

Proposed Gas House Conversion
Raby Rising
County Durham

archaeological works
written scheme of investigation 21242
on behalf of
Raby Estates

1. Project background

1.1 Planning permission is sought for the conversion of the former Raby Estate gas house into an energy centre, as part of the Raby Rising project. Groundworks associated with this project include the construction of service trenches (Figure 1). These groundworks are primarily located between the walled garden and the former gas house located to the east. The Durham County Council Archaeology Section have indicated that an archaeological watching brief should be maintained during groundworks associated with the works. The planning authority have requested that a written scheme of investigation outlining these mitigation works should be submitted with the application. This document comprises that written scheme of investigation for the project.

2. Previous archaeological work

2.1 A rapid desk-based assessment¹ and a desk-based Heritage Assessment² were conducted in advance of the wider Raby Rising development. These works summarised the known and potential extent of the archaeological resource for the main Raby Rising development site and the surrounding area, including the area of development. Subsequently an archaeological evaluation³ was conducted within the area of the proposed car park to establish whether the remains of a Second World War camp visible on historic mapping survived. A written scheme of investigation was then prepared and agreed with the Durham County Council archaeology section for a scheme of archaeological mitigation works to be conducted for the development of the car park and the walled garden⁴.

2.2 Other works recorded at Raby include a watching brief conducted in 1991 during the excavation of two gas pipe trenches at the castle. The works exposed medieval deposits, and a wall under the Neville Gateway. Test pits were excavated at the Neville Gateway in 2002-3 which exposed the foundations of the structure. Two further schemes of work recorded in the study area comprise a survey of the archaeology of the County Durham Coal Measures and Magnesian Limestone escarpment, and an aerial photographic examination of the Durham Coalfield.

The archaeological resource

2.3 There are no indications on the site of an archaeological resource pre-dating the medieval period. However, as yet unidentified resources have the potential to be present.

¹ Greg Speed 2019 *Raby Castle, Walled Garden, County Durham: Rapid desk-based Cultural Heritage Assessment*. NAA 19/31.

² Archaeological Services 2020 *Raby Castle Park and Gardens, County Durham: heritage assessment*. Report 5345

³ Archaeological Services 2020 *Raby Castle Park and Gardens, County Durham: archaeological evaluation*. Report 5350

⁴ Archaeological Services 2021 *Raby Castle Park and Gardens, County Durham: archaeological mitigation*. Written Scheme of Investigation 21028

A selection of earlier prehistoric flints and possible associated remains for example have recently been identified at Staindrop⁵. The Raby Estate is crossed by the projected route of the Roman road between the Roman forts at Bowes and Binchester. The projected route is over 450m to the south of the development area, and there are no indications that a Roman resource would be present.

- 2.4 A fortified dwelling was probably present at Raby around 1130. The Neville family came into possession of the Raby manor in the 13th century, with a licence to crenelate granted in 1379. Most of the existing castle was built by Ralph Neville in the later 14th century. The castle was surrounded by a deer park in the period.
- 2.5 The former medieval village of Raby was cleared in the 18th century to make way for the parkland and gardens of the Raby estate. The village is believed to have been located in the approximate vicinity of the walled gardens. No evidence for the medieval village was identified during the evaluation trenching conducted for the proposed car park to the north. Evidence for the medieval village may survive below ground in the vicinity of the service trenches between the walled garden and the former gas house. It is also possible that the remains of ridge and furrow cultivation associated with the medieval village survive below ground in the area.
- 2.6 An army camp was established on the northern side of the access road to the walled garden during the Second World War. The archaeological evaluation established that the remains of the camp, comprising the foundations of the buildings, survive below ground. Small quantities of fuel residue, pot, glass and metal were recovered, dating from the later post-medieval period and into the 20th century. The remains correlate with records from historic mapping and aerial photography.
- 2.7 To the east of the walled garden is Gashouse Wood. At the northern edge of the wood a group of buildings are visible on the tithe map of 1839 and the 1st Edition Ordnance survey map, with additional buildings shown on later additions. On the first edition, one of these is labelled as Malt Kiln; Malt Kiln cottages are later labelled. The former gas house is amongst this group of buildings and is listed at Grade II (1310898); it has a date stone of 1910. A gasometer is shown on the 2nd edition map of 1897.

