A523 Poynton Relief Road, Asset 35 Bowl Barrow, Cheshire East

Archaeological Watching Brief Report

August 2022

Client: Graham Construction

Issue No: V. 1
OA Reference No: L11309
NGR: SJ 90712 78307

oxfordarchaeology

Client Name:	Graham Construction Ltd
Document Title:	A523 Poynton Relief Road, Asset 35 Bowl Barrow, Cheshire East
Document Type:	Archaeological Watching Brief Report
Report No.:	2022-23/2209
Grid Reference:	SJ 90712 78307
Planning Reference:	16/4436M
Site Code:	PRR20
Invoice Code:	L11309
Receiving Body:	Archaeological Data Service
OA Document File Location:	X:\Paul\Projects\L11309_Poynton_Relief_Road\Report
OA Graphics File Location:	X:\Paul\Projects\L11309_Poynton_Relief_Road\OAN_CAD
Issue No:	V. 1
Date:	August 2022
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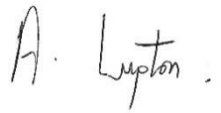
Signature:	

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A523 Poynton Relief Road, Asset 35 Bowl Barrow, Cheshire East

Archaeological Watching Brief Report

Written by Anne Templeton

With illustrations by Mark Tidmarsh

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Summary

Oxford Archaeology (OA) North was commissioned by Graham Construction Ltd to undertake an archaeological investigation, comprising buildings and landscape recording, evaluation trenches, targeted excavation areas, strip, map and record, and watching brief at the site of the proposed Poynton Relief Road, starting just south of Kitts Moss, Stockport Metropolitan Borough Council (SMBC; NGR: SJ 89939 83800) and continuing south to just west of Butley Town, Cheshire East Council (CEC; NGR: 90754 78097). The work was undertaken in accordance with Planning Condition 41 set by SMBC (planning ref: DC/063174) and Condition 39 set by CEC (planning ref: 16/4436M). As such, Arcadis Consulting (UK) Ltd, as archaeological consultants for the project, produced an Archaeological Mitigation Strategy for Graham Construction on behalf of CEC and SMBC. As the route impacted upon a Scheduled Bowl Barrow (NMR 1007379), Scheduled Monuments Consent was applied for and subsequently granted for relevant areas of the scheme (Ref: S00206079). OA North were commissioned to produce written schemes of investigation (WSI) to undertake the necessary fieldwork. This report focuses on the archaeological watching brief undertaken on works on the Scheduled Bowl Barrow, the watching brief was maintained between 25th May 2021 and 11th February 2022.

The archaeological watching brief comprised: the monitoring of the covering of the scheduled monument area; monitoring of the installation of a new fence line, including excavation of two gate posts; monitoring of the excavation of the existing highway embankment, including installation of new surface water drainage; and monitoring of the excavation of pits for the excavation of lamp posts. The protective covering layer was broken by the gate post and lamp post pits, as well as partially by the removal of the existing highway embankment and drainage excavations; all other works remained above the protective covering. There were no archaeological remains encountered during the works.

Acknowledgements

Oxford Archaeology (OA) North would like to thank Seamus Bovaird, Daniel Cawthra, Gavin Dawber, Paul Edisbury, Padraig Flannagan, Nicholas Hodder, Sean O'Carroll, and Philip Massey of Graham Construction Ltd for commissioning this project. OA North would also like to thank Jenny Wylie and Ciara McQuaid of Arcadis for their help and advice. Thanks are also extended to Andrew Davison, Inspector of Ancient Monuments, North West Region, of Historic England, who monitored the works.

The project was managed for OA North by Paul Dunn. The fieldwork was undertaken by Steve Clarke, Selina Dean and Anne Templeton, who also wrote this report. Illustrations were produced by Mark Tidmarsh.

1 INTRODUCTION

1.1 Scope of work

1.1.1 Oxford Archaeology (OA) North was commissioned by Graham Construction Ltd to undertake an archaeological investigation, comprising buildings and landscape recording, evaluation trenches, targeted excavation areas, strip, map and record, and watching brief at the site of the proposed Poynton Relief Road, starting just south of Kitts Moss, Stockport Metropolitan Borough Council (SMBC; NGR: SJ 89939 83800) and continuing south to just west of Butley Town, Cheshire East Council (CEC; NGR: 90754 78097). This report focuses on the watching brief undertaken at Asset 35, Scheduled Bowl Barrow (NMR: 1007379; NGR: SJ 90712 78307; Fig 1).

1.1.2 The work was undertaken in accordance with Planning Condition 41 set by SMBC (planning ref: DC/063174) and Condition 39 set by CEC (planning ref: 16/4436M), which stated: *no development shall take place until the applicant or their agents or their successors in title have secured the implementation of a programme of archaeological works*. As such, Arcadis Consulting (UK) Ltd, as archaeological consultants for the project, produced an Archaeological Mitigation Strategy for Graham Construction on behalf of CEC and SMBC. In consultation with Greater Manchester Archaeological Advisory Service (GMAAS) on behalf of SMBC and Cheshire Archaeological Planning Advisory Service (APAS) on behalf of CEC, the Archaeological Mitigation Strategy (Arcadis 2020) outlined proposals for a programme of archaeological works to mitigate the impact of the scheme on heritage assets that lay within the road corridor. Historic England were specifically consulted in relation to Asset 35, scheduled Bowl Barrow (NMR 1007379) and a specific mitigation strategy was produced for the asset (Jacobs 2016a). Scheduled Monuments Consent was subsequently granted for the scheme (Ref: S00206079), based upon this mitigation strategy.

1.1.3 OA North were subsequently commissioned to produce written schemes of investigation (WSI) to undertake the necessary fieldwork and a WSI (*Appendix A*) was produced specifically for the works on Asset 35. This report focuses on the archaeological watching brief undertaken on works on Asset 35, whilst the building and landscapes recording (OA North 2021) and evaluation, targeted excavation and strip, map and record (OA North 2022) were subject to separate reports. The watching brief was maintained between 25th May 2021 and 11th February 2022.

1.2 Location, topography and geology

1.2.1 The proposed relief road passes through the local authority areas of both CEC and SMBC, with Asset 35 being located toward the southern end of the scheme in Cheshire East at the junction of Bonis Hall Lane and A523 London Road (NGR: SJ 90712 78307; Fig 1). Prior to development the site was utilised as pasture farmland.

1.2.2 The solid geology consists of Pebbly (gravelly) Sandstone of the Chester Formation, deposited during the Triassic Period (British Geological Survey (BGS) 2022). The overlying superficial deposits are classified as Sand and Gravel, Glaciofluvial Sheet

Deposits, formed during the Devensian Period (*ibid*). The soils of the site are classified as freely draining slightly acid loamy soils (Cranfield 2022).

1.3 Archaeological and historical background

1.3.1 A detailed synopsis of the known archaeological resource within the development area is presented in the Archaeological Mitigation Strategy (Arcadis 2020) and will not be reiterated here. In total, 52 heritage assets were identified within the study area, consisting of 19 archaeological remains, 23 historic buildings and 10 historic landscapes (*ibid*).

1.3.2 The background for Asset 35, the scheduled bowl barrow (NMR 1007379), is presented in Appendix G of the Archaeological Mitigation Strategy, *Mitigation Strategy for preservation in situ of Scheduled bowl barrow at Bonis Hall Lane* (Jacobs 2016a), and a summary is provided here. The listing for Asset 35 states that although there has been some spreading of the monument by past ploughing, the bowl barrow survives reasonably well and it is likely to contain undisturbed archaeological deposits within the mound and upon the old land surface beneath (Historic England 2022). Bowl barrows are specifically circular earthen mounds with profiles reminiscent of 'inverted pudding bowls' (Historic England 2018), surrounded by a ditch and sometimes a bank but with no intervening berm (Jacobs 2016b). They generally date from the Late Neolithic to Early Bronze Age Periods, with many examples belonging to the period 2,400-1,500 BC, and they are considered to be the most numerous form of round barrow (*ibid*). They are often located in prominent positions in the landscape, and many have acted as a focus for later burials, particularly dating to the early medieval period (Historic England 2018). Their prominence has led to their incorporation into field and parish boundaries (*ibid*).

1.3.3 A barrow was found at what is believed to be the location of Asset 35 by men prospecting for gravel in 1809, and an account of the discovery was recorded by George Ormerod in volume 3 of his *History of the County Palatine and City of Chester* (1819). He describes the location rather loosely (*ibid*), whilst the current location was fixed by the Ordnance Survey in 1873 (Jacobs 2016a). The Cheshire Historic Environment Record (HER) notes that the finds are now lost.

1.3.4 A geophysical (magnetometer) survey was conducted in 2016 and covered approximately 11 ha of agricultural land within the scheme boundary in order to provide additional information on the archaeological potential (Headland 2016). No anomalies of clear archaeological origin had been identified within the survey, although a cluster of ambiguous anomalies around Asset 35 were interpreted as being of possible archaeological origin (*ibid*). A topographic survey of the monument was undertaken as part of Jacobs mitigation strategy (2016a), whilst a Historic England Level 1 photographic survey was undertaken of the monument in 2020 (OA North 2021).

2 WATCHING BRIEF AIMS AND METHODOLOGY

2.1 Aims

2.1.1 The project aims and objectives of the archaeological watching brief were:

i. to further establish the extent and nature of the archaeological resource within the proposed development area for the mitigation works;
ii. to mitigate potential impacts of the project through archaeological recording;
iii. to attempt to establish the date of any deposits encountered through the recovery of artefacts and ecofacts;
iv. to establish the environmental significance of deposits by targeted environmental sampling, processing, and assessment;
v. to place any archaeological discoveries into the local and, where appropriate, regional/national context. In addition, the implications of any such discoveries for our current understanding of the development of settlement in the area can be assessed;
vi. to generate an archive which will allow future research of the remains to be undertaken if appropriate; and
vii. to disseminate the results of the work in a format and manner appropriate to the significance of the findings, if necessary.

2.2 Methodology

2.2.1 The methodology is outlined in the WSI (*Appendix A*) and was adhered to in full. As such, it was fully compliant with prevailing guidelines and established industry best practice (CIfA 2020a; 2020b; 2021; Historic England 2015).

2.2.2 The scheduled monument consent methodology area (Fig 2) was set out by an OA North surveyor using a real-time kinematic (RTK) global navigation satellite system (GNSS), accurate to within 0.02-0.03m. Once set out a layer of geogrid and terram membrane, as a geotextile separator layer, were laid directly on the ground surface within the proposed development area, this was then overlain by stone, laid from the site entrance by 14-tonne 360° wheeled mechanical excavator.

2.2.3 The fence posts of the permanent fence-line were installed by a tractor fitted with a post-driver, whilst the two gate posts were installed by excavating two pits (Fig 3) by hand, under constant supervision by an archaeologist. The removal of the existing embankment and drainage trench was excavated by 8-tonne 360° tracked mechanical excavator from the existing highway and was excavated to, and partially through, the protective layer, under constant supervision by an archaeologist.

2.2.4 Finally, two pits were excavated for the installation of lamp posts (Fig 3), which were excavated by 8-tonne 360° tracked mechanical excavator and was required to be excavated through the protective layer, due to the necessary depth of the lamp post bases in agreement with the Inspector of Ancient Monuments for Historic England. The excavations were monitored under constant supervision of an archaeologist.

2.2.5 All information identified during the works was recorded stratigraphically, using a system adapted from that used by the former Centre of Archaeology of English heritage, with an accompanying pictorial record (plans, sections, and digital

photographs). Primary recorded were available for inspection at all times. Results of all field investigations were recorded on *pro forma* context sheets. The site archive includes both photographic images and accurate large-scale plans and sections at appropriate scales (1:50; 1:20; 1:10).

2.2.6 A full professional archive has been compiled in accordance with the WSI (*Appendix A*), and in accordance with current CIfA (2020b) and Historic England (2015) guidelines. No finds were recovered during the works, as such, the archive will be deposited with the Archaeology Data Service (ADS). An online access to the index of archaeological investigations (OASIS) form has been uploaded.

3 RESULTS

3.1 Introduction and presentation of results

3.1.1 The results of the watching brief are presented below and include a selection of plates of the works undertaken. Where the protective covering of the monument was penetrated for gate post pits and lamp post pits, a stratigraphic description is provided.

3.2 Covering of the monument

3.2.1 It had originally been thought possible to completely fence the monument off during the ground works, however, it became apparent that this was not going to be possible due to the area of the monument extending into the gated access to the area. As such, it was agreed that the area of the monument within the proposed development area be covered, as per the WSI (*Appendix A*). The covering consisted for plastic geo-grid and terram geotextile (Plate 1), laid directly on top of the existing grass and topsoil, overlaid by crushed stone (Plate 2). The heras-style security fencing which had been erected initially was maintained along the line of the proposed permanent fence-line prior to installation, with notices placed along the length regarding the monuments status as a scheduled monument (Plate 3). Following the installation of the fence-line, the protective covering was further covered by approximately 1m of sandy clay fill material.

Plate 1: Geogrid and terram covering

Plate 2: Stone covering being laid

Plate 3: Covering of the monument completed

3.3 Fence installation monitoring

3.3.1 Following completion of the covering of the monument (*Section 3.2*) and the strip, map and record in the vicinity of the monument (OA North 2022), the installation of the permanent fence-line was undertaken. These works were monitored by an archaeologist throughout, including monitoring the tractor-mounted post-driver installing the main section of the fence (Plate 4) and the hand excavation of two gate post pits within the scheduled monument area.

Plate 4: Fencing installed, looking north-east

3.3.2 The two pits were excavated 0.5m square in plan and excavated to a depth of 0.8m below ground level (Plates 5 and 6). Natural geology was not encountered within the pit, with the earliest deposit being subsoil ***3501***, mid-reddish brown sandy silt, approximately 0.52m thick, which was, in turn, overlain by topsoil ***3500***, mid-brownish grey sandy silt, approximately 0.28m thick. There were no finds recovered from either pit.

