previously un-noticed potential archaeological remains have 'weathered out'.
- Excavated interventions, features and deposits shall be recorded in sufficient detail to allow calculation of the volume of excavated material and examination of this information against recovered finds densities during post excavation analysis.

### *Other Periods*

4.3.26 If significant archaeological remains of other periods are present, excavation will usually include;

- The excavation of structural elements including foundation cuts, wall lines and post holes will usually comprise the removal of 50% (minimum) of archaeological deposits by hand, with the potential for full excavation of features.
- The excavation of non-structural isolated features, including pits, will usually comprise the removal of 50% (minimum) of archaeological deposits by hand. Complete excavation of isolated features may be necessary if they contain particularly significant artefactual, industrial or environmental evidence.
- Non-structural ditches and gullies will usually be subject to excavation by hand (minimum 10%) to characterise their significance, form, function, condition and date; at the same time retrieving a fully representative artefact/ecofact assemblage.
- All terminal ends of ditches and gullies will be investigated and all feature intersections will be investigated to determine stratigraphic relationships.
- Inhumations, cremations and other deposits relating to funerary activity will be 100% excavated by hand following established guidance and the methodology set out in Sections 4.3.46-4.3.52 of the Project Plan.
- The retrieval of standard palaeoenvironmental bulk samples from securely stratified, significant deposits and fills, from selected features distributed across the mitigation areas paying regard to observed levels of truncation, equitable sampling of different phases and any perceived zoning of activity at the sites. Other types of environmental sampling may be used for suitable fills and deposits, e.g. for retrieval of monoliths for sediment characterisation/pollen assessment (Sections 4.3.53 – 4.3.70 of the Project Plan).
- The stripped surface of the mitigation area will be re-examined on a weekly basis to determine whether previously un-noticed potential archaeological remains have 'weathered out'.
- Excavated interventions, features and deposits shall be recorded in sufficient detail to allow calculation of the volume of excavated material and examination of this information against recovered finds densities during post excavation analysis.

4.3.27 A 2% contingency of the mitigation area will enable further investigation of significant archaeology, should this be necessary. The 2% contingency would be used, with the agreement of the Employer, where additional investigation of significant features extending outside the mitigation area would provide information contributing to HERDS Specific Objectives.

4.3.28 Metal detectors will be used by experienced staff to scan for metallic finds after soil has been stripped from the mitigation area and during investigation of key archaeological features or deposits.

4.3.29 In order to protect any waterlogged remains during the works, the Archaeological Contractor may identify a requirement for 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.

4.3.30 Consideration will be taken at all times during excavation as to how the results can contribute to the GWSI: HERDS Specific Objectives set out in Table 2.

4.3.31 No photographs taken of the mitigation area will be shared without permission granted by the Employer. Any public open days will be undertaken in consultation with the Employer.

4.3.32 Discovery of unexpected finds of national importance shall be in accordance with procedure (HS2-HS2-EV-PRO-000-000009).

4.3.33 The process of excavation, recording and sampling will continue until a sufficient sample of the archaeological remains has been investigated to meet the aims and objectives of the work.

## Setting Out

4.3.34 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 (VRS). A minimum of three Permanent Ground Markers (PGM) shall be created using this system.

4.3.35 The area of mitigation shall be located to a horizontal accuracy of +/– 0.05 m. The corner points shall be set out with Real Time Kinematic (RTK) Global Navigation Satellite System (GNSS) equipment or other suitable automated equipment referenced from the PGMs.

4.3.36 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 0.1 m Ök: where 'k' is the total distance levelled in kilometres.

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

## Fieldwork Recording

4.3.38 Recording shall be undertaken by the Archaeological Contractor to the general requirements as described in the GWSI: HERDS and the Technical Standard – Specification for Historic Environment Investigations (HS2-HS2-EV-STD-000-000035). During the Archaeological Recording 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.

4.3.39 Recording is to include, as a minimum:

- the written record of individual context descriptions on appropriate pro-forma;
- Sections (1:10 or 1:20 scale) of cut features and significant deposits;
- Plans at appropriate scales (1:10, 1:20 or 1:50);
- Other drawn and written records on appropriate pro-forma;
- Single context planning should be used only if appropriate (i.e. where there is a complex sequence); and
- Digital photographs.

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

4.3.41 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 shall also be indicated.

4.3.42 A record of the full extent in plan of all archaeological features and 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 Employer), 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 Employer). 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.

4.3.43 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 Contractor during the course of the excavations. Spot dating shall be incorporated onto this diagram during the course of excavations.

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

4.3.45 The photographic record will be in digital format, captured by cameras with a minimum sensor size of 10 megapixel, resulting in high resolution TIFF (uncompressed) images. Photographs will illustrate both the detail and context of the principal archaeological features discovered. In addition, the 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

4.3.46 EWC North trial trenching did not identify any human remains at the mitigation area. In the event that human remains are identified during Archaeological Recording, all work must be undertaken in accordance with the Burial Grounds, Human Remains and Monuments Procedure (HS2-HS2-EV-PRO-000-000008).

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

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

4.3.49 In accordance with Sections 8.2.23 – 8.2.27 of HS2 Burial Grounds, Human Remains and Monuments Procedure (HS2-HS2-EV-PRO-000-000008) the Archaeological Contractor will inform the Coroner or Police, and the local authority Environmental Health Officer of the discovery of unexpected human remains and provide brief background information which will enable a decision to visit the site, or confirm that the human remains are of no interest. The decision regarding a site visit, or notification of no interest must be provided by the Coroner, and or Police and the EHO within two working days of notification.

4.3.50 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.

4.3.51 Human remains, once recognised, will be metal detected immediately to determine whether any metallic grave goods are present. If possible, following the Employer's Burial Grounds, Human Remains and Monuments Procedure (HS2-HS2-EV-PRO-0000-000008) and best practice for exhumation of human remains (CIfA 2017, Historic England 2018, IfA 2004), burials with metallic grave goods shall be excavated, 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'.

4.3.52 In accordance with Schedule 20, appropriate measures will be taken to ensure respect for unexpected human remains is observed. If appropriate this will include screening the excavation in accordance with the Code of Construction Practice (CoCP) such as to be effective to shield the remains from public view; and permitting access to that part of the site only to persons whose presence is necessary for carrying out of the archaeological works.

## Environmental Sampling

4.3.53 In line with the HS2 Technical Standard Specification for Historic Environment Investigations (HS2-HS2-EV-STD-000-000035) a summary initial sampling strategy is set out below. This strategy is based on the existing information about the mitigation area and the GWSI: HERDS Objectives listed in Table 2.

4.3.54 The initial sampling strategy, along with the HERDS Objectives outlined in Table 2, identifies the key elements that should, where present, be sampled during the Archaeological Recording. However, the strategy will need to be reviewed and justified throughout the on-site work; DJV shall review the palaeoenvironmental sampling during regular assurance visits and will assist the Archaeological Contractor in assessing the ability of the recovered evidence to address GWSI: HERDS Specific Objectives.

4.3.55 The sampling strategy shall be developed by the Archaeological Contractor's recognised environmental and geoarchaeological specialists in liaison with DJV, the Employer and Historic England Senior Science Advisor. The Archaeological Contractor's recognised specialists will ensure that the sampling strategy will remain flexible and subject to review throughout on-site work.

4.3.56 If DJV or the Archaeological Contractor identifies a need to alter the scope of palaeoenvironmental sampling, e.g. where quality of recovered information is poor or unexpected features and deposits are identified, in order to appropriately address Specific Objectives, DJV would liaise with the Employer. Final agreement of alteration to scope may involve HERDS meetings between the Archaeological Contractor, DJV, the Employer and

stakeholders. The Employer will determine whether an agreed alteration to scope necessitates production of an addendum to the LS-WSI.

4.3.57 To aid the iterative approach to sampling the Archaeological Contractor will complete the sampling strategy document included in Appendix B of the Project Plan at the specified stages of work. The document will be provided to DJV, for dissemination to the Employer and Historic England Senior Science Advisor at completion of each review stage so that the initial environmental sampling strategy and any proposed iterative alteration to the strategy is transparent and can be agreed.

4.3.58 The Archaeological Contractor will make provision for the sampling of a wide range of contexts for potential assessment and analysis of plant and animal micro/macro remains and soils/sediments in order to fulfil the aims set out in the Project Plan.

4.3.59 Wherever appropriate, biological samples, soils/sediments and any artefactual evidence present shall be assessed for evidence of site and deposit formation processes, taphonomy including evidence of recent changes that may have been caused by alterations in the site environment.

4.3.60 Sampling will follow Historic England guidance (HE 2011, 2015). Sample record sheets shall include a reasoned justification for selection of deposits for sampling. Significant, securely stratified deposits and feature fills shall be prioritised for sampling to retrieve palaeoenvironmental and economic indicators. If finds densities are low it may be appropriate to sample features which have not been securely dated by artefactual evidence to ensure that adequate spatial and temporal sample coverage is achieved

4.3.61 Flotation samples and samples taken for coarse-mesh sieving from dry deposits will be processed and assessed at the time of the fieldwork, and summary assessment will be completed a maximum of two weeks from the date of sample collection, to permit variation of sampling strategies if necessary. The Archaeological Contractor will provide DJV with at least three written updates on the environmental sampling strategy in accordance with the timeline for such updates as set out in Sections 3, 4 and 5 of the Sampling Strategy document included in Appendix B of the Project Plan.

4.3.62 The Archaeological Contractor's recognised specialists shall review information available from the trial trenching, and examine the condition of previously investigates features once soil stripping is complete, to determine whether further sampling of previously sectioned features will be of value, and the contribution that further sampling of these features could make to GWSI: HERDS Objectives.

4.3.63 As a minimum the sampling strategy will:

- Bulk sample securely stratified deposits and feature fills spread across the mitigation area for retrieval of macro environmental remains. The sampling strategy will consider the character and distribution of archaeological remains, and shall sufficiently sample different types and phases of activity in part to examine whether there are changes in rates of deposition, disposal, material survival and enhance understanding of zoning of activity.
- Collect basal fill from clearly associated groups of pits as whole earth bulk samples for assessment, analysis and dating.
- Screen collected bulk samples for indicators of industrial processes, particularly in areas of possible burning. Where significant concentrations are identified, this information should be fed-back to the site, so that where necessary, further samples can be taken to help to define any areas of metalworking, or other industrial processes.
- Sample floor surfaces where they survive and have not been truncated.
- Consider monolith sampling of securely stratified feature fills or deposits for pollen, thin section and other methods of scientific analysis.
- Retrieve samples for assessment/analysis and scientific dating from securely stratified feature fills or deposits where artefactual dating evidence is absent.
- Include geoarchaeological input, as necessary, in order to aid understanding of landscape development, site formation processes and to determine whether particular types of scientific method could enhance understanding of archaeological feature fills and natural deposits, including whether features were in-filled deliberately, or naturally in-filled over time.

4.3.64 Scientific methods could include soil and sediment chemical and physical analyses, soil micromorphology, mineralogy and particle size analysis (HE 2011, 2015). Field based recording and sampling will be carried out by, or under the supervision of, recognised palaeoenvironmental and geoarchaeological specialists.

4.3.65 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).

4.3.66 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.

4.3.67 Processing and assessment of all bulk soil samples collected, or sub-samples of them, will 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 Contractor'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 site environment.

4.3.68 Samples collected for geo-archaeological assessment should be processed promptly by the Archaeological Contractor's specialist, particularly where storage of unprocessed samples is thought likely to result in deterioration. Appropriate assessment shall be undertaken in liaison with DJV and the Employer. Where preservation in situ is a viable and desirable option, consideration shall be given to minimising the possible effects of compression and loading on the physical integrity of the site and any hydrological or chemical impacts of the proposed construction works.

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

## Finds

4.3.70 All archaeological finds pre-dating the 19th century will be retained. Late post-medieval and modern finds (19th century or later) may be recorded on site and not retained, depending on their contribution to Specific Objectives.

4.3.71 The Archaeological Contractor may propose a selection and retention policy if large assemblages of certain categories of find are expected, or are unexpectedly recovered. Proposals for selection and retention will be agreed with DJV, Stakeholders and the receiving museum, and must be approved by the Employer before the Archaeological Contractor enacts them. The selection and retention policy will follow the Technical Standard - Historic Environment Physical Archiving Procedure (HS2-HS2-EV-STD-000-000039) and the strategy will follow the CIfA Archive Selection Toolkit (http://cifa.heritech.net/selection-toolkit). The usual categories of material considered by the policy/strategy will comprise:

- Ceramic building material;

- Kiln and furnace structure;
- Ceramic wasters;
- Industrial waste samples such as slag;
- Non-descript wall plaster;
- Plaster and mortar samples;
- Building stone samples;
- Animal bone, especially from contexts with large residual pottery assemblages that nullify study of the animal bone due to the potential for large residuality of animal bone; and
- Post-medieval bottle glass.

4.3.72 Where appropriate, soil samples may be taken and sieved to aid in finds recovery.

4.3.73 Any finds requiring active conservation or specific storage conditions will be dealt with immediately in line with First Aid for Finds (Watkinson and Neal 1998).

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

## Metallic Objects and Residue

4.3.75 Assessment of finds assemblages shall include x-radiography of metallic objects (after initial screening to exclude obviously modern objects). Where necessary, active stabilisation / consolidation shall be carried out to ensure long-term survival of the material, but with due consideration to possible future investigations.

## Treasure

4.3.76 In the event of the discovery of 'treasure' as defined below, the Treasure Act 1996 will apply to works for Phase One of HS2 and the Archaeological Contractor shall comply with it. The Treasure Act defines 'Treasure' as:

- Any metallic object, other than a coin, provided that at least 10 per cent by weight of metal is precious metal (that is, gold or silver) and that it is at least 300 years old when found. If the object is of prehistoric date it will be Treasure provided any part of it is precious metal.
- Any group of two or more metallic objects of any composition of prehistoric date that come from the same find (see below).

- Two or more coins from the same find provided they are at least 300 years old when found and contain 10 per cent gold or silver (if the coins contain less than 10 per cent of gold or silver there must be at least ten of them). Only the following groups of coins will normally be regarded as coming from the same find: Hoards that have been deliberately hidden; Smaller groups of coins, such as the contents of purses, that may have been dropped or lost; Votive or ritual deposits.
- Any object, whatever it is made of, that is found in the same place as, or had previously been together with, another object that is Treasure.
- Any object that would previously have been treasure trove, but does not fall within the specific categories given above. Only objects that are less than 300 years old, that are made substantially of gold or silver, that have been deliberately hidden with the intention of recovery and whose owners or heirs are unknown will come into this category.

4.3.77 **Note**: An object or coin is part of the 'same find' as another object or coin if it is found in the same place as, or had previously been together with, the other object. Finds may have become scattered since they were originally deposited in the ground.

4.3.78 All finds falling within the definitions of treasure shall be reported immediately to DJV who will inform the Contractor and Employer.

4.3.79 The Archaeological Contractor will ensure that all finds of Treasure are reported to the Coroner within 14 days of discovery, or within 14 days of recognition that the find/s constitute Treasure.

4.3.80 The Archaeological Contractor will initially report the find/s to the Portable Antiquities Scheme Finds Liaison Officer (FLO). The FLO will often provide assistance in determining whether find/s constitute Treasure and may report the discovery to the Coroner on the finder's behalf. The FLO will also contact the British Museum to obtain a unique Treasure reference number for the find and this will act as a constant identifier throughout the process.

4.3.81 To protect the finds from theft, the Archaeological Contractor shall record the finds and remove them to a safe place on the day of discovery. Where excavation, recording and removal is not feasible or appropriate on the day of discovery, the Archaeological Contractor shall liaise with the Contractor to ensure that enhanced site security is provided to protect such finds following the WP29 Site Security Plan (1EW04-LMJ-SC-N000-029001).

4.3.82 Subject to the Provisions of the Treasure Act 1996, all material that is defined as Treasure is vested in the franchisee or, if none, the Crown.

### Backfilling

4.3.83 The mitigation area shall be pumped dry (by the Archaeological Contractor) and any necessary protection measures 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.

# 5 Post-Investigation Reporting and Archiving

5.1.1 All reporting will be carried out in accordance with the GWSI: HERDS requirements (HS2-HS2-EV-STR-000-000015).

5.1.2 If appropriate, Schedule 20 reporting requirements – within 12 months for remains and monuments – will also be adhered to in the reporting process.

5.1.3 An interim report will be produced for the Metal Detecting, Test Pitting and Archaeological Recording within ten days of completion of fieldwork, unless otherwise agreed with the Employer. The interim report will:

- Be brief, with information contained commensurate with the timescale for production;
- Provide information gathered during the initial assessment undertaken during fieldwork;
- Indicate whether the fieldworks findings require the resource assessment and specific objectives to be updated;
- Provide information necessary to inform design decisions relating to the next stage of historic environment works (if required by the Employer); and
- A site plan indicating the extent of fieldwork investigations.

5.1.4 A fully illustrated report will be produced for the Mitigation within six weeks of completion of the fieldwork, unless otherwise agreed with the Employer. The report will be structured as follows:

- Executive Summary.
- Introduction, including site location and project background, aims, and GWSI: HERDS Specific Objectives (as identified in the 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, as necessary:

- Site walkover inspection
- Metal Detecting
- Test Pitting
- Geoarchaeology
- Archaeological Recording
- Stratigraphic report
- Finds report
- Environmental evidence report
- Interpretation of results against original expectations and Specific Objectives
- Review of the evaluation and mitigation 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; and
- Appendices will comprise (where appropriate) illustrations, contextual summary, finds reports, environmental reports, site matrices and full definitions of the interpretation terms used in the report and a copy of the OASIS record.

5.1.5 The following figures will be included in the mitigation report as a minimum, the report figures may be combined with the Trial Trenching report figures in order to provide a clear overview of the site:

- General plan (mandatory).
- Engineering design (mandatory).
- Site location.
- Survey extents.
- Location of area of Mitigation.
- Mitigation results to include finds distribution, plans and section of selected archaeological features, deposits and sequences.
- Selected photographs of representative and/or significant features and finds.

5.1.6 If Wessex Archaeology foresees a requirement for extension to completion of either stage of reporting they will immediately notify the Contractor and DJV so that extension can be discussed with the Employer.

5.1.7 The creation and curation of the archaeological physical archive compiled as a result of the archaeological works conducted by the HS2 scheme shall comply with the Historic Environment Physical Archiving Strategy (HS2-HS2-EV-STR-000-000018) and Technical Standard - Historic Environment Physical Archiving Procedure (HS2-HS2-EV-STD-000-000039).

5.1.8 The guidance for the creation, curation and dissemination of digital data created as a result of the archaeological works conducted by the HS2 scheme shall be in accordance with the Historic Environment Digital Data Management and Archiving Procedure (HS2-HS2-EV-STD-000-000040) and Historic Environment Digital Data Management and Archiving Strategy (HS2-HS2-EV-STR-000-000019).

5.1.9 The Heritage Memorandum for Phase One of HS2 recognises the need to deposit the HS2 archaeological and built heritage archive appropriately and the Employer is committed to working with Historic England and local authorities to identify suitable repository/ies to enable the deposition of the artefacts and records generated by the HS2 heritage works.

# 6 Dissemination

6.1.1 In accordance with professional standard practice, Wessex Archaeology will complete an 'Online Access to the Index of Archaeological Investigations' (OASIS) record. To achieve compliance of OASIS records in compliance with Employer requirements a small number of steps are necessary:

- Wessex Archaeology will register for an OASIS login using HS2 prefix, i.e *'HS2-Archaeological Contractor Name'.*

- The OASIS record 'project name' field will be completed using HS2 as a prefix to the project name. The project name will exactly replicate the Final Report title.
- HS2 site codes will be added as identifiers to the OASIS record 'associates project reference codes' field.
- HS2 will be specified as the archive depository in the OASIS record.
- The OASIS record will be presented in the Final Report as an appendix.
- Archaeological Contractor report/s will only be uploaded to the relevant OASIS record after 'Code 1' approval of the report has been received from HS2.

6.1.2 Digital and hard copies of reports will be submitted to the relevant Historic Environment Record (HER) and the National Record for the Historic Environment (NRHE) in accordance with their requirements.

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

# 7 Information Management

7.1.1 GIS deliverables will be provided 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 the Employer's 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 Process

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

8.1.2 Wessex Archaeology will have direct communication with LM on contractual matters and non-archaeological 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 Wessex Archaeology's senior management and will be directed by Wessex Archaeology's Project Director.

8.1.4 All parties will follow the Employer's 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 (Archaeological Contractor, DJV, LM).

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

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

8.1.6 Following completion, the Archaeological Contractors work will be formally signed off by the Employer. 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 the Employer for final approval.

8.1.7 The Archaeological Contractor will submit a draft of all reports to Asite for review. DJV and the Contractor 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 the Employer. The Employer may provide feedback and require amendment to submitted documents before final approval.

# 9 Community Engagement

9.1.1 Community Engagement lies at the heart of historic environment works for HS2 Phase One. GWSI: HERDS (HS2-HS2-EV-STR-000-000015) is clear in setting out three tenets as key to delivery of an innovative new approach to archaeological research and investigation: creating knowledge, involving people, and legacy. The GWSI: HERDS sets out specific objectives for Community Engagement (CE):

- CE1: Marking and communicating the changes to landscapes and environments;
- CE2: Identifying and sharing our stories;
- CE3: Meeting the challenge of inspiring the next generation;
- CE4: Accessible information and knowledge sharing; and
- CE5: Contribute to the process and facilitation of audience project creation.

## Community Engagement Scope

9.1.2 The Archaeological Contractor will offer activities and events that involve and keep the community and stakeholders informed, and develop an understanding of local history and archaeology. Community engagement will strive to include harder-to-reach audiences (e.g. BAME, youth and low-income groups).

9.1.3 Archaeological mitigation provides an opportunity to exploit the benefits of personal and social satisfaction and access to professional and specialist knowledge, forge closer relationship between communities and environment, provide 'good news' stories for local and national press, and fulfil social and community obligations (GWSI: HERDS. Section 9.1.2).

9.1.4 Event and activity type will depend on Health and Safety, interest from local groups, Archaeological Contractor capability, resource, works programme and site conditions. The Archaeological Contractor will organise events and activities in liaison with the Employer, the Contractor and DJV.

9.1.5 The Archaeological Contractor will deliver at least two types of engagement selected from the list below, with the flexibility for further engagement depending on outcomes and uptake.

- Notifications and illustrated fact sheets – for distribution to agreed groups and across agreed networks;
- Community and local interest groups site visits - subject to Health and Safety, ground conditions, weather and accessibility, programme;
- Community open days - including artefact handling, information boards;
- Drop-in events - including artefact handling, information boards;
- Lectures and talks – to local interest groups, societies, parish and community groups;
- Blogs and online materials – in conjunction with HS2 Commonplace;
- Site photography and drone footage;

- School visits – in conjunction with LM Skills Education and Employment (SEE); and
- Participation in archaeological fieldwork stages and post-excavation work (where possible and appropriate), e.g. community excavation and recording, research.

## Community Engagement Set Up, Approval and Publicity

9.1.6 Events and activities will be set up in line with the Contractor's objectives on engagement, using and building on site and/or area specific engagement plans or stakeholder matrices. Activities and events will support the pillars of the Employer's community engagement strategy: creating knowledge, involving people, and legacy.

9.1.7 Public events and activities will be promoted and advertised through channels and networks appropriate to the type, scale and potential participants/audience for the event or activity at least 6 week in advance.

9.1.8 The Archaeological Contractor will supply all text and images for use in Community Engagement to DJV for review and for approval by the Contractor and the Employer (at least 2 weeks prior to promotion).

9.1.9 In addition to the HS2 corporate channels listed below, other opportunities for publicity should be sought and communicated to the Employer, Contractor and DJV in a mini communication plan. Local press (radio, newspaper and TV) and relevant local digital platforms should be considered, as should historical and archaeological societies, Council for British Archaeology West Midlands and local museums platforms.

- HS2 corporate website – options include a press release, revamped page content – to be determined by HS2;
- Commonplace websites for Birmingham, Solihull, Warwickshire and Staffordshire – each website to be updated with consistent key messages, fact sheet(s), responses to FAQs together with some bespoke messages tailoring the page to the local context;
- E-news alerts from Commonplace – distributing HS2 fact sheet(s), notifications, blogs, webpage updates, etc; and
- HS2 social media – Facebook, Twitter and LinkedIn – LM to provide the content; HS2 to post.

## Community Engagement Delivery

9.1.10 Delivery of activities and events will usually be attended by representatives of the Employer, the Contractor and/or DJV.

9.1.11 The Archaeological Contractor will provide engagement / feedback forms to participants in Community Engagement activities and events and may create an engagement form specific to the subject matter to aid reporting.

9.1.12 Activities and events should:

- Be locally-based if possible;
- Focus on the archaeology of the site and immediate area; and
- Be tailored to the audience.

### Community Engagement Reporting

9.1.13 Following activities and events, the Archaeological Contractor will communicate information on factors such as numbers, achievements, interest and appetite for further engagement to the Employer, the Contractor and DJV.

# 10 Health, Safety and Environment

10.1.1 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.

10.1.2 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.

10.1.3 Wessex Archaeology will be responsible for the implementation of, adherence to and reporting of health and safety during the mitigation.