3. Groundworks and impact

- 3.1 The former gas house is being converted into an energy centre, to provide sustainable energy for the Raby Rising project. Groundworks associated with this include the construction of a major service route from the energy centre across the field to the walled garden. The service route will incorporate a series of mechanical and electrical services and is linked to an injection and an abstraction borehole (Figure 1, 2). The service run will include ground disturbance of c.3m wide and c.1m deep. As this is deep enough to go beneath the topsoil, it is probable that any archaeological resource that is present will either be truncated or removed. Additional excavations for services are also planned (Figure 2) which have the potential to remove or truncate an archaeological resource.
- 3.2 The underlying bedrock geology of the area comprises Carboniferous sandstone of the Stainmore Formation, overlain by Devensian diamicton till (The British Geological Survey). Survival of archaeological remains is usually good under these geological condition.

⁵ NAA 2020 *Winston Road, Staindrop, County Durham: archaeological evaluation*. Unpublished interim report 1502

- 3.3 It is possible that remains of the former medieval village at Raby and associated ridge and furrow field systems survive within the area to be disturbed, although the exact location of any such remains is unknown. There are no earthworks visible pertaining to the village; groundworks associated with the construction of the walled garden and landscaping of the surrounding parkland in the 18th century may have removed any such above-ground remains. There may still however be remains below the surface. Typically, the type of artefactual assemblage recovered from ridge and furrow cultivation is small, comprising the occasional pottery sherd, but it is possible that a full range of medieval artefacts could be recovered from remains relating directly to the medieval village. These remains and assemblages therefore have the potential to be impacted upon by the development, along with any as yet unidentified archaeological resource from earlier periods.
- 3.4 Where service trenches cross into the walled garden area, there is the potential for them to impact on remains relating to the walled garden. This is primarily likely to relate to the remains such as former paths and surfaces, small buildings such as greenhouses and gazebos, and for planting beds. Whilst foundations for small buildings may be slight, they still have the potential to survive where it has not been necessary to remove them during later development. Earlier cobbled surfaces very commonly survive, with new surfaces generally laid over them. Planting beds can vary considerably in depth, and it can be possible to identify these even where truncation has taken place. The potential for significant palaeoenvironmental evidence to be recovered from the gardens is minimal, as reworked soils will be present which limits their stratigraphic integrity, deposits will not contain a significant charred assemblage as is typically associated with domestic activity, and no anaerobic preservation is anticipated. An assemblage of broken flower pots, nails and artefacts associated with gardens can be anticipated to be present; occasionally metal plant labels are recovered from sites of this type.
- 3.5 Services cutting in from the north cross the area where the remains of the Second World War camp have been identified. This comprised the concrete and brick foundations of several of the buildings from the camp; in many cases these could be identified with the buildings of the camp as recorded on historic mapping and aerial images. The remains of floor surfaces were also recorded. Several stone culverts were also recorded. Given the nature of the materials used in construction, the state of preservation was good, such that a plan of the way the camp was constructed can be ascertained from the archaeological evidence. A small assemblage or artefacts similar to that recovered during the evaluation can be anticipated.
- 3.6 These services also have the potential to cut through a shallow ditch or drainage feature identified in evaluation trenching; this may be a former version of the drainage ditch running parallel along the field boundary to the north of the access road to the walled garden, recorded on historic mapping. 18th century pottery was recovered from this together with palaeoenvironmental evidence of similar date.
- 3.7 Service trenches between the gas house and the main road to the east are most likely to impact on former cobbled road surfaces of 19th century or later date, which would be regarded as being of limited significance.

4. Archaeological works

- 4.1 An archaeological watching brief is to be conducted during groundworks within the walled garden, as detailed in a previous WSI for that scheme (reference Archaeological Services WSI 21028). This watching brief will be extended to include the service trenches to be excavated in this area. An archaeological watching brief is also considered an appropriate response to disturbance caused by the excavation of services within the area of the WWII camp, as the area

will be minimally disturbed. A watching brief is also proposed for the main service trench running between the former the gas house and the walled garden and to associated boreholes, primarily as this has the potential to record remains pertaining to the medieval village.

Scheme summary

- 4.2 The tasks this project comprises may be summarised as:
- archaeological watching brief during groundworks
 - hand-excavation, sampling and recording of any archaeological deposits
 - post-excavation assessment and updated project design
 - production of a report on the above
 - archiving

Aim

- 4.3 The main aim is to record any archaeological deposits before they are impacted upon by the development.

