THAMES VALLEY

ARCHAEOLOGICAL

SERVICES

Caversham Park, Caversham, Berkshire

Archaeological Desk-based Assessment

by Genni Elliott

Site Code: CPC 21/252

(SU 7236 7627)

Caversham Park, Caversham, Berkshire

Archaeological Desk-based Assessment

for Beechcroft Developments Limited

by Genni Elliott

Thames Valley Archaeological Services Ltd

Site Code CPC 21/252

December 2021

Revised March 2022

Summary

Site name: Caversham Park, Caversham, Berkshire

Grid reference: SU 7236 7627

Site activity: Archaeological desk-based assessment

Project coordinator: Genni Elliott

Site supervisor: Genni Elliott

Site code: CPC 21/252

Area of site: 37.65ha

Summary of results: Caversham Park is a Grade II Listed Building, along with a number of other standing buildings and structures within the Grade II registered parkland. Any development will need to be sympathetic to both, along with the views to and from the house across the parkland. Caversham Park lies within the archaeologically rich Thames Valley with finds from most periods found within the local area, though archaeological investigations have had mixed success, perhaps due to the often-small scale of investigative opportunity. The proposal site itself has been part of Caversham Manor since at least medieval times, limiting later development, though it is clear that parts of the site have been terraced which will have an effect on the survival of earlier archaeological remains. However evidence of landscaping is itself of interest in relation to the history of the manor house. It will be necessary to provide further information about the potential of the site from field observations in order to draw up a scheme to mitigate the impact of development on any below-ground archaeological deposits if necessary. A scheme for this evaluation will need to be drawn up and approved by the archaeological advisers to the Borough and implemented by a competent archaeological contractor. Such a programme of works could be secured by means of a suitable condition to any consent granted.

Report edited/checked by:	Steve Ford✓ 15.12.21 Steve Preston✓ 15.12.21

Thames Valley Archaeological Services Ltd, 47–49 De Beauvoir Road, Reading RG1 5NR
Tel. (0118) 926 0552; email: tvas@tvas.co.uk; website: www.tvas.co.uk

Caversham Park, Caversham, Berkshire
Archaeological Desk-based Assessment

by Genni Elliott

Report 21/252

Introduction

This report is an assessment of the archaeological potential of a parcel of land located at Caversham Park, Caversham, Berkshire (SU 7236 7627) (Fig. 1). The project was commissioned by Ms Joanne Naylor, of Beechcroft Developments Ltd. 1 Church Lane, Wallingford, Oxfordshire, OX10 0DX and comprises the first stage of a process to determine the presence/absence, extent, character, quality and date of any archaeological remains which may be affected by redevelopment of the area.

Planning permission is to be sought from Reading Borough Council for residential development on the site. This assessment will accompany the application in order to inform the planning process with regard to the proposal's archaeological implications. This is in accordance with the Ministry of Housing, Communities and Local Government's *National Planning Policy Framework* (NPPF 2021) and Reading Borough Council's local plan policies.

Site description, location and geology

The site is located within the Caversham area, to the north of Reading and the River Thames. Caversham Park is located on the eastern side of Caversham with Lowfield Road to the north and east, Reading Cemetery and Crematorium to the south and Peppard Road to the west (SU 7236 7627) (Fig. 2). A site visit conducted on 2nd December 2021 showed that it currently consists of open parkland with mature trees to both the north and south of the site with a central area containing the main access road and buildings. The buildings consist of the classical-style Caversham Park main building with modern additions, located centrally within the site, and the single-storey gate lodge at the western end of the site adjacent to Caversham Park Drive. To the south of the buildings the land is terraced with a pond to the south-west. In the north-west is a tennis court (Pls 1–6). The site is located on Black Park Gravel at the north above the Lambeth Group, above upper chalk at the southern end of the site (BGS 2000). The land rises from 54m above Ordnance Datum at its southern boundary to some 88m aOD in the vicinity of the main building before falling to 83m aOD at the northern boundary.

Planning background and development proposals

Planning permission is to be sought from Reading Borough Council for residential redevelopment of the site (Fig. 16).

The Ministry of Housing, Communities and Local Government's *National Planning Policy Framework* as revised in 2021 (NPPF 2021) sets out the framework within which local planning authorities should consider the importance of conserving, or enhancing, aspects of the historic environment, within the planning process. It requires an applicant for planning consent to provide, as part of any application, sufficient information to enable the local planning authority to assess the significance of any heritage assets that may be affected by the proposal. The Historic Environment is defined (NPPF 2021, 67) as:

> 'All aspects of the environment resulting from the interaction between people and places through time, including all surviving physical remains of past human activity, whether visible, buried or submerged, and landscaped and planted or managed flora.'

Paragraphs 194 and 195 state that

> '194. In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.
> '195. Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.'

A 'heritage asset' is defined (NPPF 2021, 67) as

> 'A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest. It includes designated heritage assets and assets identified by the local planning authority (including local listing).'

'Designated heritage asset' includes (NPPF 2021, 66) any

> 'World Heritage Site, Scheduled Monument, Listed Building, Protected Wreck Site, Registered Park and Garden, Registered Battlefield or Conservation Area designated under the relevant legislation.'

'Archaeological interest' is glossed (NPPF 2021, 65) as follows:

> 'There will be archaeological interest in a heritage asset if it holds, or potentially holds, evidence of past human activity worthy of expert investigation at some point.'

Specific guidance on assessing significance and the impact of a proposal is contained in paragraphs 197 to 203:

> '197. In determining planning applications, local planning authorities should take account of:
> 'a) the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
> 'b) the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and
> 'c) the desirability of new development making a positive contribution to local character and distinctiveness.'
> '199. When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation (and the more important the asset, the greater the weight should be). This is irrespective of whether any potential harm amounts to substantial harm, total loss or less than substantial harm to its significance.
> '200. Any harm to, or loss of, the significance of a designated heritage asset (from its alteration or destruction, or from development within its setting), should require clear and convincing justification. Substantial harm to or loss of:
> a) grade II listed buildings, or grade II registered parks or gardens, should be exceptional;
> b) assets of the highest significance, notably scheduled monuments, protected wreck sites, registered battlefields, grade I and II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional[68].

Footnote 68 extends the application of this provision considerably:

> 'Non-designated heritage assets of archaeological interest, which are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.'

> '201. Where a proposed development will lead to substantial harm to (or total loss of significance of) a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or total loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:
> 'a) the nature of the heritage asset prevents all reasonable uses of the site; and
> 'b) no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and
> 'c) conservation by grant-funding or some form of not for profit, charitable or public ownership is demonstrably not possible; and
> 'd) the harm or loss is outweighed by the benefit of bringing the site back into use.
> '202. Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal including, where appropriate, securing its optimum viable use.
> '203. The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that directly or indirectly affect non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.'

Paragraph 205 requires local planning authorities to ensure that any loss of heritage assets advances understanding, but stresses that advancing understanding is not by itself sufficient reason to permit the loss of significance:

> '205. Local planning authorities should require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.'

In determining the potential heritage impact of development proposals, 'significance' of an asset is defined (NPPF 2021, 71–2) as:

> 'The value of a heritage asset to this and future generations because of its heritage interest. The interest may be archaeological, architectural, artistic or historic. Significance derives not only from a heritage asset's physical presence, but also from its setting. For World Heritage Sites, the cultural value described within each site's Statement of Outstanding Universal Value forms part of its significance.'

while 'setting' is defined (NPPF 2021, 71) as:

> 'The surroundings in which a heritage asset is experienced. Its extent is not fixed and may change as the asset and its surroundings evolve. Elements of a setting may make a positive or negative contribution to the significance of an asset, may affect the ability to appreciate that significance or may be neutral.'

The Planning (Listed Building and Conservation) Act 1990, requires the following to be treated as listed building:

> '(a) any object or structure fixed to the (listed) building
>
> '(b) any object or structure within the curtilage of the building which although not fixed to the building forms part of the land and has done since before 1st July 1948 is treated as being part of the listed building.'

The Reading Local Plan (adopted 4th November 2019) (RLP 2019) contains the following relevant policies:

> **EN1: PROTECTION AND ENHANCEMENT OF THE HISTORIC ENVIRONMENT**
> Historic features, areas of historic importance and other elements of the historic environment, including their settings will be protected and where possible enhanced. This will include:
> - Listed Buildings;
> - Conservation Areas;
> - Scheduled Monuments;
> - Historic parks and gardens; and
> - Other features with local or national significance, such as sites and features of archaeological importance, and assets on the Local List.
>
> All proposals will be expected to protect and where possible enhance the significance of heritage assets and their settings, the historic character and local distinctiveness of the area in which they are located. Proposals should seek to avoid harm in the first instance. Any harm to or loss of a heritage asset should require clear and convincing justification, usually in the form of public benefits. Applications which affect Listed Buildings will not have an adverse impact on those elements which contribute to their special architectural or historic interest including, where appropriate, their settings. Applications which affect Historic Parks and Gardens will safeguard features which form an integral part of the special character or appearance of the park or garden. Development will not detract from the enjoyment, layout, design, character, appearance, features or setting of the park or garden, key views out from the park, or prejudice its future restoration. Applications which affect, or have the potential to affect, the significant features of heritage assets should be justified by a Heritage Statement. The Council will monitor buildings and other heritage assets at risk through neglect, decay or other threats, proactively seeking solutions for assets at risk including consideration of appropriate development schemes that will ensure the repair and maintenance of the asset, and, as a last resort, using its statutory powers. Where there is evidence of deliberate neglect or of damage to a heritage asset, the deteriorated state of the heritage asset should not be taken into account in any decision.
>
> **EN2: AREAS OF ARCHAEOLOGICAL SIGNIFICANCE**
> Applicants should identify and evaluate sites of archaeological significance by consulting the Historic Environment Record. This will require an assessment of the archaeological impacts of development proposals to be submitted before the planning application is determined. Planning permission will not be granted in cases where the assessment of the archaeological impacts is inadequate. Where remains cannot be preserved 'in situ,' remains should be properly excavated, investigated and recorded. This will require adequate provision for the identification, investigation, recording and publication of the archaeological

resource. Where appropriate, Section 106 agreements will be negotiated to protect, enhance and interpret archaeological remains. Development proposals which will have an adverse effect on scheduled monuments and other nationally important archaeological remains and their settings will not be allowed unless there is clear and convincing justification in the form of overriding public benefits.

EN4: LOCALLY IMPORTANT HERITAGE ASSETS

Development proposals that affect locally important heritage assets will demonstrate that development conserves architectural, archaeological or historical significance which may include the appearance, character and setting of the asset. Planning permission may be granted in cases where a proposal could result in harm to or loss of a locally important heritage asset only where it can be demonstrated that the benefits of the development significantly outweigh the asset's significance. Where it is accepted by the Local Planning Authority that retention is not important, recording of the heritage asset should be undertaken and submitted alongside development proposals. Replacement buildings should draw upon heritage elements of the previous design, incorporating historical qualities that made the previous building significant. This may include appearance, scale and architectural quality.

EN5: PROTECTION OF SIGNIFICANT VIEWS WITH HERITAGE INTEREST

New development should not harm and where possible should make a positive contribution to views of acknowledged historical significance. The following views merit special protection:

…

8 View towards Caversham Park House from the A329(M), railway and surrounding streets

EN6: NEW DEVELOPMENT IN A HISTORIC CONTEXT

In areas characterised by heritage assets, the historic environment will inform and shape new development. New development will make a contribution to the historic character of the area by respecting and enhancing its architectural and visual qualities and considering how heritage considerations can influence the design of new development. When determining planning applications for new development, the following factors will be taken into consideration:

a. The positive contribution of the development to the existing historic townscape (scale, height, mass, proportion, plot size, street form, materials, significant vistas and views, and open space);

b. Sensitivity to historic context;

c. Reflection of borough-wide major heritage themes that contribute to local distinctiveness (e.g. patterned brickwork or former worker terraced housing);

d. Whether development promotes and/or improves access to previously undiscovered or neglected historic significance.

Caversham Park also has its own specific policy within the local plan:

CA2: CAVERSHAM PARK

Caversham Park and Caversham Park House are key features of the heritage and landscape of Reading. Caversham Park is a Registered Historic Park and Garden, and the site contains a number of listed features. These assets will be conserved. Conversion of the house from offices to residential and/or a cultural, community or heritage use, or other suitable use compatible with its heritage, will be acceptable if it sustains the significance of the listed building. It is currently estimated that up to 40-45 dwellings could be accommodated, but the figure will be dependent on more detailed historic assessment of the building and the precise mix of uses. Any development or conversion proposals should open as much of the park as possible up to public access, including reinstatement of any historic public footpaths where possible and appropriate. This policy does not allocate the site for additional development over and above conversion of the house. There may be scope for some limited development on previously developed land within the site, which will need to be justified at application stage. Such development must comply with the criteria below:

- No development will negatively affect the significance of heritage assets and their setting;
- Development will not detract from the character or appearance of the important landscape; and
- Development will not negatively affect significant trees or areas of biodiversity importance.

The proposal site does not lie within a conservation area or an area of high archaeological potential.

