Proposed Water Booster Pumping Station Buckland, Aylesbury, Buckinghamshire

Archaeological Evaluation

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Summary

Wessex Archaeology was commissioned by Stantec, on behalf of Thames Water, to undertake an archaeological evaluation of a 0.40 ha parcel of land located off Buckland Road, Buckland, Aylesbury, Buckinghamshire, HP22 5LP, centred on NGR 489084 212166. The evaluation was carried out due to a request by Buckinghamshire County Archaeological Services.

The evaluation was undertaken to inform the design of a new Water Booster Station to further understand the possible effects of its proposed construction upon the archaeological resource. The evaluation was undertaken between 22 and 24 March 2023 and comprised the excavation of five trenches (15 m x 1.80 m).

The works recorded a total of eight archaeological features which were located within the middle and south-western trenches (Trenches 3 - 5). A field boundary or drainage ditch was located in the southernmost trench which, from a single, fragmented sherd of pottery, could be dated to the prehistoric period. While the remaining features were interpreted as post-medieval furrows relating to a strip field system of this period.. A single discrete feature was also encountered which was interpretated as being derived from bioturbation activity.

Overall, there seemed to be little truncation of the natural geology within the Site, with the presence of post-medieval furrows indicating that modern agricultural processes have had little impact upon the underlying archaeological horizon. The archaeological evaluation confirmed the results of the earlier geophysical survey which suggested a low potential for archaeological features and deposits.

Acknowledgements

Wessex Archaeology would like to thank Stantec, on behalf of Thames Water, for commissioning the archaeological evaluation, in particular Rachel Legge. Wessex Archaeology is also grateful for the advice of Phil Markham, Senior Archaeological Officer of Buckinghamshire County Archaeological Service, who monitored the project for Buckinghamshire County Council, and to David Beecroft Ltd and Tim Nicholas for their cooperation and help on Site.

Proposed Water Booster Pumping Station, Buckland Aylesbury, Buckinghamshire

Archaeological Evaluation

1 INTRODUCTION

1.1 Project and planning background

1.1.1 Wessex Archaeology was commissioned by Stantec, on behalf of Thames Water, to undertake an archaeological evaluation of a 0.40 ha parcel of land located off Buckland Road, Buckland, Aylesbury, Buckinghamshire, HP22 5LP, centred on NGR 489084 212166 (Fig. 1).

1.1.2 The proposed development comprises the construction of a new Water Booster Station (WBS), which will comprise of a pump kiosk, EICA kiosk, and an electrical transformer, backup generator and fuel store tank. Buckinghamshire County Archaeological Service (BCAS) requested an archaeological evaluation prior to construction, on behalf of Buckinghamshire County Council (BCC), to understand the potential and significance of archaeological deposits within the Site and the possible effects of the construction of the WBS upon any such remains present.

1.1.3 All works were undertaken in accordance with a written scheme of investigation (WSI) which detailed the aims, methodologies and standards to be employed in order to undertake the evaluation (Wessex Archaeology 2023). Phil Markham, Senior Archaeology Officer of Buckinghamshire County Archaeological Service (BCAS) approved the WSI, on behalf of BCC, prior to fieldwork commencing.

1.1.4 The evaluation comprising five trial trenches (4 % sample) was undertaken between 22 and 24 March 2023.

1.2 Scope of the report

1.2.1 The purpose of this report is to provide a detailed description of the results of the evaluation, to interpret the results within a local, regional or wider archaeological context and assess whether the aims of the evaluation have been met.

1.2.2 The presented results will provide further information on the archaeological resource that may be impacted by the proposed development and facilitate an informed decision with regard to the requirement for, and methods of, any further archaeological mitigation.

1.3 Location, topography and geology

1.3.1 The Site is located in part of an agricultural field located to the south-east of Buckland village, approximately 7 km south-east of Aylesbury. The Site is bounded to the south-west by Buckland Road and to the north-west by residential development.

1.3.2 Existing ground levels are 112 m above Ordnance Datum (aOD).

1.3.3 The bedrock geology of the Site is mapped as West Melbury Chalk Formation and Zig Zag Chalk Formation. No overlying superficial deposits are recorded on the Site (British Geological Survey 2023).

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

2.1 Introduction

2.1.1 The archaeological and historical background was assessed in a prior desk-based assessment (ADBA: Stantec 2022), which considered the recorded historic environment resource within a 0.5 km study area of the proposed development. A summary of the results is presented below, with relevant entry numbers from the Buckinghamshire Historic Environment Record (BHER; search reference 1148) and the National Heritage List for England (NHLE) included. Additional sources of information are referenced, as appropriate.

2.2 Previous investigations

Geophysical Survey (Headland Archaeology 2022)

2.2.1 Headland Archaeology conducted a geophysical survey which didn't identify any anomalies of potential archaeological origin within the Site, only disturbances along the northern and western boundaries where observed, those likely modern. A possible curvilinear feature was identified at approximately 7m north-east of the Site, with an unclear interpretation (ADBA: Stantec 2022).

2.3 Archaeological and historical context

Prehistoric (970,000 BC–AD 43)

2.3.1 The earliest archaeological evidence in the area consisted in a Palaeolithic hand axe (BHER: 0966500000) recovered within Buckland, at 500m north of the Site. Evidence of occupation during the late Bronze Age and Iron Age were identified, at 400m north-east of the Site, during the investigations for the A41 Aston Clinton Bypass (BHER: 0633200000; 0633202000; 0574800002). The archaeological features revealed during the works included an enclosure, a probable round house, pit complex and postholes (ADBA: Stantec 2022).

