New Services to the Brewhouse and Stables. Lyme Park, Disley, Stockport, Cheshire

Archaeological Watching Brief Report

Oxford Archaeology North

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National Trust

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SUMMARY

National Trust commissioned Oxford Archaeology North (OA North) to undertake an archaeological watching brief during groundworks from the brewhouse to the stable range at Lyme Park, Disley, Cheshire (NGR centred SJ 9644 8210). The groundworks comprised the excavation of pipe trenches associated with the upgrading of the existing boilers, situated in the brewhouse, through the orangery courtyard, to new Biomass boilers located in the northern wing of the stable range. Lyme Park dates to the fourteenth century and the proposed groundworks were likely to impact on two known archaeological features: an eighteenth century Stag Pond; and a deer fence dating to *c* 1740, as well as several drives and pathways that have crossed the area over the years. As a result, an archaeological watching brief was required in order to identify, investigate and record any archaeological remains encountered during the groundworks, and took place on 16th December 2011 and 10th January 2012.

The pipe trench measured 107m in length. It was 0.7m in width, and was excavated to a maximum depth of 0.94m. The initial 23m of the trench was situated within the orangery courtyard, and comprised a layer of crushed yellow sandstone (***001***), forming the current ground surface, beneath which there was a thick deposit of residual coal and charcoal (***002***), overlaying redeposited clay (***003***), which sealed the natural geology (***004***). Further to the south-east were the remains of an earlier, crushed brick surface (***005***). An isolated possible posthole (***006***) was recorded, truncating the levelling layers.

Beyond the orangery gate, to the stable block, the pipe trench excavation encountered a dark-brown topsoil (***008***) that sealed a thick layer of demolition rubble used to level the ground (***009***). This deposit sloped to the north-east, and towards this end its full extent was not reached. The rubble sealed a former soil horizon (***010***), which sat directly on natural geology (***013-014***). To the south-west of the stable block were the heavily truncated remains of a rough sandstone wall (***012***). It truncated the natural geology (***013-014***) to the south-west and was abutted by the made ground and former soil horizon (***009*** and ***010***) to the north-east. Further features observed included modern cables, a stone culvert and a brick culvert, all located to the south-west of the wall. No finds were encountered from any deposits or features during the fieldwork.

The levelling deposits in the orangery would most likely relate to the function of the building. The only feature identified was a possible posthole that had been deliberately backfilled; its function remains unclear. Proposed groundworks in this area will have an impact on any potential archaeology and, in the event, it is recommended that an archaeological watching brief should be undertaken. The truncated sandstone wall beyond the orangery gate forms a boundary between two very contrasting ground compositions. This, along with the history and topography, be suggests that these are remnants of the Stag Pond. The thick deposit of demolition rubble may have been used to backfill the pond in the latter half of the nineteenth century, possibly when the stables were constructed, and the sandstone wall was the putative, heavily disturbed remains of the pond's dam. If so, a precise location of the former Stag Pond may have been established, and would be a significant contribution to the history of Lyme Park. If further intrusive groundworks are proposed they would have a major impact upon any archaeological remains, and a watching brief is recommended.

ACKNOWLEDGEMENTS

Oxford Archaeology North (OA North) would like to thank National Trust for commissioning the project, specifically Jamie Lund, as well as Sara Burdett for her help during the project, and the Lyme Park grounds team who undertook the excavations.

The fieldwork was undertaken by Vickie Jamieson, and the report was written by Kelly Clapperton. The drawings were produced by Mark Tidmarsh. The project was managed by Emily Mercer, who also edited the report.

1. INTRODUCTION

1.1 CIRCUMSTANCES OF THE PROJECT

1.1.1 National Trust commissioned Oxford Archaeology North (OA North) to undertake an archaeological watching brief during groundworks from the brewhouse to the stable range at Lyme Park, Disley, Cheshire (NGR centred SJ 9644 8210, Figs 1 and 2). The groundworks comprised the excavation of a pipe trench associated with the upgrading of the existing boilers, situated in the brewhouse, through the orangery courtyard, to new Biomass boilers positioned in the northern wing of the stable range.

1.1.2 Lyme Park dates to the fourteenth century and the proposed groundworks were likely to impact on two known archaeological features: an eighteenth century Stag Pond; and a deer fence dating to *c* 1740, as well as several drives and pathways that have crossed the area over the years. Due to the archaeological potential, the National Trust Archaeologist requested that the pipe trench be excavated under archaeological supervision, to mitigate the ground disturbance. This would ensure that any archaeological remains encountered would be identified, investigated and recorded. The archaeological watching brief took place on 16th December 2011 and 10th January 2012. The following report provides a summary of the fieldwork results.

1.2 LOCATION, TOPOGRAPHY AND GEOLOGY

1.2.1 Lyme Park is located to the south-east of Stockport, south of Disley and west of Whaley Bridge, Cheshire (NGR centred SJ 9644 8210; Fig 1), on the westernmost edge of the Peak District National Park. The house and buildings lie amongst a mix of gently undulating parkland and woodland, with open moorland to the east. To the north the estate is bound by the Horse Coppice and Bollinhurst reservoirs, and on either side by tracts of undulating farmland.

1.2.2 The area is dominated by north/south ridges, some peaks reaching over 500m in height, which are sandwiched between the Peak District to the east and the Cheshire Plain to the west. The underlying geology comprises interbedded and folded shales and gritstones, including Millstone Grit outcrops (Countryside Commission 1998); isolated coal measures (*ibid*); and outcrops of limestone to the south-east (*ibid*). The overlying soils consist of typical stagnogley soils of the Clifton range (Ordnance Survey 1983).

1.3 HISTORICAL AND ARCHAEOLOGICAL BACKGROUND

1.3.1 The following section presents a summary of the historical and archaeological background of the site, and is based on information provided in the National Trust brief (*Appendix 2*), and previous work undertaken by OA North (2006).

1.3.2 Lyme Park was established in the mid-fourteenth century by the Danyers. During latter fourteenth century the estate was passed, through marriage, from the Danyers family to the Leghs. The first house was constructed by 1466, with major rebuilding works taking place between 1598 and 1686. In 1810

extensive alterations, designed by Lewis Wyatt, were carried out across the whole park. These included the construction of the orangery and the two-storey brewhouse. The brewhouse was in constant use from this date until the Edwardian era (1901-10), when it was finally abandoned.

1.3.3 The construction of a new stable block was also included in the plans but was not erected until 1864. Instead of the original design, it was built following the plans of Alfred Darbyshire. The stables had a reputation for being well-built with a high standard of animal accommodation, although they did not comprise the most attractive architecture. With the arrival of the motorcar, the stables were altered to accommodate them. In 1946 the estate passed to the National Trust.