Methodology

The assessment of the site was carried out by the examination of pre-existing information from a number of sources recommended by the Chartered Institute for Archaeologists' paper *Standards in British Archaeology* covering desk-based studies (CIfA 2020). These sources include historic and modern maps, the Berkshire Historic Environment Record, geological maps and any relevant publications or reports.

Archaeological background

General background

The site lies within the archaeologically rich Thames Valley. Previous archaeological research and excavations along the River Thames and its tributaries clearly indicate that both the alluvial deposits and the gravel terraces offer extensive archaeological potential, especially for early periods, such as the Upper Palaeolithic and the Mesolithic, at which times the area was widely exploited by hunter-gatherer communities (Gates 1975). In the Middle Thames Valley there is a strong emphasis on low lying and riverside locations (Ford 1991) for these periods. In and around Caversham itself, significant Palaeolithic finds have been made at St Peter's Hill and Henley Road, the former possibly *in situ*, and the Plateau gravel in particular is notable for the density of its Palaeolithic remains. Within the British Isles as a whole, sites and finds belonging to the Upper Palaeolithic and early Mesolithic periods are very rare (Barton 1989). Palaeolithic finds from around Caversham come in a variety of conditions from relatively sharp to extremely rolled, suggesting a mixture of depositional histories from those which may be close to the point of deposition to those which have travelled for long periods in rivers and could therefore be very far from source (Wymer 1999).

Beyond the Palaeolithic, the terrace gravels of the Middle Thames Valley are well know for their density of archaeological deposits of all periods (Booth *et al.* 2007; Lambrick *et al.* 2009). The East Berkshire Survey (Ford 1987) was an intensive field survey with a synthesis of previous knowledge from a wider area. That study noticed that prehistoric sites were both larger and more frequent on chalk and gravel subsoils, with smaller and fewer sites on London Clay and Reading Beds.

A Bronze Age occupation site was discovered on St Peter's Hill to the west (Ford and Raymond 2013) and another probably exists at Emmer Green, while extensive prehistoric occupation was documented on the Marpledurham Golf Course to the north-west (Ford 1991; Torrance and Ford 1991a and b; Hull 1998).

By Roman times, dense activity occurs on the gravel and Upper Chalk but is still intermittent on the London Clay (Ford 1987). There are numerous stray finds of the period from Caversham. In the early 20th

century what appears to be a Roman cemetery was noted at Henley Road cemetery, though details are sketchy. In the west of Caversham, a Roman building was recorded on Upper Woodcote Road (Seaby 1934) and further Roman occupation including evidence of timber buildings was also recorded close to Blagrave Farmhouse corresponding with an area of cropmarks (Hull 1998). Recent excavations in Caversham on similar geology have revealed early and late Roman occupation (Manisse). A medieval site including a building was also located on the golf course south of Blagrave Farm (Hull 1998).

One of the most notable archaeological investigations undertaken in the wider vicinity of the proposal site is that of the area of the Thames Valley Business Park, across the river Thames to the south-east (Barnes *et al*., 1997) where multi-period site incorporating Mesolithic, Neolithic, Bronze Age, Iron Age and Roman activity was identified.

However, this general potential is not always realised, as evidenced by extensive evaluations on the site of the Redgrave-Pinsent Rowing Lakes, or a smaller investigation on Henley Road (Porter 2012) which revealed nothing of archaeological interest (Coles 2002; Coles and Anthony 2002), and the HER report for the area (see below) contains many further examples, though most of these involved very small investigations.

Berkshire Historic Environment Record

A search was made on the Berkshire Historic Environment Record (HER) on 18th November for a radius of 1km around the proposal site. This revealed 67 entries within the search radius, including 25 'monuments' and findspots, 18 Listed Buildings, one registered park, and 23 'events' (archaeological investigations). These are summarized as Appendix 1 and their locations are plotted on Figure 1. There are no scheduled monuments within the search area.

Prehistoric

A few general prehistoric entries were recorded in the HER consisting of a prehistoric flint scraper and flake from a spoil heap in Grove Road to the north-west of the proposal site **[Fig. 1. 1]**. An evaluation at Heathcroft **[2]** to the west of the site identified an ancient river channel of the Thames.

Palaeolithic/Mesolithic

Various Palaeolithic flints have been found as part of archaeological investigations including three rolled flakes at Heathcroft **[2]** and potentially flakes from Peppard Road **[3]**, though these may be later, as well as chance finds such as palaeoliths from a gravel pit **[4]** at Caversham Hill, handaxes and a flake from Sutton's Pit **[5]**.

Neolithic

Neolithic flints have been recovered from Peppard Road **[3]** as unstratified finds to the south-west of the proposal site, though they may be slightly later in date. Balmore Drive and Balmore Park further to the southwest produced further flint flakes and a core **[5]**, as did Grosvenor Road which produced a knife and other flakes **[6]**.

Bronze Age

Some of the flakes found at Peppard Road **[3]** are potentially of Bronze Age date. Three socketed axes were found during the construction of Emmer Green Primary School **[7]** and a shallow saucer shaped vessel found on Caversham Hill **[8]** may also be Bronze Age.

Iron Age

Ditches were found during an evaluation at Emmer Green Primary School which contained Iron Age pottery **[7]**, a gold *stater* (coin) of Tincommius was found in St Barnabus Road **[9]** and a gully was found at Cedarcot during an evaluation that contained Middle Iron Age finds.

Roman

Opportunistic finds of Roman pottery have occurred at Sutton's gravel pit **[5]**, and at Caversham Hill where Roman coins have been found along with a Roman pottery vessel **[8]**. Further finds have been found in backgardens; an early *denarius* (coin) from Kidmore End Road **[11]** and a bronze bracelet at Rose Hill Cottage **[12]**. Targeted excavation found an early Roman ditch on a multi-phase site at Emmer Green Primary School **[7]**.

Saxon

Nothing of Saxon date was recorded in the HER for this search radius.

Medieval

A single medieval entry was recorded in the HER; a watching brief identified four boundary ditches at Peppard Road **[3]** of which one contained medieval pottery dating to the 12th-13th centuries.

Post-medieval

The majority of the entries date to the post-medieval period with a substantial number consisting of grade II listed buildings including Caversham Park **[25]** itself along with the entrance gate and gate piers **[26]**, the inner

park walls **[19]**, a temple to the west of Caversham Park **[27]** and the walls at the former kitchen garden **[28]**. The park in which these buildings lie is also dates to the 18th century and is grade II registered **[13]**. In addition to these are a further 13 with in the HER consisting of 46 Surley Row **[14]**, Farmcote **[15]**, Fir Tree House, Osbert House and White Cottage **[16]**, Grace Church **[17]**, Hill House **[18]**, Springfield, Convent of St Luke **[20]**, The Rise **[21]**, Tudor Cottage, Grove Cottage **[22]** and 203 and 205 Peppard Road and 207-217 Peppard Road **[24]**.

Buried features consist of three undated ditches found at Peppard Road that are thought to represent field or property boundaries and presumably date to this period **[3].** A large gravel pit on Caversham Hill **[4]** that has produced earlier artefacts is itself post-medieval in date. An evaluation at Buckingham Drive identified unspecified features of 19th century date **[23]**.

Modern, undated, negative

There is a single modern entry within the HER recording the presence of a donkey wheel and windlass at Grove House between 1901-1920 which as subsequently been removed **[29]**.

A number of entries are of unknown date including three post holes from a watching brief at Cedarcot **[10]** though the associated features are Iron Age in date. Cropmark and ground penetrating radar surveys to the northwest of the proposal site **[11]** have identified a ring ditch enclosure with a second internal ring and a linear feature running across the ring ditch with two circular terminations leading into the inner circle. Additional isolated features were identified further north. A ditch and possible pit were identified during trial trenching at The Hill School **[30]** bur no dating evidence was found.

Several watching briefs and evaluations around the area have failed to find any archaeological features or finds; watching briefs at Emmer Green Primary **[3, 33, 35]**, a watching brief at 9 Buckingham Drive **[23]**, various watching briefs at The Hill Primary School **[27]**, an evaluation at the Hill Primary School **[30]**, a geophysical survey at Reading Golf Club **[31]**, an evaluation at Kidmore End Road **[32]**, and an evaluation at Evesham Road **[34]**.

Cartographic and documentary sources

Caversham is an Anglo-Saxon (Old English) placename deriving from the personal name *Cafhere* (a name which is attested only in placenames) and the suffix *-ham* meaning homestead or enclosure (Mills 1991, 74). It appears in Domesday Book (1086) as *Caueresham.* Other sources derive the name from ‘calves -ham’, on no particularly

good authority or even less probably, ‘caves home’ (Nash Ford 2001). The *-ham* suffix is commonly (and with good reason) supposed to be one of the very earliest of English placename elements, and is the most common element among known early settlements; thus it should usually (not always) provide evidence of an early Saxon settlement.

At the time of Domesday Book (AD1086), Caversham was held by Walter Giffard (or Gifford, a major landholder) and was assessed at 20 hides (Williams and Martin 2002, 432). It had land for 21 ploughs (a considerable area), a mill and 13 acres of meadow, along with woodland just over a league square. Twenty-eight villans and 13 bordars are mentioned, with two slaves. It was at this time, of course, in Oxfordshire (it became part of Berkshire in 1911).

Unfortunately, at the time of writing, the definitive Victoria County History volume covering Caversham (within the Liberty of Eye and Dunsden in the Hundred of Binfield and Longtree, Oxfordshire) has not yet been published, although a preliminary version is available. Few other documentary sources have been traced. In the Hundred Rolls of 1254–55, it is noted that the inhabitants of the Manor of Caversham were not required to attend Hundred or County Courts. This seems to have been a privilege granted to all the Gifford manors (Pearman 1894). The parish church of St Peter is Norman.

Caversham was the largest parish in Binfield hundred, with settlement mainly concentrated near the river Thames, at Lower Caversham in the south-east and next to Caversham bridge, a major river crossing established in the Middle Ages. On higher ground, scattered hamlets included Emmer Green, Kidmore End, and Cane End, a pattern reflected in the parish’s division into several tithings including East Thorpe, West Thorpe, and ‘above down’ or ‘above the town’. Caversham’s lords, many of them national figures, maintained a manor house in the south-east, at first near the river and later in Caversham Park, where buildings were developed ‘on a lavish scale’ (VCH 2019) by the 18th century. Boundary changes from the 1890s broke up the parish which was absorbed, mostly into Reading, by 1911.

Caversham Court has origins in the 12th century when another Walter Giffard, first Earl of Buckingham, endowed the land together with the church of St Peter to the Augustinian Priory of Notley near Long Crendon. The monks of the priory provided a priest for the church. Just prior to the Reformation the parish of Caversham was given the right to provide its own priest. The Priory of Notley controlled a cell of canons at the chapel of Our Lady of Caversham, which was sometimes referred to as Caversham Priory, although it did not have an official rank (Nash Ford 2001). The Chapel was an important site of pilgrimage to the Virgin Mary, second only to Walsingham, during the Medieval period.

During the Civil War, Caversham Bridge was considered to be a vital crossing point of the Thames and was slighted and repaired by both sides in turn. Caversham Court briefly served as a royalist headquarters. Parliamentary forces under Essex descended on Caversham in January 1643 and set up a battery to bombard Reading. St Peter's church was largely demolished by this bombardment, and soon Essex besieged and took Reading, which was held by the Parliamentary forces for the rest of the war (Phillips 1980, 63–70). Their defence of Caversham Bridge was instrumental in thwarting attempts by the Royalists to relieve the siege of Oxford. Caversham was bombarded ineffectually by a Royalist relief force and there was some skirmishing but apparently no serious attempt was made to seize the well-defended bridge (VCH 1907, 356–9) and Oxford was not relieved. A bridge is mentioned as early as 1231, and according to a charter of Elizabeth I, the borough of Reading's northern boundary was at the halfway point of the bridge (VCH 1923, 342). It is considered likely that the medieval bridge marks the spot of an even earlier ford (VCH 1923, 352). The history of Caversham Park itself is presented in Rotheray (2009).

A range of Ordnance Survey and other historical maps of the area were consulted at Berkshire Record Office and online in order to ascertain what activity had been taking place throughout the site's later history and whether this may have affected any possible archaeological deposits within the proposal area (see Appendix 2).

The earliest map available of the area is Saxton's map of Oxfordshire (1574) (Fig. 3) which shows Caversham as a small town on the north side of the River Thames, at this point to the northwest of Reading, within Oxfordshire. A bridge is shown crossing the river. No further detail is shown and the location of Caversham Park cannot be ascertained with any further accuracy. Speed's map of Berkshire (1610) (not illustrated) adds no further detail. Plot in 1677 (Fig. 4) is the first to show Caversham Park. At this point Caversham the town is shown adjacent to the river with a house located within circular parkland beyond hills to the northeast of Caversham. It does not seem to merit importance in being labelled as a park unlike Watlington Park to the north.

Jeffrey's in 1768 (Fig. 5) shows considerably more detail with the shape of the park laid out, the house indicated approximately centrally and areas of trees shown. Pride (1790) (not illustrated) shows a similar picture but with slightly less detail. Davis' (1797) (Fig. 6) map does not show any further changes to the site itself however, it does show an increase in road systems surrounding Caversham park. The Ordnance Survey map of 1809 (Fig. 7) indicates some division of the land within the park and shows some buildings within the area, though these are generally fairly unclear. Bryant's map of 1824 (not illustrated) shows no further detail of the site.

