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A34 / M4 JUNCTION 13 IMPROVEMENT SCHEME

STRATEGY DOCUMENT FOR ARCHAEOLOGICAL INVESTIGATION

CONTROLLED DOCUMENT

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A34 / M4 JUNCTION 13 IMPROVEMENT SCHEME

STRATEGY DOCUMENT FOR ARCHAEOLOGICAL INVESTIGATION

CONTENTS

1. INTRODUCTION

This strategy document details proposals for the archaeological investigation of an area to be affected by a Road Improvement Scheme at Junction 13 of the M4 at Chieveley, West Berkshire. These investigations are required as a result of a programme of archaeological fieldwalking, undertaken by Gifford and Partners Ltd. in January 2000. Several areas of archaeological potential were identified by that survey, and it is intended that the programme described in this document will clarify the extent and nature of these areas, as well as investigate areas not covered by the original fieldwalking survey.

1.1 Site Location

The site is situated at National Grid Reference SU 480 729, just to the south of the village of Chieveley, and approximately 8 kilometres north of Newbury, West Berkshire.

1.2 Geology, Topography and Land Use

The site to be evaluated occupies a strip of land running north/south along the A34 from approximately 800m south of the M4 (SU 476 720) to Junction 13, and the same distance to the north of the motorway. The majority of the area affected by the scheme is located to the west of the A34.

The geology of the A34 corridor from Broomdown, to the north of Chieveley, to Shaw, to the north of Newbury is Upper Cretaceous Upper Chalk (soft chalk with numerous flint nodules). However, Junction 13, and the majority of the area to be affected by the road scheme, is situated on the Reading Beds (mottled clay and sand). To the north of Junction 13, this geology type predominates, however to the south lies the interface between the Reading Beds and the Upper Chalk.

2. ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

The archaeological and historical background of the area is described in detail in 'Chieveley A34/M4 Junction, Archaeological Desk Based Assessment' (Gifford Report B2221A.R01A), and will therefore only be summarised in this document. In general, 'sites' identified in the vicinity of Junction 13, are represented by 'chance' or 'stray' finds, dropped accidentally in the past. This makes it difficult to state with any certainty the extent of settlement in the area during prehistory/history.

2.1 Prehistory

A wide range of evidence of human activity during prehistory has been recovered from the local area. The most elusive evidence derives from the Palaeolithic (pre-8500 BC). Most of the evidence for this period is found in the Kennet Valley, where gravel extraction disturbs these deeply buried deposits. Mesolithic (8500 BC-4500 BC) activity is more readily identified, with large flint concentrations being found along the length of the Kennet Valley. It has been suggested that activity was concentrated in this area because of the abundance of fish and fowl, providing a steady source of food for the hunter-gatherers of this period. Evidence for activity during the Neolithic period (4500 BC-2500 BC) is limited to scatters of

material in the topsoil, and artefactual evidence recovered during investigations into later periods.

Evidence for activity during the Bronze Age (2500 BC-800 BC) is generally more common. The early Bronze Age is not well represented in the archaeological record, however, during the later Bronze Age (1500 BC-800 BC) the intensity of settlement increases, and numerous ring ditches and settlement sites have been excavated in the area. The Iron Age (800 BC-43 AD) appears to have been a period of settlement shrinkage in the Kennet Valley, possibly due to over-exploitation of natural resources. Bussock Camp, an Iron Age hillfort, is situated to the west of Junction 13, and although this would have been in use for most of the Iron Age, occupation would have been temporary, possibly during periods of inter-tribal conflict. Very little evidence has been found for other settlement in the vicinity of Junction 13.

2.2 Romano-British (43 AD-410 AD) and Anglo-Saxon (410 AD-1066AD)

While the Romano-British period is well represented in the area, especially in the Kennet Valley to the east of Newbury, where extensive settlement remains are known, no significant evidence has been found in the immediate vicinity of Junction 13. The only evidence for Romano-British activity consists of several coins of the Emperors Valens, Constantine and Gratian, and a 2nd Century bronze brooch. Neither of these finds is indicative of any significant Romano-British remains in the area.

There is almost no physical evidence for Anglo-Saxon settlement in the vicinity of Junction 13, although documentary evidence assigns Chieveley's origins to the later Saxon period, its name deriving from *Cifa's leah*, meaning 'the clearing in the woods of Cifa'.

2.3 Medieval (1066 AD-1500 AD) and Post-Medieval (1500 AD- Present)

The principle Medieval (1066 AD-1500 AD) site of interest in the immediate area is the Church of St Mary in Chieveley. The earliest known phase of construction for this building is the 13th Century, and material of this date can be seen in the fabric of the tower and chancel. Abingdon Abbey held the nearby manor from the 10th – 16th Centuries. Several scatters of Medieval pottery have been found in the area around the village.

