

Appendix A

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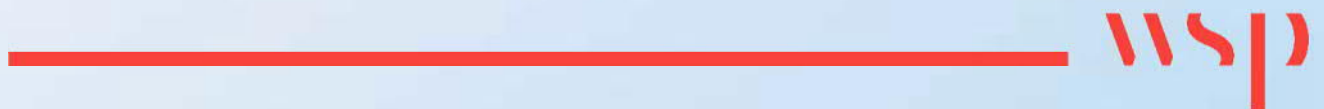
Appendix B

FIGURES



Appendix C

A29 REALIGNMENT, ARCHAEOLOGICAL DESK-BASED ASSESSMENT





West Sussex County Council

A29 REALIGNMENT

Archaeological Desk-Based Assessment





West Sussex County Council

A29 REALIGNMENT

Archaeological Desk-Based Assessment

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EXECUTIVE SUMMARY

WSP has been commissioned by West Sussex County Council to carry out an archaeological desk-based assessment (ADBA) in advance of proposed development for the A29 realignment, in Eastergate, West Sussex. The scheme comprises the construction of a 1.3km-long new single carriageway road between Fontwell Avenue and Barnham Road. Three attenuation ponds would be built in the northern part, the north-western part and the southern part of the site.

This desk-based study assesses the impact on buried heritage assets (archaeological remains). Although above ground heritage assets (historic structures) are not discussed in detail, they have been noted where they assist in the archaeological interpretation of the site.

The site does not contain any nationally designated (protected) heritage assets, such as scheduled monuments or listed buildings.

Geoarchaeological monitoring of geotechnical investigations took place on the site in 2018. This recorded a single prehistoric flake fragment and a single fragment of ceramic building material of Roman or post-medieval date. It also recorded the presence of rare Brighton-Norton Raised Beach deposits from an interglacial period when the climate was warmer than at present and characterised by exotic fauna. Such deposits are on average 5.0m below ground and thus too deeply buried to be affected by the scheme. In 2020, a geophysical survey was carried out in three areas of the site. The survey identified anomalies considered likely to be archaeological in origin, this included a distinct parallel alignment that could indicate a former trackway of late prehistoric or Roman date. There were also slight indications of possible lesser ditches at right angles to the “trackway” ditches, which may suggest a prehistoric or Roman field system.

Buried heritage assets that may be affected by the proposals comprise:

- **Prehistoric remains.** There is moderate to high potential for prehistoric remains. A single flint fragment was recorded in the western part of the site. Prehistoric flint tools and cut features have been recorded at several locations in the study area. Isolated remains of stone tools or pottery would be of low significance while cut features would be of medium or high significance, depending on the nature and extent of the remains.
- **Roman remains.** There is moderate potential for Roman remains. The site lies 950m to the south of the Roman road from Chichester to Arundel in an area probably used for agriculture. A possible Roman tile fragment was found on the site in 2018. Isolated finds of pottery would be of low significance while agricultural cut features would likely be of medium or high significance, depending on the nature and extent of the remains.

The site has a low potential for remains from other periods. During the early and later medieval periods, the site was located to the north of the settlement of Eastergate in woodland or open fields. During the post-medieval period the majority of the site was in fields, then orchards. Any remains associated with the early 19th century Eastergate Workhouse, in the western part of the site, are likely to have been entirely removed by 19th century quarrying.

Archaeological survival across the site is anticipated to be moderate to high across the majority of the site. Apart from the small farm buildings and quarrying in the western part of the site, there has



been no construction on the site. Much of the site was used for orchards in the 20th century and root action will have caused disturbance.

Works carried out as part of the initial site set up, including preliminary site stripping, the installation of site fencing and welfare facilities could cause an impact. The excavations for the proposed road would entirely remove any archaeological remains within the excavation footprint. The excavation of new attenuation ponds, service trenches and drains would entirely remove any archaeological remains within the trench footprint.

Archaeological investigation will be required prior to construction, in order to clarify the nature, survival and significance of any archaeological assets that may be affected. The local authority's archaeological advisor has suggested that the most appropriate investigation is an archaeological trial trench evaluation. This will target the anomalies identified in the geophysical survey and also investigate the 'blank' areas where no anomalies were identified.

The results of the evaluation would allow an informed decision to be made in respect of an appropriate mitigation strategy for any significant archaeological assets. Mitigation normally comprises preservation by record in the form of an archaeological 'strip map and record' following the preliminary topsoil strip, targeted archaeological excavation in advance of development where significant remains are known to be present, and/or a watching brief during ground works for remains of lesser significance. In the unlikely event that nationally important archaeological remains are present, preservation in situ may be required (i.e. through redesign/avoidance).

As an alternative to the trial trench archaeological evaluation, followed by archaeological mitigation, it is possible to proceed straight to mitigation during the preliminary site strip, in the form of Strip, Map and Sample.

Any archaeological work would need to be undertaken in consultation with the local authority's archaeological advisor, in accordance with an approved archaeological Written Scheme of Investigation (WSI). Recording of a 19th century garden wall on Fontwell Avenue may be required prior to demolition.

1 INTRODUCTION

1.1 PROJECT BACKGROUND

1.1.1. WSP has been commissioned by West Sussex County Council to carry out an archaeological desk-based assessment (ADBA) in advance of proposed development for the A29 realignment, in Eastergate, West Sussex (National Grid Reference NGR 495250 105650; **Figure 1**). The scheme comprises the construction of a new 1.3km-long single carriageway road between Fontwell Avenue at the north-western end and Barnham Road in the south-east. Three attenuation ponds would be built in the northern part, the north-western part and the southern part of the site. The scheme extends across what are currently open fields on the north-eastern outskirts of Eastergate village.

1.2 SCOPE

- 1.2.1. The report provides a baseline of known or possible buried heritage assets (archaeological remains including upstanding earthworks) within or immediately adjacent to the area of proposed development (hereafter the 'site'), which have been identified from a broad range of standard sources. Such assets are considered to have a degree of significance meriting consideration in planning decisions and include designated (protected) buried heritage assets and non-designated assets.
- 1.2.2. Professional expert opinion has been used to assess heritage significance, based on historic, archaeological, architectural or artistic interest, taking into account past ground disturbance which may have compromised survival.
- 1.2.3. This report deals solely with the archaeological implications of the development and does not assess the impact upon above ground heritage assets (i.e. designated and undesignated historic structures and conservation areas) except where buried parts of historic fabric are likely to be affected. Such assets on or in the vicinity of the site are discussed if they are relevant to the archaeological interpretation the site, and direct physical impacts are noted. The report does not assess issues in relation to the setting of above ground heritage assets (e.g. visible changes to historic character and views).
- 1.2.4. The assessment forms an initial stage of investigation and is required in relation to the planning process in order that the local planning authority (LPA) can formulate an appropriate response in the light of the impact upon any known or possible heritage assets.

1.3 AIMS AND OBJECTIVES

- 1.3.1. Archaeology has been a material consideration in the planning process since 1990 and its value is recognised in national and local planning policy. The aim of this report is to assess the archaeological impact of the scheme and to provide a suitable strategy to mitigate any adverse effects, if required, as part of a planning application to develop the site. The aim is achieved through four objectives:
- identify the presence of any known or potential buried heritage assets that may be affected by the proposals;
 - describe the significance of such assets, in accordance with the National Planning Policy Framework (NPPF), taking into account factors which may have compromised asset survival;

- assess the likely impacts upon the significance of the assets arising from the proposals; and
- provide recommendations for further investigation and/or mitigation where required, aimed at reducing or removing completely any adverse effects.