The first edition Ordnance Survey map of 1878 (Fig. 8) shows the proposal site in detail. It can clearly be seen that the park was more extensive than it is currently with the proposal site forming the central core. The central core consists of a bisecting line running southwest to northeast above which lies the main house and entrance drive along with an area of trees. To the south lies a formal garden and large pond set within further trees. To the north and south is parkland. The 1897 and 1910 maps (not illustrated) show no further changes, though the pond is now labelled as a fish pond. Change has occurred by 1938 (Fig. 9) with the land now owned by the Oratory School. The parkland to the north is now labelled as playing fields and the main building has been extended to the east and additional small buildings are scattered to the north and west of the main Caversham Park building. Beyond the proposal site boundary Caversham town has extended around the edges of the former manor and park with southern parts of the parkland now used as allotments and the cemetery. Further buildings appear within the proposal site by 1961 (Fig. 10) on the northern side of the main house, otherwise little has changed within the site and externally Caversham town has continued to expand to the edges of the parkland. No further change has occurred within the proposal site by 1973 (not illustrated) but the former parkland to the north and east has now been built on by housing estates which has become denser by 1990 (Fig. 11) with all available gaps infilled. The 2021 map indicates no further change, though it is considerably less detailed than the earlier maps (Fig. 2).

Listed buildings

Caversham Park itself is Grade II listed along with the entrance gate and gate piers, the inner park walls, a temple to the west of Caversham Park and the walls at the former kitchen garden.

Caversham Park is described as:

> PEPPARD ROAD 1. 5128 Caversham Park (BBC Records) SU 77 NW 15/551 II 2. Rebuilt, possibly by J T Crews, after the fire of 1850 for William Crawshay, a Welsh iron master, who had bought the estate in 1838. Of the early C18 house of the Earl of Cadogan nothing remains, and very little remains of the works by Mr Acres and Capability Brown in the Park. 3 storeys and basement. Ashlar with iron frame. Ground floor rusticated with Doric frieze over. Piano nobile above. 7 bays, outer wider with tripartite windows, divided by engaged Composite columns (end piers). Dentil cornice, balustraded parapet. Glazing bar sash windows with raised surrounds and bracket cills, pedimented on piano nobile (alternately triangular and segmental). Flanking set back Ionic colonnades of 1840 by J T Crews. 9 bays each with balustrade over, returned to east, orangery to west. Various extensions to east (including chapel) and west (former school rooms etc) and also to north-west which has a classical Doric portico to linked lodge dated 1890. To rear of main house is an Ionic Porte Cochere (now a reception room). Interior retains considerable decoration of the post-1850 house. Large central hall with 2 balustraded galleries, Doric on ground floor, Ionic on 1st floor. The best room is behind Crews West colonnade - arcaded with columned screen to west and apse colonnade to east. Elaborate decoration in the principal drawing room with enriched doorpieces and so on. Chapel altered. A landmark for the railway.

The entrance gate and gate piers are described as:

PEPPARD ROAD 1. 5128 Entrance gates and gate piers to Caversham Park SU 77 NW 15/550 II 2. Circa 1850 probably. Possibly designed by J T Crews. Tall square ashlar gate piers with ball finials. Good ornamental wrought and cast iron gates. Flanking pedestrian gates with outer cast iron standards. Reverse quadrant railings with end piers capped by ball finials.

The inner park walls are described as:

PEPPARD ROAD 1. 5128 Inner Park walls at Caversham Park SU 77 NW 15/554 II 2. Mid C19, or possibly retained from the C18 by Capability Brown. Oval plan. Ditch to outside. More oval to east than to west. Red brick with buttresses about 4-5 ft high.

Temple to the west of Caversham Park is described as:

Temple to west of Caversham Park SU 77 NW 15/553 II 2. Probably later C19 (Pevsner suggests mid C19). Tetrasle pedimented Doric portico with full entablature and buccrania. Portland stone front, Bath stone behind. Columns and piers rusticated with frosted bands.

Walls at the former kitchen garden are described as:

PEPPARD ROAD 1. 512 Walls at former Kitchen Garden at Caversnam Park SU 77 NW 15/555 II 2. Probably mostly mid C19 but incorporating older work. 8-12 ft high, red brick. Communicating arches between separate sections of garden. Mid C19 potting sheds.

Development will need to be sympathetic to the listed buildings.

In addition to the listed buildings on the site itself, a further 13 were recorded in the HER consisting of 46 Surley Row **[14]**, Farmcote **[15]**, Fir Tree House, Osbert House and White Cottage **[16]**, Grace Church **[17]**, Hill House **[18]**, Springfield, Convent of St Luke **[20]**, The Rise **[21]**, Tudor Cottage, Grove Cottage **[22]** and 203 and 205 Peppard Road and 207-217 Peppard Road **[24]**. All are Grade II listed. The vast majority lie within the built up area of Caversham and any development would have no impact on them. Only 203 and 205 and 207-217 are located with close proximity to the proposal site and they are partly obscured by intervening development. Furthermore any development that respects the listed buildings within the parkland will be sympathetic to the external buildings.

Registered Parks and Gardens; Registered Battlefields

Caversham Park is itself Grade II listed and described as:

LOCATION, AREA, BOUNDARIES, LANDFORM, SETTING Caversham Park lies enclosed by the C20 development of Caversham, once a separate village but now a suburb of Reading. The c 40ha site is bounded largely by the mid to late C20 development of Caversham Park Village, with to the south the open spaces of allotments and Reading Cemetery and Crematorium. The house and park to the north lie on a plateau at the top of a south-east-facing slope. Panoramic views extend southwards from the house and garden terraces at the top of the slope across Caversham and Reading, towards low, distant hills, probably formerly with views of the Thames which lies 2km to the south.

ENTRANCES AND APPROACHES Caversham Park is entered at the north-west corner of the park, off Peppard Road, 250m west of the house. Here the drive is flanked by two stone gate piers, topped with ball finials, supporting iron gates, in turn flanked by iron pedestrian gates and beyond this iron railings terminated by a further pair of stone piers (c 1850, listed grade II). The drive passes a single-storey lodge standing adjacent to the south, continuing east through the park and passing to the north of the stuccoed former stables (now converted to accommodation) standing

close to the west end of the house. The drive arrives at a tarmac carriage sweep adjacent to a porte-cochère on the north front of the house, overlooking the north park which is now maintained as playing fields.

Formerly, during the C19 and until the mid C20 (OS) and the development of Caversham Park Village, the drive continued from the north front north-east through the park, curving south-east past Milestone Wood to a lodge standing by the Henley Road 1.2km south-east of the house. Part of the course of this drive is now incorporated in a pedestrian path running parallel and to the east of Galsworthy Drive. In the early C18 (Vitruvius Britannicus) the house was approached directly from gates to the north via a straight avenue arriving at a formal forecourt on the north front.

PRINCIPAL BUILDING Caversham Park (1850s, possibly J T Crews, listed grade II) stands at the centre of the northern half of the site, at the top of a slope down to the Thames to the south-east, overlooking Caversham and Reading and beyond this a low range of wooded hills. The three-storey ashlar house replaced a series of houses , the last of which, dating from the late C18, burnt down in 1850. The house has been modified and extended for office use during the mid to late C20.

GARDENS AND PLEASURE GROUNDS The gardens consist of formal 1720s and mid C19 terraces descending south from the garden front of the house, flanked by wooded pleasure grounds containing further remains of the formal 1720s layout.

The south, garden front of the house opens onto a broad gravel path running along the top of an adjacent terrace. From here three flights of stone steps descend a grass bank to a rectangular lawn, from the south side of which three further flights of stone steps descend to a lower rectangular lawn bounded on the south side by an iron fence dividing the lawn from a paddock beyond. The paddock is now (1998) part of the parkland, but formerly (OS 1877; 1914) was part of the pleasure grounds, divided from the parkland by a ditch and bank, possibly part of a former ha-ha. The remains of the ditch, lying c 150m south of the house, are bounded by a sporadic, informal hedgerow.

The upper terrace extends 200m from the west end of the house, laid to grass flanked by clipped laurel hedges and beyond this woodland, and terminated at the west end by a stone temple (C19, on the site of an earlier structure, listed grade II) with a tetrastyle Doric portico overlooking the length of the terrace to the east. From here a path runs south-east down the hillside on which is situated the west arm of the wooded pleasure grounds. The path passes the west end of a 200m long canal situated 250m south-west of the house. Surrounded by a grass path, the canal is set within woodland, overlooking to the east the lower lawn lying south of the house. From the canal the grass path continues south-east along the west boundary of the pleasure grounds, turning north-east 300m from the house to run along the northern boundary of the former walled kitchen garden. Some 150m south of the house the path turns north to arrive at the east end of the canal from where informal lawns planted with specimen trees and shrubs extend north to the upper terrace by the house.

The broad gravel path on the upper terrace extends through the wooded eastern arm of the pleasure grounds, terminating at the boundary, 250m east of the house. An informal path encircles this arm of the pleasure grounds, leading south-east off the gravel path at the east end of the house. A small, south-facing wooden pavilion stands within the southern half of the woodland, close to the southern edge, possibly having formerly overlooked the park sloping away to the south, before trees obscured the view. The area north of the west/east axial path has recently been replanted with specimen trees set in informal meadow, and also contains transmitting equipment. A brick wall (C18/C19, listed grade II) encloses parts of the boundary of this arm of the pleasure grounds to the north and east.

In the 1720s Switzer's grand garden surrounding the house (described and depicted in Vitruvius Britannicus 1725) contained parterres to the east and south. Two 200m long canals were constructed, possibly with cascades and amphitheatres at the outer ends as quoted for by Switzer (Berkshire RO: D/EX 258/9), on the hillside to the south-west and south-east of the house. The present canal appears to be one of these two, and was at that time flanked to the south by a wilderness containing a serpentine path. This area, now wooded, retains some mature yew trees

and sculpted land formation. By the mid C18 (Rocque, 1761) the axial terrace walk was dominant in the garden, terminated at the west end by a garden building. A third canal appears to have been added by this time, lying adjacent to that lying south-west of the house, and several of the parterres seem to have been removed and others simplified. Brown's landscaping retained the axial terrace path and the canals. By the 1870s (OS 1878) the two terraced lawns had been constructed below the centre of the great axial terrace, the lower one being dotted with small, oval flower beds. Additionally, two of the canals had gone, leaving that shown on Switzer's plan lying to the south-west of the house, although in shorter and wider form than that advocated by Switzer, and more rounded in outline.

PARK The remains of the park are divided into two sections, the area north of the house, and that extending south from the garden and pleasure grounds. The northern section, occupying a plateau, is now largely given over to playing fields with trees planted around the northern perimeter. The north park is overlooked by the north, entrance front of the house, and enjoys views north towards a low, wooded hillside lying beyond Caversham Park Village. The Village occupies land that was formerly part of the park.

The southern section of the park, laid to pasture with two clumps of trees, occupies the south-facing slope overlooking Caversham, Reading and beyond this low, wooded hills. Formerly (before Caversham's C20 development) the park probably enjoyed views down to the Thames.

In the early C18 (Vitruvius Britannicus, plan of 1723) the broad entrance avenue extended from the north front across what became the north park, flanked by four rows of trees to either side. To the east lay open parkland containing a sequence of formal ponds and a farm complex. To the west of the avenue lay a formal arrangement of trees, possibly an orchard, and a further rectangular pond. Three parallel avenues extended from the gardens on the south front across extensive lawns which subsequently became the south park, flanked to west and east by belts of trees laid out in rows. In the description accompanying the Vitruvius Britannicus plan, the park beyond was mentioned as being well-wooded, watered and stocked with deer, with reference to an excellent pheasantry and a menagerie. This arrangement remained largely intact until the mid C18 (Rocque, 1761), Lancelot Brown landscaping the estate in the 1760s. The park retained much of Brown's work until the 1960s and 1970s, when it was much reduced on all sides by the construction of Caversham Park Village and associated items including Reading Crematorium, Cemetery and allotments, and a school.

KITCHEN GARDEN The brick-walled kitchen garden (C18/C19, listed grade II) lies 200m south-west of the house, at the south-west corner of the park, and is now (1998) largely filled with mobile homes. Brick cross walls divide the area into several compartments, connected by communicating arches, and support mid C19 potting sheds. The walled garden is reached via a straight lane from the Peppard Road to the west, the entrance being marked by a C19, two-storey lodge lying 500m south-west of the house.

Any development would need to be sympathetic to the setting of the park, the features within it and views to and from the house across the parkland. Current proposals focus along the main road running across the site giving access to the main house. Two main areas have been identified; off Peppard Road between the BBC archives building and the Gatehouse in a pocket of land surrounded by trees, therefore limiting visibility to the surrounding buildings and at the eastern end of the site off of Lowfield Road which currently houses a set of satellite receivers again within a pocket of land surrounded by trees. Additional development is suggested along the main road within an area of car parking and to the west of the main building where a modern building currently exists.