1.3.4 Although it was famed for its deer park, the size of the medieval estate at Lyme Park is not fully known. A survey undertaken in 1686 calculated that the park measured 610 hectares, and a further survey in 1824 measured the park at 659 hectares. By the 1760s the deer park had reached its present extent, and in the 1870s the current A6 was recorded as its northern boundary. It is thought that the original boundary would have comprised a wooden fence surmounting a substantial earthen bank, with quarried ditches on either side. In *c* 1598 Elizabeth I granted that a stone wall could be constructed, though it no longer survives.

1.3.5 A prominent feature known as the Stag Pond has been described as being positioned to the south-east of Cage Hill, which is a ridge running to the north of the main Hall (Fig 1). It was most likely created in the late seventeenth century, as an equestrian portrait of 1676 illustrates an ashlar dam constructed to create a small triangular pond. The full function of the feature is unclear, though it was reputed to have been used to drive deer through at Midsummer, and an etching of 1745 records this event. Nevertheless, another picture dating to the eighteenth century illustrates a potential pump house, suggesting that it was utilised as a reservoir. The ornamental manipulation of water was very important at Lyme Park, and was often used to disguise unsuitable or waterlogged land. Potentially the Stag Pond fulfilled both these functions. The pond was most likely in-filled between 1850, when it is depicted on estate plans, and 1871 as it does not appear on the first edition Ordnance Survey of 1871.

2. METHODOLOGY

2.1 PROJECT DESIGN

2.1.1 A project design (*Appendix 2*) was submitted by OA North in response to a formal brief produced by the National Trust (*Appendix 1*). The project design was adhered to in full, and the work was consistent with the relevant Institute for Archaeologists (IfA) and English Heritage guidelines (IfA 2008a, 2008b, 2010; English Heritage 2006).

2.2 WATCHING BRIEF

2.2.1 The entire pipeline trench measured approximately 107m in length, of which a permanent archaeological presence was maintained during the excavation of 80m, from the boiler room, through the orangery to the stables (Fig 2). The trench was excavated by a mechanical excavator fitted with a toothless ditching bucket, and was 0.7m in width, and 0.94m in depth. The purpose was to identify, investigate and record any archaeological remains encountered.

2.2.2 A daily record of the nature, extent and depths of groundworks was maintained throughout the duration of the project. All deposits and features of archaeological significance observed were cleaned, excavated by hand, and recorded on *pro forma* sheets produced by OA North and using a system based on that of the English Heritage former Centre for Archaeology. Features were illustrated on permatrace, in plan and section, at a suitable scale (1:10 and 1:20), and located on a plan provided by the client, and then tied into the Ordnance Datum. A digital photographic archive was produced, with scales as appropriate, and was also recorded on *pro forma* sheets.

2.3 ARCHIVE

2.3.1 A full professional archive has been compiled in accordance with the project brief, and design (*Appendices 1* and *2*), and in accordance with current IfA and English Heritage guidelines (English Heritage 2006). The material, paper and digital archive will be deposited with the National Trust on completion of the project. Five bound paper copies of the report will be given to National Trust, with an additional copy to the Cheshire Historic Environment Record (HER).

3. FIELDWORK RESULTS

3.1 INTRODUCTION

3.1.1 The objective of the watching brief was to identify, investigate and record any archaeological remains encountered during the groundworks for the proposed development, and the following is a summary of the findings. The area of the watching brief is plotted in Figure 2. A list of contexts used has been provided in *Appendix 3*.

3.2 RESULTS

3.2.1 The excavation of the pipe trench was monitored for 80m from the boiler room, through the orangery to the stable block. It measured 0.7m in width and was dug to a maximum depth of 0.94m. The initial 23m of trench was situated within the orangery courtyard and comprised a layer of crushed yellow sandstone (***001***), forming the current ground surface. This sealed a thick, isolated layer of residual coal and charcoal (***002***). The charcoal layer, in turn, overlaid redeposited clay (***003***), which sealed the natural geology (***004***; Plate 1). A modern pipe trench was observed truncating deposits ***002*** and ***003***, they did not extend beyond this point. Further to the south-east was a layer of crushed brick (***005***) that may have been the remains of an earlier surface. An isolated, putative posthole, (***006***; Fig 3; Plate 2) was recorded, truncating ***004*** and ***005***. It was only viewed in section so its function remains unclear.

Plate 1: South-east-facing view of the deposits in the orangery

Plate 2: South-east-facing view of possible posthole ***006***

Plate 3: North-west-facing section of topsoil ***008***, backfill ***009*** and former soil horizon ***010***

3.2.2 Beyond the orangery gate the ground composition changes dramatically (Figs 4 and 5). The area is covered in a dark-brown topsoil (***008***) that seals natural geology (***013***-***014***). A brick culvert was identified approximately 20m to the north-east of the orangery gate, and a stone lined culvert was positioned a further 3m along the trench. 5m to the north-east of the stone lined culvert, the heavily disturbed remains of a rough sandstone wall were investigated (***012***; Figs 4 and 5, Plate 3). It truncated the natural geology (***013***-***014***), and was abutted by a thick layer of made ground (***009***), and a buried soil horizon (***010***) to the north-east. The layer of made ground (***009***) contained crushed brick and sandstone, suggesting it was demolition rubble. It sloped down to the north-east, where its full extent was not reached. The deposit ranged from 0.15m to over 0.5m thick. Towards the south-west the rubble layer sealed a former soil horizon (***010***), which sat directly on top of natural geology (***013***-***014***). No finds were recovered from any of the deposits or features investigated.

4. CONCLUSIONS

4.1 DISCUSSION

4.1.1 Within the orangery, the pipe trench comprised two surface layers, ***001*** and ***005***, and levelling deposits of detritus and clay, ***003*** and ***002***, sealing the natural geology (Plates 1 and 2). These would most likely relate to the construction and functioning of the orangery building. The only feature identified was a possible posthole (***006***), which had been deliberately backfilled (Fig 3, Plate 2). Its function remains unclear.

4.1.2 From the orangery gate to the stable block, the majority of the trench comprised topsoil and natural geology (***008*** and ***014***). Several modern cables were observed, as well as a brick culvert and a stone culvert, probably relating to the drainage of the estate. Towards the middle of the trench a large truncated sandstone wall (***012***) was recorded (Figs 4 and 5). Beyond this structure the trench composition changes markedly. Here a large deposit of demolition rubble (***009***) was identified. This sealed a former soil or ground horizon (***010***), suggesting that an area had been backfilled or levelled up (Plate 3).

4.1.3 Observing the lie of the land, taking into account the history of the immediate area, and that the wall (***012***) seems to form a boundary between two very contrasting ground compositions, it could be suggested that they may be the remnants of Stag Pond. The demolition rubble (***009***), which dipped to the north-east, may have been used to backfill the pond in the latter half of the nineteenth century, possibly when the stables were constructed. Therefore, this suggests that wall (***012***) was the putative, heavily disturbed remains of the ashlar dam identified in the 1676 painting. If so, a precise location of the former Stag Pond may now have been established.