Romano-British (AD 43–410)

2.3.2 The A41 investigations also identified evidence of Romano-British occupation (BHER: 0633200000; 0633204000; 0633205000) c 400m northeast of the Site, including a well, pit, trackway and cremation. Residual artefacts of this period, 2 including pottery and coins, have been recovered from the Buckland area and the projected routes of Akeman Street (BHER: 0105000000) Roman road, and both the Lower and Upper Icknield Ways (BHER: 041460000; 0618400000) which may have earlier, prehistoric, origins, also pass through/around Aston Clinton, to the south of the Site (ADBA: Stantec 2022).

Medieval to modern (AD 410–present)

2.3.3 The placename of Buckland has Old English origins and in 1086 Buckland is recorded by the Domesday Survey as having population of 20 households and comprising 8 ploughlands, 2 lords lands, meadow for 2 ploughs and woodland for 300 pigs. The A41 investigations revealed evidence of Saxon activity (BHER: 0633200000; 0633206000), including pits and potential post holes, c 400m north-east of the Site (ADBA: Stantec 2022).

2.3.4 Earthwork remains indicative of a shrunken medieval village (BHER: 0520000000) are recorded near the 14th century Church of All Saints (Grade II* listed, NHLE: 1160591) within the centre of Buckland village, c 350m north-east of the Site. It is considered likely that the Site comprised part of an open field system during the later medieval period. (ADBA: Stantec 2022).

2.3.5 Buckland parish was enclosed by Parliamentary Act in 1844 and both the Buckland Tithe map of 1840 and Enclosure map of 1844 show the Site as comprising part of a large agricultural field. The footpath crossing through the Site also appears to have been established by this time. The Site has since remained in agricultural use (ADBA: Stantec 2022).

3 AIMS AND OBJECTIVES

3.1 General aims

3.1.1 The general aims of the evaluation, as stated in the WSI (Wessex Archaeology 2023) and in compliance with the CIfA *Standard and guidance for archaeological field evaluation* (CIfA 2014a), were to:

- provide information about the archaeological potential of the Site; and
- inform either the scope and nature of any further archaeological work that may be required; or the formation of a mitigation strategy (to offset the impact of the development on the archaeological resource); or a management strategy.

3.2 General objectives

3.2.1 In order to achieve the above aims, the general objectives of the evaluation were to:

- determine the presence or absence of archaeological features, deposits, structures, artefacts or ecofacts within the specified area;
- establish, within the constraints of the evaluation, the extent, character, date, condition and quality of any surviving archaeological remains;
- place any identified archaeological remains within a wider historical and archaeological context in order to assess their significance; and
- make available information about the archaeological resource within the Site by reporting on the results of the evaluation.

3.3 Site-specific objectives

3.3.1 Following consideration of the archaeological potential of the Site the site-specific objective defined in the WSI (Wessex Archaeology 2023) was to:

- test the results of the geophysical survey (Headland Archaeology 2022).

4 METHODS

4.1 Introduction

4.1.1 All works were undertaken in accordance with the detailed methods set out within the WSI (Wessex Archaeology 2023) and in general compliance with the standards outlined in CIfA guidance (CIfA 2014a). The methods employed are summarised below.

4.2 Fieldwork methods

General

4.2.1 The trench locations were set out using a Global Navigation Satellite System (GNSS), in the approximate positions proposed in the WSI (Fig. 1).

4.2.2 Five trial trenches, each measuring 15 m in length and 1.80 m wide, were excavated in level spits using a 360º excavator equipped with a toothless bucket, under the constant supervision and instruction of the monitoring archaeologist. Machine excavation proceeded until either the archaeological horizon or the natural geology was exposed.

4.2.3 Where necessary, the base of the trench/surface of archaeological deposits were cleaned by hand. A sample of archaeological features and deposits was hand-excavated, sufficient to address the aims of the evaluation.

4.2.4 Spoil from machine stripping and hand-excavated archaeological deposits was visually scanned for the purposes of finds retrieval. Artefacts were collected and bagged by context. All artefacts from excavated contexts were retained.

4.2.5 Trenches completed to the satisfaction of the client and the Senior Archaeological Officer of BCAS were backfilled using excavated materials in the order in which they were excavated, and left level on completion. No other reinstatement or surface treatment was undertaken.

Recording

4.2.6 All exposed archaeological deposits and features were recorded using Wessex Archaeology's pro forma recording system. A complete record of excavated features and deposits was made, including plans and sections drawn to appropriate scales (generally 1:20 or 1:50 for plans and 1:10 for sections) and tied to the Ordnance Survey (OS) National Grid.

4.2.7 A Leica GNSS connected to Leica's SmartNet service surveyed the location of archaeological features. All survey data is recorded in OS National Grid coordinates and heights above OD (Newlyn), as defined by OSTN15 and OSGM15, with a three-dimensional accuracy of at least 50 mm.

4.2.8 A full photographic record was made using digital cameras equipped with an image sensor of not less than 16 megapixels. Digital images have been subject to managed quality control and curation processes, which has embedded appropriate metadata within the image and will ensure long term accessibility of the image set.

4.3 Finds and environmental strategies

4.3.1 Strategies for the recovery, processing and assessment of finds and environmental samples were in line with those detailed in the WSI (Wessex Archaeology 2023). The treatment of artefacts and environmental remains was in general accordance with: *Standard and guidance for the collection, documentation, conservation and research of archaeological materials* (CIfA 2014b), *Environmental Archaeology. A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation* (English Heritage 2011), and CIfA's *Toolkit for Specialist Reporting* (Type 2: Appraisal).

4.4 Monitoring

4.4.1 The Senior Archaeology Officer of BCAS monitored the evaluation on behalf of BCC. Any variations to the WSI, if required to better address the project aims, were agreed in advance with the client and the Senior Archaeology Officer of BCAS.

