



NEXUS
HERITAGE

Residential Development Land at Don Street, Middleton, Rochdale Borough (21/00744/FUL)



Written Scheme of Investigation for a Programme of Archaeological Investigation

Document No: 3596.R01a

September 2022

Nexus Heritage Controlled Document – Commercial-in-Confidence

Document Number	3596.R01a	
Document Status	FINAL	
Prepared by:	A. Martin and A. Nash	Date: 06.09.2022
Client Check:	Mr. Mr. Waite	Date: 06.09.2022
Client Comment on First Draft	Ensure correct, approved layout is used at Fig. 7 and note that the relevant condition is number 11	
Local/National Authority Check	Mr. I. Miller (GMAAS on behalf of Rochdale Borough Council)	Date: 09.09.2022
Local/National Authority Comment	Correct erroneous reference to Manchester City Council Confirm that desk-based research is undertaken prior to the fieldwork, in particular, Oldham Local Studies, which holds the Stott archive. It is likely that this archive will contain original plans for Rex Mill. The proposed 'strip, map and record' area of Rex Mill is unlikely to cover the footprint of the engine house. This may have been immediately to the east of the boiler house (and therefore within the footprint of the area targeted for investigation), but may also have been the projection abutting the south-facing elevation of the spinning block, immediately to the south-east of the allocated area. The current area proposed for excavation should be extended to the east to take in the projection against the south elevation of the spinning block.	
Rev. a	A. Martin and A. Nash	Date : 13.09.2022
Client Acceptance		Date:
Local/National Authority Acceptance		Date:

Kellen Homes
1st Floor
103 Dalton Avenue
Birchwood Park
Warrington
WA3 6YF

Nexus Heritage
Thursby House
Thursby Road
Bromborough
Wirral
CH62 3PW

Copyright Declaration:

Nexus Heritage grants permission for the material presented within this report to be used by the archives/repository with which it is deposited, in perpetuity, although Nexus Heritage retains the right to be identified as the author of all project documentation and reports, as specified in the Copyright, Designs and Patents Act 1988 (chapter IV, section 79). The permission will allow the repository to reproduce material, including for use by third parties, with the copyright owner suitably acknowledged.

Disclaimer:

This Report has been prepared solely for the person/party which commissioned it and for the specifically titled project or named part thereof referred to in the Report. The Report should not be relied upon or used for any other project by the commissioning person/party without first obtaining independent verification as to its suitability for such other project, and obtaining the prior written approval of Nexus Heritage. Nexus Heritage accepts no responsibility or liability for the consequences of this Report being relied upon or used for any purpose other than the purpose for which it was specifically commissioned. The entitlement to rely upon this Report rests solely with the person/party which commissioned it and does not extend to any other person/party. Nexus Heritage accepts no responsibility or liability for any use of or reliance upon this Report by any person/party other than the commissioning person/party.

© 2022 Nexus Heritage–SRI. Registered Address: Thursby House, 1 Thursby Road, Bromborough, Wirral, CH62 3PW, United Kingdom. Company Registered in England and Wales 6575853

Any graphic data (issued as DWG, JPG, PDF or PNG files) within the document are issued as an aid for members of the Applicant team. The issue of such data does not constitute a Drawing Issue or the issue of Contract Information. Only drawings issued and accompanied by Nexus Heritage Drawing Issue Sheets may be used for the purposes of construction. Please check all graphic data against Issued Information for validity.

Note on Transcription of Historic Maps

Historical mapping, both Ordnance Survey (OS) and individual cartographer's work relies on the accuracy of the data input into it and the projection used to produce a two dimensional image from three dimensional data. Techniques of survey have evolved and improved over the centuries but pre-OS maps are of widely varying quality and their accuracy is limited by the technology used to create them.

Creating an overlay of historic mapping (including 1st and 2nd edition OS Maps) and modern OS data can never be completely accurate. Creating a good approximation relies on using digital technologies to estimate and extrapolate the projection, orientation and scale of original maps by correlating known points on the modern OS grid with the historic mapping. This georeferencing 'distorts' the historic mapping to fit the modern grid using a set of known points chosen by the cartographer/illustrator.

Modern digitally produced OS mapping has a stated accuracy tolerance. The most detailed mapping at 1:1,250 (urban) will have a relative error of $<\pm 0.5\text{m}$ up to 60m. On the ground that equates to an error between two points which are 60m apart on the ground. 95% of the time the scaled measurement would be between 59.1m and 60.9m (paraphrased from <https://www.gov.uk/government/publications/land-registry-plans-the-basis-of-land-registryapplications/land-registry-plans-the-basis-of-land-registry-plans-practice-guide-40-supplement-1>.)

CONTENTS:

INTRODUCTION	1
SITE LOCATION, TOPOGRAPHICAL, GEOLOGICAL AND PEDOLOGICAL BACKGROUND	3
ARCHAEOLOGICAL AND HISTORICAL BACKGROUND	7
DEFINITIONS AND OBJECTIVES	13
TERMS AND CONDITIONS	15
METHODS	15
ASSESSMENT, ANALYSIS AND REPORTING	26
COPYRIGHT	27
CONFIDENTIALITY	28
HEALTH AND SAFETY	28
ARCHIVE	30
RESOURCES AND PROGRAMMING	34
MONITORING	34
SOURCES	35

FIGURES

Figure 1	Location Plan
Figure 2	Site Plan
Figure 3	Ordnance Survey Mapping, 1:10,560 Scale, Lancashire, Sheet XCVI, 1848
Figure 4	Ordnance Survey Mapping, 1:2,500 Scale, Lancashire, Sheets XCVI.4 and XCVI.8, 1893
Figure 5	Ordnance Survey Mapping, 1:2,500 Scale, Lancashire, Sheets XCVI.4 and XCVI.8, 1932
Figure 6	Ordnance Survey Mapping, 1:2,500 Scale, Lancashire Sheets XCVI.4 and XCVI.8, 1909
Figure 7	Site Layout of the Permitted Development
Figure 8	Areas for Archaeological Strip-Map-and-Record (Rex Mill Power Plant)
Figure 9	Areas for Archaeological Strip-Map-and-Record (Spa Farm Complex)

INTRODUCTION

Kellen Homes Ltd. (hereafter the Client) has secured planning permission (21/00744/FUL) from Rochdale Borough Council (hereafter the Council) for a residential development at land at Don Street, Rochdale (hereafter the Site).

The Council considers that there is an archaeological interest at the Site and requires an archaeological investigation, in order to cater for that interest, to compile an archive record of what archaeological evidence may remain and to disseminate the results in a suitable format(s).

The Council has therefore applied a condition (No. 11) to the permission

No development shall take place until the applicant or their agents or their successors in title has secured the implementation of a programme of archaeological works in accordance with a Written Scheme of Investigation (WSI) which has been submitted to and approved in writing by the local planning authority. The development shall not be occupied until the site investigation has been completed in accordance with the programme set out in the approved WSI and provision made for the completion of all elements of that programme. The WSI shall cover the following:

- 1. A phased programme and methodology of site investigation and recording to include:*
 - a) a strip-map-and-record of the site of Spa Farm and the power plant of Rex Mill ;*
 - b) pending results of a), more detailed excavation if the archaeological remains are more extensive than can be dealt with during the strip-map-and-record.*
- 2. A programme for post-investigation assessment to include:*
 - a) analysis of the site investigation records and finds;*
 - b) production of a final report on the significance of the heritage interest recorded.*
- 3. Deposition of the final report with the Greater Manchester Historic Environment Record.*
- 4. Dissemination of the results of the site investigations commensurate with their significance.*
- 5. Provision for archive deposition of the report, finds and records of the site investigation.*
- 6. Nomination of a competent person or persons/organisation to undertake the works set out within the approved WSI.*

Reason: In accordance with NPPF policy 16, paragraph 205: To record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) and to make this evidence (and any archive generated) publicly accessible.

The Client acknowledges its duty of care to the archaeological interest and with this in mind and in compliance with the spirit and intent of the condition it has commissioned Nexus Heritage to prepare a WSI for a programme of archaeological investigation.

In due course the Client will arrange for suitable archaeological attendances to ensure that an adequate record of any archaeological features is made prior to development commencing. In addition, in the event of the discovery of significant archaeological remains attention can be brought to the discovery and suitable solutions devised and implemented to cater for the significant interest.

Nexus Heritage has prepared this WSI which sets out how a programme of archaeological investigation will be undertaken in order to identify and record items of archaeological and historic interest. This document has been prepared in accordance with the Chartered Institute for Archaeologists' (CIfA) document *Standards and Guidance for Archaeological Excavation* (2020).

The results of the investigative works would be reported and submitted to the Greater Manchester Historic Environment Record (GMHER). If merited the results of the archaeological works would be published in a local or national journal, as appropriate. If the results are of sufficient interest then consideration can be given to disseminating them in a volume in the Greater Manchester's Past Revealed series. The records generated during the archaeological programme (paper, photographic and digital) will be offered to a local museum or other public depository willing to receive them.

A draft version of this document was offered for consideration to the Client and the Council. The Council was advised on the adequacy of the document's contents by Mr. I. Miller (Heritage Management Director Greater Manchester Archaeological Advisory Service). Mr. Miller has, in the light of the revisions made to the first draft, verified that the WSI is in compliance with condition no. 11 of the planning permission.

SITE LOCATION, TOPOGRAPHICAL, GEOLOGICAL AND PEDOLOGICAL BACKGROUND

Location

The Site is situated at Don Street in Middleton, in the Borough of Rochdale, Greater Manchester (Fig. 1).

The Site is centred, approximately, at National Grid Reference SD 88401 06376 (Fig. 2).

The attribute information for Site is provided in the table below and relates to the spatial data as illustrated in Fig. 2 below.

Field Name	Data
Project No.	3596
Project Name	Residential Development at Don Street, Middleton, Rochdale Borough (21/00744/FUL)– Archaeological Investigation
Organisation	Nexus Heritage
Date	September 2022
Digitisation Source	Ordnance Survey
Digitisation Scale	1:5,000 @ A4
Description of Digitised Data	Site Plan

Topography

The site investigation report which supported the planning application (E3P 2021a) conveniently divides the Site into five distinct zones

Area A – site of the former Rex Mill,

Area B - former playing fields,

Area C - apron between Rex Mill and former playing fields, Z

Area D - Wagon/trailer park, open ground and Hexpol car park

Area E - Wooded area in the south eastern corner of the site.

Of particular relevance for archaeological purposes are Area A (site of the former Rex Mill) and Area B the former playing fields (which includes the site of the Spa farm complex). Area A is predominantly level with a surface of concrete hardstanding. Much of the area is covered by sapling woodland with some disturbed ground within the central and eastern areas. The area is bounded by a bund along the eastern boundary along Don Street and the River Irk along the southern boundary. The River Irk is bounded by stone and brick retaining walls on either side. The western boundary comprises a line of poplar trees and the north boundary by a drainage sough, beyond which a gabion wall and a shallow wooded slope (E3P 2021a, 12).

Area B is an open area of unmaintained tiered playing fields with a fall of c. 11m from the north east toward the River Ink. Some areas of tarmacadam hardstanding are present related to former car parking for the sports pitches (E3P 2021a, 12).

An intrusive ground investigation was undertaken in 2021 (E3P, 2021b). In Area A (site of former Rex mill) 11 mechanically excavated trial pits, nine window sample boreholes, and five rotary open holes were excavated. In Area A there was no topsoil and the made ground extended to depths of up to 5.45 m bgl although, in general, the made ground was encountered at depths of less than 1.00 m bgl. Hard obstructions in the form of former foundations were encountered throughout the former mill site. The made ground generally comprised a red sandy gravel with frequent cobbles of brick or a dark/light brown slightly clayey gravelly sand with gravel of brick, mudstone, concrete, glass and ash (E3P 2021b, 5).