4.2 SIGNIFICANCE, IMPACT AND RECOMMENDATIONS

4.2.1 The orangery is an important part of Lyme Park history, and although the courtyard area comprised made ground, the presence of a putative posthole (***006***) would imply the presence of further features associated with the former function of the building. Any further groundworks in this area will have an impact on any potential archaeology, and in the event, it is recommended that an archaeological watching brief should be undertaken.

4.2.2 If the location the former Stag Pond has been identified, it would be significant, as its position has been unclear for sometime. If intrusive groundworks are proposed in this area they would have a major impact on any archaeological remains. Again, it is recommended that any works should be subject to an archaeological watching brief, to investigate and clarify the remains encountered here, and interrogate the subsequent interpretation.

5. BIBLIOGRAPHY

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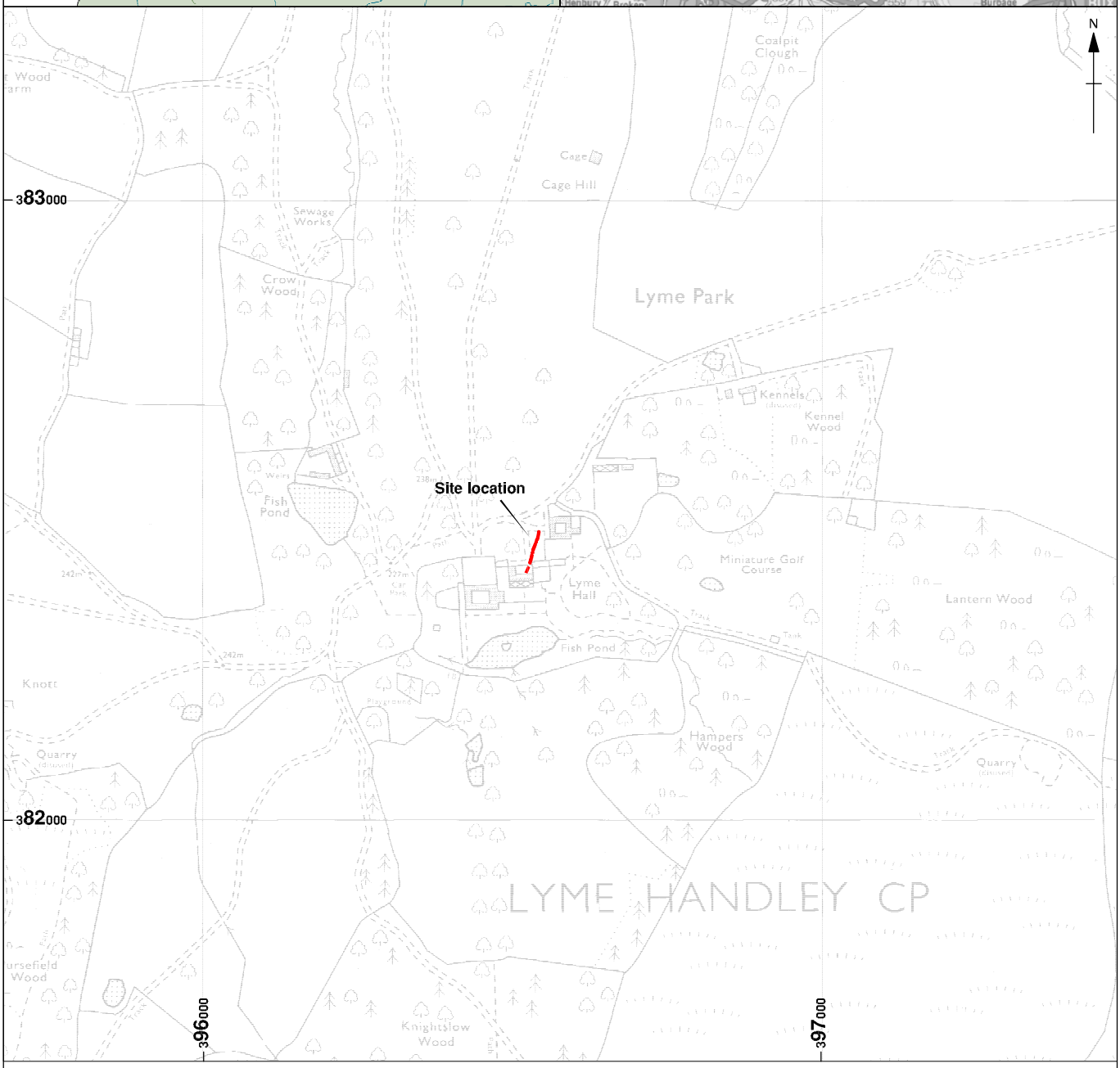
Ordnance Survey, 1983 *Soils of Northern England, Sheet I*, 1:500000