Scatters of post-Medieval (1500 AD-present day) material are found throughout the area. The most significant features of this date in the general locality are the Kennet and Avon Canal, and the two dismantled railways on Speen Moor.

3. PREVIOUS ARCHAEOLOGICAL WORK

Fieldwalking of a representative proportion of the area affected by the proposed road scheme was carried out in January 2000, and is described in detail in 'A34 Chieveley/M4 Junction 13 Improvement, Archaeological Fieldwalking Survey' (Gifford Report B2221E.R01). This Survey produced results that indicated several areas of potential archaeological interest. Foremost amongst these was an area of the field to the north of Radnall Farm. Two areas within this field were walked during the survey, both of which produced statistically significant spreads of archaeological material, one at the northern end of the field adjacent to Chieveley village, and the second at the southern end of the field next to Radnall Farm.

Artefacts recovered from these areas fell into three categories; worked flint, burnt flint and pottery. The majority of the worked flint acquired in this area of the survey fell into the category of domestic tools – that is, scrapers and blades. These tool types are usually associated with Neolithic and Bronze Age settlement, and were used in the preparation of meat and skins, as well as woodworking. A single, fractured, leaf arrowhead was also found amongst the southern concentration of artefacts although, as these were used for hunting and were easily broken and discarded throughout the landscape, this particular find is not indicative of prehistoric settlement in itself.

Prehistoric pottery was also recovered from both artefact concentrations, and is a good indicator of settlement in the vicinity. The fabric types represented within the assemblage are moderately fine and would suggest a Bronze Age date. The majority of the pottery was highly abraded, suggesting that it had been present in the ploughsoil for some time, however, a freshly broken sherd was recovered from the northern artefact scatter, suggesting that recent ploughing in this area has disturbed previously undamaged archaeological deposits.

Burnt flint is often regarded as an indication of prehistoric settlement, especially in combination with the aforementioned artefact types. It is widely believed that it derives from the use of heated flint as a means of boiling water. Large amounts of burnt flint were recovered from both areas, and are an additional indication of the archaeological potential of the site.

The density of finds from the other areas fieldwalked to the south of the M4 is far less than to the north and lacks the corroboration between artefact types that would indicate settlement. However, a statistically significant amount of burnt flint was recovered from an area to the east of Snelsmore Farm, and it is likely that this represents prehistoric activity of some kind. It could be conjectured that this flint became burnt via a process such as cremation, and that the separation of this concentration from the possible settlement to the north is perhaps of ritual significance. This is one of the questions that the archaeological work proposed in this document will attempt to answer.

4. PROGRAMME OF ARCHAEOLOGICAL WORKS

4.1 Extent and Effect of Road Scheme on Archaeological Remains.

The principle threats to potential archaeological remains posed by the road improvement scheme are:

- Damage caused by the excavation of cuttings for new the new road layout.
- Removal of topsoil prior to landscaping. It is proposed that all topsoil and several hundred millimetres of subsoil will be removed from an area of approximately 30 hectares, the majority of which is located to the west of the A34. The damage to archaeological deposits in these areas will be twofold. First, the process of removal will almost certainly expose any archaeological remains in the areas in question, and in areas where the thickness of topsoil is less than 300mm this will also result in the partial or, in the case of shallow or plough-damaged features, total destruction of archaeological remains. Secondly, the movement of heavy plant and other site traffic

over the stripped areas will directly affect the survival of archaeological remains, especially in poor weather conditions.

- The construction of the new access road from Chieveley to Radnall Farm will affect any archaeological deposits that may exist in that area.
- The movement of site traffic during the construction of the scheme will have a potential negative impact on archaeological remains.
- Enabling works for site facilities have the potential to damage archaeological remains.

Since the completion of the fieldwalking survey it has become apparent that the proposed scope of works for the road improvement scheme, in particular the site-strip, will impact areas not covered by original survey. Whilst this does not invalidate the results of the fieldwalking survey, it means that it is necessary for additional work to take place in order to effectively mitigate the archaeological impact of the road improvement scheme. At present our level of confidence regarding preservation of archaeological remains on site stands at approximately 40 %. By following the proposed scheme of works it is intended that this level of confidence will rise to approximately 60-70%.

