



Northern Gas Networks

Military Road, Heddon-on-the-Wall, Northumberland

Written Scheme of Investigation for an Archaeological Watching Brief

Headland Archaeology Project P21-126

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HEADLAND ARCHAEOLOGY GENERAL NOTES

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of Headland Archaeology (UK) Ltd.

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1 INTRODUCTION

- 1.1 This document is a written scheme of investigation (WSI) for a programme of archaeological monitoring (archaeological watching brief), to be implemented during groundworks for the laying of a replacement mains gas pipeline along Military Road, Heddon-on-the-Wall, NE15 0HA, NGR NZ 413020, 567095 (Figure 1). The WSI has been commissioned by Northern Gas Networks ('the Client') and has been prepared by Headland Archaeology (UK) Ltd ('Headland').
- 1.2 Although the works fall under permitted development, the site is located within the boundary of the Scheduled Ancient Monument of Hadrian's Wall. Therefore, Scheduled Monument Consent for the works has been sought from Historic England under application number S00241208, submitted 8th April 2021. Approval is still pending, however, the Inspector of Ancient Monuments for Historic England has confirmed that this WSI may be submitted in advance of a decision (Don O'Meara pers.comm, 29th April 2021).
- 1.3 The Client has confirmed that the maximum footprint of ground works anticipated for the laying of the replacement gas main will measure 253m x 2m, situated above the existing main (Figure 2). The new pipe will either be laid using Horizontal Directional Drilling, thereby requiring only the entrance and exit holes to be dug, or by opening the entire length of the site's red line boundary. Anticipated machinery to be used will be a HDD Drill, 5 tonne excavator, and floor saw.
- 1.4 Accordingly, this WSI sets out the details for a programme of archaeological watching brief to be undertaken during groundworks related to the laying of this replacement pipe, including aims, objectives, methodology, monitoring arrangements, deliverables, staffing and programme, and is submitted to Historic England for approval in partial fulfilment of the conditions of Scheduled Monument Consent.
- 1.5 In the event that groundworks uncover physical remains of the Wall itself, either the stone element of the Wall or its rubble core, work will need to be stopped and Historic England contacted for instruction and approval of next steps.