6. ILLUSTRATIONS

6.1 FIGURES

6.2 PLATES



0 250 m

1:10,000 @ A4

EM*L10394*MAT*Jun2012

Figure 1: Site location

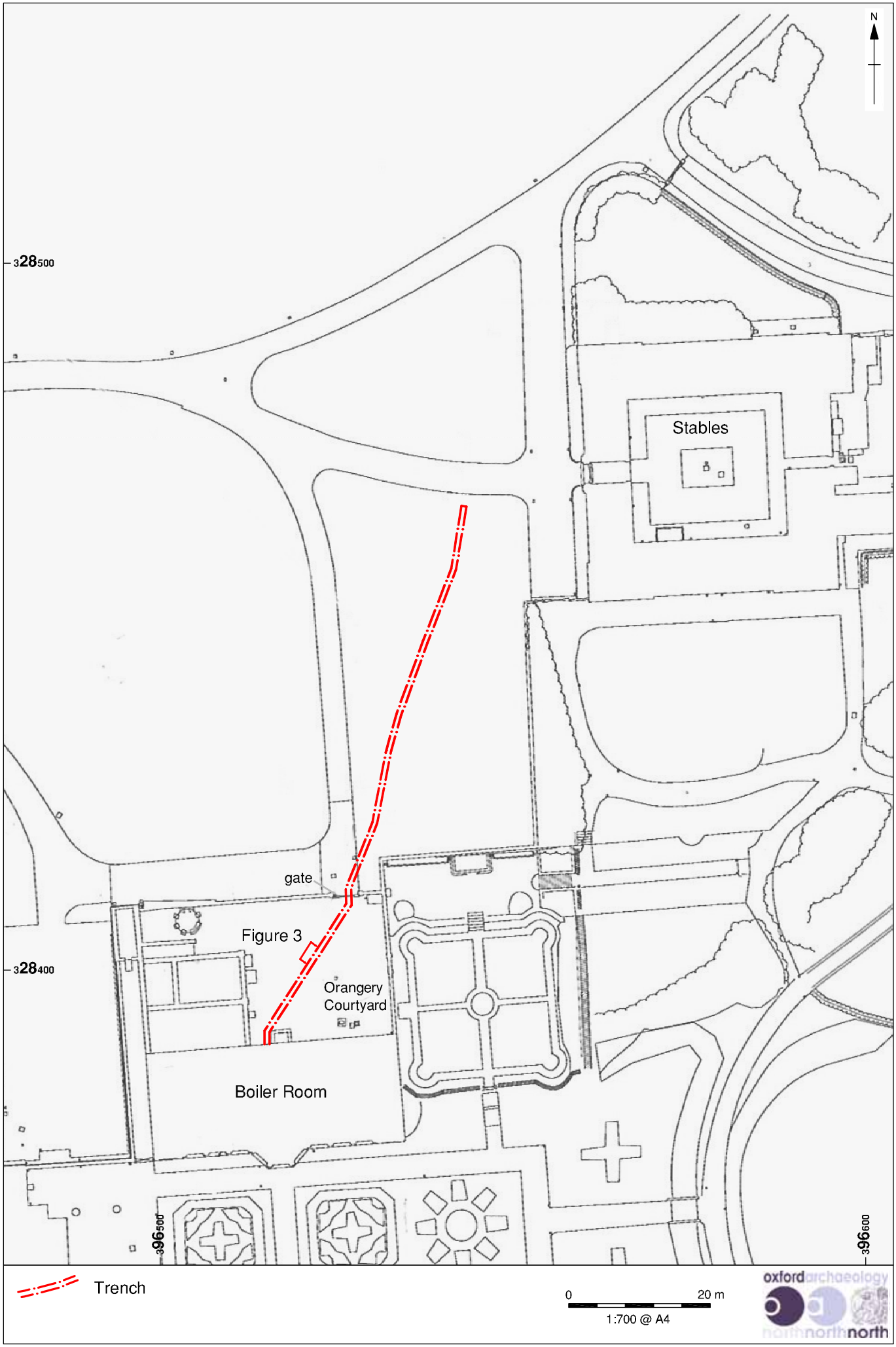
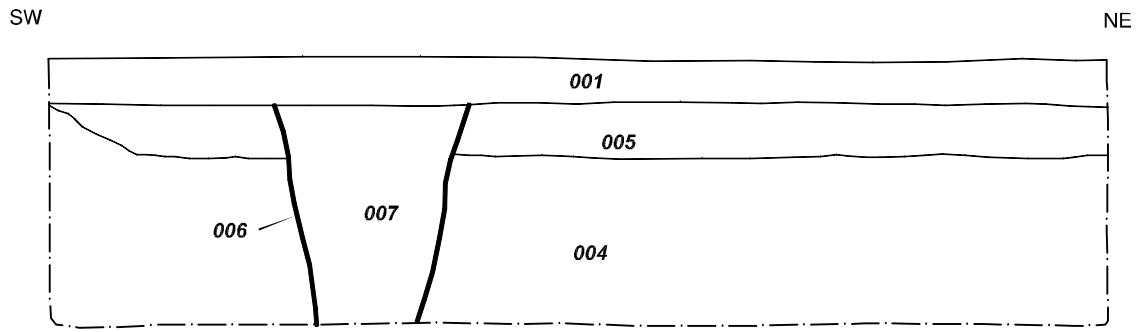


Figure 2: Trench location plan



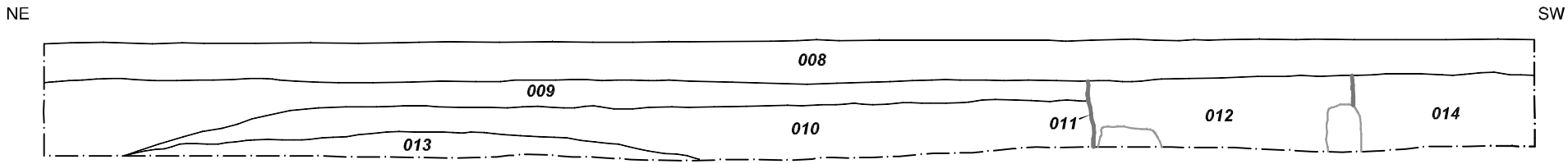
Limit of Excavation

Deposit Cut ***006*** Context

0 0.5 m

1:20 @ A 4

Figure 3: South-east-facing section through possible posthole, ***006***, and deposits in the orangery



Limit of Excavation

Deposit

Cut

008 Context

0 1 m

1:50 @ A4

oxford archaeology north north north

Figure 4: North-west-facing section through Wall ***012*** and deposits ***008*** to ***014***