1.4 KEY HERITAGE CONSTRAINTS

- 1.4.1. The site does not contain any nationally designated (protected) heritage assets, such as scheduled monuments, listed buildings or registered parks and gardens.
- 1.4.2. The site does not lie within a conservation area or an archaeological notification area as defined by LPA.
- 1.4.3. The site includes a number of hedgerows. None of these hedgerows meet the criteria for 'important' historic hedgerows under the Hedgerow Regulations Act.

1.5 STATEMENT OF LIABILITY

- 1.5.1. This document is for the exclusive benefit of the Client (West Sussex County Council). It may not be assigned to or relied upon by a third party without the agreement of WSP UK Limited ('WSP') in writing. WSP retains all copyright and other intellectual property rights in the document and its contents unless transferred by written agreement between WSP and the Client.
- 1.5.2. The findings and opinions expressed are based on the conditions encountered and/or the information reasonably available at the date of issue of this document (or other date e.g. date of inspection) and shall be applicable only to the circumstances envisaged herein.
- 1.5.3. No person except the Client shall have the benefit of this document by virtue of the *Contracts (Rights of Third Parties) Act 1999*.

2 PLANNING FRAMEWORK

2.1 NATIONAL PLANNING POLICY FRAMEWORK

- 2.1.1. The Government issued a revised version of the National Planning Policy Framework (NPPF) in February 2019 (MHCLG 2019) and supporting revised Planning Practice Guidance in 2018 (MHCLG 2018).
- 2.1.2. The purpose of the planning system is to contribute to the achievement of sustainable development, and the NPPF has a presumption in favour of such, where it meets needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development is achieved within the context of economic, social and environmental objectives.
- 2.1.3. Section 16 of the NPPF deals with 'Conserving and Enhancing the Historic Environment'. The NPPF recognises that heritage assets are an irreplaceable resource which 'should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations' (para 184).
- 2.1.4. The NPPF requires the significance of heritage assets to be considered in the planning process, whether designated or not. NPPF Section 16 is reproduced in full below:

Proposals affecting heritage assets

Para 184. *Heritage assets range from sites and buildings of local historic value to those of the highest significance, such as World Heritage Sites which are internationally recognised to be of Outstanding Universal Value [footnote: Some World Heritage Sites are inscribed by UNESCO to be of natural significance rather than cultural significance; and in some cases they are inscribed for both their natural and cultural significance]. These assets are an irreplaceable resource, and should be conserved in a manner appropriate to their significance, so that they can be enjoyed for their contribution to the quality of life of existing and future generations [Footnote: The policies set out in this chapter relate, as applicable, to the heritage-related consent regimes for which local planning authorities are responsible under the Planning (Listed Buildings and Conservation Areas) Act 1990, as well as to plan-making and decision-making].*

Para 185. *Plans should set out a positive strategy for the conservation and enjoyment of the historic environment, including heritage assets most at risk through neglect, decay or other threats. This strategy should take into account:*

- a) *the desirability of sustaining and enhancing the significance of heritage assets, and putting them to viable uses consistent with their conservation;*
- b) *the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;*
- c) *the desirability of new development making a positive contribution to local character and distinctiveness; and*
- d) *opportunities to draw on the contribution made by the historic environment to the character of a place.*

Para 186. *When considering the designation of conservation areas, local planning authorities should ensure that an area justifies such status because of its special architectural or historic interest, and that the concept of conservation is not devalued through the designation of areas that lack special interest.*

Para 187. *Local planning authorities should maintain or have access to a historic environment record. This should contain up-to-date evidence about the historic environment in their area and be used to:*

- a) *assess the significance of heritage assets and the contribution they make to their environment; and*
- b) *predict the likelihood that currently unidentified heritage assets, particularly sites of historic and archaeological interest, will be discovered in the future.*

Para 188. *Local planning authorities should make information about the historic environment, gathered as part of policy-making or development management, publicly accessible.*

Para 189. *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.*

Para 190. *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 into account when considering the impact of a proposal on a heritage asset, to avoid or minimise any conflict between the heritage asset's conservation and any aspect of the proposal.*

Para 191. *Where there is evidence of deliberate neglect of, or damage to, a heritage asset the deteriorated state of the heritage asset should not be taken into account in any decision.*

Para 192. *In determining 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.*

Considering potential impacts

Para 193. *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.

Para 194. 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 grade II* listed buildings, grade I and II* registered parks and gardens, and World Heritage Sites, should be wholly exceptional. (footnote: 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].

Para 195. 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.

Para 196. 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.

Para 197. 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.

Para 198. Local planning authorities should not permit the loss of the whole or part of a heritage asset without taking all reasonable steps to ensure the new development will proceed after the loss has occurred.

Para 199. 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 [footnote: Copies of evidence should be deposited with the relevant historic environment record, and any archives with a local museum or other public depository]. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.

Para 200. *Local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites, and within the setting of heritage assets, to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to the asset (or which better reveal its significance) should be treated favourably.*

Para 201. *Not all elements of a Conservation Area or World Heritage Site will necessarily contribute to its significance. Loss of a building (or other element) which makes a positive contribution to the significance of the Conservation Area or World Heritage Site should be treated either as substantial harm under paragraph 195 or less than substantial harm under paragraph 196, as appropriate, taking into account the relative significance of the element affected and its contribution to the significance of the Conservation Area or World Heritage Site as a whole.*

Para 202. *Local planning authorities should assess whether the benefits of a proposal for enabling development, which would otherwise conflict with planning policies but which would secure the future conservation of a heritage asset, outweigh the disbenefits of departing from those policies.*

- 2.1.5. The web-based National Planning Policy Guidance (<https://www.gov.uk/government/collections/planning-practice-guidance>) provides supporting information in respect of conserving and enhancing the historic environment.

2.2 LOCAL POLICY

- 2.2.1. The West Sussex County Council Structure Plan 2001–2016 has no formal status in the current planning system. However, it remains West Sussex’s strategic policy statement for future development and land-use planning. Policy CH7 covers Archaeology:

Policy CH7

(a) Development should not be permitted unless the archaeological heritage of West Sussex is protected and preserved and, where possible, opportunities are taken to promote the educational and amenity value of sites and areas (historic landscapes).

(b) Local plans will include policies to ensure:

(1) the physical preservation in-situ of nationally important archaeological areas, sites or monuments, whether scheduled or not, and their settings;

(2) the protection of other important archaeological areas and sites including, where appropriate, the preservation of remains in situ;

(3) where necessary, that site evaluation is undertaken to define the character and significance of the archaeological or historic interest of proposed development sites; and

(4) the excavation and recording of archaeological remains, the preservation of any finds and the subsequent publication of results.

- 2.2.2. Arun District Council’s Local Plan 2011–2031 was adopted in July 2018. Policy SP1 covers the Historic Environment:

Policy HER SP1 – The historic environment

The Local Planning Authority will grant planning permission or relevant consent for development proposals that conserve or enhance the historic environment of the District, based on the following approach:

Designated heritage assets including listed buildings, structures and their settings; and Conservation Areas will be given the highest level of protection and should be conserved and enhanced in a manner appropriate to their significance.

Non-designated heritage assets including locally listed heritage assets (Buildings or Structures of Character and Areas of Character) and their settings will also need to be conserved and enhanced in a manner appropriate to their significance and contribution to historic environment.

Development likely to prejudice any of the above, including their settings, will be refused. Any proposals for development will be required to comply with all other relevant policies and reflect any relevant appraisals or management proposals adopted by the Local Planning Authority.