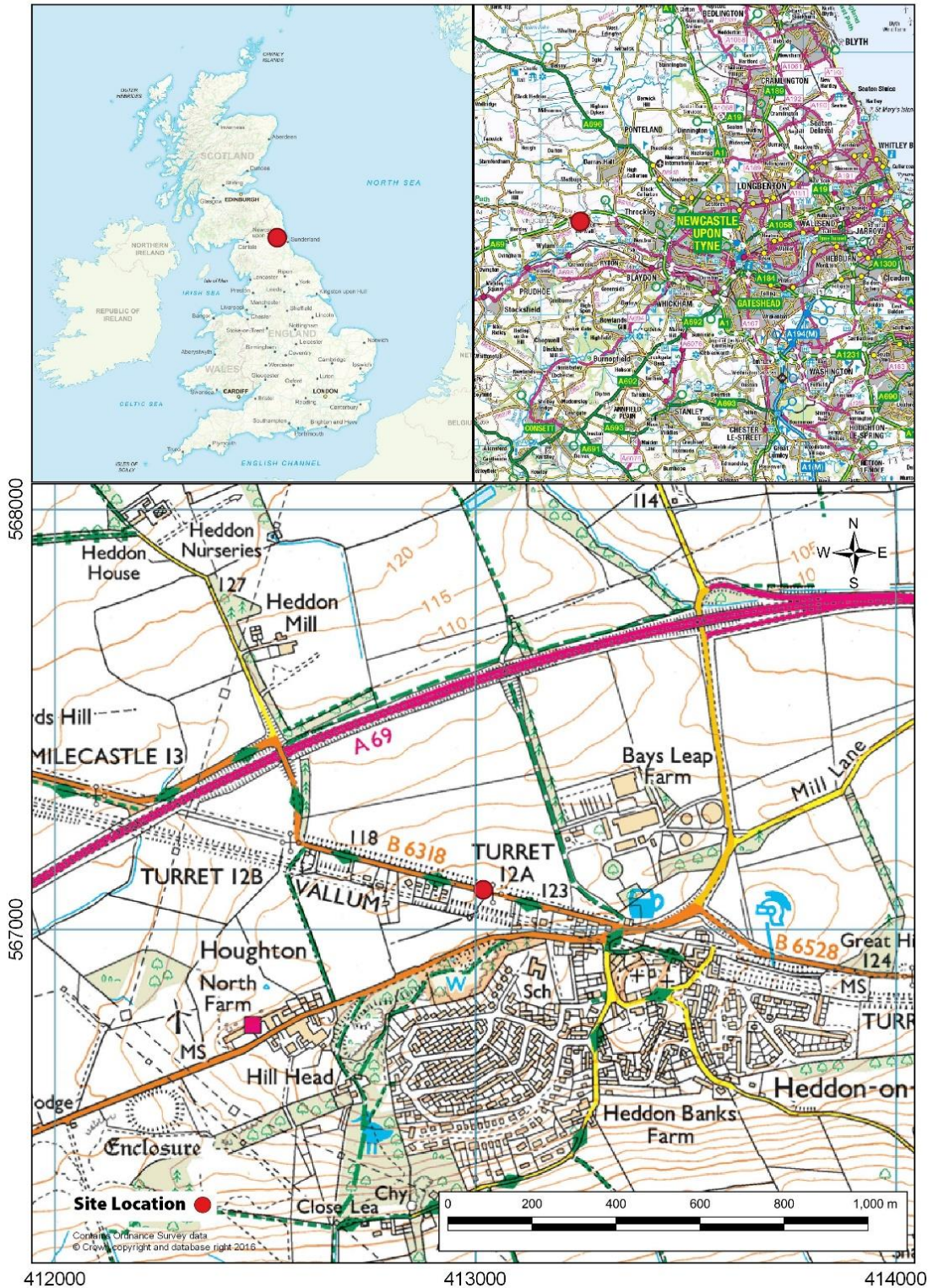


Figure 1. Site Location

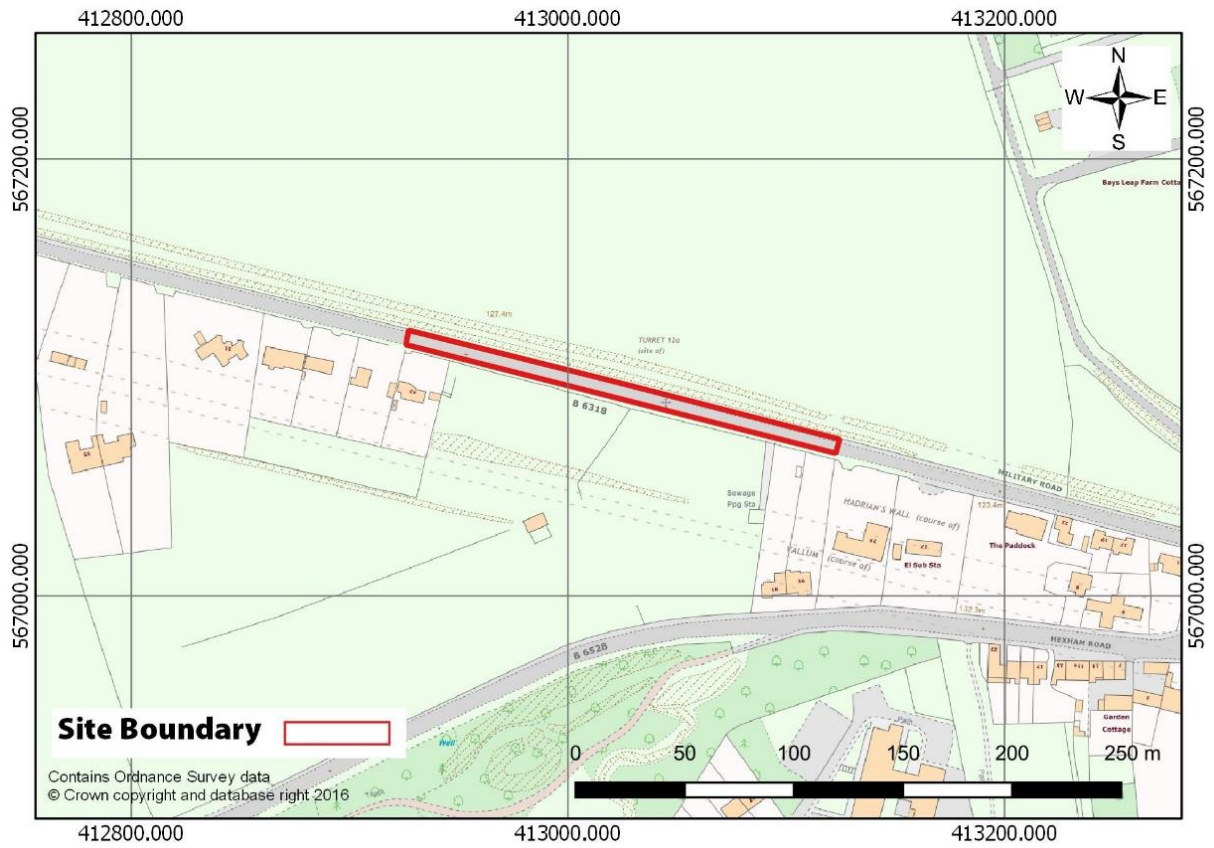


Figure 2: Site location plan showing red line site boundary and line of proposed new gas pipe

2 SITE LOCATION AND DESCRIPTION

- 2.1 The site comprises a section of Military Road which lies between the properties of 29 and 45 Military Road. It sits within the far north-western corner of the village of Heddon-on-the-Wall, Northumberland and is located c. 400m – 500m to the south of the A69. The site is centred on NGR NZ 413020, 567095 (Figures 1 and 2).
- 2.2 The section of Military Road to be developed is orientated west-north-west to east-south-east. It sits on a gentle slope, lying at around 127m AOD at its western end and 124m AOD at its eastern end. The red line boundary measures 253m in length and 2m in width and has a total area of 1400m². It is bounded to the north and south by open fields, to the east by the properties of 16 and 18 Hexham Road, and to the west by the properties of 43 and 45 Military Road.
- 2.3 The site sits atop at least two geological bedrock types, the Stainmore Formation – Sandstone and the Pennine Lower Coal Measures Formation – Mudstone, Siltstone and Sandstone. Stainmore Formation is identified by the BGS as a sedimentary bedrock, formed approximately 319 to 329 million years ago in the Carboniferous Period in an environment dominated by swamps, estuaries and deltas. It is described by the BGS as a ‘cyclical repetition of sandstones, siltstones, mudstones, thin limestones and some coals’. The Pennine Lower Coal Measures Formation – Mudstone, Siltstone and Sandstone, meanwhile, comprises sedimentary bedrock formed approximately 318 to 319 million years ago, also in the Carboniferous Period when the local environment was dominated by swamps, estuaries and deltas. It is described by the BGS as ‘Interbedded grey mudstone, siltstone and pale grey sandstone, commonly with mudstones containing marine fossils in the lower part, and more numerous and thicker coal seams in the upper part’.
- 2.4 Overlying the bedrock, the superficial geology of the area is Devensian Diamicton Till, formed up to 2 million years ago in the Quaternary Period when the local environment was dominated by ice age conditions.
- 2.5 Numerous boreholes have taken place within the vicinity of the site, including one within its footprint. This survey, carried out in 1969, recorded topsoil deposits with 0.30m average thickness overlain by ‘mottled brown and grey silty sandy clay’ of 1m thickness.