Parcel B was subjected to 36 mechanically excavated trial pits, window sample boreholes, rotary open holes and cable percussive boreholes. Two test pits were excavated at the site of Spa Farm (E3P 2021b, 117) and neither recorded any made ground. A depth of *c.* 0.20 – 0.30m of topsoil overlay sand which extended to a depth of *c.* 2.90m bgl

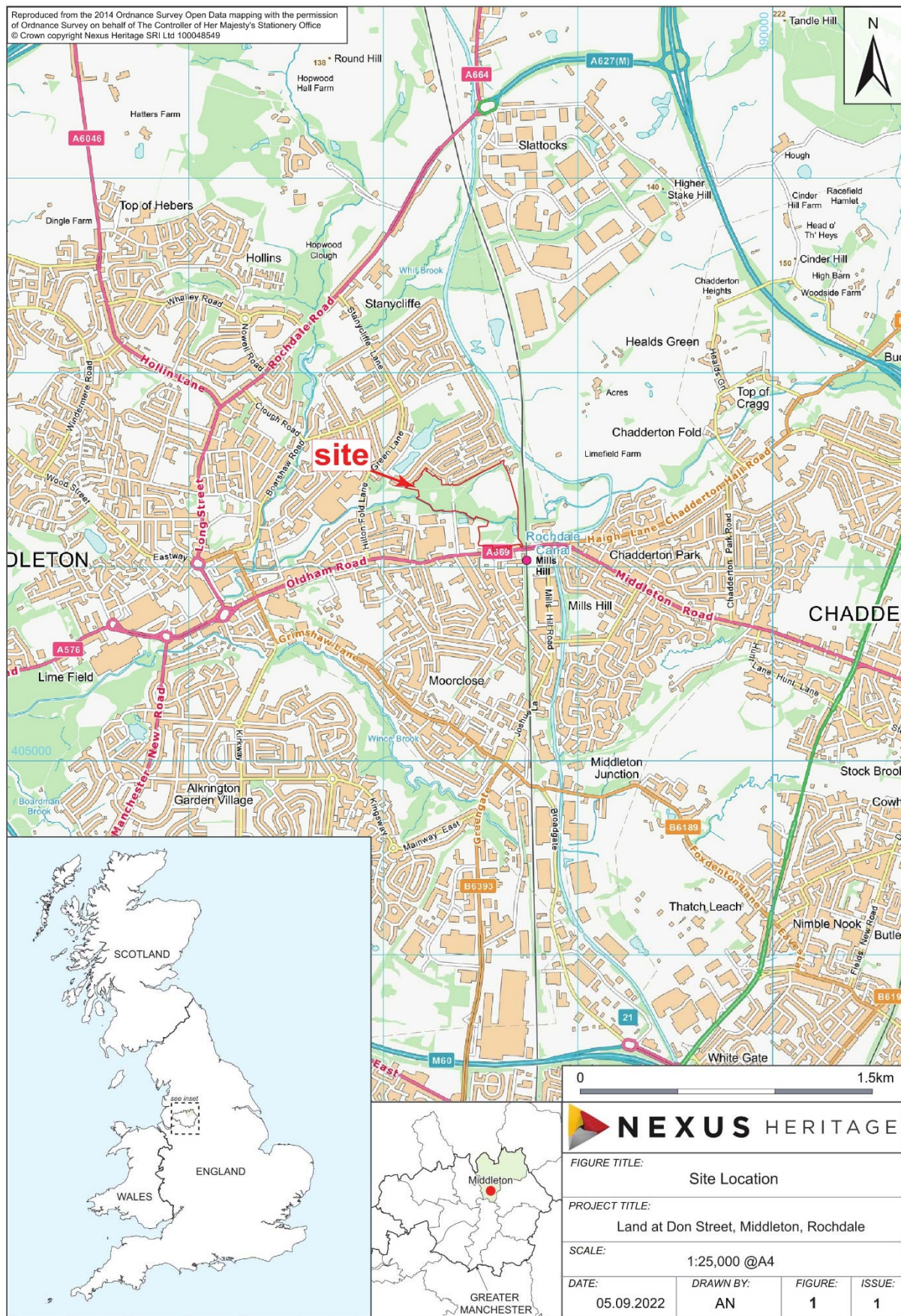
Geology

The British Geological Survey records the bedrock at the Site as Pennine Lower Coal Measures Formation - Mudstone, Siltstone and Sandstone – a sedimentary rock formed approximately 318 to 319 million years ago in the Carboniferous Period in a local environment previously dominated by swamps, estuaries and deltas. Trending across the Site there are also deposits of Pennine Lower Coal Measures Formation - Sandstone. – a sedimentary rock formed approximately 318 to 319 million years ago in the Carboniferous Period in a local environment previously dominated by swamps, estuaries and deltas (<https://mapapps.bgs.ac.uk/geologyofbritain/home.html>)

The superficial deposits along the River Irk banks are noted as Alluvium - Clay, Silt, Sand and Gravel, deposits formed up to 2 million years ago in the Quaternary Period in a local environment previously dominated by rivers. The superficial deposits for the majority of the Site are, however, described as Glaciofluvial Sheet Deposits, Devensian Sand and Gravel, deposits formed up to 2 million years ago in the Quaternary Period in a local environment previously dominated by ice age conditions.

Pedology

The Cranfield Soil and AgriFood Institute (CSAI) Soilscales Viewer (<http://www.landis.org.uk/soilscales/>) maps the soils cover at the Site as freely draining slightly acid sandy soils. However, given the development history of parts of the Site, any soil cover may not match this classification.



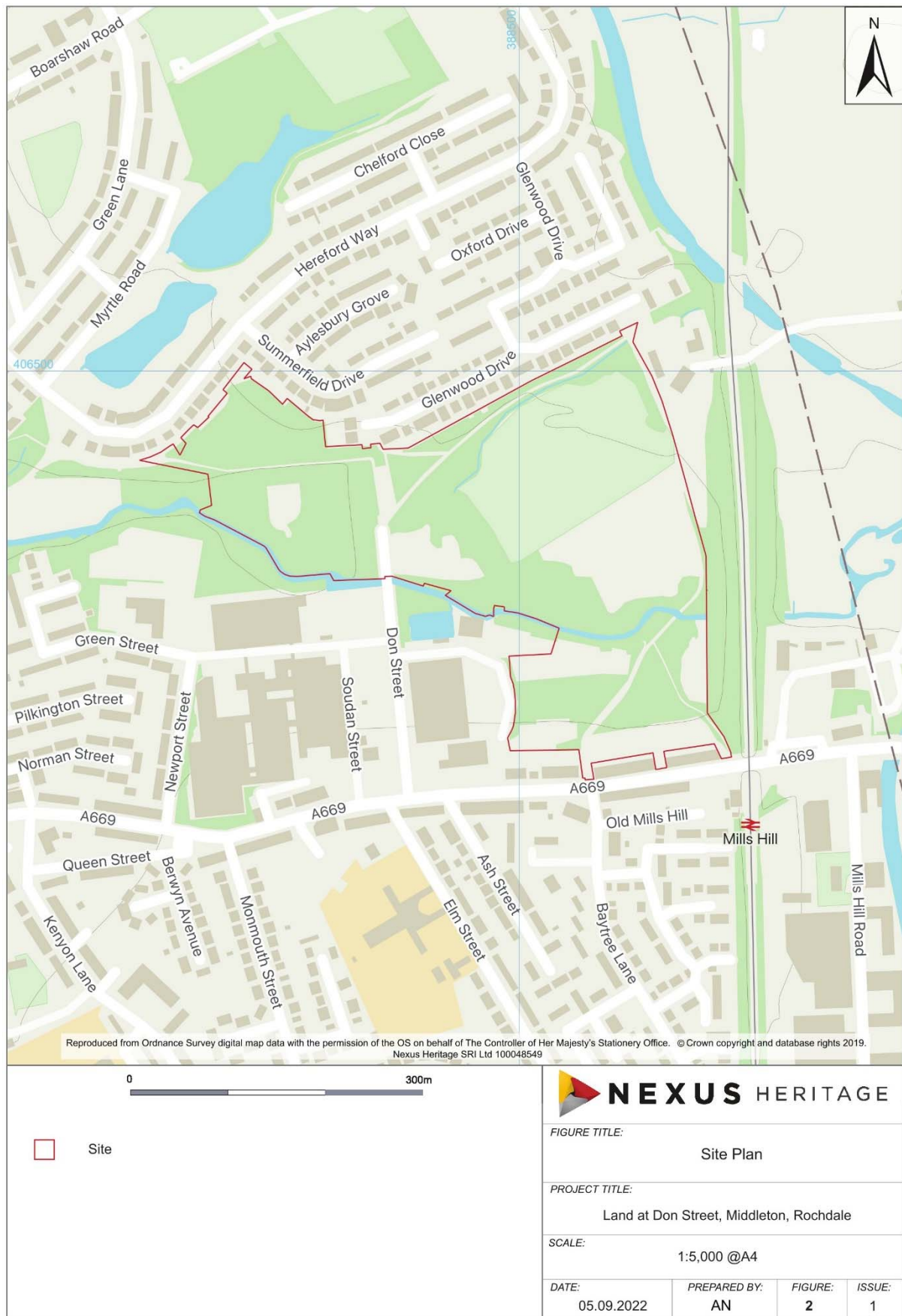


Figure 2: Location Plan (reproduced from Ordnance Survey mapping with the permission of Ordnance Survey on behalf of HMSO ©Crown Copyright Nexus Heritage-SRI Licence No. 100048549)

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

An archaeological desk-based assessment of the Site was undertaken in 2021 (Nexus Heritage 2021)

In summary the principal archaeological interest at the Site is associated with the following:

- Archaeological remains of Spa Farm farmstead
- Archaeological remains of Rex Mill (specifically the power plant),
- Archaeological remains of Clough Field Farm farmstead

The permitted development would disturb any archaeological remains associated with Rex Mill and Spa Farm farmstead but the site of Clough Field Farm farmhouse lies outside the area within the Site on which construction is permitted and will remain as woodland. As it is therefore to be preserved *in situ*, the archaeological remains of Clough Field Farm farmhouse will not be subject to any archaeological attendances.

The site of Spa Farm is shown on the Ordnance Survey (OS) mapping, 1:10,560 scale, Lancashire, Sheet XCVI, 1848 (Fig. 3). On the map, towards the centre of the Site is a complex identified as the Spa. This is farmstead clearly operational in the mid-19th century, but its original may predate this broad date. To the west of the Spa complex is an isolated building, possibly a field barn. This possible field barn is not shown on any map post-dating 1848, but the linear Spa Farm complex is shown in detail on the OS mapping, 1:2,500 scale, Lancashire, Sheets XCVI.4 and XCVI.8, 1893 (Fig. 4) and its extent approaching the mid-20th century is shown on the OS mapping 1:2,500 scale, Lancashire, Sheets XCVI.4 and XCVI.8, 1932 (Fig. 5).

The entry for Rex Mill on the GMHER reads as follows:

Cotton mill. Large late spinning mill site. Spinning mill is early C20 and red brick built. 5 storeys and 12x5 bays. Tall rectangular windows grouped 3 per bay. Domed water tower. Embellished brickwork to the upper storey. Flat roof.

The offices are situated at the entrance to the site. Early C20. 1 storey and 6x1 bays. Some embellished stonework. The warehouse is also red brick built and early C20. 2 storeys and 7x2 bays. Situated to the W side of the mill. Another building which may have been the boiler house is also attached to the W side of the mill. No engine house or chimney. Various other mid- to late C19 buildings are spread around the site.

