
LAND AT EAST KNAPTON,
NORTH YORKSHIRE.

WRITTEN SCHEME OF INVESTIGATION
FOR A PROGRAMME OF ARCHAEOLOGICAL MITIGATION

July 2019

OSA

ON SITE ARCHÆOLOGY LTD

25A Milton Street • York • North Yorkshire • YO10 3EP
telephone • 01904 411673 • fax • 01904 414522 • mobile • 07767 385766
e-mail • mail@onsitearchaeology.co.uk

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OSA Method Statement.

SITE LOCATION: Land at East Knapton.,
North Yorkshire

NATIONAL GRID REFERENCE: SE 8880 7475

LANDUSE: Agricultural

PLANNING REFERENCE: C3/16/01918/CPO

ENQUIRIES TO: Nick Pearson
On-Site Archaeology Ltd.
25A Milton Street
York
YO10 3EP

tel (01904) 411673

fax (01904) 414522

mobile (07767) 385766

e-mail mail@onsitearchaeology.co.uk

web www.onsitearchaeology.co.uk

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1.0 Summary.

1.1 Development, in the form of a green energy facility, is proposed for land to the south of the A64 at East Knapton, North Yorkshire. The proposed development has received planning consent (Decision No. C3/16/01918/CPO), with three conditions attached relating to below ground archaeological deposits.

1.2 Due to the potential for the current site to contain archaeological deposits a geophysical survey was carried out as an initial stage of evaluation. The survey revealed a number of features, some of which appear to reflect historic agricultural activity and possible archaeological deposits on the site. The majority of features identified in this survey are indicative of cuts into the chalk landscape and would appear to be ditch or ploughing scars from intensive land use.

1.3 Condition 15 required that a scheme of archaeological evaluation trenching was carried out. The evaluation was undertaken in January - February 2019. The evaluation successfully tested the results of the geophysical survey. Whilst some of the possible features detected by that survey were not present a number of them were. Archaeology was present within four of the seven trenches (Trenches 2, 3, 5 and 7). Of the remaining three trenches only one, Trench 1, was expected to contain archaeological features. Archaeology was seen to be present on the upper, mid, and lower slopes of the field. It was also determined to be present in both the extreme northeast and southwest portions of the site. The extreme northwest and southeast areas of the site would seem to hold the lowest archaeological potential, as seen in blank trenches 1, 4 and 6. Although no finds were recovered from any of the features this does not rule out early dates for them, as may be reasonably expected in an area of such known prehistoric activity. Indeed many prehistoric sites in the Wolds environment do not produce large finds assemblages.

1.4 Consultation with Peter Rowe, Principal Archaeologist, North Yorkshire County Council has confirmed that archaeological mitigation within the main development site should take the form of a programme of strip and record, followed by sample archaeological excavation. It had previously been agreed that a watching brief would be carried out along the proposed cable route linking the site to existing power infrastructure in Yedingham. The requirement for a scheme of archaeological mitigation is set out in Conditions 13 and 14 of the grant of planning permission. This Written Scheme of Investigation has been prepared to address Condition 13.

2.0 Site Location & Description.

2.1 The proposed development site is located to the south of the A64 at East Knapton, North Yorkshire. The site lies immediately to the south of the existing Knapton Gravel Pit, and north of Knapton Wood, centred at National Grid Reference SE 8880 7475.

2.2 The solid geology of the site is chalk below drift deposits of sand and gravel (<http://mapapps.bgs.ac.uk/geologyofbritain/home/html>).