3 ARCHAEOLOGICAL BACKGROUND

- 3.1 Presented below is a brief summary of the history of Heddon-on-the-Wall and a discussion of known archaeological assets within a 500m radius of the site. This information has been collated from a variety of readily available online sources, including Keys to the Past, created by Durham County Council's Archaeology Section and Northumberland County Council's Conservation Team; Historic England's Heritage Gateway; the Archaeology Data Service; and Heddon-on-the-Wall's Local History Society website, recommended by Historic England. Historic mapping has been studied through use of The Genealogist's historic map collections, the National Library of Scotland's OS map collections, and old-maps.co.uk.
- 3.2 There is little evidence of prehistoric activity within 500m of the site, although the HER records several prehistoric hut circles on Heddon Common in the approximate location of modern Trajan Walk and Remus Avenue. The site is now built over and there are no remains to be seen. These lay around 280m to the south-south-east of the proposed development site.
- 3.3 Heddon-on-the-Wall is perhaps most famous for lying within the Scheduled Ancient Monument of Mile 12 of Hadrian's Wall, defined by Historic England as 'Hadrian's Wall and vallum from East Town House, Heddon-on-the-Wall to the A69 trunk road in wall mile 12' (NHLE list number: 1010617). Hadrian's Wall was constructed in the early 2nd century AD and, apart from a short period during the mid-2nd century when Emperor Antonine attempted to expand the Roman territory further to the north, was the northerly frontier of Roman occupation in Britain until the early 5th century.
- 3.4 The Wall spanned approximately 70 miles from the Cumbrian to the Northumbrian coastline and was constructed of stone and turf, being 8 – 10 Roman feet wide. For most of its length a substantial ditch on the northern side provided additional defence. Small fortlets known as milecastles were constructed at regularly spaced intervals of about a mile and served as controlled crossing points; between these were two equally spaced towers known as turrets. Together the milecastles and turrets provided bases from which the curtain wall could be watched and patrolled. Subsequently, forts were built along the wall, some overlying former milecastles and turrets. At the same time, the vallum, a broad flat-bottomed ditch flanked by a pair of linear banks, was also added to the defensive system to the south of the Wall. Its main function was to act as a barrier to restrict access to the Wall from the south, but it also served as the communication link between the forts. However, no road per se was constructed on the vallum to enable this communication, and therefore a metalled track was later established in certain sections of its length.
- 3.5 In the later 2nd century various sections of the wall were refurbished and a new linear road, the 'Military Way', was added. This road linked all elements of the Wall defence and ran from fort to fort within the area bounded by the Wall and the vallum.
- 3.6 Historic England's list entry for the Scheduled Ancient Monument of Wall Mile 12, in which the proposed development site is located, is as follows:

The monument includes a section of Hadrian's Wall, its external ditch and the vallum from Heddon-on-the-Wall in the east to the A69 trunk road in the west. This section of the Wall corridor has wide views overlooking the Tyne valley to the south and east, whereas to the north and west the ground rises gently giving a less extensive view. The Wall survives as a buried feature for the whole of this section of its course. It lies beneath the B6318 road except at the west end of this section where it continues in a field up to the A69 trunk road. The wall ditch survives as an earthwork for much of this section, to a maximum depth of 1.5m. The upcast counterscarp, usually known as the 'glacis', also survives up to 0.3m high in the area from north of the Three Tuns Inn to the north of North Lodge. Turret 12a survives as a buried feature below

the B6318 road. The location of the turret is known from part excavation by Simpson in 1930. Turret 12b also survives as a buried feature below the B6318 road, probably extending south into the area of woodland to the west of North Lodge. As with turret 12a, part excavation by Simpson in 1930 located the site of this turret. The exact location of milecastle 12 has not yet been confirmed. In relation to the known sites of turret 12a and turret 11b, the site of milecastle 12 is expected to lie in the vicinity of Keeper's Cottage at Heddon-on-the-Wall. The vallum survives intermittently as an upstanding earthwork throughout this section. The mounds have been reduced by ploughing and the central ditch has silted up for most of its length. The south mound in this section reaches a maximum height of 1.5m, while the ditch has a maximum depth of 0.6m. The course of the Roman road known as the Military Way, which ran along the corridor between the Wall and the vallum linking the turrets, milecastles and forts, has not yet been confirmed in this section of the corridor. The property known as Tank House, North Lodge and an area east of it, between the Wall and the vallum, are totally excluded from the scheduling as are the houses and gardens numbered 43 to 57 Military Road. All other buildings, road surfaces and property and field boundaries within the protected area are excluded from the scheduling, but the ground beneath them is included.

- 3.7 Little intensive excavation has been carried on Mile 12 of the wall, and for the most part its survival rate, form, and construction history is known from modern planning-related development. However, Turrets 12a and 12b, approximately 200m to the west-north-west and east-south-east of 53 Military Road respectively, were examined and recorded during excavations carried out in 1930 by F. G. Simpson (Simpson 1931). The results are described thus:

The Turrets - Nos. 12a and b could not be excavated completely. At 12a the walls were reduced to ground level beyond the edge of the roadway, and 12b lay largely below the road, which at that point was too narrow for the whole of the interior to be opened up. At none of the turrets was the north face of the Wall exposed, but a thickness of 9 feet 3 inches was measured between 12b and [turret] 13, and again between [turrets] 13 and 13a, and may be taken as the standard for this sector. The three turrets are nearly uniform in plan, their external measurement being the normal 20 Roman feet square: a new feature in turret construction is the finished thickness of 4 feet throughout the side walls, as opposed to the normal thickness of 3 feet or thereabouts. One turret (29a, Blackcarts) has walls 3 feet 7 inches thick; otherwise 3 feet 3 inches is the greatest thickness. The doorways are in the normal position; the jambs have not been faced with stone slabs such as were found at 26b. In 12b and 13a rectangular platforms occupied the south side of the interior; 12a was too badly robbed for any trace of a platform to survive. The masonry of all three turrets is of similar quality, roughly finished, but solidly built with an abundance of good mortar.

Simpson 1931, 322-324

- 3.8 Several archaeological investigations have been carried out within 500m of the site during the last two decades. Surprisingly, Roman remains have been rare, with no in situ remains of that date found during works at 29, 45 and 57 Military Road, and only demolition material and cobbled areas recorded during an evaluation at 23 Military Road (ARS 2011; Cooper, Dougherty, and Henderson 2017; Garrett 2005; Proctor 2004; PCA 2005). In addition to these, watching briefs have been carried out at 47 Military Road (TWM 2002), 23 Military Road (ASDU 2008), and 45 Military Road (AAG Archaeology 2017), but although listed as events on Keys to the Past, could not be found online.
- 3.9 The Historic Environment Record also records the findspots of several Roman artefacts within 500m of the site. These include a Roman carved stone, found in 1932, around 300m to the west-north-west of the site; the remains of a Roman drain roughly 500m to its west-north-west; and two reused carved stones found in 1807, approximately 50m – 100m to the east of the site's eastern end.