Research objectives

- 4.4 Archaeological Services will complete the works within the research priorities set out in the *North-East Regional Research Framework (NERRF)* and its emergent successor. Currently the features on site are undated but this project has been designed to address these specific research objectives:

Medieval

MDi - Settlement

MDii – Landscape

MDxi – The medieval to post-medieval transition

Post-medieval

PM5 – Landscapes and mansions of the 18th century

Modern

MOvi – Military and defence

- 4.5 As much of the landscape of Raby has been substantially altered through the construction of the 18th century parkland, any evidence pertaining to the medieval landscape would of some significance, including the identification of ridge and furrow. The identification of a section of remains relating to the medieval village would also be of notable interest, as no archaeological evidence for this or its exact location has yet to be identified.
- 4.6 Evidence recovered from the area of the WWII camp has the potential to supplement the evidence likely to be recovered from the larger excavation planned to the west, for example in establishing if there are any differences in construction between the different types of buildings in different parts of the site.
- 4.7 The watching brief in the garden has the potential to provide additional information to that from the groundworks already planned, including the identification of remains which may relate to earlier garden layouts and features within them. Artefacts may be retrieved that enable broad date ranges for features to be established. The extent of initial landscaping for the construction of the walled garden may also be established where excavations are deepest.

Methods

- 4.8 Where possible excavation of any archaeological deposits identified will proceed by hand, following the *Standards for All Archaeological Work in County Durham and Darlington* (2021) and using standard archaeological procedures in accordance with our *Recording Manual* (v.5.5 2020). It is anticipated that where the wide service trench between the gas house and walled garden is exposed, topsoil will be stripped such that it will be possible to identify any archaeological remains cut into the natural subsoil beneath.
- 4.9 If proposed excavation works will be so shallow they will not go beyond modern made ground, or modern disturbance will have removed any potential archaeological deposits, or it is otherwise apparent that no archaeological resource will be identified, then the Durham County Council archaeology team will be informed.

Palaeoenvironmental sampling

- 4.10 Features pertaining to the medieval village or a potentially earlier archaeological resource will be subject to a palaeoenvironmental sampling strategy. Where such features are encountered, bulk palaeoenvironmental samples will be collected from the fills of stratigraphically secure cut features, and from other secure deposits that have the potential to provide palaeoenvironmental or economic information. Industrial residues and waste from craft and manufacturing processes will also be sampled appropriately. The size of sample collected and assessed will depend on the apparent potential value of the deposits. Sampling will not be applied to cultivation remains in the walled garden, to ridge and furrow, or to the WWII camp, as it is unlikely to be productive.

Artefact recovery

- 4.11 Bulk finds such as pottery and animal bone will be collected by context. Where unusually large quantities of finds, or very small types of material are encountered (e.g. fish bones), such that recovery by hand is not practicable, soil samples may be retained for sieving in the laboratories at Durham. Artefacts will be removed from site to a secure location at the end of the working day. A discard policy may be implemented following assessment by artefactual specialists.

Conservation

- 4.12 All field personnel are trained in artefact first aid and procedures for the recovery, packing and transportation of artefacts, following *First Aid for Finds* (2nd Edition). Where delicate artefacts are uncovered, appropriate immediate measures will be taken, and the artefacts will be transferred to the Conservation Laboratory at Durham for stabilisation. Should particularly complex conservation requirements become apparent, an appropriately qualified and experienced expert will be called to site to excavate and package the artefact.

Scientific dating

- 4.13 Samples of material suitable for scientific dating techniques including AMS C14 dating (for example, charred seeds from palaeoenvironmental samples), archaeomagnetism (for example, *in situ* substantively burnt clay from appropriate contexts that are otherwise undated) or thermoluminescence will be collected where appropriate. Recommendations for dating may be made in the assessment report. Advice on dating will be sought from the Historic England Regional Science Advisor if necessary. This type of dating is likely to be pertinent to remains from the pre-medieval period and to otherwise undated remains that have the potential to be early in date.

Human remains

- 4.14 It is considered unlikely that human remains will be encountered at this site. Where it is necessary to excavate the remains, the appropriate licence will be obtained from the Ministry of Justice. The client and Durham County Council Archaeology Section will be informed.