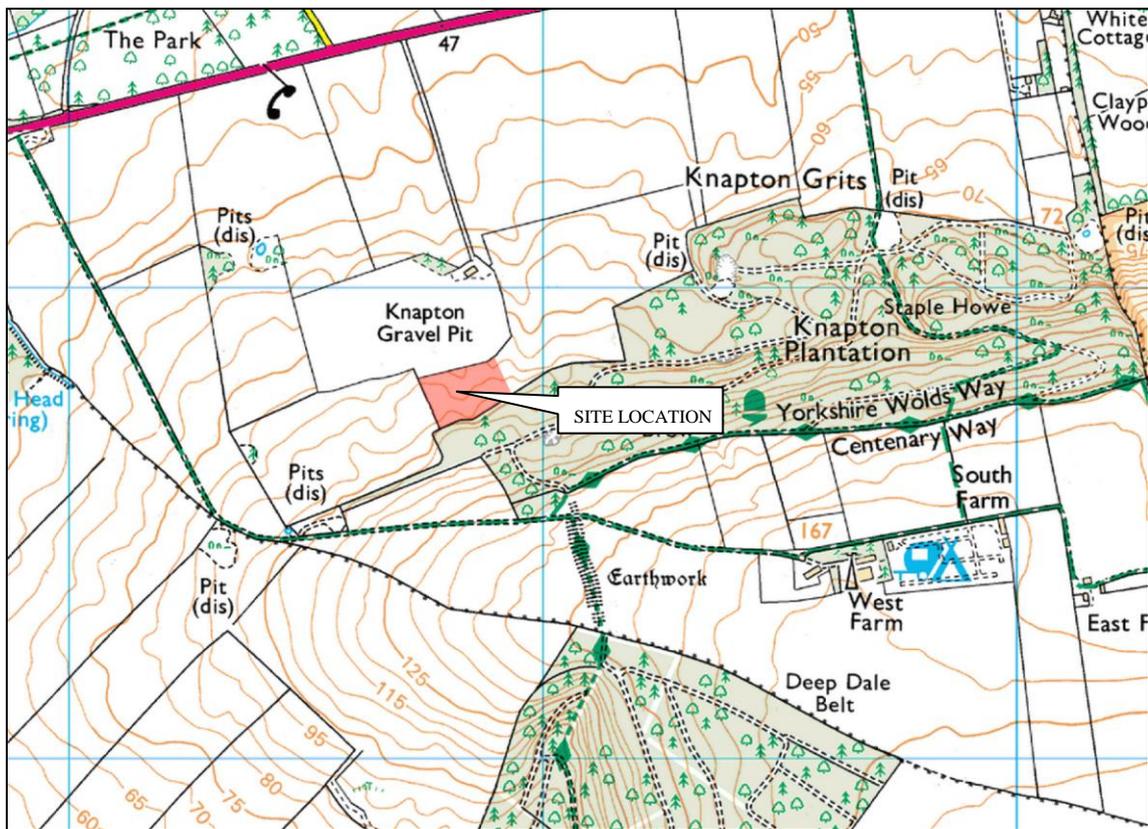


Figure 1. Site location (NGR SE 8880 7475), shaded red.

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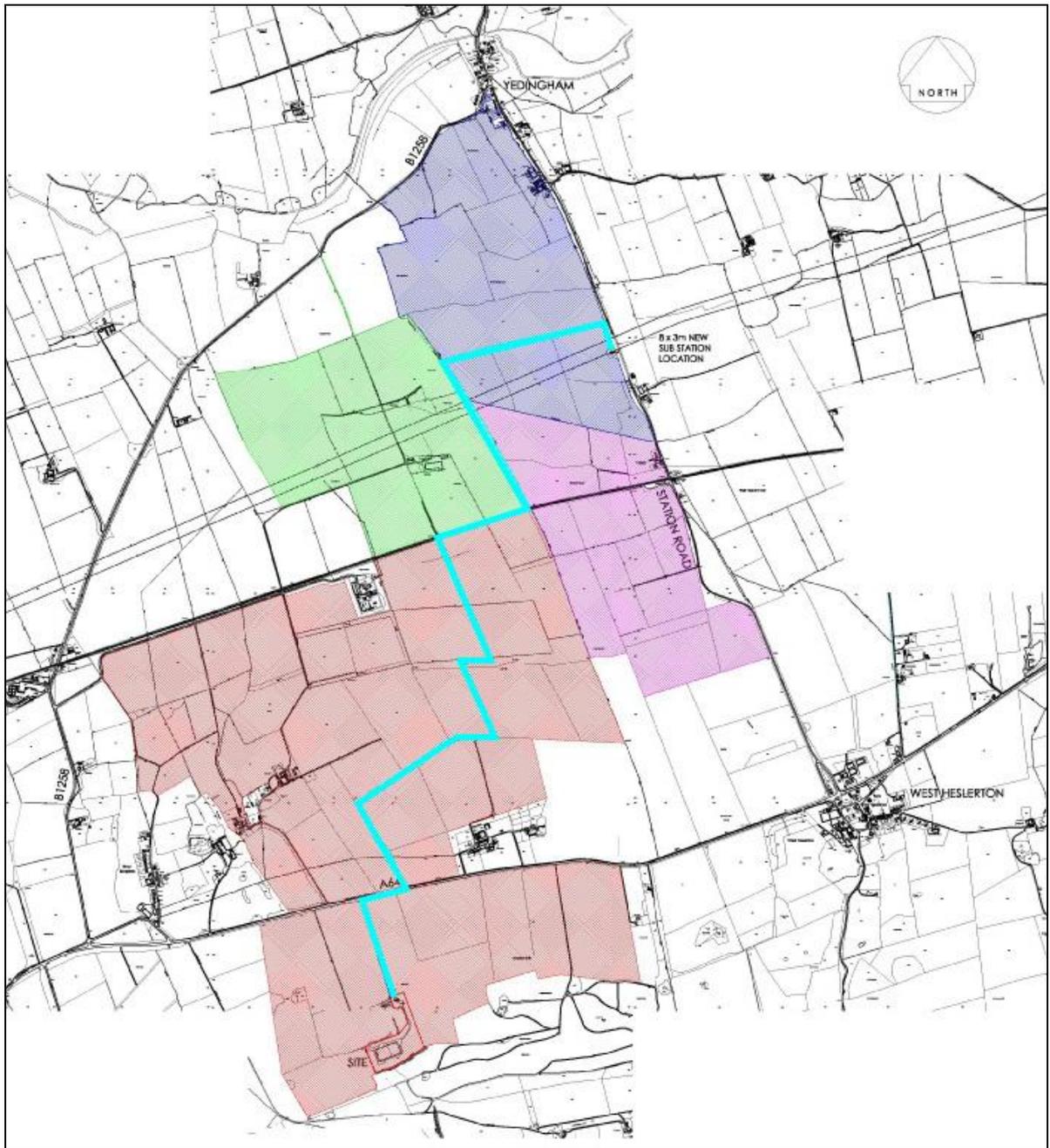