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

10.1.5 All work on site is to be carried out in accordance with the procedures set out in the RAMS (Appendix 3).

10.1.6 All staff deployed onto site are to be fully inducted by the Employer and will have read and signed the RAMS (Appendix 3) before commencing work.

10.1.7 The Contractor will inform Wessex Archaeology of any ecological constraints on the site.

10.1.8 The current land use of the site has been assessed during site walkovers. A UAV flight will also be undertaken at the outset of the works to evidence site conditions.

10.1.9 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.

# 11 Site specific details

## 11.1 Access and Welfare

11.1.1 Access will be provided by HS2 and LM and landowner liaison by Wessex Archaeology is likely to be minimal. Should negotiation and interaction with the owners of adjacent land parcels be required this will be undertaken by LM's land access team.

11.1.2 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.

11.1.3 Wessex Archaeology will supply plant, welfare and site security for the duration of the mitigation works.

## 11.2 Safety and Security

11.2.1 Vehicles will be parked in the compound's designated locations only (Figure 3).

11.2.2 Any tools and equipment being retained overnight and at weekends will be stored in the site compounds only.

11.2.3 Procedures to be followed when dealing with members of the public are outlined within the RAMS (Appendix 3).

11.2.4 No lone working is permitted.

11.2.5 Wessex Archaeology is providing security including remote alarm systems and mobile response.

## 11.3 Accommodation

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

## 11.4 Insurance

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

# 12 Programme and Staff

12.1.1 The proposed programme of works is set out below.

| Activity | Start Date | End Date |
|---|---|---|
| Site walkover inspections | 29/01/20 | 29/01/20 |
| Mobilisation and Compound Setup | 16/03/20 | 20/03/20 |
| Archaeological Mitigation (Metal Detecting, Test Pitting and Excavation | 23/06/20 | 21/08/20 (revised) |
| Post-ex analysis and Reporting | 24/08/20 | TBC |
| Archiving | TBC | TBC |

12.1.2 An organogram of key staff is provided in Appendix 4.

# 13 Resourcing requirements and budget

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

| Activity | Cost |
|---|---|
| LS WSI (WSI), Site Specific RAMS | £2,800.54 |
| Site Walkovers | £1,810.24 |
| Prelims –compound mobilisation, hire and demobilisation for 16 weeks | £98,470.64 |
| Mitigation Fieldwork - metal detecting, test-pitting and excavation (including staff, plant, transport, equipment etc) | £567,980.95 |
| Reporting (to Post-Excavation Assessment level) | £124,839.77 |
| Contingency fieldwork (additional excavation or prelims at framework rates) | At framework rates |
| Contingency reporting (additional analysis and reporting at framework rates) | TBC on fieldwork completion at framework rates |

# 14 References and Glossary

## 14.1 References


| Reference | HS2 document reference no. |
|---|---|
| IfA (Institute for Archaeologists) 2004 Guidelines to the Standards for Recording Human Remains | n/a |
| CIfA (Chartered Institute for Archaeologists) 2017 Updated Guidelines to the Standards for Recording Human Remains | n/a |
| CIfA (Chartered Institute for Archaeologists) Toolkit for Selecting Archaeological Archives http://cifa.heritech.net/selection-toolkit | n/a |
| Gardner, T.H. 2019 Assessing the contribution of integrated geoarchaeological approaches to understand the formation and function of burnt mounds: the example of Hoppenwood Bank, North Northumberland. Archaeological Journal 176:1. Pp 51-83 | n/a |
| Harris, E C et al 1993 Practices of Archaeological Stratigraphy. London, Academic Press | n/a |
| Portable Antiquities Advisory Group 2017 Code of Practice for Responsible Metal Detecting in England and Wales | n/a |
| Watkinson, D and Neal, V 1998 First Aid for Finds: practical guide for archaeologists. United Kingdom Institute for Conservation of Historic & Artistic Works | n/a |
| HE (Historic England) 2011 Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post Excavation | n/a |
| HE (Historic England) 2015 Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record | n/a |
| HE (Historic England) 2017: Organic Residue Analysis and Archaeology: Guidance for Good Practice and Supporting Information | n/a |
| HE (Historic England) 2018 The Role of the Human Osteologist in an Archaeological fieldwork project | n/a |

| | |
|---|---|
| Historic England 2018 Our Portable Past. Swindon, Historic England | n/a |
| Burial Grounds, Human Remains and Monuments Procedure | HS2-HS2-EV-PRO-000-000008 |
| HS2 Procedure for the Unexpected Discovery of Archaeological Remains of National Importance | HS2-HS2-EV-PRO-000-000009 |
| HS2 Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS) | HS2-HS2-EV-STR-000-000015 |
| Historic Environment Physical Archiving Strategy | HS2-HS2-EV-STR-000-000018 |
| Historic Environment Digital Data Management and Archiving Strategy | HS2-HS2-EV-STR-000-000019 |
| HS2 Technical Standard Specification for historic environment investigations | HS2-HS2-EV-STD-000-000035 |
| HS2 Technical Standard – Specification for Historic Environment Project Plans and Location Specific Written Schemes of Investigation | HS2-HS2-EV-STD-000-000036 |
| HS2 Technical Standard - Historic Environment Physical Archiving Procedure | HS2-HS2-EV-STD-000-000039 |
| Historic Environment Digital Data Management and Archiving Procedure | HS2-HS2-EV-STD-000-000040 |
| HS2 Cultural Heritage (HERDS) GIS Specification | HS2-HS2-GI-SPE-000-000004 |
| HS2 Geographic Information System Standards | HS2-HS2-GI-STD-000-000002 |
| HS2 Unexploded Ordnance Desk Study | 0615-ET-GT-REP-000-000001 |
| HS2 Environmental Impact Assessment (EIA) Phase One Environmental Statement (ES): CFA18 Stoneleigh, Kenilworth and Burton Green | Volume 5 Technical Appendices: CH-001-018; CH-002-018; CH-003-018; CH-004-018 |
| Geoarchaeological Desk Based Assessment (GDBA): review of the geoarchaeological potential of High Speed Two Phase One | 1D037-EDP-EV-REP-000-000031 |
| WP 29(B) Historic Environment Works – Kenilworth to Balsall Common – Enabling Works North Contract: Project Plan for Trial Trenching | 1EW04-LMJ-EV-PLN-NS01_NL03-029004 |
| HS2 Phase 1 Enabling Works North – WP 29(B) Birches Wood Farm and Milburn Grange (Kenilworth to Balsall Common): Interim Report for Trial Trenching (Trenches 315-441) – Key Findings | 1EW04-LMJ-EV-REP-NS01_NL03-029004 |

| | |
|---|---|
| WP 29(B) Historic Environment Works – Kenilworth to Balsall Common – Enabling Works North Contract: Evaluation Report for Trial Trenching | 1EW04-LMJ_WEX-EV-REP-NS01_NL03-029008 |
| Detailed Desk Based Assessment for Historic Settlement Landscape Study | 1EW04-LMJ-EV-REP-N000-029001 |
| Detailed Desk Based Assessment for EIA LiDAR Survey Re-appraisal | 1EW04-LMJ_DJV-EV-REP-N000-029004 |
| WP 29 (D) Historic Environment Works – Milburn Grange – Enabling Works North Contract: Project Plan for Archaeological Mitigation | 1EW04-LMJ_DJV-EV-PLN-NS01_NL04-029007 |
| WP29 Site Security Plan | 1EW04-LMJ-SC-N000-029001 |

## 14.2 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 |
| **LS-WSI** | Location Specific Written Scheme of Investigation |

# 15 Appendices

# Appendix 1: Project Plan

# WP 029 D Historic Environment Works – Milburn Grange – Enabling Works North Contract

## Project Plan for Archaeological Mitigation

Document Number: 1EW04-LMJ_DJV-EV-PLN-NS01_NL04-029007

| Revision | Author | Checked by | Approved by | Date | Reason for revision |
|---|---|---|---|---|---|
| C01 | John Appleby DJV | Debbie Taylor DJV; Jo Lyon DJV | Alastair Hancock DJV | 03/03/2020 | Issued for acceptance |

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Table 2: GWSI: HERDS Specific Objectives and mitigation strategy aims

# 1 Executive Summary

1.1.1 This High Speed 2 (HS2 North Section Phase One 'Project Plan' details the proposed methodology and approach for a programme of archaeological mitigation at Milburn Grange in Warwickshire. The mitigation area is located between HS2 chainage markers 142210 142470 and encompasses approximately 3.7ha. The area is required as part of the construction land requirements for the enabling works and subsequent main works for HS2 Phase One. The mitigation will examine a concentration of pits, ditches and gullies possibly defining prehistoric settlement activity.

1.1.2 Works detailed 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.

1.1.3 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).

1.1.4 The method of archaeological mitigation will be 'Metal Detecting', 'Test Pitting' and 'Archaeological Recording', to examine archaeological remains situated southeast of Kenilworth Road, (see Figure 3) where trenches 416, 264 and 265 confirmed presence of two parallel ditches set c. 10m apart; trench 413 identified two north-east to south-west aligned gullies, an isolated pit and a possible continuation of one of the parallel ditches; and trenches 417 and 427 revealed six small pits or post holes with a cluster of three of these features, one cutting a gully terminal, located at the northern end of trench 427.

1.1.5 Finds comprised nine worked flints recovered from the possible continuation of the parallel ditches and the pit at trench 413 and the parallel ditches at trenches 264 and 416; Late Bronze Age to Middle Iron Age pottery retrieved from the three post holes or small pits clustered at the northern end of trench 427; and two sherds of Romano-British pottery recovered from one of the parallel gullies at trench 413.

1.1.6 The Metal Detecting, Test Pitting and Archaeological Recording will investigate the area of archaeological remains to clarify their nature, extent, date, significance and contribution to Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS) Specific Objectives

1.1.7 DJV shall review the results of the Metal Detecting, Test Pitting and Archaeological Recording during regular assurance visits and will assist the Archaeological Contractor in assessing the ability of the recovered evidence to address GWSI: HERDS Specific Objectives.

1.1.8 DJV may identify a need to alter the scope of works, including the scope of archaeological and palaeoenvironmental sampling, to appropriately address Specific Objectives, and would liaise with the Employer in this eventuality. Final agreement of alteration to scope may involve HERDS meetings between the Archaeological Contractor, DJV, the Employer and stakeholders. The Employer will determine whether an agreed alteration to scope necessitates production of an addendum to the LS-WSI.

1.1.9 Discovery of unexpected remains of national importance shall be in accordance with HS2 Procedure for the unexpected discovery of archaeological remains of national importance (HS2-HS2-EV-PRO-000-000009).

1.1.10 The Project Plan for Mitigation should be read alongside the Project Plan for Trial Trenching (1EW04-LMJ-EV-PLN-NS01_NL03-029004), Interim Report for Trial Trenching (1EW04-LMJ-EV-REP-NS01_NL03-029004) and Report for Trial Trenching (1EW04-LMJ_WEX-EV-REP-NS01_NL03-029004) at Kenilworth to Balsall Common in order to provide the complete picture of the archaeological investigation of the mitigation area.

1.1.11 Preliminary research carried out as part of the 2013 Phase One Environmental Statement (ES), included hyperspectral survey, LiDAR survey and a geophysical survey (Appendix CH-004-018). Subsequent EWC North research has included a Historic Settlement Landscape Study (HSLS) (1EW04-LMJ-EV-REP-N000-029001) and a reappraisal of LiDAR data (1EW04-LMJ-EV-REP-N000-029012) to assess the use of different visualisations to identify additional archaeological features.

1.1.12 The purpose of this Project Plan is to:

- Outline the scope and aims of the mitigation and how it will contribute to specific research objectives, in accordance with the GWSI: HERDS.
- Outline the approach and methodology to be employed. The details will be covered in the Local Specific Written Scheme of Investigation (LS-WSI); and
- Set out the proposed deliverables and reporting mechanisms.

1.1.13 The GWSI: HERDS Specific Objectives for Knowledge Creation (KC) that the Project Plan focuses on are listed below, but the mitigation could also contribute to other Specific Objectives and appropriate KC's may be added subject to review of results:

- KC5: Identifying settlement location and developing models for settlement patterns for the Mesolithic, Neolithic and Early Bronze Age.
- 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.

# 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 mitigation area is situated between Kenilworth and Coventry at an agricultural field located immediately southeast of Kenilworth Road (A429). It is centred on National Grid Reference (NGR) 430206 273815 and encompasses 3.7ha of land.

2.1.3 The mitigation area will be subject to enabling and main works as part of Phase One of HS2, and includes Construction Land Requirement (CLR) CR02720 Canley Brook Retaining Wall. The work will entail ground disturbance which will have an impact on archaeological remains.

2.1.4 The mitigation area is situated within the Finham Brook Valley Archaeological Character Area (ACA3). The ACAs were split further in the ES and the area is located within the following Archaeological Character Sub-Zone:

- CFA18-10: North-west Avon Slopes. A steep slope located on Kenilworth Sandstone. Some archaeological potential is noted due to the area's proximity to the water, although the steep topography will have probably deterred settlement in the pre-medieval periods.

2.1.5 The method of mitigation will be 'Metal Detecting', 'Test Pitting' and 'Archaeological Recording', to examine an area of potential Late Bronze Age to Middle Iron Age settlement activity, and any other significant archaeological remains present, in order to clarify their nature, date, significance and contribution to GWSI: HERDS Specific Objectives.

2.1.6 Table 1 lists the archaeological investigations carried out at the site to date, with the key outcomes.

Table 1: Previous HS2 investigations in proximity to the mitigation area.

| Description | Summary of results |
|---|---|
| HS2 Phase 1 Enabling Works North – WP 29(B) Birches Wood Farm and | The trial trenching confirmed the presence of archaeological features previously identified by geophysical survey. Finds from ditches and small pits or post holes |

| | |
|---|---|
| Milburn Grange (Kenilworth to Balsall Common): Report for Trial Trenching (Trenches 315-441) (1EW04-LMJ_WEX-EV-REP-NS01_NL03-029004) | comprised nine worked flints and Late Bronze Age to Middle Iron Age pottery Finds post-dating the prehistoric periods comprised two sherds of Romano-British pottery recovered from a gully. |
| Geophysical Survey carried out as part of the ES – CN015 land off Coventry Road (A429), near Kenilworth, Warwickshire (Volume 5 Technical Appendix CH-004-018) | A concentration of linear, curvilinear and discrete magnetic anomalies suggested the presence of significant archaeology at the mitigation area. |
| Detailed Desk-Based Assessment for Historic Landscape Settlement Study (1EW04-LMJ-EV-REP-N000-029001) | The farmstead of Milburn Grange (id 132), approximately 80m south-east of the mitigation, is recorded on historic OS mapping and on an interpretation of the Kenilworth Enclosure map dated to 1756. |
| LiDAR and hyperspectral survey carried out as part of the ES (CH-004-018) | The LiDAR survey identified two sides of a possible moat along with earthworks suggesting a pair of possible house platforms c.100m to the south-east of the mitigation area, near Milburn Grange (Survey ID WA18.27). Ridge and furrow situated to the south of the mitigation area was included in the same survey ID. |
| LiDAR Survey Re-appraisal | The re-appraisal did not identify any additional features within the mitigation area. The re-appraisal flagged an area of ridge and furrow (APS18.054) located to the south of the mitigation area, which was previously identified in the ES as part of Milburn Grange (WA18.27) but was not described separately. |

## 2.2 Site Conditions

### Topography and Geology

2.2.1 The mitigation area is situated on a south sloping plateau at c.78m above Ordnance Datum (OD). The plateau is located c.170m northeast and c.50m southeast of a meander of the Canley Brook. To the southwest of the mitigation area the land descends gradually to c.68m OD adjacent to the brook, but the slope gradient is steeper to the northwest where the brook has cut into the underlying geology.

2.2.2 The British Geological Survey (BGS) online mapping data shows that the solid geology of the mitigation area consists of the Kenilworth Sandstone Formation. The BGS does not record superficial deposits at the mitigation area, but a thin band of alluvium is shown flanking the Canley Brook to the south and west. The Geoarchaeological Desk Based Assessment (GDBA: 1D037-EDP-EV-REP-000-000031) places the mitigation area in Geoarchaeological Character Zone GCZ32 (Stoneleigh to Burton) and notes the presence of restricted alluvial deposits associated with the Canley Brook. The results of the trial trenching illustrate that the top/sub - ploughsoil is c.0.45m – 0.70m deep with the weathered surface of the Kenilworth Sandstone (with occasional unweathered outcrops) is situated below.

## Summary of Archaeological Potential and Significance

2.2.3 There are no world heritage sites, scheduled monuments, registered battlefields, registered parks and gardens or listed buildings within the area of mitigation. The Grade II Listed Dale House Farmhouse (NHL ref. 1325994) is located approximately 760m south-east of the mitigation area.

2.2.4 The Warwickshire HER does not list any previous investigations at the mitigation area. The HER does record three archaeological investigations, not associated with HS2, within 500m of the mitigation area:

- HER ref. EWA2768: Fieldwalking as part of evaluation at University of Warwick (Field D10) carried out in July 1996.
- HER ref. EWA2774: Fieldwalking as part of evaluation at University of Warwick (Field D11) carried out in February 1996.
- HER ref. EWA10669: Archaeological evaluation on land north of Common Lane, Kenilworth in August 2017.

2.2.5 The 2013 Environmental Statement (ES) identified ten non-designated heritage assets which at least partially fall within 500m of the mitigation area (the location of these assets as mapped by the ES is shown on Figure 2 in Appendix A):

- ES ref. STN041: Earthworks to south of Dalehouse Farm. The site of a watermill which was in use during the post-medieval period.
- ES ref. STN044: Ridge-and-furrow south of Millburn Grange. Ridge-and-furrow earthworks and former field boundaries noted on aerial photos aligned north to south.
- ES ref. STN045: Milburn Grange. Later 18th century brick house faces to the east into its attendant yard (which is now, largely covered by modern prefabricated buildings). Part of the complex, however, includes historic 18th or 19th century barns to the west. Two sides of a possible moat, identified by LiDAR, are nearby (site WA18.27, see Appendix CH-004-018).
- ES ref. STN047: Milburn deserted medieval settlement. The possible site of the medieval deserted settlement of Milburn. A series of earthworks may represent the remains of the settlement. The site is located in the area either side of Milburn viaduct.
- ES ref. STN048: Crackley Bridge.
- ES ref. STN049: Cropmark east of Crackley. Undated linear cropmark.
- ES ref. STN050: Crackley Gate. Thatched house which is shown on the 1887 OS map and the 1843 tithe map.

- ES ref. STN057: 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.
- ES ref. STN105: Disused railway line complete with cutting, earthworks and other surface remains.
- ES ref. STN106: 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.

2.2.6 The mitigation area examines an area where EWC North trenches 416, 264 and 265 revealed two parallel ditches set some 10m apart; trench 413 identified a possible continuation of one of the parallel ditches, also two north-east to south-west aligned gullies and a pit; trenches 417 and 427 revealed six small pits or post holes. A cluster of three of these pits or post holes, one cutting a gully terminal, were located at the northern end of trench 427.

2.2.7 Finds comprised a small assemblage of worked flint from the parallel ditches at trenches 264 and 416; further worked flint from the possible continuation of the parallel ditches and the pit at trench 413 and Late Bronze Age to Middle Iron Age pottery from the three post holes or small pits clustered at the northern end of trench 427. Finds post-dating the prehistoric periods comprised two sherds of Romano-British pottery recovered from one of the gullies at trench 413; the gullies may form part of a horseshoe-shaped feature interpreted from results of geophysical survey.

2.2.8 The land to the north-west of the mitigation area contains significant evidence of prehistoric activity, including:

- Three Late Upper Palaeolithic/Early Mesolithic worked flints have been recovered south-east of Roughknowles Wood (HER ref. MWA8359).
- Nineteen Mesolithic worked flints are recorded at low lying land to the south of the Canley Brook (HER ref. MWA8354)
- Three Mesolithic flints (HER ref. MWA8358) are recorded between Crackley Wood and Roughknowles Wood.
- A perforated stone disc of possible Mesolithic date (HER ref. MWA2881) is recorded east of Crackley Wood.
- A large assemblage of Mesolithic/Neolithic worked flint and undated post holes have been discovered during fieldwalking and excavation located c.1.5km northwest near Cryfield House

(ES ref. STN061; HER ref's. MWA8208, MWA8346), perhaps identifying extremely rare early prehistoric settlement activity.

- Late Neolithic/early Bronze Age flint scatters (HER ref. MWA8353) are recorded c.700m north-northwest near Cryfield Grange (ES ref. STN054) and further to the north-west near Burton Green (HER ref. MWA3250).
- Widespread lithic assemblages of potential Bronze Age date have been recovered at land flanking the Canley Brook (HER ref. MWA3249, MWA4407, MWA2881 and MWA3250).

2.2.9 The wider landscape also includes a number of recorded Romano-British sites, including:

- Glasshouse Wood Scheduled Monument (NHL ref: 1005723), which lies c. 2km to the south-southeast of the mitigation area. The Scheduled Monument includes remains of a Roman building, a cremation burial and an associated field system, in part comprising banks, ditches and lynchets surviving as earthworks. The site has been interpreted as a potential villa estate.
- Crewe Farm Romano-British settlement (ES ref. STN031) c.1.9km southeast of the mitigation area. Timber buildings with tiled roofs were set within a rectilinear enclosure and recovered pottery comprised a large number of forms widely used during the 1st and 2nd centuries AD.

2.2.10 Anglo-Saxon evidence is mainly restricted to place-names, such as the village of Stoneleigh, c.2.7km to the southeast, although a single plough-truncated early Anglo-Saxon urned cremation burial has recently been discovered by EWC North trial trenching situated c.2km to the southeast. The Domesday Survey of AD1086 lists thirty ploughs, two mills, two priests, woodland four leagues long and two leagues broad providing food for 2000 pigs at Stoneleigh which suggests the character of the wider area during the latter part of this period.

2.2.11 Documentary evidence shows that the area may have retained significant stands of woodland for much of the medieval period, although slowly affected by piecemeal assarting for agricultural use. The mitigation area is located close to the former extent of Crackley Assarted Woodland (ES ref. STN106).

2.2.12 A possible deserted medieval settlement (DMV: ES ref. STN047) is situated c.100m to the south of the mitigation area around an extant farmstead at Milburn Grange (ES ref. STN045). Earthworks and cropmarks suggest presence of a settlement, perhaps including a moated site, with surrounding areas of ridge and furrow.

2.2.13 The land had predominantly been brought into agricultural use by the post medieval period and the mitigation area retains this character to the present day.

## Proposals

2.2.14 The proposed works across the route of HS2 Phase One are outlined in the HS2 Design Element Statement (DES). The DES specifies the following works intersected by the mitigation area:

- (142-L3) – Canley Brook Retaining Wall
- (143-S3) – A429 Kenilworth Road Overbridge

## Archaeological Implications

2.2.15 The works listed above will entail ground disturbance which will damage or remove below ground archaeology. The types of potential impact from construction are summarised below.

### *Soil Removal*

2.2.16 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 impact 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*

2.2.17 The section of HS2 near the mitigation area will be constructed in deep cuttings. Excavation of the cuttings will entirely remove any shallow archaeological remains that might have survived the preliminary topsoil strip and movement of plant or other construction activity may destroy shallow archaeological remains at adjacent areas.

### *Planting*

2.2.18 Landscape mitigation planting may be undertaken, this could include introduction of hedgerows, stands of woodland and areas of woodland edge. Ground intrusion from 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.

### *Site Fencing*

2.2.19 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 scope of the programme of mitigation 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 The Project Plan will support the overarching LS-WSI for the Mitigation Areas, which will set out the detailed method for the work.

3.1.3 All historic environment work on HS2 is guided by the Generic Written Scheme of Investigation: Historic Environment Research and Delivery Strategy (GWSI: HERDS) (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.

3.1.4 The general and specific aims of the mitigation will be:

## *General*

- To expose surviving archaeology at the mitigation areas, through the application of an archaeologically controlled soil strip using plant equipped with a toothless bucket.
- To archaeologically excavate and record all significant archaeological features within the mitigation area, in order to clarify the nature, date, extent and survival of any remains revealed and thus contribute to understanding of their heritage significance. The mitigation will provide a permanent archaeological record for the purposes of contributing to specific GWSI: HERDS Specific Objectives (see below).
- To carry out post-excavation assessment and analysis of recovered material; and
- To publish the results of the mitigation to bring the findings into the public and academic domain.

## *Specific*

- To determine (via metal detector survey and test pitting) whether artefacts contemporary with settlement activity are present in the ploughsoil and examine whether distribution of finds offers any information about zoning of activity.
- To examine whether the character of activity can be identified; whether any focus of

settlement is present, or if the ditches and other features present characterise agricultural use.

- To examine potential zoning of types of activity during different phases of use.
- To confirm how many phases of activity are present.
- To provide a secure chronological framework for the phases of activity through recovery of finds, supplemented by scientific dating.
- To examine the environment and economy of different phases of activity through recovery of palaeoenvironmental and ecofactual information.

3.1.5 The mitigation will aim to meet the GWSI: HERDS Specific Objectives, set out below, and is proposed in order to reduce or offset any adverse effects arising from proposed ground disturbance.