5 STRATIGRAPHIC EVIDENCE

5.1 Introduction

5.1.1 Three of the five excavated trial trenches contained archaeological features and deposits, indicating archaeological remains are present, with a concentration in the south-western half of the Site (Fig. 1).

5.1.2 The following section presents the results of the evaluation with archaeological features and deposits discussed by trench.

5.1.3 Detailed descriptions of individual contexts are provided in the trench summary tables (Appendix 1).

5.2 Soil sequence and natural deposits

5.2.1 A mid-brownish grey topsoil, comprised primarily of silt, was encountered across the entire Site, with the deposit ranging in thickness from 0.20 m and 0.29 m. Sparse Ceramic Building Material (CBM) flecks were noted within the topsoil in the south-western trenches but were not retained, a fragment of post-medieval pottery was recovered from trench 5. Subsoil was only observed within Trenches 4 and 5, which was comprised of a mid-brownish grey clay silt and measured 0.06 m thick (Fig. 2).

5.2.2 Degraded Chalk of West Melbury and Zig Zag Formation was encountered across all of the five trenches, with the depth of the natural substrate ranging from 0.25 m to 0.33 m below ground level (bgl) (Fig. 3).

5.3 Trenches 1 and 2

5.3.1 Trenches 1 and 2 contained no archaeological features or deposits.

5.4 Trench 3

5.4.1 A single north-west to south-east aligned ditch (304) was encountered in the middle of Trench 3. Measuring 1.60 m in width, 304 was interpreted as being a furrow and formed part of a strip field system that could also be seen in Trenches 4 and 5. Ditch 304 was not excavated and recorded in plan only.

5.5 Trench 4

5.5.1 Trench 4 contained four archaeological features; three shallow ditches (404, 406 and 410) and a single discrete feature (408). All three ditches were on a north-west to south-east alignment, spaced equidistantly across the trench. Ditch 404, located in the middle of the trench, measured 1.64 m wide and 0.22 m deep with shallow concave sides and a concave base (Fig. 4). Glazed pottery, along with animal bone and CBM was recovered from the single secondary fill, indicating a post-medieval date (late 18th or early 19th century).

5.5.2 Ditch 406, the width of which was only partially exposed within the trench, was located to the south-west of ditch 404 at the south-western end of trench 4. Measuring at least 1.14 m in width and 0.08 m deep with shallow concave sides and a flat base, much like ditch 404. No dateable material was recovered but a fragment of butchered cattle humerus was found.

5.5.3 Located immediately to the north-east of ditch 406 within the south-western part of the trench, discrete feature 408 was sub-circular in plan with shallow concave sides and a u-shaped base. Recorded as being 0.60 m by 0.44 m, it was of a similar shallow depth to that

of 406, being 0.10 m deep (Fig. 5). Due to the shape, as well as rooting being present within the feature, it is likely that 408 is a natural feature, most likely a result of bioturbation.

5.5.4 The final ditch, 410, was located at the north-eastern end of trench 4, measuring 2.20 m wide and containing a single secondary deposit from which no dating evidence was recovered. Ditches 404, 406 and 410 were interpreted as furrows which formed part of the same strip field system which included ditch 304.

5.6 Trench 5

5.6.1 Excavation of Trench 5, which was located in the southern corner of the Site, identified three archaeological features, ditches 504, 506 and 508 (Fig. 6). Ditch 504 was located at the western end of the trench, aligned on a north-east to south-west direction. Measuring 0.92 m wide and 0.93 m deep, 504 had steep concave sides and a V-shaped base, and contained a sequence of three secondary fills covered by a final tertiary deposit (Fig. 6).An iron nail was recovered from the tertiary fill and animal bone was recovered from the lower deposits, along with a small sherd of prehistoric pottery which was too fragmentary for full analysis . A bulk environmental sample was taken from the basal fill, 505. Given the size of the ditch, it is likely that it functioned as a boundary ditch but may have also had a drainage aspect given its sharp profile.

5.6.2 Ditches 506 and 508, were located within the centre and eastern ends of the trench respectively and both on a north-west to south-east alignment. These ditches were interpreted as furrows which formed part of the same strip field system seen in Trenches 4 and 5, and were continuations of ditches 406 and 404 respectively (Fig. 7).

6 FINDS EVIDENCE

6.1 Introduction

6.1.1 A small assemblage of finds totalling 462 g was recovered from two trenches. The finds have been cleaned and scanned to assess their nature, condition, and potential date range. Totals by material type are presented in Table 1.

Table 1 Summary of finds by material type (no. and wt. in grammes)

Context	**Feature/deposit**	**Pottery**		**Ceramic building material**		**Iron**		**Animal bone**	
		No.	Wt.	No.	Wt.	No.	Wt.	No.	Wt.
405	Ditch/furrow 404	1	7	4	48	-	-	-	-
407	Ditch/furrow 406	-	-	-	-	-	-	3	48
501	Topsoil	1	28	-	-	-	-	-	-
510	Ditch 504	-	-	-	-	-	-	9	263
511	Ditch 504	-	-	-	-	-	-	9	66
512	Ditch 504	-	-	-	-	1	2	-	-
Total		**2**	**35**	**4**	**48**	**1**	**2**	**21**	**377**

6.2 Pottery

6.2.1 Two small pieces of pottery were collected, both body sherds of internally glazed red ware dating from the late 18th to early 19th century. One came from a probable furrow 404 forming part of a field system which is almost certainly post-medieval in date, the other from the topsoil of Trench 5.