4.2 Proposed Programme of Archaeological Evaluation

It is estimated that the area of potential archaeological disturbance resulting from the road improvement scheme will be approximately 30 hectares (Figures 1a and 1b), over twice the area covered by the initial fieldwalking survey. In order to most effectively evaluate the archaeological potential of these areas it is proposed that a staged programme of archaeological investigations will take place, comprising: -

1. Preliminary Investigation – initial geophysical survey, magnetic susceptibility survey, trail pitting.
2. Secondary Investigation – targeted geophysical survey.
3. Evaluation Excavation – targeted intrusive investigation of features identified by the geophysical surveys.

4.3 Geophysical Survey Techniques

Magnetometry

It is proposed that magnetometry will be used to carry out the geophysical survey. This technique measures tiny variations in the Earth's magnetic field. In its natural state the soil within any given area will have a specific magnetic alignment. When a feature such as a ditch or pit is excavated, the soil that slowly re-fills it over time will not share this magnetic alignment, and it is possible to detect this disturbance with highly sensitive equipment such as a magnetometer. However the results of magnetometry can vary depending on the natural geology of the area. In general, the greater the difference between the natural subsoil/bedrock and the fill of the feature, the better the result. A good example of this would be in chalk areas, where the fill of archaeological features would have a different magnetic response to the chalk itself. In other areas, for instance where clay predominates, the backfill of a feature would vary little from the parent material, and would be less likely to produce clear results. This technique will also pick up stone structures such as buried walls.

Magnetic Susceptibility

Magnetic susceptibility works on a similar basis to magnetometry, although there are some significant differences between the two techniques. Where the idea behind magnetometry is to detect distinct archaeological features, magnetic susceptibility is a more subtle technique. Soils can become magnetically altered by many human activities, such as industrial activity, burning, or adding non-local materials to the soil. These areas are accentuated within the topsoil by the action of ploughing, and it is this that is detected by magnetic susceptibility.

4.4 Preliminary Investigation (Phase 1)

Initial magnetometer survey

Presently it is unknown how effective magnetometry will be in the area of the development, where the geology is a mixture of chalk, clay and sand. For this reason it is proposed that the initial geophysical survey is limited to an area of 4.7 hectares (Figure 1a). The northern area covered by this preliminary survey was identified by the fieldwalking survey as having a high potential for archaeological remains and, if magnetometry is effective, this area should provide a good idea of the extent to which geophysical techniques may be used on the rest of the site. This preliminary magnetometer survey also partially covers the field between the M4 and Radnall Farm. This area was not included in the fieldwalking survey as the field is under pasture; however, the dispersal of material to the north strongly suggests that activity will continue into the southern field. Additionally, if the southern field has been under pasture for a significant period of time, any archaeological features that remain are likely to be in better condition than in the field to the north, where ploughing is slowly destroying remains. For this reason, geophysical results from this area may be clearer than elsewhere on site.

Magnetic Susceptibility survey

Running concurrently with the initial magnetometer survey would be a reconnaissance survey of the total area to be affected by the Road Improvement Scheme (shown in red, Figures 1a and 1b). This would be carried out using magnetic susceptibility at 10m centres. In the case of the A34/M4 site, it is intended that this technique will: -

- aid in the identification of settlement activity in areas suggested by the fieldwalking survey to the north of the M4,
- detect other areas where activity may not be evident simply through artefactual evidence, and identify potential archaeological remains in areas not covered by the fieldwalking survey.
- enable further geophysical survey to be targeted on areas of highest potential.

The primary area of interest in this case is to the south of the M4, where, during the fieldwalking survey, burnt flint was plentiful but flint tools or pottery were scarce. This may indicate a ritual area set apart from the possible settlement to the north, for instance an area where cremation took place. Although an area of this type may not be obvious, or leave significant physical remains, its location in relation to other potential archaeological sites within the development area adds to its potential archaeological importance.

Trial Pitting Survey

While the geophysical survey of the site will provide details of the nature and extent of archaeological features within the development area, other aspects of the site must also be investigated during the initial evaluation stage of the site investigations. It is proposed that in the first instance a programme of trial pitting is implemented as a supplementary technique to the geophysical survey, to be carried out concurrently with the initial magnetometer and magnetic susceptibility surveys. This would seek to achieve the following aims: -

- Identify the density of artefacts within the topsoil. This will aid in identifying areas of archaeological potential where (a) geophysical techniques produced inconclusive results; and (b) the area to be affected by the scheme was not included in the original fieldwalking survey.
- Assess the effect of ploughing on the subsoil and any archaeological features that may be encountered during the trial-pitting programme.