## Contribution to GWSI: HERDS Objectives

3.1.6 The GWSI: HERDS 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 mitigation works.

3.1.7 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 Archaeological Recording. For example, unexpected archaeological remains may be encountered which could contribute to other Specific Objectives. If other Specific Objectives are identified, the scope of works shall be updated to address those Objectives.

3.1.8 Table 2 sets out the Specific Objectives of the historic environment works. Through delivery of these works, and the addressed aims set out in the table, the mitigation will create knowledge and outputs that may contribute to these Specific Objectives.

Table 2 GWSI: HERDS Specific Objectives and mitigation strategy aims

| GWSI: HERDS Specific Objective | Comment | Mitigation strategy aim |
|---|---|---|
| KC5: Identifying settlement location and developing models for settlement patterns for the Mesolithic, Neolithic and Early Bronze Age | Nine pieces of struck flint were recovered from archaeological features located at the mitigation area during trial trenching.<br><br>The area to the north-west has been subject to a number of non-HS2 archaeological investigations; Flint scatters of Late Upper Palaeolithic/Early Mesolithic and | Test pitting will examine a 1ha area (with a contingency for additional test pits) to determine the presence, absence, character, distribution, density of prehistoric artefacts in the ploughsoil.<br><br>The test pitting will aim to contribute to understanding of settlement location and pattern during earlier |

| GWSI: HERDS Specific Objective | Comment | Mitigation strategy aim |
|---|---|---|
| | subsequent prehistoric periods have been identified close to the Canley Brook and at higher ground to the north/north-east of the brook.<br><br>Some of the archaeological features investigated during trial trenching also contained Late Bronze Age (LBA) to Middle Iron Age (MIA) pot sherds. The nine struck flints may be contemporary with this activity, but none were diagnostic and they may be residual material of earlier prehistoric periods. | prehistoric periods at an area where widespread evidence of earlier prehistoric activity has previously been identified. |
| 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? | A small assemblage of worked flint and Late Bronze Age (LBA) to Middle Iron Age (MIA) pot sherds was recovered from archaeological features during trial trenching.<br><br>The investigated features form the focus of the mitigation and are currently interpreted as defining prehistoric settlement activity. | The form, scale, material culture, economy and environment of LBA-MIA activity will be investigated in order to enable greater understanding of contemporary local landscape organisation and comparison with evidence at other parts of the route. |
| KC16: Investigate the degree of continuity that existed between Late Bronze Age and Iron Age communities in terms of population, mobility and subsistence strategies. | Finds from features at the mitigation area are broadly dated through the LBA to MIA. | Investigation of the form, scale, material culture, environment and economy of the settlement and establishment of secure time depth through stratigraphic, artefactual and scientific dating evidence would contribute to this KC. |
| 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. | Two RB pot sherds were recovered from a gully investigated during trial trenching and may identify a phase of settlement activity of this period. | The mitigation will allow examination of the form, scale, material culture, economy and environment of any RB activity present.<br><br>Results may enable greater understanding of local landscape organisation and comparison with contemporary evidence at other parts of the route. |
| KC21: Assess the evidence for regional and cultural distinctiveness along the length of the route in the Romano-British period, with particular regard | Two RB pot sherds were recovered from a gully investigated during trial | Determine the scale and character of the Romano-British phase of activity at the mitigation area and its |

| GWSI: HERDS Specific Objective | Comment | Mitigation strategy aim |
|---|---|---|
| to the different settlement types encountered along the route | trenching and may identify a phase of settlement activity of this period. | contribution to this HERDS Objectives.<br><br>The mitigation area will be metal detected prior to soil stripping to examine potential presence and distribution of RB metallic artefacts within the ploughsoil. |

# 4 Scope and Methodology

## 4.1 Introduction

4.1.1 The mitigation fieldwork outlined in this Project Plan comprises Metal Detecting, Test Pitting and Archaeological Recording at a mitigation area encompassing 3.7ha. , Figure 1. The works have been designed to meet HS2 GWSI: HERDS Specific Objectives. The mitigation will establish the presence, nature, date, extent, survival and significance of archaeological remains and their contribution to the HS2 GWSI: HERDS Specific Objectives.

## 4.2 Location Specific Written Scheme of Investigation

4.2.1 The Archaeological Contractor will produce a Location Specific Written Scheme of Investigation (LS-WSI) for the Metal Detecting, Test Pitting and Archaeological Recording in accordance with HS2 Technical Standard – Specification for historic environment project plans and location specific written schemes of investigation (HS2-HS2-EV-STD-000-000036). The LS-WSI will provide the detailed method of investigation, including excavation, sampling, recording, area of mitigation, dimensions, access arrangements, welfare, accommodation, site safety, RAMS, etc. Information from a preliminary utilities search is presented in Figure 4 of this document, the Archaeological Contractor will supplement this with their own utilities review, assess utilities and define safe systems of work in their RAMS; including, but not limited to verification of utilities location on-site prior to commencing any works. The LS-WSI will be approved by the Employer prior to starting work.

4.2.2 DJV shall review mitigation results during regular assurance visits. DJV will assist the Archaeological Contractor in assessing the ability of the recovered evidence to address GWSI: HERDS Specific Objectives. DJV may identify a need to alter the scope of works, including the scope of archaeological and palaeoenvironmental sampling, to appropriately address Specific Objectives, and would liaise with the Employer in this eventuality. Final agreement of alteration to scope may involve HERDS meetings between the Archaeological Contractor,

DJV, the Employer and stakeholders. The Employer will determine whether an agreed alteration to scope necessitates production of an addendum to the LS-WSI.

## 4.3 Mitigation

### Metal Detector Survey

4.3.1 Metal Detector Survey is a systematic non-intrusive prospection method that will identify, recover, and enable plotting of the location of metal artefacts from the ploughsoil and targeted excavation of archaeological features containing metallic artefacts.

4.3.2 The Metal Detector Survey will examine the mitigation areas before and after soil stripping and will be directed and controlled by professional archaeologists. The Archaeological Contractor may contact experienced amateur metal detectorists with knowledge of working on archaeological sites, to take part in the metal detector survey.

4.3.3 The survey will be carried out in accordance with HS2 Technical Standard Specification for historic environment investigations (HS2-HS2-EV-STD-000-000035) and with reference to:

- Historic England: Our Portable Past Statement of Good Practice for Portable Antiquities/Surface Collected Material in the Context of Field Archaeology and Survey Programmes (Including the use of Metal Detectors), 2013.
- Portable Antiquities Scheme Code of Practice for Responsible Metal Detecting in England and Wales, 2017.

4.3.4 Appropriate instrumentation, survey design, and data processing are essential for success. In the field, control of data quality and spatial accuracy are critical. Data shall be gathered using multi-frequency metal detector/s with Pulse Induction (PI) technology.

4.3.5 A series of 2m interval transects will be established within the mitigation area. Closer spacing of transects, or more intensive investigation of areas, should be applied iteratively where a survey indicates the presence of a concentration of metallic responses.

4.3.6 Metal detecting will progress along each transect. Each sweep of the metal detector will cover a width of c. 2.0m (1.0m each side of the transect). The metal detector search head will be kept as close to the ground surface as possible.

4.3.7 The survey will target all metals in order to maximise the recovery of significant artefacts.

4.3.8 No artefacts should be removed from a depth greater than the ploughsoil or topsoil/subsoil. Artefacts will be placed into a finds bag labelled with a unique ID number and their individual locations plotted using RTK GNSS.

4.3.9 Where investigation to locate a metal detected object reveals the presence of an undisturbed archaeological feature sealed by ploughsoil or topsoil/subsoil, the archaeological feature will not be excavated during the Metal Detecting, but its location will be recorded with RTK GNSS and this information will inform the other phases of mitigation. The georeferenced spatial data captured will be incorporated into GIS, to allow data analysis and interrogation, along with comparison with other datasets (e.g. geology, fieldwalking data, historic maps etc.). Artefacts of undoubted late post medieval and modern date will be discarded.

4.3.10 The Archaeological Contractor will liaise with the Contractor to ensure that the WP29 site security plan (1EW04-LMJ-SC-N000-029001) is followed, and enhanced security provided, to protect any significant metallic artefacts, including those subject to the Treasure Act 1996 (Sections 4.3.75 – 4.3.81), from theft or damage if it is not feasible to excavate, record and remove such artefacts on the day of discovery. Any enhanced security measures will be maintained until excavation, recording and removal of significant artefacts is complete.

4.3.11 Recovered finds will be examined and assessed by a recognised Finds Specialist, who will produce a short finds report.

4.3.12 Artefact distribution plots and brief reports will be produced at survey completion. Artefact concentrations will inform subsequent stages of mitigation.

4.3.13 Tasks that will be undertaken comprise:

- Set up including engaging appropriate local community groups for participation.
- Undertaking of metal detector survey by, or under the supervision of a professional archaeologist.
- Recording location of finds using RTK GNSS technology.
- Plotting finds in GIS; and
- Inclusion of results in interim and final reporting, incorporating the Finds Specialist assessment.

## Test Pitting

4.3.14 Prior to soil stripping for the Archaeological Recording test pitting will be completed to characterise if agricultural activity has truncated archaeological features or deposits by examining presence, absence, character, distribution and density of archaeological artefacts within the top/subsoil - ploughsoil. To achieve this a grid of 1m square machine dug test-pits (with contingency for an additional twenty-five 1m square test pits to increase sample density or expand the area examined), will be opened in a 100m x 100m block approximately centred on a curvilinear geophysics anomaly located c.20m northeast of trial trench 265, and therefore over the densest concentration of archaeological features defined by trial trenching.

4.3.15 The test pits will be excavated at a 10m sample interval, alternate lines of pits will be staggered by 5m (i.e. first line at 0m, 10m, 20m etc; second line at 5m, 15m, 25m etc; third line at 0m, 20m etc; fourth line at 5m, 15m etc) and all test pits will be located to NGR using RTK GNSS. Areas previously stripped during the trial trenching will not be subject to Test Pitting.

4.3.16 A contingency of a maximum of 25 additional test pits may be used to extend the test pit area, or increase sample density where results warrant further investigation. Summary finds assessment of the initial test pitting results will be presented by the Archaeological Contractor to DJV at completion of the 100m x 100m block of test pitting, and may trigger use of the additional test pitting subsequent to review of results with stakeholders and agreement of the Employer.

4.3.17 Deposits within the test-pits will be machine-excavated in sequence: ploughsoil, subsoil or other soil horizons (if present) and then the first c.0.1m of the geological substrate. The sequence of deposits will be carefully recorded, with emphasis placed upon the identification of any intermixing of ploughsoil, subsoil/soil horizons and the geological substrate.

4.3.18 Excavated soils and sediments will be dry sieved (if feasible) initially using an 8 – 10 mm mesh for recovery of artefacts. A sample (20%) of the sieved soils shall be subject to a second phase of sieving using a 4mm mesh to test for presence of small artefacts, e.g. lithic micro-debitage. If significant assemblages of artefacts are identified during the second phase of sieving then all of the context containing these artefacts will be re-sieved through the 4mm mesh. If the nature of the soils prevents dry sieving then wet sieving will be used.

4.3.19 The mitigation area is located in an arable field and archaeological features may have suffered some level of truncation through plough damage. However, if undisturbed subsoil, or palaeosol horizons are recognised during excavation of test pits archaeological features may not have suffered plough damage. Where undisturbed soil horizons are present, and results of sieving are repeatedly negative for finds pre-dating the post medieval period, the Archaeological Contractor will notify DJV and sieving of ploughsoil may be discontinued, with agreement of the Employer.

4.3.20 Any archaeological finds noted during machine excavation of soils or substrate will be bagged individually and their 3D locations will be recorded by RTK GNSS. Archaeological finds recovered by sieving of soils will also be bagged individually, but will only be located to context and test pit.

4.3.21 Sieving stations will be set-up in close proximity to the test-pits, where feasible, to allow the spoil to be sieved as soon as it is excavated. Larger artefacts recovered by sieving will be bagged individually and will be located by context and test pit. Concentrations of small easily damaged artefacts, such as lithic micro-debitage, from any single context will be bagged

collectively, but should be stored in a rigid container, such as a plastic storage box, separate from heavier artefacts.

4.3.22 Any recovered artefacts will be examined throughout the phase of Test Pitting in order to monitor the effectiveness of the methodology and provide feedback on the chronology and character of artefacts recovered. Information gathered will be used to enhance and inform the Archaeological Recording.

4.3.23 Any clusters of burnt flint or fire-cracked stone will be highlighted, as this material may provide an indication of the proximity of hearths.

4.3.24 The fills of any archaeological features or deposits revealed by Test Pitting will usually not be investigated during this phase of work. The location of features or deposits will be recorded using RTK GNSS for further investigation during the Archaeological Recording.

## Archaeological Recording

4.3.25 The mitigation area will be stripped by a tracked excavator using a bladed ditching bucket to the first significant archaeological horizon, the surface of natural deposits / features with palaeoenvironmental potential or to the underlying drift geology. Following surface cleaning and identification of features the final excavation process will be determined by DJV in consultation with the Employer. The agreed process will be subject to weekly review by DJV and may be amended in consultation with the Employer. A summary of methods is considered in broad period specific sections below.

### *Prehistoric Periods*

4.3.26 During archaeological investigation and recording of prehistoric archaeological remains:

- If concentrations of lithic artefacts are identified at the stripped surface of the mitigation area, areas of intensive excavation will be agreed with the Employer. Intensive excavation will comprise gridding of the areas agreed with the Employer into 1m squares, which will be hand excavated in 0.05m spits. A minimum of three spits will be removed, with further spits being excavated, as necessary, until the lowest spit is completely free of any artefacts. Lithic artefacts discovered during hand excavation of each spit will be recorded in 3D by RTK GNSS and will be bagged individually. All spoil from each spit will be dry, or wet sieved initially using an 8 – 10 mm mesh for recovery of artefacts. A sample (20%) of the sieved soils shall be subject to a second phase of sieving using a 4mm mesh to test for presence of small artefacts, e.g. lithic micro-debitage. If significant assemblages of artefacts are identified during the second phase of sieving then all of the context containing these artefacts will be re-sieved through the 4mm mesh.
- Pits, industrial features/deposits, post alignments, structural gullies or other structural

evidence will initially be half sectioned, quadranted, or investigated by hand using an alternative excavation strategy agreed with DJV, then 100% hand excavated after investigation, recording and appropriate sampling has been completed.

- Settlement enclosure ditches will be subject to excavation by hand (minimum 50%) to characterise their significance, form, function, condition and date; at the same time retrieving a fully representative artefact/ecofact assemblage. Complete excavation of enclosure ditches may be necessary if finds density is low, or they contain particularly significant artefactual, industrial or environmental evidence.
- Agricultural enclosure ditches will be subject to excavation by hand (minimum 20%) to characterise their significance, form, function, condition and date; at the same time retrieving a fully representative artefact/ecofact assemblage. Complete or enhanced excavation of agricultural enclosure ditches may be necessary if finds density is low, or they contain particularly significant artefactual, industrial or environmental evidence.
- It is not anticipated that other types of extensive prehistoric land division, such as linear ditches, will be present at the mitigation area, but if such features are identified a detailed excavation strategy will be agreed with the Employer in consultation with stakeholders.
- It is not anticipated that prehistoric monuments will be identified at the mitigation area, but if features associated with monuments are identified they will initially be half sectioned, quadranted, or investigated by hand using an alternative excavation strategy agreed with the Employer. These features will usually be 100% hand excavated after initial investigation, recording and appropriate sampling has been completed.
- The excavated fills of prehistoric features will be sieved through an 8-10mm mesh to retrieve small artefacts which may not be noticed during hand excavation.
- All terminal ends of ditches will be excavated by hand.
- All feature intersections will be excavated by hand to determine stratigraphic relationships.
- Particular attention shall be given to recording potential evidence of structured deposition of artefacts or ecofacts within features.
- Inhumations, cremations and other deposits relating to funerary activity will be 100% excavated by hand following established guidance and the methodology set out in Sections 4.3.45-4.3.51.
- Standard palaeoenvironmental bulk samples will be collected from securely stratified

deposits and fills of features distributed across the mitigation area paying regard to observed levels of truncation, equitable sampling of different phases and any perceived zoning of activity at the sites. Other types of palaeoenvironmental environmental sampling may be used for suitable fills and deposits, e.g. retrieval of monoliths for sediment characterisation/pollen assessment, or other purposive environmental samples (Sections 4.3.52 – 4.3.69).

- Excavation, handling, processing, conservation and storage of finds will be completed so that, for example, pot sherds can be subject to residue analysis. The Archaeological Contractor will follow the advice of recognised specialists for field and post excavation procedures for finds which may be subject to scientific analysis, as summarised in available guidance (e.g. HE 2017).
- The stripped surface of the mitigation area will be re-examined on a weekly basis during fieldwork to determine whether previously un-noticed potential archaeological remains have 'weathered out'.
- Excavated interventions, features and deposits shall be recorded in sufficient detail to allow calculation of the volume of excavated material and examination of this information against recovered finds densities during post excavation analysis.

### *Other Periods*

4.3.27 If significant archaeological remains of other periods are present, excavation will usually include:

- The excavation of structural elements including foundation cuts, wall lines and post holes will usually comprise the removal of 50% (minimum) of archaeological deposits by hand, with the potential for full excavation of features.
- The excavation of non-structural isolated features, including pits, will usually comprise the removal of 50% (minimum) of archaeological deposits by hand. Complete excavation of isolated features may be necessary if they contain particularly significant artefactual, industrial or environmental evidence.
- Non-structural ditches and gullies will usually be subject to excavation by hand (minimum 10%) to characterise their significance, form, function, condition and date; at the same time retrieving a fully representative artefact/ecofact assemblage.
- All terminal ends of ditches and gullies will be investigated and all feature intersections will be investigated to determine stratigraphic relationships.
- Inhumations, cremations and other deposits relating to funerary activity will be 100% excavated by hand following established guidance and the methodology set out in

Sections 4.3.44-4.3.50.

- The retrieval of standard palaeoenvironmental bulk samples from securely stratified, significant deposits and fills, from selected features distributed across the mitigation areas paying regard to observed levels of truncation, equitable sampling of different phases and any perceived zoning of activity at the sites. Other types of environmental sampling may be used for suitable fills and deposits, e.g. for retrieval of monoliths for sediment characterisation/pollen assessment (Sections 4.3.51 – 4.3.68).
- The stripped surface of mitigation areas will be re-examined on a weekly basis to determine whether previously un-noticed potential archaeological remains have 'weathered out'.
- Excavated interventions, features and deposits shall be recorded in sufficient detail to allow calculation of the volume of excavated material and examination of this information against recovered finds densities during post excavation analysis.

4.3.28 A 2% contingency of the mitigation area will enable further investigation of significant archaeology, should this be necessary. The 2% contingency would be used, with the agreement of the Employer, where additional investigation of significant features extending outside the mitigation area would provide information contributing to HERDS Specific Objectives.

4.3.29 Metal detectors will be used by experienced staff to scan for metallic finds after soil has been stripped from the mitigation area and during investigation of key archaeological features or deposits.

4.3.30 In order to protect any waterlogged remains during the works, the Archaeological Contractor may identify a requirement for 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.

4.3.31 Consideration will be taken at all times during excavation as to how the results can contribute to the GWSI: HERDS Specific Objectives set out in Table 2.

4.3.32 No photographs taken on site will be shared without permission granted by the Employer. Any public open days will be undertaken in consultation with the Employer.

4.3.33 Discovery of unexpected finds of national importance shall be in accordance with procedure (HS2-HS2-EV-PRO-000-000009).

4.3.34 The process of excavation, recording and sampling will continue until a sufficient sample of the archaeological remains has been investigated to meet the aims and objectives of the work.

## Setting Out

4.3.35 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.

4.3.36 The area of mitigation shall be located to a horizontal accuracy of +/– 0.05m. The corner points shall be set out with Real Time Kinematic (RTK) Global Navigation Satellite System (GNSS) equipment or other suitable automated equipment referenced from the PGMs.

4.3.37 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.

4.3.38 The Contractor shall ensure that all excavation limits, and significant archaeological detail are surveyed 'as dug' in relation to the project grid before leaving the site. Ground level height data to Ordnance Datum (OD) shall be recorded, along with the levels of the top of the superficial or solid geological deposits (where present). Levels of key archaeological horizons and features will be recorded.

## Fieldwork Recording

4.3.39 Recording will be undertaken by the Archaeological Contractor to the general requirements as described in the GWSI: HERDS and the *Technical Standard – Specification for Historic Environment Investigations* (HS2-HS2-EV-STD-000-000035). During the Archaeological Recording 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.

4.3.40 Recording is to include, as a minimum:

- The written record of individual context descriptions on appropriate pro-forma;
- Sections (1:10 or 1:20 scale) of cut features and significant deposits;
- Plans at appropriate scales (1:10, 1:20 or 1:50);
- Other drawn and written records on appropriate pro-forma;
- Single context planning should be used only if appropriate (i.e. where there is a complex sequence); and
- Digital photographs.

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

4.3.42 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 shall also be indicated.

4.3.43 A record of the full extent in plan of all archaeological features and 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 Employer), 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 Employer.). 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.

4.3.44 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.

4.3.45 The photographic record will be in digital format, captured by digital cameras with a minimum sensor size of 10 megapixel, resulting in high resolution TIFF (uncompressed) images. Photographs will illustrate both the detail and context of the principal archaeological features discovered. In addition, the 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

4.3.46 EWC North trial trenching did not identify any human remains at the mitigation area. In the event that unexpected human remains are identified during Archaeological Recording, all work must be undertaken in accordance with the Burial Grounds, *Human remains and monuments procedure* (HS2-HS2-EV-PRO-0000-000008).

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

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

4.3.49 In accordance with Sections 8.2.23 – 8.2.27 of HS2 *Burial Grounds, Human Remains and Monuments Procedure* (HS2-HS2-EV-PRO-000-000008) the Archaeological Contractor will inform the Coroner or Police, and the local authority Environmental Health Officer of the discovery of unexpected human remains and provide brief background information which will enable a decision to visit the site, or confirm that the human remains are of no interest. The decision regarding a site visit, or notification of no interest must be provided by the Coroner, and or Police and the EHO within two working days of notification.

4.3.50 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.

4.3.51 Human remains, once recognised, will be metal detected immediately to determine whether any metallic grave goods are present. If possible, following the Employer's *Burial Grounds, Human remains and monuments procedure* (HS2-HS2-EV-PRO-0000-000008) and best practice for exhumation of human remains (CIfA 2017, Historic England 2018, IfA 2004), burials with metallic grave goods shall be excavated, 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'.

4.3.52 In accordance with Schedule 20, appropriate measures will be taken to ensure respect for unexpected human remains is observed. If appropriate this will include screening the excavation in accordance with the Code of Construction Practice (CoCP) such as to be effective to shield the remains from public view; and permitting access to that part of the site only to persons whose presence is necessary for carrying out of the archaeological works.

## Environmental Sampling

4.3.53 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 4.3.62). This strategy is based on the existing information about the mitigation areas and the GWSI: HERDS Objectives listed in Table 2.

4.3.54 The initial sampling strategy, along with the HERDS Objectives outlined in Table 2, identifies the key elements that should, where present, be sampled during the Archaeological Recording. However, the strategy will need to be reviewed and justified throughout the on-

site work; DJV shall review the palaeoenvironmental sampling during regular assurance visits and will assist the Archaeological Contractor in assessing the ability of the recovered evidence to address GWSI: HERDS Specific Objectives.

4.3.55 The sampling strategy shall be developed by the Archaeological Contractor's recognised environmental and geoarchaeological specialists in liaison with DJV, the Employer and Historic England Senior Science Advisor. The Archaeological Contractor's recognised specialists will ensure that the sampling strategy will remain flexible and subject to review throughout on-site work.

4.3.56 If DJV or the Archaeological Contractor identifies a need to alter the scope of palaeoenvironmental sampling, e.g. where quality of recovered information is poor or unexpected features and deposits are identified, in order to appropriately address Specific Objectives, DJV would liaise with the Employer. Final agreement of alteration to scope may involve HERDS meetings between the Archaeological Contractor, DJV, the Employer and stakeholders. The Employer will determine whether an agreed alteration to scope necessitates production of an addendum to the LS-WSI.

4.3.57 To aid the iterative approach to sampling the Archaeological Contractor will complete the sampling strategy document included in Appendix B at the specified stages of work. The document will be provided to DJV, for dissemination to the Employer and Historic England Senior Science Advisor at completion of each review stage so that the initial environmental sampling strategy and any proposed iterative alteration to the strategy is transparent and can be agreed.

4.3.58 The Archaeological Contractor will make provision for the sampling of a wide range of contexts for potential assessment and analysis of plant and animal micro/macro remains and soils/sediments in order to fulfil the aims set out in the Project Plan.

4.3.59 Significant, securely stratified deposits and feature fills will be prioritised for geoarchaeological and palaeoenvironmental sampling. If finds densities are low it may be appropriate to sample features which have not been securely dated by artefactual evidence to ensure that adequate spatial and temporal sample coverage is achieved.

4.3.60 Wherever appropriate, biological samples, soils/sediments and any artefactual evidence present shall be assessed for evidence of site and deposit formation processes, taphonomy including evidence of recent changes that may have been caused by alterations in the site environment.