6.3 Animal bone

6.3.1 The bones are in reasonable condition, albeit with some minor erosion to cortical surfaces and edge abrasion. A fragment of cattle humerus was recovered from undated ditch 406, the distal shaft fragment appears to have been split axially, presumably to access the marrow. Fragments of cattle skull, humerus and femur were also recovered from possible prehistoric ditch 504, together with a piece of sheep/goat radius shaft and a semi-complete red deer tibia. Canid gnaw marks are evident on the proximal shaft and signs of light scorching were recorded on the medial proximal shaft, where the bone had been roughly broken in two.

6.4 Ceramic building material

6.4.1 Four fragments of ceramic building material were recovered, all found in ditch/furrow 404. One piece retains two flat surfaces and is of a fabric and thickness (14 mm) typical of peg roof tiles. The others are featureless fragments in a similar, hard fired, oxidised sandy fabric, and it is very likely that these too are fragments of roof tiles. These objects have been produced between the 12th and 20th centuries with very little typological change, so it is only possible to attribute a broad medieval to post-medieval date, although their association with post-medieval pottery perhaps means this later date is more likely.

6.5 Iron

6.5.1 A small, probably hand forged nail with a tapering square shank and a domed head was found in the tertiary fill of possible prehistoric ditch 504. The date of this nail is uncertain, but it is likely to be post-medieval.

6.6 Conservation

6.6.1 No immediate conservation requirements were noted in the field or during the assessment of this material.

7 ENVIRONMENTAL EVIDENCE

7.1 Introduction

7.1.1 One bulk sediment sample was taken from possible prehistoric ditch 504 and was processed for the recovery and assessment of the environmental evidence. Charcoal, charred plant remains, terrestrial and aquatic molluscs recovered from the sample have been assessed. The sample was processed by Jenny Giddins. The flots were sorted and assessed by Nicki Mulhall. This report was written by Nicki Mulhall with contributions from Jenny Giddins and was edited by Sander Aerts.

7.2 Aims and methods

7.2.1 The aim of this assessment is to determine the nature and significance of the environmental remains preserved at the Site (charcoal, charred plant remains and molluscs). Appropriate recommendations for further work are provided. This assessment follows recommendations from Historic England (English Heritage 2011).

Bulk samples

7.2.2 The bulk sediment sample was 16 litres in volume and was pre-soaked in a solution of water and hydrogen peroxide to help break up the clay-rich sediment. The sample was processed by standard flotation methods on a Siraf-type flotation tank; the flot retained on a 0.25 mm mesh, residues fractionated into 4 mm and 0.5 mm fractions. The 0.5mm mesh was used

specifically for the retention of molluscs. The coarse fractions of the residues (>4 mm) were sorted by eye for artefactual and environmental remains and discarded. The environmental material extracted from the residues was added to the flots.

7.2.3 The fine residue and the flot were scanned and sorted using a Leica MS5 stereomicroscope at magnifications of up to x40. Different potential indicators of bioturbation were considered, including the percentage of roots, the abundance of modern seeds alongside the presence of mycorrhizal fungi sclerotia (e.g., *Cenococcum geophilum*) and animal remains, such as burrowing snails (*Cecilioides acicula*), earthworm eggs and modern insects.

7.2.4 The preservation and nature of the charred plant and wood charcoal remains, as well as the presence of other environmental remains such as terrestrial and aquatic molluscs was recorded. All remains were recorded semi-quantitively on an abundance scale: C = <5 ('Trace'), B = 5–10 ('Rare'), A = 10–30 ('Occasional'), A* = 30–100 ('Common'), A** = 100–500 ('Abundant'), A*** = >500 ('Very abundant'/Exceptional').

Plant remains and charcoal

7.2.5 Plant remains were identified through comparison with modern reference material held by Wessex Archaeology and relevant literature (e.g., Cappers *et al.* 2006). Nomenclature follows Stace (1997) for wild taxa and Zohary *et al.* (2012) for cereals and other cultivated crops (using traditional names).

Molluscs

7.2.6 Terrestrial and freshwater molluscs were assessed from the bulk sediment sample. The flot and fine residue were examined using a Leica MS5 stereomicroscope at magnifications of up to x40. The mollusc remains were rapidly scanned for the presence of taxa and to assess their preservation. Nomenclature follows Anderson (2005). Identifications were aided by Kerney and Cameron (1979). Ecological information was retrieved from Evans (1972) and Kerney (1999).

7.3 Results

Charred plant remains and charcoal.

7.3.1 The results are presented in Appendix 2, Table 2.

7.3.2 The flot from the bulk sediment sample was of moderate volume (Appendix 2, Table 2). Potential indicators of bioturbation are present, but these only consist of small numbers of modern roots and seeds, indicating a low possibility of contamination from later intrusive material.

7.3.3 Charred plant material was very poorly preserved and comprised only highly fragmented indeterminate cereals (Triticeae). Mature wood charcoal was noted in very small quantities.

Molluscs

7.3.4 The flot and fine residue both contained very high numbers of well-preserved freshwater and terrestrial mollusc shells. The results are presented in Appendix 2, Table 2.

7.3.1 The mollusc remains derive predominantly from the freshwater species *Anisus leucostoma*. Wet and marshland taxa include *Galba truncatula,* and *Succinea* sp. Also present are a fairly diverse range of terrestrial molluscs favouring different environments, these include shade-rich (Zonitidae (including *Vitrea* sp., *Aegopinella* sp., *Oxychilus* sp.) and open country (*Vallonia costata, Pupillum muscorum*) Other taxa are eurytopic (*Cochlicopa lubrica, Cepaea hortensis, Punctum pygmaeum*) and are not indicative of a specific habitat type.

7.4 Conclusions

7.4.1 This assessment indicates that other features on the Site have high potential for the preservation of molluscs, but low potential for the preservation of charred plant remains and charcoal.

