



JOHN MOORE HERITAGE SERVICES

**20/01830/F – A41 PIONEER ROUNDABOUT,**

**GRAVEN HILL, BICESTER**

**DETAILED METHOD STATEMENT**

**FOR**

**EVALUATION TRENCHING**

**Site Code: AMPR 21  
Project Number: 4511**

**MAY 2021**



## 1 Introduction

- 1.1 Planning permission has been granted by Cherwell District Council for **Proposed Roundabout Access to Graven Hill and Wretchwick Green London Road Bicester** (20/01830/F). Due to the potential presence of archaeological features two conditions have been attached requiring a staged programme of archaeological evaluation and mitigation to be undertaken during any development:

*10. Prior to any demolition and the commencement of the development a professional archaeological organisation acceptable to the Local Planning Authority shall prepare an Archaeological Written Scheme of Investigation, relating to the application site area, which shall be submitted to and approved in writing by the Local Planning Authority.*

*Reason – To safeguard the recording of archaeological matters within the site in accordance with the NPPF (2019). This information is required prior to commencement of the development as it is fundamental to the acceptability of the scheme.*

*11. Following the approval of the Written Scheme of Investigation referred to in condition 10, and prior to any demolition on the site and the commencement of the development (other than in accordance with the agreed Written Scheme of Investigation), a staged programme of archaeological evaluation and mitigation shall be carried out by the commissioned archaeological organisation in accordance with the approved Written Scheme of Investigation. The programme of work shall include all processing, research and analysis necessary to produce an accessible and useable archive and a full report for publication which shall be submitted to the Local Planning Authority within two years of the completion of the archaeological fieldwork.*

*Reason – To safeguard the identification, recording, analysis and archiving of heritage assets before they are lost and to advance understanding of the heritage assets in their wider context through publication and dissemination of the evidence in accordance with the NPPF (2019). This information is required prior to commencement of the development as it is fundamental to the acceptability of the scheme.*

- 1.2 A Written Scheme of Investigation (Waterman 2021) has been approved by the Oxfordshire County Archaeological Services and has been submitted to the LPA. It provides for the archaeological trial trenching and the reporting of these results. This method statement details John Moore Heritage Services' procedures.
- 1.3 The site is located on the north eastern edge of the wider Graven Hill site (centred SP 59672 20740) and is an irregular shape, encompassing a section of the A41 and extending to the south west where it also encompasses a length of Pioneer Road. The site is currently hardstanding (the A41 and Pioneer Road) and grassed and wooded roadside verge. The site lies at between 60 to 65m AOD and the underlying geology is Oxford Clay.
- 1.4 A detailed archaeological background is given in the WSI (Waterman 2021).

## 2 Aims of the Investigation

- 2.1 To undertake an archaeological evaluation of the site as a first stage of a programme of archaeological work. In particular to:

- determine the presence or absence of any buried archaeological remains within the Site that may be affected by the Development and where remains are present, to make an appropriate record to CIfA standards ;
- determine the approximate extent, condition, state of preservation and depth of any surviving remains;
- confirm the approximate date or range of dates of the remains;
- sample deposits to assess potential paleoenvironmental evidence;
- produce a report on the results of the archaeological evaluation;
- consult with OCCAS on the need for archaeological mitigation; and
- ensure adequate provision for archival deposition of the archaeological record.

2.2 The evaluation will inform the need for any subsequent mitigation fieldwork resulting from the evaluation report. This will seek to limit the damage to significant archaeological deposits.

### **3 Methods for a Programme of Archaeological Evaluation**

3.1 In order that the investigation supplies information of the required quality, the Codes, Standards and Guidance issued by the Chartered Institute for Archaeologists (CIfA) will be adhered to.

3.2 The following provides the methodology and sampling procedures that are to be implemented at each stage of the archaeological works, as appropriate, to ensure the satisfactory investigation and record of matters of archaeological interest on the site.

#### **3.3 Evaluation (Trial trenching) Site Work**

3.3.1 The first stage of the programme of archaeological investigation will be the mechanical excavation of five trenches (see plan below).

3.3.2 Trenches will be accurately set out using a GPS system prior to their excavation. However, the location and/or orientation of the trenches may be subject to change depending on on-site constraints. Prior to excavation trenches shall be checked and cleared for services using a CAT scanner. Excavation will be taken down to the top of “natural” deposits or any higher archaeological horizon by a 7t mechanical excavator using a toothless bucket under direct archaeological supervision. The integrity of any archaeological features or deposits will not be compromised during the excavation of the trenches.

3.3.3 The trenches will be excavated using a standard toothless ditching bucket fitted to an appropriate hydraulic tracked or wheeled machine, in this case a 360° excavator. The machine used will be powerful enough for a clean job of work and will be able to mound spoil neatly at a safe distance from the trench and excavation area edges. Spoil is to be stored on-site. All machine work will be under archaeological supervision and will cease immediately if significant archaeological remains are revealed. In the event of significant archaeological deposits being encountered the local planning authority’s archaeological advisor is to be informed immediately.