4.3.61 Sampling will follow Historic England guidance (HE 2011, 2015). Sample record sheets shall include a reasoned justification for selection of deposits for sampling. Significant, securely stratified deposits and feature fills shall be prioritised for sampling to retrieve palaeoenvironmental and economic indicators. If finds densities are low it may be appropriate

to sample features which have not been securely dated by artefactual evidence to ensure that adequate spatial and temporal sample coverage is achieved

4.3.62 Flotation samples and samples taken for coarse-mesh sieving from dry deposits will be processed and assessed at the time of the fieldwork, and summary assessment will be completed a maximum of two weeks from the date of sample collection, to permit variation of sampling strategies if necessary. The Archaeological Contractor will provide DJV with at least three written updates on the environmental sampling strategy in accordance with the timeline for such updates as set out in Sections 3, 4 and 5 of the Sampling Strategy document included in Appendix B.

4.3.63 The Archaeological Contractor's recognised specialists shall review information available from the trial trenching, and examine the condition of previously investigates features once soil stripping is complete, to determine whether further sampling of previously sectioned features will be of value, and the contribution that further sampling of these features could make to GWSI: HERDS Objectives.

4.3.64 As a minimum the sampling strategy will:

- Bulk sample securely stratified deposits and feature fills spread across the mitigation areas for retrieval of macro environmental remains. The sampling strategy will consider the character and distribution of archaeological remains, and shall sufficiently sample different types and phases of activity in part to examine whether there are changes in rates of deposition, disposal, material survival and enhance understanding of zoning of activity.
- Collect basal fill from clearly associated groups of pits as whole earth bulk samples for assessment, analysis and dating.
- Screen collected bulk samples for indicators of industrial processes, particularly in areas of possible burning. Where significant concentrations are identified, this information should be fed-back to the site, so that where necessary, further samples can be taken to help to define any areas of metalworking, or other industrial processes.
- Sample floor surfaces where they survive and have not been truncated.
- Consider monolith sampling of securely stratified feature fills or deposits for pollen, thin section and other methods of scientific analysis.
- Retrieve samples for assessment/analysis and scientific dating from securely stratified feature fills or deposits where artefactual dating evidence is absent.
- Include geoarchaeological input, as necessary, in order to aid understanding of landscape development, site formation processes and to determine whether particular

types of scientific method could enhance understanding of archaeological feature fills and natural deposits, including whether features were in-filled deliberately, or naturally in-filled over time.

4.3.65 Scientific methods could include soil and sediment chemical and physical analyses, soil micromorphology, mineralogy and particle size analysis (HE 2011, 2015). Field based recording and sampling will be carried out by, or under the supervision of, recognised palaeoenvironmental and geoarchaeological specialists.

4.3.66 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).

4.3.67 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.

4.3.68 Processing and assessment of all bulk soil samples collected, or sub-samples of them, will 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 Contractor'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 site environment.

4.3.69 Samples collected for geo-archaeological assessment should be processed promptly by the Contractor's specialist, particularly where storage of unprocessed samples is thought likely to result in deterioration. Appropriate assessment shall be undertaken in liaison with DJV and the Employer. Where preservation in situ is a viable and desirable option, consideration shall be given to minimising the possible effects of compression and loading on the physical integrity of the site and any hydrological or chemical impacts of the proposed construction works.

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

## Finds

4.3.71 All archaeological finds pre-dating the 19th century will be retained. Late post-medieval and modern finds (19th century or later) may be recorded on site and not retained, depending on the site-specific objectives.

4.3.72 The Archaeological Contractor may propose a selection and retention policy if large assemblages of certain categories of find are expected, or are unexpectedly recovered. Proposals for selection and retention will be agreed with DJV, Stakeholders and the receiving museum, and must be approved by the Employer before the Archaeological Contractor enacts them. The selection and retention policy will follow the Technical Standard - Historic environment physical archiving procedure (HS2-HS2-EV-STD-000-000039) and the strategy will follow the CIfA Archive Selection Toolkit (http://cifa.heritech.net/selection-toolkit). The usual categories of material considered by the policy/strategy will comprise:

- Ceramic building material;
- Kiln and furnace structure;
- Ceramic wasters;
- Industrial waste samples such as slag;
- Non-descript wall plaster;
- Plaster and mortar samples;
- Building stone samples;
- Animal bone, especially from contexts with large residual pottery assemblages that nullify study of the animal bone due to the potential for large residuality of animal bone; and
- Post-medieval bottle glass.

4.3.73 Where appropriate, soil samples may be taken and sieved to aid in finds recovery.

4.3.74 Any finds requiring active conservation or specific storage conditions will be dealt with immediately in line with First Aid for Finds (Watkinson and Neal 1998).

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

## Metallic Objects and Residue

4.3.76 Assessment of finds assemblages shall include x-radiography of ferrous objects (after initial screening to exclude obviously modern objects) and other metallic finds, as necessary. Where required, active stabilisation / consolidation shall be carried out to ensure long-term survival of finds, but with due consideration to possible future investigations.

## Treasure

4.3.77 In the event of the discovery of 'treasure' as defined below, the Treasure Act 1996 will apply to works for Phase One of HS2 and the Archaeological Contractor shall comply with it. The Treasure Act defines 'Treasure' as:

- Any metallic object, other than a coin, provided that at least 10 per cent by weight of metal is precious metal (that is, gold or silver) and that it is at least 300 years old when found. If the object is of prehistoric date it will be Treasure provided any part of it is precious metal.
- Any group of two or more metallic objects of any composition of prehistoric date that come from the same find (see below)
- Two or more coins from the same find provided they are at least 300 years old when found and contain 10 per cent gold or silver (if the coins contain less than 10 per cent of gold or silver there must be at least ten of them). Only the following groups of coins will normally be regarded as coming from the same find: Hoards that have been deliberately hidden; Smaller groups of coins, such as the contents of purses, that may have been dropped or lost; Votive or ritual deposits.
- Any object, whatever it is made of, that is found in the same place as, or had previously been together with, another object that is Treasure.
- Any object that would previously have been **treasure trove**, but does not fall within the specific categories given above. Only objects that are less than 300 years old, that are made substantially of gold or silver, that have been deliberately hidden with the intention of recovery and whose owners or heirs are unknown will come into this category.

4.3.78 **Note:** An object or coin is part of the *'same find'* as another object or coin if it is found in the same place as, or had previously been together with, the other object. Finds may have become scattered since they were originally deposited in the ground.

4.3.79 All finds falling within the definitions of treasure shall be reported immediately to DJV who will inform the Contractor and Employer.

4.3.80 The Archaeological Contractor will ensure that all finds of Treasure are reported to the Coroner within 14 days of discovery, or within 14 days of recognition that the find/s constitute Treasure.

4.3.81 The Archaeological Contractor will initially report the find/s to the Portable Antiquities Scheme Finds Liaison Officer (FLO). The FLO will often provide assistance in determining whether find/s constitute Treasure and may report the discovery to the Coroner on the finder's behalf. The FLO will also contact the British Museum to obtain a unique Treasure reference number for the find and this will act as a constant identifier throughout the process.

4.3.82 To protect the finds from theft, the Archaeological Contractor shall record the finds and remove them to a safe place on the day of discovery. Where excavation, recording and removal is not feasible or appropriate on the day of discovery, the Archaeological Contractor shall liaise with the Contractor to ensure that enhanced site security is provided to protect such finds following the WP29 site security plan (1EW04-LMJ-SC-N000-029001).

4.3.83 Subject to the Provisions of the Treasure Act 1996, all material that is defined as Treasure is vested in the franchisee or, if none, the Crown.

### Backfilling

4.3.84 The mitigation area shall be pumped dry (by the Archaeological Contractor) and any necessary protection measures 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.

4.3.85 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 All reporting will be carried out in accordance with the GWSI: HERDS requirements (HS2-HS2-EV-STR-000-000015).

5.1.2 If appropriate, Schedule 20 reporting requirements – within 12 months for remains and monuments – will also be adhered to in the reporting process.

5.1.3 An interim report will be produced for the Metal Detecting, Test Pitting and Archaeological Recording within ten working days of completion of fieldwork, unless otherwise agreed with the Employer. The interim report will:

- Be brief, with information contained commensurate with the timescale for production.
- Provide information gathered during the initial assessment of fieldwork results, including brief summaries and interpretations of identified archaeology, recovered finds and results of environmental sampling.
- Indicate whether the fieldworks findings require the HERDS resource assessment and specific objectives to be updated.
- Provide brief information necessary to inform design decisions relating to the next stage of historic environment works (in consultation with DJV and if required by the Employer); and
- A site plan indicating the extent of fieldwork investigations.

5.1.4 A fully illustrated report will be produced for the mitigation within six weeks of completion of fieldwork, unless otherwise agreed with the Employer, 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:
  - Site walkover inspection
  - Metal Detecting
  - Test Pitting
  - Archaeological Recording.
  - Stratigraphic report

- Finds report
- Environmental evidence report
- Interpretation of results against original expectations and Specific Objectives
- Review of the evaluation and mitigation 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, publication and dissemination proposals (in consultation with DJV and if required by the Employer), including archive deposition.
- References to all primary and secondary sources consulted.
- Appendices will comprise (where appropriate) illustrations, contextual summary, finds reports, environmental reports, site matrices, full definitions of the interpretation terms used in the report and a copy of the OASIS record.

5.1.5 The following figures will be included in the mitigation report, the report figures may be combined with the Trial Trenching report figures in order to provide a clear overview of the site:

- General plan (mandatory)
- Engineering design (mandatory)
- Site location
- Survey extents
- Location of mitigation area
- Mitigation results to include finds distribution, plans and section of archaeological features, deposits and sequences
- Selected photographs of representative and/or significant features and finds

5.1.6 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 the Employer.

5.1.7 The creation and curation of the archaeological physical archive compiled as a result of the archaeological works conducted by the HS2 scheme shall comply with the Historic Environment Physical Archiving Strategy (HS2-HS2-EV-STR-000-000018) and Technical Standard - Historic environment physical archiving procedure (HS2-HS2-EV-STD-000-000039).

5.1.8 The guidance for the creation, curation and dissemination of the digital data created as a result of the archaeological works conducted by the HS2 scheme shall be in accordance with Technical Standard - Historic environment digital data management and archiving procedure (HS2-HS2-EV-STD-000-000040) and Historic environment digital data management and archiving strategy (HS2-HS2-EV-STR-000-000019).

5.1.9 The Heritage Memorandum for Phase One of HS2 recognises the need to deposit the HS2 archaeological and built heritage archive appropriately and the Employer is committed to working with Historic England and local authorities to identify suitable repository/ies to enable the deposition of the artefacts and records generated by the HS2 heritage works.

# 6 Dissemination

6.1.1 In accordance with professional standard practice the Archaeological Contractor will complete an 'Online Access to the Index of Archaeological Investigations' ('OASIS') record. To achieve completion of OASIS records in compliance with Employer requirements a small number of specific steps are necessary:

- The Archaeological Contractor will register for an OASIS login using an HS2 prefix, i.e. 'HS2-Archaeological Contractor Name'.
- The OASIS record 'project name' field will be completed using HS2 as a prefix to the project name. The project name will exactly replicate the Final Report title.
- HS2 site codes will be added as identifiers to the OASIS record 'associated project reference codes' field.
- HS2 will be specified as the archive depository in the OASIS record.
- The OASIS record will be presented in the Final Report as an appendix.
- Archaeological Contractor report/s will only be uploaded to the relevant OASIS record after 'Code 1' approval of the report has been received from the Employer.

6.1.2 Digital and hard copies of reports will be submitted to the relevant Historic Environment Record (HER) and the National Record for the Historic Environment (NRHE) in Swindon in accordance with their requirements after 'Code 1' approval of the report has been received from the Employer.

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

# 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 The Archaeological Contractor will ensure that mapping and spatial data deliverables conform to the Employer's 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 Contractor'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 Contractor's senior management and will be directed by the Archaeological Contractor's Project Director.

8.1.4 All parties will follow Employer 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 and 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 Ltd) via DJV;
- Other contractors working on separate parts of the evaluation area.

8.1.6 Following completion, the Archaeological Contractors work will be formally signed off by the Employer. 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 the Employer for final approval.

8.1.7 The Archaeological Contractor will submit a draft of all reports to Asite for review. DJV and the Contractor 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 the Employer. The Employer may provide feedback and require amendment to submitted documents before final approval.

# 9 Community Engagement

9.1.1 Community Engagement lies at the heart of historic environment works for HS2 Phase One. GWSI: HERDS (HS2-HS2-EV-STR-000-000015) is clear in setting out three tenets as key to delivery of an innovative new approach to archaeological research and investigation: creating knowledge, involving people, and legacy. The GWSI: HERDS sets out specific objectives for Community Engagement (CE):

- CE1: Marking and communicating the changes to landscapes and environments;
- CE2: Identifying and sharing our stories;
- CE3: Meeting the challenge of inspiring the next generation;
- CE4: Accessible information and knowledge sharing; and
- CE5: Contribute to the process and facilitation of audience project creation.

## Community Engagement Scope

9.1.2 The Archaeological Contractor will offer activities and events that involve and keep the community and stakeholders informed, and develop an understanding of local history and archaeology. Community engagement will strive to include harder-to-reach audiences (e.g. BAME, youth and low-income groups).

9.1.3 Archaeological mitigation provides an opportunity to exploit the benefits of personal and social satisfaction and access to professional and specialist knowledge, forge closer

relationship between communities and environment, provide 'good news' stories for local and national press, and fulfil social and community obligations (GWSI: HERDS. Section 9.1.2).

9.1.4 Event and activity type will depend on Health and Safety, interest from local groups, Archaeological Contractor capability, resource, works programme and site conditions. The Archaeological Contractor will organise events and activities in liaison with the Employer, the Contractor and DJV.

9.1.5 The Archaeological Contractor will deliver at least two types of engagement selected from the list below, with the flexibility for further engagement depending on outcomes and uptake.

- Notifications and illustrated fact sheets – for distribution to agreed groups and across agreed networks
- Community and local interest groups site visits - subject to Health and Safety, ground conditions, weather and accessibility, programme;
- Community open days - including artefact handling, information boards;
- Drop-in events - including artefact handling, information boards;
- Lectures and talks – to local interest groups, societies, parish and community groups;
- Blogs and online materials – in conjunction with HS2 Commonplace;
- Site photography and drone footage;
- School visits – in conjunction with LM Skills Education and Employment (SEE); and
- Participation in archaeological fieldwork stages and post-excavation work (where possible and appropriate), e.g. community excavation and recording, research.

## Community Engagement Set Up, Approval and Publicity

9.1.6 Events and activities will be set up in line with the Contractor's objectives on engagement, using and building on site and/or area specific engagement plans or stakeholder matrices. Activities and events will support the pillars of the Employer's community engagement strategy: creating knowledge, involving people, and legacy.

9.1.7 Public events and activities will be promoted and advertised through channels and networks appropriate to the type, scale and potential audience at least 6 weeks in advance.

9.1.8 The Archaeological Contractor will supply all text and images for use in Community Engagement to DJV for review and for approval by the Contractor and the Employer (at least 2 weeks prior to promotion).

9.1.9 In addition to the HS2 corporate channels listed below, other opportunities for publicity should be sought and communicated to the Employer, Contractor and DJV in a mini communication plan. Local press (radio, newspaper and TV) and relevant local digital platforms should be considered, as should historical and archaeological societies, Council for British Archaeology West Midlands and local museums platforms.

- HS2 corporate website – options include a press release, revamped page content – to be determined by HS2;
- Commonplace websites for Birmingham, Solihull, Warwickshire and Staffordshire – each website to be updated with consistent key messages, fact sheet(s), responses to FAQs together with some bespoke messages tailoring the page to the local context;
- E-news alerts from Commonplace – distributing HS2 fact sheet(s), notifications, blogs, webpage updates, etc; and
- HS2 social media – Facebook, Twitter and LinkedIn – LM to provide the content; HS2 to post.

### Community Engagement Delivery

9.1.10 Delivery of activities and events will usually be attended by representatives of the Employer, the Contractor and/or DJV.

9.1.11 The Archaeological Contractor will provide engagement / feedback forms to participants in Community Engagement activities and events and may create an engagement form specific to the subject matter to aid reporting.

9.1.12 Activities and events should:

- Be locally-based if possible;
- Focus on the archaeology of the site and immediate area; and
- Be tailored to the audience.

### Community Engagement Reporting

9.1.13 Following activities and events, the Archaeological Contractor will communicate information on factors such as numbers, achievements, interest and appetite for further engagement to the Employer, the Contractor and DJV.

# 10 Evidence of Engagement

10.1.1 Evidence of stakeholder engagement in preparing this Project Plan, as well as DJV responses to stakeholder comments, is set out in Appendix A.

Table 3 Record of stakeholder engagement

| Consultee and date | Comment | How this has been addressed in the Project Plan |
|---|---|---|
| Project Plan C01 sent to Jim Williams and Chris Welch (Historic England) on 12/12/2019 | Received verbally at Meeting 3 (08/01/2020), and by email on 19/12/2019; summarised in Appendix A | DJV response in Appendix A |
| Project Plan C01 sent to Anna Stocks (Warwickshire County Council) on 12/12/2019 | Received at Meeting 3 on 08/01/2020 and summarised in Appendix A | DJV response in Appendix A |

# 11 References


| Reference | HS2 document reference no. |
|---|---|
| IfA (Institute for Archaeologists) 2004 Guidelines to the Standards for Recording Human Remains | n/a |
| CIfA (Chartered Institute for Archaeologists) 2017 Updated Guidelines to the Standards for Recording Human Remains | n/a |
| HE (Historic England) 2011 Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post Excavation | n/a |
| HE (Historic England) 2015 Geoarchaeology: Using Earth Sciences to Understand the Archaeological Record | n/a |
| HE (Historic England) 2017: Organic Residue Analysis and Archaeology: Guidance for Good Practice and Supporting Information | n/a |
| HE (Historic England) 2018 The Role of the Human Osteologist in an Archaeological fieldwork project. | n/a |
| 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 (HERDS) GIS Specification | HS2-HS2-GI-SPE-000-000004 |
| HS2 Geographic Information System Standards | HS2-HS2-GI-STD-000-000002 |
| HS2 Unexploded Ordnance Desk Study | 0615-ET-GT-REP-000-000001 |

| | |
|---|---|
| HS2 Environmental Impact Assessment (EIA) Phase One Environmental Statement (ES): CFA18 Stoneleigh, Kenilworth and Burton Green | Volume 5 Technical Appendices:<br>CH-001-018<br>CH-002-018<br>CH-003-018<br>CH-004-018 |
| Geoarchaeological Desk Based Assessment (GDBA): review of the geoarchaeological potential of High Speed Two Phase One | 1D037-EDP-EV-REP-000-000031 |
| Project Plan for Geoarchaeological Investigation (AREA 1: Leam-Avon – 'Bytham'-Blythe) | 1EW04-LMJ-EV-PLN-N000-029009 |
| Geoarchaeological Investigations Stage A: Updated Deposit Model | 1EW04-LMJ-EV-REP-N000-029003 |
| WP 29(B) Historic Environment Works – Kenilworth to Balsall Common – Enabling Works North Contract: Project Plan for Trial Trenching | |
| HS2 Phase 1 Enabling Works North – WP 29(B) Birches Wood Farm and Milburn Grange (Kenilworth to Balsall Common): Interim Report for Trial Trenching (Trenches 315-441) – Key Findings | |
| Detailed Desk Based Assessment for Historic Settlement Landscape Study | 1EW04-LMJ-EV-REP-N000-029001 |
| Detailed Desk Based Assessment for EIA LiDAR Survey Re-appraisal | 1EW04-LMJ-EV-REP-N000-029011 |

# 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 Based Assessment (DDBA)** – analytical document that builds on the

information gathered previously in the Environmental Statement to address particular issues, questions or uncertainties within a given area. It may be developed to provide a more detailed understanding of the resource in an area to inform design development or construction programming.

- **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.
- **Location** – a specific HS2 worksite or group of worksites that are being addressed as a combine historic environment investigation programme of assessment, evaluation and investigation.
- **Project Plans** – specification document for each specific package of activity (e.g. a survey, desk based assessment, excavation, recoding project). The plans would respond to the Specific Objectives set out in the GWSI: HERDS and be delivered within an agreed budget.
- **Works** – the specific historic environment assessment, evaluation or investigation works at each location

## 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 (Formerly 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 – Evidence of Engagement

| Consultee and date | Comment No. | Reviewer | Comment | How this has been addressed in the Project Plan |
|---|---|---|---|---|
| Project Plan C01 sent to Jim Williams and Chris Welch (Historic England) and HS2 Historic Environment Team on 12/12/2019.<br><br>Comments received by email (HE) on 19/12/2019 and verbally at Meeting 3 on 08/01/2020 | 1 | Jim Williams, Historic England | General: A good project plan. There needs to be a little more thought given to the role fieldwalking could play in identifying artefacts in the ploughsoil and how these will be recovered prior to or during soil stripping as otherwise these could be lost with no record. | The mitigation area seems to have been intermittently ploughed in the relatively recent past and the depth of top/sub - ploughsoil cover over features (mainly c.0.5m – c.0.7m) suggests that ploughing may have had little or no impact on any flint scatters present.<br><br>The nine worked flints recovered from archaeological features during trial trenching are undiagnostic and may be contemporary with the Late Bronze Age - Middle Iron Age activity identified by other finds.<br><br>The test pitting (including increase in sample density, or expansion of area tested, if warranted by initial results) provides a proportionate way to test that part of the mitigation area with the densest distribution of cut features for presence/absence of prehistoric finds in the top/sub – ploughsoil, thus examining the extent of truncation, and sample the character, density and distribution of any prehistoric artefacts present. |

| | | | | |
|---|---|---|---|---|
| | 2 | Jim Williams, Historic England | Section 4.3.14: Would fieldwalking provide another / better way to rapidly identify concentrations of material perhaps prior to test pitting or in place of / or with reduced test pitting? | The mitigation area seems to have been intermittently ploughed in the relatively recent past and the depth of top/sub - ploughsoil cover over features (mainly c.0.5m – c.0.7m) suggests that ploughing may have had little or no impact on any flint scatters present.<br><br>Fieldwalking would not provide a rapid way to determine concentrations of material. The mitigation area would have to be ploughed and then left to weather to ensure representative results.<br><br>The test pitting (including increase in sample density, or expansion of area tested, if warranted by initial results) provides a proportionate way to test that part of the mitigation area with the densest distribution of cut features for presence/absence of prehistoric finds in the top/sub – ploughsoil, examine extent of truncation in advance of soil strip, and sample the character, density and distribution of any residual prehistoric artefacts |
| | 3 | Jim Williams, Historic England | Section 4.3.24 – 4.3.25: It is not clear how prehistoric finds in the ploughsoil will be treated. If the test pitting reveals prehistoric material in the topsoil, how will this be recovered during stripping? Will it be sieved, if so, should large wet sieving stations be set up? What is the frequency of lithics in the soil that swings the | Presence of prehistoric finds in ploughsoil is currently uncertain and numbers may be limited given the depth of top/sub – ploughsoil |

| | | | | |
|---|---|---|---|---|
| | | | balance between thinking most of the lithics are likely to be undisturbed and buried (which will be revealed by the soil strip) and the corollary, which is that most of the lithic and thus archaeological resource is in the ploughsoil? | observed during trial trenching.<br><br>The test pitting, including increase in sample density or area tested, if warranted by initial results, will recover a representative sample of any prehistoric finds present in the ploughsoil. Complete recovery of all prehistoric finds, if present as residual material at the 3.7ha mitigation area, will not occur.<br><br>Dry or wet sieving of excavated test pit soils will be completed at site with method dictated by the nature of the excavated soils.<br><br>Frequency of lithics recovered from test pits will be examined against frequency of lithics recovered subsequent to soil strip. Numbers will aid understanding of the level of truncation which may have occurred. |
| | 4 | Jim Williams, Historic England | Section 4.3.25: Bullet 1 - is it necessary to suggest the appropriate sieve size for recovering micro-debitage; bullet points 3 & 4 - the full excavation of settlement or enclosure ditches might also be necessary to help recover suitable dating evidence if it is in low frequency across the site. | Text of bullet points is amended to address comment. |
| | 5 | Jim Williams, Historic England | Section 4.3.55: This section and the Appendix B document are very welcome and hopefully will help to clarify the process of sample strategy completion and revision. | Noted. |
| | 6 | Jim Williams, Historic England | Section 4.3.61: Do you want to be more specific about the speed of sample processing and initial scanning so that feedback to the site can be undertaken. Would on-site facilities be worthwhile for this site (in combination with the | Text added to the section to specify timescale for processing and assessment. The need for on-site processing and |

| | | | | |
|---|---|---|---|---|
| | | | Hurst work if that is taking place at the same time)? | assessment facilities will be discussed with the Archaeological Contractor. There are significant spatial/logistical constraints regarding provision of on-site processing facilities, but if warranted and feasible, detail will be specified in the LS-WSI.<br><br>It is currently uncertain whether the monitoring at Hurst will necessitate processing and assessment of large quantities of environmental samples. The results of trenching suggest that any archaeology present will be dispersed and relatively uncomplicated.<br><br>As a consequence of the construction programme/methodology used it will be necessary to sample any archaeological remains identified during the monitoring within a finite fieldwork window without the opportunity to return after review of assessment results. |
| | 7 | Chris Welch, Historic England | Section 4.3.2: Text regarding amateur metal detectorists waiving the right to finds is legally questionable. Should this be removed? | The waiver text is removed from the section. |
| | 8 | Chris Welch, Historic England | Section 4.3.14: Rephrase section regarding examination of ploughsoil. | Text is amended to address comment. |
| | 9 | Chris Welch, Historic England | Section 4.3.14: Need to consider the aim of the test pitting, i.e. if the aim is to establish distribution then ploughing/field walking would be better. Possibly include ploughing/field | See responses to comments 1 and 2. |

| | | | | |
|---|---|---|---|---|
| | | | walking as a contingency if the test pitting has poor results. | |
| | 10 | Emma Hopla, HS2 | Section 2.2.2: Add available geoarchaeological information to the superficial and solid geology text. | The land in close proximity to the mitigation area is included in GCZ32 in the GDBA (1D037-EDP-EV-REP-000-000031). Limited Holocene alluvium associated with the Canley Brook is identified.<br><br>The Stage A project plan for geoarchaeology (1EW04-LMJ-EV-PLN-N000-029009) did not identify land in immediate proximity to the mitigation area for further geoarchaeological study and it was not included in the Stage A geoarchaeological updated deposit model (1EW04-LMJ-EV-REP-N000-029003). The observed solid and superficial geology bears most similarity to that described at updated deposit model Area 1 - Site 4, which is situated slightly to the south of the mitigation area.<br><br>Land in proximity to the mitigation area was not selected for inclusion in the EWC North Stage B geoarchaeological works programme.<br><br>Superficial geology recorded by the BGS in close proximity to the mitigation area is now included in the section text.<br><br>Approximate depth of topsoil/ploughsoil and the |

| | | | | |
|---|---|---|---|---|
| | | | | character of the natural substrate is summarised from results of trial trenching. |
| | 11 | John Halsted, HS2 | Provide broader justification for test pitting by enhancing information describing the wider distribution of worked flint identified in proximity to the mitigation area. | Text is added to Section 2.2.8 to emphasise and reinforce the level of prehistoric activity identified by prior non-HS2 investigations situated to the north-west of the mitigation area. |
| | 12 | John Halsted, HS2 | Add HERDS Objectives KC5 (for test pitting) and KC21 (partly for metal detecting). | The KS's added to Section 1.1.3 and Section 3.1.8: Table 2. |
| Project Plan C01 sent to Anna Stocks (Warwickshire County Council) on 12/12/2019.<br><br>Comments made at Meeting 3 on 08/01/2020 | 13 | Anna Stocks, Warwickshire County Council | No substantive comment | n/a |

# Appendix B – Environmental Sampling

## Sampling strategy template

Why take bulk samples? Bulk samples provide information on a range of environmental proxies and the deposits in which they are found. Typically these samples are taken for preserved seeds and charcoal but can also include; small mammal bones and fragments of larger bones; fish and bird bones; molluscs; hammerscale and other evidence of industrial processes; small finds. Evidence from bulk samples can indicate where particular domestic or industrial processes were taking place, or highlight locations where disposal of different materials occurred.