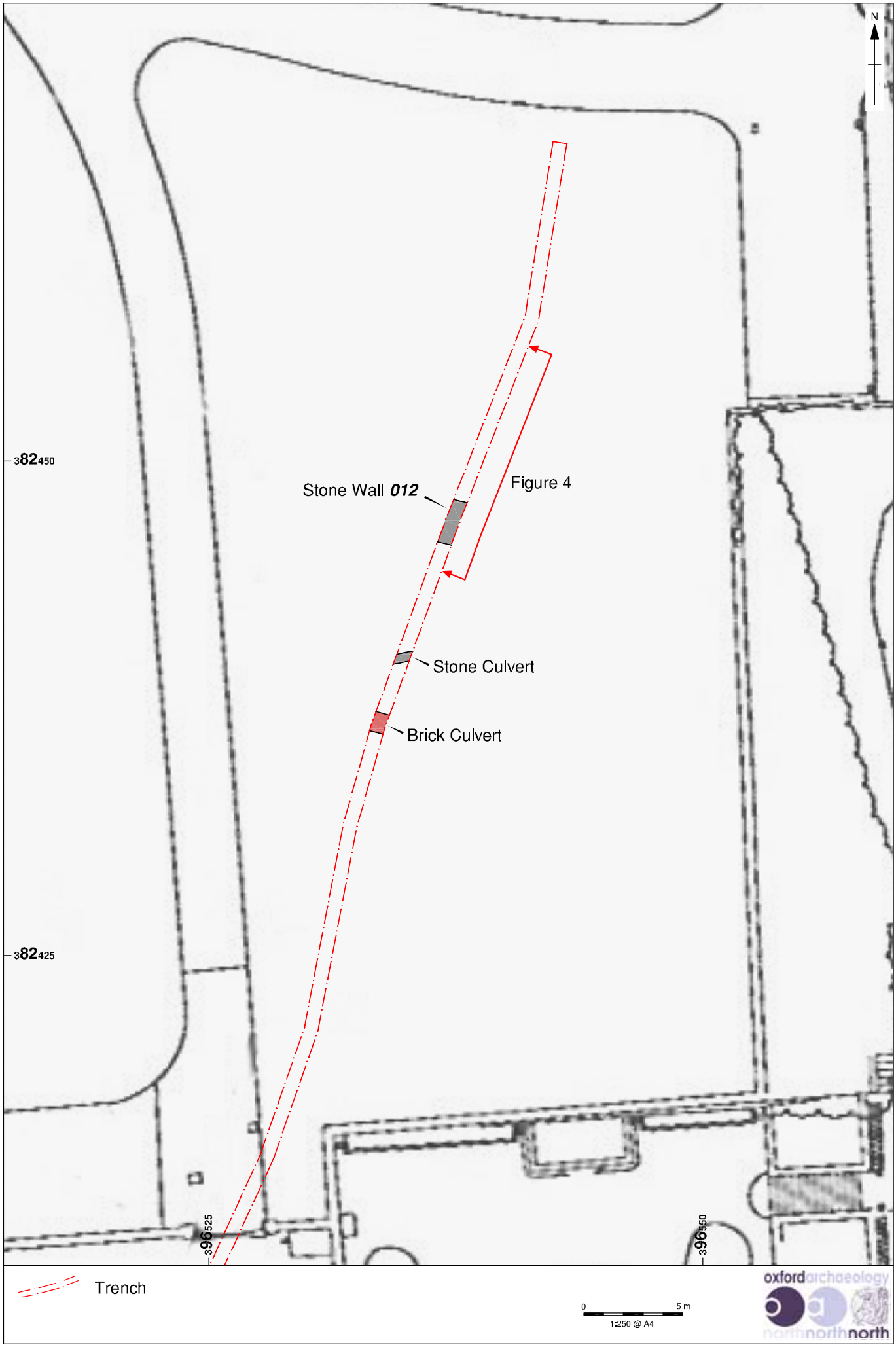


Figure 5: Plan view of wall ***012*** and the culverts

APPENDIX 1: PROJECT BRIEF

Invitation to tender: Watching brief during trenching for new services to the Brewhouse and Stables, Lyme Park, Disley, Stockport, Cheshire.

Introduction
The National Trust would like to invite Oxford Archaeology North (OAN) to produce a Written Scheme of Investigation and accurate costing for an Archaeological Watching Brief during ground works close to the Brewhouse and Stable range at Lyme Park, Cheshire.

As part of a scheme to upgrade the existing heating boilers on the property a trench will be required to house insulated water flow and return pipes buried at a depth of 400mm in soft landscape, and 800mm in areas subjected to vehicle access, linking the existing boiler house with the brewhouse and stable range. The detail of this operation is set out a number of separate PDF documents (see attached).

A simple desk based assessment of this operation by the National Trust Archaeologist has identified a number of possible impacts on archaeological features. This assessment was undertaken using information contained with the existing Historic Landscape Survey report produced by OAN in 2007. An Archaeological Watching Brief is required to mitigation the impact of the proposed ground works on the archaeological resource and provide an opportunity for formal recording and investigation to take place.

Archaeological Background
Lyme Park was owned by the Legh family from the late 14th century. The main house was constructed in the Tudor period and altered over succeeding centuries. A major phase of work was undertaken for Thomas Legh of Lyme in the 1810s by the architect Lewis Wyatt. This included the construction of the orangery block, including the two-storey brewhouse for which Wyatt's plans survive. The brew house remained in operation into the Edwardian era and after cessation of brewing it was appropriated for the central heating boilers. It is the intention of the National Trust, in the long term, to restore this important historic space.
Lewis Wyatt also planned a new stable block for Lyme but his scheme was not pursued and it was not until the 1860s that the current building was erected, to the design of Alfred Darbyshire and on the site proposed by Wyatt. Although not a great piece of architecture, the Lyme stables were extremely well built and were famed for the high standard of accommodation they provided for the Legh family's horses. During the 20th century the stables were altered to provide for motor cars and, more substantially, after the estate passed to the National Trust in 1946. Most of the internal fittings have been lost and those that do remain are minimally affected by the proposals.

Project Background
In 2009/2010 the National Trust commissioned a series of reports relating to the boilers at the property, which are 23 years old and reaching the end of their useful life. The purpose of these reports was to investigate ways of reducing carbon dioxide emissions, eliminating the use of heating oil and LPG and reducing operating costs. Following on from reports by the Carbon Trust, and NJK the National Trust commissioned Rob Gwillim Associates to carry out feasibility studies into alternative heating solutions that would provide the best fit for the property. Biomass was seen to offer the best solution and the original intension was to replace the existing boilers located in the brewhouse with new biomass boilers. However, further investigations highlighted a number of issues regarding this location, in particular the adaptation of the space to accommodate the required multiple boiler solution and fuel storage, and the difficulty of fuel delivery to the existing boiler house. In addition there was recognition of the importance of the brewhouse as a historic space which could be reinstated as part of the long term plans at the property. A report on the historic significance and layout of this area was commissioned from Dr Pam Sambrook in July 2010 (available on request from Sara Burdett).

The potential for creating a new boiler house located behind the stables car park was also looked at but this was seen as too sensitive and the suggestion was made to use a room in the north wing of the stables where the loss of original internal features meant that the proposed new boiler and fuel store could be installed without disturbing the features that do remain.

The proposal is to link the new boilers to the existing system by insulated flow and return pipes buried at a depth of 400mm in soft landscape and 800mm in areas subjected to vehicle access, and following a line as indicated on the attached plan (110445/M/SK03). The pipes will exit the stables at the point indicated on drawing 11045/M/SK02 and the proposed entry point into the brewhouse will be under the bridge connecting the service yard with the brewhouse (see 11045/M/SK03).

Archaeological Impact
Examination of the historic maps and plans (collated as part of the Historic Landscape Survey for Lyme Park) indicate that the proposed pipe route will pass through two historic features which are not visible from the ground but are likely to become visible during trenching.

The first is the site of the Stag Pond which appears on many eighteenth century maps, which was located to the north-east of the stable range; the second is a deer fence shown on the map of c1740. The proposed Archaeological Watching Brief will offer the opportunity for archaeological recording of these features during the trenching phase of the works.

In addition various drives and pathways appear to have crossed the line of the proposed trench and there is a reasonable chance that these features will also be encountered during the work.

Outline of work required
The proposed scheme of archaeological recording involves a watching brief to be undertaken in order to identify and record any features and finds of archaeological interest that come to light during the ground works.

The main aims of the watching brief are as follows:

- To attend and supervise the ground works associated with the trenching to accommodate the new services.

- The excavator will be driven by a member of the NT's own property staff at Lyme park and will be instructed by the client to stop work if requested by the archaeological contractor to allow for recording on exposed features as necessary. If significant archaeological features are found the archaeological contractor should contact the National Trust Archaeologist or Project Manager who will consider the issues and provide further instruction.

- The ground works contractor will be instructed to provide sufficient time for the archaeologist to clean and record features and finds of archaeological interest. However, the archaeologist should not delay the works without good cause. Close liaison between the archaeological contractor and site foreman will be essential.

- As part of the project the NT intends to inform the public of the biomass project and what it seeks to achieve. The trench work will be the only real publicly visible element of the process and the NT is going to inform the public through the use of interpretation boards on site. It is not anticipated that the contractor will need to be involved in engaging directly with the public and therefore it is not anticipated that there will be an impact on the contractors' time.