Historic Hedgerows

There are hedgerows on the site that would qualify as 'important' as defined by Schedule 1 of the Hedgerows Regulations 1997 due to them forming the boundary of a pre-1600 manor or estate. The historic hedgerows would likely consist of parts of the southeastern corner boundary and a stretch of hedgerow along Peppard Road.

Aerial Photographs

A search was made on the Historic England Archive's database of aerial photographs on 26th November 2021. This revealed 41 vertical prints from 18 sorties flown between 19th August 1943 and 14th August 2003, and 40 specialist (oblique) prints flown between 7th July 1954 and 4th May 2016 (Appendix 3). The Historic England aerial archaeology mapping explorer shows a feature aligned approximately northeast-southwest in the northwest quadrant of the site with the key suggesting it is a built feature such as a bank.

LiDAR

Lidar data tile SU77nw_DTM_1M was downloaded from the Department for Environment, Food and Rural Affairs website (DEFRA 2021) and added to a Geographical Information System programme, QGIS. The tile gave complete coverage of the site.

Terrain analysis was carried out in QGIS using the 'hillshade' function. Virtual shade plot files with a vertical angle of 15o from the earth's surface were created at every 45o from azimuth 0 º to 315º with vertical settings varying from z=1 to z=3. A selection of the most informative plots is shown in Figures 12 and 13. It should be noted that the mapping of features is not precise as the pseudo light source creates a 'shadow' which displaces them in a direction opposite to it. The results were compared with modern ordnance survey data to ensure that extant features were not represented wrongly as of potential archaeological significance.

Much of open space comprising the proposal site is covered with lines. This is particularly the case in areas north and west of the main building, but many of the lines may represent substantive landscaping and ephemeral use of playing fields from 1938 to 2010 (Figure 14, A). In the north area there are south to north oriented lines which coincide with or are similarly oriented to markings on the map of 1990. There are also south-west to north-east oriented lines, J, which may represent traces of a footpath marked on maps from 1878 to 1962. Three sides of a rectangular feature, I, in the area have a slightly differing orientation from the prevalent lines hence archaeological potential cannot be excluded. Intermittent weak south to north to lines, B, on the west side of the southern area clearly coincide with a boundary marked from 1962 to 1990 which appears to enclosure

a ladder pattern of short cultivated strips, C, which may relate either to nurseries or allotment gardens shown to their west and south-west on the same maps. In the same general area parallel lines D appear to be continuations of features marked outlining what appear to be a formal garden, although the southern line also appears to turn to follow the line of an enclosure for masts first shown in 1962. The orientation of one, E, of two groups of cultivation trends covering much of the remainder of the south area appears to have been determined by the boundary on the east side which was already marked on the map of 1878. The subtly different orientation of the second group may reflect an earlier boundary system or merely creeping re-alignment over time. A linear boundary system, G, is unrelated to either pattern and presumably predates them. Traces of boundaries to the east of the residential estates east of Caversham Park may be more components of the system (Figs 12 and 13: G). Irregular markings, H, to the north of system indicate disturbed ground, possibly due to quarrying.

Geotechnical test pits

Eleven geotechnical test pits have been carried out on the site located around the main building and labelled SU77NW78 - SU77NW86 all carried out to a depth of between 10m and 30m and SU77NW62 to 30+m. The results of these are presented in Appendix 4 and their locations plotted on Figure 15.

All show approximately 0.20m of topsoil or Tarmac above 2.60m of made ground containing loose stones, clay, brick and chalk fragments above 0.75m of soft brown silty clay with some flints above 0.25m of firm brown sandy clay above 6.65m stiff to very stiff grey and red silty clay with frequent very weak claystone lithorelicts above 2.55m orange brown silty fine to coarse sand and stiff grey and orange brown silty clay with claystone lithoreliects, above 0.45m of greenish brown clayey fine to coarse sand with frequent shells and shell fragments above white moderately weathered chalk. The deepest borehole to 52.73m continued to record the presence of chalk. SU77NW83 had significantly less made ground to a depth of 0.80m, located on the north side of the main Caversham Park building.

Discussion

There are known heritage assets on the site consisting of the grade II listed Caversham Park, entrance gate and gate piers, the inner park walls, a temple to the west of Caversham Park and the walls at the former kitchen garden all set within the grade II registered garden. As such any development will need to be sympathetic to both the settings of the listed buildings and to the parkland itself.

It remains therefore to establish if there may be potential for previously unknown heritage assets, that is, below-ground archaeological remains. In considering the archaeological potential of the study area, various factors must be taken into account, including previously recorded archaeological sites, previous land-use and disturbance and future land-use including the proposed development.

The site lies within the archaeologically rich Thames Valley. Previous archaeological research and excavations along the River Thames and its tributaries clearly indicate that both the alluvial deposits and the gravel terraces offer extensive archaeological potential, especially for early periods, such as the Upper Palaeolithic and the Mesolithic, at which times the area was widely exploited by hunter-gatherer communities with significant Palaeolithic finds made at St Peter's Hill and Henley Road as well as other findspots within the more immediate area and recorded in the HER. In addition the HER records a number of features and finds from across the periods with multi-phase activity at Emmer Green Primary School to the northeast. A number of archaeological interventions have occurred, mainly to the west of Caversham Park, with mixed findings, though many appear to be on a relatively small scale and are as such less likely to yield archaeological remains by sheer chance.

Historic mapping shows Caversham Park from the earliest slightly larger scale maps, initially as indicative and later as more precise in terms of layout and shape. Little within the park can be seen to significantly change over the more detailed later maps but documentation records the rebuilding of Caversham Park on a number of occasions and the development of the ornamental gardens. Terracing has occurred within the site, particularly prominent to the south of the main building with the terraced gardens leading down into the meadowland at the southern end of the site. Some amount of damage may be expected within the area of the foundations of the modern buildings though this may be relatively minimal given the low height of the existing building.

Whilst it is less clear in the proposed development areas is the impact of any terracing, boreholes record substantial amounts of 'made-ground' around the existing Caversham Park building and this may relate to earlier buildings or features. It will be necessary to provide further information about the potential of the site from field observations in order to draw up a scheme to mitigate the impact of development on any below-ground archaeological deposits if necessary. A scheme for this evaluation will need to be drawn up and approved by the archaeological advisers to the Borough and implemented by a competent archaeological contractor. Such a programme of works could be secured by means of a suitable condition to any consent granted.

References

Barnes, I, Butterworth, C, A, Hawkes, J,W and Smith, L, 1997, *Excavations at Thames Valley Park, Reading, Berkshire, 1986–88*, Wessex Archaeol Rep **14**, Salisbury

Barton, R N E, 1989, 'Long blade technology in Britain', in C Bonsall (ed), *The Mesolithic in Europe; Papers presented at the 3rd International Symposium, Edinburgh 1985*, Union International des Sciences Préhistoriques et Proto-historiques, Mesolithic Comm, Edinburgh, 264–71

BGS, 2000, *British Geological Survey*, 1:50,000 Sheet **268**, Solid/and Drift Edition, Keyworth

CIfA, 2020, *Standard and guidance for historic environment desk-based assessment*, Chartered Institute *for* Archaeologists, Reading

Coles, S, 2002, 'Redgrave Pinsent Rowing Lake, Caversham Lakes, Henley Road, Caversham, Oxfordshire; an archaeological evaluation, phase 1', TVAS unpubl rep **02/62b**, Reading

Coles, S and Anthony, S, 2002, 'Redgrave Pinsent Rowing Lake, Caversham Lakes, Henley Road, Caversham, Oxfordshire; an archaeological evaluation, phase 2', TVAS unpubl rep **02/62c**, Reading

DEFRA 2021, https://environment.data.gov.uk/DefraDataDownload/?Mode=survey, (accessed: 15th November 2021)

Ford, S, 1987, *East Berkshire Archaeological Survey*, Berkshire County Counc Dept Highways and Planning Occas Pap **1**, Reading

Ford, S, 1991, 'The nature and development of Prehistoric settlement and land use in the middle Thames region (8000-500bc) with special reference to the evidence from lithic artefacts', unpub PhD thesis, Univ Reading

Ford, S and Raymond, F, 2013, 'A Late Bronze Age Artefact Scatter and Medieval Ditch on St Peter's Hill, Caversham', *Berkshire Archaeol J*, **81**, 27–35

Gates, T, 1975, *The Thames Valley, An archaeological Survey of the River Gravels*, Berkshire Archaeol Comm Pubn **1**, Reading

Hull, G, 1997, 'Amersham Road Dairy, Caversham, Reading; an archaeological evaluation', Thames Valley Archaeol Services report 97/20, Reading

Hull, G, 1998, 'Caversham Heath Golf Course (Mapledurham Golf Course-2, South Course, South Oxfordshire: An archaeological evaluation', TVAS unpubl rep **97/82**, Reading

Lambrick, G, Robinson, M and Allen, T, 2009, *The Thames through Time: The Archaeology of the Gravel Terraces of the Upper and Middle Thames: The Thames Valley in Later Prehistory: 1500BC–AD50*, Oxford Archaeol Thames Valley Landscapes Monogr **29**, Oxford

Manisse, P-D, in press, 'Roman Occupation At Upper Woodcote Road, Caversham, Berkshire', for *Berkshire Archaeol J*

Mills, A D, 1998, *Dictionary of English Place-Names*, Oxford

Nash Ford, D, 2001, 'Royal Berkshire History: Caversham in Oxfdrdshire: of shrines and civil war', http://www.berkshirehistory.com/villages/caversham.html [accessed 14/12/2021]

NPPF, 2021, *National Planning Policy Framework* (revised), Ministry of Housing, Communities and Local Government, London

Pearman, M, 1894, *Historical Notices of Caversham*, Oxford

Phillips, D, 1980, *The story of Reading*, Newbury

Porter, S, 2012, 'Land to the rear of 88-96 Lower Henley Road, Caversham, Reading, Berkshire: An Archaeological Evaluation', TVAS unpubl rep 12/90, Reading

RLP, 2019, *Reading Borough Local Plan*, Reading

Rotheray, B, 2009, *A History of Caversham Park*, BBC Monitoring, Caversham

Seaby, W A, 1934, 'Notes and queries', *Berkshire Archaeol J* **38**, 95–6

Torrance, L and Ford, S, 1991a, 'Mapledurham Golf Course, South Oxfordshire: An archaeological evaluation, supplementary report', TVAS unpubl rep **91/5-2**, Reading

Williams, A and Martin, G H, 2002, *Domesday Book, A complete Translation*, London

APPENDIX 1: Historic Environment Records within a 1km search radius of the development site

No	*HER Ref*	*Grid Ref (SU)*	*Type*	*Period*	*Comment*
1	MRM 16056 ERM 776	71798 76443 71801 76442	Evaluation	Prehistoric	One prehistoric flint scraper and one flint flake were recovered from a spoilheap in an archaeological evaluation at 41-49 Grove Road.
2	ERD 127 MRD 15713	71827 75970 71796 75987	Evaluation	Prehistoric Palaeolithic	Evaluation at Heathcroft, revealed an ancient channel of the River Thames (Caversham Channel), as well as three palaeolithic rolled flint flakes.
3	ERM 970 MRM 16262 MRM 16261 MRM 16263	71990 75853 72008 75855 72006 75855 72007 75853	Watching Brief	Prehistoric Medieval Neolithic Bronze Age Medieval Post Medieval	A watching brief at 70 – 72 Peppard Road, where four boundary ditches were found. Medieval pottery was recovered from one of the ditches, Other finds included two flint flakes and two worked flint nodules, only broadly prehistoric. The undated ditches are likely to be post-medieval.
4	MRD 1229	719 761	Findspot	Palaeolithic	A large gravel pit from which palaeoliths were recovered.
5	MRD 8619 MRD 8624 MRD 11213 MRD 8617	715 757 71580 75760 71600 75700 71610 75720	Find spot	Palaeolithic Neolithic Roman	Sutton's Pit has produced a number of hand axes and a flake, and Roman pottery. A few Neolithic flakes and a double-ended core were found at Balmore Drive.
6	MRD 8683	72000 75560	Find spot	Neolithic	A Neolithic flaked knife and several flakes were found in the garden of 22 Grosvenor Road.
7	MRD 8627 MRM 16443 ERM 1136 ERM 1163 MRM 16442 ERD 79	71640 76530 7161 7655 71619 76546 7162 7655 7162 7656 71655 76518	Find spot Evaluation Excavation Watching Brief	Bronze Age Iron Age Roman Negative	Three socketed axes were recovered during the construction of Emmer Green Primary School. An early Roman ditch found in an archaeological evaluation and excavation, dated by pottery. No archaeological finds or features in a watching brief.
8	MRD 8719 MRD 8680 MRD 8727	719 758	Find spot	Bronze Age Iron Age Roman	Finds from Caversham Hill include a shallow saucer shaped vessel, Roman coins and pottery.
9	MRD 8631	716 764	Find spot	Iron Age	A gold *stater* (coin) of Tincommius was found in St Barnabas Road, in 1936.
10	MRM 16101 ERM 657 ERM 809	71792 76568 71783 76575 71782 76591	Evaluation Watching Brief	Iron Age Undated	A gully with associated finds dated to the Middle Iron Age period, and three undated postholes, were revealed during the course of an archaeological evaluation Cedarcot, Lyefield Court. No additional features or finds in a watching brief.
11	MRM 17642 MRM 16170 ERM 1883	720 766 71954 76622 7195 7661	Photographic Find Spot Geophysical Survey	Iron Age Roman Unknown	A denarius (50BC – AD50) was found in a back garden of a house in Kidmore End Road. Three cropmark ring features have been identified on aerial photographs and investigated through geophysical survey at The Common Recreation Ground, Emmer Green. The results of the magnetometry and resistivity surveys were inconclusive, but ground penetrating radar survey showed a ring ditch enclosure with an internal second ring. A linear feature running NE-SW across the rind ditch a long with two distinctive circular terminations leading into the inner circle. Other isolated features were seen to the north.
12	MRD 8626	7215 7695	Find spot	Roman	A Roman bronze bracelet found at Rose Hill Cottage.
13	MRD 6282	72573 76164	Park	Post-Medieval	Remains of 18thc-century landscape park and 19th-century formal terraced garden, at most extensive about 160 ha, now about 30 ha. Caversham Park built AD1660 many alterations since. Twin parterres with canals. Parterres abolished when Capability Brown altered the landscape (one canal survives). 19th-century changes.
14	DRM 1550	71549 76103	Listed Building	Post Medieval	46 Surley Row, two storey timber framed house, dated AD 1600 – 1732.
15	DRM 1678	71685 75931	Listed Building	Victorian	"Farmcote", 23 Surley Row, 19th-century
16	DRM 1549 DRM 1511 DRM 1658	71766 75858 71781 75834 71752 75870	Listed Building	Post Medieval Victorian	"Fir Tree House", 2 Surley Row, 18th century; "Osbert House", off Peppard Road, early 19th-century. White Cottage", 4 Surley Row, 18th century.
17	DRM 1512	71979 75910	Listed Building	Post Medieval	Grace Church, 199 Peppard Road, congregation chapel, AD 1827.
18	DRM 1655	71790 75773	Listed Building	Post Medieval	"Hill House", Surley Row, early 19th-century.
19	DRM 1516	72278 76253	Listed Building	Post Medieval Victorian	Caversham Inner Park walls, dated AD 1833 – 1866. Possibly retained from original 18th-century walls.
20	DRM 1751	71682 75994	Listed Building	Post Medieval	"Springfield, Convent of St. Luke" early 19th-century nunnery.
21	DRM 1696	71693 75664	Listed Building	Post Medieval	"The Rise", 32 Peppard Road, early 19th-century.