What sort of sampling should I be doing? At the evaluation stage, collection, processing and assessment of bulk samples helps to characterise the site. One key bit of information that comes from the samples relates to the archaeological preservation conditions, which need to be understood in order to define a strategy at the excavation phase.

The analysis of samples from the evaluation and subsequent archaeological recording (excavation) phase provides many of the key details about what was happening on a given side, including types of food eaten, the local environment and how spaces were used and managed over time.

What is a sampling strategy? The strategy is the thing that sets out the why, where, what, how and when in relation to sampling. Sampling should be targeted and focused. It should be based on sound understanding of the nature of comparable archaeological remains both locally and regionally. It also needs to be flexible; allowing for an iterative approach as new information may be brought to bear as the project develops. In the strictest sense every context could be sampled for a range of environmental proxies. However, by developing a strategy that focuses on the likely remains to be preserved, and the ability of this material to provide pertinent archaeological information, this allows for targeted, site specific, and relevant samples to be taken. The strategy thus sets out a framework to guide the taking of samples.

- Why – samples should be taken to address a specific question, for example help address a HERDS objective, to recover dating evidence or to understand an aspect of the site and how it might have changed over time.
- What – what features are you actually going to sample to address those questions? On what types of deposits will the sampling focus? Will other types of sample be required, such as specialist samples, for example horizontally gridded areas sampled for hammerscale distribution, or vertical monolith tins for pollen? [1]
- Where – some locations on site may be better suited to addressing specific questions than others. The strategy is likely to vary across an area or with regard to different feature types. Importantly a sampling strategy also highlights where unproductive

[1] * Most bulk samples should be 40-60ltrs (or the maximum recoverable if the feature has a smaller volume) and should all be fully processed within 2 weeks of being taken. This allows results to inform future planning for additional fieldwork (at the evaluation stage) or feedback to site to guide further potential samples (in an excavation). There may be situations where smaller samples are appropriate, for example if the deposits are waterlogged and particularly rich. Advice from internal specialists should always be sought in these situations and any changes recorded within this template.

deposits might be present and focuses resources away from these features.

- How – deposits such as a basal fill of a ditch might require a larger area of the ditch to be exposed so that sufficient material for the sample can be recovered. When sampling a larger context, a scatter approach should be used to ensure any variability in the fill of the context is captured within the samples (this variability is a reason why it is good practice to process all of the sample taken, rather than to sub-sample at the processing stage).
- When – at what stage in the work will the samples be taken? In some instances a few early samples processed rapidly can help to refine the strategy later in the programme, particularly on large and complex sites. This iterative approach, if integrated with the fieldwork, further helps refine and focus project resources.

## 1. Key elements of sampling strategy from PP

1

*An initial sampling strategy was produced for the project plan. Key parts should be summarised here.*

## 2. Contractors detailed sampling strategy for LSWSI on basis of project plan and knowledge of the site

*Based on the initial sampling strategy and background information (including geophysical survey / trial trenching), what additional observations would you make based on past experience of this type of site; the local geology / topography; from other similar sites in the vicinity.*

*This section should be complied by the archaeological contractors project managers and specialist teams.*

## 3. Pre-ex / post soil removal revision / additions to the sampling strategy

*Even sites that seem to be well-characterised by geophysical survey / trial trenching often exhibit greater variation once the topsoil is removed. Based on an initial site visit by the archaeological contractors specialists or dialogue between them and the site project manager, are there additional questions arising from the pre-ex strip and plan and what samples might be required to address them.*

*Which samples might be fast-tracked to help gain a good understanding of the site and help further refine the strategy?*

## 4. Mid-point sample strategy review (where appropriate depending on length of work and complexity of site)

*This section should be updated following discussion by the client, stakeholders , the contractor and the archaeological contractor on site. Areas that might be covered relate to the following:*

*What information has been gathered from samples processed to date?*

*What other questions have arisen during the excavation that sampling might address; what are they and what changes are needed to the strategy; what additional samples are required?*

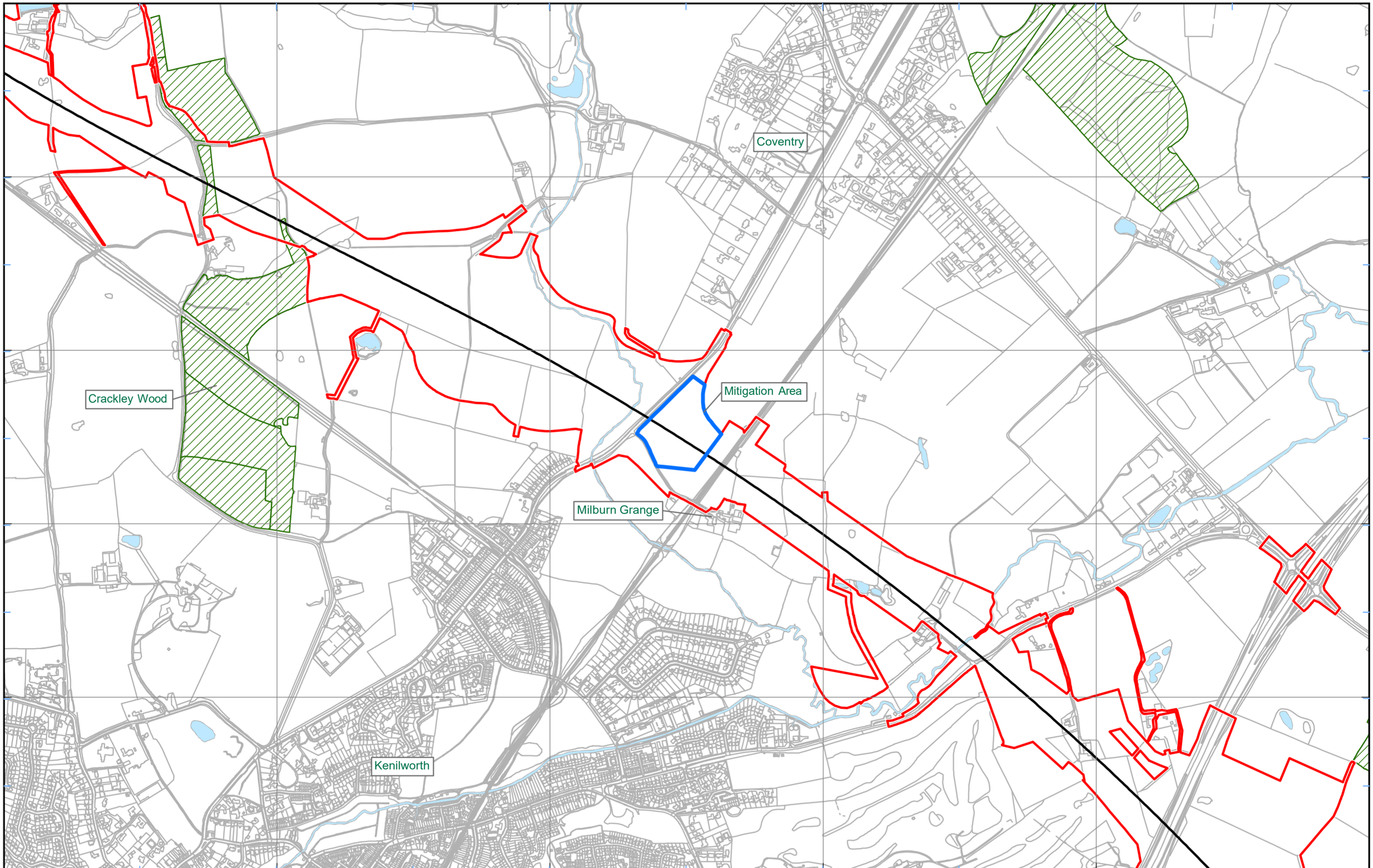
*Do any specialist samples need to be taken on site? If so, what, by whom and when? How will these samples address the specific objectives?*

## 5. Final additions / amendments to sampling strategy

*This section should be completed by the archaeological contractor and their specialists towards the end of the fieldwork, to ensure that all elements of the strategy, including any changes implemented after the mid-stage review are properly captured.*

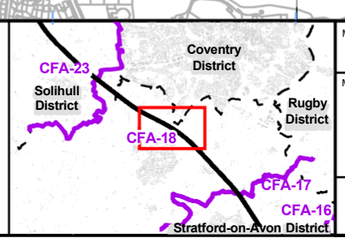
*Appropriate reference to the on-site sample register should also be given here so that a full list of samples and the purpose for which they were taken can be easily viewed.*

# Appendix C - Figures




**Legend**

- Route in tunnel
- Route on surface
- Community forum boundary
- Land potentially required during construction
- District/Borough boundary
- Watercourse
- Water Body
- Ancient Woodland
- Mitigation Area 3.7ha




Map Number

Figure 1

Map Name

Milburn Grange
Location Plan

Community Forum Area CFA18
Stoneleigh, Kenilworth & Burton Green

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Scale at A3: 1:10,000

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Doc Number: 1EW04-LMJ_DJV-EV-PLN-NS01_NL04-029007

**Date:** 11/12/19

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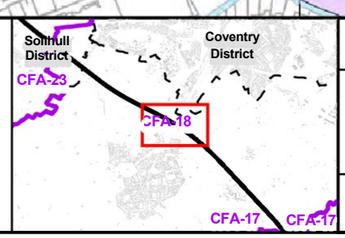
MWA2854
STN055
159
MWA8361
MWA8354
MWA4803
STN057
STN049
MWA2881
MWA9599
MWA2882
Mitigation Area
134
851
850
STN048
STN106
STN050
STN047
STN058
852
136
132
137
STN045
STN105
STN041
STN044
STN040
MWA3233
MWA4407
139
140
131
MWA3267
705

**Legend**

- Route in tunnel
- Route on surface
- Land potentially required during construction
- 500m buffer
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water Body
- Non Designated Heritage Site (point)
- Non Designated Heritage Site (Line)
- Non Designated Heritage Site
- Place names

Listed Building

- Grade I
- Grade II*
- Grade II
- STNXX Heritage Asset Reference ID (2013 ES)
- Barn
- Building
- Farmstead
- Landscape Feature
- Mitigation Area 3.7ha




Map Number

Figure 2

Map Name

Milburn Grange
Heritage Assets

Community Forum Area CFA18
Stoneleigh, Kenilworth & Burton Green

HS2

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Metres

Doc Number: 1EW04-LMJ-EV-PLN-NS01_NL03-029007

**Date:** 11/12/19

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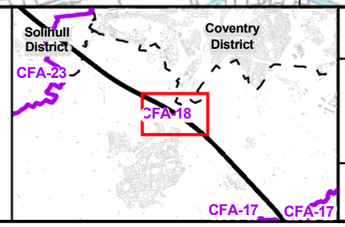
EWA2774

Mitigation Area

EWA10669

**Legend**

- Route in tunnel
- Route on surface
- Land potentially required during construction
- 500m buffer
- Community forum boundary
- District/Borough boundary
- Watercourse
- Water Body
- Mitigation Area 3.7ha
- HER Events (polygon)




Map Number: Figure 3

Map Name: Milburn Grange Previous Investigations

Community Forum Area CFA18
Stoneleigh, Kenilworth & Burton Green

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0 60 120 180 240 Metres

Doc Number: 1EW04-LMJ-EV-PLN-NS01_NL03-029007

Date: 12/12/19

**Utilities Information**

- Electricity
- Gas
- Telecoms
- 5m buffer
- 12m buffer

A4 - UXO risk considered significant

A7 - Buried services

B2 - Overhead services

Utilities/UXO warning

Utility data obtained from HS2 utility drawings:

1EW04-LMJ-UT-DLO-NS01_NL03-029031 - 24/01/2019

Services information is not definitive. Contractors will need to verify the location of all services prior to commencement of any intrusive works on site.

Mitigation Area

**Legend**

- Route in tunnel
- Route on surface
- Community forum boundary
- District/Borough boundary
- Land potentially required during construction
- Watercourse
- WP29B trenches
- Archaeological features excavated
- Mitigation Area 3.7ha
- Test Pitting Area 1ha

Geophysical Results

- Archaeology
- Possible Archaeology
- Furrow
- Increase Magnetic Response

Coventry District

CFA-18

Warwick District

Map Number: Figure 4

Map Name: Milburn Grange Mitigation Plan

Community Forum Area CFA18
Stoneleigh, Kenilworth & Burton Green

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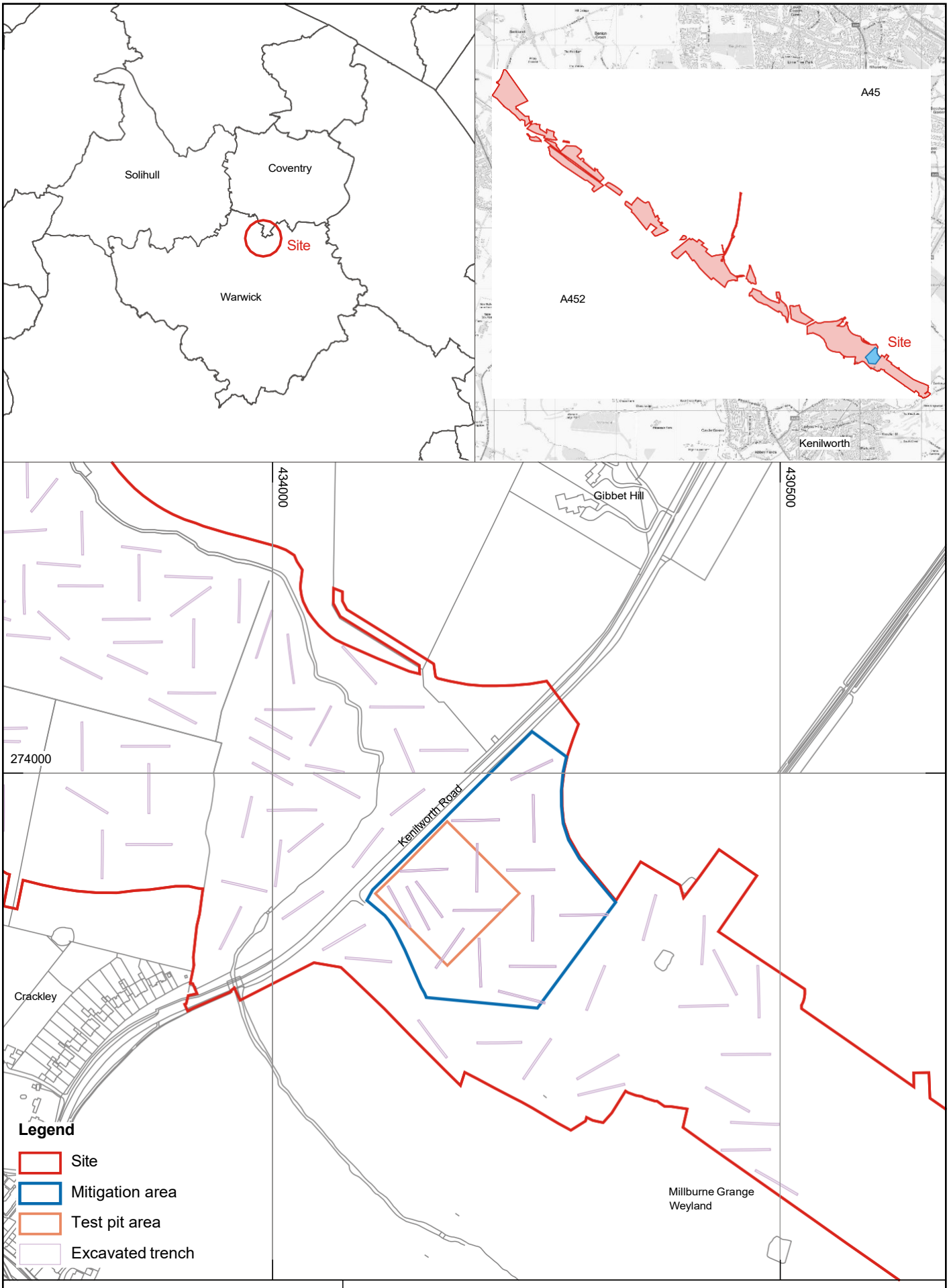
Doc Number: 1EW04-LMJ_DJV-EV-PLN-NS01_NL04-029007

Date: 10/02/20

# Appendix 2: Figures




Map Number

Figure 1

Map Name

Milburn Grange:
Location Plan

Community Forum Area CFA18
Stoneleigh, Kenilworth & Burton Green

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Tr424

Tr425

Tr427

Tr428

Tr429

Tr430

Tr264

Tr265

Kenilworth Road

Crackley

Millburn Grange Wayside

TP1 TP2 TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP10 TP11 TP12 TP13 TP14 TP15 TP16 TP17 TP18 TP19 TP20 TP21 TP22 TP23 TP24 TP25 TP26 TP27 TP28 TP29 TP30 TP31 TP32 TP33 TP34 TP35 TP36 TP37 TP38 TP39 TP40 TP41 TP42 TP43 TP44 TP45 TP46 TP47 TP48 TP49 TP50 TP51 TP52 TP53 TP54 TP55 TP56 TP57 TP58 TP59 TP60 TP61 TP62 TP63 TP64 TP65 TP66 TP67 TP68 TP69 TP70 TP71 TP72 TP73 TP74 TP75 TP76 TP77 TP78 TP79 TP80 TP81 TP82

**Legend**

- Site
- Mitigation area
- Test pit area
- Test pit
- Excavated trench

Map Number

Figure 2

Map Name

Milburn Grange:
Mitigation and test pitting areas

Community Forum Area CFA18
Stoneleigh, Kenilworth & Burton Green

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0 50 m

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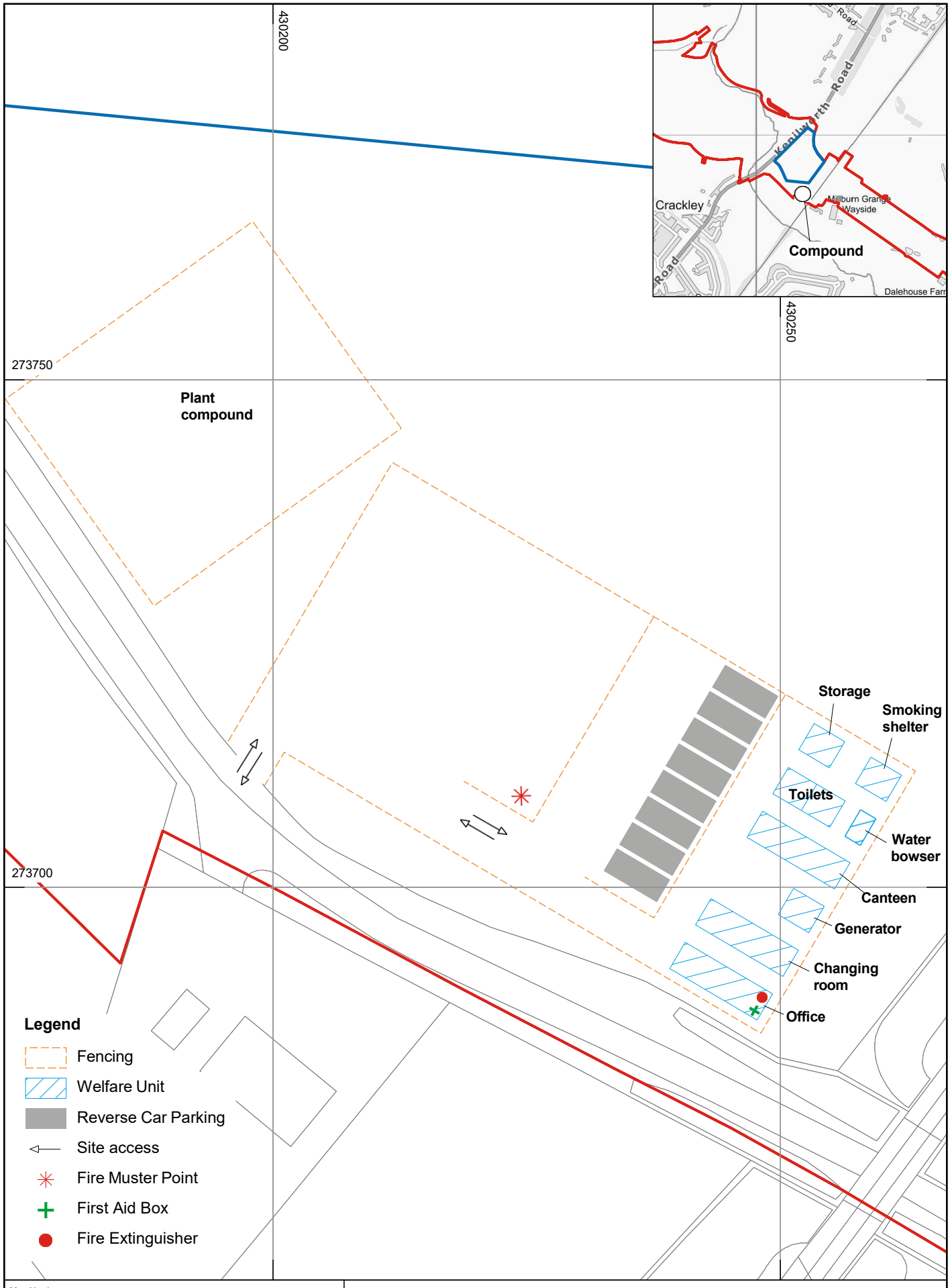
**Date:** 18/02/20




Map Number

Figure 3

Map Name

Milburn Grange: Compound plan

Community Forum Area CFA18
Stoneleigh, Kenilworth & Burton Green

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**Date:** 18/02/20

# Appendix 3: Risk Assessment and Method Statement – Milburn Grange Archaeological Mitigation

# HS2 Phase 1 Enabling Works North - WP29(D) Milburn Grange Mitigation Stoneleigh, Warwickshire

Risk Assessment and Method Statement

Document Ref.: 230080.04
July 2020

wessexarchaeology

## Report Information

| | |
|---|---|
| Project name | HS2 Phase 1 Enabling Works North - WP29(D) Milburn Grange Mitigation |
| Type of report | Risk Assessment and Method Statement |
| Document reference | 230080.04 |
| WA project code | 230080 |
| Date of fieldwork | 16/03/2020-August 2020 |
| Project Manager | Richard O'Neill |

### Quality Assurance

| *Issue and date* | | *Prepared by* | | *Approved by* | |
|---|---|---|---|---|---|
| 1 | 22/06/2020 | Emma Carter | | Richard O'Neill | 14/07/20 |
| | | | | | |

### RAMS approved by Client/ Principal Contractor

| Name | Signed | Position | Date |
|---|---|---|---|
| | | | |

# HS2 Phase 1 Enabling Works North - WP29(D) Milburn Grange Mitigation
# Stoneleigh, Warwickshire

# Risk Assessment and Method Statement

## 1 PROJECT DESCRIPTION

| | |
|---|---|
| Project name:<br>HS2 Phase 1 Enabling Works North - WP29(C) Milburn Grange Mitigation | Project number:<br>230080 |
| Milburn Grange<br>Kenilworth Road<br>Stoneleigh<br>Coventry<br>Warwickshire<br>CV4 7AP | Start Date: 16/03/2020<br>End Date: Aug 2020 |
| | Client/ Principal Contractor: HS2/ LM-JV |

## 2 SCOPE OF WORKS

2.1.1 The method of archaeological mitigation will be 'Metal Detecting', 'Test Pitting' and 'Archaeological Recording', to examine archaeological remains situated southeast of Kenilworth Road, (see Figure 4 of the Project Plan).