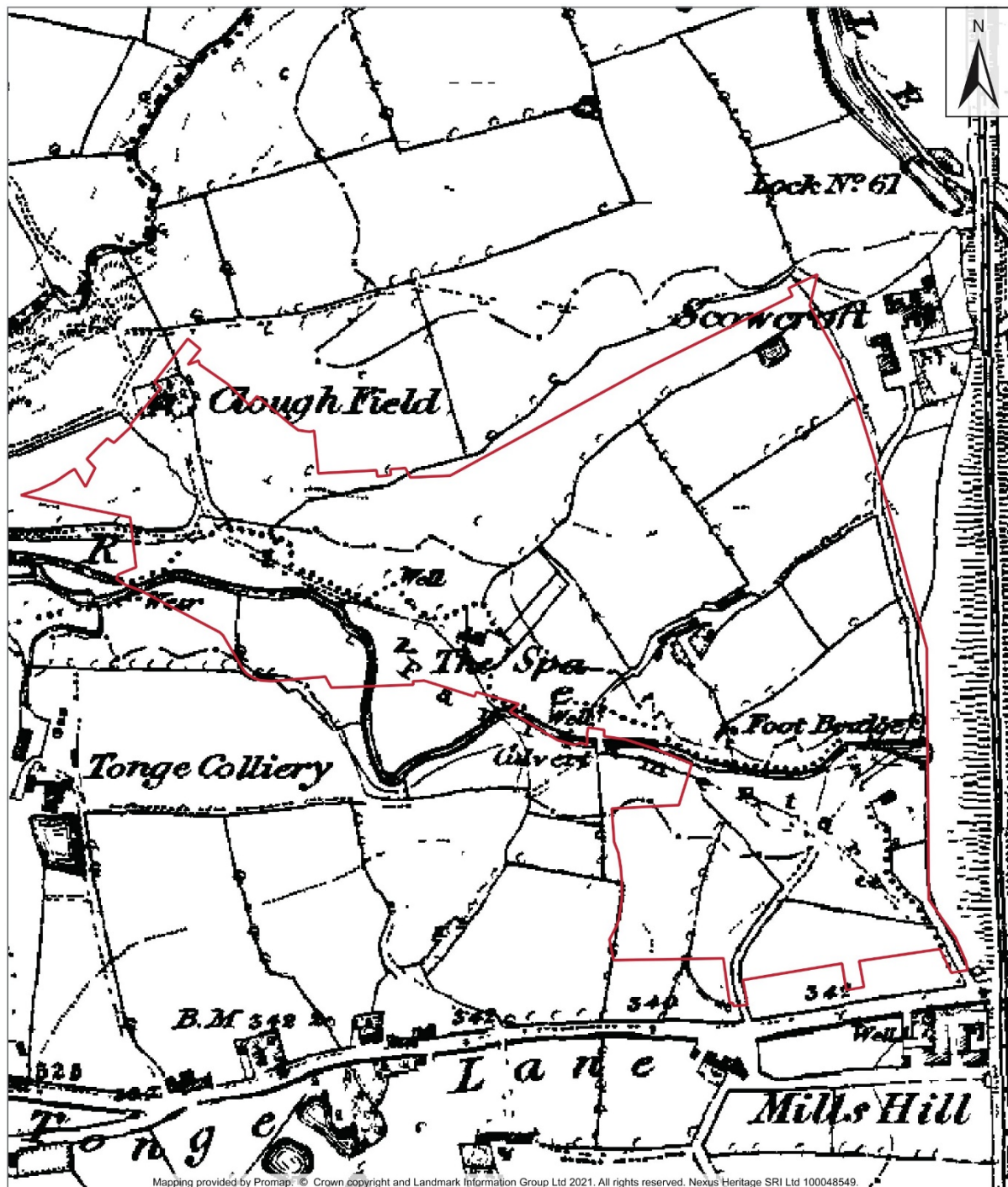
George Saxon engine of 1150hp at 75 rpm. 22' flywheel. Corliss valve gear.

Heavily damaged by fire on 18 August 2000. Now demolished.

Below-ground archaeological potential: high.

Rex Mill was built c. 1900 to a design by Stott and Sons, an architectural practice in Lancashire between 1847 and 1931. The Mill is shown on the Ordnance Survey Map, 1:2,500, Lancashire Sheets XCVI.4 and XCVI.8, 1909 (Fig. 6) which clearly depicts the chimney and the boiler house and the engine house. The Stott practice specialised in cotton mills (<https://manchestervictorianarchitects.org.uk/partnerships/stott-a-h-and-sons>), designing 130

mills and ancillary buildings related to the cotton industry. It is possible that the Mill was extended with a new card shed sometime after 1910.



Approximate Site Location



NEXUS HERITAGE

FIGURE TITLE:

Ordnance Survey Map of Lancashire, 1848

PROJECT TITLE:

Land at Don Street, Middleton, Rochdale

SCALE:

original scale: 1:10,560

DATE:

05.09.2022

PREPARED BY:

AN

FIGURE:

3

ISSUE:

1

Fig. 3: Ordnance Survey Map, 1:10,560, Lancashire, Sheet XCVI, 1848

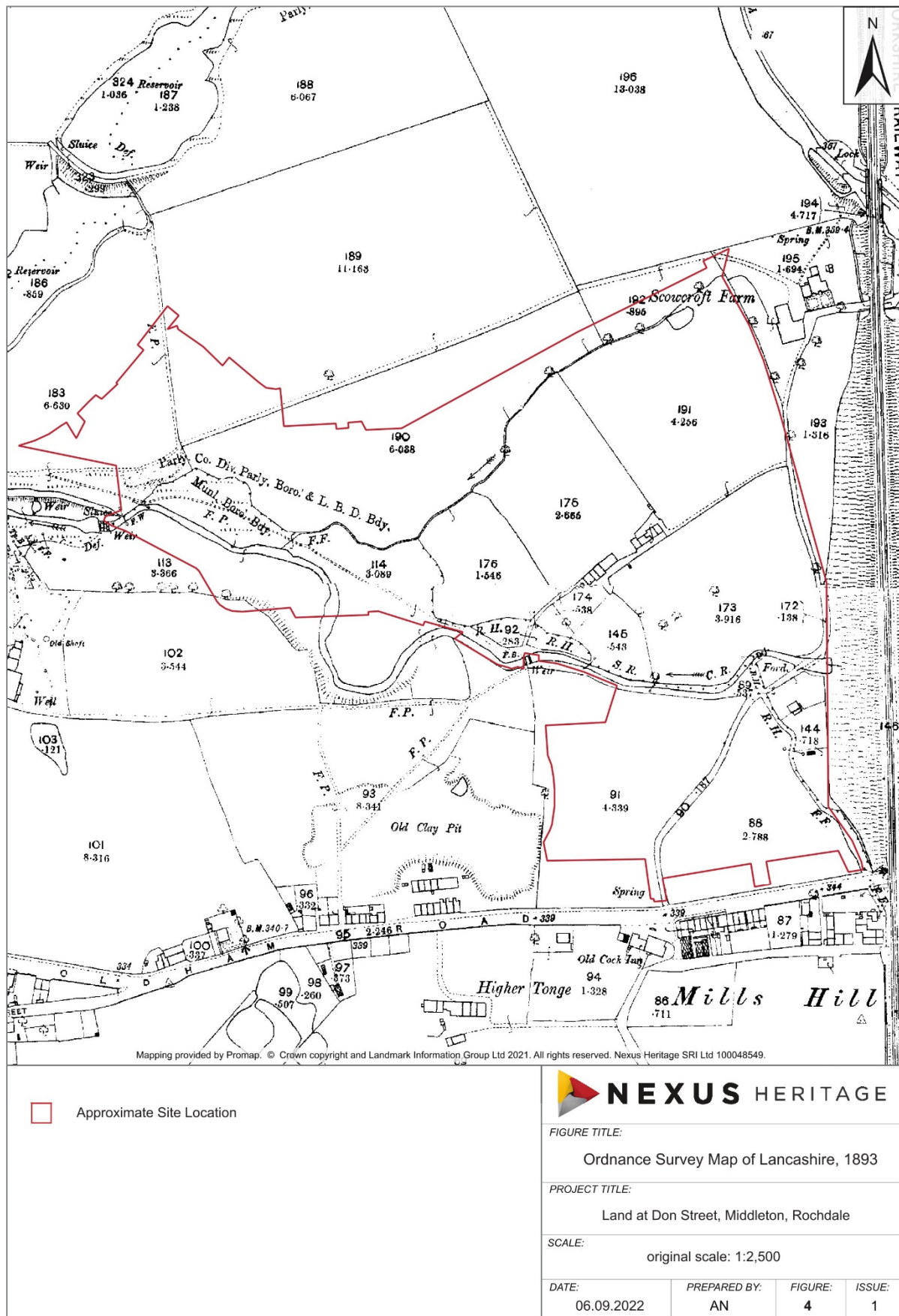
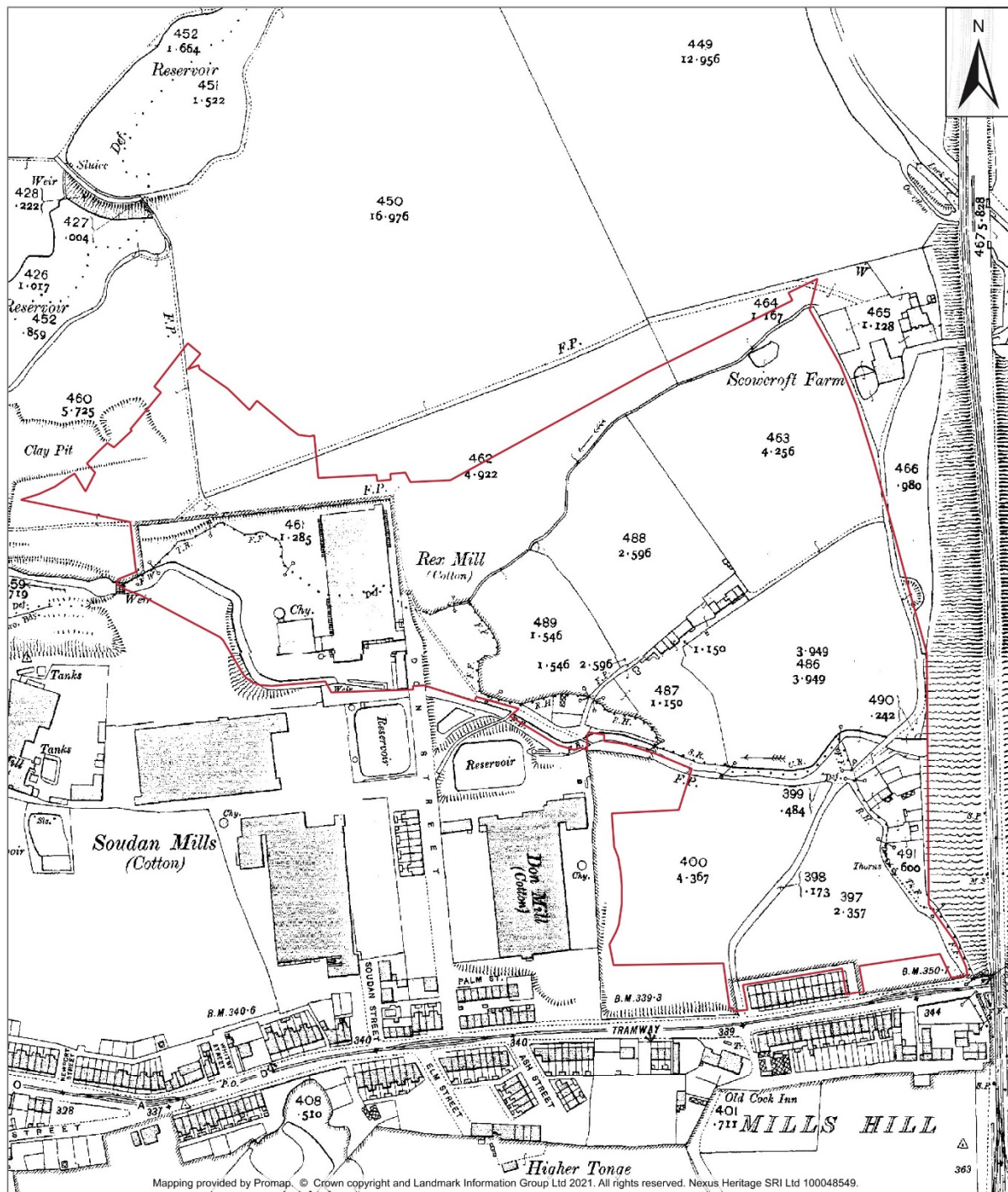