- The archaeological recording methodology will follow the standard guidelines set down by the *Institute of Field Archaeologists.* The record to consist of a minimum of a brief written statement with drawn and digital photographic record of any archaeological features or finds that are encountered along with working shots of the ground works.

- The archaeological contractors are to comply with the requirements of Health and Safety legislation.

Project outputs
A report will be produced that describes the results of fieldwork and contains the following:

- Non-technical summary.
- Brief historical and archaeological background.
- Reasons for the watching brief.

- Methodology.
- Results, illustrated as appropriate by drawings and quality digital photographs. To also include general working shots.
- An annotated digital survey plot showing the extent of the excavations and location of any archaeology encountered (a digital version of the maps and plans attached will be provided on request).
- Discussion of significance of results.
- List of archives consulted.

An ordered and fully catalogued archive will be produced to be deposited with the National Trust. At the conclusion of the investigations, the contractor will provide the products described below to the National Trust Archaeologist in the following fashion:

- Five bound paper copies of the report.
- An additional bound copy of the report to be sent to the County Archaeologist/HER.
- Two digital copies of the report complete with all plans and images fixed in the body of the report in both Adobe PDF and Word formats.

Should no significant archaeology be encountered a shortened written report will still be produced.

Other Considerations
The contractor should inform a member of National Trust staff at reception at Lyme Park on arrival and follow what ever booking in arrangements are required at the property. Reception will be able to ensure that the member of staff overseeing the ground works will be informed of your arrival so that they can meet you in order to begin work.

The working area is within an area accessible by the public and due regard must be given to the health and safety and general comfort of visitors.

Responsibility for the hire of plant and safety fencing will be the responsibility of the ground works contractor who is in the case the National Trust.

The National Trust will provide welfare facilities (toilet and hand washing facilities, a room to site and eat lunch) for the archaeological contractor.

The National Trust Archaeologist will be the key point of contact for the contractor with regard to archaeology, while the Project Manager will act as the key point of contact for any questions arising from the technical/ ground works.

General terms
The archaeological contractor must prepare a Written Scheme of Investigation for the watching brief to be agreed with the National Trust Archaeologist prior to the start of work.

The National Trust will retain copyright over the resulting report and all associated archival material (including all digital maps and photographic material), and shall have absolute control over the use and dissemination of that information. The National Trust fully recognises the originator's moral right to suitable accreditation in any publication of the results.

The project will be undertaken by the contractor acting on an independent basis. Staff working on the project will not be deemed employees of the National Trust. Tenders should reflect this fact and more specifically the Contractor will take sole responsibility for the payment of tax, National Insurance contributions, etc. If VAT is payable, this too should be indicated in the bid.

Timescale
The ground work contractor has indicated that they would like to begin work on-site at the beginning of August. It is anticipated that the ground works will take between 1 and 2 days to complete. As with all projects, it is possible that the start date may move forward or back at short notice, it will be the job of the National Trust Archaeologist to ensure the contractor is kept up to date with changes to the timetable.

The final report and project archive should be handed over within six weeks of the end of the project. The National Trust Archaeologist should be given an opportunity to comment on the report at the final draft stage.

The archaeological contractor should indicate to the National Trust archaeologist if they are able to undertake the work as soon as possible to provide time for alternative arrangements to be made.

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APPENDIX 2: PROJECT DESIGN

1. INTRODUCTION

1.1 PROJECT BACKGROUND

1.1.1 The National Trust (hereafter the 'client') has requested that Oxford Archaeology North (OA North) prepare a Written Scheme of Investigation (WSI) for an archaeological watching brief during groundworks close to the brewhouse and stable range at Lyme Park, Disley, Cheshire (NGR centred SJ 9644 8210). The groundworks involve the excavation of a trench to a depth of 400mm in soft landscaping and 800mm in areas subject to vehicle access for the purpose of laying an insulated water flow and return pipes. The work is associated with the upgrading of the existing heating boilers for the property, to install new Biomass boilers. However, their current site within the brewhouse is unsuitable without extensive work and adaptation of the building. Therefore, a more suitable site exists within the north wing of the stables, which requires linking the existing system between the brewhouse and stable range.

1.1.2 Examination of maps and plans during a rapid assessment by the client, from an Historic Landscape Survey undertaken by OA North (2006), identified that the proposed pipe route will likely impact upon two features likely to survive as below ground remains. The first is a Stag Pond observed on eighteenth century maps to the north-east of the stable range. The second feature is a deer fence seen on a map dated *c* 1740. Furthermore, numerous drives and pathways appear to have crossed the route of the proposed trench in the past, the remains of which may also be encountered during the groundworks. Consequently, a watching brief will provide the opportunity to formally record any such features, should they be encountered, thus mitigating the impact of the groundworks.

1.1.3 A formal brief has been provided by the client for the required work, to which the following project design has been prepared. In order to avoid any unnecessary repetition these proposals should be read in conjunction with the brief.

1.2 OXFORD ARCHAEOLOGY NORTH

1.2.1 OA North has considerable experience of fieldwork and post-excavation, having undertaken a great number of small and large-scale projects during the past 30 years. Such projects have taken place to fulfil the requirements of the clients to rigorous timetables. OA North is also familiar with the site, having undertaken the Historic Landscape Survey of the park (*ibid*). OA North has the professional expertise and resources to undertake the project detailed below to a high level of quality and efficiency. OA North is an Institute for Archaeologists (IfA) registered organisation, registration number 17, and all its members of staff operate subject to the IfA Code of Conduct (2008a).

2. OBJECTIVES

2.1 The following programme has been designed to identify any archaeological deposits or features that may be encountered during groundworks. The following procedures will be undertaken in order to mitigate the impact of the excavation of the trench by means of preservation by record of any such archaeological features or deposits. The work will be carried out in line with current IfA guidelines (2008b) and in line with the IfA *Code of Conduct* (2008a).

2.2 ***Archaeological Watching Brief:*** to maintain a permanent archaeological presence during groundworks associated with the excavation of the trench for the insulated water flow and return pipes. The purpose is to identify, investigate and record any archaeological remains that may be encountered. Where such remains cannot be adequately recorded under watching brief conditions it may be necessary to undertake consultation with the client or such representatives (National Trust Archaeologist, Jamie Lund, or the Project Manager, Sara Burdett) to determine and implement the appropriate mitigation.

2.3 ***Report:*** the results of the fieldwork and any post-excavation assessment will culminate in a final report, prepared in accordance with the National Trust brief, to be submitted within six weeks of completion of the fieldwork (subject to any specialist reports outstanding).

2.4 ***Archive:*** a site archive will be produced to English Heritage guidelines (1991). The information will be finally disseminated through the deposition of the archive with the client, and a digital copy of the report to the County Historic Environment Record (HER) Office in Cheshire.