The Local Planning Authority will encourage the re-use of vacant or underused Listed Buildings or unlisted buildings by approving proposals that contribute positively to their conservation either individually or as part of wide strategies for regeneration. Where changes of use are proposed, the Local Planning Authority will consider these in a flexible way but will favour proposals which improve public access where these are not prejudicial to existing character or appearance.

The Local Planning Authority will take a pro-active stance to any heritage assets that may be at risk. This will include working with property owners to find a use that will enable them to be put back in to use.

Development proposals involving the demolition of Listed Buildings or substantial harm to a Conservation Area will not be permitted unless it can be demonstrated that the loss or harm achieves substantial public benefits.

2.2.3. Policy DM1 covers Archaeology:

Policy HER DM6 – Sites of Archaeological Interest

There will be a presumption in favour of the preservation of scheduled and other nationally important monuments and archaeological remains. Where proposed developments will have either a direct impact on sites listed in Table 16.1, or where a site on which development is proposed has the potential to include heritage assets with archaeological interest (having consulted the Historic Environment Record) permission will only be granted where it can be demonstrated that development will not be harmful to the archaeological interest of these sites.

In all instances:

- a. Applicants must arrange for a desk based archaeological assessment of the proposed development to be undertaken by a suitably qualified person. The archaeological assessment will take the form of a factual review of the known information on historic assets and an appraisal of these assets. This information shall accompany the planning application, and, where not supplied, will be*

required before any planning application is determined. Where the Planning Authority has reason to believe, either from the archaeological assessment above, or from other evidence sources, that significant archaeological remains may exist, further assessment in the form of a field evaluation will be carried out before the planning application is determined. Any field survey undertaken shall be carried out by a professionally qualified archaeological organisation or consultant only. All stages of archaeological fieldwork shall be subject to a Written Scheme of Investigation approved by the Local Planning Authority;*

Or

- b. A field evaluation as above, which shall include a historic environmental record of the archaeological site without the requirement to undertake a separate desk based archaeological assessment.*
- c. Preservation in situ of archaeological sites or remnants of such sites, is the preferred option. However, where the assessment, which shall be subject to a Written Scheme of Investigation, shows that the preservation of archaeological remains in situ is not justified, conditions may be attached to any permission granted that development will not take place until provision has been made by the developer for a programme of archaeological investigation and recording. Any such programme shall be carried out prior to the commencement of the development.*
- d. Whenever practicable, opportunities should be taken for the enhancement and interpretation of archaeological remains left in situ. Developer shall record any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and possible impact, and to make this evidence (and any archive generated) publicly accessible.*
- e. Where development is to be phased the presumption would normally be that the whole site should be recorded as one project in order to maintain the continuity of the archaeological record.*
- f. Developments shall also be consistent with all other Local Plan Policies.*

**Those submitting planning applications are strongly advised however to undertake a desk based archaeological assessment in advance of a planning application being lodged as, depending on the outcome of this assessment, further assessment in the form of a field evaluation may be required (as outlined in a. above).*

3 METHODOLOGY AND SOURCES

3.1 DESK-BASED ASSESSMENT

- 3.1.1. The assessment has been carried out in accordance with the requirements of the National Planning Policy Framework (NPPF) (MHCLG 2019, MHCLG 2018b) and to standards specified by the Chartered Institute for Archaeologists (CIfA Dec 2014a, 2014b) and Historic England (HE 2016, 2017).
- 3.1.2. In order to determine the full historic environment potential of the site, a broad range of standard documentary and cartographic sources, including results from any archaeological investigations in the site and a 1.5km radius study area around it were examined in order to determine the likely nature, extent, preservation and significance of any known or possible buried heritage assets that may be present within or adjacent to the site.
- 3.1.3. The table below provides a summary of the key data sources. Occasionally there may be reference to assets beyond this study area, where appropriate, e.g., where such assets are particularly significant and/or where they contribute to current understanding of the historic environment.

Table 3-1 –Data sources consulted

Source	Data	Comment
Historic England	National Heritage List (NHL) with information on statutorily designated heritage assets	Statutory designations (scheduled monuments; statutorily listed buildings; registered parks and gardens; historic battlefields) can provide a significant constraint to development.
West Sussex County Council	Historic Environment Record (HER)	Primary repository of archaeological information. Includes information from past investigations, local knowledge, find spots, and documentary and cartographic sources
Local Planning Authority	Archaeological priority area	Area of interest identified by the local authority. There is likely to be a requirement for archaeological investigation (initially a desk-based assessment) as part of any planning application.
Local Planning Authority	Conservation area	An area of special architectural or historic interest the character or appearance of which it is desirable to preserve or enhance.
British Geological Survey (BGS)	Solid and drift geology digital map; online BGS geological borehole record data.	Subsurface deposition, including buried geology and topography, can provide an indication of potential for early human settlement, and potential depth of archaeological remains.
Portable Antiquities Scheme (PAS)	Database of archaeological finds found by chance.	Government funded project to encourage the voluntary recording of archaeological objects found by members of the public. Database is online at finds.org.uk . This was consulted for the site and its immediate vicinity only.

Source	Data	Comment
Groundsure	Ordnance Survey maps from the 1st edition (1860–70s) to present day	Provides a good indication of past land use and impacts which may have compromised archaeological survival. Provides an indication of the possible date of any buildings on the site.
West Sussex Record Office	Historic maps (eg Tithe, enclosure, estate), published journals and local history	Baseline information on the historic environment
Historic England Archive, Swindon	Vertical and specialist (oblique) aerial photographs	Cropmarks formed by moisture variations due to subsurface features can indicate the presence of archaeological remains. Aerial photographs can also sometimes provide information on ground disturbance.
Environment Agency	LiDAR data	LiDAR (Light Detection and Ranging), is a remote sensing method that uses light in the form of a pulsed laser to measure ranges (variable distances) to the Earth. It can be used to provide an understanding of the microtopography, which can be used to identify the presence of archaeological features visible as earthworks or differential crop growth due to subsurface features.
Internet	Web-published local history; Archaeological Data Service	Many key documentary sources, such as the Victoria County History, the Survey of London, and local and specialist studies are now published on the web and can be used to inform the archaeological and historical background. The Archaeological Data Service includes an archive of digital fieldwork reports.
The client	Project acquired geotechnical data	The information can be very useful in enhancing understanding of the nature and depth of natural geology (see above) and any made ground, whether it is modern or of potential archaeological interest.
The client	Topographical survey data	Survey data can provide an indication of the impact of past land use, e.g. ground raising or lowering, which is useful for understanding possible truncation and likely depth of archaeological remains.

3.1.4. **Figure 2** shows the location of known historic environment features within the study area, as identified by the sources above, the site visit, or during the course of research for this assessment. These have been allocated a unique 'assessment' reference number (**A1, 2**, etc.), which is listed in a gazetteer at the back of this report and is referred to in the text. Where there are a considerable number of listed buildings in the study area, only those within the vicinity of the site (i.e. within 50m) are included, unless their inclusion is considered relevant to the study. Conservation areas are not shown. Archaeological notification areas are not shown. All distances quoted in the text are approximate (within 5m).

3.2 SITE VISIT

3.2.1. The assessment included a site visit carried out on the 25th of February 2020 in order to determine the topography of the site and existing land use, identify any visible heritage assets (eg structures and earthworks), and assess any possible factors which may affect the survival or condition of any known or potential assets.

3.3 ASSESSING HERITAGE SIGNIFICANCE

3.3.1. The NPPF defines significance as 'The value of a heritage asset to this and future generations because of its heritage interest. That interest may be historic, archaeological, architectural or artistic.' The determination of the significance is based on statutory designation and/or professional judgement against these values (they are also identified in Historic England Conservation Principles revised consultation draft Nov 2017).