Plate 5: East-facing section of southern gate post pit

Plate 6: West-facing section of northern gate post pit

3.4 Embankment removal and drainage trench

3.4.1 An area approximately 4m wide at the northern end and 6m wide at the southern end, immediately to the west of the existing highway, was excavated to a depth of between 0.9 and 1.4m removing the existing embankment for the widening of the highway and installation of new surface water drainage. The majority of this excavation cut through the sandy clay fill material which had been laid over the protective covering of the

monument and up to the edge of the original highway; however, the method of excavating this area, working from the existing highway, where the protective covering did not extend to the edge of the original highway, resulted in some of the topsoil, ***3500***, being removed to the underlying subsoil, ***3501*** (Plates 7 and 8). However, the excavation works were entirely monitored and there was no evidence of archaeological features encountered. Following the excavation, crushed stone was laid in the base and compacted with a roller (Plate 9).

Plate 7: East-facing section of excavation towards the southern end of the scheduled monument methodology area

Plate 8: East-facing section of excavation towards the northern end of scheduled monument methodology area

Plate 9: Excavations complete and building the level back up with crushed and compacted stone

3.5 Lighting column installation monitoring

3.5.1 The final works within the scheduled monument methodology area were the excavation of two pits for the installation of lamp posts. The pits were excavated outside of the scheduled monument itself. The pits were both approximately 1m by 1m and were excavated to a maximum depth of 1.8m. Both pits were excavated through the silty clay fill material and the protective stone covering, the southern lamp post pit only broke through into topsoil ***3500*** (Plate 10), whilst the northern lamppost pit appeared to break through topsoil ***3500*** and subsoil ***3501*** (Plate 11).

Plate 10: East-facing section of southern lamp post pit

Plate 11: East-facing section of northern lamp post pit

4 DISCUSSION

4.1 Watching brief results

4.1.1 The watching brief successfully monitored the laying of a protective covering layer within the scheduled monument methodology area, although part of this area, that closest to the original highway, was not covered due to vegetation being in place when the majority of the cover was laid. When the vegetation was removed, a substantial layer of fill material was laid over the protective cover and the embankment to the original highway, however, this was not monitored.

4.1.2 The permanent fence-line through the monument, including excavation of two pits for the installation of gate posts was successfully monitored. The excavation works for the removal of the existing highway embankment and installation of drainage was also monitored through the scheduled monument area. The eastern edge of the protective covering was broken by these works, with the excavation penetrating through the topsoil ***3500*** and into subsoil ***3501***; these works were almost entirely undertaken outside of the scheduled monument area. Although the protective covering was broken there was no evidence of archaeological remains within the area monitored.

4.1.3 The final element of excavation within the scheduled monument methodology area was for the installation of two lamp posts. This work was entirely monitored, with both pits breaking through the protective covering into the topsoil and subsoil, and again, no archaeological remains were encountered in either of these pits.

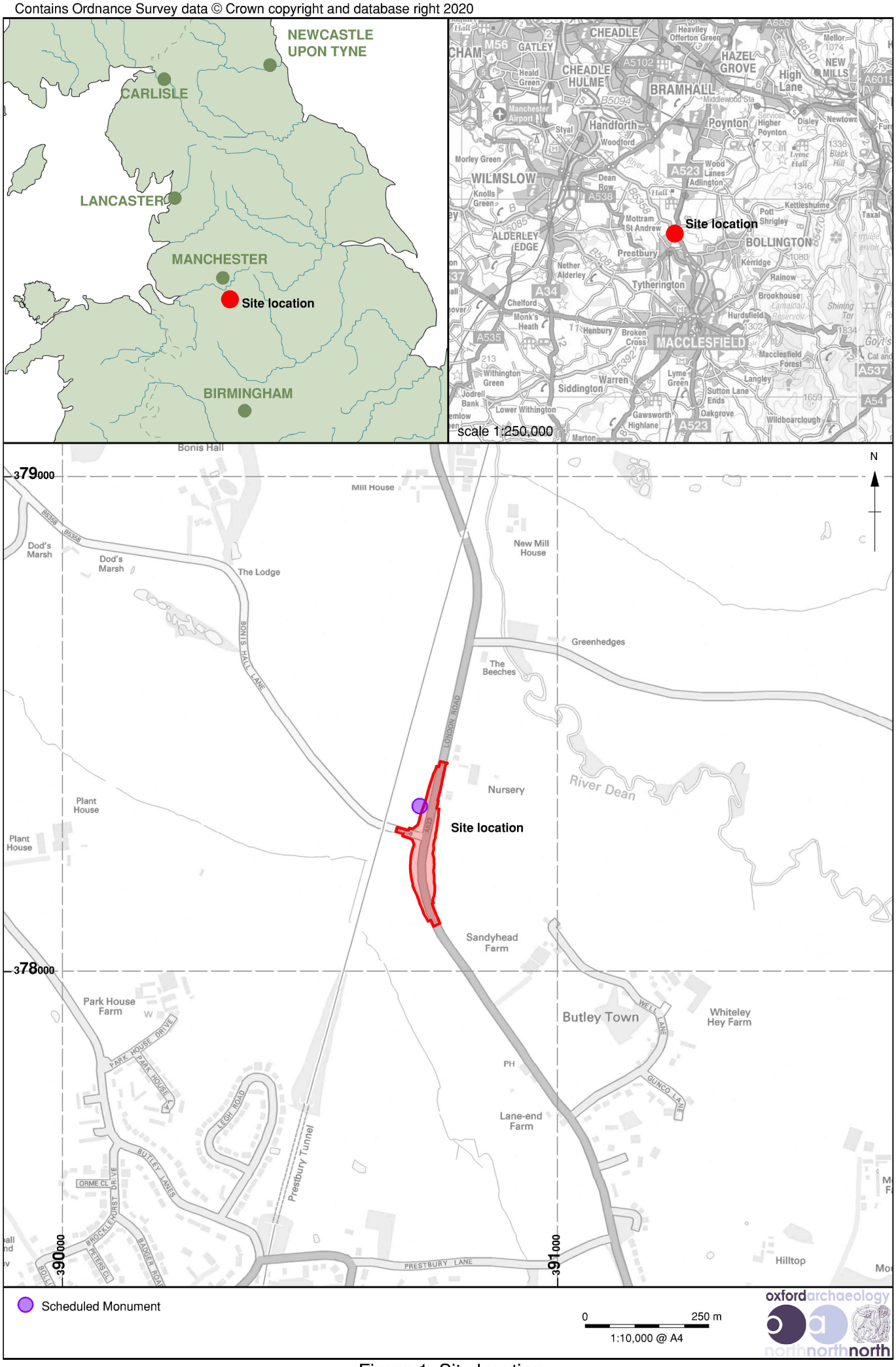

Figure 1: Site location

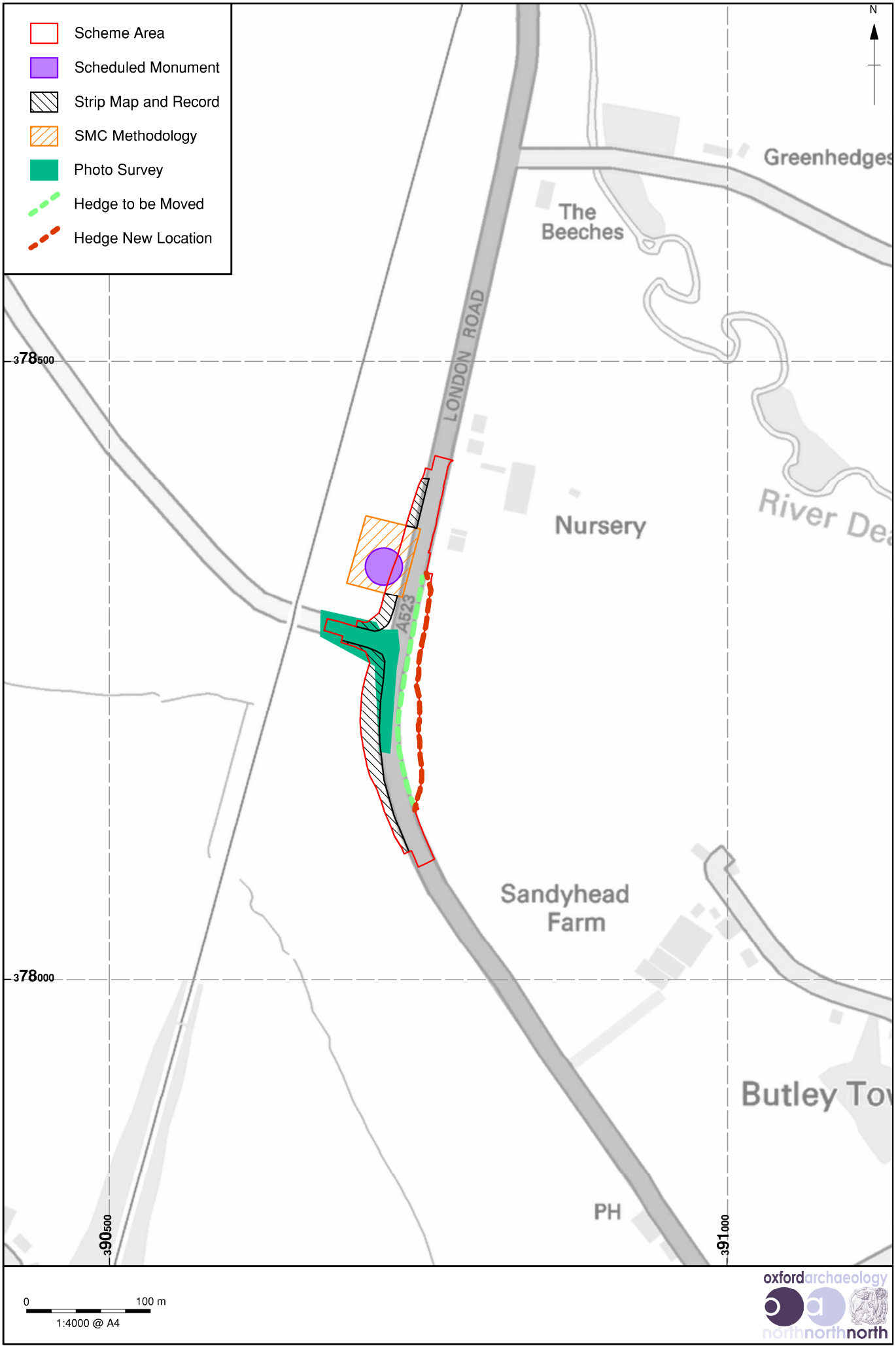

Figure 2: Archaeological Mitigation Strategies

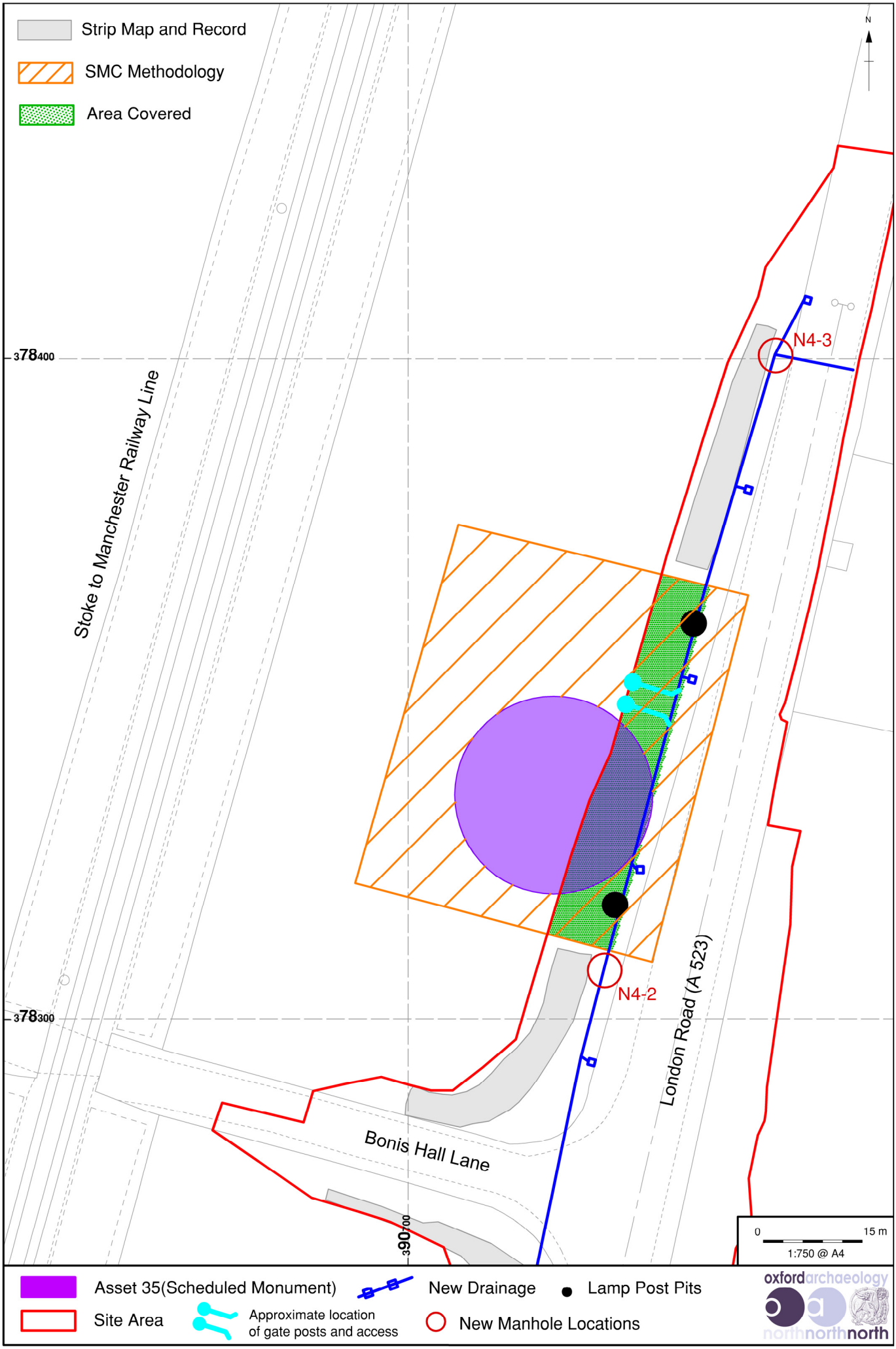

Figure 3: Watching brief elements monitored around Asset 35

APPENDIX A WRITTEN SCHEME OF INVESTIGATION

A523 Poynton Relief Road, Asset 35 Bowl Barrow, Cheshire East

Written Scheme of Investigation
Archaeological Investigation

June 2020

Client: Graham Construction

Issue No: V. 2
OA Reference No: L11309
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Site Code:	PRR20
Invoice Code:	L11309
OA Document File Location:	X:\Paul\Projects\Poynton_Relief_Road\WSI
OA Graphics File Location:	X:\Paul\Projects\Poynton_Relief_Road\WSI\Figs
Issue No:	V. 2
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A523 Poynton Relief Road, Asset 35 Bowl Barrow, Cheshire East

Written Scheme of Investigation for an Archaeological Investigation

Centred on SJ 90712 78307

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1 INTRODUCTION

1.1 Project details

1.1.1 Oxford Archaeology (OA) North has been commissioned by Graham Construction to undertake an archaeological investigation of the site of the proposed Poynton Relief Road, starting just south of Kitt's Moss, Stockport Metropolitan Borough Council (SMBC; NGR: SJ 89939 83800) and continuing south to just west of Butley Town, Cheshire East Council (CEC; NGR: 90754 78097).