No	*HER Ref*	*Grid Ref (SU)*	*Type*	*Period*	*Comment*
22	DRM 1749 DRM 1547	71571 76024 71546 76053	Listed Building	Post Medieval Victorian	"Tudor Cottage", 37 Surely Row, two storey timber frame house dated 16th or 17th century. Later garden wall south to east, dated 18th, century. "Grove Cottage", Surley Row, two storey Tudor Gothic cottage, and garden wall, dated AD 1830 – 1839.
23	ERM 852 ERM 591	71824 75916 71864 75897	Evaluation Watching Brief	Post Medieval Negative	Evaluation at 11-15 Buckingham Drive, Emmer Green, only revealed 19th-century features, and there were no archaeological finds or features in a watching brief at 9 Buckingham Drive.
24	DRM 1643 DRM 1513	72104 76385 72098 76401	Listed Building	Victorian	203-5 Peppard Road, early to mid 19th-century. 207–217 Peppard Road, two storey terraced house, painted inscription "Blenheim House" (215), early 19th-century.
25	DRM 1515	72404 76265	Listed Building	Victorian	Caversham Park, estate purchased in AD 1838 but initial house destroyed by fire in 1850, rebuilt same year. Extended in 1890 to include chapel and school rooms.
26	DRM 1514	72157 76310	Listed Building	Victorian	Entrance gates and gate piers to Caversham Park, mid 19th-century.
27	DRM 1689 ERM 1608 ERM 1634	72223 76157 7219 7613 7219 7612	Listed Building Watching Brief	Victorian Negative	Temple, off Peppard Road, west of Caversham Park, late 19th-century. A watching brief at The Hill Primary School observed no archaeological finds or features were found.
28	DRM 1690	72286 75974	Listed Building	Victorian	Garden, garden walls at former Kitchen Garden, Caversham Park and potting shed, mid-19th century
29	MRD 5505	71400 76300	Documentary	Modern	A donkey wheel and windlass used to raise water from deep well at Grove House, AD 1901 – 1920, now removed.
30	MRM 17696 ERM 1841	7210 7605 7210 7605	Evaluation	Unknown	A ditch and possible pit were identified but undated in trial trenching at The Hill School, Emmer Green.
31	ERM 2435	7162 7683	Geophysical Survey	Negative	A magnetometry survey of a 11ha area Reading Golf Club. No anomalies suggestive of archaeological features were found.
32	ERM 1266	71751 76631	Evaluation	Negative	Evaluation at Brindles, Kidmore End Road, no archaeological finds or features were found.
33	ERM 1268	7168 7657	Watching Brief	Negative	Watching brief at Emmer Green Primary School, no archaeological finds or features were found.
34	ERM 1420	7191 7626	Evaluation	Negative	Evaluation at land off Evesham Road, no archaeological finds or features were found.
35	ERM 1718	71643 76497	Watching Brief	Negative	Watching brief at Emmer Green Primary School, no archaeological finds or features were found.

Listed Buildings Grade II unless stated.

APPENDIX 2: Historic and modern maps consulted

1574	Saxton's map of Oxfordshire (Fig. 3)
1610	Speed's map of Berkshire (not illustrated)
1677	Plot's map of Oxfordshire (Fig. 4)
1768	Jeffrey's map of Oxfordshire (Fig. 5)
1790	Pride's map of Reading (not illustrated)
1797	Davis' map of Oxfordshire (Fig. 6)
1809	Ordnance Survey (Fig. 7)
1824	Bryant's map of Oxfordshire (not illustrated)
1878	First Edition Ordnance Survey (Fig. 8)
1897	Second Edition Ordnance Survey (not illustrated)
1910	Third Edition Ordnance Survey (not illustrated)
1938	Ordnance Survey (Fig. 9)
1961	Ordnance Survey (Fig. 10)
1973	Ordnance Survey (not illustrated)
1990	Ordnance Survey (Fig. 11)
2001	Ordnance Survey (not illustrated)
2010	Ordnance Survey (not illustrated)
2021	Ordnance Survey (Fig. 2)

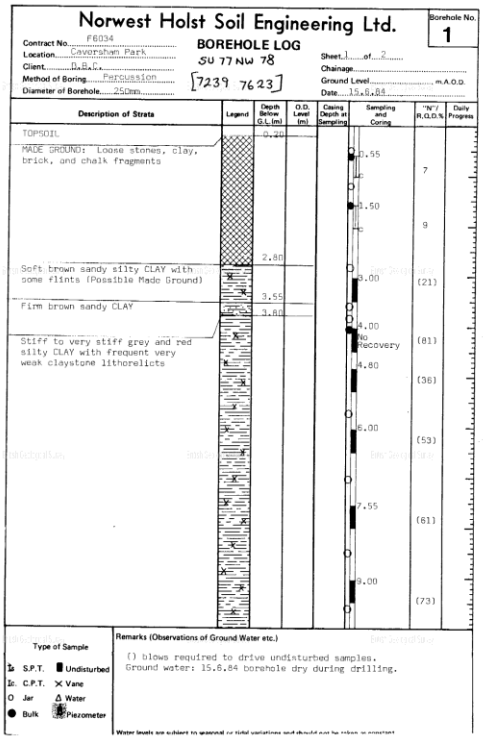
APPENDIX 3: Aerial Photographs consulted - *Vertical aerial photographs*

No	*Year taken*	*Sortie number*	*Frame number*	*Grid ref (SU)*	*Comment*
1	10 JUL 1946	RAF/106G/UK/1646	4278	SU 725 758	
2	10 JUL 1946	RAF/106G/UK/1646	4279	SU 718 758	
3	10 JUL 1946	RAF/106G/UK/1646	4332	SU 726 769	
4	10 JUL 1946	RAF/106G/UK/1646	4333	SU 719 769	
5	04 NOV 1946	RAF/CPE/UK/1827	4185	SU 726 769	
6	04 NOV 1946	RAF/CPE/UK/1827	4186	SU 720 768	
7	25 MAR 1947	RAF/CPE/UK/1953	1100	SU 722 760	
8	25 MAR 1947	RAF/CPE/UK/1953	1101	SU 728 764	
9	18 JAN 1947	RAF/CPE/UK/1936	1217	SU 725 765	
10	18 JAN 1947	RAF/CPE/UK/1936	1218	SU 721 764	
11	18 JAN 1947	RAF/CPE/UK/1936	4261	SU 720 761	
12	18 JAN 1947	RAF/CPE/UK/1936	4262	SU 727 759	
13	29 AUG 1947	RAF/CPE/UK/2270	5162	SU 726 763	
14	29 AUG 1947	RAF/CPE/UK/2270	5163	SU 722 763	
15	27 AUG 1954	RAF/540/1392	6	SU 724 766	
16	27 AUG 1954	RAF/540/1392	7	SU 724 762	
17	27 AUG 1954	RAF/540/1392	8	SU 724 759	
18	28 AUG 1961	RAF/58/4646	236	SU 719 759	
19	28 AUG 1961	RAF/58/4646	237	SU 730 759	
20	19 AUG 1943	US/7PH/GP/LOC35	5049	SU 725 760	
21	08 MAR 1944	US/7PH/GP/LOC208	5057	SU 728 762	
22	08 MAR 1944	US/7PH/GP/LOC208	5058	SU 718 766	
23	26 AUG 1967	OS/67334	26	SU 726 762	
24	26 AUG 1967	OS/67334	27	SU 721 762	
25	01 JUL 1986	OS/86155	41	SU 730 762	
26	13 JUN 1967	RAF/543/3859	448	SU 717 758	
27	13 JUN 1967	RAF/543/3859	449	SU 726 758	
28	19 MAR 1998	OS/98023	58	SU 723 766	
29	19 MAR 1998	OS/98023	109	SU 723 757	
30	03 MAY 1953	OS/53T46	179	SU 723 764	
31	03 MAY 1953	OS/53T46	180	SU 725 764	
32	03 MAY 1953	OS/53T49	59	SU 721 761	
33	03 MAY 1953	OS/53T49	60	SU 724 761	
34	03 MAY 1953	OS/53T49	86	SU 722 766	
35	03 MAY 1953	OS/53T49	87	SU 724 766	
36	14 AUG 2003	OS/03110	283	SU 725 755	
37	14 AUG 2003	OS/03110	284	SU 725 762	
38	14 AUG 2003	OS/03110	285	SU 725 769	
39	30 SEP 1985	ADA/267	189	SU 722 770	
40	01 APR 1991	EA/AF/91C/028	8288	SU 726 763	
41	01 APR 1991	EA/AF/91C/028	8289	SU 725 761	

Obliques aerial photographs

No	*Year taken*	*Photo Reference (NGR and Index Number)*	*Film and Frame number*	*Grid ref (SU)*	*Comment*
	30 AUG 2000	SU 7275 / 4	NMR 18917 / 18	SU 724759	
	04 MAY 2016	SU 7275 / 16	HEA 29868 / 030	SU 723759	
	04 MAY 2016	SU 7275 / 17	HEA 29868 / 032	SU 723759	
	04 MAY 2016	SU 7275 / 18	HEA 29868 / 033	SU 723759	
	04 MAY 2016	SU 7275 / 19	HEA 29868 / 034	SU 723759	
	07 JUL 1954	SU 7276 / 1	CAP 8239 / 11	SU 724763	
	07 JUL 1954	SU 7276 / 2	CAP 8239 / 12	SU 724763	
	07 JUL 1954	SU 7276 / 3	CAP 8239 / 13	SU 724763	
	07 JUL 1954	SU 7276 / 4	CAP 8239 / 14	SU 724763	
	07 JUL 1954	SU 7276 / 5	CAP 8239 / 15	SU 724763	
	07 JUL 1954	SU 7276 / 6	CAP 8239 / 16	SU 724763	
	30 AUG 2000	SU 7276 / 7	NMR 18917 / 13	SU 726761	
	30 AUG 2000	SU 7276 / 8	NMR 18917 / 14	SU 725761	
	30 AUG 2000	SU 7276 / 9	NMR 18917 / 15	SU 724763	
	30 AUG 2000	SU 7276 / 10	NMR 18917 / 16	SU 724762	
	30 AUG 2000	SU 7276 / 11	NMR 18917 / 17	SU 723761	
	30 AUG 2000	SU 7276 / 13	NMR 18917 / 23	SU 725761	
	30 AUG 2000	SU 7276 / 14	NMR 18876 / 12	SU 725762	
	30 AUG 2000	SU 7276 / 15	NMR 18876 / 13	SU 724763	
	30 AUG 2000	SU 7276 / 16	NMR 18876 / 14	SU 724764	
	30 AUG 2000	SU 7276 / 17	NMR 18876 / 15	SU 724762	
	04 MAY 2016	SU 7276 / 21	HEA 29868 / 013	SU 725762	
	04 MAY 2016	SU 7276 / 22	HEA 29868 / 014	SU 725762	
	04 MAY 2016	SU 7276 / 23	HEA 29868 / 015	SU 725761	
	04 MAY 2016	SU 7276 / 24	HEA 29868 / 016	SU 725761	
	04 MAY 2016	SU 7276 / 25	HEA 29868 / 017	SU 724764	
	04 MAY 2016	SU 7276 / 26	HEA 29868 / 018	SU 724762	
	04 MAY 2016	SU 7276 / 27	HEA 29868 / 019	SU 721763	
	04 MAY 2016	SU 7276 / 28	HEA 29868 / 020	SU 723761	
	04 MAY 2016	SU 7276 / 29	HEA 29868 / 021	SU 723761	
	04 MAY 2016	SU 7276 / 30	HEA 29868 / 022	SU 724761	
	04 MAY 2016	SU 7276 / 31	HEA 29868 / 023	SU 724762	
	04 MAY 2016	SU 7276 / 32	HEA 29868 / 024	SU 725760	
	04 MAY 2016	SU 7276 / 33	HEA 29868 / 025	SU 724760	
	04 MAY 2016	SU 7276 / 34	HEA 29868 / 026	SU 724762	
	04 MAY 2016	SU 7276 / 35	HEA 29868 / 027	SU 725762	
	04 MAY 2016	SU 7276 / 36	HEA 29868 / 028	SU 725761	
	04 MAY 2016	SU 7276 / 37	HEA 29868 / 029	SU 723761	
	04 MAY 2016	SU 7276 / 38	HEA 29868 / 031	SU 723761	
	04 MAY 2016	SU 7276 / 39	HEA 29868 / 035	SU 725761	

APPENDIX 4: Geotechnical data



Norwest Holst Soil Engineering Ltd.