Figure 2. Proposed cable route (in blue).

3.0 Archaeological Interest.

3.1 The site lies within a rich archaeological landscape containing well-preserved remains dating from the Bronze Age onwards, which have been studied in detail over a number of years. As well as a large number of sites and remains in the wider vicinity, there are two heritage assets of particular interest adjacent to the site; Staple Howe and a 'cross dyke' on Knapton Wold. Both are scheduled monuments and although both are separated from the proposed development by thick woodland and thus will be unaffected by the proposals, they illustrate the potential nature of any archaeological remains on the site.

3.2 Staple Howe is a late Bronze Age/Early Iron Age palisaded settlement on a natural chalk knoll and is c.600m from the site. The site occupies the summit of a rounded natural hillock on Forestry Commission property. Within the enclosure the oval hut was considered to belong to the earliest phase, but in the later phase this was abandoned and replaced by two round huts and a centrally placed four-post structure interpreted as a watch tower or possibly a shrine. It has been suggested that the discovery of a 'Halstatt C' bronze razor at Staple Howe may give support to the view that sites of this kind represented high status sites perhaps the equivalent of mediaeval manors, centrally located in defended positions within the large-scale landscape enclosures defined by the Wold entrenchments, fragments of which survive as parish boundaries today.

3.3 To the south of the proposed development, separated from it by Knapton Woods, is a linear earthwork on Knapton Wold consisting of a bank with two parallel ditches, which has been ploughed in the past but is still visible as an earthwork.

3.4 Cross dykes are substantial linear earthworks typically between 0.2km and 1km long and comprising one or more ditches arranged beside and parallel to one or more banks. They generally occur in upland situations, running across ridges and spurs. They are recognised as earthworks or as cropmarks on aerial photographs, or as combinations of both. The evidence of excavation and analogy with associated monuments demonstrates that their construction spans the millennium from the Middle Bronze Age, although they may have been re-used later. Current information favours the view that they were used as territorial boundary markers, probably demarcating land allotment within communities, although they may also have been used as trackways, cattle droveways or defensive earthworks. Cross dykes are one of the few monument types which illustrate how land was divided up in the prehistoric period. They are of considerable importance for any analysis of settlement and land use in the Bronze Age. Very few have survived to the present day and hence all well-preserved examples are considered to be of national importance.