3.3.4 Protective ecological fencing is currently present bounding the site; should the evaluation commence while the fencing is still in place the following ecological mitigation measures may be enacted: Finger tip search for Newts to be undertaken by

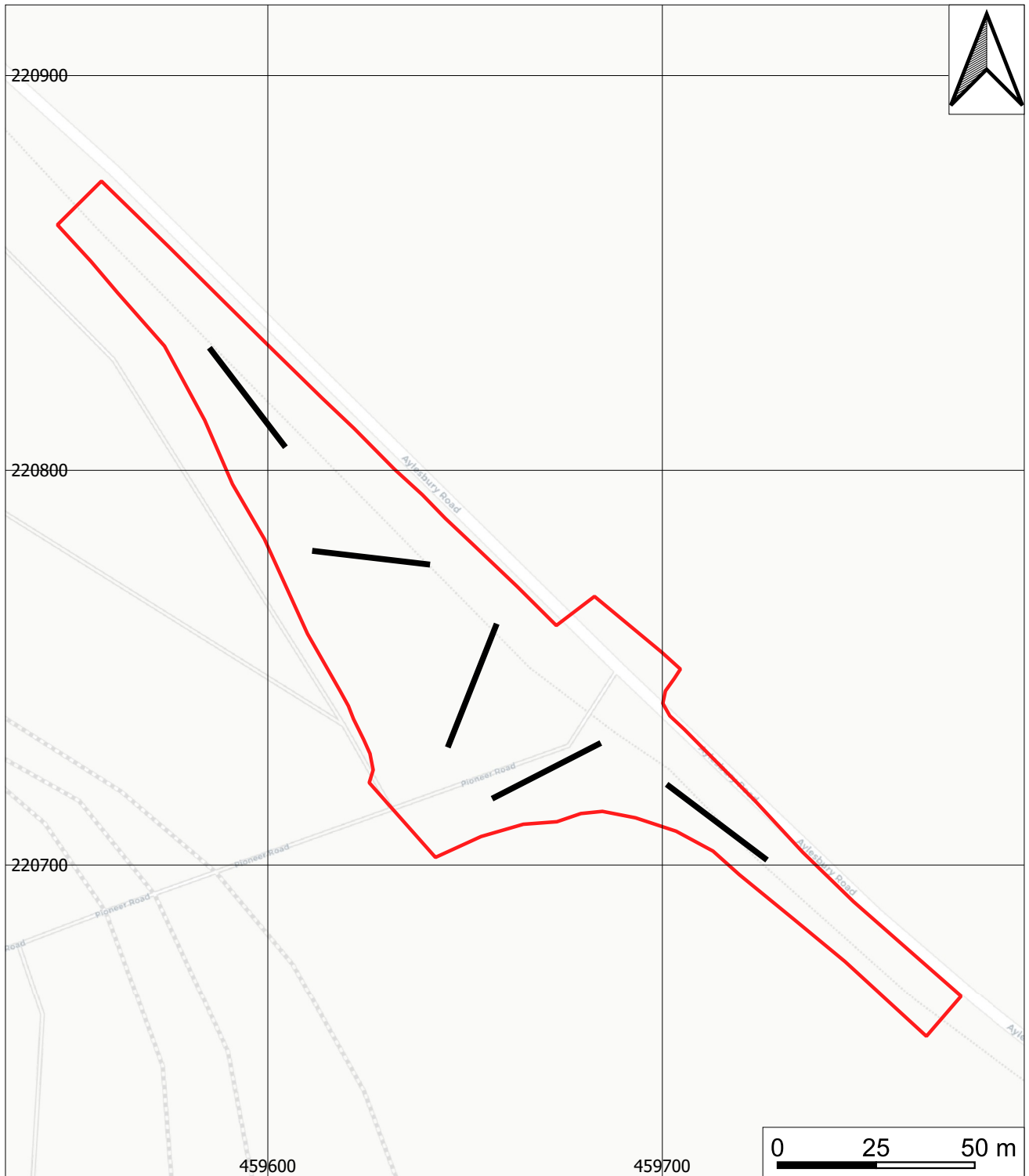


Figure 1: Trench locations

an appropriately qualified ecologist prior to trench excavation; covering of trenches at the end of each day to ensure that no Newts could fall into the trenches.