Liaison and monitoring

- 4.15 Records will be kept of the date, time and duration of all site visits. Reasonable access will be provided by Archaeological Services to the client, and the Archaeology team at Durham County Council, for monitoring purposes during fieldwork and any other stage of the works as required. As soon as Archaeological Services are asked by the client to attend site then the Archaeology team at Durham County Council will be informed so that a site monitoring visit can be arranged if required.

5. Capability statement

- 5.1 Archaeological Services Durham University specialises in the provision of services associated with planning permission in the north-east region. We have an established record of working with developers, architects, major industrial firms, and local and central government bodies. Archaeological Services incorporates a range of in-house services including palaeoenvironmental archaeology, artefact conservation, geophysical survey and historic building recording.

- 5.2 Archaeological Services is a leading service provider in the northern region, where we conduct around 300 projects each year.

Standards

- 5.3 Archaeological Services project personnel will abide by the Chartered Institute of Field Archaeologists' (CIfA) *Code of Conduct* (2014), and conduct the works in accordance with the CIfA's *Standard and Guidance* (2014), the *Yorkshire, the Humber and the North-East: A Regional Statement of Good Practice for Archaeology in the Development Process* (SYAS 2019), and *Standards for all Archaeological work in County Durham and Darlington* (2021). Where not otherwise stated in the WSI, the methods in that document will be applied.

Personnel

- 5.4 The project will be managed by Jamie Armstrong BA MA, Senior Archaeologist with Archaeological Services, who has considerable experience of archaeological projects of this type gained over the last twenty years, including works on walled gardens and WWII remains. Fieldwork will be conducted by suitably qualified and experienced members of our field team. During the watching brief, it is anticipated that one archaeologist will be on site for each machine that requires monitoring.

Health & Safety

- 5.5 Archaeological Services abides by the 1974 Health and Safety Act, its subsequent applicable statutory amendments, including the Management of Health and Safety at Work Regulations 1999, the 2015 Construction Design and Management Regulations, RIDDOR 2013, and the Control of Asbestos at Work Regulations 2012. Archaeological Services is accredited by the CQMS Safety Scheme.

- 5.6 Archaeological Services provides health and safety training for all our field personnel in first aid, manual handling, cable detection, site safety and risk assessment. Archaeological Services ensures that all personnel pass the CITB Construction Skills Health and Safety Test and subsequently become CSCS card-carriers (Construction Skills Certification Scheme).

- 5.7 Archaeological Services will provide qualified First Aiders and first aid supplies at all times during work. All staff members are supplied with appropriate safety clothing and equipment. During the watching brief, health and safety will be the responsibility of the principle contractor.

Post-excavation reporting

- 5.8 The following specialists may be called on, as necessary, to examine, process and assess the excavated material. In the first instance the artefactual assemblage will be assessed by the Archaeological Services post-excavation manager and following this other specialists employed by Archaeological Services may be called on as required.

| | |
|------------------------------------|----------------------|
| medieval /post-medieval pottery | Dr Chris Cumberpatch |
| Roman pottery | Alex Croom |
| prehistoric pottery | Dr Rob Young |
| animal bone | Dr Louisa Gidney |
| medieval / post-medieval artefacts | Alejandra Gutierrez |
| coins and tokens | Richard Brickstock |
| other artefacts | Jennifer Jones |
| post-excavation manager | Jennifer Jones |
| fuel residues | Jennifer Jones |
| palaeoenvironmental remains | Dr Charlotte O'Brien |
| wood identification | Dr Charlotte O'Brien |
| conservation | Vicky Garlick |
| human bone | Dr Anwen Caffell |

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6. Programme

- 6.1 Following validation of the WSI fieldwork can start at any time. Following the completion fieldwork, a post-investigation assessment report. It is anticipated that any scheme of full analysis that is required will be programmed in relation to the to the other works conducted in the immediate vicinity and associated with the project.