Fig. 4: Ordnance Survey Mapping, 1:2,500 Scale, Lancashire, Sheets XCVI.4 and XCVI.8, 1893



□ Approximate Site Location



NEXUS HERITAGE

FIGURE TITLE:

Ordnance Survey Map of Lancashire, 1909

PROJECT TITLE:

Land at Don Street, Middleton, Rochdale

SCALE:

original scale: 1:2,500

DATE:

05.09.2022

PREPARED BY:

AN

FIGURE:

5

ISSUE:

1

Fig. 5: Ordnance Survey Mapping, 1:2,500 Scale, Lancashire, Sheets XCVI.4 and XCVI.8, 1932

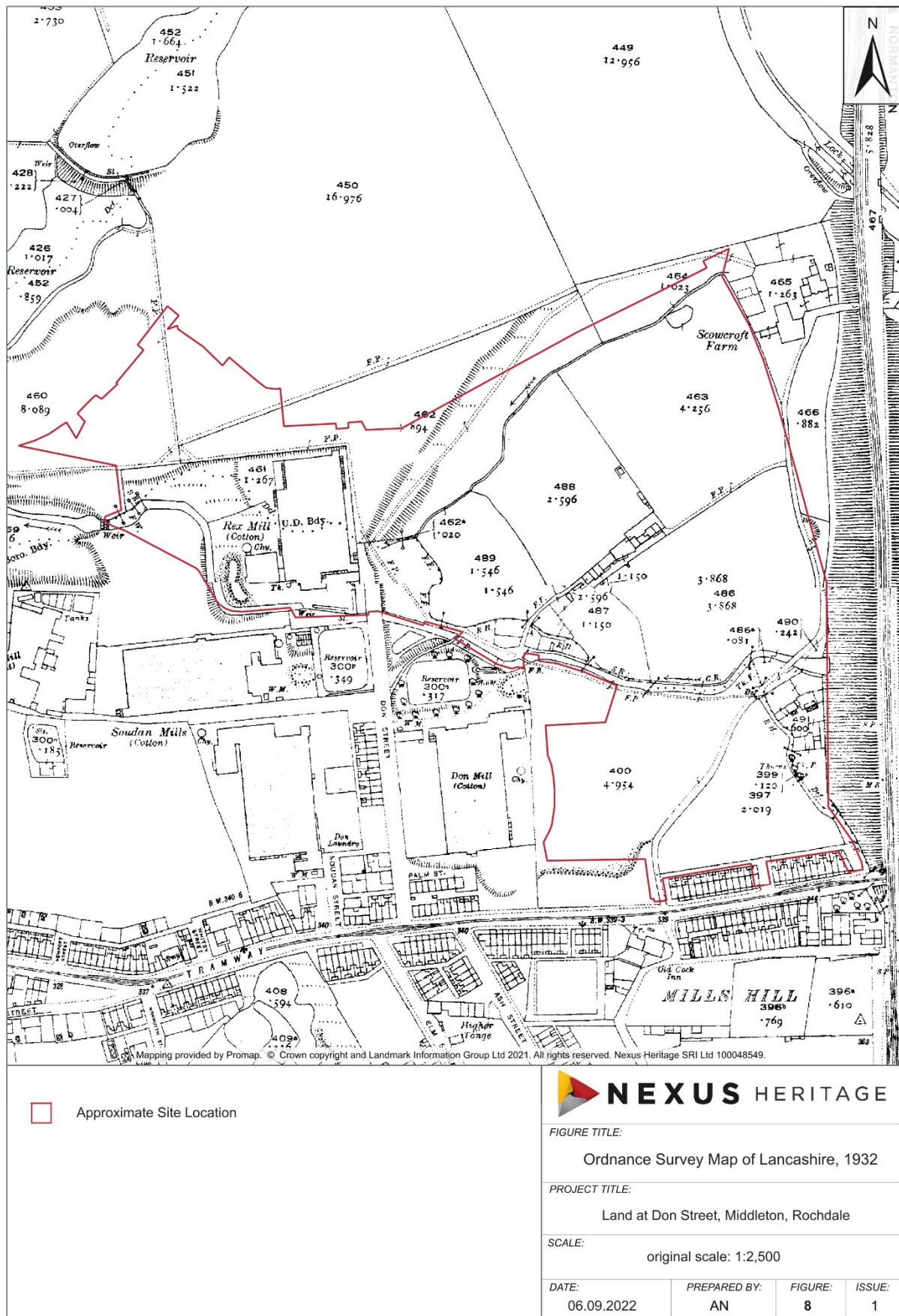


Fig. 6: Ordnance Survey Mapping, 1:2,500 Scale, Lancashire Sheets XCVI.4 and XCVI.8, 1909

DEFINITIONS AND OBJECTIVES

The Council require an archaeological investigation based on the notions and concepts of strip-map-and-record. The Chartered Institute for Archaeologists (hereafter ClfA) maintains a standard for archaeological excavation which mentions strip-map-and-record but does not define the process. Notwithstanding this, the standard for archaeological excavation is applicable and is as follows:

An archaeological excavation will examine and record the archaeological resource within a specified area using appropriate methods and practices. These will satisfy the stated aims of the project and comply with the Code of conduct and other relevant regulations of ClfA. It will result in one or more published accounts and an ordered, accessible archive. (ClfA, 2020)

The ClfA maintains a definition for archaeological excavation as follows:

...a programme of controlled, intrusive fieldwork with defined research objectives, which examines, records and interprets archaeological deposits, features and structures and, as appropriate, retrieves artefacts, ecofacts and other remains within a specified area or site on land, in an inter-tidal zone or underwater. The records made and objects gathered during fieldwork are studied and the results of that study published in detail appropriate to the project design. (ClfA 2020).

Research Framework, Aims and Objectives

The archaeological works are to be implemented with reference to a research design which reflects the ambitions of the North-West England Regional Research Agenda (2007), specifically relating the Industrial and Modern periods (McNeil and Newman 2007a and b).

In addition the Northwest Regional Research Framework (Updated Research Framework) has been developed as part of a national strategy to create a series of self-sustaining regional historic environment research frameworks for England. It builds on the original North West Region Archaeological Research Framework (Brennand 2006 and 2007). The Industrial and 20th Century Period benefits from a series of refreshed research questions <https://researchframeworks.org/nwrf/industrial/> focused on a number of period-related themes which the Site may be able to address.

As the presence/absence of any archaeological remains at the Site is as yet unproven, preparation of a detailed research design is not possible during formulation of the aims and objectives, given the broad thrust of period-focussed and theme-focussed research imperatives in north-west England (<https://archaeoleg.org.uk/areanorthwest.html>). Nevertheless a basic appreciation of Site's history does allow some attempt to be made at reconciling the Site with some putative research topics. The broad aims of the archaeological investigation are:

- to evaluate the Site for the presence/absence, character and state of preservation of archaeological remains
- to enhance knowledge and understanding of the historic environment of Rochdale Borough/Middleton in particular, and north-western England in general;
- to effectively and rapidly disseminate the results of the project, and to archive them, enabling the project findings to be widely and readily accessed by professional and non-professional audiences alike
- to ensure that professional expertise and experience is advanced by the continual improvement of archaeological method and practice

The detailed objectives of the archaeological investigation are:

- To make a full and proper record of any archaeological structures, deposits, features, artefacts and ecofacts within the relevant areas of the Site, permitting a reconstruction of the Site's history and formation processes. To recover artefact and palaeoenvironmental/palaeoindustrial samples from deposits of potential
- To analyse the generated records, artefacts and ecofacts to produce a report on the archaeology of the Site, identify the research implications of the site with reference to the regional research agenda and recent work in the Middleton area.

Some of the specific research questions to be addressed relative to Rex Mill are:

What can the Site add to the understanding of early 20th century cotton spinning in North West England?

What can the power generation system of Rex Mill add to the understanding of English cotton production?

Does the engine house exhibit and boiler house have any particular form characteristic of later examples of the type?

How was engine house and boiler house operated and maintained?

What is the morphology of the power generation and distribution system at the Site and how does it compare to other contemporary industrial Sites in the North West England and beyond?

What is the chronology of construction, use, and disuse of structures?

How does the power generation and distribution system at the Site compare to contemporary examples in North West England?

Can the boiler house and engine house be used as a proxy for the development, expansion, contraction and termination of cotton production at the Site?

Does the power generation and distribution system exhibit the adoption of new technologies and/or skeuomorphic adaptations to new technologies?

How does the power generation and distribution system relate to the historical records of innovation?

How does the power generation and distribution system relate to the relevant patents and contemporary technical literature?

Does the power generation and distribution system exhibit faithful compliance with the design intent of the patents or is there evidence for variation or improvement?

Does the power generation and distribution system corroborate or contradict the anecdotal testimony of former employees and/or contemporary accounts?

Is there evidence for change of use and remodelling of ground-floor and subterranean infrastructure?

Some of the specific research questions to be addressed relative to Spa Farm are:

What evidence is there for the origin of the farm? Are its origins in the post-medieval period or the industrial period?

How well understood is change and development of the agrarian landscape in response to industrialisation and enclosure?

How did the industrial farm evolve and farming practices develop during this period?

How does the nature of rural settlement change during this period?

How are consumption patterns linked to social status and location during this period?

How can we identify the impact of industrialisation on rural dwellings?

TERMS AND CONDITIONS

Nexus Heritage acts as Archaeological Consultant to the Client. The archaeological investigations will be undertaken by a suitably qualified archaeological contractor experienced in the archaeological investigation of late-generation steam-powered textile mills and post-medieval farmsteads who has provided a binding Statement of Compliance relative to this WSI to include details of staffing, timetable, public liability, employers liability and professional indemnity insurance cover.

The archaeological contractor will operate in accordance with:

- The Chartered Institute for Archaeologist's *Code of Conduct* (2019 edition).
- The Chartered Institute for Archaeologist's *Regulation for professional Conduct* (2019 edition).
- The Chartered Institute for Archaeologist's *Standard and Guidance for Archaeological Excavation* (2020 edition).
- The Chartered Institute for Archaeologist's *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials* (2020 edition).
- The Chartered Institute for Archaeologist's *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* (2020 edition)

METHODS

Preliminaries

The archaeological attendances are designed to respond to the impact to the archaeological resource represented by the proposed development, the layout of which is shown on Figure 8.

The rationale underpinning the archaeological works at the Site involves the recovery of archaeological information from the strip-map-and-record of a minimum of x3 areas in a trench array as shown on Figures 8 and 9. The broad characteristics of the number, size, orientation and distribution of the areas are considered to be appropriate and are agreed with the HMD and are designed to investigate the power system of Rex Mill and the Spa farmstead complex.

The area for the investigation of Rex Mill power plant is initially restricted to a zone encompassing the chimney, boiler house and potentially, the engine house. If no evidence of an engine house is located within the core area the strip will be extended to the east to bring in a zone at the southern end of the spinning block which may include the engine house.

The areas has been designed to determine feature presence/absence, with a contingent facility designed for further investigative work after characterisation should features be present, the characteristics of which have been insufficiently resolved within the core map-and-record exercises. Contingent investigation will be optional, upon the discovery of archaeological artefacts, deposits, features or structures the characteristics of which can only be sufficiently determined upon further spatial investigation.