1.1.2 In accordance with Planning Condition 41 set by SMBC (planning ref: DC/063174) and Condition 39 set by CEC (planning ref: 16/4436M), no development shall take place until the applicant or their agents or their successors in title have secured the implementation of a programme of archaeological works. As such, Arcadis Consulting (UK) Limited produced an Archaeological Mitigation Strategy (2020) for Graham Construction on behalf of CEC and SMBC. In consultation with the Greater Manchester Archaeological Advisory Service (GMAAS; engaged by SMBC to provide advice on cultural heritage matters) and Cheshire Archaeological Planning Advisory Service (CAPAS; engaged by CEC to provide advice on cultural heritage matters), and the Archaeological Mitigation Strategy outlined proposals for a programme of archaeological works to mitigate the impact of the scheme on heritage assets that lay within the road corridor. As currently envisaged, this work comprises:

- Stage 1: Approach and Overarching Written Scheme of Investigation (WSI)
- Stage 2A: Photographic Survey
- Stage 2B: Protection During Construction
- Stage 2C: Earthwork Survey
- Stage 2D: Archaeological Evaluation
- Stage 2E: Defined Targeted Archaeological Excavation
- Stage 2F: Detailed WSI for Scheduled Monument
- Stage 2G: Defined Strip, Map and Record Excavation (SMR)
- Stage 3A: Potential Targeted Archaeological Excavation
- Stage 3B: Scheduled Monument Watching Brief
- Stage 4A: Cultural Heritage Asset Management Plan
- Stage 4B: Post-Excavation Assessment
- Stage 5: Post-Excavation Analysis, Reporting and Archiving
- Stage 6: Publication

1.1.3 This document, compiled by OA North, comprises Stage 2f, detailed WSI for Scheduled Monument (often referred to as a Project Design in archaeological guidance documents (e.g. Historic England's *Management of Projects in the Historic Environment* (MoRPHE; 2014)). It presents detailed methodologies for the archaeological works to be undertaken in advance of and in association with the development in the vicinity of the Scheduled Bowl Barrow (NMR 1007379). It has been compiled in accordance with the requirements of the *National Planning Policy Framework* (*NPPF*; Ministry of Housing, Communities and Local Government 2018) and standard guidance produced by the Chartered Institute for Archaeologists (CIfA) and Historic England (HE), including:

- *The Code of Conduct* (CIfA 2019);
- *Management of Projects in the Historic Environment* (MoRPHE; HE 2014);
- *Understanding historic buildings; a guide to good recording practice* (HE 2016);
- *Standard and guidance for archaeological excavation* (CIfA 2014a);
- *Standard and guidance for archaeological watching brief* (CIfA 2014b)
- *Standard and guidance for the creation, compilation, transfer and deposition of archaeological archives* (CIfA 2014c).

1.1.4 In addition to the above documents, salient information and direction acquired through liaison with the local authority planning archaeologist to SMBC (GMAAS) and CEC (CAPAS) will be incorporated as appropriate, and the WSI will be submitted for approval by GMAAS and CAPAS and the Principal Archaeologist at Arcadis, who has been engaged by Graham Construction to supervise the archaeological works. GMAAS, CAPAS and Arcadis are henceforth referred to as 'the Monitoring Archaeologists'.

1.1.5 Archaeological investigation is a staged and often iterative process, where the early stages of work (such as those that seek to characterise the nature of heritage assets) can influence and feed into the approaches and methodologies utilised for succeeding stages (such as those that seek to mitigate the effects of development upon a characterised asset, i.e. targeted or detailed excavation). Accordingly, it is expected that there would be regular liaison with the client and the Monitoring Archaeologists, and that any amendments to the archaeological strategy arising from such liaison would be incorporated into this WSI. Thus, whilst the first iteration of the WSI will be a comprehensive document, written to cover a range of situations, it should be seen as a working document that would be periodically updated to reflect any evolution in the scope of works or changes to fine detail.

1.2 Location, topography and geology

1.2.1 The Scheduled Monument is located on the western side of the A523 London Road and north of Bonis Hall Lane (Fig 1). The part of the route which includes the scheduled monument is located on undulating pasture (Arcadis 2020).

1.2.2 The solid geology of this section of the route consists of Pebbly (gravelly) Sandstone of the Chester Formation, deposited during the Triassic Period (British Geological Survey (BGS) 2020). The superficial deposits are classified as Sand and Gravel, Glaciofluvial Sheet Deposits, deposited during the Devensian Period (*ibid*). The soils are classified as freely draining slightly acid loamy soils (Cranfield 2020).

1.3 Oxford Archaeology North

1.3.1 OA North, formerly the Lancaster University Archaeological Unit (LUAU), has considerable experience of sites of all periods, having undertaken a great number of small and large scale projects throughout northern England during the past 44 years. Evaluations, assessments, watching briefs and excavations have taken place within the planning process, to fulfil the requirements of clients and planning authorities, to very rigorous timetables.

1.3.2 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 a Chartered Institute for Archaeologists (CIfA) registered organisation, registration number 17, and all its members of staff operate subject to the CIfA Code of Conduct (2014a).

2 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND AND POTENTIAL

2.1 Archaeological and historical background

2.1.1 A detailed synopsis of the known archaeological resource within the development area is presented in the Archaeological Mitigation Strategy (Arcadis 2020) and will not be reiterated here. A total of 52 heritage assets were identified within the study area, consisting of 19 archaeological remains, 23 historic buildings and 10 historic landscapes (*ibid*).

2.1.2 The Bowl barrow listing states that although there has been some spreading of the monument by past ploughing, the bowl barrow survives reasonably well and it is likely to contain undisturbed archaeological deposits within the mound and upon the old land surface beneath (Historic England 2020). Bowl barrows are specifically circular earthen mounds with profiles reminiscent of "inverted pudding bowls" (Field 2011), surrounded by a ditch and somethings a bank but with no intervening berm (Jacobs 2016b). They generally date from the Late Neolithic to Early Bronze Age periods, with many examples belonging to the period 2,400-1,500 BC, and they are considered to be the most numerous form of round barrow (*ibid*). They are often located in prominent positions in the landscape, and many have acted as a focus for later burials, particularly dating to the early medieval period (Field 2011). Their prominence has led to their incorporation into field and parish boundaries (*ibid*).

2.1.3 A barrow was found at what is believed to be this location by men prospecting for gravel in 1809, and an account of the discovery was recorded by George Ormerod in volume 3 of his *History of the County Palatine and City of Chester* (1819). He describes the location rather loosely (*ibid),* the current location was fixed by the Ordnance Survey in 1873 (Jacobs 2016a). The Cheshire Historic Environment record notes that the finds are now lost.

2.1.4 A geophysical (magnetometer) survey was conducted in 2016 and covered approximately 11 hectares of agricultural land within the scheme boundary in order to provide additional information on the archaeological potential (Headland 2016). No anomalies of clear archaeological origin had been identified within the survey, although a cluster of ambiguous anomalies around the Scheduled Bowl Barrow (NMR: 1007379; Asset 35) were interpreted as being of possible archaeological origin (*ibid*). Historic England are of the opinion that undisturbed archaeological deposits may be preserved within the mound, and on the historic land surface beneath it.

3 PROJECT AIMS

3.1 General

3.1.1 The overall aims and objectives for the programme of archaeological works are:

- to further establish the extent and nature of the archaeological resource within the proposed development area for mitigation works;
- to mitigate potential impacts of the project through archaeological recording;
- to attempt to establish the date of any deposits encountered through the recovery of artefacts and ecofacts;
- to establish the environmental significance of deposits by targeted environmental sampling, processing, and assessment; and
- to place any archaeological discoveries into the local and, where appropriate, regional/national context. In addition, the implications of any such discoveries for our current understanding of the development of settlement in the area can be assessed.

3.2 Specific aims and objectives

3.2.1 The specific aims and objectives are:

- to generate an archive which will allow future research of the remains to be undertaken if appropriate; and
- to disseminate the results of the work in a format and manner proportionate to the significance of the findings, if necessary.

4 METHOD STATEMENT

4.1 Introduction

4.1.1 The following work programme is submitted in line with the aims and objectives summarised above, in accordance with the *Archaeological Mitigation Strategy* (Arcadis 2020), and with the guidance of the Chartered Institute for Archaeologists (CIfA 2014a; 2014b; 2014c; 2014d). OA North's general methodologies are presented in the *Appendices*. Chapter 8, Cultural Heritage, of the Environmental Statement which was produced for the project (Jacobs 2016b) stated that the mitigation of Asset 35 would be by preservation *in-situ*. As such, the key principals of this WSI will be to preserve the bowl barrow *in-situ*.

4.1.2 A specific Mitigation Strategy document had been produced by Jacobs (2016a) for preservation *in-situ* of Asset 35. As part of the production of the Mitigation Strategy, consultation between Jacobs and Historic England were held and it was ultimately decided that due to the small size and peripheral nature of the monument, that preservation of the monument *in situ* was suitable mitigation (*ibid*).

4.2 Key Roles, Responsibilities and Interfaces

4.2.1 All stakeholders must understand their responsibilities and roles.

Stakeholder	Key Responsibilities in respect of the works
Graham Construction	The Client: funding a programme of works that meets the requirements of the conditions of planning permission. Establish site access, including vegetation clearance and liaison with landowners and stakeholders. Assist with liaison with specialist contractors to undertake civils works that would facilitate, but otherwise lie outside the scope of archaeological works
Arcadis	Archaeological Advisor to Graham Construction: Monitor the archaeological works on behalf of Graham Construction to ensure that they are appropriate, efficient and meet the requirements of the conditions of planning permission
Cheshire Archaeology Planning Advisory Service (CAPAS)	Monitor the archaeological works on behalf of CEC, to ensure that they meet the requirements of the conditions of planning permission
OA North - general	Undertake programme of works in accordance with this WSI, while adhering to a safe system of working (under regular review with Graham Construction)
OA North Senior Project Manager	Manage the on-site and off-site archaeological investigation, analysis and reporting, including aspects of programming, logistics, staffing, liaison with client, contractors and the Monitoring Archaeologists, health and safety, cost management and archaeological methodology
OA North Operations Manager	Ensure that staffing requirements are met and to oversee the overall quality and cost-effectiveness of the archaeological work
OA Health and Safety Advisor	Provide advice and consultation to the Project manager
OA North Site Director	Oversee and co-ordinate the efficient undertaking of on-site fieldwork being undertaken by teams at several locations at once in order to meet the project programme
OA North Site Supervisors	Responsible for directing teams at individual investigation areas

OA North Specialists	In-house finds and palaeoenvironmental specialists (many of whom would be involved with the Poynton Relief Road to dispense advice and undertake specialist assessment and analyses

Table 1: Summary of Key Stakeholders, Roles and Responsibilities

4.2.2 ***Communications and monitoring***: all communications will follow an agreed protocol. Stakeholders will be notified when responses are required in response to specific matters. Monitoring of the works will be undertaken on behalf of Graham Construction by Arcadis, on behalf of CEC by CAPAS. Monitoring of the archaeological works may also be undertaken by the Historic England Regional Inspector of Monuments and Regional Science Advisor, who will be afforded reasonable access to the site, if required.

4.2.3 Monitoring meetings will be established with Graham Construction, the Monitoring Archaeologists, and OA North as required. The following is anticipated:

- at the beginning of the programme;
- during the fieldwork (the frequency of such visits will be dictated to some extent by the finds on site);
- at the completion of each fieldwork activity;
- during the design of the post-excavation programme to ensure that the proposed post-excavation works are appropriate, meet the relevant requirements and any other conditions, sufficiently resourced and adequately programmed; and
- at appropriate points during the post-excavation work.

4.2.4 In addition, the OA North Project Manager will:

- provide notification of all proposals, start and completion dates, as well as regular updates on findings and progress, and any requested changes to the programme and scope of the works. Particularly close liaison will be required prior to the commencement of works, in order to ensure that all health and safety measures and welfare facilities are in place;
- health and safety documents would be compiled well in advance of the fieldwork and will be distributed appropriately;
- maintain regular email contact to ensure that any significant results/matters during any stage of the works, are brought to the attention of Graham Construction as soon as is practically possible and in any event within 24 hours, to address specific issues, highlight findings, provide information, communicate when sites were completed and could be returned to the landowner, or to seek guidance;
- compile and circulate Monitoring Reports at appropriate intervals, which will present updates on archaeological finds and progress, including when sites were completed and ready for handover, health, safety and environment matters, other matters, such as logistics, correspondence and

communications; summaries of resources deployed to the project; works planned for the next period;

- compile Early warnings, with spreadsheets presenting details of projected costs and variations, at appropriate points;
- make applications for payment on a monthly basis to meet the project schedule. These could be clearly correlated with supporting information, including the timesheet data in the weekly monitoring reports, and the spreadsheets dealing with cost variations.

4.2.5 ***Key Dates***: the key dates for the completion of the archaeological works will be established with Graham Construction.