Borehole No. 1

Contract No. F6034 BOREHOLE LOG

Location Caversham Park

Client D.B.C.

Method of Boring Percussion

Diameter of Borehole 250mm

SU 77 NW 78

[7239 7623]

Sheet 1 of 2

Chainage

Ground Level m.A.O.D.

Date 15.8.84

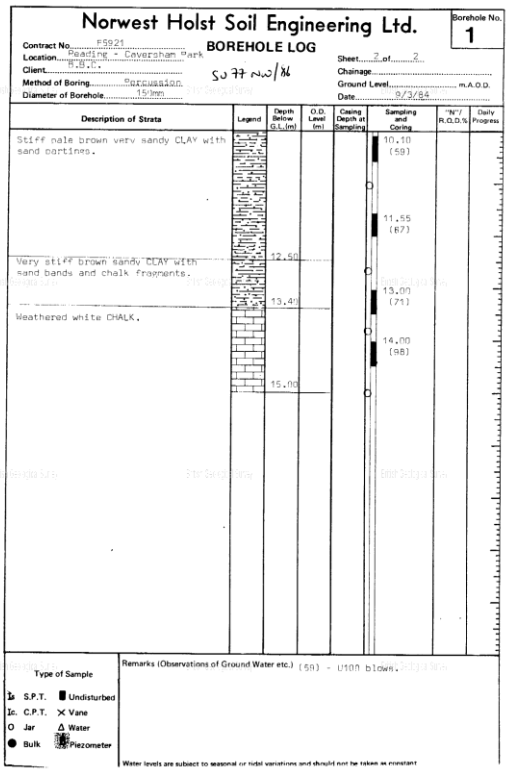
Description of Strata	Legend	Depth Below G.L. (m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
TOPSOIL		0.20					
MADE GROUND: Loose stones, clay, brick, and chalk fragments					0.55 D	7	
					1.50 D	9	
Soft brown sandy silty CLAY with some flints (Possible Made Ground)		2.80			3.00 D	(21)	
Firm brown sandy CLAY		3.55					
Stiff to very stiff grey and red silty CLAY with frequent very weak claystone lithorelicts		3.80			4.00 No Recovery	(81)	
					4.80 D	(36)	
					6.00 D	(53)	
					7.55 D	(61)	
					9.00 D	(73)	

Type of Sample: S.P.T. ■ Undisturbed; C.P.T. × Vane; O Jar; Δ Water; ● Bulk; Piezometer

Remarks (Observations of Ground Water etc.)

() blows required to drive undisturbed samples.
Ground water: 15.8.84 borehole dry during drilling.

Water levels are subject to seasonal or tidal variations and should not be taken as constant



Norwest Holst Soil Engineering Ltd.

Borehole No. 1

Contract No. F5821 BOREHOLE LOG

Location Reading - Caversham Park

Client D.O.E.

Method of Boring Percussion

Diameter of Borehole 150mm

SU 77 NW 86

Sheet 2 of 2

Chainage

Ground Level m.A.O.D.

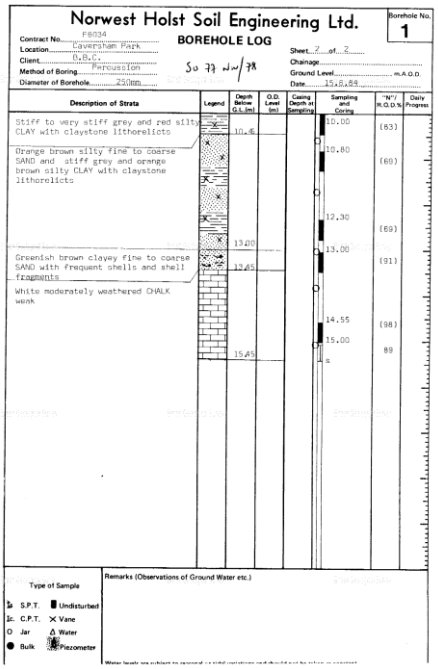
Date 9/3/84

Description of Strata	Legend	Depth Below G.L. (m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
Stiff pale brown very sandy CLAY with sand partings.					10.10 (59)		
					11.55 (87)		
Very stiff brown sandy CLAY with sand bands and chalk fragments.		12.50					
					13.00 (71)		
Weathered white CHALK.		13.40					
					14.00 (98)		
		15.00					

Type of Sample: S.P.T. ■ Undisturbed; C.P.T. × Vane; O Jar; Δ Water; ● Bulk; Piezometer

Remarks (Observations of Ground Water etc.) (50) - U100 blows.

Water levels are subject to seasonal or tidal variations and should not be taken as constant



Norwest Holst Soil Engineering Ltd.

Borehole No. 1

Contract No. F6034 BOREHOLE LOG

Location Caversham Park

Client D.B.C.

Method of Boring Percussion

Diameter of Borehole 250mm

SU 77 NW 78

Sheet 2 of 2

Chainage

Ground Level m.A.O.D.

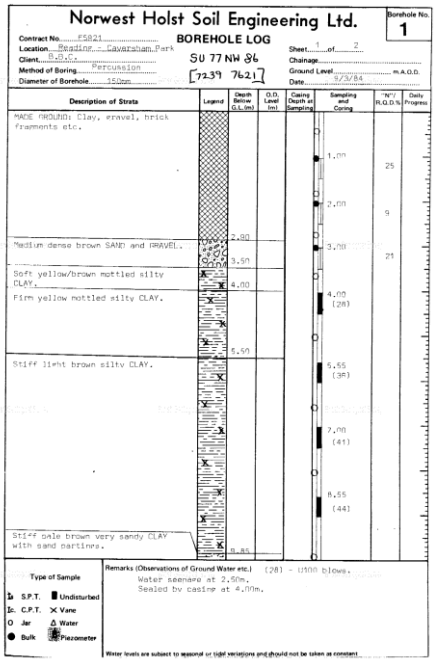
Date 15.8.84

Description of Strata	Legend	Depth Below G.L. (m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
Stiff to very stiff grey and red silty CLAY with claystone lithorelicts		10.6			10.00	(83)	
Orange brown silty fine to coarse SAND and stiff grey and orange brown silty CLAY with claystone lithorelicts					10.80	(69)	
					12.30	(69)	
		13.20			13.00	(91)	
Greenish brown clayey fine to coarse SAND with frequent shells and shell fragments		13.45					
White moderately weathered CHALK weak					14.55	(98)	
		15.65			15.00	89	

Type of Sample: S.P.T. ■ Undisturbed; C.P.T. × Vane; O Jar; Δ Water; ● Bulk; Piezometer

Remarks (Observations of Ground Water etc.)

Water levels are subject to seasonal or tidal variations and should not be taken as constant



Norwest Holst Soil Engineering Ltd.

Borehole No. 1

Contract No. F5821 BOREHOLE LOG

Location Reading - Caversham Park

Client D.O.E.

Method of Boring Percussion

Diameter of Borehole 150mm

SU 77 NW 86

[7239 7621]

Sheet 1 of 2

Chainage

Ground Level m.A.O.D.

Date 9/3/84

Description of Strata	Legend	Depth Below G.L. (m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
MADE GROUND: Clay, gravel, brick fragments etc.					1.00	25	
					2.00	9	
Medium dense brown SAND and GRAVEL.		2.80			3.00	21	
Soft yellow/brown mottled silty CLAY.		3.50					
Firm yellow mottled silty CLAY.		4.00			4.00 (28)		
		5.50			5.55 (36)		
Stiff light brown silty CLAY.					7.00 (41)		
					8.55 (44)		
Stiff pale brown very sandy CLAY with sand partings.		8.85					

Type of Sample: S.P.T. ■ Undisturbed; C.P.T. × Vane; O Jar; Δ Water; ● Bulk; Piezometer

Remarks (Observations of Ground Water etc.) (28) - U100 blows.
Water seepage at 2.50m.
Sealed by casing at 4.00m.

Water levels are subject to seasonal or tidal variations and should not be taken as constant

Norwest Holst Soil Engineering Ltd.

BOREHOLE LOG — Borehole No. **2**

Contract No. F6034 | Location Caversham Park | Client B.B.C. | Method of Boring Percussion | Diameter of Borehole 250mm
SU 77 NW 79 [7036 7625] | Sheet 1 of 2 | Chainage | Ground Level m.A.O.D. | Date 16.6.84

Description of Strata	Legend	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth of Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
TARMAC SURFACING		0.10			0.50		
MADE GROUND brown stoney clay with gravel ash and bricks		1.30			1.50	10	
MADE GROUND brown sand and gravel with occasional brick fragments		2.20			2.55	(19)	
Firm yellowish brown and grey very sandy silty CLAY		3.00			3.55	(33)	
Stiff grey and red silty CLAY with some plant traces		3.80			4.60	(51)	
Firm grey and red silty CLAY with frequent very weak claystone lithorelicts ...below 6.00 m becoming stiff					6.00	(66)	
					7.55	(71)	
Orange brown clayey SAND with some thin layers of very weak claystone		9.80			9.20	(91)	

Type of Sample: S.P.T. ■ Undisturbed; C.P.T. × Vane; O Jar △ Water; ● Bulk ⊕ Piezometer

Remarks (Observations of Ground Water etc.)

Hand dug service inspection pit to 1.50 m
() blows required to drive undisturbed samples
Ground water: 16/6/84 borehole dry during drilling.

Norwest Holst Soil Engineering Ltd.

BOREHOLE LOG — Borehole No. **2**

Contract No. F6034 | Location Caversham Park | Client B.B.C. | Method of Boring Percussion | Diameter of Borehole 250mm
SU 77 NW/79 | Sheet 2 of 2 | Chainage | Ground Level m.A.O.D. | Date 16.6.84

Description of Strata	Legend	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth of Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
Orange brown clayey SAND with some thin layers of very weak claystone		10.80			10.00	(98)	
Firm yellowish brown sandy CLAY with very weak claystone lithorelicts and with some thin bands of orange brown sand below 12.55 m becoming very stiff					11.90	(89)	
		13.20			12.95	(98)	
Greenish brown clayey SAND with frequent shell fragments		13.50			14.00	(130)	
White moderately weathered CHALK weak		16.00			15.70	77 for 150mm	

Type of Sample: S.P.T. ■ Undisturbed; C.P.T. × Vane; O Jar △ Water; ● Bulk ⊕ Piezometer

Remarks (Observations of Ground Water etc.)

Water levels are subject to seasonal or other variations and should not be taken as constant

Norwest Holst Soil Engineering Ltd.

BOREHOLE LOG — Borehole No. **3**

Contract No. F6034 | Location Caversham Park | Client B.B.C. | Method of Boring Percussion | Diameter of Borehole 250mm
SU 77 NW 80 [7038 7630] | Sheet 1 of 2 | Chainage | Ground Level m.A.O.D. | Date 17.6.84

Description of Strata	Legend	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth of Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
TARMAC SURFACING		0.20			1.00		
MADE GROUND Brown stoney clay with sand gravel and bricks		2.00			1.55	15	
Loose brown slightly clayey SAND and GRAVEL		2.80			2.30	9	
Firm grey fine sandy silty CLAY with occasional plant traces		3.45			3.00	(19)	
Firm grey occasionally red mottled silty CLAY with some very weak claystone lithorelicts					4.00	(21)	
					5.00	(29)	
					6.55	(46)	
... below 8.00m. Becoming stiff.					8.00	(59)	
					9.60	(63)	

Type of Sample: S.P.T. ■ Undisturbed; C.P.T. × Vane; O Jar △ Water; ● Bulk ⊕ Piezometer

Remarks (Observations of Ground Water etc.)