3.3.2. Historic England's Conservation Principles (previously English Heritage, 2008) identifies four high level values: evidential, historical, aesthetic and communal. The determination of the significance of these assets is based on statutory designation and/or professional judgment against the following values referred to in Historic England's Conservation Principles (2008):

- *Evidential value*: the potential of a place to yield evidence about past human activity.
- *Historical value*: the ways in which past people, events and aspects of life can be connected through a place to the present – it tends to be illustrative or associative.
- *Aesthetic value*: the ways in which people draw sensory and intellectual stimulation from a place.
- *Communal value*: the meanings of a place for the people who relate to it, or for whom it figures in their collective experience or memory.

3.3.3. These values encompass the criteria that Historic England are obliged to consider when statutorily designating heritage assets. Each asset has to be evaluated against the range of criteria listed above on a case by case basis. Unless the nature and exact extent of buried archaeological remains within any given area has been determined through prior investigation, significance is often uncertain.

3.3.4. The table below gives examples of the significance of designated and non-designated heritage assets.

Table 3-2 – Significance of heritage assets

Heritage asset description	Significance
World heritage sites	Very High
Scheduled monuments	
Grade I and II* listed buildings	
Grade I and II* registered parks and gardens	
Designated historic battlefields	
Protected Wrecks	
Undesignated heritage assets of high national importance	
Grade II listed buildings	High

Heritage asset description	Significance
Grade II registered parks and gardens Conservation areas Burial grounds Protected heritage landscapes (e.g. ancient woodland or historic hedgerows) Undesignated heritage assets of lower national, regional or county importance	
Heritage assets with a district value or interest for education or cultural appreciation Locally listed buildings	Medium
Heritage assets with a local (ie parish) value or interest for education or cultural appreciation	Low
Item with no significant value or interest	Negligible
Heritage assets that have a clear potential, but for which current knowledge is insufficient to allow significance to be determined	Uncertain

3.4 ASSESSING HARM

- 3.4.1. Professional judgement is used to consider the impact (the magnitude of change) of future development on the significance a known or potential heritage asset. This is assessed in NPPF terms as ‘no harm’, ‘less than substantial harm’, ‘substantial harm’ or ‘total loss of significance’.

4 HISTORIC ENVIRONMENT BASELINE

4.1 SITE LOCATION

- 4.1.1. The site is located in fields and wooded areas between Barnham Road and Fontwell Avenue and in the area of a nursery, south of Barnham Road, Eastergate, West Sussex (NGR 495250 105650: **Figure 1**). The site is irregular in shape. It is bounded Fontwell Avenue, to the west. The central “dog leg” of the proposed route is bounded by fields and wooded areas to the north and south, and by houses along Murrell Gardens to the east. The southern part of site is currently a nursery. It is bounded by Barham Road to the north; house along Upton Brooks to the east; fields to the south and buildings and open areas to the west.
- 4.1.2. The site falls within the historic parish of Eastergate and lay within the county of Sussex prior to being absorbed into the administration of Arun District Council.
- 4.1.3. There is a tributary of the Lidsey Rife, 700m to the south-west of the site.

4.2 TOPOGRAPHY

- 4.2.1. Topography can provide an indication of suitability for settlement, and ground levels can indicate whether the ground has been built up or truncated, which can have implications for archaeological survival (see section 4.6).
- 4.2.2. The site is located on the West Sussex Coastal Plain. It lies between two dry valleys which form part of the Lidsey Rife river system. The dry valley to the west of the site, following the approximate line of Fontwell Avenue, is a continuation of the Slindon Bottom dry valley. The dry valley to the east is less distinct (ASE 2019).
- 4.2.3. There is a general slope down across the site from north-west to south-east. The ground level is recorded at 15.4m Ordnance Datum (OD) in the western part of the site by Fontwell Avenue. The ground rises slightly to a level of 16.1m OD at the wooded area in the west of the site. From this high point the ground falls to 13.0m OD in the centre of the site. The ground level is recorded at 11.1m OD in the south of the site by Barnham Road (Siteline, Dwg No. 36ES001 – OVERVIEW, Rev -, June 2018). South of Barnham Road the level is recorded at 11.0m OD. At the southernmost part of the site the level is recorded at 10.0m OD (Unreferenced AutoCad drawing, date November 2019)

4.3 GEOLOGY

- 4.3.1. Geology can provide an indication of suitability for early settlement, and potential depth of remains.
- 4.3.2. According to British Geological Survey (BGS) digital data the geology of the site comprises Head deposits (superficial deposits of gravel and sand accumulated by down-slope solifluction and hill wash). There are river terrace deposits of sand, silts and clays in the southern and western parts of the site (Figure 3).
- 4.3.3. A geotechnical investigation was carried out for engineering purposes in 2018. This was monitored archaeologically by Archaeology South East (ASE), as commissioned by WSCC, on the basis that the site crosses the Brighton-Norton Raised Beach deposits of potential geoarchaeological interest. Nine boreholes (BH01–BH09), 15 test pits (TP01–TP17) and three windows samples (WS02–

WS04) were excavated. The location of the boreholes, test pits and window samples is shown in Figure 4.

- 4.3.4. The sequence recorded displayed a typical Quaternary succession for this part of the Coastal Plain. London Clay was overlain by marine deposits provisionally interpreted as relating to the Brighton-Norton raised beach. The highest depth of the marine deposits was recorded at 3.1m below ground level (mbgl) in TP16. These, in turn, were overlain by fluvial gravel deposits. Localised Brickearth was recorded in several locations. Undated made ground (likely of modern origin, possibly dumping) was recorded in BH03, TP06, TP12, TP16 and TP18 (ASE 2019). The results of the investigation are shown in Table 4-1. These results are discussed in further detail in Section 4.5. Note: the interpretation of is that of ASE specialists.

Table 4-1 – Summary of geotechnical data (ASE 2019, Table 3)

Borehole (BH)/ Trial Pit (TP) ref.	Topsoil thickness (m)	Top of Made ground	Top of Subsoil	Top of natural (brickearth)	Top of natural (Head)	Top of natural (fluvial gravel)	Top of natural (Marine Sands)
BH01	<0.2	-	-	0.2	1.0	-	5.8
BH02	<0.1	-	0.1	-	1.2	-	6.5
BH03	<0.1	0.1	-	-	0.9	-	5.5
BH04	<0.2	-	-	0.2	1.0	-	4.8
BH05	<0.2	-	0.2	-	0.5	4.0	Not reached
BH06	<0.3	-	-	-	0.3	-	5.4
BH07	<0.3	-	-	-	0.3	Not reached	Not reached
BH08	<0.1	-	-	0.1	1.2	-	3.2
BH09	<0.3	-	-	0.3	1.4	-	4.5
TP02	<0.2	-	0.2	0.4	0.8	Not reached	Not reached
TP03	<0.3	-	0.3	0.5	0.8	Not reached	Not reached
TP06	<0.2	0.2	-	0.2	-	Not reached	Not reached
TP07	<0.2	-	-	-	0.2	Not reached	Not reached
TP08	<0.2	-	-	-	0.2	Not reached	Not reached