The coordinates for the strip area corners are as follows:

Number	Easting	Northing
Figure 8: Site of The Spa Farm Complex		
Area 1		
1	388392	406328
2	388412	406321
3	388386	406313
4	388407	406304
Area 2		
1	388516	406318
2	388576	406356
3	388524	406305
4	388584	406343
Figure 9: Site of Rex Mill		
Core Area		
1	388269	406340
2	388306	406343
3	388272	406304
4	388309	406308
Contingent Area		
1	388308	406323
2	388331	406325
3	388309	406300
4	388333	406301

In line with the GMHER requirements, the GMHER will be contacted at the onset of the project to ensure that any data arising is formatted in a manner suitable for accession to the GMHER. The GMHER will be informed of the project start date, location including grid reference, estimated timescale for the work, and further relevant information associated with the project. The GMHER will be responsible for supplying the Event Primary Reference Number (PRN) for this project is and for supplying the PRNs for any new identified and recorded assets.

Prior to commencement of the fieldwork a project initiation form from the archive recipient organisation will be completed by the archaeological contractor.

The archaeological contractor will detail any non-archaeological constraints which may influence the ability to meet the aims and objectives of this WSI. Constraints may include overhead and buried services, the water table (the control of water during the excavation works is the responsibility of the appointed archaeological contractor) and/or the presence/absence of alluvial and/or colluvial deposits and the likelihood of masking of earlier deposits by alluvial/colluvial activity and or reinforced concrete hardstanding on the site of the Rex mill power plant.. Where colluvial/alluvial deposits and/or reinforced concrete hardstanding are anticipated appropriate strategies will be outlined in order to assess the implications of site conditions.

The prospective archaeological contractors are strongly advised to visit the Site prior to developing proposals in order that Site conditions can be taken into account.

The Client will be responsible for securing information on known services within the areas for archaeological investigation and providing such information to the appointed archaeological contractor. The Client will undertake a scheduled works enquiry with The National Grid Electricity and Gas Enquiry System (EAGLES) website prior to the commencement of archaeological work on site. The location and extent of all intrusive archaeological excavations would be advised utilising the information from the enquiry and follow the requirements of the HSE Guidance Notes HSG47 - *'Avoiding Danger from Underground Services'* and GS6 – *'Avoidance of danger from overhead electric power lines'*.

Any area that requires ground penetration will be CAT scanned by the archaeological contractor using trained staff following a Safe System of Work for Avoiding Buried Services using a radio detection CAT³ in avoidance mode. All signals will be marked on the ground and investigated by the appointed archaeological contractor to determine location, direction and, where possible, depth of service and areas for archaeological investigation will be modified as appropriate. All services will be treated as live by the appointed archaeological contractor.

The archaeological contractor will take all reasonable precautions to avoid damage to services. Where necessary the Client will arrange for decommission/disconnection of live services.

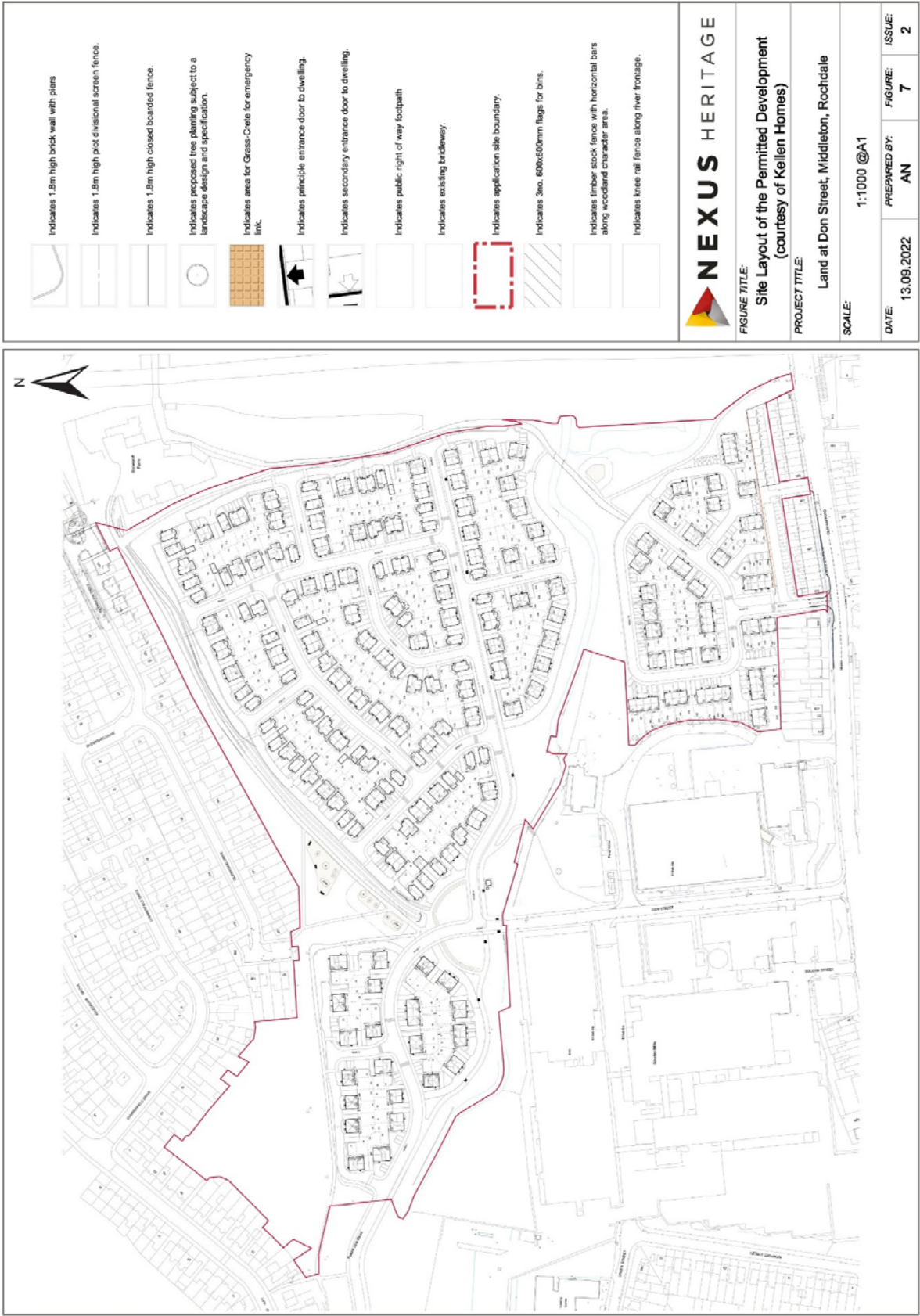


Figure 7: Site Layout of the Permitted Development



Fig. 8: Areas for Strip-Map-and-Record (Site of the Spa Farmstead Complex)

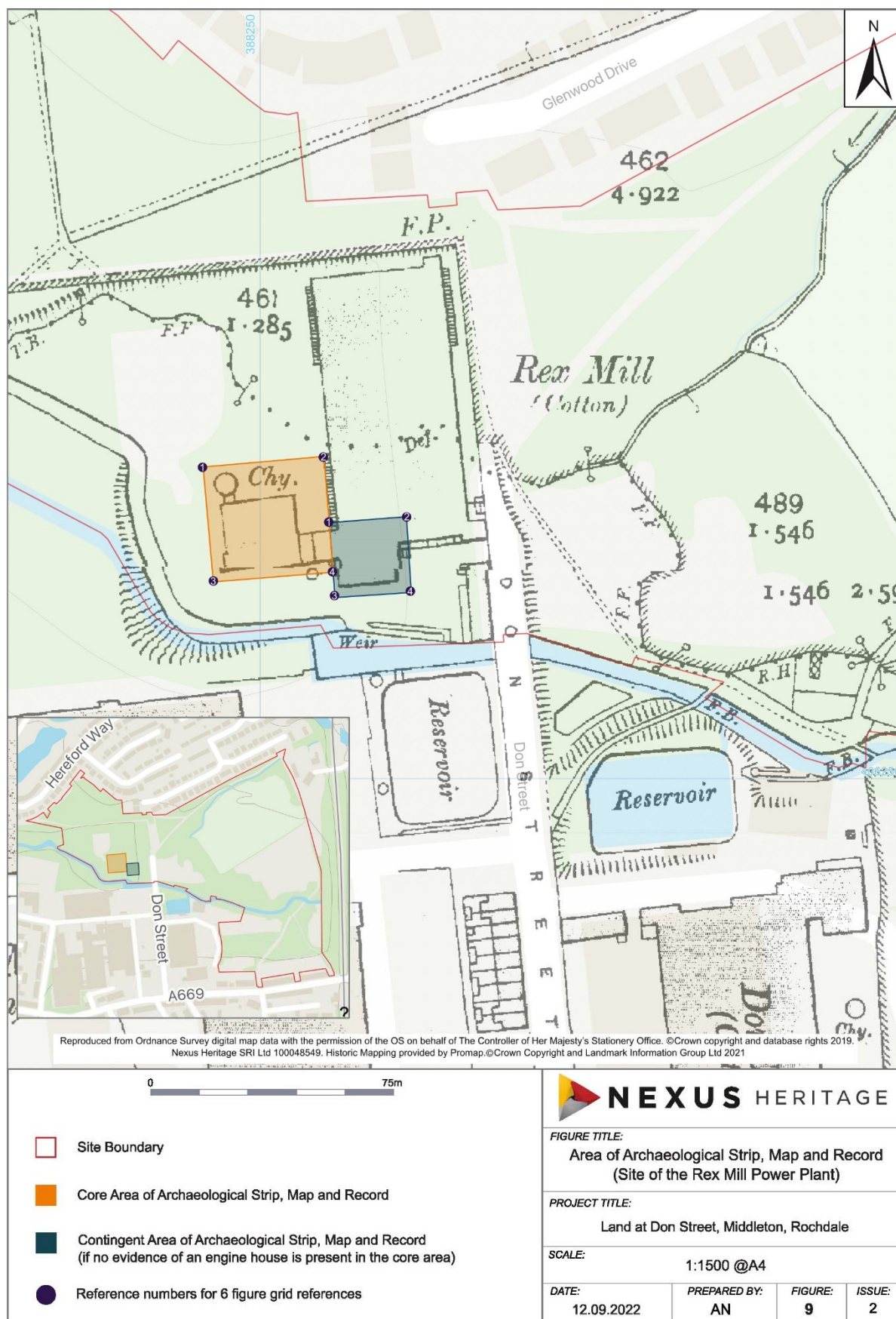


Fig. 9: Core and Contingent Areas for Strip-Map-and-Record (Site of Rex Mill Power Plant)

Desk-Based Research

Sufficient desk-based research would be undertaken prior to commencement of the archaeological fieldwork in order to inform the fieldwork as it progresses and, ultimately, in order to place the results of the archaeological investigations in an appropriate research and historical framework.

The following source repositories will be accessed by the archaeological contractor prior to commencing the archaeological investigations.

The Greater Manchester Historic Environment Record:

Rochdale Archives and Local Studies Library: Touchstones, The Esplanade, Rochdale OL16 1AQ

Strip

The surface materials in each area would be stripped and the archaeological contractor should give consideration to the sequencing of the programme of work to allow archaeological features to 'weather out' to improve surface visibility, identification and discrimination of archaeological features.

Prior to commencing with the excavation the appointed archaeological contractor will undertake a visual inspection of the entire Site including examination of any available exposures. The results of the visual inspection will be taken into account during the excavation.

The expectation is that the excavations will be opened and any topsoil, vegetation cover, hardstanding etc. will be removed by a mechanical excavator equipped with a wide toothless blade, in spits of no more than 0.3m in thickness. The mechanical excavator will be used under the constant direction of an archaeologist.

With respect to soils¹ the appointed archaeological contractor will prepare a detailed stripping plan as part of the Soil Resource Plan showing soil units to be stripped, haul routes, the phasing of vehicle movements and adverse weather contingencies. The soil units should be defined on the site with information to distinguish types and layers, and ranges of thickness.