7.4.2 The sample contained very little in the way of charred plant remains and charcoal, but did yield very large numbers of molluscs. The assemblage was dominated by freshwater species common in ditches. Also present in fairly large numbers were terrestrial molluscs which prefer shady and moist, wet and marshland habitats.

7.4.3 None of the environmental remains are indicative of any particular period.

Recommendations

7.4.4 Generally, samples should be taken for the recovery of charred plant remains and charcoal were permitting from well-sealed and dateable features, especially any arising and related to settlement activities. Samples should be taken covering as wide a range of feature types and phases as possible. Where available deposits permit, sample size should be of 40 litres from individual, secure contexts.

7.4.5 Considering the abundance of freshwater and terrestrial molluscs, column sampling (contiguous sampling through vertical sequences) should also be taken through deep, well-sealed deposits such as enclosure ditches, deep ditches, palaeochannels, colluvium, alluvium, buried soils, tree-throws, and other similar feature/deposit types. The column should be approximately 20 cm wide, with samples taken at 10 cm intervals, respecting natural boundaries where appropriate. Each sample should be between 1-2 litres in volume.

Selection strategy

7.4.6 Some of the material retrieved from the sample merits retention with the Site archive for future access. The flot and fine residue contain abundant identifiable mollusc remains which would be suitable for more extensive identification, detailed quantification, and analysis. This would contribute to the broader paleoenvironmental research potential of the Site. The material should be retained as part of the Site archive until further sampling and/or research has been undertaken, following which recommendations for analysis and deposition will be made.

7.4.7 Should no further work be undertaken, this assessment should be updated following the completion of the final Site phasing and appropriate recommendations for further analysis and deposition will be made.

8 CONCLUSIONS

8.1 Summary

8.1.1 The archaeological evaluation a total of eight archaeological features which were located within trenches in the middle and south-western parts of the Site (Trenches 3 - 5). A field boundary or drainage ditch was located in the southernmost trench which could be dated to the prehistoric period from a single, fragmented sherd of pottery, while the remaining features were interpreted as post-medieval furrows relating to a strip field system of this period.. A single discrete feature was also encountered which was interpretated as being derived from bioturbation activity.

8.2 Discussion

8.2.1 Overall, there seemed to be little truncation of the natural geology within the Site, with the presence of post-medieval furrows indicating that modern agricultural processes have had little impact upon the underlying archaeological horizon. The archaeological evaluation confirmed the results of the earlier geophysical survey which suggested a low potential for archaeological features and deposits.

9 ARCHIVE STORAGE AND CURATION

9.1 Museum

9.1.1 The archive resulting from the evaluation is currently held at the offices of Wessex Archaeology in Salisbury. Discover Bucks Museum has agreed in principle to accept the archive on completion of the project, under the accession code AYBCM: 2023.36. Deposition of any finds with the museum will only be carried out with the full written agreement of the landowner to transfer title of all finds to the museum.

9.2 Preparation of the archive

Physical archive

9.2.1 The archive, which includes paper records, graphics, artefacts and ecofacts, will be prepared following the standard conditions for the acceptance of excavated archaeological material by Discover Bucks Museum, and in general following nationally recommended guidelines (Brown 2011; CIfA 2014c; SMA 1995).

9.2.2 All archive elements are marked with the accession code, and a full index will be prepared. The physical archive currently comprises the following:

- 1 cardboard box or airtight plastic box of artefacts and ecofacts, ordered by material type
- 1 files/document case of paper records

Digital archive

9.2.3 The digital archive generated by the project, which comprises born-digital data (e.g., Site records, survey data, databases and spreadsheets, photographs and reports), will be deposited with a Trusted Digital Repository, in this instance the Archaeology Data Service (ADS), to ensure its long-term curation. Digital data will be prepared following ADS guidelines (ADS 2013 and online guidance) and accompanied by metadata.

9.3 Selection strategy

9.3.1 It is widely accepted that not all the records and materials (artefacts and ecofacts) collected or created during the course of an archaeological project require preservation in perpetuity. These records and materials will be subject to selection in order to establish what will be retained for long-term curation, with the aim of ensuring that all elements selected to be retained are appropriate to establish the significance of the project and support future research, outreach, engagement, display and learning activities, i.e., the retained archive should fulfil the requirements of both future researchers and the receiving Museum.

9.3.2 The selection strategy, which details the project-specific selection process, is underpinned by national guidelines on selection and retention (Brown 2011, section 4) and generic selection policies (SMA 1993; Wessex Archaeology's internal selection policy) and follows CIfA's *Toolkit for Selecting Archaeological Archives*. It should be agreed by all stakeholders

(Wessex Archaeology's internal specialists, external specialists, local authority, museum) and fully documented in the project archive.

9.3.3 In this instance, given the relatively low level of finds recovery, the selection process has been deferred until after the fieldwork stage was completed. Project-specific proposals for selection are presented below. These proposals are based on recommendations by Wessex Archaeology's internal specialists and will be updated in line with any further comment by other stakeholders (museum, local authority). The selection strategy will be fully documented in the project archive.

9.3.4 Any material not selected for retention may be used for teaching or reference collections by Wessex Archaeology.

Finds

9.3.5 All finds have been recorded to an appropriate level prior to any selection proposals being implemented, and the selection process will be fully documented in the project archive. Any material not selected for retention may be used for teaching or reference purposes by Wessex Archaeology.

- Pottery (2 pieces): negligible quantity of post-medieval date, no further research potential; discard.
- Animal bone (21 pieces): small quantity from undated ditches, no further potential but retain and review at next stage.
- Ceramic building material (4 pieces): negligible quantity with no further research potential; discard.
- Iron (1 piece): negligible quantity, no further research potential; discard.