() blows required to drive undisturbed samples
Ground water: 17.6.84 slight seepage 2.80 m.
Hand dug service pit to 1.50 m.

Norwest Holst Soil Engineering Ltd.

BOREHOLE LOG — Borehole No. **3**

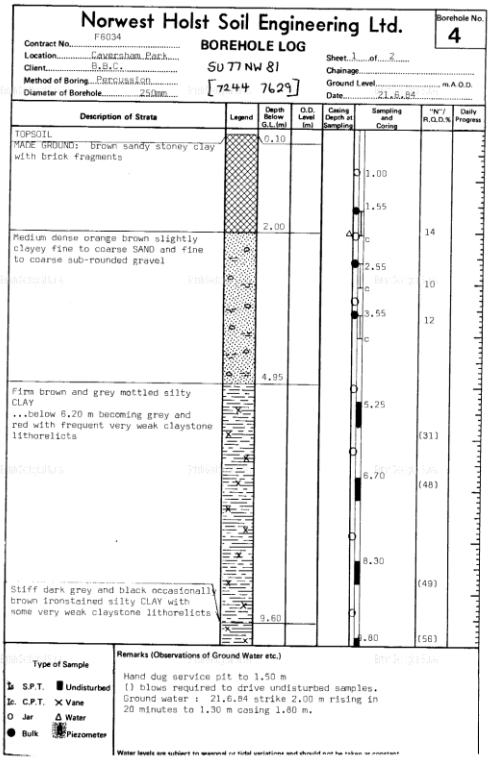
Contract No. F6034 | Location Caversham Park | Client B.B.C. | Method of Boring Percussion | Diameter of Borehole 250mm
SU 77 NW/80 | Sheet 2 of 2 | Chainage | Ground Level m.A.O.D. | Date 17.6.84

Description of Strata	Legend	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth of Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
Stiff grey occasionally red mottled silty CLAY with some claystone lithorelicts		10.25			10.30	(70)	
Firm grey silty CLAY with very weak claystone lithorelicts and with thin bands of orange brown silty SAND					11.55	(83)	
		12.80			13.00	(101)	
Greenish brown clayey fine medium SAND with some shells		13.45			14.00	131	
White moderately weathered CHALK weak		14.45					

Type of Sample: S.P.T. ■ Undisturbed; C.P.T. × Vane; O Jar △ Water; ● Bulk ⊕ Piezometer

Remarks (Observations of Ground Water etc.)

Water levels are subject to seasonal or other variations and should not be taken as constant



Norwest Holst Soil Engineering Ltd.

BOREHOLE LOG

Borehole No. 4

Contract No. F6034
Location Caversham Park
Client B.B.C.
Method of Boring Percussion
Diameter of Borehole 250mm
SU 77 NW 81
[7244 7629]
Sheet 1 of 2
Chainage
Ground Level m.A.O.D.
Date 21.6.84

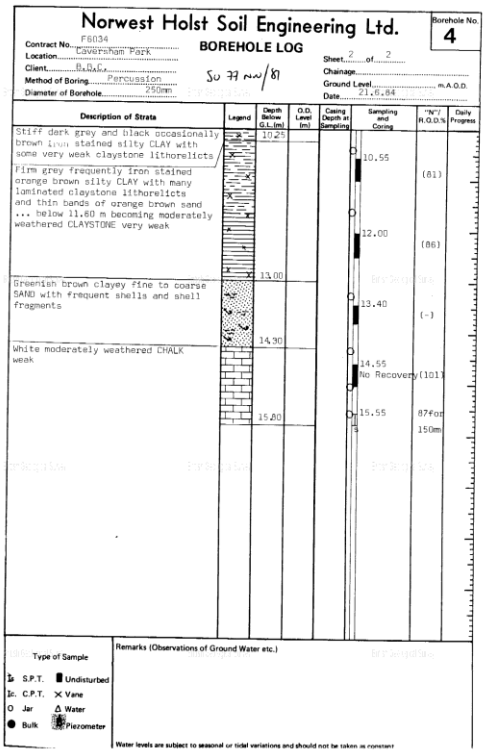
Description of Strata	Legend	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth of Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
TOPSOIL		0.10					
MADE GROUND: brown sandy stoney clay with brick fragments					1.00		
					1.55		
Medium dense orange brown slightly clayey fine to coarse SAND and fine to coarse sub-rounded gravel		2.00			2.55	14	
					3.55	10	
						12	
		4.95					
Firm brown and grey mottled silty CLAY ...below 6.20 m becoming grey and red with frequent very weak claystone lithorelicts					5.25	(31)	
					6.70	(48)	
					8.30	(49)	
Stiff dark grey and black occasionally brown ironstained silty CLAY with some very weak claystone lithorelicts		9.60			9.80	(56)	

Type of Sample: S.P.T. Undisturbed; C.P.T. Vane; Jar Water; Bulk Piezometer

Remarks (Observations of Ground Water etc.)

Hand dug service pit to 1.50 m
() blows required to drive undisturbed samples.
Ground water : 21.6.84 strike 2.00 m rising in 20 minutes to 1.30 m casing 1.80 m.

Water levels are subject to seasonal or tidal variations and should not be taken as constant



Norwest Holst Soil Engineering Ltd.

BOREHOLE LOG

Borehole No. 4

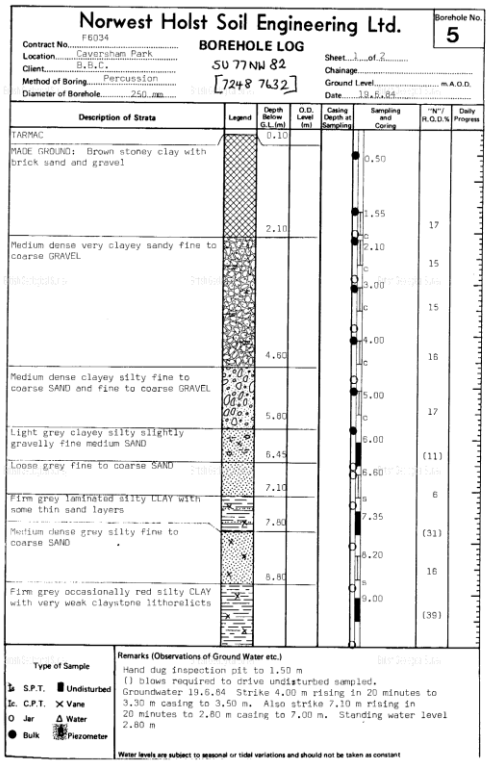
Contract No. F6034
Location Caversham Park
Client B.B.C.
Method of Boring Percussion
Diameter of Borehole 250mm
SU 77 NW/81
Sheet 2 of 2
Chainage
Ground Level m.A.O.D.
Date 21.6.84

Description of Strata	Legend	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth of Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
Stiff dark grey and black occasionally brown iron stained silty CLAY with some very weak claystone lithorelicts		10.25			10.55		
Firm grey frequently iron stained orange brown silty CLAY with many laminated claystone lithorelicts and thin bands of orange brown sand ... below 11.80 m becoming moderately weathered CLAYSTONE very weak					12.00	(81)	
		13.00			13.40	(86)	
Greenish brown clayey fine to coarse SAND with frequent shells and shell fragments		14.30			14.55	(-)	
White moderately weathered CHALK weak					No Recovery	(101)	
		15.80			15.55	87for 150mm	

Type of Sample: S.P.T. Undisturbed; C.P.T. Vane; Jar Water; Bulk Piezometer

Remarks (Observations of Ground Water etc.)

Water levels are subject to seasonal or tidal variations and should not be taken as constant



Norwest Holst Soil Engineering Ltd.

BOREHOLE LOG

Borehole No. 5

Contract No. F6034
Location Caversham Park
Client B.B.C.
Method of Boring Percussion
Diameter of Borehole 250 mm
SU 77 NW 82
[7248 7632]
Sheet 1 of 2
Chainage
Ground Level m.A.O.D.
Date 19.6.84

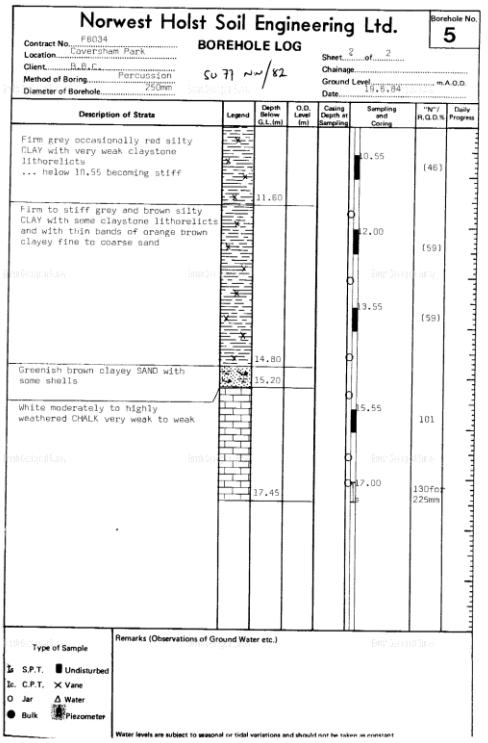
Description of Strata	Legend	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth of Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
TARMAC		0.10			0.50		
MADE GROUND: Brown stoney clay with brick sand and gravel					1.55		
		2.10			2.10	17	
Medium dense very clayey sandy fine to coarse GRAVEL					3.00	15	
					4.00	15	
		4.60				16	
Medium dense clayey silty fine to coarse SAND and fine to coarse GRAVEL					5.00	17	
Light grey clayey silty slightly gravelly fine medium SAND		5.80			6.00	(11)	
		6.45			6.60		
Loose grey fine to coarse SAND		7.10				6	
Firm grey laminated silty CLAY with some thin sand layers		7.80			7.35	(31)	
Medium dense grey silty fine to coarse SAND					8.20	16	
		8.80					
Firm grey occasionally red silty CLAY with very weak claystone lithorelicts					9.00	(39)	

Type of Sample: S.P.T. Undisturbed; C.P.T. Vane; Jar Water; Bulk Piezometer

Remarks (Observations of Ground Water etc.)

Hand dug inspection pit to 1.50 m
() blows required to drive undisturbed sampled.
Groundwater 19.6.84 Strike 4.00 m rising in 20 minutes to 3.30 m casing to 3.50 m. Also strike 7.10 m rising in 20 minutes to 2.80 m casing to 7.00 m. Standing water level 2.80 m

Water levels are subject to seasonal or tidal variations and should not be taken as constant



Norwest Holst Soil Engineering Ltd.

BOREHOLE LOG

Borehole No. 5

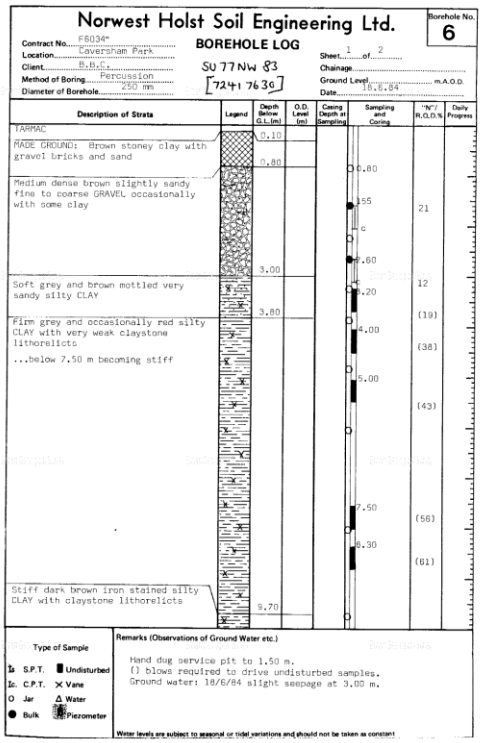
Contract No. F6034
Location Caversham Park
Client B.B.C.
Method of Boring Percussion
Diameter of Borehole 250mm
SU 77 NW/82
Sheet 2 of 2
Chainage
Ground Level m.A.O.D.
Date 19.6.84

Description of Strata	Legend	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth of Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
Firm grey occasionally red silty CLAY with very weak claystone lithorelicts ... below 10.55 becoming stiff					10.55	(46)	
		11.60					
Firm to stiff grey and brown silty CLAY with some claystone lithorelicts and with thin bands of orange brown clayey fine to coarse sand					12.00	(59)	
					13.55	(59)	
		14.80					
Greenish brown clayey SAND with some shells		15.20			15.55	101	
White moderately to highly weathered CHALK very weak to weak					17.00	130for 225mm	
		17.45					

Type of Sample: S.P.T. Undisturbed; C.P.T. Vane; Jar Water; Bulk Piezometer

Remarks (Observations of Ground Water etc.)

Water levels are subject to seasonal or tidal variations and should not be taken as constant



Norwest Holst Soil Engineering Ltd.