The trial pits will utilise the same grid as used for the geophysical survey, and will be excavated at intervals of 50m, which equates to approximately 180 trial pits over the area affected by the scheme (Figure 1a and 1b). Each test pit will measure 1m x 1m and will be hand excavated. All artefacts recovered from test pits will be retained. Following the completion of the test pits the results will be analysed and the Mean artefact density for the scheme area will be calculated to 3 standard deviations.

4.5 Secondary Investigation (Phase 2)

The results of the initial geophysical survey will be assessed in conjunction with the magnetic susceptibility and trial pitting surveys, to determine areas of archaeological potential. Based on the results of this analysis, further magnetometer surveys will be carried out, targeting areas that appear to be of archaeological potential. The total area to be targeted during this phase will not be decided until the preliminary surveys have been completed. The worst-case scenario would be the survey of the entire area of the scheme, although it is more likely that the area of survey would be 60-70% of the area of the scheme.

4.6 Evaluation Excavation (Phase 3)

The third stage of evaluation will consist of a programme of investigative trenching based on the results of the geophysical survey and the programme of test pitting. This work will be the responsibility of the Design and Build Contractor (see section 6) and their appointed archaeological consultant.

The archaeological programme implemented during this phase must be at a level of detail sufficient to establish the nature and significance of archaeological deposits identified by Phase 1 and Phase 2 of the investigation. It is expected that Phase 3 will enable a programme of archaeological mitigation measures to be implemented in advance of the commencement of the road improvement scheme.

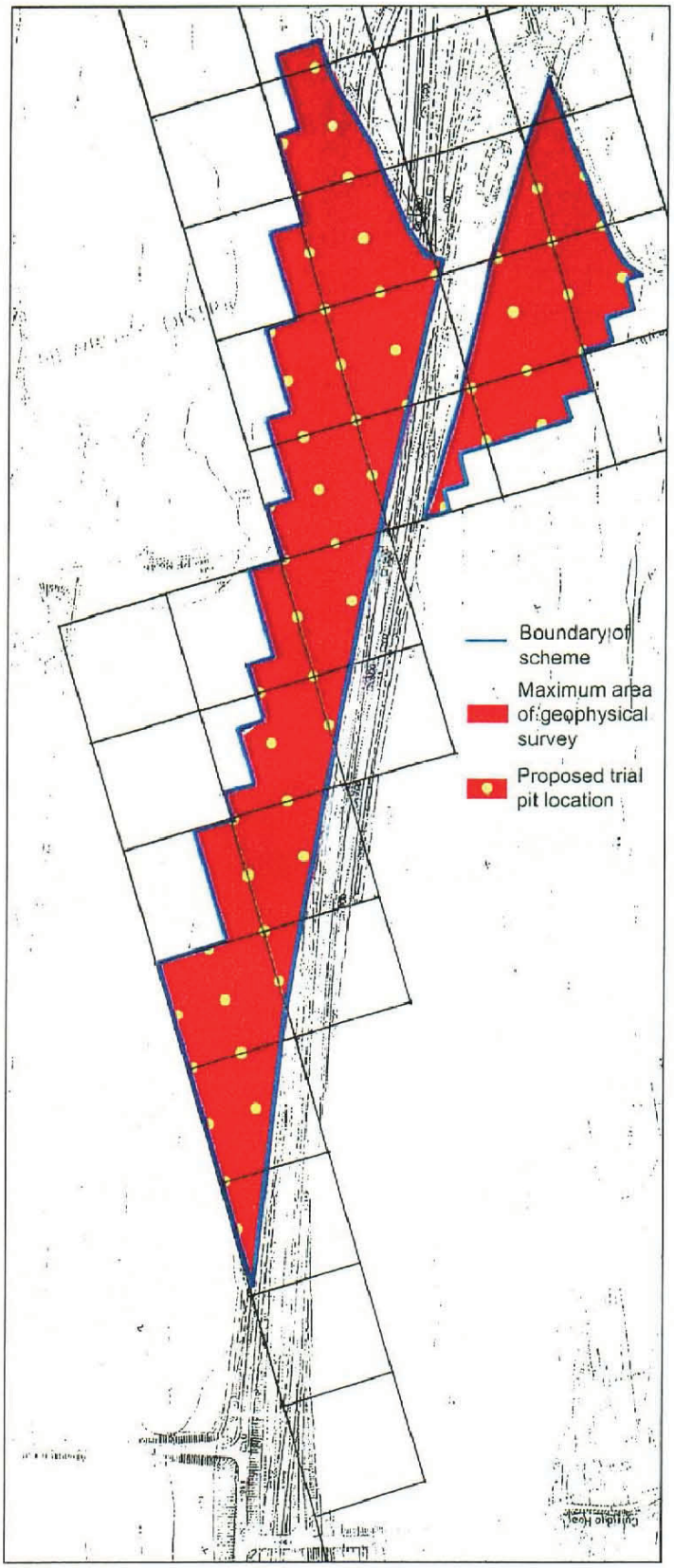

Figure 1 (b). Proposed area of archaeological investigation.