3.5 The cross dyke on Knapton Wold is reasonably well preserved and is one of a pair of dykes demarcating land divisions on this Wold. This example divides off the western end of the Wold; another cross dyke makes a similar boundary 2km to the east. The cross dyke is associated with other broadly contemporary monuments on the Wolds, including boundary earthworks, burial mounds and especially the Late Bronze and Early Iron Age settlement at Staple Howe. Similar groups of monuments are also known from other parts of the Wolds

and from the southern edge of the North York Moors (although Staple Howe is an example of a relatively rare site type). Such associations between monuments offer important scope for the study of the divisions of land for social, ritual and agricultural purposes.

3.6 The monument includes the best-preserved part of a cross dyke which runs across the western end of Knapton Wold, between Knapton Plantation and Deep Dale Belt. The cross-dyke comprises a pair of parallel ditches, each 8m wide by up to 1.5m deep, with a 0.5m high bank between them and flanked by a 0.5m high bank on each side. The overall width of the cross dyke is 24m, although for most of its length the outer banks have been eroded over the years by ploughing and it will have been slightly wider originally. Towards its north end, the earthwork becomes less clearly defined; the ditches are less than 0.3m deep and the banks are barely visible; the dyke also appears to terminate at the boundary of Knapton Plantation and, although it may have continued down the north-facing slope of the Wold, forestry and quarrying activity has removed all traces of the earthwork.

3.7 The first stage of archaeological evaluation of the site was carried out in 2014. This took the form of a geophysical survey (OSA, November 2014. Land at East Knapton, North Yorkshire. Report on an Archaeological Geophysical Survey. OSA Report No: OSA14EV33 - Geophysics). The survey identified a number of sub surface features that mostly relate to past agricultural activity. Most appear to indicate cut features in the chalk geology and are linear in character; oriented on either an east/west axis or a north/south axis.