Documentary records

9.3.6 Paper records comprise Site registers (other pro-forma Site records are digital), drawings and reports (written scheme of investigation, client report). All will be retained and deposited with the project archive.

Digital data

9.3.7 The digital data comprise Site records (tablet-recorded on Site) in spreadsheet format; finds records in spreadsheet format; survey data; photographs; reports. All will be deposited, although Site photographs will be subject to selection to eliminate poor quality and duplicated images, and any others not considered directly relevant to the archaeology of the Site.

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

10 COPYRIGHT

10.1 Archive and report copyright

10.1.1 The full copyright of the written/illustrative/digital archive relating to the project will be retained by Wessex Archaeology under the *Copyright, Designs and Patents Act 1988* with all rights reserved. The client will be licenced to use each report for the purposes that it was

produced in relation to the project as described in the specification. The museum, however, will be granted an exclusive licence for the use of the archive for educational purposes, including academic research, providing that such use conforms to the *Copyright and Related Rights Regulations 2003*.

10.2 Third party data copyright

10.2.1 This document and the project archive may contain material that is non-Wessex Archaeology copyright (e.g., Ordnance Survey, British Geological Survey, Crown Copyright), or the intellectual property of third parties, which Wessex Archaeology are able to provide for limited reproduction under the terms of our own copyright licences, but for which copyright itself is non-transferable by Wessex Archaeology. Users remain bound by the conditions of the *Copyright, Designs and Patents Act 1988* with regard to multiple copying and electronic dissemination of such material.

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APPENDICES

Appendix 1 Trench summaries

NGR coordinates and OD heights taken at centre of each trench; depth bgl = below ground level

Trench No 1	**Length 16.34 m**	**Width 1.80 m**	**Depth 0.43 m**
Easting 489101.53	**Northing 212188.74**	**m OD 111.60**	

Context Number	**Fill Of/Filled With**	**Interpretative Category**	**Description**	**Depth BGL**
101		Topsoil	Mid brownish grey silt. Common angular flint ≤40 mm. Sparse CBM flecks. Rooting throughout. Compacted. Clear boundary with natural.	0.00–0.29
102		Natural	Light whitish brown clay. Sparse angular flint ≤60 mm. Abundant chalk flecks. Common iron panning. Compacted. Clear boundary with topsoil.	0.29–0.43+

Trench No 2	**Length 16.90 m**	**Width 1.80 m**	**Depth 0.30 m**
Easting 489110.78	**Northing 212170.18**	**m OD 111.69**	

Context Number	**Fill Of/Filled With**	**Interpretative Category**	**Description**	**11 Depth BGL**
201		Topsoil	Mid brownish grey silt. Common angular to sub-angular flint ≤40 mm. Rooting throughout. Compacted. Clear boundary with natural.	0.00–0.25
202		Natural	Light whitish brown clay. Sparse angular flint ≤60 mm. Abundant chalk flecks. Common iron panning. Compacted. Clear boundary with topsoil.	0.25–0.30+

Trench No 3	**Length 15.74 m**	**Width 1.80 m**	**Depth 0.34 m**
Easting 489090.73	**Northing 212169.63**	**m OD 111.61**	

Context Number	**Fill Of/Filled With**	**Interpretative Category**	**Description**	**Depth BGL**
301		Topsoil	Mid brownish grey silt. Common angular to sub-angular flint ≤50 mm. Sparse CBM flecks. Rooting throughout. Compacted. Clear boundary with natural.	0.00–0.28
302		Natural	Light whitish brown clay. Sparse angular flint ≤60 mm. Abundant chalk flecks. Common iron panning. Compacted. Clear boundary with topsoil and archaeology.	0.28–0.34+
303		Void	Number not used	-

304	305	Ditch	North-west to south-east aligned. 1.60 m wide, and cut by two land drains. Not excavated, recorded at surface only.	0.28+
305	304	Secondary fill	Light greyish brown clay. Common chalk flecks. Sparse angular flint ≤50 mm. Not excavated, recorded at surface only.	0.28+

Trench No 4	**Length 18.58 m**	**Width 1.80 m**	**Depth 0.41 m**
Easting 489069.33	**Northing 212166.09**	**m OD 111.50**	

Context Number	**Fill Of/Filled With**	**Interpretative Category**	**Description**	**Depth BGL**
401		Topsoil	Mid brownish grey silt. Common angular flint ≤40 mm. Sparse CBM flecks. Rooting throughout. Compacted. Diffuse boundary with subsoil.	0.00–0.27
402		Subsoil	Mid brownish grey clayey silt. Common chalk flecks. Sparse angular flint ≤20 mm. Compacted. Diffuse boundary with topsoil and clear boundary with natural.	0.27–0.33
403		Natural	Light whitish brown clay. Sparse angular flint ≤60 mm. Abundant chalk flecks. Common iron panning. compacted. Clear boundary with subsoil and archaeology.	0.33–0.41+
404	405	Ditch	Linear ditch aligned NW-SE with shallow, concave sides and a concave base. Length: >1.80 m. Width: 1.64 m. Depth: 0.22 m.	0.33–0.55
405	404	Secondary fill	Light greyish brown clay with common chalk flecks. sparse angular flint ≤50 mm	0.33–0.55
406	407	Ditch	Linear ditch aligned NW-SE with shallow, concave sides and a flat base. Length: >1.80 m. Width: >1.14 m. Depth: 0.08 m.	0.41–0.49
407	406	Secondary fill	Light greyish brown dense clay with common chalk flecks sparse flint angular to sub-angular <80 mm	0.41–0.49
408	409	Uncategorised feature	Sub-circular uncategorised feature aligned NW-SE with shallow, concave sides and an u-shaped base. Length: 0.60 m. Width: 0.44 m. Depth: 0.10 m.	0.41–0.51
409	408	Secondary fill	Light yellowish brown dense clay with common flint angular to sub-angular<70 mm	0.41–0.51