- 3.10 Settlement at Heddon-on-the-Wall continued into the Medieval period, and the Church of St. Andrew is recorded as being the place of baptism in 653 AD for Peada, prince of the Middle Angles, and Sigebert, King of the East Saxons, by Bede (Cadwallader and Bates 1886, 244). Indeed, some Anglo-Saxon masonry lies within the fabric of the church today, as detailed in its Historic England list entry (NHLE list number 1042770), as well as pieces of carved Roman stone. The church lies approximately 200m south-east of the site and is a Grade I listed building.
- 3.11 Although Heddon-on-the-Wall was not included in the Domesday Survey of 1086, documentary sources attest that it and five surrounding townships (East Heddon, West Heddon, Houghton, Whitchester, and Eachwick) were granted by Henry I to Hugh de Bolbec in the early 12th century. Together, this land became known as the Bolbec Barony (Cawallader and Bates 1886, 245). In the mid-14th century, its lands were divided between two co-heiresses, with the manor of Heddon falling to Philippa, from whom it descended through the Dacres to the Howards, Earls of Carlisle (Cawallader and Bates 1886, 252).
- 3.12 Between 100-250m to the south-east of the site, recent excavations uncovered medieval industrial waste deposits within the Vallum ditch. Analysis and dating of the deposits showed that the ditch had been a large open feature between the 10th and 11th centuries and had been used to dump both domestic and industrial waste. The deposits showed that grain processing and possibly metalworking were being carried out nearby and that Heddon-on-the-Wall was a settlement of some importance in the early medieval period.
- 3.13 Heddon-on-the-Wall was an important mining location from at least the early 17th century onwards, and collieries and quarries were in use in the area until the 19th century. In 1717, the parish of Heddon-on-the-Wall was subject to inclosure of common lands and in 1752 the Military Road was constructed. During the early 19th century, services such as Poor Houses, schools and the railway came to Heddon-on-the-Wall, and the village underwent some development and expansion during the 19th and 20th centuries. Several of the buildings dating to this period of expansion are recorded under the HER as Grade II listed buildings. Those located within 500m of the site include: South Houghton farmhouse; North Noughton farmhouse; Merci Beaucoup cottage; No. 2 Cottage; and the school building, garden wall, gate, and railings of the Old Schoolhouse. These listed buildings form a small cluster roughly 400m to the south-west of the site. Bays Leap farmstead, around 250m to the north-east of the site, first appears on maps during this period.
- 3.14 Readily available historic maps depict the site as undeveloped farmland from at least the mid-19th century until 1951, when 43 – 57, 16 and 18 Hexham Road, and 17 - 29 Military Road were constructed. Maps produced from 1859 until at least 1980 depict the line of the vallum, indicating that this earthwork was still visible during that period.
- 3.15 It is important to note here that the line of the new gas main, although likely lying to the immediate north of the vallum, does incorporate the site of Turret 12a as it is depicted on historic mapping (Figure 3).

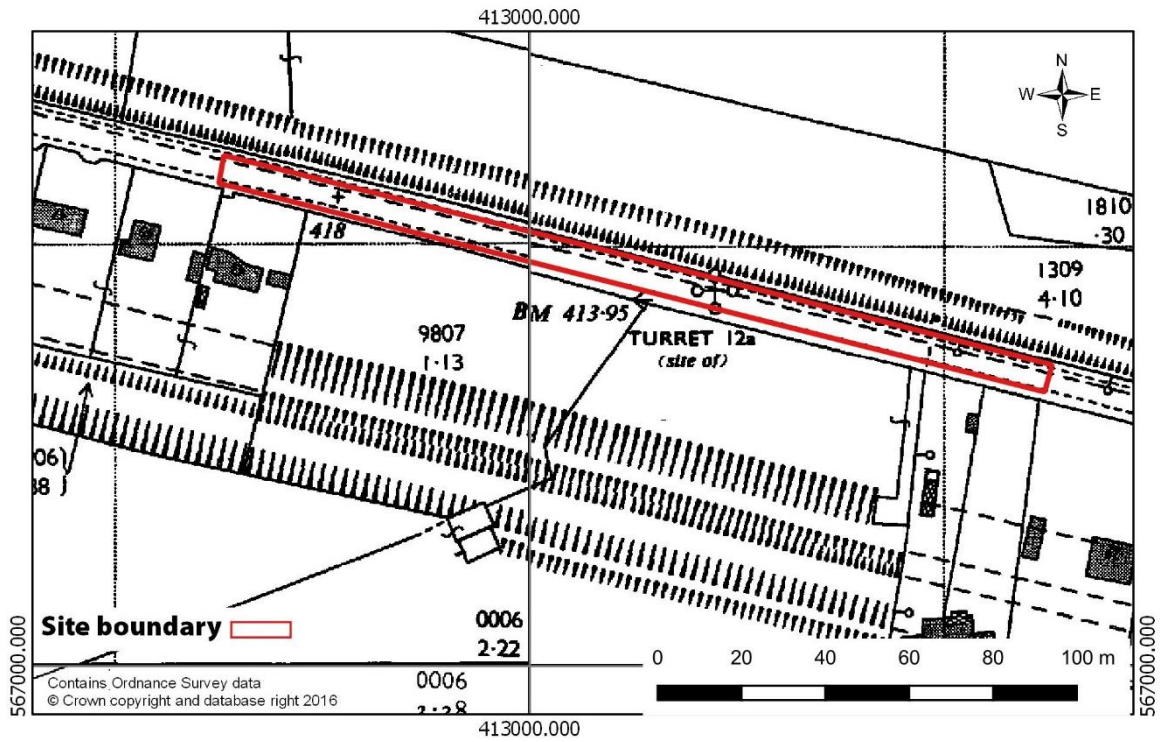


Figure 3: Site boundary overlain onto the 1963 1:2500 OS map, showing the suggested location of Turret 12a. The vallum is indicated by the hachers in the bottom of the figure, whilst the properties are located on top of Hadrian's Wall itself.

4 AIMS AND OBJECTIVES

Guidance

4.1 The Chartered Institute for Archaeologists (CIfA) defines a watching brief as:

"[...] a formal programme of observation and investigation conducted during any operation carried out for non-archaeological reasons. This will be within a specified area or site on land, in an inter-tidal zone or underwater, where there is a possibility that archaeological deposits may be disturbed or destroyed. The programme will result in the preparation of a report and ordered archive." The purpose is to:

a) allow, within the resources available, the preservation by record of archaeological deposits, the presence and nature of which could not be established (or established with sufficient accuracy) in advance of development or other potentially disruptive works

b) provide an opportunity, if needed, for the watching archaeologist to signal to all interested parties, before the destruction of the material in question, that an archaeological find has been made for which the resources allocated to the watching brief itself are not sufficient to support treatment to a satisfactory and proper standard

A watching brief is not intended to reduce the requirement for excavation or preservation of known or inferred deposits, and it is intended to guide, not replace, any requirement for contingent excavation or preservation of possible deposits.

The objective of a watching brief is to establish and make available information about the archaeological resource existing on a site.

CIfA 2020

Specific Objectives

4.2 In order to meet the aims outlined above, the specific objectives of the watching brief will be as follows:

- To provide a suitably qualified archaeologist or archaeologists to observe all groundworks associated with the development;
- To identify, investigate and make a proper record of any features of archaeological interest uncovered during the course of the works, including interpretations of their date, function, quality and condition;
- To retain any artefacts and samples from deposits of interest as necessary in order to further investigate their significance and date;
- To prepare a report on the results of the watching brief, including specialist analyses as necessary;
- To make necessary provisions for public dissemination of the report; and
- To submit an ordered archive to the nominated recipient museum/body (see Section 7).