Borehole No. 6

Contract No. F6034* Location Caversham Park Client B.B.C. Method of Boring Percussion Diameter of Borehole 250 mm

BOREHOLE LOG

SU 77 NW 83 [7241 7639]

Sheet 1 of 2 Chainage Ground Level m.A.O.D. Date 18.6.84

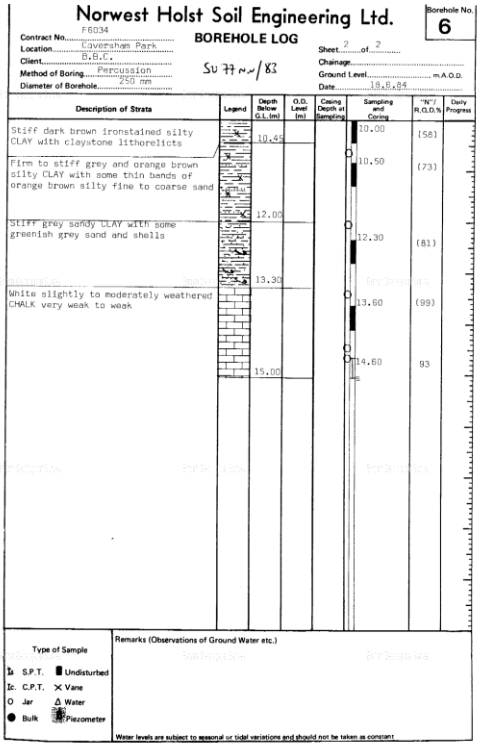
Description of Strata	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
TARMAC	0.10					
MADE GROUND: Brown stoney clay with gravel bricks and sand	0.80			0.80		
Medium dense brown slightly sandy fine to coarse GRAVEL occasionally with some clay				1.55 C	21	
	3.00			2.60		
Soft grey and brown mottled very sandy silty CLAY	3.80			3.20	12 (19)	
Firm grey and occasionally red silty CLAY with very weak claystone lithorelicts ...below 7.50 m becoming stiff				4.00 5.00	(38) (43)	
				7.50	(56)	
				8.30	(61)	
Stiff dark brown iron stained silty CLAY with claystone lithorelicts	9.70					

Type of Sample: S.P.T. Undisturbed; C.P.T. Vane; Jar Water; Bulk Piezometer

Remarks (Observations of Ground Water etc.)

Hand dug service pit to 1.50 m.
() blows required to drive undisturbed samples.
Ground water: 18/6/84 slight seepage at 3.00 m.

Water levels are subject to seasonal or tidal variations and should not be taken as constant



Norwest Holst Soil Engineering Ltd.

Borehole No. 6

Contract No. F6034 Location Caversham Park Client B.B.C. Method of Boring Percussion Diameter of Borehole 250 mm

BOREHOLE LOG

SU 77 NW/83

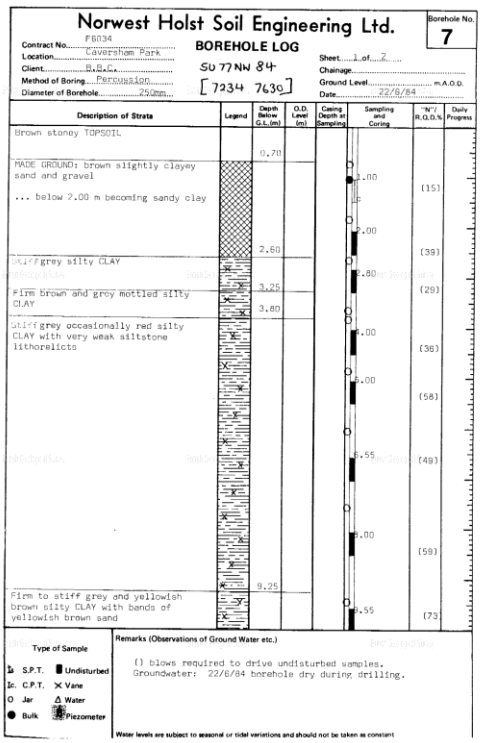
Sheet 2 of 2 Chainage Ground Level m.A.O.D. Date 18.6.84

Description of Strata	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
Stiff dark brown ironstained silty CLAY with claystone lithorelicts	10.45			10.00	(58)	
Firm to stiff grey and orange brown silty CLAY with some thin bands of orange brown silty fine to coarse sand				10.50	(73)	
Stiff grey sandy CLAY with some greenish grey sand and shells	12.00			12.30	(81)	
White slightly to moderately weathered CHALK very weak to weak	13.30			13.60	(99)	
	15.00			14.60	93	

Type of Sample: S.P.T. Undisturbed; C.P.T. Vane; Jar Water; Bulk Piezometer

Remarks (Observations of Ground Water etc.)

Water levels are subject to seasonal or tidal variations and should not be taken as constant



Norwest Holst Soil Engineering Ltd.

Borehole No. 7

Contract No. F6034 Location Caversham Park Client B.B.C. Method of Boring Percussion Diameter of Borehole 250mm

BOREHOLE LOG

SU 77 NW 84 [7234 7639]

Sheet 1 of 2 Chainage Ground Level m.A.O.D. Date 22/6/84

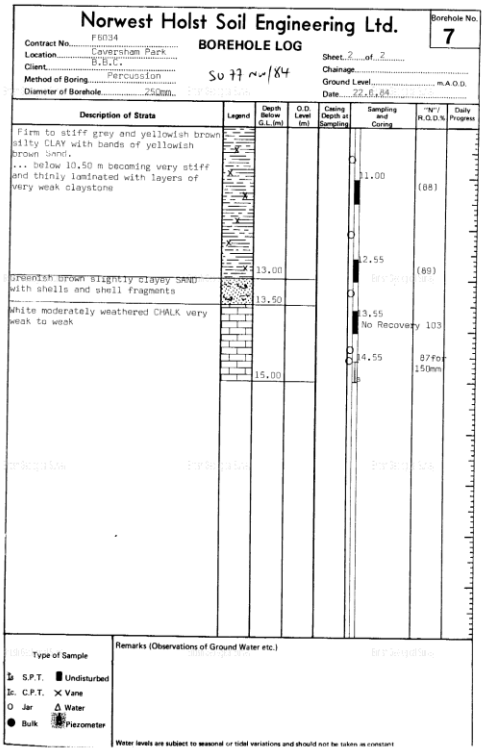
Description of Strata	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
Brown stoney TOPSOIL	0.70					
MADE GROUND: brown slightly clayey sand and gravel ... below 2.00 m becoming sandy clay				1.00	(15)	
	2.60			2.00	(39)	
Stiff grey silty CLAY	3.25			2.80	(29)	
Firm brown and grey mottled silty CLAY	3.80			4.00	(36)	
Stiff grey occasionally red silty CLAY with very weak siltstone lithorelicts				5.00	(58)	
				6.55	(49)	
				8.00	(59)	
Firm to stiff grey and yellowish brown silty CLAY with bands of yellowish brown sand	9.25			9.55	(73)	

Type of Sample: S.P.T. Undisturbed; C.P.T. Vane; Jar Water; Bulk Piezometer

Remarks (Observations of Ground Water etc.)

() blows required to drive undisturbed samples.
Groundwater: 22/6/84 borehole dry during drilling.

Water levels are subject to seasonal or tidal variations and should not be taken as constant



Norwest Holst Soil Engineering Ltd.

Borehole No. 7

Contract No. F6034 Location Caversham Park Client B.B.C. Method of Boring Percussion Diameter of Borehole 250mm

BOREHOLE LOG

SU 77 NW/84

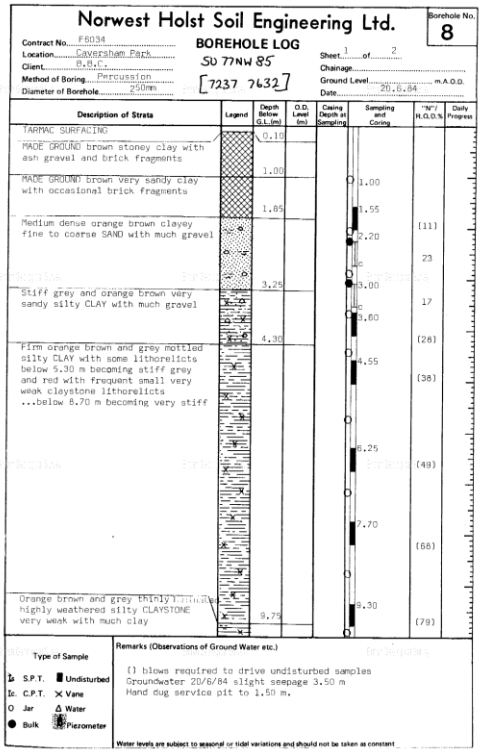
Sheet 2 of 2 Chainage Ground Level m.A.O.D. Date 22.6.84

Description of Strata	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
Firm to stiff grey and yellowish brown silty CLAY with bands of yellowish brown Sand. ... below 10.50 m becoming very stiff and thinly laminated with layers of very weak claystone				11.00	(88)	
	12.55			12.55	(89)	
Greenish brown slightly clayey SAND with shells and shell fragments	13.50			13.55 No Recovery	103	
White moderately weathered CHALK very weak to weak	15.00			14.55	87for 150mm	

Type of Sample: S.P.T. Undisturbed; C.P.T. Vane; Jar Water; Bulk Piezometer

Remarks (Observations of Ground Water etc.)

Water levels are subject to seasonal or tidal variations and should not be taken as constant



Norwest Holst Soil Engineering Ltd.

Borehole No. 8

Contract No. F6034
Location Caversham Park
Client B.B.C.
Method of Boring Percussion
Diameter of Borehole 250mm

BOREHOLE LOG

SU 77NW 85
[7237 7632]

Sheet 1 of 2
Chainage
Ground Level m.A.O.D.
Date 20.6.84

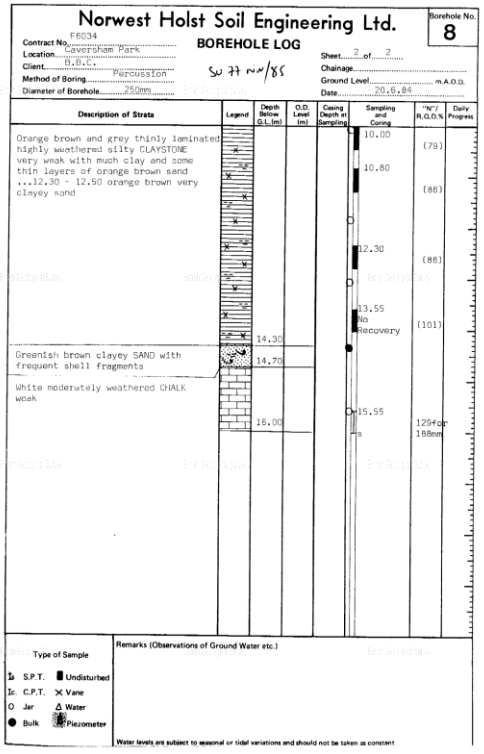
Description of Strata	Legend	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
TARMAC SURFACING		0.10					
MADE GROUND brown stoney clay with ash gravel and brick fragments		1.00			1.00		
MADE GROUND brown very sandy clay with occasional brick fragments		1.65			1.55		
Medium dense orange brown clayey fine to coarse SAND with much gravel					2.20	(11)	
						23	
		3.25			3.00		
Stiff grey and orange brown very sandy silty CLAY with much gravel					3.60	17	
		4.30				(28)	
Firm orange brown and grey mottled silty CLAY with some lithorelicts below 5.30 m becoming stiff grey and red with frequent small very weak claystone lithorelicts ...below 8.70 m becoming very stiff					4.55	(38)	
					6.25	(49)	
					7.70	(68)	
Orange brown and grey thinly laminated highly weathered silty CLAYSTONE very weak with much clay		9.75			8.30	(79)	

Type of Sample
S.P.T. Undisturbed
C.P.T. Vane
Jar Water
Bulk Piezometer

Remarks (Observations of Ground Water etc.)

() blows required to drive undisturbed samples
Groundwater 20/6/84 slight seepage 3.50 m
Hand dug service pit to 1.50 m.

Water levels are subject to seasonal or tidal variations and should not be taken as constant



Norwest Holst Soil Engineering Ltd.

Borehole No. 8

Contract No. F6034
Location Caversham Park
Client B.B.C.
Method of Boring Percussion
Diameter of Borehole 250mm

BOREHOLE LOG

SU 77 NW/85

Sheet 2 of 2
Chainage
Ground Level m.A.O.D.
Date 20.6.84

Description of Strata	Legend	Depth Below G.L.(m)	O.D. Level (m)	Casing Depth at Sampling	Sampling and Coring	"N"/ R.Q.D.%	Daily Progress
Orange brown and grey thinly laminated highly weathered silty CLAYSTONE very weak with much clay and some thin layers of orange brown sand ...12.30 - 12.50 orange brown very clayey sand					10.00	(79)	
					10.80	(86)	
					12.30	(88)	
					13.55 No Recovery	(101)	
		14.30					
Greenish brown clayey SAND with frequent shell fragments		14.70					
White moderately weathered CHALK weak					15.55	129for 188mm	
		16.00					

Type of Sample
S.P.T. Undisturbed
C.P.T. Vane
Jar Water
Bulk Piezometer

Remarks (Observations of Ground Water etc.)

Water levels are subject to seasonal or tidal variations and should not be taken as constant