4.2.6 ***Interdependencies and programming***: reflect the following:

- no works can commence until this **Written Scheme of Investigation** has been compiled and approved (Stage 2f);
- compilation of **Risk Assessment and Method Statements** (RAMS) for each task will also commence upon commissioning. These will be submitted for approval and updated with new information throughout the works;
- it is expected that access arrangements for the different archaeological works will commence early in the programme.

4.2.7 ***Access***: access arrangements will be made by Graham Construction, CEC and will be communicated to OA North. OA North will adhere to all such access arrangements, traffic plans, and agreed routes.

4.2.8 ***Setting out***: Graham Construction will undertake setting out and service checking of the wider archaeological areas, including any associated access tracks, and also areas for spoil bunding and, where required, areas to be used for welfare and haul roads. Within those wider areas, OA North will set out any specific investigation areas (for example, individual targeted excavation trenches).

4.2.9 ***Site set-up and welfare facilities***: the location of welfare facilities will be agreed with Graham Construction. It is expected that the welfare area will include:

- office and filing facilities for the archaeological site director and surveyor, enabling them to download and process survey data into GIS and print out the result plans;
- toilet, changing, drying and washing facilities adequate for four people, dependent on agreed scope of works and timetables with due consideration to the requirements of male and female staff;
- mess/rest room adequate for four people;
- storage for tools and finds;
- parking for works vehicles;
- transport between work and welfare areas will be by 4x4 vehicles fitted with metal bulkheads or with a crewcab/storage arrangement;

- additional facilities will be deployed where necessary in order to accommodate any expansion of the archaeological field team to meet the work programme.

4.2.10 ***Fencing requirements***: where welfare and storage areas are not within secured areas (for example, within a farmer's yard or works compound), they will be secured with heras fencing. It is understood that Graham Construction will secure the works areas for intrusive archaeological investigation with heras or similar fencing. Within those areas, any areas of deeper excavation can be demarcated with netlon or hazard tape supported on plastic posts or road pins until they have been recorded and backfilled.

4.2.11 ***General notes applicable to all fieldwork methodologies***: throughout the archaeological works, OA North staff will:

- as appropriate, liaise with Graham Construction and Arcadis;
- prepare and update RAMS;
- undergo Graham Construction project induction;
- in advance of each works component, be inducted on the OA North RAMS and briefed on their tasks, roles and responsibilities for that work component;
- understand and comply with access arrangements, agreed routes, exclusion zones;
- comply with project protocols and site rules;
- wear appropriate personal protective equipment, including branded OA North high-visibility clothing and carry project identification;
- where required to do so, present themselves for introduction to landowners/tenants.

4.3 Stage 2a: Photographic Survey

4.3.1 The aim of the investigations is to record the structures in appropriate detail so that there is a record of their appearance and characteristics, pending an adverse impact from the development. Where access can be granted and a view cannot be gained from nearby land, this will be clearly stated within the final report.

4.3.2 ***Photography***: an indexed photographic archive will be produced utilising a high-resolution digital SLR camera (18 megapixel). It will record:

- the external appearance and setting of the structures, including a mixture of general shots and detailed views taken from perpendicular and oblique angles;
- a photo location plan, showing the positions from which the photographs were taken.

4.3.3 ***Report***: following completion of the surveys and fieldwork, a report on the findings along with evidence of successful protection of assets during construction will be produced at Stage 5. The survey of Assets 35 will be incorporated into the Archaeological Report.

4.4 Stage 2b: Protection During Construction

4.4.1 The Scheduled Monuments Consent clearly states that the Scheduled Bowl Barrow (Asset 35) should be adequately protected and signed during all stages of the works, including restrictions on the operation of equipment and machinery, vegetation clearances and erection of fencing. The Mitigation Strategy (Jacobs 2016a) states how the monument will be preserved *in-situ* throughout the construction and operation phases.

4.4.2 ***Communication***: all personnel involved in the construction phase of works will be briefed in the nature and sensitivity of the barrow, specifically its legal status as a Scheduled Monument and the measures which are being taken to protect it during construction. Prominent signage will be displayed, stating that no construction activity is to proceed in the protected area without authorisation. The signs will also include information on the barrows legal status and the measures being taken to protect it during construction. The signs will be affixed to temporary fences or barriers demarcating the protected area, prior to the erection of the permanent boundary fences.

4.4.3 ***Fencing***: the lines of the temporary fencing (solid blue line) and the permanent highway boundary fence (red dashed line) are shown on figure 2. The line of the temporary fence is shown running through the protected area, this fencing should be heras-style security fencing, so as not to impact upon the monument. The permanent highway boundary is likely to involve timber uprights driven to a depth of 0.7m below the existing ground level (Highways England 2016). If foundation pits are required to be excavated within the protected area, their excavation will be monitored by a suitably qualified and experienced archaeologist to ensure archaeological remains are identified and recorded, as per OA's standard recording methodologies (*Appendix A*).

4.4.4 ***Vegetation Clearance***: before the commencement of the construction works, trees and shrubs associated with existing hedges will be removed using hand-held power tools, this will avoid any accidental damage to buried archaeological remains. This work will also be carried out during a dry period to minimise the risk of damage to the topsoil and underlying archaeological remains. All works will be undertaken under supervision by a suitably qualified and experienced archaeologist, they will ensure that the works are undertaken to this methodology and that if any archaeological remains are identified they will record them, as per OA's standard recording methodologies (*Appendix A*).

4.4.5 ***Separator Layer***: liaison with the client has suggested that the construction works will be undertaken from the existing carriageway, rather than requiring to cover the monument to allow the construction works to be undertaken. However, if the monument is to be covered during construction works, a geotextile separator layer shall be laid directly onto the *in situ* topsoil throughout the protected area with an overlap between the sheets of 0.5m. The use of a geotextile separator will reduce the degree of ground preparation required for construction of the earthwork embankment, and also prevent the mixing of embankment material with the underlying formation layers.

4.4.6 ***Earthwork Construction***: all vehicle movements across the protected area will be prohibited, which as stated above will be demarcated by fencing and signage. If the monument is to be covered, to protect it during the construction works, the sub-grade fill material will be end-tipped by dump truck and spread in layers by a 360° tracked mechanical excavator working from the existing carriageway. End-tipping onto the geotextile separator layer will minimise damage to the protector layer and the underlying archaeological remains, then end-tipping onto previously laid material once a start area had been formed. To bridge areas of soft ground, and reduce the potential of compaction of the below ground, a load spreading geogrid may be installed above the geotextile separator layer.

4.4.7 The plant used for the compaction of the fill material will be carefully selected to minimise the risk of accidental damage to the monument and also to minimise the potential for avoidable compaction of the underlying soils. It is considered that a tandem roller of between 2,300 kg and 2,900 kg would be sufficient to achieve an acceptable level of compaction without harming the buried archaeological remains.

4.4.8 ***Drainage***: it is anticipated that a new drainage system will be required and will replicate the existing system, being constructed within the fill material of the highway earthwork. This would avoid the need for excavation within the protected area as well as ensuring limited change to the local groundwater regime.

4.4.9 ***Planting works***: following completion of the construction works, the earthwork will be covered with a layer of topsoil, which shall be sown with grass seed of a similar mix to that already present on the site. A hedgerow of native plants will also be planted within the permanent highway boundary fence. However, no planting will take place within the protected area. The setting out and preparation of the hedgerow and tree planting works will be monitored by a suitably qualified and experienced archaeologist, this will ensure compliance with this agreed methodology.

4.4.10 ***Monitoring***: all construction works involving ground disturbance, or the potential to cause accidental damage to the buried archaeological remains, within the protected area shall be monitored by a suitably qualified and experienced archaeologist to ensure compliance with the proposed methodology. These works will include, but not be limited to: erection of temporary and permanent fencing, vegetation clearance, installation of geotextile separator, deposition and compaction of fill material and the planting of hedgerow and trees.

4.5 Stage 2g: Defined Strip, Map and Record Excavation (SMR)

4.5.1 The methodology for Stage 2g SMR, has already been detailed in the Overarching WSI, however, it will be repeated here for completeness. SMR will be undertaken at one location, land affected by the A523/Bonis Hall Lane junction works in the areas around the Scheduled Bowl Barrow (Asset 35; Fig 2). This is due to the high potential for further archaeological remains to be present in this area, outside of the Scheduled Monument boundary.

4.5.2 The aim of the investigation is to expose the extent of archaeological remains within the development footprint, to map those remains, characterise them and, where appropriate, establish and then enact, a programme of more detailed investigation in

agreement with the Client and the Monitoring Archaeologists. By the completion of the works, the remains will have been investigated and recorded in a manner that allows them to be understood, allowing development groundworks to proceed.

4.5.3 ***Stripping and ground reduction***: of the uppermost levels of modern topsoil and subsoil down to the top of the first significant archaeological level will be undertaken by an appropriately sized 360 mechanical excavator fitted with a toothless ditching bucket, operating under the direct supervision of a suitably experienced archaeologist. Topsoil will be removed in a series of spits no greater than 0.1m thick, but the final 'take' down to the top of the uppermost archaeological horizon or the surface of the natural substrate (whichever is encountered first) will aim to leave a smooth, even and clean stripped surface, with a minimum of smearing, polishing and rutting, across a wide area which can then be inspected by the attendant archaeologist for any features of archaeological interest. As far as practicable, the excavated arisings will be inspected in order to collect any topsoil finds. Where there is a subsoil interface horizon above the surface of the natural drift geology, this too will be removed by machine, ensuring that the final 'take' leaves the uppermost surface of the drift geology smooth, even and clean, with a minimum of smearing, polishing and rutting. Topsoil and subsoil will be removed and stored separately adjacent to the excavation area.

4.5.4 Spoil from the excavation will stored in designated stockpiles, ready to be returned to the excavation area upon completion of the archaeological works. Fitted with appropriate-sized toothless buckets, the machine will be used to carefully define the extent of any surviving post-medieval structures and other remains, and to remove demolition and overburden deposits between any post-medieval structural remains. Thereafter, structural remains will be cleaned manually to define their extent, nature, form and function.

4.5.5 ***Pre-excavation plan***: an accurate, detailed survey plan of the three-dimensional position of archaeological structures and features will be generated through, as appropriate, dGPS, TST and/or a mosaic of overhead photography tied to surveyed fixed points and synthesised in an appropriate computer programme. This process will generate scaled plans within AutoCAD or GIS software, which will then be subject to manual survey enhancement, annotation on site and additional detailed survey as appropriate. The drawings will be generated at an accuracy appropriate for 1:20 scale, but can be output at any scale required.

4.5.6 ***Intrusive sample investigation***: the aim of the sample investigation is to characterise the nature of the remains revealed by the programme of stripping. Accordingly, an allowance has been made for the excavation of ten interventions per hectare of stripped ground. Where there is a very low density of archaeological remains, the sample excavation may be sufficient to investigate and record the features in enough detail to mitigate the impact of the development. Otherwise, the sample excavation should yield sufficient information to characterise the archaeological remains and to inform proposals for a programme of more detailed excavation.

4.5.7 A selection of accessible uncontaminated features of archaeological significance will be sample-excavated in a series of slots. Unless agreed otherwise with the Monitoring Archaeologists, all investigation of intact archaeological deposits will be exclusively

manual and, where possible, will be completely excavated down to naturally occurring deposits or impact depth, whichever is encountered first. Following characterisation and recording, a machine would be used to remove extensive homogenous deposits, or those that could not be effectively removed by hand.

4.5.8 All investigation slots through features that aim to cut across the profile of the feature will be at least 1m wide, unless that would preclude examination of termini or relationships with other features. Following standard OA health and safety procedures, slots will be initially excavated to a maximum safe depth of 1m below the surface of the surrounding substrate, or to a more shallow depth, dependent on the stability of that material (information relating to deep excavation will be included within the site-specific Health and Safety RAMS). Where the bottom of the feature is not reached within a safe depth, the sections will be recorded, and any soil samples taken, and the top of the slot will be widened using an appropriate mechanical excavator. Deeper hand excavation will then resume, repeating the process as necessary.

4.5.9 General methodologies for recording, palaeoenvironmental sampling, finds recovery, human remains and treasure are outlined in the *Appendices* and would be utilised as appropriate to meet the aims and scope of the SMR.

4.5.10 ***Monitoring***: depending on the results, CAPAS may carry out monitoring visits to inspect the fieldwork. On completion, a site meeting between the Monitoring Archaeologists is likely to be required to agree completion of the SMR. Once permission has been granted by CAPAS, the SMR area will be released for construction. As SMR will be taking place in four locations around the junction, if required to expedite the construction programme, efforts will be made to release individual areas for construction while archaeological works continue in other areas.

4.5.11 ***Reporting***: will follow OA North's general methodologies presented in *Appendix F*.

4.6 Stage 3b: Scheduled Monument Watching Brief

4.6.1 A watching brief adhering to the SMC methodology, will be required in the vicinity of Asset 35, in areas demarcated for preservation *in situ*. All construction works involving ground disturbance within the protected area will be monitored by a suitably qualified and experienced archaeologist to ensure compliance with the proposed methodology. It is expected that at least one archaeologist will be deployed to monitor the works. A daily record will be maintained throughout the watching brief, recording the areas being worked upon, the nature and amount of plant being used and to what purpose, and the number of archaeologists deployed.

4.6.2 In the unlikely event that archaeological remains are discovered during the watching brief, localised construction activities will be paused (to a reasonable extent to enable the archaeologists to work), with a suitable buffer zone, fencing off the areas with high visibility netlon fencing supporting on plastic poles. Methodologies for recording, palaeoenvironmental sampling, finds recovery, human remains and treasure, outlined in the *Appendices* and would be utilised as appropriate to meet the aims and scope of the investigation.

5 PROJECT SPECIFIC REPORTING AND ARCHIVE METHODOLOGY

5.1 Programme

5.1.1 The reporting will follow OA North's standard methodology outlined in *Appendix F*. There are three stages relating to the post-excavation works, Stage 4a Cultural Heritage Asset Management Plan; Stage 4b Post-Excavation Assessment; Stage 5 Post-Excavation Analysis, Reporting and Archiving; and Stage 6 Publication.