Borehole (BH)/ Trial Pit (TP) ref.	Topsoil thickness (m)	Top of Made ground	Top of Subsoil	Top of natural (brickearth)	Top of natural (Head)	Top of natural (fluvial gravel)	Top of natural (Marine Sands)
TP09	<0.2	-	0.2	0.3	0.8	Not reached	Not reached
TP10	<0.3	-	0.3	0.5	0.7	Not reached	Not reached
TP11	<0.2	-	0.2	-	0.6	Not reached	Not reached
TP12	<0.1	0.1	-	-	1.2	Not reached	Not reached
TP13	<0.2	-	-	-	0.2	Not reached	Not reached
TP14	<0.3	-	0.3	-	0.8	1.6	Not reached
TP15	<0.4	-	-	0.4	1.6	Not reached	Not reached
TP16	<0.2	0.2	-	-	0.6	-	3.1
TP18	<0.2	0.2	-	Not reached	Not reached	Not reached	Not reached
WS02	<0.3	-	0.3	0.5	Not reached	Not reached	Not reached
WS03	<0.3	-	0.3	0.8	Not reached	Not reached	Not reached
WS04	<0.3	-	0.3	1.0	1.2	Not reached	Not reached

Note: levels are in metres below ground level (mbgl)

4.4 OVERVIEW OF PAST INVESTIGATIONS

- 4.4.1. Two investigations has been carried out within the site itself. In 2018, a geoarchaeological watching brief was undertaken by ASE on the geotechnical investigation along the route of the proposed A29 realignment (**A1**). Around half of the boreholes, test pits and windows samples were monitored archaeologically. A single prehistoric flake fragment was found in Test Pit 3. A single fragment of ceramic building material (CBM) was found in Test Pit 2 of Roman or post-medieval date (ASE 2019). A discussion of the geoarchaeological sequence recorded during the investigation is presented in Section 4.5.

- 4.4.2. In 2020 a geophysical survey was carried out in three areas of the site (**A1**). The survey identified anomalies considered likely to be archaeological in origin, this included a distinct parallel alignment of positive anomalies that could indicate a former trackway. It is possible that this defined a former field system that could relate to Late Iron Age or Romano-British activity, noted in the surrounding area. However, a late prehistoric origin is also possible. There were also slight indications of possible lesser ditches at right angles to the “trackway” ditches, which may suggest a prehistoric or Roman field system.
- 4.4.3. Within the study area investigations have been carried out at 10 sites. Prehistoric remains have been found at eight sites (**A4, A5, A7–11 and A13**); Roman remains at five sites (**A4, A5, A7, A9 and A11**); later medieval remains at four sites (**A7–A9 and A13**); and post-medieval remains at three sites (**A7, A9 and A10**). Few of these investigations have been carried out in the immediate vicinity of the site so the archaeological understanding of the area of the site itself is limited, in particular for the prehistoric and Roman periods for which there is no documentary record, although the finds in the study area suggest background potential for multi-period activity.
- 4.4.4. The results of these investigations, along with other known sites and finds within the study area, are discussed by period, in Section 4.6 below. The date ranges are approximate.

4.5 FURTHER DISCUSSION OF THE GEOARCHAEOLOGICAL SEQUENCE

- 4.5.1. The site lies on the West Sussex lower coastal plain, or more widely the Sussex and Hampshire Coastal Plain landform. In general, the West Sussex Coastal Plain (WSCP) is of considerable Pleistocene geological and Palaeolithic archaeological interest, and a resource of great geoarchaeological value. Study from the mid-nineteenth century, intensifying over the last 20 years (Bates (see references in ASE report); at Boxgrove (Roberts and Parfitt 1999); and Briant et al 2009) has brought this value to the fore. The raised beaches of the WSCP developed as a result of high sea level stands during Quaternary warm stages, underpinned by slow tectonic uplift and sea-level rise driven by late Quaternary climate cycles (of 100 thousand years).
- 4.5.2. The watching brief on ground investigation (GI) was carried out to understand the archaeological significance and potential of the deposits on the route of the scheme (ASE 2019). Comment on Prehistoric archaeological potential is not made in the watching brief report. It is likely that potential is variable, ranging from low to moderate for Palaeolithic archaeology and palaeoenvironmental evidence, but higher (moderate to high) for Holocene prehistoric features (Mesolithic to Iron Age).
- 4.5.3. The investigation recorded the following sequence from top to bottom:
- **Colluvium and subsoil – clayey sand with gravel.** These are Holocene deposits relating to the last 10 thousand years (ka), the Mesolithic to the Iron Age. Archaeology would be represented by stone tools, pottery and pits and/or ditches. Although the sediment is mineral-rich (with no organic remains recorded and therefore low environmental potential), there is moderate to high potential for archaeological remains within these upper horizons.
 - **Brickearth** – a firm, structureless silt clay (unit 6) thickest in the southeast area of the site is interpreted as brickearth. It is possible that this dates to the last cold stage (the Devensian, Marine Isotope Stage (MIS) 2-4). Accumulation through erosion is likely, along with windblown sediment, over an extensive period of time. Environmental potential of Brickearth varies dependent on age, mineral versus organic content and the presence of soil horizons representing episodes of exposure and stability (that may have relevance to local and region-wide environmental change). This unit is mineral-rich and likely of low environmental potential (units 4–5) are recorded

overlying marine sand. Gelifluction is a slope process much like solifluction, whereby deposits move en masse, triggered and exacerbated by seasonal freeze-thaw. The fact that these high energy deposits sit on top of the sand suggests they eroded any existing material relating to the landscape at the time of raised beach formation and are likely to be associated with a subsequent climate phase. Evidence of post-depositional decalcification is apparent in the upper horizons, indicating exposure and weathering.

- **Marine sand (unit 2) of the Brighton-Norton Raised Beach** (MIS 7 – deposits from an interglacial 220 ka). MIS 7 sites in Britain are rare, with roughly 20 known. This interglacial has been called the ‘Aveley’ Interglacial, named after the site in Essex (e.g. Schreve 2001) and was warmer than the present, characterised by exotic fauna. Other MIS 7 sites include Marston quarry, Buckinghamshire (Murton et al 2015) and Ebbsfleet as part of the HS1 works (e.g. Wenban-Smith 2017; Scott et al 2010). The interpretation of MIS 7 deposits on site is provisional, and sands could relate to the last glacial (Devensian MIS 2–4), previous (‘Wolstonian’ MIS 6) stage or a combination of the two. On average, this unit’s surface is recorded at around 5mbgl. Sands may be less deeply buried at the southern extent of the route (BH08 logs the surface at 3.2mbgl and marine sand may have been observed at 3.1mbgl in TP16). However, these interventions were not observed by the geoarchaeologist, and specialist interpretation nearby (BH09) records sands at 4.5mbgl.

- 4.5.4. A circular depression not investigated represents a possible sediment sink (a solution hollow) that may contain palaeoenvironmental information (see ASE 2019, Fig 2). The centre of the depression is 50m to the south-west of the site (**A54**). From LiDAR data the depression has a radius of approximate 30m, so the edge is 20m from the site boundary (**Figure 11**).
- 4.5.5. Research aims could be directed towards a better understanding of the date and character (depositional environments) of key units in the sequence. This could be achieved by sedimentary and sub-fossil study on deposits from a borehole selected via purposive geoarchaeological borehole survey.
- 4.5.6. Investigation of the topographic depression would determine whether it is of human or manmade origin, and if it is a sediment sink holding deposits of palaeoenvironmental potential.
- 4.5.7. It should be noted that the majority of the GI records, included in the ASE report, were devoid of OD heights, and the Window Samples are missing from the report. Drillers logs were included and geoarchaeological interpretations summarised in Table 3 of the ASE report. Geoarchaeological descriptions relating to each borehole were not included, making it difficult to link drillers logs to the specialist interpretation.