At the location of Spa farm it is suggested that the appointed archaeological contractor removes surface vegetation by blading off, by scarification and raking, or kill off by application of a suitable non-residual herbicide applied not less than two weeks before stripping commences. A method for minimising damage to topsoil is to be deployed by the appointed archaeological contractor. Stripping should be undertaken by the excavator standing on the surface of the topsoil, digging the topsoil to its maximum depth and loading into transport vehicles which do not traverse either the topsoil or the subsoil. Where subsoil needs to be stripped for archaeological purposes it is to be removed in sequential strips while the excavator is standing on the surface of the topsoil. Alternative stripping methods that can be shown to afford the same degree of soil protection may be acceptable. The appointed archaeological contractor is to demonstrate experience of and capabilities in the selection of appropriate equipment and work to avoid mishandling soil and maintaining soil properties such as fertility, permeability, ecological diversity, performance and visual quality. The appointed archaeological contractor will not mix topsoil and subsoil as such mixing can reduce the quality and fertility of topsoil.

The appointed archaeological contractor will arrange for arisings to be dispersed to stockpiles in a safe manner, at a safe distance from the edges of the areas for archaeological excavation and

¹ The archaeological contractor is to be aware that topsoil is a finite resource and an important component of most landscape schemes within construction projects and the Client may well want to re-use topsoil arisings from the vicinity of the former Spa Farm in the development scheme.

at a safe angle of repose. The surface of the stockpiled soil will be sealed by the appointed archaeological contractor. The sealing should take the form of compaction and re-grading of the sides and top of the stockpile(s) to form a smooth gradient to shed rainwater and prevent ponding and infiltration. The appointed archaeological contractor should, in its Soil Resource Plan, detail stockpiling methods for soils in a dry and non-plastic state and soils in a wet and/or plastic state.

The appointed archaeological contractor will confine movement of trucks or dumpers to designated temporary haul routes to stockpiling areas and, as necessary, strip the haul routes and lay a granular material to act as temporary road that is appropriate to the size of the site, the volume of soil to be stripped and the haul distances.

In order to break-out and remove hardstanding at the site of Rex Mill a hydraulic pecker may need to be deployed.

Upon exposure of the first horizon within the areas for archaeological investigation exhibiting archaeological deposits, features or structures the use of the mechanical excavator will cease.

Under no circumstances will the mechanical excavator be used to excavate archaeological deposits features or structures, unless endorsed by the Client and GMAAS/Council. After the areas have been opened, surfaces will be cleaned and prepared as appropriate in order to allow visual inspection for the presence/absence of archaeological remains, deposits, features and structures and mapping of such.

Map

The archaeological works will be surveyed with respect to the nearest Ordnance Survey datum point and to the Ordnance Survey National Grid. The excavation areas, deposits, features and structures within them will be accurately located on a site plan prepared at an appropriate scale. Proprietary electronic hardware and software may be used by the appointed archaeological contractor to prepare the mapping output as appropriate.

Record

After a review of the mapping output the record would proceed as follows:

Archaeological deposits, features and structures will be excavated manually using best-practice techniques and in a controlled and stratigraphic manner sufficient to address the aims and objectives of the project.

Contingency provision will be made for the following:

- additional excavation of specific features if the excavated sample proves to be insufficient to provide information on the character and date of the feature.
- limited additional excavation beyond the boundaries of the areas to clarify the extent of features.
- colluvial/alluvial cover

It may not be necessary to excavate the complete stratigraphic sequence to geologically lain deposits but the inter-relationships between archaeological deposits, features and structures will be investigated sufficiently to address the aims and objectives of the project and the complete stratigraphic sequence to geologically lain deposits will be investigated where practicable. The cessation of excavation in any area prior to the establishment of the level at which geologically lain material survives will be agreed with the Council during the course of the archaeological work.

The method of recording will adopt best-practice techniques and the stratigraphy of each area will be recorded in written descriptions even where no archaeological deposits have been

identified. The drawn record will comprise plans of the site at an appropriate scale, e.g. plans at scale 1:20 and sections at scale 1:10. Proprietary electronic hardware and software may be used to prepare Site drawings as appropriate.

All artefacts discovered will be retained for processing and analysis except for unstratified items dating to the twenty-first century AD which will be recorded by material type, form, identification and weight, and discarded. All finds will be assessed in order to recover information that will contribute to an understanding of their date and function. All retained finds will be stabilised and packaged in accordance with best practice and current ClfA standards and guidance, and the requirements of the organisation nominated to receive the archive.

The terms of the *Treasure Act* (1996) will be followed with regard to any items discovered to which the Act would apply. Such items will be removed to a safe place and reported to the local coroner as required. Where removal cannot be effected on the day of discovery suitable security measures will be taken to protect the items from unlawful removal.

Animal bones would be treated in line with the Historic England document *Animal Bones and Archaeology - Recovery to Archive* (2019).

The aims, objectives and expectation of a palaeoenvironmental strategy will parallel the overarching goals for the project, and proceed in accordance with the guidance provided in *Geoarchaeology - Using earth sciences to understand the archaeological record* (Historic England, 2015a) and respect the recommendations for palaeoenvironmental data, featured within *Refresh for the Research Agenda for Wales: Palaeoenvironments* (<https://www.archaeoleg.org.uk/pdf/review2017/palaeoenvironment2017.pdf>). The appointed archaeological contractor's environmental archaeologist will clearly devise and define a soil sampling and assessment strategy which address the project goals and provide this in its Statement of Compliance. The soil sampling and assessment strategy will be offered to the HMD for review and approval prior to the archaeological works commencing.

Reservoirs of palaeo-environmental data, including alluvial sequences and palaeo-channels, which may be of intrinsic interest, will be identified and sampled on Site subject to health and safety considerations and where contamination does not prohibit retrieval. Bulk samples will be taken for wet-sieving with flotation to recover plant macro fossils, pollen, insects, molluscs, fish/animal bone, charred cereal remains, seeds, small bones or other small remains. Due to the low density of palaeoenvironmental remains expected from prehistoric contexts samples will be of around 40-60 litres. A range of samples will be taken from contexts with the potential to be datable and to contain remains to represent all feature types, areas and phases of the site. Target contexts will include appropriate stratified deposits within pits, ditch or gully terminals, refuse/waste deposits in ditches, domestic contexts, and burnt features. Features of other periods will be sampled as appropriate if encountered and other particular samples such as spot samples from intense concentrations of bones or seeds are found will be taken. Middens, if present, would require a specific investigation sampling strategy, possible on a grid pattern in order to recover remains systematically. Waterlogged: deeper features, if present, will be investigated for the preservation of organic remains including plant macrofossils, pollen and possibly insect remains, which may provide evidence of the environment or land use. If buried soils are encountered sampling for micromorphological/phosphate analysis by taking monoliths with sub-samples for soil chemistry composition will be considered and budgeted for.

Soil and other samples from stratified deposits will be taken for assessment of archaeo-industrial remains where appropriate. Samples will be taken from appropriate deposits where secure stratigraphic relationships are present, subject to Health and Safety considerations and where

contamination does not prohibit retrieval. Assessment will be conducted by means of coarse sieving, floatation and other techniques as appropriate.

Recommendations for further analysis (including the sub-sampling volumes) will be made in accordance with the Historic England guidance (2015a). It is expected that the scientific sampling strategies will evolve subject to the requirements of the project's aims. The proposed environmental and scientific sampling regime will form part of an ongoing dialogue with GMAAS/the Council relative to implementation. Any deviation from the sampling procedures outlined in the above guidance documents will be discussed and agreed with GMAAS/the Council in advance.

The appointed archaeological contractor will treat of any human remains discovered with respect. In principal, such remains will be left *in situ* and protected. The appointed archaeological contractor will notify Nexus Heritage of the presence of human remains at the earliest opportunity. If removal is necessary and mandated by the relevant regulatory authorities the remains will be excavated archaeologically in accordance with the English Heritage document *Guidance for Best Practice for the Treatment of Human Remains Excavated from Christian Burial Grounds in England* (Second Edition 2017) and any conditions imposed by the Ministry of Justice and/or the Local Planning Authority Environmental Heath Directorate. Any assessment and reporting work on recovered human remains will be undertaken in accordance with the document *Updated Guidelines to the Standards for Recording Human Remains* (ClfA 2017) and the Historic England document *The Role of the Human Osteologist in an Archaeological Fieldwork Project* (2018a).

The appointed archaeological contractor will deploy appropriate resources and expertise in the event of the discovery of ceramic production in line with the document *Archaeological and Historic Pottery Production Sites* (Historic England 2015b).

The appointed archaeological contractor will deploy appropriate resources and expertise in the event of the discovery of archaeological evidence for metalworking in line with the document *Archaeometallurgy – Guidelines for Best Practice* (Historic England 2015c)

The archaeological contractor will deploy appropriate resources and expertise in the event of the discovery of organic residues in line with the document *Organic Residue Analysis and Archaeology – Guidelines for Best Practice* (Historic England 2017).

The photographic record will comprise images captured on a digital camera (with resolution 16 mega-pixels or greater) and/or on monochrome silver halide negatives and prints and 35mm format colour slide. All images recorded on these media will form the images of record. Site photography should include general site shots and shots of individual features and groups of features. The use of low level aerial photography using mast- mounted and/or remote controlled camera equipment may be considered. All photographs should include a suitable photographic scale and will be recorded on a photographic register with the subject and direction of each shot

Soil excavated from the areas for archaeological investigation will be scanned for ferrous and non-ferrous metal artefacts using a metal detector capable of making the necessary discrimination and operated by an experienced metal detector user under constant supervision. The appointed archaeological contractor will supply Nexus Heritage with details of a formal agreement stipulating the procedures to be used and will contain a waiver clause whereby the metal detector operative(s) will waive all rights to rewards for objects discovered that could otherwise be payable under the *Treasure Act* (1996).

The appointed archaeological contractor will allow contingency for the recovery and processing of sufficient C¹⁴ and/or archaeo-magnetic samples and/or optically-stimulated luminescence

samples and or dendrochronological samples in order to fulfil the aims and objectives of the project. The appointed archaeological contractor will supply unit rates for C¹⁴, archaeo-magnetic dates, dendrochronological dates and optically-stimulated luminescence dates. In the event that discoveries during excavation warrant refinement of the overall scientific dating strategy a sampling strategy will be agreed with a suitably qualified and experienced dating specialist. The scientific dating strategies will follow the relevant English Heritage/Historic England guidance (see below) and the advice and information at <https://www.bradford.ac.uk/archaeomagnetism/>.

Every effort will be made by the Client, Nexus Heritage and the appointed archaeological contractor to allow public engagement with the archaeological resource. Nexus Heritage recognises that opportunities for members of the public to participate in archaeological fieldwork are a useful tool for training, engaging interest and increasing an appreciation of the historic environment. Therefore, with reference to the ClfA's policy statement on the use of volunteers (ClfA 2016), volunteers can be involved in archaeological projects managed by Nexus Heritage. However, due to operational constraints, and other factors it may not be possible to allow members of the public to participate in the on-site archaeological works. In order to manage public participation appropriately it is proposed that the local Archaeological and Historical Society will be advised of the archaeological excavation and should members of the Society wish to take part in the archaeological works then consideration will be given to any request received. In order to manage public participation appropriately it is suggested that the appointed archaeological contractor advises the Manchester Region Industrial Archaeology Society (MRIAS) and the Archaeological Society, University of Manchester (UoM ArchSoc) of the archaeological attendances and should members of the Societies wish to take part in the archaeological works then consideration will be given to any request received. Where feasible the works and their results will also be transmitted to the public by the use of outreach strategies such as newspaper and radio interviews, lectures to amenity societies and if circumstances allow and adequate health and safety measures deployed, an open day towards the end of the archaeological works. Upon Client agreement information for the public may be made available during the archaeological work to explain why it is happening. Any such notices would be A3 size with a minimum 16 point font. Nexus Heritage will manage, on behalf of the Client, all matters pertaining to publicity and outreach arising from the archaeological works and for any public education/outreach events or matters, as appropriate.