2.1.2 Led by Project Officer Jonathan Buttery and with a team of up to 10 archaeologists, excavation began in March 2020 and is expected to continue until August 2020.

2.1.3 Key hazards identified (anything 10 or above before control measures applied)

- Coronavirus pandemic
- Plant operations
- Utilities and buried hazards
- Slips, trips and falls
- Driving

## 3 KEY SITE CONTACT DETAILS

***Principal Contractor***

Name LM Joint Venture
Address 6th Floor, Cornerblock, Two Cornwall Street, Birmingham, B3 2DL
Telephone 02920 775000
Email

***LM Project Manager***
Name Paul Hunt
Address 6th Floor, Cornerblock, Two Cornwall Street, Birmingham, B3 2DL
Telephone
Email

***LM WP29 Construction Manager***
Name Rob Arnold
Address 6th Floor, Cornerblock, Two Cornwall Street, Birmingham, B3 2DL
Telephone
Email

***LM Construction Manager***
Name Colm McDaid
Address 6th Floor, Cornerblock, Two Cornwall Street, Birmingham, B3 2DL

***LM H&S Manager***
Name Hollie Ridley
Address 6th Floor, Cornerblock, Two Cornwall Street, Birmingham, B3 2DL
Telephone
Email

***DJV Technical Lead- Archaeology and Heritage***
Name Alastair Hancock
Telephone

***DJV Senior Consultant***
Name Glenn Rose
Telephone

***Archaeological Contractor***
Name Wessex Archaeology Ltd
Address Portway House, Old Sarum Park, Salisbury, Wiltshire, SP4 6EB
Telephone
Email

***SH&E Manager for Wessex Archaeology***
Name Ian Phillips
Address Portway House, Old Sarum Park, Salisbury, Wiltshire, SP4 6EB
Telephone
Email

***Senior Project Manager for Wessex Archaeology***
Name Richard O'Neilll
Address Sheaf Bank Business Park, Prospect Road, Sheffield, S2 3EN
Telephone
Email

***Senior Logistics Officer/ H&S for Wessex Archaeology***
Name Ivan Machin

Address Sheaf Bank Business Park, Prospect Road, Sheffield, S2 3EN
Telephone
Email

***Site Director for Wessex Archaeology***
Name Jonathan Buttery
Address Sheaf Bank Business Park, Prospect Road, Sheffield, S2 3EN
Telephone
Email

## 4 EMERGENCY NUMBERS AND FIRST AID

| Name | Role | Telephone | Location |
|---|---|---|---|
| Jonathan Buttery | First aider | | Site |
| Warwick Hospital | A&E (12 minutes, 7.2 miles) | 01926 95321 | Warwick Hospital<br>Lakin Road<br>Warwick<br>CV34 5BW |
| National Grid | National Gas Emergency Service | 0800 111 999 | |
| | Electricity Emergency Service (overhead lines only) | 0800 40 40 90 | |
| Emergency Response Team | To be contacted in the event of an emergency or major incident if the Project Manager is unavailable. | 07809 495395 | |
| Emergency services | | 999 | |
| Non-emergency medical advice/ support | | 111, not available in all parts of Wales in this case use 0845 46 47 | |
| Non-emergency police | | 101 | |
| Employee Assistance Programme | | 0800 047 4097 (wellbeing and emotional health resources, including counselling service) | |
| NHS online advice and symptom checker for Covid-19 | | https://111.nhs.uk/covid-19 | |

## 5 COVID-19 STATEMENT

5.1.1 The current guidelines for Covid-19 secure working will be adhered to at all times our staff are on site or traveling to site. If it is deemed that the site cannot follow these procedures then work will cease, and the site will be made safe. The Principal Contractor and Client will be kept informed of all Covid-19 developments.

5.1.2 Wessex Archaeology's Coronavirus (Covid-19) policy and protocols are attached to this document. At the time of writing these procedures follow PHE guidelines and BEIS Guidance and are set out in WA Covid-19 procedure document (https://wessexarch.sharepoint.com/hs/Shared%20Documents/Forms/AllItems.aspx?id=%2Fhs%2FShared%20Documents%2FCovid19 ) and are summarised below (Full WA document to be held on site):

- No one with a high temperature, new persistent cough, loss of taste and loss of smell will be allowed on site, if anyone falls ill whilst on site they should return home immediately.
- Staff are to travel in separate vehicles, or by other means agreed in advance.
- All tools and equipment (inc tech) will either be personal issue or cleaned between users.
- All finds bags and sample buckets will be wiped down before despatch from site.
- Clean welfare to be always maintained. Cleaned before and after use by each person
- Team to stagger breaks, washing hands (for 20 sec) at the start of each break.
- After finishing break clean down surfaces using wipes and bin used materials, then wash hands (for 20 sec) before return to work

5.1.3 During the current coronavirus outbreak staff will increase hygiene measures in line with advice from PHE (see detailed control measures in the risk assessment below).

5.1.4 We aim to ensure that all our activity can be carried out observing social distancing measures of at least 2m. Our staff know to discuss with the site director if this is proving challenging.

5.1.5 The situation regarding Covid-19 and advice from PHE will be routinely monitored and these procedures reviewed. The dynamic risk assessment will be updated as required.

## 6 PROJECT DOCUMENTATION

6.1.1 In relation to these works, the following documents will be held in the company's project Health and Safety folder located within the Site Office:

- *Health and safety policy;*
- *RIDDOR reporting arrangements;*
- *Risk assessments;*
- *Training records;*
- *Plant maintenance and inspection records;*
- *COSHH safety data information sheets;*
- *Service mark up drawings including relevant contact details; and*

- *Sharepoint Covid-19 Policy Statement.*

## 7 CONTROL MEASURES AND SAFE SYSTEM OF WORK

7.1.1 In relation to the project the following key control measures and safe systems of work (SSOW) have been identified. In relation to the project, the following key control measures and safe systems of works (SSOW) have been identified.

### 7.1.2 Coronavirus Pandemic

*General*

7.1.3 In adherence with the Government and Public Health England the following SSOW have been identified to minimise the risk of infection or transmission of Covid-19: Wessex employees are briefed on government issued guidelines of social distancing- employees will keep a 2m distance at all times.

7.1.4 Increased hand washing, interior cleaning of vehicles and welfare units with company provided antibacterial products shall occur on a regular daily basis.

7.1.5 Any persons with a high temperature, new persistent cough, loss of taste and loss of smell will not be allowed on site, if anyone falls ill whilst on site they should return home immediately and isolate for 7 days. All persons who have been in contact with potentially infected persons shall self-isolate for 14 days. Any WA staff following self-isolation measures shall inform their line manager.

7.1.6 Briefings by Project Manager on any changing government guidelines relating to stopping the spread of Coronavirus

**7.1.7 All staff have the right to work in an environment free from unsafe practices in relation to the Coronavirus Pandemic.**

**7.1.8 Wessex Archaeology will not tolerate behaviour from staff, clients, contractors or other sub-contractors which makes staff feel that the Coronavirus health and safety control measures outlined in this RAMS are not being strictly followed. Should this instance occur, this must be reported to the Project Manager and staff will immediately remove themselves from the site until the appropriate safety measures are in place.**

*Vehicle use, travelling to and from site*

7.1.9 No more than one person, one vehicle policy; only the driver shall use the vehicle; a strict one person, one vehicle measure is in place for WA personnel. Use of own vehicles to travel to site/office where possible. Drivers will ensure all high contact surfaces in and out of the vehicle are cleaned with antibacterial cleaning solution.

*Hygiene and sanitary conditions*

7.1.10 WA personnel to be given hand sanitiser gel, gloves and antibacterial wipes. Soap and water is to be used to wash hands for a minimum of 20 seconds. The number of persons using toilet facilities at any one time is limited to one. All users must wipe down contact points in the toilets before and after use with antibacterial cleaning solutions.

*Use of canteen/ mess area*

7.1.11 **2 m social distancing must be adhered to at all times**, staggered breaks should be considered under these mandatory requirements in order to avoid congestions and contact at all times. The use of hand cleaning facilities or hand sanitiser must be available at the entrance of the messing area and must be used by all personnel entering/ exiting the area. Personnel will be asked to bring pre-prepared meals and refillable drinking bottles from home. Crockery, eating utensils, cups etc must not be shared be stowed in personal bags/ vehicles. All contact areas must be cleaned between each use.

7.1.12 Rubbish must be put straight in the bin and not left for someone else to clean up

7.1.13 All areas used for eating must be thoroughly cleaned at the end of each break and shift, including seats, door handles, kettle, microwave and taps

*Changing facilities/ drying room and tool store*

7.1.14 Where possible, WA personnel to reduce need to use drying room/ tool store and utilise vehicles. Where this is not feasible, personnel shall ensure their PPE/ tools are cleaned or bagged up before utilising PPE and tool store.

7.1.15 Wash hands before and after entering shared changing room/ drying facilities

### 7.1.16 Induction and site attendance log

7.1.17 All staff and contractors must attend a site induction upon their initial arrival on site. Visitors must be accompanied at all times and should read and understand this document before entering any active working areas.

7.1.18 All staff, contractors and visitors to the site must sign in and out in the attendance log located at the Site office.

### 7.1.19 Working hours

7.1.20 To minimize disruption to local communities, wherever possible working hours will be restricted to between the hours of 0800 and 1600, Monday to Friday only.

7.1.21 If weekend working or extended hours during weekdays are unavoidable (and such will only be considered if there are no alternative arrangements feasible – e.g. to complete the excavation of human remains, items covered under the Treasure Act *etc.*), these will be discussed and agreed in advance with the Client.

### 7.1.22 PPE

7.1.23 The following PPE has been identified following the completion of the Risk Assessment and shall be taken to site and worn as indicated in the table below:

| Mandatory | As required |
|---|---|
| Orange Hi visibility vests | Warm clothing depending on weather conditions |
| Hard hat | Waterproof clothing depending on weather conditions |
| Steel toe cap and mid-sole safety boots | Safety glasses where there is a risk of flying debris e.g. mandatory during |

| | |
|---|---|
| | machine watching and when mattocking gravel deposits |
| Orange Hi visibility trousers | Gloves during manual handing and hand excavation |
| | Ear protection as required |

7.1.24 In addition, a mobile phone and first aid kit will be easily available to all staff at all times. First aid kits are held in the Site Office and site vehicles.

**7.1.25 Identification and protection of services**

7.1.26 The Principal Contractor has provided Wessex Archaeology with the full results of utility searches. These were provided prior to the commencement of fieldwork and are shown in Fig 4 of the Project Plan (doc ref: 1EW04-LMJ_DJV-EV-PLN-NS01_NL04-029003) and is reproduced at the end of this document. Wessex Archaeology has carried out its own search via DURS and Linesearch, geophysical survey results and online aerial imagery via Google Earth.

7.1.27 Overhead power lines have been identified on site. Crossing points have been established prior to attending site based on information provided by the asset owners. Be aware that cables may sag in hot weather. Plant will not operate beneath overhead utilities. Goalposts are available on site for use. 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.

7.1.28 A BT cable was inserted/diverted in a visible trench along the north-western side of the mitigation area, parallel with Kenilworth Rd, prior to commencement of the mitigation works. A stock fence has also been inserted between the cable and the mitigation site.

7.1.29 Wessex Archaeology will mark out the position of the mitigation area with a GPS, maintaining a minimum 5 m buffer between the BT cable and excavation area and a 1 m buffer between the stock fence and the mitigation area..

7.1.30 Before any excavation commences, the areas will be walked over and inspected to visually identify, where possible, the location of above and below ground services.

7.1.31 Areas will be scanned before and during excavation as appropriate with a Cable Avoidance Tool (CAT) by trained personnel in order to verify the absence of any live underground services.

7.1.32 Machine stripping to be carried out in discrete 0.1 m spits under constant supervision, and periodically re-checked using the CAT.

7.1.33 Any located services will be treated as live and will be marked up, protected and identified as such. 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

7.1.34 There will be no excavation over gas or fuel services at any time, therefore the services will never be exposed.

7.1.35 Appropriate buffers will be established around known or suspected services.

**7.1.36 Plant operations and vehicle movements**

7.1.37 All plant operators are to hold a valid a CPCS (or equivalent) Competent Operator (blue) Card unless a Trained Operator (red) Card holder under the supervision of a Competent Operator. Valid certification/ card must be confirmed by the Site Director and a record kept.

7.1.38 Exclusion zone to be maintained and managed by the banksman/ monitoring archaeologist during all plant movements and mechanical excavation.

7.1.39 Dump truck operators will exit their vehicles and stand a safe distance away whilst their truck is being loaded unless their trucks incorporate a sealed and protected cab. All operators will wear their seatbelts during operations at all times. This is to be monitored by WA staff throughout.

7.1.40 All plant to be maintained in good working order at all times, and switched off whenever not required.

7.1.41 All plant will be fuelled on-site/ within designated area and with a spill kit to hand.

7.1.42 Where possible vehicle and pedestrian routes shall be separated. All personnel and vehicles using the site are to keep to identified routes and corridors. Access and egress from the working areas are to be via designated access points.

**7.1.43 Deep excavations**

7.1.44 There is no safe minimum depth of excavation. Excavation area sides to be stepped as ground conditions demand, regardless of depth, and in any event there are to be no unsupported sections greater than 1.2m depth.

7.1.45 Suitable access to excavations to be provided. Where practicable access points will be ramped and battered. Where ladders are used for access these will be of suitable length, secured and at a 75° angle. All ladders must be inspected before use.

7.1.46 All deep excavations to be fenced off and warning signs placed at access points.

**7.1.47 UXO**

7.1.48 There is no known UXO risk; no UXO risk was identified in the Project Plan (doc ref: 1EW04-LMJ_DJV-EV-PLN-NS01_NL04-029003).

7.1.49 The procedure on the discovery of suspected UXO is:

- Stop work immediately.
- Do not attempt to handle or move the object.

- Do not stop to mark its position or collect tools or equipment.
- Evacuate the immediate area (at least 300 m if possible).
- Report the incident to the Project Manager.
- The Project Manager should immediately inform the client and ensure that the relevant disposal experts are called in.

### 7.1.50 Asbestos

7.1.51 There is no known asbestos risk; no asbestos risk has been identified in the Project Plan (doc ref: 1EW04-LMJ_DJV-EV-PLN-NS01_NL04-029003).

7.1.52 All Wessex Archaeology staff to be UKATA (asbestos awareness) trained. Wessex Archaeology staff will not knowingly handle, dispose of, transport or store materials likely to contain asbestos.

7.1.53 The procedure on the discovery of suspected asbestos is:

- Stop work immediately.
- Keep anyone not already exposed out of the area.
- Report the incident to the Project Manger asap.
- Put on any suitable respiratory protection available.
- Wipe down clothing etc. with damp rags.
- Bag all contaminated materials for specialist cleaning or disposal.

### 7.1.54 Training and competency

7.1.55 All fieldwork staff are certified through the Construction Skills Certification Scheme (CSCS) or UK equivalent. Key staff also have qualifications in the use of CAT and Genny equipment through the National Plant Operators Recognitions Scheme (NPORS) and asbestos awareness training (UKATA).

7.1.56 All supervising staff have undertaken the Site Supervisor Safety Training Scheme training. Approved banksmen hold the NPORS plant machinery marshal certification.

## 8 WELFARE

8.1.1 Welfare cabins including messing areas, Site Offices and toilets will be provided in the main compound. Clean cold water, soap and paper towels will be provided in these facilities.

8.1.2 Warm water/ hot running water and washing facilities to be available in the welfare cabin. Hand sanitiser/gels may be carried and used where the hands are visibly (i.e. physically) clean and as a supplement to washing with soap and water.

8.1.3 Drinking water and hot drink making facilities will be provided in the messing areas. Staff should also ensure they have an adequate supply of drinking water on site. Water coolers are provided in the messing areas along with a regular supply of spring water. Messing areas must be kept clean and tidy, all litter is to be bagged each day and removed from site. All common surfaces and touch points should be

sanitised before and after use. An external cleaning contractor is providing a daily clean of facilities.

8.1.4 A designated smoking area has been established. No smoking is permitted in work vehicles or site accommodation.

8.1.5 During the current coronavirus outbreak staff will increase hygiene measures in line with advice from PHE (see detailed control measures in the risk assessment below).

## 9 EMERGENCY PROCEDURES

### 9.1.1 Fire

9.1.2 On discovering a fire staff to raise the alarm immediately by raising the air horn in the management office and calling 999.

9.1.3 On hearing the alarm all staff, visitors and sub-contractors to evacuate to the Coleshill Entry sign in point. The attendance log will be collected and used to ascertain whether anyone remains unaccounted for. Where staff or contractors might have difficulty hearing the alarm, for example due to required ear protection, a SSoW will be put in place to ensure that they are alerted (e.g. by designated staff member outside of noisy/ ear protection zone).

9.1.4 Staff to tackle fire only if considered safe and competent to do so.

### 9.1.5 Reporting

9.1.6 All injuries are to be recorded in the Accident Book and reported to the Project Manager. Any accidents resulting in injuries requiring hospital treatment must be reported to the SH&E Manager as soon as possible. All RIDDOR level injuries, disease or dangerous occurrences will be reported to HSE or Local Authority as applicable within 24 hours.

9.1.7 Near miss incidents should be reported directly to the Site Director as soon as possible. These incidents should be recorded on an Incident Report form which shall be forwarded to the Project Manager and SH&E Manager as soon as practical.

9.1.8 Any contractor making a report under RIDDOR must inform the Principal Contractor.

## 10 COMMUNICATION PLAN AND RESPONSIBILITIES (IF APPLICABLE)

10.1.1 It is the responsibility of the Project Manager to:

- Brief the Site Director on the context of the works and health and safety requirements prior to commencing work at the site
- Ensure preparation of site safety documentation, written scheme of investigation and method statements for undertaking the programme of archaeological work;
- Established and confirm 3rd party contractors and suppliers who will be required for site; and

- Liaise with the Site Director, Consultant/s, Client, Principal Contractor and curators.

10.1.2 It is the responsibility of the Site Director to:

- Have the day to day responsibility of running the fieldwork on site, coordinating and supervision of the fieldwork staff and 3rd party contractors and equipment;
- Liaise with the Client, Principal Contractor and Project Manager;
- Ensure and supervise the safe delivery and collection of any equipment on to site;
- Ensure that the machinery to be used has the appropriate test certificates and is properly stored;
- Confirm that all contractors have appropriate qualifications as set out within this RAMS;
- Ensure that the control measures specified within this RAMS are implemented;
- Advise the Project Manager of any change in conditions which may require any control measures to be varied and to implement these measures in the field; and
- Ensure the overall work area is tidy and equipment and that spoil and waste are stored safely.

10.1.3 All staff and subcontractors are responsible for: -

- Only undertaking tasks for which they are competent and/ or trained to do so;
- Ensuring their work area is tidy and equipment and wastes are stored safely;
- Checking the condition of any equipment they are using prior to use and reporting any defects immediately;
- Following the control measures as outlined in this RAMS in relation to their duties; and
- Reporting anything which seems unsafe to the Site Director immediately.

## 11 SECURITY/ ACCESS/

11.1.1 All plant will be locked and secured with anti-vandalism shutters within the designated fenced compound area outside of working hours.

11.1.2 Outside of working hours, PID security systems will be set.

11.1.3 With the exception of the designated 4x4 site vehicles and plant, all other vehicles will be parked in the designated compound. All vehicles must reverse into the designated parking bays.

11.1.4 All gates are to be left secured at all times.

## 12 STANDARD PROCEDURES

| Hazard/ issue | Consequence | Control measures | Responsibility | Further detailed RA? |
|---|---|---|---|---|
| General measures | General measures for implementation to maximise any reduction in risk rating. | • A mobile phone will be available at all times for use in emergencies.<br>• Anything that is or seems to be unsafe will be reported to the WA Site Director immediately. Unresolved issues to be reported to the Project Manager and where appropriate to the Principal Contractor / Client.<br>• A first aid kit will be available to WA staff and others at all times (i.e. in the messing area and/ or vehicles). Where first aid kits are unavailable and there is a likelihood of injury staff should carry a travelling first aid kit.<br>• Directions to the first aid kit, a copy of the WA Health & Safety policy, a HSE guidance poster/ leaflet, a valid insurance certificate and a copy of this Risk Assessment will be clearly accessible and where possible displayed (e.g. in the welfare unit). | Site director (SD), all staff (S) | - |
| Weather conditions | Exposure to wet, cold and/ or storm conditions, risk of lighting strike, hypothermia | • Appropriate waterproof clothing to be carried/ close at hand, and worn when necessary.<br>• No fieldwork to be undertaken during electric storms.<br>• Dry clothing to be available, as necessary. | S | |
| | Dehydration, sun burn and heat stroke during hot/ sunny weather | • Sun cream, min. SPF15 (though SPF30+ recommended) with good UVA and UVB protection to be applied regularly to exposed skin.<br>• Regular breaks to be taken in shade during hot/ sunny weather to limit exposure to sun – use project vehicles with air conditioning if no alternatives available.<br>• Appropriate clothing to be worn (topless working prohibited; long sleeves, trousers and sun hat to be worn wherever feasible).<br>• Drinking water to be available on site, and consumed at regular intervals – do not wait until thirsty, thirst is a symptom of dehydration.<br>• If necessary, wear sunglasses/ safety glasses 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.). | S | Y |
| PPE (general) | Injury due to site conditions/ hazards | • Suitable footwear to be worn at all times. For any site work this will comprise boots providing appropriate ankle support. For any situation where there is the risk of crush injuries (e.g. a dropped load) or | S | N |

| | | | | |
|---|---|---|---|---|
| | | penetrating injuries (e.g. from a sharp object) to the foot, safety boots with insole and toe protection (either steel or composite) are to be worn.<br>• Waterproof clothing to available and close at hand.<br>• Ear defenders should be worn where extra protection is needed above what has been achieved using noise control.<br>• All staff and visitors to adhere to any PPE requirements outlined by the client or their principal contractor.<br>• PPE to be appropriately fitted and in good condition.<br>(Further information on specific PPE requirements are to be found in the Equipment and Site sections of this RA) | | |
| Slips, trips and falls | Likely injuries include: 1) Twisted ankles and knees - ligament and muscle damage, 2) Head injuries, cuts and abrasions or broken bones | • In line with general PPE measures staff to wear boots with ankle support and, where applicable, toe and insole protection.<br>• Staff to remain vigilant of trip hazards and where necessary report, highlight or fence off specific hazards.<br>• Good housekeeping (putting tools away when not in use, storing materials/ equipment off pedestrian routes) to be maintained.<br>• When manoeuvring loads check route is clear of hazards and if visibility is restricted by the load use an additional person to guide. | SD, S | Y |
| Public engagement | Negative effect on local communities, poor image for the company, possible injury | • All staff to be polite and courteous to members of the public.<br>• Do not get drawn into debates about issues around any proposed development.<br>• All negative contact with the public should be reported to the Project Manager immediately<br>• If threatened by any members of the public, remove yourself from that situation to a place of safety (e.g. locked vehicle) and phone 101 for advice and support or 999 if in serious immediate danger. | SD, S, Principal Contractor (PC), client (C), | N |
| Harassment, discrimination, bullying or intimidation | Unsafe, stressful or uncomfortable working environment | • All staff have the right to work in an environment free from harassment or discrimination.<br>• Wessex Archaeology will not tolerate behaviour from staff, clients or other sub-contractors which makes staff feel distressed, intimidated or offended.<br>• Where appropriate talk to the individual (or ask your supervisor to do this on your behalf) and ask them to amend their behaviour.<br>• For more serious or unresolved issues report the matter to the Site Director, Project Manager and HR.<br>• If you feel physically threatened remove yourself from that situation to | SD, S, PC, C, sub-contractors | N |

| | | | | |
|---|---|---|---|---|
| | | a place of safety (e.g. locked vehicle) and phone 101 for advice and support or 999 if in serious immediate danger. | | |
| Fire | Injury resulting from burns and smoke inhalation | • No smoking in work vehicles or site accommodation.<br>• Where provided, smoking to only take place in designated areas.<br>• Fuel cans and other flammable chemicals to be clearly labelled and safely stored.<br>• Hot or ignited materials to be fully extinguished before disposal.<br>• No smoking within or adjacent to buildings except where there are designated areas.<br>• On discovering a fire staff to raise the alarm immediately.<br>• On hearing the alarm all staff, visitors and sub-contractors to evacuate to safe area or designated muster point.<br>• Staff to tackle fire only if considered safe and competent to do so. | SD, S | |