5.1.2 Copies of the reports will be provided in Adobe Acrobat (.pdf) format to the Client and the Monitoring Archaeologists for review and approval. Once approved, a digital copy of the report will also be provided to the Historic Environment Record Officers for CAPAS, for inclusion within the Historic Environment Record.

5.2 Stage 4a: Cultural Heritage Asset Management Plan

5.2.1 Following completion of the watching brief and construction in the vicinity of the Scheduled Bowl Barrow (Asset 35), a Cultural Heritage Asset Management Plan (CHAMP) will be produced, it will then be reviewed by the Client and the Monitoring Archaeologists. The CHAMP will be submitted to the Client as part of the 'as-built' information.

5.2.2 The CHAMP will include information on the long-term management of the Scheduled Monument, including:

- a description and brief overview of the archaeological background of the monument;
- legal status;
- current condition, including the results of the photographic survey (Stage 2a), the means of its preservation *in situ* (Stage 2b), and the results of the watching brief (Stage 3b);
- aims and objectives of the management plan; and
- proposals for monitoring and review of both its condition and the effectiveness of the CHAMP in maintaining preservation *in situ*.

5.3 Stage 4b: Post-Excavation Assessment

5.3.1 An assessment of the archive will be undertaken, and the resource requirements for analysis (Stage 5) and publication (Stage 6) will be defined, in accordance with the guidelines of MAP2 (English Heritage 1991). This will involve an assessment of the dataset, followed by a review of the project archive to establish the potential for further analysis. The assessment will take place in close consultation with the client, and the format for the final report will also be agreed at this stage of the work. The Harris Matrix, largely produced during the excavation programme, will be completed and checked as part of the assessment. The assessment will involve the compilation of a brief archive report, outlining the significance of the stratigraphic, artefactual and environmental evidence, and presenting recommendations for further analysis, as

appropriate. The report will also include a short summary of the stratigraphic history of the site.

5.3.2 The project assessment will include an updated project specification, which will comprise a full project design for a programme of full analysis and publication, and will be in accordance with MAP2 (English Heritage 1991). This document will be submitted to the client within six months of the completion of the fieldwork.

5.3.3 The report will include a copy of this WSI, and indications of any agreed departure from that design. It will present, summarise, and interpret the results of the programme and present an assessment of the history of the site. The report will include the following:

- a title page detailing site address, National Grid Reference (NGR), author/originating body, client's name and address;
- full content's listing;
- a non-technical summary of the findings of the fieldwork;
- a description of the archaeological background;
- a detailed account of the historical development of the site, as appropriate;
- a description of the topography and geology of the site;
- a description of the methodologies used during the fieldwork;
- a description of the findings of the fieldwork;
- detailed plans of the archaeological areas, showing the archaeological features exposed.
- interpretation of the archaeological features exposed and their context within the surrounding landscape;
- specialist analysis reports on the artefactual/ecofactual/industrial remains from the site;
- appropriate photographs of specific archaeological features. Appropriate photographs of specific finds of interest will also be included, if needed;
- a consideration of the importance of the archaeological remains present on the site in local, regional and national terms;
- a complete bibliography of sources consulted;
- appendices to include a detailed list of all recorded contexts, all retrieved finds, all samples taken, all drawings produced and all photographs taken;
- illustrative material will include a location map, site map, site plans and pertinent photographs.

5.4 Stage 5: Post-Excavation Analysis, Reporting and Archiving

5.4.1 An Archaeological Report will be produced detailing the results of the earthwork surveys, archaeological fieldwork, and the photographic surveys of archaeological

assets. The reports will be issued to the archaeological consultant, principal contractor and the client for their review, prior to submission to CAPAS.

5.4.2 An appropriate programme of analysis should then be undertaken to prepare a research archive, as detailed in Appendix 6 of MAP2; the precise scope for this element will be defined within the updated project specification. Following the analysis of the excavation results, a report will be written which will present, summarise, and interpret the results of the programme and will incorporate specialist reports on artefact assemblages and environmental reports. It will include an index of archaeological features identified in the course of the project, with an assessment of the site's development. It will incorporate appropriate illustrations, including copies of the site plans and section drawings all reduced to an appropriate scale. The archive report will be submitted within 12 months of the completion of the fieldwork.

5.4.3 The archive will conform to guidelines described in the Management of Research Projects in the Historic Environment (MoRPHE; Historic England 2006), CIfA's Standard and Guidance for the creation, compilation, transfer and deposition of archaeological archives (CIfA 2014c). The project archive represents the collation and indexing of all data and material gathered during the course of the project. The paper and digital archive will be deposited with the relevant record offices following completion of the project. An OASIS summary will also be produced, with a copy of the final reports being issued to the Historic Environment Record. A summary of OA North's general approach to documentary archiving can be found in *Appendix H*.

5.5 Stage 6: Publication

5.5.1 Depending upon the results of the fieldwork there may be a requirement for the publication of all or part of the findings of the archaeological work. The scope of the publication will be agreed between the Archaeological Consultant, the Principal Contractor and the Client, following this agreement, the scope of the publication will be agreed with CAPAS.

5.6 Specialist input

5.6.1 OA has a large pool of internal specialists, as well as a network of external specialists with whom OA have well established working relationships. A general list of these specialists is presented in *Appendix G*; in the event that additional input should be required, an updated list of specialists can be supplied.

6 HEALTH AND SAFETY

6.1 Roles and responsibilities

6.1.1 The Senior Project Manager, Paul Dunn, has responsibility for ensuring that safe systems of work are adhered to on site. Elements of this responsibility will be delegated to the Project Officer or Supervisor, who implements these on a day to day basis. Paul Dunn and the Project Officer or Supervisor are supported by OA North's Health and Safety Advisor, Fraser Brown.

6.1.2 The Director with responsibility for Health and Safety at OA is Dan Poore Tech IOSH (Chief Business Officer).

6.2 Method statement and risk assessment

6.2.1 A summary of OA's general approach to health and safety can be found in *Appendix I*. A site-specific risk assessment and method statement has also been undertaken and approved and will be kept on site, along with OA's standard Health and Safety file, which will contain all relevant health and safety documentation. Copies of the site-specific documents will be submitted to the client or their representative for approvals prior to mobilisation, and all relevant Health and Safety documentation will be available on site at all times.

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HE, 2016 *Understanding historic buildings; a guide to good recording practice*, London

HE, 2020 *Bowl barrow 60m north of junction of London Road and Bonis Hall Lane* [Online], available at: https://historicengland.org.uk/listing/the-list/list-entry/1007379 (accessed April 2020)

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Omerod, G., 1819, *History of the County Palatine and City of Chester*, Vol 3

United Kingdom Institute for Conservation (UKIC), 1990 *Guidelines for the preparation of archives for long-term storage*

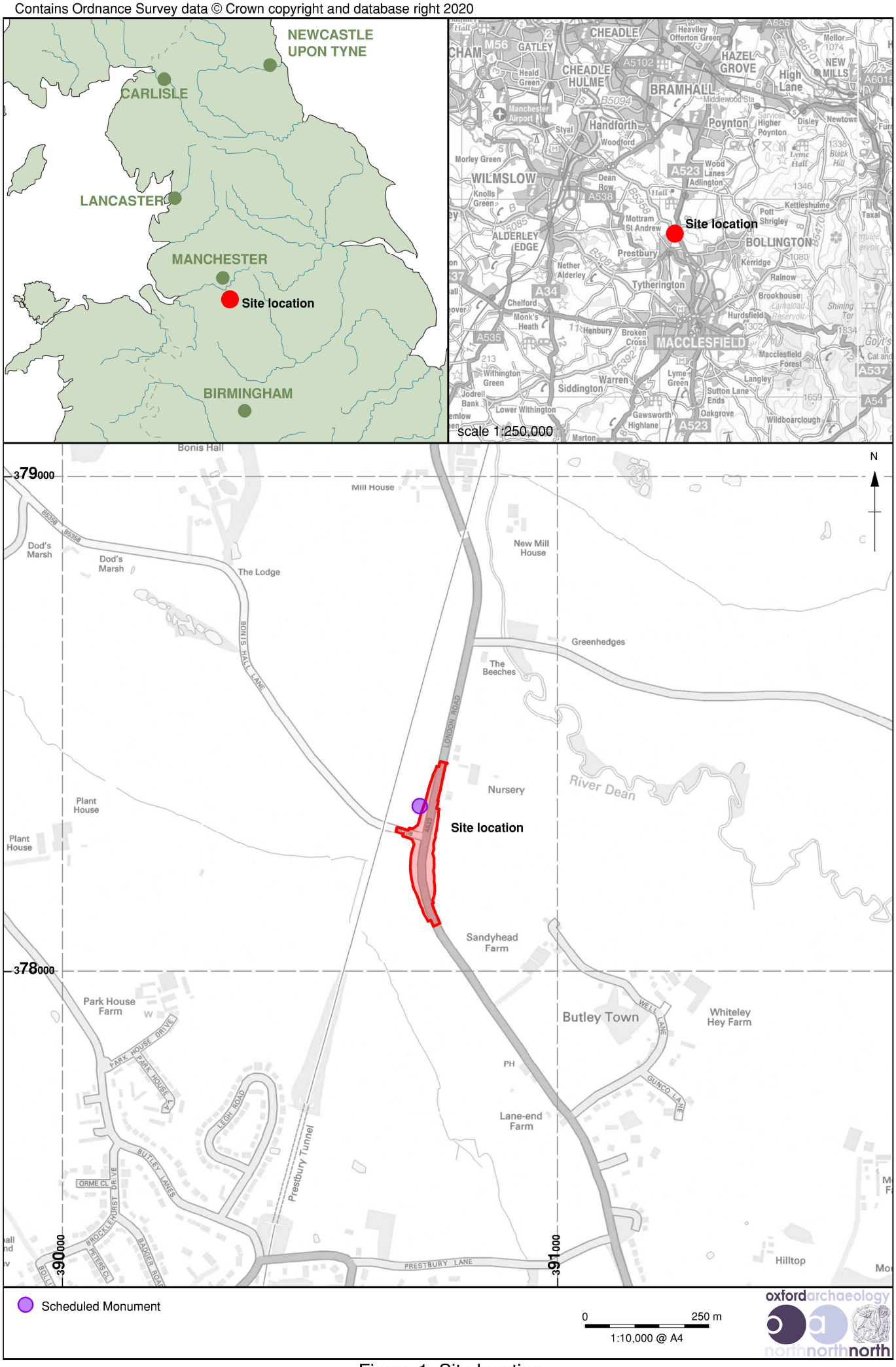

Figure 1: Site location

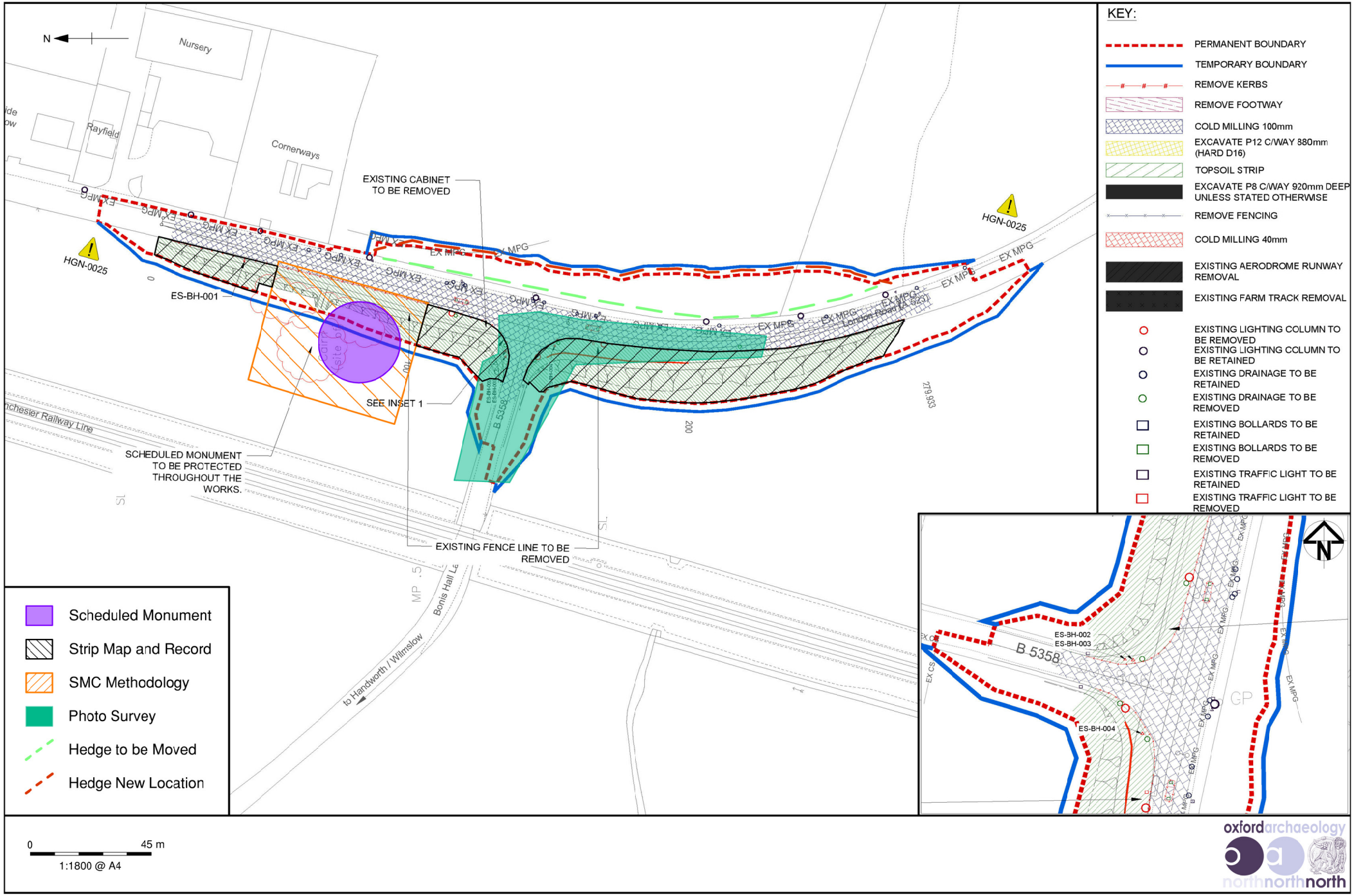

Figure 2: Archaeological Mitigation Strategies

OA STANDARD FIELDWORK METHODOLOGY APPENDICES

The following methods and terms will apply, where appropriate, to all OA fieldwork unless varied by the accompanying detailed Written Scheme of Investigation.
Copies of all OA internal standards and guidelines referred to below are available on request.