4.6 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

PREHISTORIC PERIOD (800,000 BC–AD 43)

- 4.6.1. The Lower (800,000–250,000 BC) and Middle (250,000–40,000 BC) Palaeolithic saw alternating warm and cold phases and intermittent perhaps seasonal occupation. During the Upper Palaeolithic (40,000–10,000 BC), after the last glacial maximum, and in particular after around 13,000 BC, further climate warming took place and the environment changed from steppe-tundra to birch and pine woodland. It is probably at this time that England saw continuous occupation. Erosion has removed much of the Palaeolithic land surfaces and finds are typically residual. The findspot of a Palaeolithic axe is recorded on Walberton Lane (**A46**), 1.2km to the north-east of the site.

- 4.6.2. The Mesolithic hunter-gatherer communities of the postglacial period (10,000–4000 BC) inhabited a still largely wooded environment. The river valleys and coast would have been favoured in providing a predictable source of food (from hunting and fishing) and water, as well as a means of transport and communication. Evidence of activity is characterised by flint tools rather than structural remains. A small number of flints of Mesolithic date were found during an evaluation at Land at Fontwell Avenue (**A11**), 800m north of the site. Finds of Mesolithic flint flakes at Norton Spinney (**A30**), 1km south-west of the site, and at Croft Cottages (**A33**), 1.1km south-west of the site, might represent flint working sites.
- 4.6.3. The Neolithic (4000–2000 BC) is usually seen as the time when hunter gathering gave way to farming and settled communities, and forest clearance occurred for the cultivation of crops and the construction of communal monuments. Pollen records indicate forest clearance over large areas of the British Isles during this period.
- 4.6.4. A single flint flake fragment of late prehistoric date was found in the western part of the site, during geoarchaeological monitoring of a geotechnical investigation. A trackway and ditches of possible late prehistoric date were recorded during a geophysical survey in 2020 (**A1**).
- 4.6.5. Two pits possibly dating the Neolithic were recorded during an evaluation at Land at Westergate (**A10**), 350m to the west of the site. Neolithic flints were found during an evaluation at Land at Fontwell Avenue (**A11**), 800m north of the site. Three Neolithic scrapers and 26 waste flakes were found on surface of a ploughed field (**A31**), 1.2km to the south-west of the site. Flint implements including a pick and leaf-shaped blade, of late Neolithic or Bronze Age date, were found in Barnham Nurseries (**A50**), 800m south-east of the site.
- 4.6.6. The Bronze Age (2000–600 BC) is characterised by technological change, when copper and then bronze eventually replaced flint and stone as the main material for everyday tools. It is seen as a period of increasing social complexity and organised landscapes, probably due to increasing pressure on available resources.
- 4.6.7. A late Bronze Age posthole containing flintwork, and fire cracked flint, together with a large quantity of late Bronze Age pottery was recorded during evaluations at Westergate Community College, (**A7**), 650m to the south-west of the site. Residual Bronze Age flintwork and pottery was recorded at Land to the Rear of 23–27 Ivy Lane (**A8**), 850m to the south-west of the site. Late Bronze Age ditches were revealed during an evaluation at Land at Westergate (**A10**), 350m to the west of the site. At Arundel Road (**A13**), 1.3km north-east of the site, a possible late Bronze Age (or early Iron Age) ditch was recorded. The findspot of a small Late Bronze Age bucket shaped urn is recorded on Eastergate Lane (**A14**), 100m north of the site.
- 4.6.8. During the Iron Age (600 BC–AD 43), the climate deteriorated with colder weather and more rainfall. The period is characterised by expanding population, which necessitated the intensification of agricultural practices and the utilisation of marginal land. Hillforts were established in lowland Britain, linked to tribal land ownership.
- 4.6.9. Middle Iron Age pottery was found in a gully during an evaluation at Barnham Manor (**A4**), 200m to the south-east of the site. At Land to the Rear of 98 Barnham Road (**A5**), 650m to the south-east of the site, linear features dated to the Iron Age were recorded during an excavation. Early Iron Age pottery was recorded during evaluation at Westergate Community College (**A7**), 650m to the south-west of the site. At Arundel Road (**A13**), 1.2km north of the site, part of a linear ditch was exposed in which contained some early Iron Age pottery.

- 4.6.10. The finds to date indicate activity in the area from at least the Mesolithic period onwards. The nature and extent of such activity is however currently little understood.

ROMAN PERIOD (AD 43–410)

- 4.6.11. The site lies 8.5km to the east of the important Roman settlement and port at Chichester (*Noviomagus Reginorum*).
- 4.6.12. The site lies to the south of the Roman road from Chichester to Arundel. Margery (1967) projected that the route ran 400m north of the site. However, recent work using LiDAR images and aerial photographs has identified sections of the road further north than Margery's projection, 950m to the north of the site (**A40**).
- 4.6.13. A fragment of CBM was found in the western part of the site, during archaeological monitoring of a geotechnical investigation (**A1**). Based on the thickness and surface treatment this was thought to be a fragment of Roman tegula tile (roof tile), although it may be a piece of post-medieval floor tile.
- 4.6.14. At Barnham Manor (**A4**), 200m to the south-east of the site, a gully of Roman date was recorded. Cut features from the Roman period were revealed at Land to the Rear of 98 Barnham Road (**A5**), 650m to the south-east of the site. Roman cut features were also recorded at Westergate Community College (**A7**), 650m to the south-west of the site. The findspot of Roman pottery (**A21**) is also recorded here. A Roman roof tile was recorded at Church Lane (**A9**), 500m south-west of the site. The site of a possible Roman villa has been suggested field to the south of St. George's Church, Eastergate (**A25**), 750m to the south-west of the site. Fragments of Roman pottery, some animal bone and oyster shells were found and a 1925 aerial photograph shows a cropmark indicating the site of a Roman building. Roman pottery and ceramic building material was found at Fontwell (**A43**), 1.1km north of the site.
- 4.6.15. The site was probably in an area of farmsteads and fields during the Roman period.

EARLY MEDIEVAL (SAXON) PERIOD (AD 410–1066)

- 4.6.16. Following the withdrawal of the Roman army from England in the early 5th century AD the whole country fell into an extended period of socio-economic decline. In the 9th and 10th centuries, the Saxon Minster system began to be replaced by local parochial organisation, with formal areas of land centred on nucleated settlements served by a parish church.
- 4.6.17. The site was located in the Manor of Gate (later Eastergate). Early settlement at Eastergate is thought to have been in the area of St. George's Church, 700m to the south-west of the site (VCH *Sussex v*).
- 4.6.18. Early medieval features of the neighbouring settlement of Westergate have been recorded in the study area. Saxo-Norman features were recorded at Westergate Community College (**A7**), 750m to the south-west of the site. Saxo-Norman pits, ditches and pottery were revealed at Land to the Rear of 23–27 Ivy Lane (**A8**), 800m to the south-west of the site.
- 4.6.19. The site was probably open fields or woodland to the north of the settlement at Eastergate.

LATER MEDIEVAL PERIOD (AD 1066–1540)

- 4.6.20. Prior to the Norman Conquest in AD1066, the Manor of Gate was held by King Harold. At the time of the Domesday survey (1086) it was held by Sées Abbey. The Sées estate was transferred to Syon

Abbey in 1415. Following the Dissolution of the Monasteries it was retained by the Crown (VCH *Sussex v*).