Research Aims

- 4.3 The regional archaeological research framework for the North East (Petts and Gerrard 2006) specifies the gaps in knowledge throughout the North West region within a number of key themes, including:
- the Iron Age to Roman transition;
 - roads and communication;
 - the Roman military presence;
 - native and civilian life;
 - material culture;
 - trade and industry;
 - religion;
 - burial;
 - landscape and environment;
 - and the Roman to early Medieval transition.
- 4.4 A research agenda and strategy has been produced specifically for Hadrian's Wall (Symonds and Mason 2009). Agenda priorities cover similar themes as the those of the North West Research Framework, but also identify areas more specific to the Wall itself, such as:
- the form, chronological narrative and location of the Pre-Hadrianic frontier on the Tyne-Solway Isthmus and The Stanegate;
 - the precise course and dimensions of the Wall, the chronology of its construction, and its function;
 - and the chronologies and function of the Wall's forts, extramural settlements, outpost forts, and wider hinterland.
- 4.5 During the watching brief, the investigation of any features which may offer insight into any of these categories will be guided by initiative. However, the project research agenda will be reviewed, and any other relevant research objectives will be defined as the groundworks are underway in light of specific findings.
- 4.6 Appropriate specialists (including the Historic England Regional Science Advisor and nominated Inspector of Ancient Monuments) will be consulted as necessary during the mitigation stages to ensure that the project addresses relevant national, regional, and local objectives.

5 METHODOLOGY

Standards

- 5.1 Headland Archaeology is a Registered Organisation (RO) with the Chartered Institute for Archaeologists (CIfA). All archaeological works will be supervised by appropriately qualified professionals with relevant experience, who are members of the CIfA at a commensurate level.
- 5.2 All work will be carried out in accordance with the following regulations and guidance:
- Chartered Institute for Archaeologists Code of Conduct (CIfA 2019);
 - Standards and Guidance for an Archaeological Watching Brief (CIfA 2020); and
 - MoRPHE (Management of Research Projects in the Historic Environment, Project Planning Note (PPN) 3: Archaeological Excavation (Historic England, 2015).

Roles and Responsibilities

- 5.3 The Client is Northern Gas Networks. The Client or their Principal Contractor will provide all necessary welfare, site security, plant, and attendances relevant to the archaeological works specified in this WSI.
- 5.4 Headland Archaeology has been appointed to implement the archaeological watching brief as outlined in NGN's Scheduled Monument Consent application S00241208 of 8th April 2021, including the preparation of this WSI.
- 5.5 Headland Archaeology will provide suitably qualified and experienced personnel to undertake the watching brief works on site (see Staffing, Section 9 below).
- 5.6 Headland Archaeology is also responsible for undertaking the reporting stages of work described in this WSI and for the preparation of RAMS documentation prior to works commencing.
- 5.7 Appropriately experienced specialists within Headland Archaeology will provide relevant on-site and post excavation (assessment and analysis) specialist support as required.

Monitoring

- 5.8 The programme of archaeological work will be monitored on behalf of Historic England by Don O'Meara, Inspector of Ancient Monuments. The Northumberland County Council Archaeological Officer will be kept abreast of developments regardless of this work being carried out as permitted development.
- 5.9 Historic England will be informed of commencement of the archaeological work and their Inspector of Ancient Monument identified above will be responsible for the sign-off of fieldworks and associated documentation.
- 5.10 The nominated Inspector of Ancient Monuments will be kept informed of progress during the course of all archaeological works through regular communication by telephone/email. During the works the opportunity to monitor the archaeological works through site inspection will be afforded to ensure compliance with this Archaeological WSI.

- 5.11 The results of the watching brief will be fully reported and provided to Historic England and the Northumberland Historic Environment Records, and the project archive will be deposited with the Great North Museum: Hancock.

Health and Safety, Preparation and Access

- 5.12 Headland Archaeology operates in accordance with the health and safety procedures as set out in:
- The Health and Safety Work Act (1974) and related legislation; and
 - The Federation of Archaeological Managers and Employers' Health and Safety Manual (2010).
- 5.13 Prior to commencing work on site, a health and safety risk assessment will be prepared by Headland Archaeology, to be read and acknowledged by all site staff. Measures will be introduced to mitigate or control all identified hazards.
- 5.14 The risk assessment will include the following (not exhaustive):
- Covid-19
 - Social distancing will be practiced at all stages of the project, from travel, fieldworks, and on-site welfare facilities.
 - Staff to use, and regularly disinfect, personal hand tools
 - Utilities/Services
 - It will be the responsibility of the Client or their Principal Contractor to identify and plan for avoidance of all utilities and services.
 - It will be the responsibility of the Client or their Principal Contractor to issue any required permits to dig, involving (as a minimum) the following protocol: A pre-start walkover will be carried out, up-to-date utilities plans will be checked against excavation locations, a utility detection of excavation locations may be required, and Cable Avoidance Tool (CAT) (and genny, if necessary) by a trained and responsible person will be implemented. All plant and vehicle movements in the vicinity of overhead infrastructure to be appropriately controlled.
 - Personal Protective Equipment
 - Necessary personal protective clothing and equipment, including flame retardant overalls, hard hats, eye protection, hi-vis clothing, reflective jackets, CUT-5 gloves and protective footwear, will be used at all times on site.
 - Appropriate measures will be taken to ensure the health and safety of any staff who may come into contact with contaminants; measures may include on-site adaptation of the agreed works.
 - Competencies
 - All site staff, including subcontractors, machine operators and visitors, will prove that they have the necessary competencies (e.g. CITB training for machine operators, CSCS for site personnel) and any other necessary health and safety qualifications.
 - Welfare
 - On-site welfare facilities will be made available for the use of the site archaeologists by the Client or their Principal Contractor.

- Security
 - Site security, including appropriate segregation of works areas from the public, will be provided by the Client or their Principal Contractor.

Access

- 5.15 Site access and access between works locations, including any satellite parking locations, will be confirmed before commencement of groundworks.
- 5.16 The archaeologists will conform to the Client or their Principal Contractor's arrangements for site inductions, signing in procedures, parking, walking and vehicle movement routes.