Figure 1 (a). Proposed area of archaeological investigation.

5. PROGRAMMING

The programme of work detailed in this document assumes that permission has been given to access the relevant fields for the purposes of the archaeological evaluation. However, at the time of writing these issues are yet to be resolved.

At the time of writing the only land in the ownership of the HA is the plot between the M4 and Radnall Farm. A statement is expected from the Secretary of State for Transport in December regarding the compulsory purchase of land, following which there will be a delay of approximately twelve weeks until the purchase of land is completed. It is recommended that the archaeological programme should be carried out once this process is completed in April 2002. This would have the benefit of milder weather conditions, allowing the work to be completed more quickly. Also it is desirable from a statistical point of view that the work is carried out as one block, as winter weather and lighting conditions can have an adverse effect on the collection of artefacts. Should work be undertaken on the HA owned land during the winter, it is possible that the results would not be comparable with those from the rest of the survey carried out during the spring.

The programme proposed for the archaeological evaluation is: -

- April/May 2002 – Phase 1.
- May/June 2002 – Analysis of data from Phase 1, selection of areas for targeted magnetometer survey.
- June/July 2002 – Phase 2.
- August 2002 Draft reports on Phases 1 and 2 phases of investigation issued, selection of areas for evaluation excavation.

This programme is based on a best-case scenario, assuming acceptance of proposals and reports by West Berks Council and English Heritage. It does not include time for receiving and reacting to comments from these bodies. An approximate period for this process could be estimated at between 2-6 weeks.

6. PROGRAMME RESPONSIBILITIES

It is envisaged that Phases 1 and 2 will be carried out by the Highways Agency prior to the appointment of a Design and Build Contractor. This will enable the risk of archaeological damage by the scheme to be predicted more accurately, thereby clarifying the archaeological component of the Design and Build tender process.

The appointed Design and Build Contractor will bear full responsibility for carrying out Phase 3 of the investigations. The Design and Build Contractor will appoint a qualified archaeological consultant (Contractor's Archaeologist) to design, and an archaeological contractor to execute excavations at a level appropriate to this phase of investigation. The appointment of the Contractor's Archaeologist, and the production of the Archaeological Design, will be approved by Gifford Graham and Partners as the Employer's Agent. The

Contractor's Archaeologist will be a Member of the Institute of Field Archaeologists, with equivalent professional qualifications, with at least 5 years relevant road based experience. Full details of the responsibilities of the Design and Build Contractor, and the Contractor's Archaeologist will be included in Section 11 of Schedule 1: Employer's Requirements'.

It is expected that the scope of Phase 3 works will be equivalent to the following suggested programme of investigation:-

- In areas where the geophysical survey identifies anomalies that may represent archaeological features, 2% excavation will take place within a 50m radius of the anomalies.
- Where geophysical anomalies are ephemeral or not present at all, the location of evaluation trenches will be based on the results of the trial pitting programme. Where five or more pits within a hectare square exhibit artefact densities of 3 standard deviations above the Mean or greater, 2% of that hectare will be investigated by trenching.
- Where five or more pits within a hectare exhibit artefact densities of 2 standard deviations above the Mean or greater, 1 % of that hectare will be investigated by trenching.

It is expected that this level of investigation will provide information about the density and survival of archaeological remains within the area of the road improvement scheme. This information will enable the Contractor's Archaeologist to develop a programme of further work appropriate to the level of archaeological remains identified during the evaluation process.

7. FURTHER WORK

Depending on the results of the programme described in this report, further investigation might be required. Due to the extensive impact of the proposed site strip, in the event that significant archaeological remains are encountered, West Berks Council and English Heritage are likely to require that a full excavation of these areas should be carried out. While full excavation of selected areas would not necessarily prevent work continuing elsewhere on site, it should be made clear that there would be a significant cost involved in undertaking these works. The likelihood of a requirement for works of this type will be clearer once the geophysical results are available, and Phase 3 of the evaluation process has been carried out.

The likely minimum requirement for archaeological work during the site strip would be a watching brief to be maintained for the duration of works. It is envisaged that this will involve the presence on site of a team of archaeologists to record archaeological features as they are encountered during the site-strip. A programme of detailed mitigation measures will be drawn up by the Design and Build Contractor's archaeological consultant, subject to approval by Gifford Graham and Partners as the Employer's Agent.