- 4.6.21. The focus of settlement was around St George's Church, 700m to the south-west of the site. A manor house was recorded at Eastergate in 1379, in the location of the later Manor Farmhouse, 675m to the south-west of the site (VCH *Sussex v*).
- 4.6.22. The Northfield, between Barnham Road and Fontwell Avenue, which would likely have included the area of the site, was open fields during the later medieval period (VCH *Sussex v*). The fieldname suggests that it was the north field of the manor, and as communal land it would not have been built on.
- 4.6.23. Later medieval features were recorded at Westergate Community College (**A7**), 650m to the south-west of the site. At Land to the Rear of 23–27 Ivy Lane (**A8**), 850m to the south-west of the site, features dating for the 11th/12th centuries to the 14th century were recorded. Ditches containing pottery dated to the 11th to 13th centuries were revealed at Church Lane (**A9**), 500m south-west of the site. At Arundel Road (**A13**), 1.2km north of the site, later medieval pottery was recorded. Medieval green-glazed pottery was found on the surface of a ploughed field south of Eastergate Church (**A25**), 1.2km to the south of the site.
- 4.6.24. The site was probably in open fields away from the centre of settlement throughout the later medieval period.

POST-MEDIEVAL PERIOD (AD 1540–PRESENT)

- 4.6.25. Yeakell and Gardner's map of Sussex of 1778–83 (**Figure 4**) shows that the site was in fields between Eastgate village, to the south, and Eastergate Common, to the north. Three footpaths are shown crossing the site, from north to south or from north-east to south-west. The fairly uniform size of the field parcels suggests that the communal open fields had been subject to Parliamentary enclosure. There is a small building at the very western end, which might be a workhouse or farm building shown on the Tithe map (see below).
- 4.6.26. The Eastergate Tithe Map on 1847 (**Figure 5**) shows that most of the site was in fields noted as being in arable use. In the western part of the site there are two buildings. The building in Plot 170 to the north is Eastergate Workhouse (**A3**). In the Tithe Apportionment, Plot 170 is noted as belonging to Parish Officers of Eastergate and describes as the "Old Workhouse and Garden". The other building is a farmhouse likely belonging to Follyfoot Farm (**A2**). The workhouse was an institution where those unable to support themselves were offered accommodation and employment by the parish. Many workhouses were set up following the New Poor Law of 1834 which attempted to deal with the high unemployment following the Napoleonic war. Towards the end of the 19th century workhouses increasingly became refuges for the elderly, infirm and sick rather than the able-bodied poor.
- 4.6.27. The Ordnance Survey 1st edition 6":mile map of 1876 (**Figure 6**) shows that the majority of the route is within open fields. At the western part of the site on Fontwell Avenue the workhouse has been demolished. The two buildings belonging to Follyfoot Farm are still extant. A footpath runs south-west to north-east through the central part of the site.
- 4.6.28. Ordnance Survey 2nd edition 6":mile map of 1896 (**Figure 7**) shows an area in the western part of the site marked as an Old Gravel Pit. This appears to have been in the area previously occupied by

the Eastergate Workhouse (**A3**), suggesting than any remains of the workhouse, such as footings, will have been removed. No other changes are noted on the site.

- 4.6.29. The Ordnance Survey 3rd edition 6":mile map of 1910 (**Figure 8**) shows that orchards have been planted in the western part of the site. The area of the site south of Barnham Road is occupied by a nursery and an orchard.
- 4.6.30. The planting of orchards continued in the mid 20th century. The Ordnance Survey 1:10,000 scale map of 1961 (**Figure 9**) shows orchards occupying the majority of the site. There is one open field in the central part of the site. In the western part of the site a number of small buildings have been built. The area of the site south of Barnham Road is occupied an orchard.
- 4.6.31. The Ordnance Survey 1:10,000 scale map of 1980 (**Figure 10**) shows that the orchards have been removed from the eastern part of the site. In the western part of the site there are some changes to the small farm buildings, marked as Folly Fruit Farm, with two buildings removed and one constructed. The area of the site south of Barnham Road is occupied a nursery which comprises four glasshouses, two of which extend into the site.
- 4.6.32. According to Ordnance Survey mapping the site is unchanged to the present.
- 4.6.33. Environmental Agency LiDAR Digital Terrain Model (DTM) 1m resolution data was examined for the site as part of this assessment (see Table 3.1 for the definition of LIDAR). This revealed no obvious archaeological features in the microtopography, other than modern field boundaries (**Figure 11**). Scrutiny of aerial photographs revealed no archaeological features visible as earthworks, parchmarks or cropmarks.

4.7 FACTORS AFFECTING SURVIVAL

INTRODUCTION

- 4.7.1. Past ground disturbance on the site from late 19th and 20th century developments may have compromised archaeological survival, eg, building foundations or quarrying, identified primarily from historic maps, site walkover survey, and information on the likely depth of deposits.

PREDICTED LEVEL OF ARCHAEOLOGY

- 4.7.2. Based on geotechnical data, the level of natural geology within the site is as follows:
 - Current ground level lies at 10.9–16.1m OD (The ground slope down across the site from north-west to south-east)
 - The top of untruncated brickearth/Head deposits lies at 0.1–0.5mbgl.
 - The top of untruncated marine sands of the Raised Beach deposits lies at 3.1–6.6mbgl.
- 4.7.3. Note that as OD height were not included in the geotechnical borehole logs it is not possible give a precise OD level for the top of the natural geology.

PAST IMPACTS AND ARCHAEOLOGICAL SURVIVAL

- 4.7.4. Archaeological survival across the site is anticipated to be moderate to high across the majority of the site. Apart from the small farm buildings in the western part of the site, there has been no construction on the site. Any remains will have been removed in the area of 19th century quarrying in the western part of the site.



- 4.7.5. The majority of the site was occupied by orchards planted in the 20th century. The root action of the trees will have caused localised disturbance to any archaeological remains present.

5 STATEMENT OF SIGNIFICANCE

5.1 INTRODUCTION

- 5.1.1. This section discusses the potential of the site for each chronological period, based on the archaeological and historical background of the area, its geology, topography and hydrology, the likelihood for evidence of past activity, and taking into account past disturbance which may have affected survival. For example, the site may have high potential for the presence of activity of a particular period, but with low survival. This section also includes professional opinion on the likely heritage significance of such remains, where there is low to moderate, or higher, potential for such to be present. For each chronological period where the potential is assessed as low the likely heritage significance is not included, as this implies that remains from the period are not present on the site.

5.2 PREHISTORIC

- 5.2.1. *The site has moderate to high potential to contain prehistoric remains.* Remains from the Palaeolithic to the Iron Age have been recorded in the study area. These remains have comprised stone tools, pottery and cut features, such as pits and ditches. A single flint fragment was recorded in the western part of the site during geoarchaeological monitoring in 2018. Prehistoric flint tools and cut features have been recorded at several locations in the study area.
- 5.2.2. If present, isolated remains of stone tools or pottery would be of **low** significance while cut features would be of **medium** or **high** significance, depending on preservation and extent, from derived from evidential value.

5.3 ROMAN

- 5.3.1. *The site has moderate potential to contain Roman remains.* The site was likely in an agricultural area to the south of the road from Chichester to Arundel. A fragment of CBM, thought to be of Roman date, was recorded in the western part of the site during geoarchaeological monitoring in 2019. Cut features and pottery dating to the Roman period have been recorded in the study area.
- 5.3.2. If present, isolated remains, such as pottery or tile, would be of **low** significance. Cut features associated with agriculture would be of **medium** significance, depending on preservation and extent, from derived from evidential and historical value.

5.4 EARLY MEDIEVAL (SAXON)

- 5.4.1. *The site has low potential to contain early medieval (Saxon) remains.* The site was located away from the early medieval settlement at Eastergate. It was probably in fields or woodland throughout this period.