APPENDIX A GENERAL EXCAVATION AND RECORDING METHODOLOGY

A.1 Standard methodology – summary

Mechanical excavation

A.1.1 An appropriate mechanical excavator will be used for machine excavation. This will normally be a JCB or 360° tracked excavator with a 1.5 m to 2 m wide toothless ditching bucket. For work with restricted access or working room a mini excavator may be used.

A.1.2 All mechanical excavation will be undertaken under direct archaeological supervision.

A.1.3 All undifferentiated topsoil or overburden of recent origin will be removed down to the first significant archaeological horizon, in successive, level spits.

A.1.4 Following mechanical excavation, all areas that require examination or recording will be cleaned using appropriate hand tools.

A.1.5 Spoil heaps will be monitored in order to recover artefacts to assist in the analysis of the spatial distribution of artefacts. Modern artefacts will be noted but not retained.

A.1.6 After recording, evaluation trenches and test pits will usually be backfilled with excavated material in reverse order of excavation, and compacted as far as is practicable with the mechanical excavator. Area excavations will not normally be backfilled.

Hand excavation

A.1.7 All investigation of archaeological levels will usually be by hand, with cleaning, examination and recording both in plan and section.

A.1.8 Within significant archaeological levels the minimum number and proportion of features required to meet the aims of the excavation will be hand excavated. Pits and postholes will usually be subject to a 50% sample by volume. Linear features will be sectioned as appropriate. More complex features such as those associated with funerary activity will usually be subject to 100% hand excavation.

A.1.9 In the case of evaluations, it is not necessarily the intention that all trial trenches will be fully excavated to natural stratigraphy, but the depth of archaeological deposits across the site will be assessed. The stratigraphy of a representative sample of the evaluation trenches will be recorded even where no archaeological deposits have been identified. Any excavation, both by machine and by hand, will be undertaken with a view to avoiding damage to any archaeological features or deposits, which appear to be worthy of preservation in situ.

Recording

A.1.10 Written descriptions will be recorded on proforma sheets comprising factual data and interpretative elements.

A.1.11 Where stratified deposits are encountered a Harris matrix will be compiled during the course of the excavation.

A.1.12 Plans will normally be drawn at 1:100, but on urban or deeply stratified sites a scale of 1:50 or 1:20 will be used. Detailed plans will be at an appropriate scale. Burials will be drawn at scale 1:10 or recorded using geo-referenced digital photography.

A.1.13 The site grid will be accurately tied into the National Grid and located on the 1:2500 or 1:1250 map of the area.

A.1.14 A register of plans will be kept.

A.1.15 Long sections of showing layers will be drawn at 1:50. Sections of features or short lengths of trenches will be drawn at 1:20.

A.1.16 A register of sections will be kept.

A.1.17 Generally, all sections will be tied in to Ordnance Datum.

A.1.18 A full photographic record, illustrating in both detail and general context the principal features and finds discovered will be maintained. The photographic record will also include working shots to illustrate more generally the nature of the archaeological work.

A.1.19 Photographs will be recorded on OA Photographic Record Sheets.

A.2 Relevant industry standards and guidelines

A.2.1 The Chartered Institute for Archaeologists Standard and Guidance notes relevant to fieldwork are:

- Standard and Guidance for Archaeological Field Evaluation
- Standard and Guidance for Archaeological Excavation
- Standard and Guidance for an Archaeological Watching Brief.

A.2.2 These will be adhered to at all times.

A.3 Relevant OA manual and other supporting documentation

A.3.1 All fieldwork will be undertaken in accordance with the requirements of the OA Field Manual (ed. D Wilkinson 1992), and the revised OA fieldwork manual (publication forthcoming).

A.3.2 Further guidance is provided to all excavators in the form of the OA 'Fieldwork Crib Sheets - a companion guide to the Fieldwork Manual'. These have been issued ahead of formal publication of the revised Fieldwork Manual.

APPENDIX B GEOMATICS AND SURVEY

B.1 Standard methodology - summary

B.1.1 The aim of OA methodology is to provide comprehensive survey cover of all investigation areas. Additionally, it is designed to provide coverage for any areas, beyond the original scope of the project, which arise as a result of further work. It provides digital plans of all required elements of the project and locates them within an overall grid.

B.1.2 It also maintains all necessary survey data and ensures that the relevant information is copied into the primary record, in order to ensure the integrity of the project archive. Furthermore, it ensures that all core data is securely stored and backed up. It establishes accurate project reference systems utilising a series of control stations and permanent base lines.

B.1.3 The survey will be conducted using a combination of Total Station Theodolite (TST) survey utilising Reflectorless Electronic Distance Measurement (REDM) where appropriate, hand-measured elements and GPS (Global Positioning System), or photogrammetry.

B.1.4 Before the main work commences, a network of control stations will be laid out encompassing the area. Control stations will be tied in to known points or existing features using rigorous metric observation. The control network will be set in using a TST to complete a traverse or using techniques as appropriate to ensure sufficient accuracy. A GPS, or other appropriate method, will be used to orientate the control network to National Grid or other recognised coordinate system.

B.1.5 All control stations will be checked by closed traverse and/or GPS, as appropriate. The accuracy of these control stations will be accessed on a regular basis and re-established accordingly. All stations will be recorded on Survey Control Station sheets.

B.1.6 Each control station will be marked with a PGM (Permanent Ground Marker). Witness diagrams will include the full 3-D co-ordinates generated, a sketch diagram and measurements to at least three fixed details, written description of the mark and a photograph of the control point in its environs.

B.1.7 Prior to entry into the field all equipment will be checked, and all pre-survey information will be logged onto the field computer and uploaded onto survey equipment as appropriate. The software in the field computer will be verified and all cabling between the GPS and/or TST and computer will be checked. Prior to conducting the survey, the site will be reconnoitred for locations for a viable control network and check the line of sight and any possible hindrance to survey. Daily record sheets will be kept to record daily tasks and conditions.

B.1.8 All spatial data will be periodically downloaded onto a field computer, and backed up onto CD, or DVD. It will be cleaned, validated and inspected.

B.1.9 All survey data will be documented on daily survey record sheets. Information entered on these sheets includes key set up information (Instrument height etc.) as well as daily variables and errors/comments. All survey data will be digitally recorded in a raw

format and translated during the download process this shall allow for any errors to be cross referenced with the daily survey record and corrected accordingly.

B.1.10 A weekly summary of survey work will be produced to access development and highlight problems. This information also will be recorded on the weekly survey journal. Technical support for the survey equipment and download software shall be available at all times. In those instances, where sites are remotely operated, all digital data will be backed up regularly and a copy returned to Oxford on a weekly basis.

B.1.11 A site plan will initially be created by a rapid survey of relevant archaeological features by mapping their extent using a combination of TST and GPS. This will form the basis for deciding excavation strategy and will be updated as the excavation clarifies the extent of, and relationships between, archaeological features.

B.1.12 Excavated archaeological interventions and areas of complex stratigraphy will be hand drawn. At least two Drawing Points (DPs) will be set in as a baseline and measurements taken off this by tape and offset. The hand drawn plans will be referenced to the digitally captured pre-site plan by measuring in the DPs with a TST or GPS. These hand drawn elements will then be scanned in, geo-referenced using the DPs as reference points and digitised following OA's digitising protocols. For further details on hand planning procedure please refer to the fieldwork guidelines.

B.1.13 Where appropriate photogrammetry or rectified photography may be used to record standing structures or burials. This will be carried out in line with Standard OA procedures for photogrammetry or rectified photography.

B.1.14 Survey data recorded in the field will be downloaded using appropriate downloading software, and saved as an AutoCAD Map DWG file, or an ESRI Shapefile. These files will be regularly updated and backed up with originals being stored on an OA server in Oxford.

B.1.15 All drawings will be composed of closed polygons, polylines or points in accordance with the requirements of GIS construction and OA Geomatics protocols. Once created, additional GIS/CAD work will normally be carried out at the local OA central office or at on-site remote locations when appropriate. Support for all GIS/CAD work will be available from OA's Oxford Office during normal office hours. The aim of the GIS/CAD work is to produce workable draft plans, which can be produced as stand-alone products, or can be readily converted to GIS format. Any hand-drawn plans will be scanned and digitised on site in the first instance. Subsequent plans will be added to the main drawing as it develops.

B.1.16 All plan scans will be numbered according to their plan site number. Digital plans will be given a standard new plan number taken out from the site plan index.

B.1.17 All digital data will be backed up incrementally on CD or DVD. On each Friday the entire data directory will be backed up and returned to Oxford where it will be copied onto the OA projects server. Each CAD drawing will contain an information layout which will include all the relevant details appertaining to that drawing. Information (metadata) on all other digital files will be created and stored as appropriate. At the end of the survey all raw measurements will be made available as hard copy for archiving purposes.

B.2 Relevant industry standards and guidelines

B.2.1 Historic England (2007) Understanding the Archaeology of Landscapes A Guide to Good Recording Practice.

B.2.2 Historic England (2015), Metric Survey Specifications for Cultural Heritage.

B.2.3 Historic England (2016), Understanding Historic Buildings A Guide to Good Recording Practice.

B.2.4 Historic England (2017), Photogrammetric Applications for Cultural Heritage. Guidance for Good Practice.

B.3 Relevant OA manual and other supporting documentation

B.3.1 OA South Metric Survey, Data Capture and Download Procedures

B.3.2 OA South Digitising Protocols

B.3.3 OA South GIS Protocols

B.3.4 These will be superseded by the OA South Geomatics Manual (in progress).

APPENDIX C ENVIRONMENTAL EVIDENCE

C.1 Standard methodology – summary

C.1.1 Different environmental and geoarchaeological sampling strategies may be employed according to established research targets and the perceived importance of the strata under investigation. Where possible an environmental specialist(s) will visit the site to advise on sampling strategies. Sampling methods will follow guidelines produced by Historic England and Oxford Archaeology. A register of samples will be kept. Specialists will be consulted where non-standard sampling is required (e.g. TL, OSL or archaeomagnetic dating) and if appropriate will be invited to visit the site and take the samples.

C.1.2 Geoarchaeological sampling methods are site specific, and methodologies will be designed in consultation with the geoarchaeological manager on a site by site basis.

C.1.3 Bulk soil samples, where possible of 40 litres or 100% of a deposit if less is available, will be taken from potentially datable features and layers for flotation for charred plant remains and for the recovery of small bones and artefacts. Larger soil samples (up to 100L) may be taken for the complete recovery of animal bones, marine shell and small artefacts from appropriate contexts. Smaller bulk samples (general biological samples) of 10-20 litres will be taken from any waterlogged deposits present for the recovery of macroscopic plant remains and insects. Series of incremental 2L samples may be taken through buried soils and deep feature fills for the recovery of snails and/or waterlogged plant remains, depending on the nature of the stratigraphy and of the soils and sediments. Columns will be taken from buried soils, peats and waterlogged feature fills for pollen and/or phytoliths, diatoms, ostracods and foraminifera if appropriate. Soil samples will be taken for soil investigations (particle size, organic matter, bulk chemistry, soil micromorphology etc.) and possibly for metallurgical analysis in consultation with the appropriate specialists.

C.1.4 Bulk samples from dry deposits will be processed by standard water flotation using a modified Siraf-style machine and meshes of 0.25mm (flot) and 0.5 or 1mm depending on sediment type and like modes of preservation (residue). Heavy residues will be wet sieved, air dried and sorted. Samples taken exclusively for the recovery of bones, marine shell or artefacts will be wet sieved to 2mm. Waterlogged samples (1L sub-sample) and snail samples (2L) will be processed by hand flotation with flots and residues collected to 0.25mm (waterlogged plants) and 0.5mm (snails) respectively; these flots and residues will be sorted by the specialist. Samples specifically taken for insects, pollen, other microflora and microfauna, metallurgy and soil analysis will be submitted as whole earth to the appropriate specialists or processed following their instructions.

C.2 Relevant industry standards and guidelines

C.2.1 Historic England 2010. Waterlogged Wood: Guidelines on the recording, sampling, conservation and curation of waterlogged wood.

C.2.2 Historic England 2011. Environmental Archaeology. A guide to the theory and practice of methods, from sampling and recovery to post excavation, (2nd ed)

C.2.3 Historic England 2004. Dendrochronology: Guidelines on Producing and Interpreting Dendrochronological Dates (revision due 2020).

C.2.4 University of Bradford 2019 Archaeomagnetism: Magnetic Moments in the Past https://www.brad.ac.uk/archaeomagnetism/

C.2.5 Historic England 2008. Luminescence Dating. Guidelines on Using Luminescence Dating in Archaeology (revision due 2020).

C.2.6 Historic England 2008. Guidelines for the Curation of Waterlogged Macroscopic Plant and Invertebrate Remains (currently being revised).

C.2.7 Historic England 2015. Archaeometallurgy. Guidelines for Best Practice.

C.2.8 Historic England 2015 Geoarchaeology. Using Earth Sciences to Understand the Archaeological Record.

C.2.9 Historic England 2017. Organic Residue Analysis and Archaeology.

C.2.10 Baker, P and Worley, F 2019. Animal Bones and Archaeology: Recovery to Archive. Historic England

C.3 Relevant OA manual and other supporting documentation

C.3.1 Oxford Archaeology 2017. Environmental Sampling Guidelines, 4th ed.

APPENDIX D ARTEFACTUAL EVIDENCE

D.1 Standard methodology - summary

D.1.1 Before a site begins arrangements concerning the finds will be discussed with the Finds Team Leader. Information will be provided by the project manager about the nature of the site, the expected size and make-up of the finds assemblage and any site specific finds retrieval strategies. On-site requirements will be discussed and a conservator appointed who can be called on to make site visits if required. Special requirements regarding particular categories of material will be raised at this early stage for instance the likelihood of recovering assemblages of waterlogged material, large timbers, quantities of structural stone or ceramic building material. Specialists may be required to visit sites to discuss retrieval strategies.