3. METHOD STATEMENT

3.1 HEALTH AND SAFETY

3.1.1 ***Risk assessment:*** OA North provides a Health and Safety Statement for all projects and maintains a Company Safety Policy. All site procedures are in accordance with the guidance set out in the Health and Safety Manual compiled by the Standing Conference of Archaeological Unit Managers (1997). OA North will liase with the client to ensure all health and safety regulations are met.

3.1.2 ***Contamination:*** any contamination issues must also be made known to OA North in order that adequate PPE can be supplied prior to commencement. Should any presently unknown contamination be discovered during excavation, it may be necessary to halt the works and reassess the risk assessment. Any specialist safety requirements may be costed as a variation.

3.1.3 ***Staff issues:*** all project staff will be CSCS qualified, proof of which can be provided in the form of CSCS cards.

3.1.4 A toilet and hand washing facilities is required under Health and Safety legislation. This will be arranged by the client.

3.2 ARCHAEOLOGICAL WATCHING BRIEF

3.2.1 ***Introduction:*** a programme of field observation will accurately record the location, extent, and character of any surviving archaeological features and/or deposits during the ground disturbance for the proposed works.

3.2.2 ***Methodology:*** the work will comprise archaeological observation during the excavation, to include the systematic examination of any subsoil horizons exposed during the course of the groundworks, and the accurate recording of all archaeological features and horizons, and any artefacts, identified.

3.2.3 Discovery of archaeological remains will require stoppage of the excavation. If necessary, areas of potential archaeological remains will require fencing-off from any groundworks, preferably with netlon-type fencing, to allow the OA North archaeologist sufficient time to undertake adequate recording under safe conditions. This will be carried out as efficiently as possible in order to minimise disruption. Depending on the deposits revealed, it is anticipated that the average time for the suspension of works will be approximately 2-4 hours.

3.2.4 Clearance will be given for construction to proceed once the archaeologist is satisfied that either no remains are present, or that they have been adequately recorded, or that the level of impact will not disturb any deeper remains that can be preserved *in situ*.

3.2.5 ***Complex or extensive remains:*** should the remains be too complex or extensive to be investigated and recorded under watching brief conditions then the area will be fenced-off and the client and any other interested parties will be immediately contacted in order to determine the requirements for further investigation. All further construction works within the marked area will cease until clearance is given to proceed. All further works would be subject to a variation to this project design.

3.2.6 ***Investigation and recording:*** putative archaeological features and/or deposits identified by the machining process, together with the immediate vicinity of any such features, will be

cleaned by hand, using either hoes, shovel scraping, and/or trowels depending on the subsoil conditions, and where appropriate sections will be studied and drawn. Any such features will be sample excavated (i.e. selected pits and postholes will normally only be half-sectioned, linear features will be subject to no more than a 10% sample, and extensive layers will, where possible, be sampled by partial rather than complete removal).

3.2.7 During this phase of work, recording will comprise a full description and preliminary classification of features or materials revealed, and their accurate location (either on plan and/or section, and as grid co-ordinates where appropriate). Features will be planned accurately at appropriate scales and annotated on to a large-scale digital plan to be provided by the client. A digital photographic record will be undertaken simultaneously.

3.2.8 Levels will be recorded and reduced to their OD heights, with all benchmark and TBMS to be shown. The location of all features excavated will be recorded by Total Station with appropriate spot heights and tied into the OS grid. Altitude information will be established with respect to OS Datum. The location of the remains within the areas of construction will be based on site plans provided by the client containing OS information.

3.2.9 A plan will be produced of the areas of groundworks showing the location and extent of the ground disturbance and one or more dimensioned sections will be produced.

3.3 GENERAL PROCEDURES

3.3.1 ***Environmental Sampling:*** samples (bulk samples of 40 litres volume, to be sub-sampled at a later stage) will be collected from stratified undisturbed deposits and will particularly target negative features (gullies, pits and ditches). Monolith samples will be collected from freshly exposed sections through all buried soils/old ground surfaces by trained staff. These will be returned to OA North's offices for processing.

3.3.2 Deposits of particular interest may incur additional sampling, on advice from the appropriate in-house specialist.

3.3.3 The location of all samples will be recorded on drawings and sections with heights OD etc.

3.3.4 Between 50%-100% of bulk samples shall be selected for processing, based on the advice from OA North's in-house environmental manager. An assessment of the environmental potential would include soil pollen analysis and the retrieval of charred plant macrofossils and land molluscs from former dry-land palaeosols and cut features. In addition, the samples would be assessed for plant macrofossils, insect, molluscs and pollen from waterlogged deposits.

3.3.5 It may be required to obtain dating evidence through radiocarbon dating, dendrochronological or other such techniques. This would only be undertaken in consultation with the client.

3.3.6 ***Human Remains****:* it is not anticipated that there is any potential for human remains. However, should any be discovered they will be left *in situ*, covered and protected. No further investigation will continue beyond that required to establish the date and character of the burial. The client and the local Coroner will be informed immediately. If removal is essential the exhumation of any funerary remains will require the provision of a Home Office license, under section 25 of the Burial Act of 1857. An application will be made by OA North for the study area on discovery of any such remains and the removal will be carried out with due care and sensitivity under the environmental health regulations. Any delays caused by unforeseen and complex excavation of inhumations may be subject to a variation to the cost of the contract and will be agreed with the client.

3.3.7 ***Finds:*** all finds recovered during the evaluation investigation (metal detecting and trial trenching) will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the United Kingdom Institute for Conservation (UKIC) *First Aid For Finds*, 1998 (new edition) and the National Trust's guidelines.

3.3.8 Finds recovery and sampling programmes will be in accordance with best practice (current IfA guidelines) and subject to expert advice. OA has close contact with Ancient Monuments Laboratory staff at the Universities of Durham and York and, in addition, employs in-house

artefact and palaeoecology specialists, with considerable expertise in the investigation, excavation, and finds management of sites of all periods and types, who are readily available for consultation. Finds storage during fieldwork and any site archive preparation will follow professional guidelines (UKIC). Emergency access to conservation facilities is maintained by OA North with the Department of Archaeology, the University of Durham.

3.3.9 Neither artefacts nor ecofacts will be collected systematically during the mechanical excavation of the topsoil unless significant deposits, for example clay pipe waster dumps, are encountered. In such an eventuality, material will be sampled in such a manner as to provide data to enhance present knowledge of the production and dating of such artefacts, although any ensuing studies will not be regarded as a major element in any post-excavation analysis of the site. Other finds recovered during the removal of overburden will be retained only if of significance to the dating and/or interpretation of the site. It is not anticipated that ecofacts (e.g. unmodified animal bone) will be collected during this procedure.

3.3.10 Otherwise, artefacts and ecofacts will be collected and handled as per specification. All material will be collected and identified by stratigraphic unit during the evaluation trenching process. Hand collection by stratigraphic unit will be the principal method of collection, but targeted on-site sieving could serve as a check on recovery levels. Objects deemed to be of potential significance to the understanding, interpretation and dating of individual features, or of the site as a whole, will be recorded as individual items, and their location plotted in 3-D. This may include, for instance, material recovered from datable medieval pit groups.