APPENDIX A: ARCHAEOLOGICAL CONTRACTOR INFORMATION – GEOPHYSICS

A 1. METHODOLOGY

A 1.1 Prior to the commencement of each phase of the survey, the Archaeological Contractor (geophysics) will ensure that access to the land has been granted by the appropriate landowner and/or farmer for the purpose of undertaking the geophysical survey.

A 1.2 The Archaeological Contractor (geophysics) will be responsible for setting out the survey area prior to the commencement of the work. The Archaeological Contractor (geophysics) will ensure that all marker pegs and setting out equipment are removed from site upon completion of the survey.

A 1.3 The magnetometer survey will be carried out on a 20m grid pattern. Readings will be taken at 0.5m centres in traverses 1m apart. The magnetic susceptibility survey will carried out at 10m centres over the entire area to be affected by the road improvement scheme.

A 2. REPORTING

A 2.1 The Archaeological Contractor (geophysics) will produce two reports. The Phase 1 report will be issued in draft form to Gifford for dissemination to the Client, English Heritage and West Berkshire County Council's Archaeological Advisor for comment, no later than two weeks following the completion of the initial assessment of geophysical techniques.

A 2.2 The Archaeological Contractor (geophysics) will provide Gifford with the Draft Final Report on Phase1, Phase 2 and, if appropriate, Phase 3 within three weeks of the completion of the survey. The Final Report will be provided to Gifford in both digital and hard copy, for use in producing a Final Combined Report on the Archaeological Evaluation. This report will be issued to Gifford no later than six weeks after the completion of fieldwork.

A 3. TERMS AND CONDITIONS OF APPOINTMENT

A 3.1 The Archaeological Contractor (geophysics) would be expected to operate in accordance with:-

- the Institute of Field Archaeologist's *Code of Conduct* (1997).
- the Institute of Field Archaeologist's *Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology* (1997).
- the Institute of Field Archaeologist's *Standard and Guidance for Archaeological Evaluations* (1999).
- the Institute of Field Archaeologist's *Standard and Guidance for Archaeological Watching Briefs* (1999).
- the European Association of Archaeologists *Principles of Conduct for Archaeologists Involved in Contract Archaeological Work (1998).*

A 3.2 Copies of the Archaeological Contractor's Public and Professional Indemnity and Employers Liability certificates should be provided.

A 4. COPYRIGHT

A 4.1 The Archaeological Contractor (geophysics) may retain full copyright to any commissioned reports, tender documents and any other project documents, under the *Copyright, Designs and Patents Act* of 1988; excepting that they hereby provide an exclusive licence to the Client for the use of such documents by the Client in all matters directly relating to the project.

A 5. HEALTH AND SAFETY PLAN

A 5.1 While carrying out the archaeological investigations The Archaeological Contractor (geophysics) will operate in accordance with all applicable Health and Safety Legislation.

A 5.2 In accordance with recent legislation the Archaeological Contractor (geophysics) will prepare a Risk Assessment as part of the project Health and Safety Plan and make this plan available to Gifford prior to the commencement of the site works.

A 5.3 All necessary protective clothing and equipment will be used in accordance with the Site Rules.

A 5.4 If contaminated material is present in the surface or sub-surface deposits at the site appropriate measures would be taken by the Archaeological Contractor (geophysics) to ensure the health and safety of its staff that may come into contact with contaminants. Measures may include adaptation of the agreed Project Design in consultation with the Client and Local Planning Authority.

A 6. MONITORING

A 6.1 The geophysical survey will be monitored by the Gifford (on behalf of the Client) and the West Berkshire Archaeologist.

A 6.2 The Archaeological Contractor (geophysics) will give Gifford and the Local Planning Authority as much notice of the commencement of the work as possible.

A 6.3 The Archaeological Contractor (geophysics) will ensure that any significant results recovered during this phase of the archaeological investigations are brought to the attention of Gifford (on behalf of the Client) and the West Berkshire Archaeologist as soon as is practicably possible.

A 6.4 Any monitoring visits or communications would be documented by Gifford and copied to the Client.

A 7. PUBLICATION

A 7.1 The results of the archaeological work would be assessed and analysed and published as appropriate with the agreement of the Client and the Local Planning Authority. A short note may be prepared for submission to an appropriate archaeological journal(s).

A 8. ARCHIVE

A 8.1 West Berkshire Museum is identified as the recipient organisation for the project archive. The project archive comprises the documentary archive generated by the project.