D.1.2 The project manager will supply the Finds Team Leader with contact details of the landowner of the site so that consent to deposit any finds resulting from the investigation can be sought.

D.1.3 The on-site retrieval, lifting and short term packaging of bulk and small finds will follow the detailed guidelines set out in the OA Finds Manual (sections 2 and 3), First Aid for Finds and the UKIC conservation guidelines No.2.

D.1.4 All finds recovered from site will be transported to an OA regional office for processing; local sites will return finds at the end of each day, away based sites at the end of each week. Special arrangements can be discussed for certain sites with the Team Leader before the start of a project. Larger long running sites may in some instances set up on-site processing units to deal with the material from a particular site.

D.1.5 All finds qualifying as Treasure will be removed to a safe place and reported to the local Coroner according to the procedures relating to the Treasure Act (1996), and the Treasure (Designation) Order 2002. Where removal cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the finds from theft.

D.1.6 Each box of finds will be accompanied by a finds context checklist itemising the finds within each box. The number of bags of finds from each context and individual small find from each context will be recorded. A member of the processing team will check the list when it arrives in the department. There are separate forms for finds recovered from fieldwalking.

D.1.7 The processing programme is reviewed on a weekly basis and priorities are worked out after discussions with the Fieldwork Team Leader and the Post-excavation Team Leader. Project managers will keep the Finds Team Leader informed of any pressing deadlines that they are aware of. All finds from evaluations are dealt with as a matter of priority.

D.1.8 All bulk finds are washed (where appropriate), marked, bagged and boxed by the processing team according to the guidelines set out in section 4 and 5 of the OA Finds Manual, First-aid for finds and the UKIC guidelines No.2. They must also take into account the requirements of the receiving museum. Primary data recording count and weight of fragments by material from each context is recorded on the site database.

D.1.9 Unstable and sensitive objects are recorded onto the database and then packaged and stored in controlled environments according to their individual requirements. The advice of a conservator will be sought for sensitive objects in need of urgent conservation. All metalwork will be x-rayed prior to assessment (and to meet the requirements of most receiving museums).

D.1.10 Finds recovered from the environmental sample processing will be incorporated into the main assemblage and added to the database.

D.1.11 On completion of the processing and data entry a finds file for each archaeological investigation will be produced, a summary of which is available for the project manager. The assemblage is allocated an OA number for storage purposes. Bulk finds are stored on a roller racking system, metals in a secure controlled storage and organic finds are refrigerated where possible.

D.1.12 The movement of finds in and out of the storage areas is strictly monitored and recorded. Carbon copy transit forms exist to record this information. Finds will not be removed from storage without the prior knowledge of the Finds Team Leader.

D.1.13 Finds information summarised in the finds compendium is used to assess the finds requirements for the post excavation stages of the project. The Team Leader holds a list of all specialists used by OA (see below) both internal and external.

D.1.14 On completion of the post excavation stage of the project the team prepares the finds assemblage for deposition with the receiving museum. Discussions will be held with the museum, the excavator and the Finds Team Leader to finalise any selection, retention or discard policy. Most museums issue strict guidelines for the preparation of archives for deposition with their individual labelling, packaging and recording requirements.

D.2 Relevant industry standards and guidelines

D.2.1 UKIC, 1983, Packaging and Storage of Freshly-Excavated Artefacts from Archaeological Sites. Conservation Guidelines No.2. Archaeology Section, United Kingdom Institute for Conservation.

D.2.2 UKIC, 1988, Excavated Artefacts and Conservation: UK sites Revised Edition. Conservation Guidelines No.1. Archaeology Section, United Kingdom Institute for Conservation.

D.2.3 Society of Museum Archaeologists, 1993, Selection, retention and dispersal of Archaeological Collections. Download available via http://www.socmusarch.org.uk/publica.htm)

D.2.4 Watkinson, D E & Neal, V, 1998, First Aid for Finds (3rd edition). RESCUE & UKIC

D.3 Relevant OA manual and other supporting documentation

D.3.1 Allen, L, and Cropper, C (internal publication only) Oxford Archaeology Finds Manual.

APPENDIX E HUMAN REMAINS

E.1 Standard methodology - summary

E.1.1 Human remains will not be excavated without a relevant licence/faculty and, where applicable (for example, a post medieval cemetery), a risk assessment from the local environmental officer.

E.1.2 All human remains will be treated with due care and regard to the sensitivities involved, and will be screened from the public throughout the course of the works.

E.1.3 Excavation will be undertaken in accordance with CIfA (Roberts and McKinley 1993), Historic England (2018), the Advisory Panel on the Archaeology of Burials in England (APABE, 2015, 2017) and British Association of Biological Anthropology and Osteoarchaeology Code of Practice (2019) and Code of Ethics (2019). For crypts and post-medieval burials, the recommendations set out by the CIfA (Cox 2001) and by the Association of Diocesan and Cathedral Archaeologists and APABE (2010) are also relevant.

E.1.4 In accordance with recommendations set out in the Historic England and Church of England (2005) and updated by the Advisory Panel on the Archaeology of Burials in England (2017), skeletons will not be excavated beyond the limits of the trench, unless they are deemed osteologically or archaeologically important.

E.1.5 Where any soft tissue survives and/or materials (for example, inner coffins, mattresses and other paddings) soaked in body liquor, no excavation or handling of the remains will take place until an appropriate risk assessment has been undertaken. Relevant protocols (i.e. Cox 2001) for their excavation, recording and removal will be adhered to.

E.1.6 OA does not excavate or remove modern burials (those less than 100 years old) and does not remove or open sealed lead coffins. Appropriate PPE (e.g. chemical suit, latex gloves) will be worn by all staff when working with lead coffins.

E.1.7 Graves and their contents will be hand excavated in plan. Each component (for example, skeleton, grave cut, coffin (or remains of), grave fill) will be assigned a unique context number from a running sequence. A group number will also be assigned to all of these, and small finds numbers to features such as coffin nails, hobnails and other grave goods (as appropriate).

E.1.8 Soil samples will be normally taken during the excavation of inhumations, usually from the region of the skull, chest, right hand, left hand, abdomen and pelvis, right foot and left foot. Infants (circa. less than 5 years) will normally be recovered as bulk samples. Soil samples will also be taken from graves that appear to contain no human bone.

E.1.9 Burials (including the skeleton, cremation, coffin fittings, coffin, urn, grave goods / other) will be recorded by photographic and written record using specialised pro forma context sheets, although these records may only include schematic representations of the location and position of the skeletons, depending on the nature and circumstances of the burial.

E.1.10 Where digital imaging is used it will be done in accordance with the British Association of Biological Anthropology and Osteoarchaeology Recommendations on the Ethical Issues Surrounding 2D and 3D Digital Images of Human Remains (2019).

E.1.11 Where necessary, hand drawn plans (usually at 1:10, sometimes 1:5) will be made, especially of contexts where required details cannot be adequately seen using photography (for example, urned cremations; undisturbed hob nails).

E.1.12 Levels will be taken. For inhumations this will be on the skull, pelvis and feet as a minimum.

E.1.13 Human remains that are exhumed will be bagged and labelled according to skeletal region and carefully packed into suitable containers (for example, acid free cardboard boxes) and transported to a suitable storage location. Any associated coffins and coffin fittings will be contained with the human remains wherever possible.

E.1.14 Unurned cremations will not usually be half sectioned, but excavated in spits and/or quadrants (i.e. large deposits or spreads), or recovered as a bulk sample.

E.1.15 Wherever possible, urned cremations will be carefully bandaged, recovered whole and will be excavated in spits in the laboratory, as per the recommendations of McKinley (2004, 2017).

E.1.16 Unless deemed osteologically or archaeologically important disarticuled bone / charnel will be collected and reserved for re-burial if immediate re-internment as close to its original position is not practicable. In some instances, a rapid scan of this material may be undertaken by a qualified osteologist, if deemed relevant.

E.1.17 If undisturbed, pyre sites will normally be excavated in quadrants, at the very least in 0.5 m blocks of 0.5 m spits.

E.1.18 Pyre debris dumps will be half sectioned or quadranted and will be subject to 100% sampling.

E.1.19 Wooden and lead coffins and any associated fittings, including fixing nails will be recorded on a pro forma coffin recording sheet. All surviving coffin fittings will be recorded by reference to Reeve and Adams (1993) and the unpublished master catalogue that is being compiled by OA. Where individual types cannot be paralleled, they will be drawn and/ or photographed and assigned a style number. Biographical details obtained from legible departum plate inscriptions will be recorded and further documentary research will be made.

E.1.20 Funerary structures, such as brick shaft graves and/or vaults will be recorded by photogrammetry or hand-drawn at a scale of 1:10 or 1:20, as appropriate. Location, dimensions and method of construction will be noted, and the structure added to the overall trench plan.

E.1.21 Memorials, including headstones, revealed within the areas of development will be recorded irrespective of whether they are believed to be in situ.

E.1.22 Where required, memorials will be accorded an individual context number and will also be included as part of the grave group, if the association with a burial is clear.

E.1.23 Memorials will be recorded on pro-forma context sheets, based on and following the guidelines set out by Mytum (2002), and will include details of:

- Shape
- Dimensions
- Type of stone used
- Condition, completeness and fragmentation of stones, no longer in original positions
- Iconography (an illustration may best describe these features)
- Inscription (verbatum record of inscription; font of the lettering)
- Stylistic type

E.2 Relevant industry standards and guidelines

E.2.1 Advisory Panel on the Archaeology of Burials in England, 2013, Science and the Dead. A guideline for the destructive sampling of archaeological human remains for scientific analysis. English Heritage Publishing.

E.2.2 Advisory Panel on the Archaeology of Burials in England, 2017 Guidance for Best Practice for the Treatment of Human Remains Excavated from Christian Burial Grounds in England

E.2.3 Advisory Panel on the Archaeology of Burials in England, 2015 Large Burial Grounds. Guidance on sampling in archaeological fieldwork projects

E.2.4 Association of Diocesan and Cathedral Archaeologists and APABE, 2010 Archaeology and Burial Vaults. A guidance note for churches. Guidance Note 2

E.2.5 British Association of Biological Anthropology and Osteoarchaeology. 2019a Code of Practice (http://www.babao.org.uk/index/ethics-and-standards)

E.2.6 British Association of Biological Anthropology and Osteoarchaeology. 2019b Code of Ethics (http://www.babao.org.uk/index/ethics-and-standards)

E.2.7 British Association of Biological Anthropology and Osteoarchaeology, 2019c Recommendations on the Ethical Issues Surrounding 2D and 3D Digital Images of Human Remains (http://www.babao.org.uk/index/ethics-and-standards)

E.2.8 Cox, M, 2001 Crypt archaeology. An approach. CIfA Paper No. 3

E.2.9 English Heritage, 2002 Human Bones from Archaeological Sites. Guidelines for producing assessment documents and analytical reports

E.2.10 Historic England, 2018 The Role of the Human Osteologist in an Archaeological Fieldwork Project. Swindon, Historic England

E.2.11 McKinley, J, and Roberts, C, 1993 Excavation and post-excavation treatment of cremated and inhumed human remains, CIfA Technical Paper No. 13

E.2.12 McKinley, J, 2004 Compiling a skeletal inventory: cremated human bone. In Brickley, M, and McKinley, J (eds) Guidelines to the Standards for Recording Human Remains, CIfA Technical Paper No. 7. 9-13

E.2.13 McKinley, J, 2017 Compiling a skeletal inventory: cremated human bone. In Mitchell P, and Brickley, M (eds) Updated Guidelines to the Standards for Recording Human Remains, CIfA 14-19

E.2.14 Mitchell P, and Brickley, M (eds) Updated Guidelines to the Standards for Recording Human Remains, CIfA 2017

E.2.15 Mytum, H, 2000 Recording and Analysing Graveyards. CBA Handbook No. 15

E.2.16 Reeve, J, and Adams, M, 1993 The Spitalfields Project. Volume I – The Archaeology Across the Styx. CBA Research Report No. 85

E.2.17 The Human Tissue Act 2004

E.3 Relevant OA manual and other supporting documentation

E.3.1 Loe, L, 2008 The Treatment of Human Remains in the Care of Oxford Archaeology. Oxford Archaeology internal policy document

E.3.2 Oxford Archaeology 2018 *Fieldwork Manual Human Remains* unpublished

APPENDIX F REPORTING

F.1 Standard methodology - summary

F.1.1 For Watching Briefs and Evaluations, the style and format of the report will be determined by OA, but will include as a minimum the following:

- A location plan of trenches and/or other fieldwork in relation to the proposed development.
- Plans and sections of features located at an appropriate scale.
- A section drawing showing depth of deposits including present ground level with Ordnance Datum, vertical and horizontal scale.
- A summary statement of the results.
- A table summarising the features, classes and numbers of artefacts contained within, spot dating of significant finds and an interpretation.
- A reconsideration of the methodology used, and a confidence rating for the results.
- An interpretation of the archaeological findings both within the site and within their wider landscape/townscape setting.

F.1.2 For Excavations, a Post-Excavation Assessment and Project Design will generally be prepared, as prescribed by Historic England Management of Research Projects in the Historic Environment (MoRPHE) 2006, Section 2.3. This will include a Project Description containing:

- A summary description and background of the project.
- A summary of the quantities and assessment of potential for analysis of the information recovered for each category of site, finds, dating and environmental data. Detailed assessment reports will be contained within appendices.
- An explicit statement of the scope of the project design and how the project relates to any other projects or work preceding, concurrent with or following on from it.
- A statement of the research aims of the fieldwork and an illustrated summary of results to date indicating to what extent the aims were fulfilled.
- A list of the project aims as revised in the light of the results of fieldwork and the current post-excavation assessment process.

F.1.3 A section on Resources and Programming will also be produced, containing:

- A list of the personnel involved indicating their qualifications for the tasks undertaken, along with an explanation of how the project team will communicate, both internally and externally.
- A list of the methods which will be used to achieve the revised research aims.