Archaeological Watching Brief Methodology

General Arrangements

- 5.17 An archaeological watching brief is defined as the observation, by an appropriately qualified archaeologist, of third-party activities which may impact upon or expose archaeological remains during on-site construction activities. A watching brief is not intended to reduce the requirement for excavation or preservation of known or inferred deposits, and it is intended to guide, not replace, any requirement for contingent excavation or preservation of possible deposits.
- 5.18 The specific area to which this WSI relates is a 253m length of the existing gas network running along Military Road between 43 and 29 Military Road, as illustrated in Figure 2. The Client has confirmed that the maximum footprint of ground works anticipated for the laying of the replacement gas main will measure 253m x 2m, situated above the existing main. The new pipe will either be laid using Horizontal Directional Drilling, thereby requiring only the entrance and exit holes to be dug, or by opening the entire length of the site's red line boundary. Anticipated machinery to be used will be a HDD Drill, 5 tonne excavator, and floor saw.
- 5.19 Prior to commencement an OASIS record will be initiated. The allocated OASIS project reference will be used in all future deliverables.
- 5.20 Headland will be notified of the groundworks programme in advance of the works by the Client or their Principal Contractor, who will arrange for site attendance by suitably qualified archaeological personnel.
- 5.21 The Client or their Principal Contractor will facilitate access for the site archaeologist(s) to observe the groundwork activities being undertaken.
- 5.22 During the watching brief the attending archaeologist(s) will observe the excavation of topsoil/overburden until the upper surface of the natural geology is exposed.
- 5.23 The archaeologist(s) will require that excavation works pause in order to allow the inspection of any exposed deposits of archaeological potential. Adequate time will be afforded to the archaeologist to characterise any archaeological remains present before groundworks continue in that area.
- 5.24 It is expected that overburden is removed as 'cleanly' as possible in watching brief areas, leaving a surface suitable for the identification of any significant archaeological remains present.
- 5.25 If archaeological potential is confirmed by Headland, all groundworks in the vicinity will cease once the remains have been fully exposed to allow for sufficient recording. If these remains are believed to be unrelated the Wall or vallum, groundworks may continue outside the area of archaeological

interest. However, if the remains are believed to pertain to the physical structure of the Wall, either the stone element or the rubble core, work will cease immediately, and Historic England will be contacted to identify and approve next steps. If any of the exposed archaeological remains cannot be adequately recorded within the existing watching brief arrangements, work will be suspended until a strategy has been agreed with the Client and/or the Principal Contractor, in consultation with Historic England.

- 5.26 If significant finds/features of any date are identified during the watching brief, a suitable programme of mitigation would be agreed with Historic England's nominated Inspector of Ancient Monuments.

Investigation and Recording

- 5.27 Daily site diaries and watching brief record sheets will be maintained by the watching brief archaeologist, recording both negative and positive archaeological information.
- 5.28 As necessary (in the event of significant archaeological findings), site visits will be made by the Headland project manager, Historic England and others as appropriate.
- 5.29 All exposed features will be sampled/investigated sufficient to achieve the objectives of the watching brief, with an emphasis placed on understanding the relationships between structures where intersections occur, the profiles of cut features and the characteristics of any fills and finds. As a general approach, the following feature percentages will be investigated (subject to review of specific circumstances on site):
- 50% of all discrete features initially (half section or quadrant depending on size),
 - at least 20% of all linear features; 50% of enclosures
 - 50-100% structures or occupation features e.g. hearths, floors, middens
 - 50-100% of layers or features relating to industrial activity
 - 100% all remains relating to funerary or ritual activity.
- 5.30 Additional excavation may be required following consultation.
- 5.31 The archaeological features will be recorded using a standard pro-forma recording system, including drawings, textual description and photographs. Remains will be located by reference to the OS National Grid using DGPS or similar.
- 5.32 The photographic record will comprise high-resolution digital images (16MP or higher) taken in dual JPEG and RAW/TIFF format with a supporting index.
- 5.33 The drawn record will comprise hand-drawn plans of the site at a suitable scale, typically plans at scale 1:50 for area locations, 1:20 for features, and sections at scale 1:10.
- 5.34 Any significant artefacts will be recovered and recorded with reference to context and location.
- 5.35 All artefacts will be labelled, packed and stored in appropriate materials and conditions to ensure that no deterioration occurs. All artefact/ecofact processing/storage will be carried out in accordance with UKIC (United Kingdom Institute for Conservation) principles of archaeological conservation and will accord with relevant Chartered Institute for Archaeologists' Guidelines on Finds Work (2014).

Human Remains

- 5.36 Any finds of human remains during the course of the project will be left in situ, covered and protected and the Coroner will be notified. Recommended procedures of Mitchell and Brickley 2017 will be followed.
- 5.37 If removal is agreed, it will take place under appropriate regulations (normally a licence is required from the Ministry of Justice) and with due regard for health and safety issues and the requirements of the Burial Act 1857.

Environmental Sampling

- 5.38 Palaeoenvironmental samples will be taken where possible/appropriate, and according to standard and accepted environmental sampling policies outlined in the Chartered Institute for Archaeologists Standard and Guidance documents, and the Historic England guidance Environmental Archaeology; A Guide to the Theory and Practice of Methods, from Sampling and Recovery to Post-excavation (second edition) (2011).
- 5.39 Bulk environmental soil samples for charred plant macrofossils, small animal bones, and other artefacts will be collected from appropriate, well-sealed and dated/datable archaeological contexts. Samples of 40 litres will be collected, or 100% of smaller contexts.
- 5.40 For deposits where anaerobic preservation is identified, 20 litre bulk samples will be collected for the retrieval of uncharred plant macrofossils and insects.
- 5.41 Appropriate provision will be ensured for the application of scientific dating techniques, including dating of industrial features/materials.
- 5.42 Where necessary, the regional Historic England Science Advisor will be consulted.

Small finds policy

- 5.43 All artefacts identified during the course of the site work will be collected, processed, sorted, quantified, recorded, labelled, packed and stored appropriately. The treatment of artefacts and environmental samples will be in accordance with the ClfA's Guidance for the Collection, Documentation, Conservation and Research of Archaeological Materials (2014).
- 5.44 Sufficient artefacts will be retained to determine the date and function of the feature or deposit. If unsure as to the date of the context, all artefacts will be retained for further assessment.
- 5.45 Artefacts will be bagged by archaeological context. The location of special (or 'small') finds will be three-dimensionally recorded.
- 5.46 Excavated spoil will be examined for artefacts and these will be retained and recorded, except for material of a modern date which will be noted but not retained.
- 5.47 Contingency will be made for external specialist advice and conservation needs on-site should unexpected, unusual or extremely fragile and delicate objects be recovered. X-raying and storing of metalwork and other delicate objects will be undertaken by an appropriate external specialist facility.