The appointed archaeological contractor will be responsible for securing working easements for the archaeological works (to include spoil storage, vehicle circulation/parking and welfare facilities) during the programme of archaeological investigation. The appointed archaeological contractor will be responsible for maintaining and locking any fencing/gates etc. around the working easements in accordance with health and safety provisions. Any damage to or breakage of the fencing/security provisions will be reported by the appointed archaeological contractor to Nexus Heritage as soon as possible after discovery.

At or towards the conclusion of the archaeological excavation a site meeting will be convened at which the works can be inspected with a view to confirming completion of the archaeological excavations and compliance with the archaeological mitigation strategy. Upon such confirmation the areas can be backfilled (if required by the Client) in accordance with the ongoing obligations of this document.

The appointed archaeological contractor may assume that all excavations are to be backfilled with the material excavated and should not arrange for removal of arisings from Site.

ASSESSMENT, ANALYSIS AND REPORTING

Following the completion of the archaeological investigation, a programme of assessment, analysis and reporting would commence. The archaeological contractor is expected to engage in the following tasks - cross reference and complete all recording *pro formae*; complete and index photographic metadata in a suitable software package(s) and cross-reference to all *pro-formae*; download survey data using appropriate software package(s); cross reference and complete all sections (to include matrices); cross reference all plans and complete; quantify and identify all artefacts (if any recovered) and complete an artefact register; quantify and identify all ecofacts (if any recovered) and complete an ecofact register; quantify and identify a context register and complete a Site Matrix.

The archaeological contractor will specify a suite of specialist/expert practitioners to deal with the conservation and /or analysis of the following material types to which it has access either in-house or as a sub-contractor:

- Organic material:
- Non-organic material:
- Bone:
- Glass
- Metal
- Slag, burnt clay, hammerscale
- Stone
- Wood
- Leather
- Environmental Material
- Coins, tokens and badges
- Ceramic vessel material
- Ceramic Building Material

An assessment report will be prepared by the archaeological contractor which encompasses the results of the archaeological investigations. The report would normally contain the following, but the contents may be adapted to take account of project specific circumstances:

- A non-technical summary
- A table of contents
- An introduction with acknowledgements, including a list of all those involved in the project and the location and description of the site
- A statement of the project aims
- An account of the project methodology undertaken, with an assessment of the same to include a statement on preservation bias and the means of data collection and sampling strategies
- A factual summary of the history, development and use of the site, (taking into account the results of the desk-based research).

- A statement setting out the nature, quantity and condition of the material archive (artefacts and ecofacts) including commentary on any bias observed due to collection and sampling strategies and commentary on long-term storage requirements
- A statement setting out the nature and quantity of the documentary archive (notes, photographs, drawings, digital data)
- A general site plan indicating the position and size of the areas subject to archaeological investigation and the locations of archaeological deposits identified and recorded during the works
- Plans and sections at appropriate scales, augmented with appropriate photographs. All plans and sections will be related to the Ordnance Survey datum levels and to the National Grid
- Other maps, plans, drawings, stratigraphic matrices and photographs as appropriate
- Summary assessment reports on the artefact, bio-archaeological, dating and other assessments/analyses
- A discussion of the location, extent, date, nature, condition, quality and significance of any archaeological deposits and finds identified during the project.
- A discussion of any research implications arising from the archaeological work and recommendations for analysis, publication and dissemination.
- A conclusion.
- Notes on consultations with conservators and the nominated archive repository related the immediate and long-term conservation and storage requirements for the data held in the site archive and recommendations of retention/discard of artefacts and ecofacts.
- A bibliography sources consulted.
- Appendices to the report will include artefact catalogues, reports on assessments/analyses and an index to the project archive and a statement on its location/proposed repository

One digital .PDF copy of a draft version of the assessment report will be made available for comment within six weeks of the completion of the fieldwork.

Should the delivery of the assessment report depend on the incorporation of reports arising from specialist and/or laboratory work then a revised timetable for delivery of the draft report may be agreed upon conclusion of the fieldwork stage.

Any observations on the content of the draft assessment report made by the Client, GMAAS and the Council will be taken into account during preparation of the final report.

A digital .pdf copy of the final report will be submitted to the Client and the Greater Manchester Historic Environment Record.

A summary report on the archaeological works will be provided to a suitable local journal if this is appropriate to the significance of the results, with a record note presented to the appropriate national period journal(s). These reports/notes will include the collaborative role of the Client and the Council in the completion of the archaeological works.

COPYRIGHT

Copyright to any commissioned reports and any other project documents will be retained by the appointed archaeological contractor under the *Copyright, Designs and Patents Act* of 1988; excepting that an exclusive licence will be provided to the Client and the Council for the use of

such documents by the Client and the Council in all matters directly relating to the project. The copyright of this document remains with Nexus Heritage, subject to the same exclusive licence.

CONFIDENTIALITY

Nexus Heritage and the prospective archaeological contractors and the appointed archaeological contractor will treat as confidential all information obtained directly or indirectly from the Client in connection with these archaeological investigations and will not, without the prior consent of the Client, disclose any information relating to the project or publicise the project in any way.

HEALTH AND SAFETY

The appointed archaeological contractor will provide/obtain all relevant certifications from the Client and/or its agents and contractors regarding Health and Safety prior to any site works and will conform to arrangements for notification of entering and leaving the site.

The appointed archaeological contractor will be guided by the *Health and Safety at Work Act* (1974), the *Standing Conference of Archaeology Unit Managers Health and Safety Manual* (1991), *Control of Substances Hazardous to Health (COSHH) Regulations* (2002), *Construction Design and Management (CDM) Regulations* (2015), *Management of Health and Safety at Work Regulations* (1999), the *Work at Height Regulations* (2005), the *Confined Spaces Regulations* (1997) and the *Personal Protective Equipment at Work Regulations* (2002).

While carrying out the archaeological investigations the appointed archaeological contractor will operate in accordance with all applicable Health and Safety Legislation.

The appointed archaeological contractor will provide its staff with all necessary protective clothing and equipment.

It is understood that contaminated material may be present within surface and subsurface deposits on the Site. In the area of the former Rex Mill the made ground contains volatile TPH (total and speciated petroleum hydrocarbon) and Naphthalene. In the broad area of the Spa Farm complex traces of mercury and asbestos has been identified in one location

Archaeological work may, therefore, encounter contaminants. The potential for acute exposure to archaeological practitioners is a material consideration and a risk. Accordingly, the appointed archaeological contractor will manage any potential acute exposure risk to its staff and adjacent site users during the archaeological works in accordance with, *inter alia*, the *Control of Asbestos Regulations* (2012). The appointed archaeological contractor will also be prepared to implement a series of control measures as follows:

- Attendance at a site specific toolbox talk training session for all operatives on site,
- the use of basic 5 point PPE (hard hat, to include a chin strap when working from height or in windy conditions, high visibility vest/jacket, un-laced protective footwear to provide toe, sole and heel protection, gloves, safety eye-wear),
- the use of disposable coveralls (Type 5 BS EN ISO 13982-1) if contaminants are discovered,
- Respiratory Protective Equipment (RPE) EN149 (type FFP3) or EN1827 (type FMP3), or Half mask respirator (to standard EN140) with P3 filter and an appropriate filter change regime, if contaminants trigger the use of RPE,

- Compliance with material handling requirements (keep number of operatives working in the area of contaminated material to a minimum and handle carefully potentially contaminated materials avoiding double-handling where possible)
- Decontamination washing of footwear, tools and equipment, if contamination is discovered
- Removal of disposable PPE/RPE upon leaving area/Site, if contamination is discovered.

In addition, if contamination is discovered during the archaeological works the appointed archaeological contractor will ensure that its staff wear coveralls one size larger than the normal fit for the individual to prevent tearing at the seams, that loose cuffs are sealed with tape to reduce the risk of contaminating clothing, that the coverall legs are worn over footwear to prevent dust / contamination entering the footwear, that the hood is worn over the straps of the RPE and that coveralls are removed by turning them inside out to facilitate disposal.

Coveralls will be the outer layer of clothing and high visibility vest/jacket should not be worn over the coverall. In some cases, white coveralls may be classed as high visibility clothing; this will be considered by archaeological contractor prior to commencing work. In cases where high visibility clothing cannot be avoided, garments should be disposed of when work in that area is completed if they have been exposed to significant levels of contamination that precludes decontamination and re-use.

Should the staff of the appointed archaeological contractor discover contamination, such contamination may need to be dealt with by an appropriately qualified contractor. Nexus Heritage will not take responsibility for the removal of contaminated material from the excavation area or Site.

Where contaminated material is present in the surface or sub-surface deposits at the Site appropriate measures will be taken by the appointed archaeological contractor to ensure the health and safety of staff which may come into contact with contaminants. In case of encountering contaminated material, the appointed archaeological contractor will inform the Client immediately.

In the event of encountering contaminated material, it may be necessary for Nexus Heritage to produce a revised method statement. Nexus Heritage will forward the revised method statement to GMAAS for reference.

It is indicted that the Site is in an area at low risk from possible unexploded ordnance (UXO) resulting from the Second World War (E3P 2021b, 58). Nevertheless, the staff of appointed archaeological contractor will familiarise themselves with appropriate the actions to be undertaken in the event of a suspected or actual UXO discovery. Appropriate actions in the event of UXO discovery are a vital part of the general safety requirement and contribute to evidencing conformity with the principles laid down in the CDM regulations 2015. The appointed archaeological contractor on site will receive a general briefing from the Client concerning the identification of UXO what actions should be taken to keep staff and equipment away from such a hazard.

With respect to excavations within made ground the appointed archaeological contractor is advised that due to the depth and variability of the made ground there is a risk of inability and consideration should be given to the deployment of support systems and/or battering in accordance with guidance contained in the CIRIA document *Trenching practice (second edition)* (R97D).

The archaeological contractor is also advised of the potential for the general area of Rex Mill to coincide with a sub-crop within the Cannel and Higher Bent coal seams and related potential shallow mine workings. A series of rotary boreholes were sunk to assess the potential presence of shallow workings within these seams (E3P 2021b) and the potential for ground instability to induce a future subsidence event. Possible evidence of mine-workings were determined at *c.* 7.80 to 10.00m bgl in RB207, to the west of the predicted location of the Rex Mill power plant.

Where access to confined spaces is required, the appointed archaeological contractor is advised to devise and adopt appropriate mitigation measures taking into the gas results of the Phase II site investigation report (E3P 2021b).

The archaeological contractor will submit a Health and Safety Plan (including a Risk Assessment) and/or a Risk Assessment Method Statement (RAMS) to the Client for verification before Site works commence. The archaeological contractor will take into account any comments made by the Client on its Health and Safety Plan (including a Risk Assessment) and/or a Risk Assessment Method Statement (RAMS) prior to finalisation.

A First-Aid Kit and Accident Book will be kept on site at all times by the archaeological contractor for the duration of the archaeological works

ARCHIVE

The project and its resulting archive would be undertaken within a Digital Data Management Plan (DDMP) environment to be established and maintained by the appointed archaeological contractor. A suggested template for a DDMP is provided below.

Digital Data Management Plan

Project Type

Archaeological Excavation.

Types of data

Digital text, digital photographs, vector and raster images, digital spreadsheets, hand-written notes.

Format and Scale of the Data

Photographs taken in RAW format and later converted to TIF format for long term archiving and JPEG format for use in the digital report, converted using Adobe Photoshop. All photographs renamed using AF5 freeware with the prefix (project code_frame number) and a photographic metadata created using Microsoft Excel (.xlsx) or Access (.accdb).

Written descriptions taken in digital .txt format and sent via email to ensure a digital backup copy at time of record.

Plans scanned as .PDF files.