410	411	Ditch	North-west to south-east aligned. 2.20 m wide, and cut by a land drain. Not excavated, recorded at surface only.	0.33+
411	412	Secondary fill	Light greyish brown clay. Common chalk flecks. Sparse angular flint ≤50 mm. Not excavated, recorded at surface only.	0.33+

Trench No 5	**Length 16.20 m**	**Width 1.80 m**	**Depth 0.32 m**
Easting 489075.88	**Northing 212141.32**	**m OD 111.46**	

Context Number	**Fill Of/Filled With**	**Interpretative Category**	**Description**	**Depth BGL**
501		Topsoil	Mid brownish grey silt. Common angular to sub-angular flint ≤50 mm. Sparse CBM flecks. Rooting throughout. Compacted. Diffuse boundary with subsoil.	0.00–0.20
502		Subsoil	Mid brownish grey clayey silt. Common chalk flecks. Sparse angular flint ≤30 mm. Compacted. Diffuse boundary with topsoil and fairly diffuse with natural.	0.20–0.26
503		Natural	Light whitish brown clay. Sparse angular flint ≤60 mm. Abundant chalk flecks. Common iron panning. Compacted. Fairly diffuse boundary with subsoil and clear boundary with archaeology.	0.26–0.32+
504	505, 510, 511, 512	Ditch	Linear ditch aligned SW-NE with steep, concave sides and a v-shaped base. Length: >1.80 m. Width: 0.92 m. Depth: 0.93 m.	0.32–1.25
505	504	Secondary fill	Dark brownish grey clay with uncommon angular to sub-rounded flint ≤30 mm. sparse iron panning. uncommon snail shells	0.91–1.25
506	507	Ditch	North-west to south-east aligned. 1.90m wide, and cut by a land drain. Not excavated, recorded at surface only.	0.32+
507	506	Secondary fill	Light greyish brown clay. Common chalk flecks. Sparse angular flint ≤50 mm. Not excavated, recorded at surface only.	0.32+
508	509	Ditch	North-west to south-east aligned. 0.45 m wide at north-east corner of trench. Only part of feature present within trench. Not excavated, recorded at surface only.	0.32+

509	510	Secondary fill	Light greyish brown clay. Common chalk flecks. Sparse angular flint ≤40 mm. Not excavated, recorded at surface only.	0.32+
510	504	Secondary fill	Light brownish grey clay with sparse angular to sub-rounded flint ≤30 mm. abundant snail shells. sparse iron panning	0.77–0.98
511	504	Secondary fill	Light brownish grey clay with common angular to sub-rounded flint ≤150 mm. sparse iron panning. abundant snail shells	0.42–0.82
512	504	Tertiary fill	Light brownish grey clay with sparse angular to sub-rounded flint ≤20 mm	0.32–0.47

Appendix 2: Environmental data

Table 2 Assessment of the environmental evidence: charred plant remains, charcoal and molluscs.

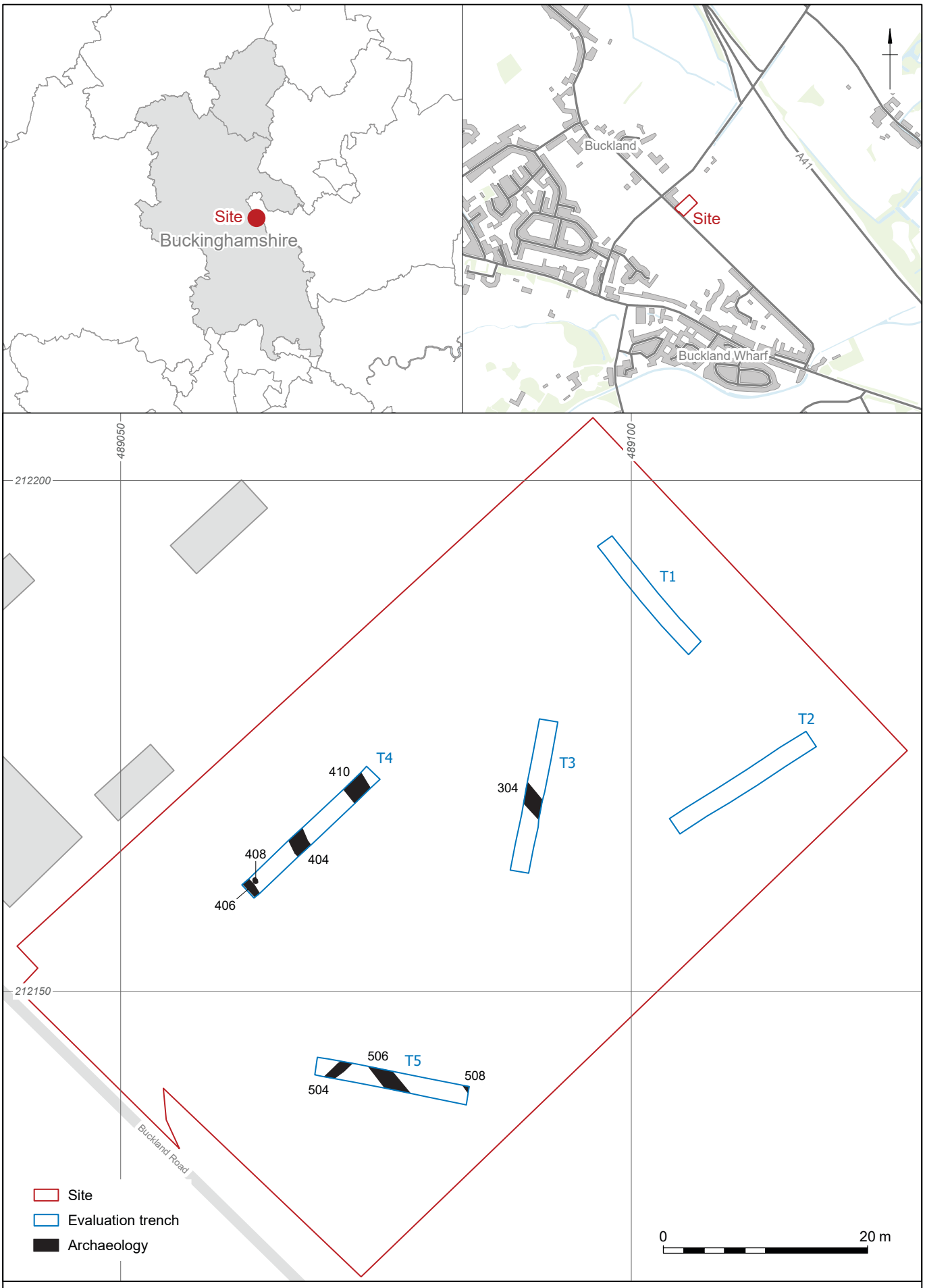
Area	Feature Type	Feature	Context	Sample Code	Sample vol. (l)	Flot vol. (ml)	Bioturbation proxies	Charred plant remains	Charcoal >2mm (ml)	Charcoal	Other	Preservation
Tr 5	Ditch	504	505	276130_513	16	120	<1%, C	Triticeae (B)	1	Mature	Amorphous bone (B), Moll-f (A*** - *Anisus leucostoma*, *Succinea* sp., *Galba trunculata*), Moll-t (A** - *Carychium minimum, Vallonia costata, Cepaea hortensis, Trochulus hispidus, Cochlicopa* sp., *Punctum pygmaeum, Vitrina pellucida*, Zonitidae (incl. *Vitrea* sp., *Aeogpinella* sp., *Oxychilus* sp.), *Pupilla muscorum, Clausillia* sp., *Limax* sp.), Ostracods (A**)	Charred plant remains – poor. Molluscs - good