3.3.11 All finds will be treated in accordance with OA standard practice, which is cognisant of IfA and UKIC Guidelines. In general this will mean that (where appropriate or safe to do so) finds are washed, dried, marked, bagged and packed in stable conditions; no attempt at conservation will be made unless special circumstances require prompt action. In such case guidance will be sought from OA North's consultant conservator.

3.3.12 All waterlogged finds will be treated as appropriate. In the case of large deposits of waterlogged environmental material (e.g. unmodified wood), advice will be sought with the OA North consultant with regard to an appropriate sampling strategy.

3.3.13 Where possible, spot dates will be obtained on pottery and other finds recovered from the site. Artefacts will be examined and commented upon by OA North in-house specialists. Initial artefact dating shall be integrated into the site matrix.

3.3.14 Any gold and silver artefacts recovered during the course of the excavation will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act, 1996. Where removal cannot take place on the same working day as discovery, suitable security will be employed to protect the finds from theft.

3.4 REPORT

3.4.1 ***Final Report:*** a copy of the draft report will be forwarded initially to the National Trust Archaeologist for approval. Once this has been finalised five bound copies of a written synthetic report will be submitted to the client, together with two digital copies (both pdf and word) on CD, within six weeks of completion of the fieldwork, unless an alternative deadline is agreed with the client. A pdf version will also be submitted to the Cheshire HER for reference purposes. The report will present, summarise, and interpret the results of the programme detailed above in order to come to as full an understanding as possible of the archaeology of the development area. The report will include;

- a front cover to include the NGR,
- a concise, non-technical summary of the results,
- the circumstances of the project and the dates on which the fieldwork was undertaken,
- a summary of the historical background of the study area,
- description of the methodology, including the sources consulted,
- a statement, where appropriate, of the archaeological implications of the impact,
- a copy of the client's brief and a copy of this project design, and indications of any agreed departure from that design,

- the report will also include a complete bibliography of sources from which data has been derived, and a list of any further sources identified but not consulted,
- a site location plan related to the national grid,
- appropriate plans showing the location and position of features or sites located,
- plans and sections showing the positions of deposits and finds,
- illustrative photographs as appropriate.

3.4.2 ***Confidentiality:*** all internal reports to the client are designed as documents for the specific use of the client, for the particular purpose as defined in the project brief and project design, and should be treated as such. They are not suitable for publication as academic documents or otherwise without amendment or revision.

3.5 ARCHIVE

3.5.1 The results of all archaeological work carried out will form the basis for a full archive to professional standards, in accordance with current English Heritage guidelines (*Management of Archaeological Projects*, Appendix 3, 2nd edition, 1991). The archive will contain site matrices, and summary reports of the artefact record, context records, and any other records or materials recovered.

3.5.2 This archive will be provided in the English Heritage Centre for Archaeology format and a synthesis will be submitted to the Cheshire HER (the index to the archive and a copy of the report). OA North will deposit the original record archive of projects (paper, magnetic and plastic media), and a full copy of the record archive, together with the material archive (artefacts, ecofacts, and samples) with the National Trust.

4. WORK TIMETABLE

4.1 ***Archaeological Watching Brief:*** the duration of the archaeological presence for the watching brief will be dictated by the client's schedule of works, but is anticipated to be one to two days, commencing early August 2011.

4.2 ***Report:*** the client report will be completed within approximately six weeks following completion of all fieldwork elements, subject to any outstanding specialist reports.

4.3 ***Archive:*** the archive will be deposited within six months following completion of the site work.

5. STAFFING

5.1 The project will be under the direct management of **Emily Mercer** (OA North Senior Project Manager) to whom all correspondence should be addressed.

5.2 The fieldwork will be undertaken by an OA North supervisor or assistant supervisor experienced in this type of project, who will be responsible for liaison with the site contractors and the client, and other relevant interested parties with regards to on-site work and procedures. The attending archaeologist will be supported by specialist staff based both on site and in the office in Lancaster.

5.3 Finds management will be undertaken by **Christine Howard-Davis** (OA North Finds Manager) who will also provide specialist input on certain finds categories.

5.4 Environmental management will be undertaken by **Elizabeth Huckerby** (OA North Environmental Manager) who has unparalleled experience of the palaeoecology of the North West through her work on the English Heritage-funded North West Wetlands Survey. Elizabeth will be assisted by **Denise Druce**, both of whom will provide specialist input on charred remains and pollen, and will advise on site sampling procedures and co-ordinate the processing of samples and organise internal and external specialist input as required.

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APPENDIX 3: CONTEXT SUMMARY

Context Number	Category	Form	Brief Description
001	Deposit	Layer	Mid-yellow, loose sandy-gravel with 80% sandstones, 0.11m thick. Current courtyard ground surface
002	Deposit	Layer	Black, compact charcoal deposit, 0.18m thick. Layer of charcoal resulting from coal dumping to feed the boiler house
003	Deposit	Layer	Mid-brown, firm sandy-clay with <5% stone, 0.12m thick. Layer of made ground
004	Deposit	Layer	Mid-brown, firm sandy-clay with 60% stones. Natural geology
005	Deposit	Layer	Reddish-brown, firm silt with 90% crushed brick, 0.14m thick. Made ground towards the gate, perhaps part of an old surface
006	Cut	Uncertain	Only viewed in section and not fully excavated. U-shaped profile with steep sides and sharp break of slope to the top. Measured 0.5m wide and >0.6m deep. Uncertain function, potentially a large posthole
007	Deposit	Fill	Dark-brown, loose silt with 70% mixed rubble and roots, 0.6m thick. Deliberate backfill of feature ***006***, uncertain function
008	Deposit	Layer	Dark-brown, friable clayey-silt with 5% mixed small stones, 0.16m thick. Topsoil
009	Deposit	Layer	Mid yellow-brown, firm sandy-clay with 15% crushed sandstone and brick, 0.6m thick. Made ground below topsoil ***008***, most likely the result of the construction of the stables
010	Deposit	Layer	Mid-brown, friable clayey-silt with 70% root action, 0.46m thick. Buried soil horizon, probably the former land surface. Becomes thicker down-slope
011	Cut	Wall	Linear in plan, aligned north-west/south-east, box-shaped profile with near vertical sides and sharp break of slope to the top. Measured 2.14m wide and >0.5m deep. Construction cut for wall ***012***
012	Structure	Wall	Sandstone blocks up to 0.7m x 0.4m, laid as a dry-stone wall in a random bond, 2.14m wide, 0.5m thick. Rough dry-stone wall placed towards the base of the slope, no obvious function
013	Deposit	Layer	Mid-yellow, firm sandy-clay with 5% sandstone inclusions. Natural geology
014	Deposit	Layer	Mid reddish-brown, firm sandy-clay with 20% mixed sandstone inclusions. Natural geology