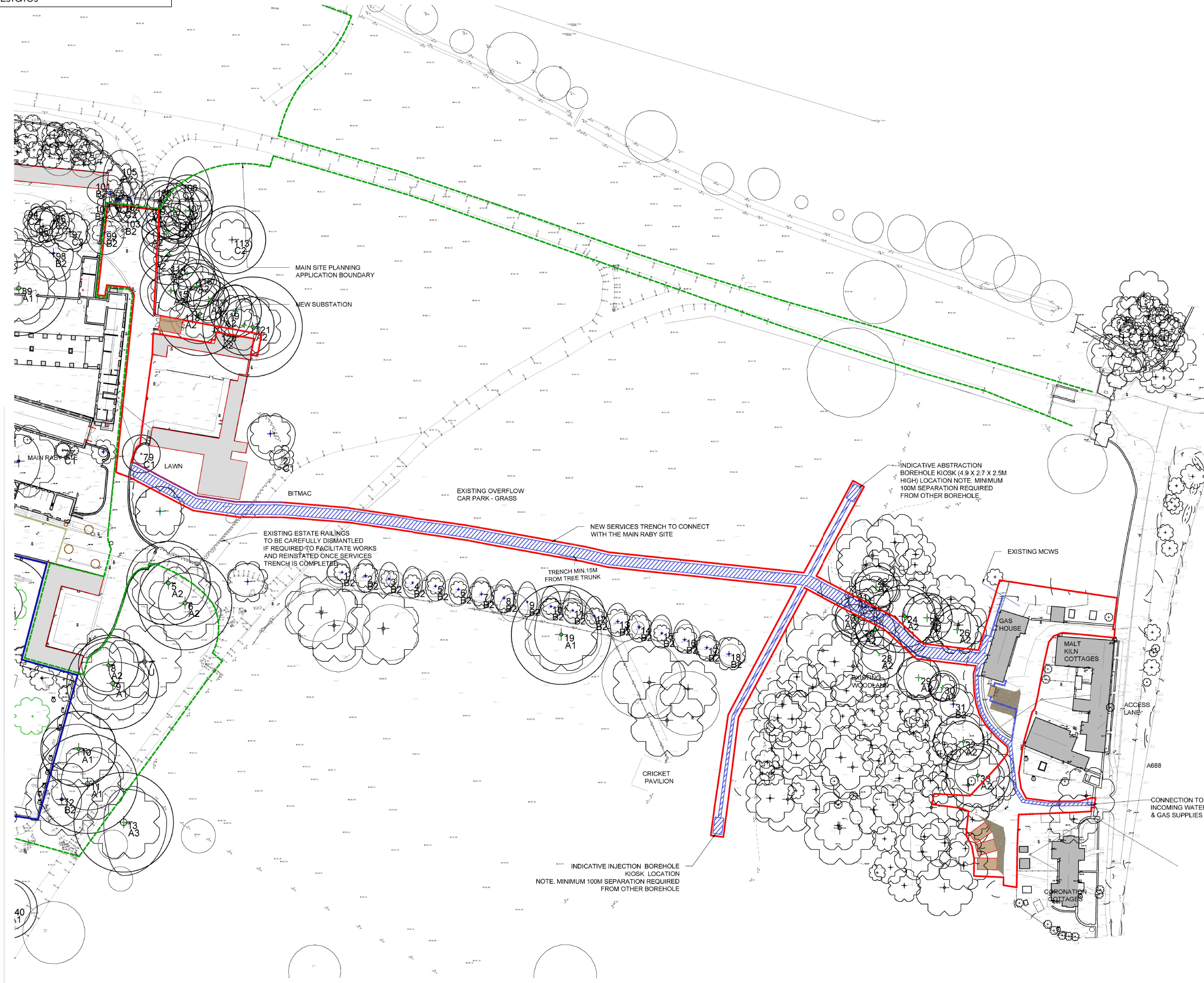
Peter Carne
August 2021

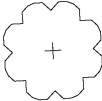


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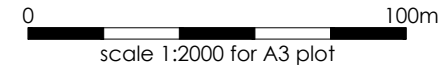
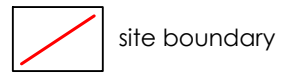
archaeological watching brief
WSI 21242

Figure 1: Proposed site plan



- Site boundary. Works associated with the Gas House.
-  Existing tree.
-  Crushed stone. To match existing.
-  Proposed buildings.
3no. single garages to be timber frames clad in vertical timber shiplap boards topped with galvanised metal corrugated roofing sheets.
- - - Main Site Planning Boundary





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Figure 2: Service plan (schematic)

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