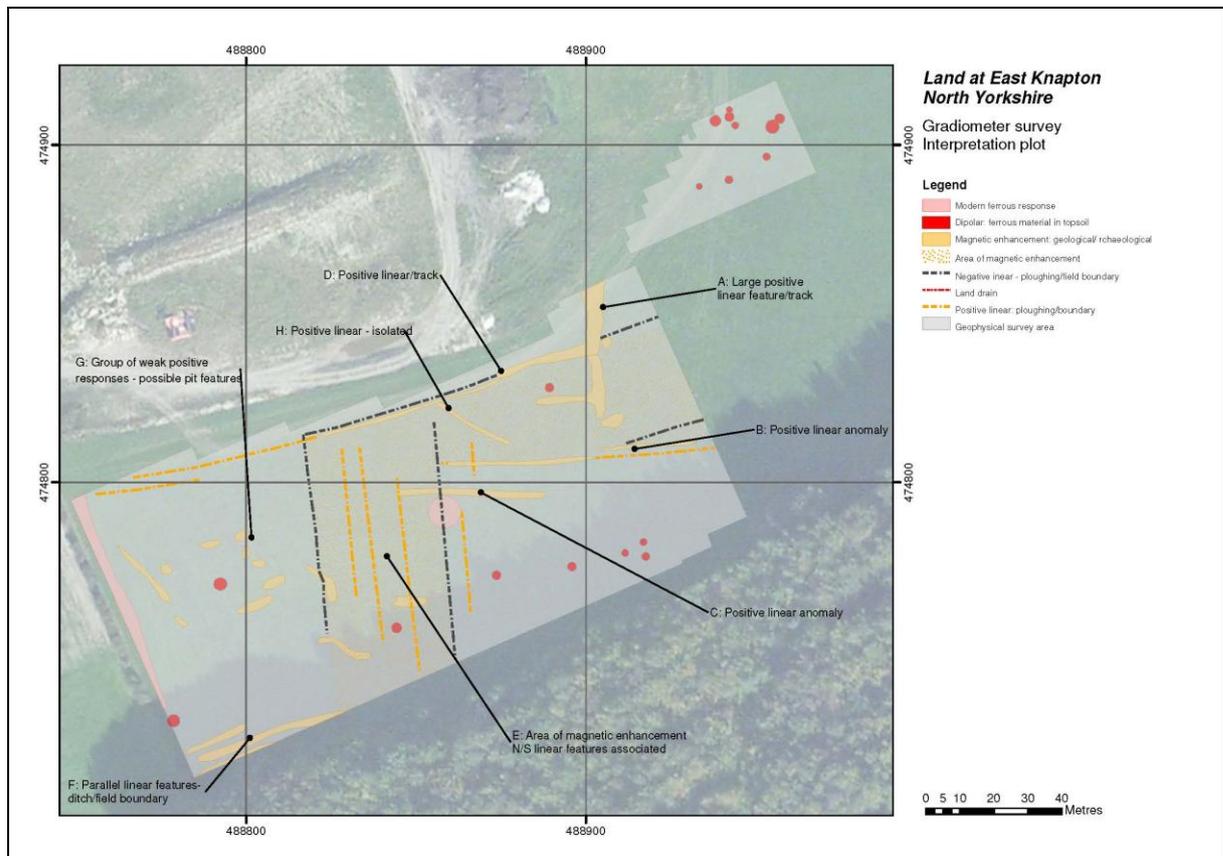


Figure 3. Interpretation of geophysics results.

3.3 In January-February 2019 a scheme of archaeological trial trenching was carried out to test the results of the geophysics (On-Site Archaeology. February 2019. Land at East

Knapton, North Yorkshire. Report on an Archaeological Evaluation. OSA Report No: OSA18EV44). A total of seven evaluation trenches were opened, which targeted the anomalies identified through the geophysics. Whilst some of the possible features detected by that survey were not present a number of them were. Archaeology was present within four of the seven trenches (Trenches 2, 3, 5 and 7). Of the remaining three trenches only one, Trench 1, was expected to contain archaeological features. Archaeology was seen to be present on the upper, mid, and lower slopes of the field. It was also determined to be present in both the extreme northeast and southwest portions of the site. The extreme northwest and southeast areas of the site would seem to hold the lowest archaeological potential, as seen in blank trenches 1, 4 and 6. Although no finds were recovered from any of the features this does not rule out early dates for them, as may be reasonably expected in an area of such known prehistoric activity. Indeed many prehistoric sites in the Wolds environment do not produce large finds assemblages. The locations of the evaluation trenches are shown in blue on Figure 3.