5.5 LATER MEDIEVAL

- 5.5.1. *The site has low potential to contain later medieval remains.* Throughout the later medieval period the site was probably in an open field, known as the Northfield, between Barham Road and Fontwell Lane.

5.6 POST-MEDIEVAL

- 5.6.1. *The site has low potential to contain post-medieval remains. Available historic maps show the majority of the site in fields, then orchards. The eastern part of the site by Fontwell Avenue has been built on with farm buildings and the early 19th century Eastergate Workhouse. Any footings of the workhouse are likely to have been removed by later quarrying.*

6 IMPACT ASSESSMENT

6.1 INTRODUCTION

- 6.1.1. This section assesses the likelihood for the project to have an impact on the significance of buried heritage assets. Such impacts include anything that would cause ground disturbance, such as preliminary ground works, site strip, topsoil removal, demolition, remediation, landscaping, planting, excavation for basements, foundations, services, drainage and lighting.
- 6.1.2. An assessment of operational phase effects has been scoped out on the basis that once the scheme has been completed, no further ground disturbance would occur and consequently there would be no additional impacts upon buried heritage assets.
- 6.1.3. It is outside the scope of this archaeological report to consider the impact of the scheme on above ground assets, eg physical impacts which would remove or change building fabric, or changes to the historic character and setting of designated above ground heritage assets within the site or outside it.

6.2 OUTLINE OF THE PROPOSAL RELEVANT TO THE ASSESSMENT

- 6.2.1. The scheme comprises the construction of a new single carriageway road between Fontwell Avenue and Barnham Road. Three attenuation ponds would be built in the northern part, the north-western part and the southern part of the site. Two temporary construction compounds A and C will be established in the northern and southern part of the site, respectively (**Figure 12**).

6.3 LIKELY ARCHAEOLOGICAL IMPACT

- 6.3.1. The main potential is for prehistoric and Roman remains, the significance of which would depend on the nature and extent of the remains. The proposed impacts as outlined below would constitute **substantial harm** or total loss of significance, under the terms of the NPPF.

PRELIMINARY SITE STRIP

- 6.3.2. It is assumed for the purposes of this assessment that topsoil will be stripped from the entire site, prior to construction, for the road construction, temporary access, temporary construction compounds and topsoil storage areas.
- 6.3.3. Removal of topsoil is a potential impact as, in addition to the loss of any residual evidence it contains, it exposes any archaeological remains that may be present immediately beneath the topsoil. These may then be affected by movement of vehicles and plant involved in construction activities, for example through rutting and compaction. In addition, it is possible that topsoil removal without archaeological supervision may result in overstripping, which would have an impact upon archaeological remains located beneath the topsoil, or understripping, where archaeological features are concealed beneath a thin layer of topsoil but are then exposed and unprotected from subsequent construction activities.
- 6.3.4. Topsoil stripping will be required in the area of construction compound areas A and C. In area A topsoil stripping of 0.5m is required; in area C topsoil stripping of 0.3m is required.

ROAD CONSTRUCTION

- 6.3.5. The majority of the scheme will be raised / embanked with the new level above the existing ground level with exceptions at the western and eastern ends. Landscaping and the excavation for the new road would extend to a depth of 1.0–2.0mbgl at the western end of the scheme (Capita, Dwg A29-CAP-HPN-00-DR-C-0180, Rev P03, 04-09-20), whilst at the eastern end of the scheme the new road would extend to a depth of 0.5mbgl (Capita, Drawing A29-CAP-HPN-00-DR-C-0182, Rev P03, 04-09-20). This would entirely remove any archaeological remains within the excavation footprint. Road construction and associated landscaping would not extend into any pre-Holocene deposits with potential palaeoenvironmental interest.
- 6.3.6. Sections of the Victorian garden wall on Fontwell Avenue (**A55**) will be demolished.

ATTENUATION PONDS

- 6.3.7. The excavation for the three attenuation ponds would entirely remove any archaeological remains within the excavation footprint. The maximum excavation depth of 2.5mbgl would not extend into any pre-Holocene deposits with potential palaeoenvironmental interest.

SERVICES / UTILITIES TRENCHES / DRAINS / PLANTING

- 6.3.8. The excavation of any new service trenches and drains, along with temporary and permanent fencing, would extend to a depth of 1.0–2.0mbgl as assumed for the purposes of this assessment. This will include a trench that will be excavated for a pipeline south of Barnham Road. Drainage swales are proposed adjacent to the carriageway, Filter pipes, to generally run under the swales require excavation of up to 1.7m from the adjacent new road finished level. These works would entirely remove any archaeological remains within their footprint.
- 6.3.9. Excavations for the reinforced concrete base for a relocated electrical substation on Fontwell Avenue would be up to 1.5mbgl.
- 6.3.10. Ground intrusion from any new tree planting, if proposed (e.g. for screening), and subsequent root action is assumed for the purposes of this assessment to reach a depth of c 1.0–1.5mbgl. This would entirely remove or severely disturb any archaeological remains at the tree location.

7 CONCLUSION AND RECOMMENDATIONS

- 7.1.1. There are no designated assets on the site. The site is not in a conservation area or an archaeological notification area.
- 7.1.2. Archaeological survival across the site is anticipated to be moderate to high. Apart from the small farm buildings and quarrying in the western part of the site, there has been no construction on the site, although the former use of much of the site as an orchard is likely to have caused some disturbance through root action.
- 7.1.3. There would be impact from site preparation (topsoil stripping is assumed to be site-wide), excavation for road construction and excavation for attenuation ponds and services/drainage and possibly planting.
- 7.1.4. The table below summarises the known or likely buried assets within the site, their significance, and the impact of the proposed scheme on asset significance.

Table 7-1 – Predicted impacts prior to mitigation

Heritage asset	Potential	Asset significance	Impact of proposals
Prehistoric remains, of isolated stone tools or pottery or occupation cut features such as pits and ditches.	Moderate to high	Low (isolated stone tools or pottery) or medium or high (cut features)	Site preparation, construction compound topsoil stripping excavation for road construction and excavation for attenuation pond and services/drainage Asset significance reduced resulting in either substantial harm or total loss of significance.
Roman remains, of isolated pottery finds or agricultural cut features such as field system ditches.	Moderate	Low (isolated pottery) or medium (cut features)	

- 7.1.5. Archaeological investigation will be required prior to construction, in order to clarify the nature, survival and significance of any archaeological assets that may be affected. The local authority's archaeological advisor has suggested that the most appropriate investigation strategy is archaeological trial trench evaluation. The evaluation will target anomalies identified in the 2020 geophysical survey and also investigate the 'blank' areas where no anomalies were identified.
- 7.1.6. The results of the evaluation would allow an informed decision to be made in respect of an appropriate mitigation strategy for any significant archaeological assets. Mitigation normally comprises preservation by record: advancing understanding of asset significance through targeted archaeological excavation in advance of development. This might be combined with a watching brief during ground works for remains of lesser significance. In the unlikely event that nationally important remains are present, preservation in situ may be required (i.e. through redesign/avoidance).
- 7.1.7. As an alternative to the trial trench archaeological evaluation, followed by archaeological mitigation, it is possible to proceed straight to mitigation during the preliminary site strip, in the form of Strip, Map and Sample.



- 7.1.8. Any archaeological work would need to be undertaken in consultation with the local authority's archaeological advisor, in accordance with an approved archaeological Written Scheme of Investigation (WSI).
- 7.1.9. Recording of the garden wall on Fontwell Avenue may be required prior to demolition.