Treasure

- 5.48 If any objects are recovered that are deemed to potentially qualify as treasure, Headland Archaeology will consult with the Finds Liaison Officer for the Newcastle & Northumberland (Andrew Agate) to determine the object's status. Objects that qualify as treasure will be notified to the local coroner within fourteen days of discovery, in accordance with The Treasure Act 1996 Code of Practice (Revised).

Toolbox Talks

- 5.49 Headland Archaeology will implement toolbox talks, held with the Client or their Principal Contractor, to develop a protocol and lines of communication to enable access to observe the relevant groundwork activities being undertaken, including depths of excavation requiring watching brief.
- 5.50 The Client/Principal Contractor will be requested to cease pipe trench excavation until the area has been 'signed off' by the watching brief archaeologist.
- 5.51 In addition, it will be made clear that should the watching brief identify archaeological remains, further construction works in the area must cease until the Inspector of Ancient Monuments for Historic England has been consulted.

Unexpected Finds

- 5.52 If hitherto unknown archaeological remains are encountered during groundworks, Historic England will be consulted to agree the significance of the findings and the appropriate resources and methods required to properly record them. Heritage 'significance' may be defined by either national factors (e.g. based on Criteria for Assessing the National Importance of Monuments (DCMS, 2010) or HEAN12), or regional and local factors.
- 5.53 The 'spot-dating' of artefacts and samples, and specialist opinion on the state of preservation and significance of the remains is likely to be necessary in order to inform the decision-making process.

6 POST-EXCAVATION AND REPORTING

- 6.1 On completion of the watching brief, the site records will be checked and cross referenced. Any artefacts and samples recovered will be sent along with contextual information to the relevant specialists for analysis (see Staffing, Section 9).
- 6.2 If samples with palaeoenvironmental potential are considered worthy of processing and reporting, this will not be commissioned until the necessity for this has been specified in consultation with Historic England.
- 6.3 It is expected that a single reporting stage will be sufficient to detail the results of the watching brief, including any unexpected and/or significant discoveries. However, this will be discussed and clarified with Historic England and the Local Authority Planning Archaeologist upon completion of the fieldwork.
- 6.4 The watching brief report will be prepared and submitted to fulfil the terms of the Scheduled Monument Consent. The report will contain:
- a non-technical summary;
 - a table of contents;
 - an introduction with acknowledgements, including a list of all those involved in the project and the location and description of the fieldwork area;
 - a statement of the project aims and objectives;
 - an account of the investigation methodology undertaken, and an assessment of its effectiveness;
 - a description of the archaeological findings;
 - plans and section drawings at appropriate scales;
 - other maps, plans, drawings and photographs as appropriate;
 - a description of any finds and palaeoenvironmental samples collected, including an exposition of the methodologies employed, a statement on the presence or absence of material, and an assessment of preservation. An interpretation of the finds including reference to any unusual or important features of the assemblage will also be included. Specialist assessments of all important groups of finds, materials and samples as necessary, including proposals for any proportionate further analysis;
 - a discussion and assessment of the results, with a statement of the heritage significance of any identified archaeological features/sites on a local/regional/national scale;
 - a list of contents of the project archive and a statement of its location/proposed repository; and
 - a bibliography of sources consulted.
- 6.5 Any observations on the content of the final report made by the Client, Historic England and the Local Authority Planning Archaeologist will be taken into account before the final version is issued.
- 6.6 Digital copies of the report will be issued to the Client, Historic England, and the Local Authority Planning Archaeologist.
- 6.7 An OASIS summary sheet will be completed, and the final report uploaded to the OASIS online Grey Literature Report Library where it will be incorporated into their datasets for public

consultation. Deposition of the report with the HER and uploading the project data to OASIS will be considered as placing the results of the project in the public domain.

- 6.8 Wider publication of the results will be considered, although the content and place of publication will be dependent on what is found, and will be subject to discussion with Historic England.

7 ARCHIVE

General Standards

- 7.1 The project archive will consist of all original records, artefacts, ecofacts/samples and all documentation that relates to the archaeological works. Copies of the written scheme of investigation, report and any relevant correspondence will be included. The recipient museum will be the Great North Museum: Hancock.
- 7.2 Headland will adhere to Tyne and Wear Archive and Museums' policies and guidelines for the deposition of archaeological archives. This will include ensuring that suitable notice is given to the Collection Manager that fieldwork will be taking place, and that a Project Notification pro-forma is issued in advance of the project starting. It is understood that accession numbers are allocated at the beginning of the post excavation stage. Details of the archive location will be included in the archaeological fieldwork report.
- 7.3 Any artefacts discovered are the property of the landowner. The landowner will be contacted on completion of the site work and agreement sought through provision of a signed transfer of title agreement for the artefacts to be deposited as part of the site archive.
- 7.4 The archive will comply with the United Kingdom Institute for Conservation (Archaeology Section) Guidelines for the Preparation of Excavation Archives for Long-Term Storage (1990), the Society of Museum Archaeologists Towards an Accessible Archive (1995) and to the reasonable requirements of the recipient museum (GNM 2020).
- 7.5 The archiving of digital data will conform to the standards and guidance set out by the Archaeological Data Service (ADS 2020), Brown 2011, and Historic England/ClfA/Archaeological Archives Forum 2019.
- 7.6 The strategy for selection and data management (set out below) is informed by the Chartered Institute for Archaeologists' and Headland's own archiving procedures.

Selection Strategy and Data Management Plan

Physical Archive

- 7.7 In accordance with Section 4 of Archaeological Archives: A Guide to Best Practice in Creation, Compilation, Transfer and Curation (Brown 2011), a rigorous process of selection and discard will be followed, in consultation with the Tyne and Wear Archives and Museum Service, so that only those elements that are considered of significance for potential future study will be retained.
- 7.8 This strategy will be reviewed as work proceeds at each stage of the Project in light of the specific findings, the aims and period specific research objectives of the archaeological work (see Section 4), and the significance of any material recovered.
- 7.9 At the outset of the project it is thought that the Roman and Post-Medieval periods are most likely to be represented. In general, all non-modern (i.e. pre-1800) artefacts will be retained. If appropriate, 'small finds' will be recorded three dimensionally, otherwise bulk finds will be collected by context. Finds will be treated in accordance with the Watkinson and Neal 2001 and stored in controlled conditions where appropriate. All artefacts will be retained, cleaned, labelled and stored as detailed in the guidelines of the ClfA (2014). Conservation, if required, will be undertaken by approved conservators. Appropriate Institute of Conservation (ICON) guidelines (<https://icon.org.uk/groups/archaeology>) will apply and the conservator/s will be ICON register.