- A list of all the tasks involved in using the stated methods to achieve the aims and produce a report and research archive in the stated format, indicating the personnel and time in days involved in each task. Allowance should be made for general project-related tasks such as monitoring, management and project meetings, editorial and revision time.
- A cascade or Gantt chart indicating tasks in the sequence and relationships required to complete the project. Due allowance will be made for leave and public holidays. Time will also be allowed for the report to be read by a named academic referee as agreed with the County Archaeological Officer, and by the County Archaeological Officer.
- A report synopsis indicating publisher and report format, broken down into chapters, section headings and subheadings, with approximate word lengths and numbers and titles of illustrations per chapter. The structure of the report synopsis should explicitly reflect the research aims of the project.

F.1.4 The Project Design will be submitted to the County Archaeological Officer or equivalent for agreement.

F.1.5 Under certain circumstances (e.g. with very small mitigations), and as agreed with the County Archaeological Officer or equivalent, a formal Assessment and Project Design may not be required and either the project will continue straight to full analysis, or a simple Project Proposal (MoRPHE 2006 Section 2.1) will be produced prior to full analysis. This proposal may include:

- A summary of the background to the project
- Research aims and objectives
- Methods statement outlining how the aims and objectives will be achieved
- An outline of the stages, products and tasks
- Proposed project team
- Estimated overall timetable and budget if appropriate.

F.1.6 Once the post-excavation Project Design or Project Proposal has been accepted, the County Archaeological Officer or his appointed deputy will monitor the progress of the post-excavation project at agreed points. Any significant variation in the project design will be agreed with the County Archaeological Officer.

F.1.7 The results of the project will be published in an appropriate archaeological journal or monograph. The appropriate level of publication will be dependent on the significance of the fieldwork results and will be agreed with the County Archaeological Officer. An OASIS (Online Access to the Index of Archaeological Investigations) form will be completed for each project as per Historic England guidelines.

F.2 Relevant industry standards and guidelines

F.2.1 Oxford Archaeology (OA) adheres to the national standards in post-excavation procedure as outlined in Historic England's Management of Research Projects in the Historic Environment (MoRPHE; EH 2006). Furthermore, all post-excavation projects

take into account the appropriate regional research frameworks as well as national research agendas such as the Framework for Historic Environment Activities & Programmes in Historic England (SHAPE; EH 2008).

APPENDIX G LIST OF SPECIALISTS REGULARLY USED BY OA

G.1.1 Below are two tables, one containing 'in-house' OA specialists, and the other containing a list of external specialists who are regularly used by OA.

Internal archaeological specialists used by OA

Specialist	Specialism	Qualifications
John Cotter	Medieval and Post Medieval pottery, Clay Pipe and CBM	BA (Hons), MCIfA
Dr Alex Davies	Prehistoric Pottery	BA (Hons), MA, PhD, ACIfA
Edward Biddulph	Roman Pottery	BA (Hons), MA, MCIfA
Kate Brady	Roman Pottery	BA, ACIfA
Cynthia Poole	CBM and Fired Clay	BA (Hons), MSc
Ian Scott	Metalwork and Glass	BA (Hons)
Leigh Allen	Metalwork and worked bone	BA (Hons), PGDip
Dr Ruth Shaffrey	Worked stone artefacts	BA, PhD, MCIfA
Julian Munby	Architectural Stone	BA, FSA
Dr Rebecca Nicholson	Fish and Bird Bone	BA (Hons), MA, D.Phil, MCIfA, FSA Scot
Dr Lee Broderick	Animal bone	BA (Hons), MA, MSc, FZG, SAC Dip (ecology), PhD
Dr Mairead Rutherford	Pollen	BSc, MSc
Ian Smith	Animal Bone	BA (Hons), MSc, PCIfA
Dr Martyn Allen	Animal Bone	BA (Hons), MA, PhD
Dr Denise Druce	Charred plant remains, charcoal and pollen	BA (Hons), PhD, MCIfA
Sharon Cook	Charred plant remains	BSc, MSc, ACIfA
Elizabeth Stafford	Geoarchaeology and land snails	BA (Hons), MSc
Carl Champness	Geoarchaeology	BA (Hons), MSc, ACIfA
Nicola Scott	Archaeological archive deposition	BA (Hons Dunelm)
Mike Donnelly	Flint	BSc, MCIfA
Dr Louise Loe	Human Bone	BA PhD, MCIfA, BABAO
Helen Webb	Human Bone	BSc, MSc, MCIfA, BABAO
Mark Gibson	Human Bone	BA, MSc, ACIfA, BABAO
Dr Lauren McIntyre	Human Bone	BSc, MSc, PhD, MCIfA, BABAO
Ui Choileain	Human Bone	Pg Dip, MA, Msc, BABAO
Natasha Dodwell	Human Bone	BA, MSc, BABAO

External archaeological specialists regularly used by OA

Specialist	Specialism	Qualifications
Lynne Keys	Slag	BA (Hons)
Quita Mould	Leather	BA, MA
Penelope Walton Rogers, The Anglo Saxon Laboratory	Identification of Medieval Textiles	FSA, Dip.Acc
Dana Goodburn-Brown	Conservation	BSc (Hons), BA, MSc
Steve Allen, York Archaeological Trust	Conservation	BA, MA, MAAIS
Dr Richard Macphail	Soils, especially Micromorphology	BA (Hons), MSc, PhD
Dana Challinor	Charcoal	MA, MSc
Dr Nigel Cameron	Diatoms	BSc, MSc, PhD
Dr David Smith	Insects	BA (Hons), MA, PhD
Professor Adrian Parker	Phytoliths and pollen	BSc (Hons), D.Phil
Dr David Starley	Metalworking Slag	BSc (Hons), PhD
Wendy Carruthers	Charred and waterlogged plant remains	BA (Hons)
Dr John Whittaker	Ostracods and Foraminifera	BA (Hons), PhD
Dr John Crowther	Soil Chemistry	MA, PhD
Dr Martin Bates	Geoarchaeology	BSc, PhD
Dr Dan Miles	Dendrochronology	D.Phil, FSA
Dr Jean-Luc Schwenninger	Optically Stimulated Luminescence Dating	PhD
Dr David Higgins	Clay Pipe	BA, PhD, MCIfA
Dr Hugo Anderson-Wymark	Flint	BSc, PhD, FSA Scot, MCIfA
Dr Damian Goodburn-Brown	Ancient Woodwork	BA, PhD

APPENDIX H DOCUMENTARY ARCHIVING

Standard methodology – summary

H.1.1 The documentary archive constitutes all the written, drawn, photographic and digital records relating to the set up, fieldwork and post-excavation phases of the project. This documentary archive, together with the artefactual and environmental ecofact archive collectively forms the record of the site. The report is part of the documentary archive, and the archive must provide the evidence that supports the conclusions of the report, but the archive may also include data which exceeds the limitations of research parameters set down for the report and which could be of significant value to future researchers.

H.1.2 At the outset of the project OA Archive manager will contact the relevant local receiving museum or archive repository to notify them of the imminent start of a new fieldwork project in their collecting area. Relevant local archiving guidelines will be observed and site codes, which integrate with the receiving repository, will be agreed for labelling of archives and finds.

H.1.3 Where there is currently no receiving museum for the project archive, although responsibility for the archive ultimately lies with the client, OA will hold the archive on their behalf for a period of up to 3 years after completion of the report, after which time (in the event that a suitable depository has not been secured) provision for further storage of the archive will be made in agreement with Oxford Archaeology, the client and the relevant planning archaeologist.

H.1.4 During the course of the project the Archive team will assist the Project Manager in the management of the archive including the cataloguing and development technique suitable for photographic archive requirements.

H.1.5 The hard copy site archive will be security copied by scanning to PdFA and a copy of this will be housed on the OA Archive Server. A full digital copy of the archive, including scanned hard copy and born digital data, will be deposited with and made publicly available on-line through the ADS. A further copy will be maintained on the OA server and if requested a copy on disk will also be sent to the receiving museum with the hard copy. This will act as a safeguard against the accidental loss and the long-term degeneration of paper records and photographs.

H.1.6 Born digital data will only be printed to hard copy for the receiving museum where practical. Archive elements that need maintaining in digital form will be sent to ADS in accordance with Arches Standard and ADS guidelines. A copy will be sent to the receiving museum by CD and back-up copies will be stored on the OA digital network. In most cases a digital copy of the report will be included in the OASIS project library hosted by ADS.

H.1.7 Prior to deposition the Archive team will contact the museum regarding the size and content of the archive and discuss any retention and dispersal policies which may be applicable in line with local and SMA Guidelines ' Selection, Retention & Dispersal of Archaeological Collections' 1993.

H.1.8 The site archive will then be deposited with the relevant receiving museum or repository at the earliest opportunity unless further archaeological work on the site is expected. The documentary archive will include correspondence detailing landowner consent to deposit the artefacts and any copyright licences in accordance with the receiving museum guidelines. Deposition charges will be required from the client as part of the project costs but the level of the fee is set by the receiving body, and may be subject to change during the lifespan of the project. Changes to archiving charges beyond OA's control will be passed across to the client.

H.1.9 Oxford Archaeology will retain full copyright of any commissioned reports, tender documents or other project documents, under the Copyright, Designs and Patents Act 1988 with all rights reserved; excepting that it will provide the receiving repository or museum for the archive with a full licence for use to the client in all matters directly relating to the project as described in the Written Scheme of Investigation, and in line with the relevant receiving body guidelines.

H.1.10 OA will advise the receiving repository or museum for the archive of 3rd party materials supplied in the course of projects which are not OA's copyright.

H.1.11 OA undertakes to respect all requirements for confidentiality about the client's proposals provided that these are clearly stated. It is expected that such conditions shall not unreasonably impede the satisfactory performance of the services required. Archaeological findings and conclusions can be kept confidential for a limited period but will be made publicly available in line with the above procedure either after a specified time period agreed with the client at the outset of the project, or where no such period is agreed, after a reasonable period of time. It is expected that clients respect OA's general ethical obligations not to suppress significant archaeological data for an unreasonable period.

H.2 Relevant industry standards and guidelines

H.2.1 At the end of the project the site archive will be ordered, catalogued, labelled and conserved and stored according to the following national guidelines:

H.2.2 The 2014 EAC Guidelines A Standard and Guide to the Best Practice for Archaeological Archiving in Europe (GB) Perrin K, Brown E et al.

H.2.3 The 2014 CIFA Standard and Guidance for the Creation, Compilation, Transfer and Deposition of Archaeological Archives.

H.2.4 The 2011 AAF guide Archaeological Archives A Guide to Best Practice in Creation, Compilation, Transfer and Curation. Brown D.

H.2.5 The UKIC's Guidelines for the preparation of excavation archives for long-term storage.

H.2.6 The MGC's Standards in the museum care of archaeological collections.

H.2.7 Local museum guidelines such as Museum of London Guidelines: (http://www.museumoflondonarchaeology.org.uk/English/ArchiveResearch/DeposResource) will be adopted where appropriate to the archive collecting area.

H.2.8 The site archive will be prepared to at least the minimum acceptable standard defined in Management of Archaeological Projects 2, Historic England 1991.

H.3 Relevant OA manual and other supporting documentation

H.3.1 The OA Archives Policy.

APPENDIX I HEALTH AND SAFETY

I.1 Standard Methodology - summary

I.1.1 All work will be undertaken in accordance with the current OA Health and Safety Policy, the OA Site Safety Procedures Manual, a site-specific Risk Assessment and, if required, Safety Plan or Method Statement. Copies of the site-specific documents will be submitted to the client or their representative for approvals prior to mobilisation, and all relevant H and S documentation will be available on site at all times. The Health and Safety documentation will be read in conjunction with the project WSI.

I.1.2 Where a project falls under the Construction (Design and Management) Regulations (2015), all work will be carried out in accordance with the Principal Contractor's Construction Phase Plan (CPP).

I.2 Relevant industry standards and guidelines

I.2.1 All work will be carried out according to the requirements of all relevant legislation and guidance, including, but not exclusively:

I.2.2 The Health and Safety at Work Act (1974).

I.2.3 Management of Health and Safety at Work Regulations (1999).

I.2.4 Manual Handling Operations Regulations 1992 (as amended).

I.2.5 The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (2013).

I.2.6 The Construction (Design and Management) Regulations (2015).

I.2.7 Relevant OA manual and other supporting documentation

I.2.8 The OA Health and Safety Policy.

I.2.9 The OA Site Safety Procedures Manual.

I.2.10 The OA Risk Assessment templates.

I.2.11 The OA Method Statement template.

I.2.12 The OA Construction Phase Plan template.

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APPENDIX B DESCRIPTIONS AND CONTEXT INVENTORY

Watching Brief						
General description					**Orientation**	N-S
The principal purpose of watching brief was ensure preservation *in situ* of the scheduled monument. As such, topsoil and subsoil were encountered in excavations, natural geology was not encountered during the works					**Length (m)**	60
					Width (m)	15
					Avg. depth (m)	-
Context No.	**Type**	**Width (m)**	**Depth (m)**	**Description**	**Finds**	**Date**
3500	Layer	-	0.15	Topsoil	-	-
3501	Layer	-	0.15	Subsoil	-	-

APPENDIX C BIBLIOGRAPHY

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APPENDIX D SITE SUMMARY DETAILS

Site name:	A523 Poynton Relief Road, Asset 35 Bowl Barrow, Cheshire East
Site code:	PRR21
Grid Reference	SJ 90712 78307
Type:	Archaeological Watching Brief
Date and duration:	Between 25th May 2021 and 11th February 2022
Area of Site	900m^2
Location of archive:	The archive is currently held at OA North, Mill 3, Moor Lane Mills, Moor Lane, Lancaster, LA1 1QD, and will be deposited with the Archaeology Data Service in due course.
Summary of Results:	The archaeological watching brief comprised: the monitoring of the covering of the scheduled monument area; monitoring of the installation of a new fence line, including excavation of two gate posts; monitoring of the excavation of new surface water drainage; and, monitoring of the excavation of pits for the excavation of lamp posts. The protective covering layer was broken by the gatepost and lamppost pits, as well, as partially by the drainage excavations, all other works remained above the protective covering. There were no archaeological remains encountered during the works.

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