APPENDIX B: ARCHAEOLOGICAL CONTRACTOR INFORMATION – EXCAVATION

B 1 METHODOLOGY

B 1.1 The Client will provide the Archaeological Contractor (excavation) with a programme of works. Where ground works affecting the archaeological evaluation vary from the written schedule the Client will inform the Archaeological Contractor (excavation) at the earliest opportunity.

B 1.2 A representative of the Local Planning Authority will be allowed on site to monitor the progress of the project. Any such visits will be agreed in advance between Gifford, the Archaeological Contractor (excavation), the Client, and the West Berkshire Archaeologist.

B 1.3 Prior to the excavation of test pits / evaluation trenches the area would be checked using a CAT scanner and service plans would be checked for existing services.

B 1.4 Prior to excavations commencing on site, the Archaeological Contractors (excavation) will liase with West Berkshire Museum and obtain an accession number, which will also act as a site code.

B 1.5 Prior to excavations commencing, the Archaeological Contractor (excavation) will provide Gifford with a list of specialists to be consulted where appropriate both during and post excavation.

B 1.6 All archaeological features located would be cleaned, planned and subject to manual excavation sufficient to establish the date, nature, extent and state of preservation of archaeological deposits.

B 1.7 In the event of the discovery of features or contexts of palaeo-environmental interest, sampling will be carried out at a rate of 40 litres per context, or as per the advice of the nominated specialist (section 5.5), and with the agreement of the West Berkshire Archaeologist, Gifford and the Client.

B 1.8 All archaeological features will be recorded using proformae recording forms and located on a large-scale site plan. The recording forms will be supplemented as required with plan/section drawings at appropriate scales, photographs, and text descriptions.

B 1.9 A photographic record of the evaluation will be completed using 35mm format colour slide film and monochrome print film.

B 1.10 Any artefacts of archaeological significance will be collected from archaeological features and the excavated spoil. The artefacts will be labelled, packed and stored in appropriate materials and conditions to ensure that no deterioration occurs. All artefact/ecofact processing/storage will be carried out in accordance with UKIC (United Kingdom Institute for Conservation) - Archaeology Section *Guidelines for the Preparation and Storage of Excavation Archives for Long-Term Storage* (1990) and the Institute of Field Archaeologists *Guidelines on Finds Work* (1991).

B 1.11 In the event of any discoveries of unexpected or exceptional importance, the recording, conservation or specialist analysis of these will only be undertaken with the approval of the Client and the West Berkshire Archaeologist.

B 2 REPORTING

B 2.1 The Archaeological Contractor (excavation) will provide Gifford with 3 draft copies of the report on the trial-pitting programme to be dispersed to the Client, English Heritage and West Berkshire Archaeologist for comment, and for the extent of further works to be decided. The report will include:

- a non-technical summary
- a table of contents
- an introduction including a list of all staff members involved in the project
- a summary of the geological, archaeological and historical background of the site
- a statement of the aims of the archaeological investigations
- a statement of the methodology of the archaeological investigations and an assessment of the same
- a full description of the results of the archaeological investigations
- plans and sections at an appropriate scale cross-referenced with the written description
- appropriate maps, photographs and artefact drawings
- a discussion of the location, extent, date, nature, condition, quality and significance of any archaeological deposits identified during the work
- an interpretation of the results of the archaeological investigations in relation to archaeology in the vicinity and an identification of any research implications arising
- a bibliography of sources consulted
- an index to the project archive and statement on its location/proposed repository.

B 2.2 The Final Report (trial pits and evaluation trenching) will be submitted to Gifford in both hard copy and digital format, for the purposes of producing of a combined Final Report detailing the results of all phases of the archaeological evaluation. The Report will be completed within a timescale to be agreed with Gifford and the Client, dependent on the completion of specialist analyses of material.

B 3 TERMS AND CONDITIONS OF APPOINTMENT

B 3.1 The Archaeological Contractor (excavation) would be expected to operate in accordance with:-

- the Institute of Field Archaeologist's *Code of Conduct* (1997).
- the Institute of Field Archaeologist's *Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology* (1997).
- the Institute of Field Archaeologist's *Standard and Guidance for Archaeological Evaluations* (1999).
- the Institute of Field Archaeologist's *Standard and Guidance for Archaeological Watching Briefs* (1999).
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B 3.2 Copies of the Archaeological Contractor's Public and Professional Indemnity and Employers Liability certificates should be provided.

B 4 COPYRIGHT

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B 5 HEALTH AND SAFETY PLAN

B 5.1 While carrying out the archaeological investigations The Archaeological Contractor (excavation) will operate in accordance with all applicable Health and Safety Legislation.