- 3.3.5 There is the potential for the trenching to expose unforeseen contamination at the Site, such as asbestos containing materials (ACMs). All staff will be trained in the identification of ACMs and should such material be encountered excavation will cease and trenches will not be entered by site staff. The trench will be made safe through backfilling and Waterman will be informed.
- 3.3.6 The machine will not be used to cut arbitrary trial trenches down to natural deposits, without regard to the archaeological stratification and leaving a section record only.
- 3.3.7 Particular care will be taken not to damage any areas containing significant remains which might merit preservation *in situ*. If complex archaeological features or deposits are encountered, Waterman will be informed in the first instance, who will then liaise with OCCAS. Such evidence would normally include deep or complex stratification, settlement evidence and structures. Such areas will be protected and not left open to the weather, or other forms of deterioration. Whilst investigation will not be at the expense of any structures, features or finds which might reasonably be considered to merit preservation, it is important that a sufficient sample is studied.
- 3.3.8 Stripped material will be visually examined for archaeological material along with the use of a metal detector.
- 3.3.9 Those trenches where visual inspection suggests the presence of features or possible features will, if necessary, be hand-cleaned to ensure features are properly defined and sufficient to produce a base plan.
- 3.3.10 During the evaluation trenching sufficient features will be sampled by hand excavation to achieve the objectives. For discrete features such as pits and postholes this will normally involve half-sectioning a representative sample. Linear features will be sectioned. The intersections of features will be investigated so that their stratigraphic relationships may be recorded and understood unless the integrity of the stratigraphy will be compromised within the trench. If deeply stratified deposits are encountered then it may be appropriate to hand excavate sample boxes and/or examine stratigraphy revealed in the sections of excavated cut features.
- 3.3.11 For palaeoenvironmental research different sampling strategies will be employed according to established research targets and the perceived importance of the strata under investigation. See Historic England 2011. For carbonised remains, bulk samples of a minimum of 40 litres will be collected. Bulk samples of at least 40 litres will be taken from waterlogged deposits for analysis of macroscopic plant remains. Columns for pollen analysis will be taken where appropriate. Mollusc samples will gathered when required. Other bulk samples for small animal bones and other small artefacts may be taken from appropriate deposits depending on the aims of the project.
- 3.3.12 Any finds of human remains will be left *in situ*, covered and protected. Waterman and the Coroner will be informed immediately.
- 3.3.13 Treatment of treasure - Finds, discovered by the Archaeological Contractor, falling under the statutory definition of Treasure (as defined by the Treasure Act of 1996 and its revision of 2002) will be reported immediately to the relevant Coroner's Office, the landowner and the local planning authority's archaeological advisor. A Treasure receipt

(obtainable from either the FLO or the DCMS website) must be completed and a report submitted to the Coroner's Office and the FLO within 14 days of understanding the find is Treasure. Failure to report within 14 days is a criminal offence. The Treasure Receipt and Report must include the date and circumstances of the discovery, the identity of the finder (put as unit/contractor) and (as exactly as possible) the location of the find. Where removal cannot be effected on the same working day as the discovery suitable security measures will be taken to protect the finds from theft.

- 3.3.14 All structures, deposits and finds will be recorded according to accepted professional standards. The stratigraphy in any sections is to be recorded, even where no archaeological deposits have been identified.
- 3.3.15 The site records will be so organised as to be compatible with other archaeological records produced in Oxfordshire. Individual descriptions of all archaeological strata and features excavated or exposed will be entered onto prepared pro-forma recording sheets. Sample recording sheets, sample registers, finds recording sheets, access catalogues, and photo record cards will also be used. This requirement for archival compatibility extends to the use of computerised databases.
- 3.3.16 A plan to indicate the location of the boundaries of the excavated area and the site grid is to be drawn at a scale of 1:1250. Plans to indicate the locations of archaeological features are to be drawn at a scale of 1:50, with more detailed plans and sections as necessary. Detailed plans shall normally be drawn at a scale of 1:20 and sections at a scale of 1:10 or 1:20 depending on the complexity of the feature. All detailed plans and sections are to be related to the 1:50 plans. All plans are to be related to the site grid.
- 3.3.17 All archaeological sections will be on drawing film and will include context numbers and OD spot heights for all principal strata and features.
- 3.3.18 All archaeological contexts are to be recorded individually on context record sheets. A further more general record of the work comprising a description and discussion of the archaeology is to be maintained as appropriate.
- 3.3.19 A digital photographic record of the work is to be kept. All digital photography will be high resolution uncompressed TIFF format with a minimum 20 megapixel image capture. Image capture, storage and metadata standards as set out in the English Heritage Guidance note on Digital Image Capture and File Storage (Draft) are to be followed. The photographic record is to be regarded as part of the site archive and will also include working shots to illustrate more generally the nature of the archaeological operation mounted.
- 3.3.20 The archaeological contractor shall allow project records to be inspected and examined at any reasonable time, during or after the excavation work by the local planning authority's archaeological advisor.
- 3.3.21 All identified finds and artefacts will be retained, although certain classes of building material can sometimes be discarded after recording if an appropriate sample is retained. No finds will, however, be discarded without the prior approval of the local planning authority's archaeological advisor.
- 3.3.22 Site procedures carried out will follow CifA guidelines and the requirements of the Oxfordshire County Archaeological Services (OCAS).

- 3.3.23 Following recording, the trenches will be backfilled with top and sub-soils reinstated in their appropriate sequence.
- 3.3.24 A projected timetable for Site work shall be agreed between Waterman, OCAS and JMHS. At least two weeks' notification will be given to OCAS prior to the start of work to allow monitoring to take place.
- 3.3.25 It is envisaged that a Project Officer and two experienced archaeologists will undertake the evaluation excavation in two days with one day of contingency under the overall direction of John Moore MCIfA.