## 13 COVID-19 MEASURES

| Task/ situation | Consequence | Initial Risk | | | Control measures | Residual risk | | | Responsibility |
|---|---|---|---|---|---|---|---|---|---|
| | | L[1] | C | R | | L | C | R | |
| General Measures - all business | Sickness and absence from work, risk of serious illness or death to those with underlying health problems | 5 | 5 | 25 | • Covid-19 specific briefings will be delivered at team level and repeated where necessary.<br>• Any staff member who is classed as clinically extremely vulnerable is not expected to attend office or site.<br>• Any staff member who consider themselves to be vulnerable to Covid-19 in any way or who lives with such a vulnerable person should discuss with their line mangers suitable work arrangements.<br>• Staff should maintain high levels of personal hygiene with regular hand washing with soap for at least 20 seconds (hot/warm running water and soap is more effective than hand sanitizers).<br>• Hand sanitisers are provided at entrances and at key places around our buildings and sites. Sanitizers can be used when soap and water are not available or in addition.<br>• Staff should cover their mouth and nose with a tissue or sleeve when they cough or sneeze and dispose of used tissues straight away.<br>• Staff should make a conscious effort to avoid touching their eyes, noise or mouth.<br>• All staff should remain vigilant and monitor colleagues for symptoms (continuous cough, high temperature, loss of taste smell, etc). Any staff member feeling unwell must advise the Site Director/ line manager at the earliest opportunity.<br>• Covid-19 secure messages will be reinforced with information notices and signage displayed in | 2 | 5 | 10 | PM (Project Manager), Site Director (SD), Staff (S), Principal Contractor (PC), Client (C), |

[1] L= Likelihood, C=Consequence/ severity, R=Risk (LxC). See matrix inside backcover.

| Task/ situation | Consequence | Initial Risk | | | Control measures | Residual risk | | | Responsibility |
|---|---|---|---|---|---|---|---|---|---|
| | | L[1] | C | R | | L | C | R | |
| | | | | | prominent places.<br>• Meetings/ conversations (both internal and external) to be conducted via 'Teams' or other online platforms in preference to 2m+ face to face. | | | | |
| Additional General Measures - site | Sickness and absence from work, risk of serious illness or death to those with underlying health problems | 5 | 5 | 25 | • A Covid-19 specific toolbox talk will be delivered and where necessary reminders of key controls provided to all site staff on a daily basis.<br>• Staff should maintain high levels of personal hygiene with regular hand washing with soap for at least 20 seconds (hot/warm running water and soap is more effective than hand sanitizers).<br>• Where access to soap and water is limited then hand sanitizers can be used.<br>• Meetings, briefings and toolbox talks will be held in open spaces with 2m+ separation maintained. | 2 | 5 | 10 | SD, S |
| Emergency procedures | Sickness and absence from work, risk of serious illness or death to those with underlying health problems | 5 | 5 | 25 | • If a member of staff becomes unwell on site or in our offices with Covid like symptoms then the Project Archaeologist / PC must immediately inform the Project Manager/ director who must then seek advice from the Compliance Director who will provide such on a case by case basis.<br>• Fire marshals to remind workers to aim to maintain 2m+ separation during any evacuation and at assembly points.<br>• Whilst not reducing level of care, when a person requires first aid we will endeavour to minimise the time and number of persons near the injured person. As appropriate cover the mouth/nose of the injured person and those providing first aid. As in normal circumstances gloves (provided in the first aid box) should be worn.<br>• In a first aid situation do not move the injured party unless necessary as this will require close contact. | 2 | 5 | 10 | SD, S, fire marshals, first aiders |

| Task/ situation | Consequence | Initial Risk | | | Control measures | Residual risk | | | Responsibility |
|---|---|---|---|---|---|---|---|---|---|
| | | L[1] | C | R | | L | C | R | |
| | | | | | • If a driver becomes unwell or is injured on site and this affects site travel then seek advice from the Compliance Director who will provide such on a case by case basis. | | | | |
| Travel & arrival at site | Sickness and absence from work, risk of serious illness or death to those with underlying health problems | 5 | 5 | 25 | • At present without specific prior agreement Wessex Archaeology operatives will travel to site one person per vehicle<br>• Operatives from the same household may share vehicles.<br>• Use of larger company vehicles/ hired vehicles may be practical to carry more people where a degree of social distancing can be achieved.<br>• In all cases operatives should ensure vehicles are well ventilated – windows part way down.<br>• All company vehicles must be thoroughly wiped down with appropriate cleaning products before and after use; ensuring all touch points are clean – steering wheel, handles, indicators, gear stick, etc.<br>• Travel by public transport and other travel arrangements are to be cleared in advance with the compliance director.<br>• When getting in or out of vehicles on site, staff should be aware of those in other vehicles and ensure social distancing is maintained.<br>• There should also be handwashing facilities at the entrance to site, to ensure good hygiene. | 2 | 5 | 10 | SD, S |
| Site welfare and procedures | Sickness and absence from work, risk of serious illness or death to those with underlying health problems | 5 | 5 | 25 | • Operatives should observe both social distancing and good hygiene practice when using the on-site welfare facilities, including during breaks.<br>• All welfare facilities to be marked with tape where necessary as a visual aid to assist with social distancing.<br>• Operatives should be bringing their own lunch, flasks and refillable drinking bottles from home. | 2 | 5 | 10 | SD, S |

| Task/ situation | Consequence | Initial Risk | | | Control measures | Residual risk | | | Responsibility |
|---|---|---|---|---|---|---|---|---|---|
| | | L[1] | C | R | | L | C | R | |
| | | | | | They should avoid leaving site unless necessary, which is to include break and lunch times.<br>• We will avoid using kettles, microwaves and other items with the potential to be touched by a lot of people.<br>• Fresh drinking water will continue to be available but with enhanced cleaning of taps.<br>• Additional cleaning measures will be in place; to include seating and common areas likely to be touched (doors, handles, taps, tables, etc) as well as standard welfare provisions.<br>• Access to WCs to be limited. Operatives should practice social distance queuing if other operatives are washing their hands.<br>• Seating within the offices/ cabins will be spaced to assist with social distancing and the windows will be kept open when staff are using the room<br>• Suitable and sufficient rubbish bins for hand towels with regular removal and disposal will be provided.<br>• Hand cleaning facilities or hand sanitiser should be available at the entrance of any room where people eat and should be used by operatives when entering and leaving the area.<br>• The effectiveness of cleaning and adherence to social distancing in the welfare facilities will be monitored by the site director.<br>• Additional facilities may be necessary, and this is kept under regular review by the Project Manager. | | | | |
| Approach to avoidance of close working | Sickness and absence from work, risk of serious illness or death to those with underlying health problems | 5 | 5 | 25 | • Work will be planned/ re-assessed to minimise interaction between workers.<br>• Movement around site/ buildings will be planned to minimise contact between workers. A one-way system for pedestrian traffic will be considered.<br>• Separation of 2m+ should be achieved in most | 2 | 5 | 10 | PM, SD, S |

| Task/ situation | Consequence | Initial Risk | | | Control measures | Residual risk | | | Responsibility |
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| | | L[1] | C | R | | L | C | R | |
| | | | | | circumstances. Markers tape or barriers will be used where appropriate to aid workers in achieving this.<br>• Where the 2m+ separation is not achievable workers should discuss this immediately with the site director/ line manager. The site director/ line manager will modify the task and where necessary amending risk assessments.<br>• Work requiring skin to skin contact or where this may inadvertently happen will not be carried out.<br>• Sharing of tools is to be avoided. Hand tools should be labelled with the operative's name and not shared.<br>• Other equipment (eg IT, phones, cameras, total station etc) should be thoroughly cleaned using appropriate cleaning materials by the operative after use and before anyone else handles it.<br>• The inside of company vehicles will be regularly cleaned.<br>• Re-usable PPE should be thoroughly cleaned after use and not shared between workers.<br>• Single use PPE should be disposed of so that it cannot be reused.<br>• We do not anticipate that general wearing of face coverings will be necessary as a Covid-19 control measure.<br>• The effectiveness of cleaning and adherence to social distancing on site will be monitored. | | | | |
| Non WA workers | Sickness and absence from work, risk of serious illness or death to those with underlying health problems | 5 | 5 | 25 | Whether or not a direct risk to WA staff is posed we consider it our social responsibility in the current crisis to report in some form the following situations:<br>• A non-WA worker on site appears to be unwell with relevant symptoms and no steps appear to be taken to ensure they leave site. | 2 | 5 | 10 | PM, SD, S |

| Task/ situation | Consequence | Initial Risk | | | Control measures | Residual risk | | | Responsibility |
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| | | L[1] | C | R | | L | C | R | |
| | | | | | • One or more non WA workers is tasked to work in close proximity to WA staff without prior agreement.<br>• A non-WA worker is repeatedly less than 2m away from any others in common areas such as welfare or site entrances<br>• Aggressive or negative attitude from a non-WA worker when a social distancing concern has been raised informally.<br>The Project Archaeologist and Project Manager should determine who the situation is reported to and how. | | | | |
| Overnight Accommodation | Sickness and absence from work, risk of serious illness or death to those with underlying health problems | 5 | 5 | 25 | At present Wessex Archaeology operatives will only be using overnight accommodation on essential projects. The default is single occupancy accommodation.<br>• Operatives from the same household may share accommodation.<br><br>At the point of booking, the accommodation provider will be asked to explain how their premises is being made Covid secure. The response will be recorded and communicated to the Project Manager to share with the project team. Measures we expect will depend on the type of accommodation but might include:<br>• How the room is to be cleaned/ serviced during the stay<br>• Provision of hand sanitiser & surface wipes.<br>• Availability of food refreshment.<br>• Access arrangements & parking.<br><br>We do not expect our staff to use overnight accommodation that is not safe. Our staff using overnight accommodation are advised as follows: | 2 | 5 | 10 | PM, SD, S |

| Task/ situation | Consequence | Initial Risk | | | Control measures | Residual risk | | | Responsibility |
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| | | L[1] | C | R | | L | C | R | |
| | | | | | • Comply at all times with social distancing expectation, not just at the work site.<br>• In addition, during every day of your stay have as few interactions as possible with anyone including WA staff. You can be fined for not socially distancing when not at work.<br>• On arrival check the accommodation is as expected and report any concerns immediately to the Project Manager, who will if necessary, arrange alternative accommodation.<br>• Regularly wash your hands for 20 sec plus during your stay, especially before and after eating and sleeping.<br>• Eat in your room or outside, not in the common parts of the accommodation.<br>• Plan food buying to minimise number of shops visited: for example using click & collect, deliveries, etc<br>• Ensure you have prepared for evenings – books, IT devices, kit for in/outdoor exercises, etc. | | | | |
| Visitors Deliveries | Sickness and absence from work, risk of serious illness or death to those with underlying health problems | 5 | 5 | 25 | • Generally, we should not be expecting non WA staff to be coming to our sites at present without prior knowledge. Directors should be advised of any visitors.<br>• Deliveries and collections should be conducted with social distances maintained.<br>• Delivery drivers visit multiple locations so where necessary we must firmly remind them of social distancing expectations. Good practice is for them to remain in or near their vehicle at all times.<br>• In most cases deliveries should be offloaded either by the delivering driver or WA staff, not a combination.<br>• An alternative to signing for deliveries is taking a photo and emailing. | 2 | 4 | 8 | SD, S |

| Task/ situation | Consequence | Initial Risk | | | Control measures | Residual risk | | | Responsibility |
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| | | L[1] | C | R | | L | C | R | |
| | | | | | • Each delivery should be left at an appointed place until it can be assessed. As appropriate it should be cleaned/ wiped down during unpacking. Disposable gloves should be worn during unpacking and immediately disposed of.<br>• In all cases wash hands before and after handling delivered items, including post.<br>• Delivery drivers cannot be prevented from using our toilet facilities if they request it. | | | | |

## 14 EQUIPMENT RISK ASSESSMENT

| | Hazard | Consequence | Initial Risk | | | Control measures | Residual risk | | | Respon sibility |
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| | | | L[2] | C | R | | L | C | R | |
| 1 | Loss or damage to survey equipment | Equipment such as GPS survey and CATs are expensive and can be difficult to replace at short notice. Survey data may be lost. | 2 | 3 | 6 | To avoid equipment being damaged or stolen care should be taken to always have it to hand and in sight. At break times equipment should be stored in the compound in a locked vehicle or in the welfare unit (If wet the equipment may need drying and cleaning). All equipment should be sanitised between usage. Download data on a regular basis. | 1 | 3 | 3 | Site Director (SD), Site staff (S) |
| 2 | Loss or damage to photographic equipment | Cameras, even small compact units, can be expensive to replace. If not recently downloaded cameras may have images stored from other sites. This data must not be lost. | 2 | 3 | 6 | Always keep cameras to hand and in sight. Download images as soon as possible. When not in use cameras should be kept under lock and key. All equipment should be sanitised between usage. When staying in accommodation cameras should be stored inside. | 1 | 3 | 3 | SD, S |
| 3 | Archaeological finds | Finds are unique and irreplaceable. They can be lost or damaged without care. | 2 | 3 | 6 | Finds should be bagged and stored safely at the earliest opportunity. Certain finds can be damaged if exposed to air, if dried out, or if they become wet. Take advice from the artefact officers. Some glass and pottery finds (for example) may be very friable. Take great care when lifting and bagging (or boxing). | 1 | 3 | 3 | SD, S |
| 4 | Hand tools | Damaged and broken hand tools. Sharp edges and points. Risk of injury to staff. | 2 | 3 | 6 | All hand tools should be inspected on a daily basis for signs of damage. Any damaged tools should not be used but should be put to one side for return to the office where they can be repaired or discarded. New staff should be instructed in the correct use of hand tools. All equipment should be sanitised between usage. | 1 | 3 | 3 | SD, S |

[2] L= Likelihood, C=Consequence/ severity, R=Risk (LxC). See matrix inside back cover.

## 15 SITE SPECIFIC RISK ASSESSMENT

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| 5 | **Site Setup** | Injury to WA staff, visitors, other contractors or other plant during mobilisation and operation of site | 2 | 4 | 8 | • Wessex Archaeology will operate under their own H&S arrangements.<br>• All staff will receive an induction from Wessex Archaeology prior to accessing the site.<br>• Wessex Archaeology will erect and maintain a fully fenced perimeter for their works.<br>• All vehicular and plant access routes and spoil locations will be agreed with LM prior to commencement.<br>• Welfare units will be placed into approved locations by a qualified installation operative provided by Wessex Archaeology's supplier.<br>• Heras type fencing for the Wessex Archaeology compound area will be erected by hand by site staff wearing suitable PPE. The panels will be secured by rubber footings and connecting clips<br>• Excavators will arrive by low loaders driven by a competent and trained person into the designated safe zones.<br>• All securing chains will be removed by the plant subcontractor's qualified person prior to moving plant off the low loader.<br>• All site set up will be monitored and supervised by a qualified and trained site Supervisor. | 1 | 4 | 4 | WA/ Client/ Principal Contractor |
| 6 | **General Plant Operation** | Injury to WA staff, visitors, other contractors or other plant during machine | 2 | 5 | 10 | • A permit to dig will be produced and issued by Wessex Archaeology prior to excavation. | 1 | 5 | 5 | WA/ Client/ Principal Contractor |

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| | | excavation, including crushing and entrapment | | | | • Hi-vis vests, safety boots and safety helmet will be worn by all persons on site at all times.<br>• All plant operators will be CITB certificated. All plant operators must have CPCS and valid driving license.<br>• All plant operators will be made aware of WA working practices.<br>• Wessex Archaeology will erect and maintain a fencing perimeter for the archaeological mitigation area.<br>• All plant movement will be monitored.<br>• All staff will be made aware of plant movement in their area.<br>• Exclusion zone will be maintained and managed by the banksman during all plant movements and mechanical excavation.<br>• No staff, vehicles or unused plant will be within the working radius of plant.<br>• Plant movements across active public footpaths will be monitored and managed by a banksman at all times. | | | | |
| | | Noise, Vibration and Air Pollution | 2 | 2 | 4 | • WA standard working hours are 0800 – 1600 hrs, weekdays only. Weekend working or extended hours to be avoided.<br>• All plant to be maintained in good working order at all times, and switched off whenever not required.<br>• Ear defenders should be worn where extra protection is needed above what has been achieved using noise control. | 1 | 2 | 2 | WA/ Client/ Principal Contractor |
| | | Fire | 2 | 2 | 4 | • All plant to be equipped with on-board fire extinguishers. Site accommodation to be equipped with fire extinguishers.<br>• Staff/ subcontractors to vigorously tackle fire only if considered safe to do so – if in | 1 | 2 | 2 | WA/ Client/ Principal Contractor |

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| | | | | | | doubt call the emergency services immediately and ensure all personnel, visitors, members of the public etc. are kept well back. | | | | |
| | | Theft and/or damage (potentially impacting on local environment) | 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 operator.<br>• Plant will be covered by remote security devices and a response will be provided by Wessex Archaeology's supplier. | 1 | 2 | 2 | WA/ Client/ Principal Contractor |
| 7 | **Fuel oil management** | Injury to WA staff, visitors and other contractors, and damage to the local environment through contamination | 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/ Client/ Principal Contractor |
| 8 | **Utilities buried hazard** | Injury to WA staff, other contractors and plant (including utilities) due to rupturing of or contact with utilities (buried or overhead). | 2 | 5 | 10 | • The Contractor has provided Wessex Archaeology with the full results of utility searches prior to the commencement of fieldwork (Fig 4 of the Project Plan). Wessex Archaeology will consult its own search via DURS and Linesearch, geophysical survey results and online aerial imagery via Google Earth.<br>• Wessex Archaeology will mark out the position of the mitigation area and test pits with a GPS.<br>• There will be no excavation over gas or fuel services at any time, therefore the services will never be exposed.<br>• Site and surrounding area will be visually inspected in detail for any clues to indicate buried services in the area. | 1 | 5 | 5 | WA/ Client/ Principal Contractor |

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| | | | | | | • The excavation area will be scanned with a proprietary cable detector (i.e. a CAT & Genny).<br>• Machine stripping to be carried out in discrete 0.1 m spits under constant supervision, and periodically re-checked using the CAT.<br>• 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.<br>• Any cable or pipe encountered will be considered live at all times, and will be protected from any subsequent damage.<br>• 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. | | | | |
| 9 | **Driving** | Injury to WA staff, WA equipment, plant and members of the public resulting from road traffic accidents. | 2 | 5 | 10 | • All drivers will have passed an approved relevant Wessex Archaeology driving assessment.<br>• 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 | 1 | 5 | 5 | WA/ Client/ Principal Contractor |

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| | | | | | | Project Manager must obtain route details and attach below.<br>• All equipment will be securely stowed during transit, with a fixed bulkhead separating equipment and passengers.<br>• All vehicle manoeuvring will only occur with the assistance of appropriately located 'banksmen'.<br>• Tyres, water, oil and petrol will be checked daily.<br>• Extreme caution will be exercised when entering or leaving public highways.<br>• Mobile phones will be turned off before commencing any journey, and will not be used at all whilst driving.<br>• Access to site will via local roads and designated routes only. Access to areas on site needs to be agreed prior to starting works.<br>• Gas bottles will not be carried, hot drinks will either be bought locally, or provided in vacuum flasks.<br>• 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. | | | | |
| 10 | **Ground conditions/ slips, trips and falls** | Likely injuries include: 1) Twisted ankles and knees - ligament and muscle damage, 2) Head injuries, cuts and abrasions or broken bones | 2 | 5 | 10 | • In line with general PPE measures staff to wear boots with ankle support and, where applicable, toe and insole protection.<br>• Staff to remain vigilant of trip hazards and where necessary report, highlight or fence off specific hazards.<br>• Good housekeeping (putting tools away when not in use, storing materials/ | 1 | 5 | 5 | WA/ Client/ Principal Contractor |

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| | | | | | | equipment off pedestrian routes) to be maintained.<br>• When manoeuvring loads check route is clear of hazards and if visibility is restricted by the load use an additional person to guide." | | | | |
| 11 | **Lifting equipment** | Overloading of lifting equipment: Injury to WA staff, visitors, other contractors during lifting including entrapment and crushing | 2 | 4 | 8 | • Lifting activities to follow the Wessex/ Notus WP29 Lifting Plans<br>• Lifting capacity to be identified on the equipment<br>• Weights of loads to be established<br>• Ground conditions to be confirmed<br>• Radius of lift to be ascertained for load<br>• Operator and slinger signaler competency checks<br>• Equipment must be fitted with an in-cab audible over load indicator, or an acoustic/visual safe load indicator<br>• Current certificate of thorough examination as required by the Lifting Operations and Lifting Equipment Regulations 1998 (LOLER) | 1 | 4 | 4 | WA/ Client/ Principal Contractor |
| | | Overloading of lifting accessories. Injury to WA staff, visitors, other contractors during lifting, including crushing and entrapment | 2 | 4 | 8 | • Lifting activities to follow the Wessex/ Notus WP29 Lifting Plans<br>• Lifting accessories Safe Working Limits (SWL) requirements to be confirmed.<br>• Lifting accessories to be attached and used as intended<br>• Pre use inspections to be undertaken to check for damage<br>• Non-standard or modified lifting accessories shall not be used<br>• Operator/User instructions shall be briefed to those involved in the lifting operation.<br>• Operators shall be competent in the use of the lifting accessories provided | 1 | 4 | 4 | WA/ Client/ Principal Contractor |

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| | | Slipped/Dropped Load. Injury to WA staff, visitors, other contractors during lifting, including crushing and entrapment` | 2 | 4 | 8 | • Only competent and qualified staff should carry out lifting operations<br>• Manufacturer or supplier recommended lifting points to be used at all times<br>• A competent person shall ensure that all personnel are clear of loads prior to lifting<br>• Only those essential to the lifting operation shall be present and at no time shall the load be above personnel | 1 | 4 | 4 | WA/ Client/ Principal Contractor |
| | | Collision with obstructions on site. Injury to WA staff, visitors, other contractors during lifting, including crushing and entrapment | 2 | 4 | 8 | • Allow adequate clearances to avoid conflict with other plant or adjacent structures and to prevent over sail<br>• Slung load movements to be supervised by a qualified slinger signaler at all times | 1 | 4 | 4 | WA/ Client/ Principal Contractor |
| | | Weather conditions. Injury to WA staff, visitors, other contractors during lifting, including crushing and entrapment | 2 | 4 | 8 | • Lifting operations will cease when ground conditions deteriorate following heavy rain, snow, ice etc<br>• Lifting operations will cease when wind speeds exceed the manufacturers stated limit for the lifting equipment<br>• Lifting operations to cease during thunder storms. | 1 | 4 | 4 | WA/ Client/ Principal Contractor |
| | | Overhead services. Injury to WA staff, visitors, other contractors during lifting, including crushing and entrapment | 2 | 4 | 8 | • Any movement of slung loads under overhead cables must be carried out in between goalposts and under the control of a banksman/slinger signaler<br>• A constant check should be made to ensure that loads or lifting equipment do not exceed the safe working heights indicated by goalposts | 1 | 4 | 4 | WA/ Client/ Principal Contractor |

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| 12 | Hand Excavation | Injury to WA staff, visitors and other contractors whilst using hand tools | 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.<br>• Individuals should not share tools or equipment unless they are sanitised between usage.<br>• Sustained (i.e. in excess of one working day) repetitive manual activity will be avoided where possible.<br>• All on-site grid pegs will be fitted with safety caps<br>• Heavy lifting to be avoided where possible. If unavoidable then all staff to receive appropriate training.<br>• All tools will be used for the purpose for which they were intended.<br>• At all times WA staff shall be made aware of other persons working in the vicinity. | 1 | 2 | 2 | WA/ Client/ Principal Contractor |
| 13 | Deep Excavation | Injury to WA staff, visitors or other contractors due to edge collapse | 2 | 4 | 8 | • **Excavation area sides will be stepped or battered as ground conditions demand, regardless of depth.**<br>• Access to areas on site will be agreed prior to starting works. Access points to excavation areas and slots through deep features will be identified and battered in order to facilitate safe access into the excavation area.<br>• No persons other than WA, Client, Contractor or curatorial staff will enter deep excavations at any time.<br>• If required, groundwater will be pumped out following the LM 'permit to pump' procedure and WA Environmental policy | 1 | 4 | 4 | WA/ Client/ Principal Contractor |