- 7.10 Headland will liaise with Historic England and the internally appointed post-excavation specialists regarding the retention or recording and disposal on site of diagnostic and undiagnostic worked stone and ceramic building material, and during subsequent stages of post-excavation assessment and analysis the strategy for retention of sample residues and flots. Where material not selected for retention is discarded on site, Headland Archaeology will liaise with the Principal Contractor to confirm the appropriate location for discard which conforms to the site waste and soils management plans.
- 7.11 In light of any unexpected finds, the selection strategy will be updated and circulated to Historic England in consultation with Headland's own specialist team. The final selection strategy at archive compilation stage will accompany the project report as an appendix and will be included within the archive to the receiving museum.

Digital Data

- 7.12 All digital data arising from the archaeological mitigation works will be managed in accordance with Headland's procedures for secure storage of data and retrieval from site. All data collection equipment (cameras, GPS) will be removed from site daily and data backed up routinely in accordance with the in-house file structure. Copies of data will be stored locally for routine retrieval on site and backed up on the Headland Archaeology Datto cloud-based server, enabling access for members of the project team. File structures and naming conventions will accord with Headland's internal guidance document 'Digital Archive Preparation Guidance (England) ARC-P07' (updated 2017).
- 7.13 The selection of digital data for inclusion in the site archive will be undertaken by Headland's appointed Project Manager, in liaison with their Archives Manager. Digital data selected for retention may include (subject to the final nature of the site archive):
- Databases and excel records generated during site archive completion and assessment;
 - Images: Site photography, scans of site drawings and context records, X-rays and graphics;
 - Text: Digital copies of Word documents; including this WSI, assessment reports, updated project designs and site archive completion report;
 - Excavation and Finds Data: All 'born digital' records, in their final file versions, will be selected for archive. This may include those produced externally, subject to the addition of metadata and compilation into accessible formats: database records (covering excavation, post-excavation and assessment); third party specialist finds data; conservation records; survey data;
 - Images: Born digital photographs, born digital drawings, digitized drawings and sketches, video, graphs and tables;
 - Text: Born digital text files in accessible formats (in-house text in Word).
- 7.14 Selection strategy reviews will be undertaken at periodic intervals throughout the post-excavation stage, with key hold points following completion of the site work and ordering of site data for specialist input, at assessment and analysis reporting stage, with the Historic England, Northumberland HER, and Tyne and Wear Archives and Museums Service included in any discussions regarding discard or retention of materials.

8 PUBLIC BENEFIT

- 8.1 Due to the nature of the project and the likely working conditions on site it is considered unlikely that public promotion of any findings will be possible through site open days or participation exercises while work is ongoing. However, in the event of unexpected/significant findings, Headland, in consultation with the Client and Historic England, will explore options for wider dissemination of the results, either as press/media releases as work is ongoing or through talks and publication on completion of the project.
- 8.2 As part of the standard reporting approach, information on the archaeological work regardless of the significance of any findings, will be made publicly accessible via the HER and OASIS grey literature report library.

9 STAFFING AND PROGRAMME

Staffing

- 9.1 The Archaeological Project Manager is Emma Ings BA (Hons) ACIfA, Archaeological Consultant with Headland Archaeology. Emma will be responsible for preparation of technical documentation (including this WSI), programme management, and interface between the Client/Principal Contractor, Historic England, and the archaeological site team.
- 9.2 The field team will comprise one project officer from Headland's chosen subcontractor, Gerry Martin Associates, who is a member of the ClfA, and additional site assistants as necessary.
- 9.3 As necessary during the works, and dependent on the nature of the findings, additional specialist input will be drawn from Headland's post-excavation and specialist services teams, headed up by Alex Smith (Head of Post Excavation) and Michael Wallace (Environmental Manager). Specific artefact and environmental specialists are identified in the table below.

Table 1: Headland Archaeology Post Excavation and Specialist Staff

Person	Role	Specialism
Alex Smith	Head of Post-excavation	PX management, Roman specialist
Julie Franklin	Finds, Archives & Post-excavation Project manager	PX project and specialist management; medieval and post-medieval finds, medieval and post-medieval pottery (Scotland); Medieval/post-medieval specialist
Julia Bastek-Michalska	Graphics manager	Graphics management, all illustration, typesetting
Claire Christie	Senior Post-excavation Project Officer	Stratigraphic analysis, PX management, report writing, training, GIS, C14, prehistoric specialist
Owain Scholma-Mason	Post-excavation Project Officer	Stratigraphic analysis, report writing, junior specialist in prehistoric pottery, prehistoric specialist
Kate Turner	Senior Environmental Specialist	Plant remains, geoarch
Michael Wallace	Environmental Manager	Plant remains, Plant isotope
Angela Walker	Environmental specialist	Plant remains
Jason Stewart	Geoarchaeologist	Geoarchaeology
Laura Bailey	Environmental specialist	Plant remains, charcoal, faunal remains
Sara Machin	Senior Finds Specialist & post-excavation coordinator	CBM, pottery (Roman), management of PX systems, PX project management
Alexandra Kriti	Post-excavation Supervisor	Processing, archiving
Anna Rebisz-Niziolek	Post-excavation Supervisor	Processing, IA/Roman pottery, archiving
Amy Koonce	Post-excavation Supervisor	General finds specialist (assessment level); Post-Roman registered finds, archiving
Steve Roe	Post-excavation Supervisor	Processing

Person	Role	Specialism
Clare Powell	Post-excavation Assistant	Processing, archiving
Suzanne McGalliard	Osteologist/Post-excavation Project Officer	Osteology, stratigraphic analysis, report writing
Rafael Maya Torcelly	Illustrator	Graphics, IT
Beata Wieczorek-Oleksy	Senior Illustrator	Graphics
Eleanor Winter	Illustrator	Graphics

Programme

- 9.4 The site works are due to commence on the 17th May 2021 and are programmed to last 19 days.
- 9.5 On completion of the watching brief, the final report (single phase 'Archive Report') will be prepared within 6 weeks subject to receipt of specialist reports and any specific requirements of Historic England. The post-excavation programme may be subject to revision in the event that significant finds are made.
- 9.6 The archive will be deposited within 12 months of the completion of the site works.

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Heddon-on-the-Wall Local History Society

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