### **3.4 Evaluation (Trial trenching) Report and Archive**

- 3.4.1 A draft evaluation report will be completed within two weeks of the end of on-site work. The content and style of report will be in accordance with CIfA guidelines and the requirements of OCAS. On approval of the report by OCAS a final copy will be issued to OCAS and the client (for submission to the LPA), with a digital copy sent to the Oxfordshire Historic Environment Record.
- 3.4.2 On completion of the works the site archive will be compiled. This will contain all the data collected during the on-site work, including records and finds. It will be quantified, ordered, indexed and made internally consistent.
- 3.4.3 All retained finds after cleaning, conserving, marking and packaging will be assessed and recorded using *pro forma* recording sheets. Initial artefact dating will be integrated with the site matrix. See Appendix 1 for list of specialists to be used.
- 3.4.4 All artefacts recovered during the excavations on the site are the property of the landowner. They are to be suitably bagged, boxed and marked in accordance with the United Kingdom Institute for Conservation, Conservation Guidelines nos. 2 (1990).
- 3.4.5 All retained environmental samples will be processed and assessed by experienced and qualified staff and recorded using *pro forma* recording sheets.
- 3.4.6 Relevant specialists will be contracted to undertake any necessary post excavation assessment and analysis of artefacts.
- 3.4.7 All finds and samples will be treated in a proper manner and to the standards of the UK Institute of Conservators Guidelines. They will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the guidelines set out in the UK Institute for Conservation (1990). Appropriate guidelines set out in the Museums and Galleries Commissions *Standards in the Museum Care of Archaeological Collections* (1992) will also be followed.
- 3.4.8 The site archive will be assembled in accordance with the guidelines set out in English Heritage's Management of Archaeological Projects 2 and Management of Research Projects in the Historic Environment as well as in accordance with the guidelines published in Guidelines for the preparation of Excavation Archives for Long-term Storage (United Kingdom Institute for Conservation, 1990) and the standards in the Museum Care of Archaeological Collections (Museums and Galleries Commission, 1994). In addition to the items referred to in section 4.2 the archive will also contain:
- Site matrices

- A summary report synthesising the context records
- A summary of artefact records
- A summary of the environmental record

3.4.9 Security copies of the paper record of the archive will be made digitally.

3.4.10 A summary report (including illustrations where appropriate) will be sent to the editors of South Midlands Archaeology not later than three months after the end of the calendar year in which the work is undertaken.

3.4.11 An OASIS entry will be initiated before the implementation of fieldwork and will be updated after the approval of the evaluation report.

3.4.12 On completion of the project, it is anticipated that the landowner will consent to the deposition of artefacts and archive with the Oxfordshire Museums Service following all archaeological work associated with this development. See also data management plan attached to the WSI. This may be after these works if there is no requirement by OCAS for any mitigation works.

## **4 General**

4.1 Work will conform to CifA Guidelines (CifA 2014, 2020, 2020a, 2020b).

4.2 The project will be conducted in accordance with procedures laid out in MoRPHE (English Heritage 2006).

4.3 Reasonable access to the site is to be arranged for the local authority's archaeological advisor (or their representative), to make site inspections to ensure that the archaeological investigations are progressing satisfactorily.

4.4 The local authority's Archaeological Advisor will be notified at least two weeks prior to commencement of work on site in order to arrange site monitoring visits.

## **5 Bibliography**

Brickley, M, & McKinley, J I, 2004 *Guidelines to the Standard for Recording Human Remains*, Institute of Field Archaeologists Technical Paper 7, BABAO University of Southampton

Chartered Institute for Archaeologists. 2014 *Standard and Guidance Archaeological Excavation*

Chartered Institute for Archaeologists. 2020 *Standard and Guidance Archaeological Field Evaluation*

Chartered Institute for Archaeologists. 2020a *Standard and Guidance Archaeological Watching Brief*.

Chartered Institute for Archaeologists. 2020b *Standard and Guidance for the creation, compilation, transfer and deposition of archaeological archives*



English Heritage (now Historic England), 2001 *Centre for Archaeology Guidelines Archaeometallurgy*

English Heritage, 2006a *Management of Research Projects in the Historic Environment*

English Heritage, 2006b *Science for Historic Industries: Guidelines for the investigation of 17<sup>th</sup>- to 19<sup>th</sup> century industries*

English Heritage, 2007 *Geoarchaeology: Using earth sciences to understand the archaeological record*

English Heritage, 2008 *Management of Research Projects in the Historic Environment: PPN 3: Archaeological Excavation*

English Heritage, 2011 *Environmental Archaeology: A guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-Excavation (Second Edition).*

McKinley, J, & Roberts, C, 1993 *Excavation and post-excavation treatment of cremated and inhumed human remains.* Institute of Field Archaeologists Technical Paper 13

Museums and Galleries Commission 1992 *Standards in the Museum Care of Archaeological Collections*