B 5.2 In accordance with recent legislation the Archaeological Contractor (excavation) will prepare a Risk Assessment as part of the project Health and Safety Plan and make this plan available to Gifford prior to the commencement of the site works.

B 5.3 All necessary protective clothing and equipment will be used in accordance with the Site Rules.

B 5.4 If contaminated material is present in the surface or sub-surface deposits at the site appropriate measures would be taken by the Archaeological Contractor (excavation) to ensure the health and safety of its staff that may come into contact with contaminants. Measures may include adaptation of the agreed Project Design in consultation with the Client and Local Planning Authority.

B 6 MONITORING

B 6.1 The intrusive investigations will be monitored by the Gifford (on behalf of the Client) and the West Berkshire Archaeologist.

B 6.2 The Archaeological Contractor (excavation) will give Gifford and the Local Planning Authority as much notice of the commencement of the work as possible.

B 6.3 The Archaeological Contractor (excavation) will ensure that any significant results recovered during this phase of the archaeological investigations are brought to the attention of Gifford (on behalf of the Client) and the West Berkshire Archaeologist as soon as is practicably possible.

B 6.4 Any monitoring visits or communications would be documented by Gifford and copied to the Client.

B 7 PUBLICATION

B 7.1 The results of the archaeological work would be assessed and analysed and published as appropriate with the agreement of the Client and the West Berkshire Archaeologist. A short note may be prepared for submission to an appropriate archaeological journal(s).

B 8 ARCHIVE

B 8.1 West Berkshire Museum is identified as the recipient organisation for the project archive. The project archive comprises the documentary archive generated by the project.

B 8.2 The Archaeological Contractor (excavation) will maintain the archive until the period of post-excavation assessment, analysis and report preparation is complete. Gifford will ensure that any necessary conservation work on the artefact archive is undertaken to ensure the long term stability of the artefacts and their availability for future study. All costs arising from the conservation of the archive will be the sole responsibility of the Client, to be arranged in consultation between Gifford, the Client, and West Berkshire Museum.

B 8.3 Arrangements for long-term storage of the archive will be made in consultation with the Client and West Berkshire Museum. All costs arising from the long-term storage will be the sole responsibility of the Client, to be arranged in consultation between the Client, Gifford and West Berkshire Museum.

APPENDIX C – ARCHAEOLOGICAL RISKS TO PROGRAMME

POTENTIAL ARCHAEOLOGICAL ISSUE	RISK	ACTION TO BE TAKEN AS ADVANCE WORKS	ACTION FOR CONTRACTOR
Significant archaeological deposits detected during initial survey.	Moderate/High	1) Initial evaluation to establish extent and significance of archaeological deposits.. 2) Further excavation as directed by West Berkshire Archaeological Advisor/English Heritage.	1) Works may be delayed while evaluation takes place. 2) Full excavation of significant remains may be required, resulting in delays to programme.
Possibility of remains not identified by geophysical survey or trial pitting or trial trenching	Moderate	N/A	1) Archaeological watching brief on all site stripping works. Possible delay to site works in the vicinity while archaeological remains are excavated and recorded.
Human remains found on site.	Low/Moderate	1) Possibility of random discovery during trial pitting. 2) Geophysical survey unlikely to identify definite burial locations.	1) Home Office licence required to remove human remains. 2) Delay to site work remains are excavated.
Nationally significant remains found on site requiring preservation.	Low	1) Geophysical survey and trial trenching likely to identify such remains at preliminary survey stage. 2) Redesign of scheme to preserve archaeological remains.	1) Carry out site works in accordance with revised design.

APPENDIX D – ESTIMATED COST OF ARCHAEOLOGICAL EVALUATION

Phase 1

Initial magnetometer survey		£2,800
Magnetic susceptibility survey @ £120 per hectare		£3,600
180 trial pits @ £130 each		£23,400*
Analysis and conservation of recovered material		£2,300*
Design and supervision fee		£6,400*
	Total	**£38,500**

Phase 2

Targeted magnetometer survey (approx 60% area, 18ha) @ £550 per ha		£9,900
Design and supervision fee		£2,000
	Total	**£11,900**

Phase 3**

Evaluation excavation to identify extent and significance of archaeological deposits.

Estimated costs for fieldwork	£45,000**
Estimated 20% of fieldwork costs for analysis and conservation of archaeological material recovered from excavation, report writing	£9,000**
Total	**£54,000****

*** These are APPROXIMATE costs and will be revised when quotes are received from potential contractors.**

**** Costs for Phase 3 will be the responsibility of the Design and Build Contractor. Costs and programme shown are indicative of potential works only.**