Appendix 3: OASIS summary

Summary for wessexar1-514546

OASIS ID (UID)	wessexar1-514546
Project Name	Evaluation at Proposed Water Booster Pumping Station, Buckland, Aylesbury, Buckinghamshire
Sitename	Proposed Water Booster Pumping Station, Buckland, Aylesbury, Buckinghamshire
Activity type	Evaluation
Project Identifier(s)	276130
Planning Id	
Reason For Investigation	Planning: Post determination
Organisation Responsible for work	Wessex Archaeology
Project Dates	22-Mar-2023 - 24-Mar-2023
Location	Proposed Water Booster Pumping Station, Buckland, Aylesbury, Buckinghamshire NGR : SP 89084 12166 LL : 51.80105261905698, -0.70949023429628 12 Fig : 489084,212166
Administrative Areas	Country : England County : Buckinghamshire District : Aylesbury Vale Parish : Buckland
Project Methodology	Wessex Archaeology was commissioned by Stantec, on behalf of Thames Water, to undertake an archaeological evaluation of a 0.40 ha parcel of land located off Buckland Road, Buckland, Aylesbury, Buckinghamshire, HP22 5LP. The evaluation was undertaken to inform the design of a new Water Booster Station to further understand the possible effects of its proposed construction upon the archaeological resource. The evaluation was undertaken between 22 and 24 March 2023 and comprised the excavation of five trenches (15 m x 1.80 m). Five trial trenches, each measuring 15 m in length and 1.80 m wide, were excavated in level spits using a 360º excavator equipped with a toothless bucket, under the constant supervision and instruction of the monitoring archaeologist. Machine excavation proceeded until either the archaeological horizon or the natural geology was exposed.
Project Results	The works recorded a total of eight archaeological features which were located within the middle and south-western trenches (Trenches 3 - 5). A field boundary or drainage ditch was located in the southernmost trench which, from a single, fragmented sherd of pottery, could be dated to the prehistoric period. While the remaining features were interpreted as post-medieval furrows relating to a strip field system of this period.. A single discrete feature was also encountered which was interpretated as being derived from bioturbation activity. Overall, there seemed to be little truncation of the natural geology within the Site, with the presence of post-medieval furrows indicating that modern agricultural processes have had little impact upon the underlying archaeological horizon. The archaeological evaluation confirmed the results of the earlier geophysical survey which suggested a low potential for archaeological features and deposits.

Keywords	Ridge And Furrow - POST MEDIEVAL - FISH Thesaurus of Monument Types Ditch - UNCERTAIN - FISH Thesaurus of Monument Types
Funder	
HER	Buckinghamshire HER - unRev - STANDARD
Person Responsible for work	M, Kendall
HER Identifiers	
Archives	Physical Archive, Documentary Archive, Digital Archive - to be deposited with Discover Bucks Museum;



Coordinate system: OSGB 1936 British National Grid

Date: 11/04/2023	Created by: CM	Revision: 0	Scale: 1:500 at A4

Figure 1: Site and trench location plan

Figure 2: South-west facing representative section of Trench 5 (1 x 1 m)

Figure 3: Trench 1 viewed from the south-east (1 x 1 m, 1 x 2 m)

Figure 4: North-west facing section of ditch 404 (1 x 1 m)

Figure 5: South-east facing section of ditch 406 and discrete feature 408 (1 x 1 m)

Figure 6: South-west facing section of ditch 504 (1 x 1 m)

Figure 7: Trench 5 viewed from the south-east showing ditches 506 and 508 (1 x 1 m, 1 x 2 m)

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