Society of Museum Archaeologists 1993 *Selection, Retention and Dispersal of Archaeological Collections*

United Kingdom Institute for Conservation 1990 *Archaeology Section Guidelines for the Preparation and Storage of Excavation Archives for Long-Term Storage*

Waterman 2021 *A41 – Pioneer Roundabout, Graven Hill, Bicester. Written Scheme of Investigation for an Archaeological Evaluation.*

John Moore

John Moore Heritage Services

24<sup>th</sup> May 2021

## Appendix 1

For specialist dating and where there are significant assemblages, specialists that may be used for analysis of materials include:

Prehistoric pottery	David Mullin	Freelance specialist
Roman and Romano-British pottery	Jane Timby	Freelance specialist
Lithics	Rebecca Devaney	Freelance specialist
Stone	Ann Clarke	Freelance specialist
Saxon, Medieval and Post-medieval pottery	Paul Blinkhorn	Freelance specialist
Post-medieval pottery	Stephanie Duensing	JMHS
Ceramic Building Material	Andrew Peachey	Archaeological Solutions
Environmental Analysis, Plant macro remains and Insect remains	Luke Parker	ARS
Marine molluscs	Jessica Winder	Freelance specialist
Land snails	Michael Allen	Freelance specialist
Human remains	Milena Grzybowska	ARS
Animal bone	Claire Ingre	Freelance specialist
Clay tobacco pipes	John Moore	JMHS
Metalwork and Small finds	Nicola Rogers	Freelance specialist
Small and Other finds	Simona Denis	JMHS
C14	Gordon Cook	SUERC
Geophysics		SUMO
Geoarchaeology		QUEST

Experienced JMHS staff may be used for simple quantifications of material and identification although prior notification and approval in this instance will be agreed in advance with OCAS.

**A41 - PIONEER ROUNDABOUT, GRAVEN HILL,**

**BICESTER**

**ARCHAEOLOGICAL EVALUATION**

**DATA MANAGEMENT PLAN**

**MAY 2021**

<b>Document Information</b>	
<b>Title</b>	Data Management Plan
<b>Author</b>	Simona Denis
<b>Description</b>	This document describes the type of data that will be acquired and/or generated during the archaeological project, the way the data will be managed and stored, and the mechanisms to preserve and share the data.

<b>Document History</b>				
<b>Version</b>	<b>Status</b>	<b>Date</b>	<b>Author</b>	<b>Changes from the previous version</b>
1.0	Draft	16/05/2019	Simona Denis	Not applicable
2.0	Final Template	17/05/2019	Simona Denis	Minor edits
3.0	Final	14/01/2020	Simona Denis	File migration
4.0	Final	19/08/2020	Simona Denis	File migration
5.0	Final	03/09/2020	Simona Denis	Minor edits to created data table
6.0	Final	24/02/2021	Simona Denis	Minor edits to backup location
7.0	Final	25/03/2021	Simona Denis	Edits to metadata
8.0	Draft	24/05/2021	T.Rose-Jones	Project-specific edits

<b>Document Control Grid</b>					
<b>Revision</b>	<b>Status</b>	<b>Date</b>	<b>Author</b>	<b>Checked by</b>	<b>Reason for revision</b>
1.1	Draft	17/05/2019	Sarah Doherty	Simona Denis	Minor edits
3.1	Draft	16/01/2020	Simona Denis		Minor edits
3.2	Draft	14/08/2020	Simona Denis		GPS metadata section edits
3.3	Draft	18/08/2020	Simona Denis		Minor edits

6.1	Draft	25/03/2021	Simona Denis		Formatting
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Section 1 – Administrative Data					
<b>Data Set ID</b>					
Site code: AMPR 21 JMHS project no: 4510 OASIS ID: TBC Accession No.: TBC					
<b>Project Name</b>					
Pioneer Roundabout, Graven Hill, Bicester					
<b>Data Set Description</b>					
Nature of project: Archaeological Evaluation Aims of investigation: determine the presence or absence of any buried archaeological remains within the Site that may be affected by the Development and where remains are present, to make an appropriate record to ClfA standards; determine the approximate extent, condition, state of preservation and depth of any surviving remains; confirm the approximate date or range of dates of the remains; sample deposits to assess potential paleoenvironmental evidence; produce a report on the results of the archaeological evaluation; consult with OCAS on the need for archaeological mitigation; and ensure adequate provision for archival deposition of the archaeological record. Investigation techniques: Machine excavation of trenches followed by hand sample excavation of archaeological features, if present. Purpose: Proposed roundabout junction					
<b>Project Funder</b>					
Waterman					
<b>Project Manager</b>					
John Moore (Director), John Moore Heritage Services					
<b>Principal Investigator</b>					
TBC (Project Manager/Officer/Supervisor), John Moore Heritage Services					
<b>Data Contact Person</b>					
Simona Denis (Head of Archive), John Moore Heritage Services					
<b>Data Management Policies and Guidance</b>					
<ul style="list-style-type: none"> <li>• Archaeology Data Service, 2015 <i>Guidelines for Depositors</i></li> <li>• Australian National Data Service, 2017 <i>ANDS Guide. Data Management Plans</i></li> <li>• Chartered Institute for Archaeologists, Historic England 2019 <i>Toolkit for Selecting Archaeological Archives</i></li> <li>• Digital Curation Centre, 2013 <i>Checklist for Data Management Plan v.4.0</i> Edinburgh</li> <li>• Digital Preservation Coalition 2015 <i>Digital Preservation Handbook</i>, 2<sup>nd</sup> Edition. Technical Solutions and Tools</li> <li>• Duranti, L., Suderman, J. and Todd, M., 2005 <i>A Framework of Principles for the Development of Policies, Strategies and Standards for the Long-term Preservation of Digital Records</i>. The InterPARES 2 Project</li> <li>• Foster, M. 2019 <i>Work digital/think archive. A guide to managing digital data generated from archaeological investigations</i>. DigVentures</li> <li>• International Standards Organization (2003) standards: <i>Reference Model (ISO 14721:2003)</i></li> <li>• John Moore Heritage Services, 2019 <i>POL0006: Quality Control Policy Statement</i></li> <li>• John Moore Heritage Services, 2019 <i>POL0010: Digital Archives Preservation Policy Statement</i></li> <li>• John Moore Heritage Services, 2019 <i>POL0014: Data Protection Policy Statement</i></li> <li>• John Moore Heritage Services, 2019 <i>Archive Guidelines</i></li> </ul>					