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| | | Injury to WA staff, visitors or other contractors due to fall into excavations | 2 | 4 | 8 | • Excavation areas and deep excavated features will be demarcated by netlon fencing.<br>• Appropriate hazard signs (i.e. "Danger Deep Excavation") to be erected at all reasonable access points to the site if necessary.<br>• Excavated spoil will be neatly piled in sealed bunds at least 1m away from the edge of the mitigation area.<br>• All visitors to the site will be made aware of the location of any deep excavations. | 1 | 4 | 4 | WA/ Client/ Principal Contractor |
| 14 | Rural/ farm environment/ rats | Zoonoses (transfer of animal diseases to humans), e.g. Bovine tuberculosis (cattle/ badgers), Leptospirosis/ Weils (rodents/ cattle), Hantavirus Disease (rodents), Lyme Disease (ticks) | 2 | 4 | 8 | • Staff to wear gloves in high risk areas. No eating, smoking or cigarette preparation in proximity to high risk areas.<br>• Cuts and broken skin to be covered with waterproof plasters or dressing.<br>• Staff to wash hands after handling any animal, or any contaminated clothing or other materials and always before eating, drinking or smoking.<br>• No foodstuffs or beverages to be consumed in high risk areas.<br>• Staff to avoid contact with livestock and their water troughs.<br>• Avoid standing water.<br>• Do not work where crops are being sprayed or have recently been treated.<br>• Work in the vicinity of animals should be reviewed for certain staff: 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. | 1 | 4 | 4 | WA/ Client/ Principal Contractor |

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| | | | | | | • Staff to advise Project Manager immediately should staff become ill and seek medical help.<br>• Staff should be aware of the risk of contracting Lyme Disease through an infected tick bite. In areas of long grass/ vegetation long trousers should be worn, tucked into socks. Ticks should be removed using tweezers or a tick remover. If symptoms present (target shaped rash and accompanying flu-like symptoms) medical help should be sought.<br>• Staff should inform medical staff that they are at risk of Leptospirosis (Leptospirosis - flu-like illness with a persistent and severe headache, which can lead to vomiting and muscle pains).<br>• N.B. Staff vaccinated with the BCG immunisation should have protection against bovine TB.<br>• Potentially contaminated tools and other equipment should be washed or disinfected before use on other sites. | | | | |
| 15 | Environment | Animal Habitat destruction | 2 | 4 | 8 | • The Contractor and DJV Ecological Clerk of Works (ECoW) will advise Wessex Archaeology of any ecological assets that could be potentially impacted upon by the archaeological work.<br>• Advice will be taken from the ECoW regarding the location and of any areas identified as exclusion zones for ecological reasons. There will be no work or access to areas identified as exclusion zones for ecological reasons, and such constraints will be recorded in the day book records in the H&S file. | 1 | 4 | 4 | WA/ Client/ Principal Contractor |

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| | | | | | | • Staff will be vigilant to the possibility of new habitats being created during the works. | | | | |
| 16 | Contamination | Injury to WA staff, visitors and any other contractors and damage to local environment through contamination | 2 | 4 | 8 | • There is no anticipated contamination risk.<br>• Wessex Archaeology archaeologists have 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.<br>• The safe removal of Asbestos would be arranged by the Client or an approved Asbestos contractor.<br>• Health & Safety procedures outlined by the Contractor at induction will be followed and appropriate levels of PPE utilised where necessary.<br>• SHOULD CONTAMINATION BE ENCOUNTERED THIS RAMS WILL NEED TO BE FULLY REVIEWED AND REVISED.<br>• Smoking will not be allowed on site or in site welfare facilities | 1 | 4 | 4 | WA/ Client/ Principal Contractor |
| 17 | Unexploded Ordnance (UXO) | | 2 | 4 | 8 | • There is no anticipated UXO risk.<br>• 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.<br>• On finding UXO the procedure to be followed is:<br>- ***Stop work immediately***<br>- ***Do not attempt to handle or move the object***<br>- ***Do not stop to mark its position or collect tools or equipment*** | 1 | 4 | 4 | WA/ Client/ Principal Contractor |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | - ***Evacuate the immediate area (at least 300 m if possible)***<br>- ***Report the incident to the Project Manager and Principal Contractor***<br>- ***The Project Manager should immediately inform the client and ensure that the relevant disposal experts are called in*** | | | | |

## 16 DYNAMIC RISK ASSESSMENT

| Hazard/ task | Consequence | Initial Risk | | | Control measures | Residual risk | | | Responsibility |
|---|---|---|---|---|---|---|---|---|---|
| | | L | C | R | | L | C | R | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |

## 17 RISK ASSESSMENT BRIEFING LOG

*I confirm that I have read and understood the site risks and procedures as outlined in this document and have received an induction[3] outlining the scope of work, main hazards and control measures.*

| Name | Signature | Date | Company | Comments[4] |
|---|---|---|---|---|
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[3] This may be conducted by the Project Manager via a briefing prior to arrival on site.

[4] If you have concerns or queries about any of the risks and control measures outlined in this RAMS indicate this here and then communicate this to the SD or PM asap. As a result of issues raised further controls may be needed, these should be recorded in the dynamic RA in the first instance and (if necessary) a revised RAMS issued.

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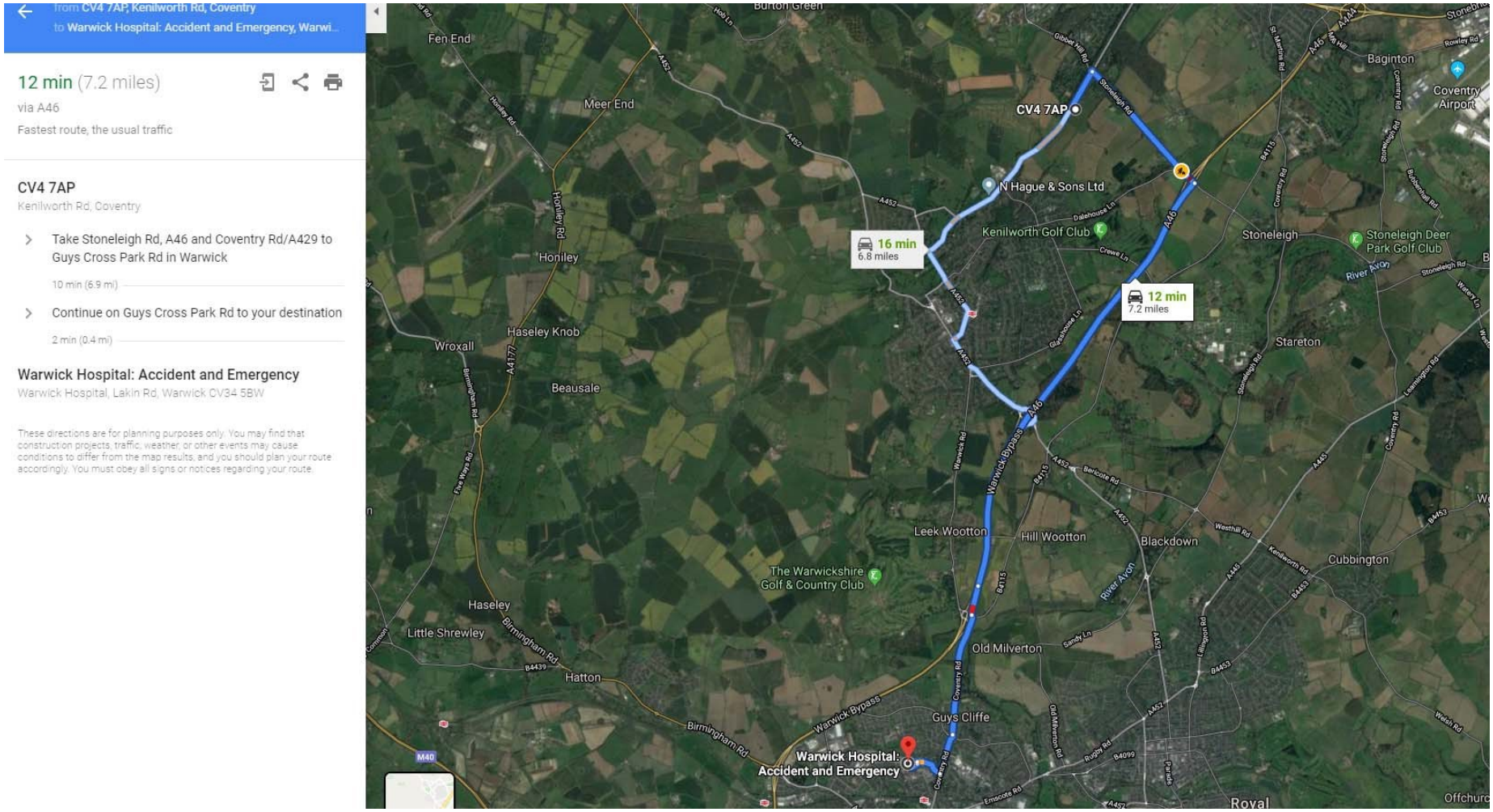
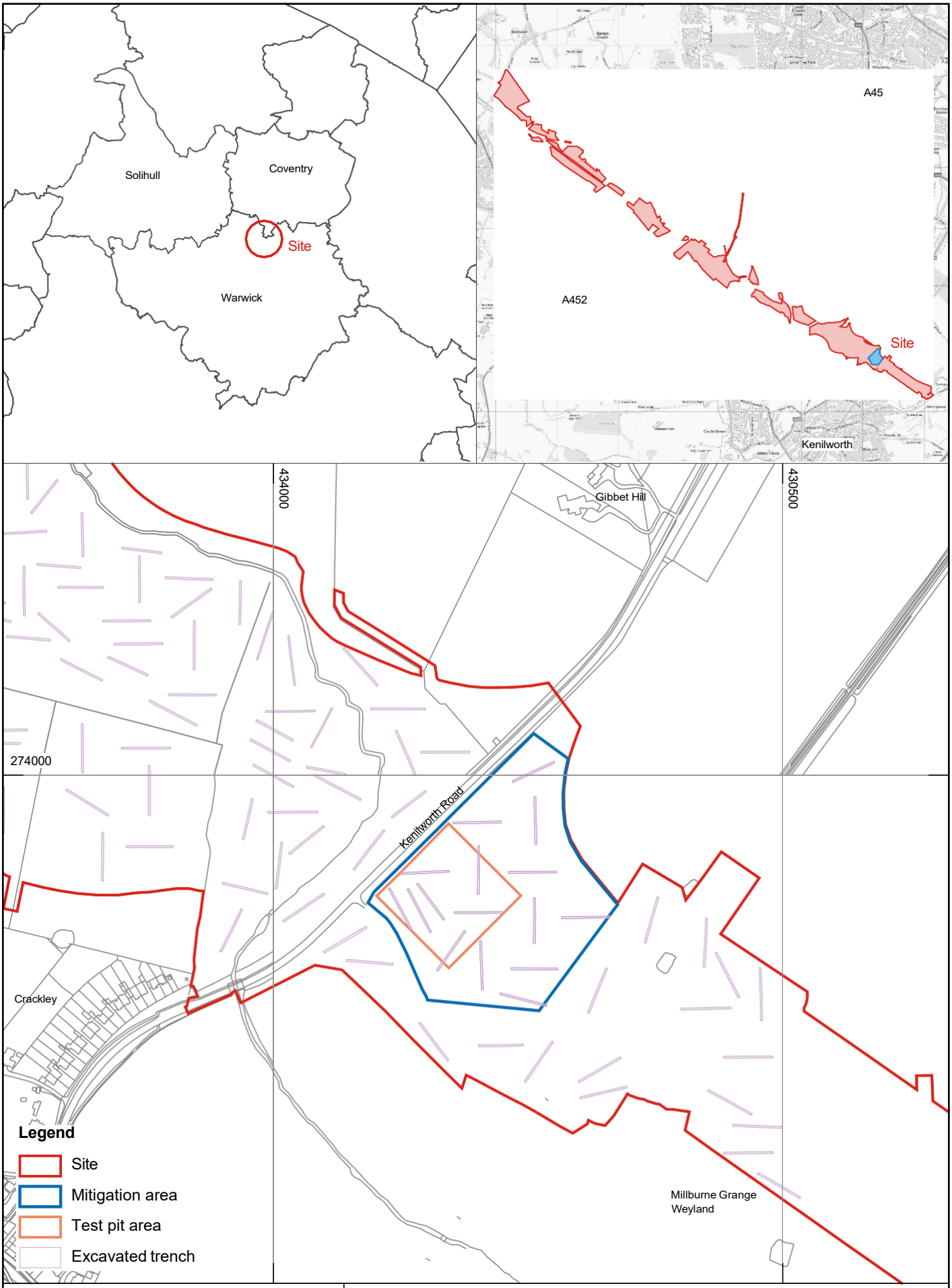
# 18 MAPS AND PLANS

## 18.1 HOSPITAL ROUTE PLAN



## 18.2 MITIGATION AREA




Map Number

Figure 1

Map Name

Milburn Grange:
Location Plan

Community Forum Area CFA18
Stoneleigh, Kenilworth & Burton Green

HS2

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Scale At A4: 1:5000 (main graphic)

0 200 m

**Doc Number:** 1EW04-LMJ_WEX-EV-MST-NS01_NL03-029003

**Date:** 18/02/20

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Tr421

Tr422

Tr423

Tr424

Tr425

Tr427

Tr428

Tr429

Tr430

Tr264

Tr265

Kenilworth Road

Crackley

Millburn Grange Wayside

TP1 TP2 TP3 TP4 TP5 TP6 TP7 TP8 TP9 TP10 TP11 TP12 TP13 TP14 TP15 TP16 TP17 TP18 TP19 TP20 TP21 TP22 TP23 TP24 TP25 TP26 TP27 TP28 TP29 TP30 TP31 TP32 TP33 TP34 TP35 TP36 TP37 TP38 TP39 TP40 TP41 TP42 TP43 TP44 TP45 TP46 TP47 TP48 TP49 TP50 TP51 TP52 TP53 TP54 TP55 TP56 TP57 TP58 TP59 TP60 TP61 TP62 TP63 TP64 TP65 TP66 TP67 TP68 TP69 TP70 TP71 TP72 TP73 TP74 TP75 TP76 TP77 TP78 TP79 TP80 TP81 TP82

**Legend**

- Site
- Mitigation area
- Test pit area
- Test pit
- Excavated trench

Map Number

Figure 2

Map Name

Milburn Grange:
Mitigation and test pitting areas

Community Forum Area CFA18
Stoneleigh, Kenilworth & Burton Green

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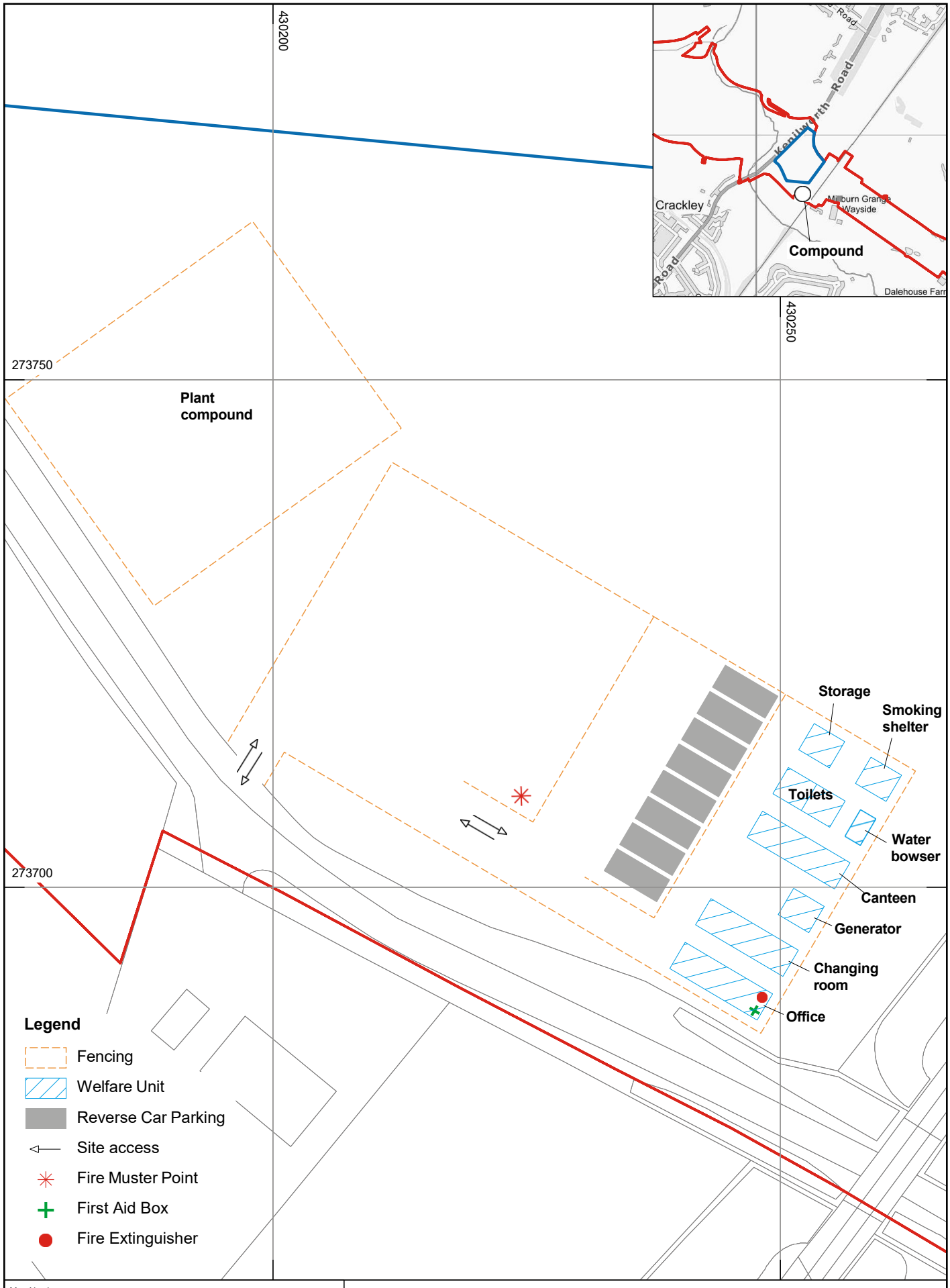
**Date:** 18/02/20

## 18.3 COMPOUND PLAN




Map Number

Figure 3

Map Name

Milburn Grange: Compound plan

Community Forum Area CFA18
Stoneleigh, Kenilworth & Burton Green

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0 20 m

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**Doc Number:** 1EW04-LMJ_WEX-EV-MST-NS01_NL03-029003

**Date:** 18/02/20

## 19 OTHER DOCUMENTATION

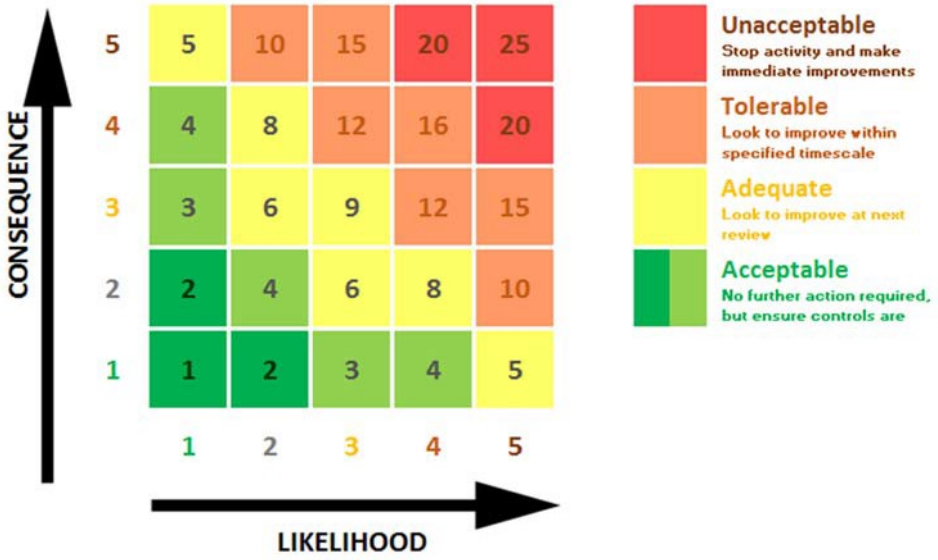
The following documentation accompanies this RAMS:

Health and Safely Law Poster/ leaflet
Health and Safety Policy HS01 (Wessex Archaeology 2020)
Wessex Archaeology Emergency Response Procedure
Trackway RAMS
Wernick RAMS Compound siting
Fencing MS

COSHH datasheets for:

- Powerline spray paint
- Refuelling diesel generators
- Refuelling petrol generators

## Risk matrix




| Consequence (severity) | | | Likelihood | | |
|---|---|---|---|---|---|
| **1** | None | No injury | **1** | Improbable | Very unlikely, 1:1000,000 |
| **2** | Negligible | Trivial injury (First Aid only) | **2** | Remote | Unlikely, though conceivable, 1: 100,000 |
| **3** | Minor | Minor injury/ short term absence (less than 7 days) | **3** | Possible | Could occur sometimes, 1: 10,000 |
| **4** | Major | Major injury/ absence for 7 days or more | **4** | Probable | Expected, occurs repeatedly, 1: 1000 |
| **5** | Fatality | Multiple/ single fatalities | **5** | Certainty | Not surprised, will occur several times, 1:100 |

Wessex Archaeology Ltd registered office Portway House, Old Sarum Park, Salisbury, Wiltshire SP4 6EB
Tel: 01722 326867 Fax: 01722 337562 info@wessexarch.co.uk www.wessexarch.co.uk

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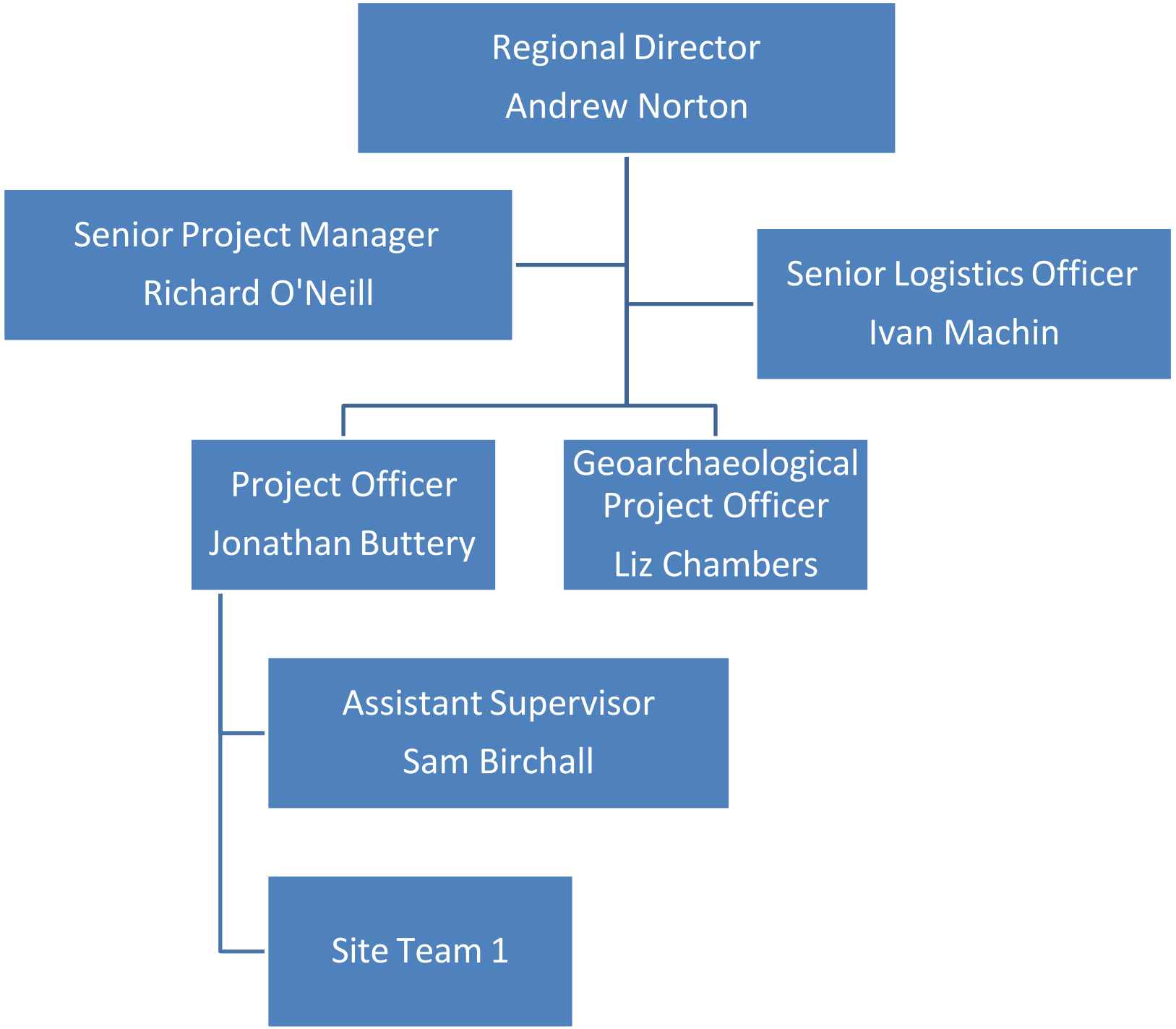
# Appendix 4: Organogram

Wessex Archaeology Organogram-Field Team



Wessex Archaeology Organogram - Post-excavation team