For GIS creation, if relevant, the metadata relating to each spatial feature will be contained in the attribute table. This will include:

- Date of creation
- Date of any edits and modifications
- Ordnance Survey Grid reference
- Extent

Methodologies for Data Collection / Generation

Digital data will be collected / generated by the appointed archaeological contractor in line with recommendations made in the Chartered Institute for Archaeologists (CIfA) document *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* (2014. Rev 2020). Sections 3.3.1 and 3.3.3 are relevant:

In its Statement of Compliance the appointed archaeological contractor will outline the methodology used in recording all information, in order to demonstrate that all aspects of archive creation will ensure consistency; for instance in terminologies and the application of codes in digital data sets, highlighting relevant data standards where appropriate

Data Quality and Standards

Consistency and quality of data collection / generation will be controlled and documented through the use of standardised procedure as outlined in the Specification. This will include the use of standardised data capture file formats, digital *proformae*, data entry validation, peer review, and use of controlled vocabularies.

Managing, Storing and Curating Data

All digital data will be organised into file systems with appropriate cloud-based and external physical hard drive back-ups.

Metadata Standards and Data Documentation

Digital metadata created using Microsoft Excel (.xlsx) or Access (.accdb) of all photographic plates.

GIS data, where generated, will be georeferenced using the Ordnance Survey National Grid and saved as ESRI shapefiles which will contain the associated attribute tables including metadata. Attribute tables will also be exported as .csv files.

Data Preservation Strategy and Standards

Long term data storage will be through the submission of digital (.PDF) reports to the regional Historic Environment Record (HER); submission of digital (.PDF) reports; submission of the scanned (.PDF) archive, photographic plates (.TIFF), and metadata (.xlsx) (.accdb) to the Archaeology Data Service (ADS); and retention of copies of all digital files at the location of the appointed archaeological contractor on physical external hard drive and uploaded to the cloud.

Suitability for Sharing

All digital data will be placed within the public realm (through the channels above) except where project confidentiality restricts the sharing of data. All data sets will be selected / discriminated by the archaeological contractor and written permission will be sought from all project specific Clients prior to the sharing of data.

Discovery by Potential Users of the Research Data

Potential users of the generated digital data (outside the appointed archaeological contractor) will be able to source the data and identify whether it could be suitable for their research purposes through access granted via the ADS. Requests can also be made for data through the regional HER's and directly to the appointed archaeological contractor.

Governance of Access

The decision to supply research data to potential new users will be via the associated website request (ADS, HER) or via the appointed archaeological contractor.

Exclusive use of the data by the Generating Organisation

There is a requirement is for timely data sharing, with the understanding that a limited, defined period of exclusive use of data for primary research is reasonable according to the nature and value of the data, and that this restriction on sharing should be based on simple, clear principles. This time period is expected to be six months from completion of the project however the appointed archaeological contractor may reserve the right to extend this period without notice if primary data research dictates.

Restrictions or Delays to Sharing, with Planned Actions to Limit Such Restrictions

Restriction to data sharing may be due to participant confidentiality or consent agreements. Strategies to limit restrictions will include data being anonymised or aggregated; gaining participant consent for data sharing; and gaining copyright permissions. Consent procedures will include provision for data sharing to maximise the value of the data for wider research use, while providing adequate safeguards for participants.

Regulation of Responsibilities of Users

External users of the data will be bound by data sharing agreements provided by the relevant organisation or directly through the appointed archaeological contractor.

Responsibilities

Responsibility for project-wide data management, metadata creation, data security and quality assurance of data will be through the appointed archaeological contractor when concerning data generation and early/mid-term storage. Upon deposition with digital depositories the project-wide data management, metadata creation, data security and quality assurance of data will be the responsibility of the specific organisations themselves.

Organisational Policies on Data Sharing and Data Security

The appointed archaeological contractor will provide evidence of current:

Archive Deposition Policy

Quality Assurance Policy

Conflict of Interest Policy

Outreach Policy

Digital Management Plan

The anticipated recipient organisation for the project archive is Rochdale Archives and the project will conform to the arrangements for archive preparation and submission prior to commencing the recording.

Once the archaeological investigation outcomes have been approved by the Local Planning Authority, the appointed archaeological contractor will send a copy of the original high resolution camera files and all additional text, plans and information on a CD, DVD or USB stick to the GMHER. This is in order for the photographs to be entered into the Regional Historic Environment Record and so that GMAAS can confirm that the archaeological investigation has been completed in accordance with condition no. 11 of the planning permission.

The archive is to be prepared, compiled and presented for long term storage according to the format requirements of the recipient institution and as set out relevant standards including

- The Chartered Institute for Archaeologists' *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials* (2020 edition).

- The Chartered Institute for Archaeologists' *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* (2020 edition)

The archive is to be prepared, compiled and presented for long term storage by the appointed archaeological contractor according to the format requirements of the recipient institution and as set out relevant standards including the Chartered Institute for Archaeologists' *Standard and Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials* (2020 edition) and the Chartered Institute for Archaeologists' *Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives* (2020 edition)

An indexed project archive will be prepared for inclusion as an appendix to the recording report. The project archive will comprise all primary written documents, maps, plans and plots, unprocessed raw data and photographs.

The digital components of the project archive would be uploaded as a Small Dataset to ADS. The uploaded digital content and associated metadata from the project would add to the growing list of resources within the ADS archive catalogue.

Any artefacts or other items identified and/or recovered during the archaeological works remain the property of the land owner. Nexus Heritage will, however, request deposition of the artefact archive along with the remainder of the archive by means of an agreement to transfer legal title to the artefacts from the landowner to the archive repository. Should the landowner decline to transfer title of the artefact archive and deposit same with the archive repository every effort will be made by Nexus Heritage to persuade the landowner to retain the artefact archive and permit cost-free access to same for the purposes of legitimate research.

The archive will comprise the stratigraphic/structural, artefact, environmental and other catalogues and all other records as well as details of the methods employed. Each separate data group should be cross-referenced to related data groups, to the final publication, and if necessary to a general context index to allow users maximum accessibility to the contents. The archive will contain some or all of the following elements:

- context information: recording (on duplicate copies) any amendments to original field records resulting from analysis
- photographic catalogue: listing all photographs taken during fieldwork, assessment and analysis
- digital photographs
- drawing index
- drawings, sketches, plans, sections, artefact drawings
- artefact catalogue and x-ray catalogue and x-rays
- conservation records: details of conservation undertaken during analysis, cross-referred to objects conserved
- soil sample catalogues: details of samples selected for analysis
- human bone catalogues: details recorded for analysis
- animal bone catalogues: details recorded for analysis
- a copy of the site narrative and copies of artefact, ecofact and scientific dating reports
- hard and digital copies of the final report

A synopsis of the archive would be lodged with the GMHER.

RESOURCES AND PROGRAMMING

The timing of the archaeological presence on site will depend on the Client's development programme and will be confirmed in due course. The Council/GMAAS will be provided with two weeks' notice of an intention to commence archaeological investigations.

The archaeological work will be undertaken by a team of demonstrable competence provided by the appointed archaeological contractor. Archaeological staff engaged on the project will have appropriate and relevant experience and the nominated responsible individual person to manage successful delivery of the project on behalf of the appointed archaeological contractor will be deployed only upon confirmation of their capacity to undertake the project by GMAAS.

MONITORING

Reasonable access to the site works will be provided by the Client and the appointed archaeological contractor to representatives the Council in order to monitor the works. A site tour and opportunity to scrutinise artefacts and site records will be provided to the monitors as appropriate.

Nexus Heritage will advise the Client immediately of any significant discoveries and provide regular reports of site works. Nexus Heritage will ensure that any significant results recovered during the archaeological investigations are brought to the attention of the Client. The Client will arrange to notify the relevant organisations on significant discoveries as soon as is practicably possible, and certainly within 24 hours.

Consultations between the Nexus Heritage, the Client and the Council/Council representative will be convened periodically and towards or at the conclusion of the archaeological investigation. The purpose of the consultations is to advise all parties on the manner in which the objectives of the investigation are been addressed, amend the practical approaches to the investigation and secure agreement that the fieldwork element of the project has been concluded to the satisfaction of the Client and Council, and in compliance with condition no.11 of the planning permission.

A suite of suggested consultations is provided below.

Milestone	Purpose of Consultation	Participants	Format	Outcome
Issue of draft WSI	To discuss draft WSI, areas of excavation, timetable, etc.	Nexus Heritage / Client / GMAAS	Telephone/ e-mail	Authorisation of WSI (amended as appropriate) and issue of final WSI. Authorisation to begin.
At half-way point or thereabouts of archaeological works	To confirm compliance with WSI	Nexus Heritage Client GMAAS	Site meeting	Continuation of archaeological investigations
Upon completion of archaeological works	To review results	Nexus Heritage Client GMAAS	Site meeting	Confirmation of completion of archaeological works and compliance with the WSI. Authorisation to commence reporting.
Production of the draft assessment report.	To review results of data assessment and to authorise continuation to next stage	Nexus Heritage Client GMAAS	Telephone/ e-mail	Authorisation to commence production of final report
Production of final report	To review results	Nexus Heritage Client GMAAS	Telephone/ e-mail	Confirmation of completion of technical reporting in compliance with the WSI and determination of the need for and scope of publication and dissemination
Publication, dissemination and submission of project archive	To confirm that all tasks have been completed with reference to the WSI and to formally close the project	Nexus Heritage Client GMAAS	Telephone/ e-mail	Completion of publication text and submission of archive Conclusion of project.

SOURCES

Brunning, R. and Watson, J., 2010, *Waterlogged Wood: Guidelines on the Recording*.

Chartered Institute for Archaeologists, 2017, *Updated Guidelines to the Standards for Recording Human Remains*

Chartered Institute for Archaeologists, 2019a, *Code of Conduct*

Chartered Institute for Archaeologists, 2019b, *Regulations for Professional Conduct*

Chartered Institute for Archaeologists, 2020a, *Standards and Guidance for Archaeological Excavation*

Chartered Institute for Archaeologists, 2020b, *Standards and guidance for the collection, documentation, conservation and research of archaeological materials*

Chartered Institute for Archaeologists, 2020c, *Standards and guidance for the creation, compilation, transfer and deposition of archaeological archives*

E3P, 2021a, *Phase I Geoenvironmental Site Assessment Don Street, Middleton*. Unpublished report ref.14-554-R1.

E3P, 2021b, *Phase I & II Geoenvironmental Site Assessment Land off Don Street, Middleton* Unpublished report ref.14-554-R1-1

GRM Development Solutions, 2012, *Phase I Site Appraisal (Desk-Study): Don Street, Middleton*. Unpublished report ref. GRM/P5501/DS.1-DS

Historic England, 2006, *Guidelines on the X-Radiography of Archaeological Metalwork*

Historic England, 2007, *Geoarchaeology – Using Earth Sciences to Understand the Archaeological Record*

Historic England, 2011, *Environmental Archaeology: A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (second edition)*

Historic England, 2017, *Guidance for Best Practice for the Treatment of Human Remains Excavated from Christian Burial Grounds in England* Second Edition

Historic England, 2015a, *Archaeological and Historic Pottery Production Sites – Guidelines for Best Practice*

Historic England, 2015b, *Archaeometallurgy – Guidelines for Best Practice*

Historic England, 2016, *A Standard for Pottery Studies in Archaeology*.

Historic England, 2017, *Organic Residue Analysis and Archaeology – Guidelines for Best Practice*.

Historic England, 2018a, *The Role of the Human Osteologist in an Archaeological Fieldwork Project*

Historic England, 2018c, *Waterlogged Organic Artefacts Guidelines on their Recovery, Analysis and Conservation*

Historic England, 2019 *Animal Bones and Archaeology - Recovery to Archive*

Nexus Heritage, 2021, *Land at Don Street, Middleton, Rochdale Borough – Archaeological Desk-Based Assessment*. Unpublished report ref. 3538.R01a

Ossafreelance. 2012, *BAJR Practical Guide Series: Guide 13 - A Basic Overview for the Recovery of Human Remains from Sites*.