- The National Archives, 2011 *Digital Preservation Policies: Guidance for archives*
- Thomas, S. 2009 *A Guide to Archival and Related Standards*. Society of Archivists Data Standard Group
- Whyte, A., Wilson, A. 2010, *How to Appraise and Select Research Data for Curation*. DCC How-to Guides. Edinburgh: Digital Curation Centre

## Section 2 – Data Collection

### Assessment of Existing Data

Existing quantitative and qualitative data provided by third parties as well as non-proprietary data will be accessed/re-used/re-evaluated and the generated information will supplement the data collected during the project. Selected generated data will be incorporated in the final report text included in the project archive.

### Created Data

This table summarises the data types, formats and estimated archive volume for this project.

File Type	File Format	Data Archive Estimated Volume
Text	.odt	None
	.docx	None
	.doc	None
	.pdf/a	4 files, 90,000 bytes
Spreadsheet	.xlsx	1 file, 20,000 bytes
	.ods	None
Raster Image	.jpg	10 files, 42,500,000 bytes
	.tiff	None
Vector Graphic	.dxf	1 file, 1,500 bytes
Geospatial Vector Data	shp/.shx/.dbf	3 files, 20,500 bytes

### Data Collection Standards and Methodologies

- Analogue data sets

Acquisition standards are defined against the following, and will be updated as required:  
 Brickley, M., and McKinley, J. I. 2004, *Guidelines to the Standard for Recording Human Remains*, Institute of Field Archaeologists Technical Paper 7, BABAO University of Southampton  
 Chartered Institute for Archaeologists 2014, *Standards and Guidance for the collection, documentation, conservation and research of archaeological materials*  
 English Heritage 2011, *Environmental Archaeology: A guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-Excavation*. 2<sup>nd</sup> Edition  
 English Heritage 2015, *Digital Image Capture and File Storage*  
 John Moore Heritage Services 2019, *Field Manual*  
 Museum of London Archaeology Service 1994, *Archaeological Site Manual*. Third Edition

- Digitised data sets

Acquisition standards are defined against the following, and will be updated as required:  
 The National Archives, 2016 *Digitisation at The National Archives*  
 Thomas, S. 2009 *A Guide to Archival and Related Standards*. Society of Archivists Data Standard Group

- Born-Digital data sets

Creation standards are defined against the following, and will be updated as required:  
 Archaeological Data Services, 2011 *Guides to Good Practice*  
 English Heritage, 2015 *Digital Image Capture and File Storage. Guidelines for Best Practice*

Where appropriate, external specialists will be required to include data standards and metadata with individual reports.

#### **Data Storage and File Naming System**

- The working project archive will be stored in a dedicated project folder in the 'Projects' partition of the company's server
- All files will be renamed following the company's file naming format, based on ADS standard and including version control, as laid out in JMHS' *Archive Guidelines*
- All files included in the working project archive will include
  - Company's project identifier
  - Repository accession number
  - Site code
  - File descriptor
  - Version number

All files will be organised following the company's project folder structure laid out in JMHS' *Archive Guidelines*

#### **Quality Control**

- All mechanical and electronic equipment used in the collection of data are calibrated prior to use and are periodically checked
- All collected data will be checked during project delivery

### **Section 3 – Documentation and Metadata**

#### **Data Documentation**

Data documentation will be compliant with the WSI/Oxfordshire County Museum Service and Archaeology Data Service requirements and will be provided via

- Collection-level metadata providing a detailed overview of the collection
- File-level metadata providing details of each data group and individual files

All data included in the project archive will be migrated to

- widely supported open international standards
- most recent format version

#### **Metadata**

All metadata will be created in compliance with relevant ADS standards, and will specify for all file types:

- File name
- File format
- Language
- Creation/conversion software and version
- In addition, metadata for document files will indicate:
  - Title
  - Abstract
  - Name of the creator(s)
  - Page count
  - Publishing details
- In addition, metadata for spreadsheet files will indicate:
  - Title
  - Description
  - Name of the creator(s)
  - Copyright holder
  - Date of creation
  - Worksheet name
  - Worksheet purpose
  - Number of rows in each worksheet

- Field name
- Description of field contents
- In addition, metadata for raster image files will indicate:
  - Caption
  - Subject keywords
  - Period
  - Name of the creator
  - Copyright holder
  - Location
  - Date of the capture of the image
- In addition, metadata for vector graphic files will indicate:
  - Caption
  - Description
  - Name of the illustrator
  - Copyright holder
  - Period of creation
  - Location
  - Conventions used in the illustration
  - Location
- In addition, metadata for geospatial vector data files will indicate:
  - Type of element captured
  - Type of features and/or contexts represented
  - Purpose of data collection
  - Data source and type
  - Data accuracy level
  - Coordinate system used
  - Method of capture
  - Name of surveyor

#### Section 4 – Ethics and Intellectual Property

##### **Legal and Regulatory Framework**

The following acts and directives will be taken into consideration:

- Copyright, Designs and Patents Act 1988
- General Data Protection Regulation (GDPR) 2018
- EU Copyright Directive 2001
- Data Protection Act 1998
- Current best practice

##### **Personal Data**

Personal data will be collected in the form of:

- Donor(s)
  - Name
  - Address
- Project Team Members
  - Name
- External Specialist(s)
  - Name

##### **Personal Data Management**

Management of personal data will be carried out in compliance with John Moore Heritage Services' Data Protection Policy Statement.

- Written consent to process and share with the repository personal data will be secured for the use specified below:

<ul style="list-style-type: none"> <li>○ Donor(s): Names and addresses will be included in the transfer of ownership documentation</li> <li>○ Project Team Members: Names will be included in the project archive</li> <li>○ External Specialist(s): Names will be included in the project archive and in the licence of copyright documentation</li> <li>● Files containing personal data will be: <ul style="list-style-type: none"> <li>○ Password-protected</li> <li>○ Securely stored on a server partition with restricted access</li> <li>○ Kept only as long as necessary for the relevant, valid purposes</li> </ul> </li> </ul>
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#### **Intellectual Property Rights (IPR)**

<ul style="list-style-type: none"> <li>● Copyright Holder: John Moore Heritage Services will be the copyright holder of any collected and created data included in the project archive in all forms of records and media</li> <li>● Permission to Reuse Third-Party Data: formal consent to include, reuse and share data generated by external specialists will be secured</li> <li>● Licence of Copyright: John Moore Heritage Services will grant to the Oxfordshire County Museum Service and Archaeology Data Service perpetual and royalty-free licence throughout the world to: <ul style="list-style-type: none"> <li>○ reproduce all or any part of the project archive for the purposes of research, study, conservation or publicity relating to the Oxfordshire County Museum Service and Archaeology Data Service</li> <li>○ display copies of all or part of the project archive in any medium</li> <li>○ publish any part of the project archive in any form or medium</li> <li>○ permit third parties to do any of the above</li> </ul> </li> </ul>
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### **Section 5 – Storage and Backup**

#### **Storage System Details**

<ul style="list-style-type: none"> <li>● Long-term preservation of electronic records is ensured by storage on magnetic media on a Synology NAS server device with a storage capacity of 5.4TB</li> <li>● The device is part of a network based on the client-server model with servers situated in separate geographical locations (JMHS's main office in Wheatley and the Director's office in Launton, Bicester)</li> <li>● The system is managed via Lightweight Directory Access Protocol (LDAP)</li> <li>● The system is set as a Redundant Array of Independent Disks (RAID) and failover</li> </ul>
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#### **Security Copies**

<ul style="list-style-type: none"> <li>● Back-up of raw digital data generated during fieldwork is provided by secure remote access to the company's server. Where internet access for data backup is not available, a security copy of the raw data will be transferred onto a portable device</li> <li>● Digital copies of the primary records will be made at the earliest opportunity and stored on the company's server</li> <li>● Security copies of all archive records and born-digital files will be made in digital format and stored on the company's server</li> </ul>
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#### **Data Storage and Access**

<p>Data storage</p> <ul style="list-style-type: none"> <li>● Main and secondary servers are set up to constantly synchronise, effectively creating two copies of each file at any time</li> <li>● Two additional copies of all files are created via backups: <ul style="list-style-type: none"> <li>○ The main server backs up to the Synology C2 Cloud Backup Server daily, starting at 17:30</li> <li>○ The secondary server backs up to a local drive daily, starting at 17:30</li> </ul> </li> <li>● Versioning of files and backups is available for 30 days</li> </ul>
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- Multiple recovery methods are used, depending on the nature of the failure
- Data access
- The company's server is accessible through a secure log-in by authorised staff on and off-site, via any web browser
  - Secure access to the server is granted by a two-factor authentication method. Access to server's partitions containing sensitive data is restricted to authorised users through role-based access control

## Section 6 – Selection and Preservation

### **Appraisal and Selection of Data**

All data generated by all stages of the project will be stored on the company's server. An appraisal of the digital data will be carried out prior to the completion of the project, in order to select data for long-term curation.

The assessment of each dataset's value will be carried out by the Post-Excavation Project Team and will be based on the following criteria:

- Relevance
- Scientific/Historic value
- Uniqueness
- Non-Replicability
- Potential for redistribution

The selection of data will be agreed with all relevant stakeholders (Project Team Members, Repository, Local Authority, External Specialists, and Landowner).

### **Data Reuse**

The project results are likely to provide new research data regarding the Prehistoric, Roman and Medieval occupation in the Graven Hill area.

The results might be:

- included in the Historic Environment Record
- reused to conduct new studies
- used to validate research findings
- used to aid the future management of the archaeological site

### **Selection Review Points**

Selection Strategy and Data Management Plan will be revised in consultation with the relevant stakeholders and updated at the following stages:

- Project Design
- Post-Excavation Assessment
- Project Reporting

Prior to the transfer, the Selection Strategy and Data Management Plan will be finalised in agreement with all stakeholders.

### **Selected Data Preparation**

Selected data will be normalised and organised in standardised folders, to guarantee consistency and retrievability, and to prevent data loss.

Normalisation will include:

- Format migration to widely supported open international standards
- Version migration to most recent format version
- File naming normalisation to ADS standards
- Organisation in the predefined file structure

Metadata compliant with ADS standards will be generated for all selected data.
<b>Long-Term Preservation of Selected Data</b>
<p>Selected data will be transferred to the appropriate repository:</p> <ul style="list-style-type: none"> <li>Physical archive: documentary and material project archives will be transferred to the Oxfordshire County Museum Service. The documentary archive will include hard copies of all the digital-born data selected for long-term curation</li> <li>Digital data: selected data will be prepared for long-term curation and transferred to the CoreTrustSeal certified Archaeology Data Service</li> </ul> <p>Contact will be made with the repository regarding the deposition of the project archive.</p>
<b>Long-Term Preservation of Deselected Data</b>
<ul style="list-style-type: none"> <li>Long-term preservation of electronic records will be ensured by storage on magnetic media on a server device. The device is part of a network based on the client-server model, available online and securely accessible remotely via any web browser.</li> <li>The digital archives preservation strategy ensures that two copies of all born-digital items as well as digital surrogates of primary records are made available on two different server devices (server and backup) situated in separate locations (JMHS's main office in Wheatley and the Director's office in Launton).</li> </ul>

## Section 7 – Data Sharing

### Data Accessibility

Final Results will be made available within 12 months from the completion of fieldwork

- Project final results for all types of recording actions will be made publicly available in digital format via the OASIS Index of Archaeological Investigations
- Complete final reports for recording actions yielding notable results will be made available in digital format via the company's website
- Summaries will be made publicly available via submission to relevant local, regional or period journals, to be included in the 'round-up' sections. Where significant discoveries are made, notes will also be sent to national journals
- Primary and Digital Data will be made available after the completion of the documentation process
- All selected data will be made available upon direct request for reuse, re-analysis, re-interpretation, and re-publication by secondary researchers

### Intellectual Property

- John Moore Heritage Services will hold the copyright of any collected and created data included in the project archive in all forms of records and media
- Digital elements of the project archive disseminated via ADS will be licenced under a creative commons licence
- A data sharing agreement will regulate the access and use of data by secondary researchers as appropriate

### Long-Term Access

Long-term access to data will be granted via deposition with Oxfordshire County Museum Service and Archaeology Data Service

## Section 8 – Responsibilities and Resources

### Responsibilities

Roles and responsibilities will be as follows:

- Project Team Members (Fieldwork): Collection and storage of analogue data sets

- Project Team Members (Post-Excavation): Storage and backup of analogue data sets, creation of digitised and born-digital data sets, data quality, data archiving and metadata production for all data sets
- Fieldwork Manager (Gavin Davis): Implementation, review and revision of the Data Management Plan (DMP), supervision of collection, production, storage, backup and management of all data sets
- External company (Oxford Mac Solutions Ltd): Data storage and backup management
- Head of Archive (Simona Denis): Implementation of relevant policies, implementation, review and revision of the DMP, management of data selection, archiving and metadata production for all data sets, data sharing, project archive transfer

**Resources**

Resources required to prepare selected data and implement the DMP were to be covered by standard John Moore Heritage Services resources and project budget.

Repository charges were estimated using the Oxfordshire County Museum Service charges list and included in the project budget.

Digital Repository charges were estimated using the ADS Costing Calculator and included in the project budget.