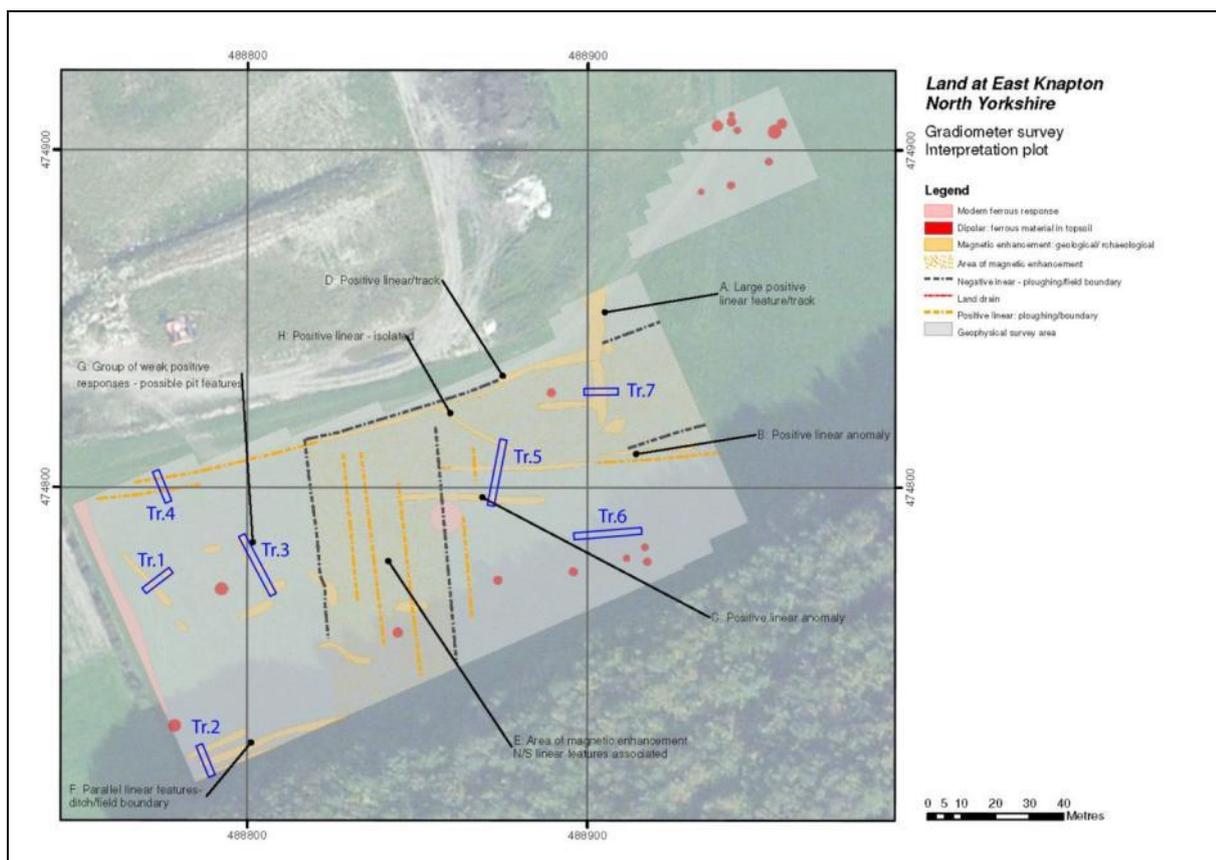


Figure 4. Location of evaluation trenches in relation to geophysics results.

4.0 Objectives of the Mitigation.

4.1 The aim of the archaeological mitigation is to preserve by record the archaeological remains likely to be disturbed by the development of the site. The preservation by record will be achieved through strip and record across the site, followed by detailed archaeological excavation of any archaeological features.

4.2 Preservation by record will be followed by post-excavation analysis and dissemination of the results through the preparation and distribution of reports. Based upon the results of the evaluation it is anticipated that the results of the excavation and strip and record may be of sufficient importance to warrant publication. This may either be in the form of an article within a regional publication, such as *the Yorkshire Archaeological Journal*, or as a site specific monograph.

4.3 The long-term care of the archive (artefacts and records) will be managed through deposition within an appropriate institution.

4.4 If human remains are encountered during the course of the investigation, it may be necessary to remove these, under conditions of a licence to remove human remains to be obtained from the Ministry of Justice, to ensure that they are treated with due dignity. The preferred option would be for them to be adequately recorded before lifting, and then carefully removed for scientific study, and long-term storage with an appropriate museum; however, the licence may specify reburial or cremation as a requirement.

5.0 Mitigation Methodology.

5.1 The following mitigation measures have been discussed with North Yorkshire County Council Principal Archaeologist.

Preservation by record will be carried out in two areas.

Main site - within the main proposed facility site a programme of archaeological strip, sample excavation and record will be conducted.

Cable route - the cable route, linking the new green energy facility to the existing power infrastructure at Yedingham, will be subject to an archaeological watching brief.

Strip and record.

5.2 The archaeological strip and record mitigation will follow a staged approach requiring the initial stripping of topsoil and any historic ploughsoil under archaeological supervision. The precise depth of stripping will be determined by the attending archaeologist and may include local variations. All machining will be carried out by appropriate sized plant. This will normally be a JCB 3CX or similar or 360 degree tracked excavator with a 5' or 6' wide toothless bucket. Plant will not be permitted to track across stripped areas. The extent of the archaeological remains will then be assessed and the site mapped. A sufficient sample of any archaeological features and deposits revealed will then be excavated in an archaeologically controlled and stratigraphic manner in order to establish the aims of the investigation.

5.3 The complete excavation of features may not be necessary; a sufficient sample should be investigated to understand the full stratigraphic sequence, down to naturally occurring deposits. It is proposed that the following sampling of features will be undertaken: a) A 100% sample should be taken of all stake-holes. b) A 50% sample should be taken of all post-holes, and of pits with a diameter of up to 1.5m. c) A minimum 25% sample should be taken

of pits with a diameter of over 1.5m; but this should include a complete section across the pit to recover its full profile. d) A minimum 20% sample should be taken of all linear features, up to 5m in length; for features greater than this, a 10% sample would suffice. All junctions and terminals will be investigated.

5.4 If features of prehistoric date are found during the strip and record exercise or any other features of special archaeological interest, it may be necessary to further sample those features beyond the percentages suggested within the excavation strategy outlined above. If any such structures are present within the area of the proposed strip and record these may be 100% excavated to maximise finds retrieval. Any funerary contexts or in-situ floor or contemporary ground surfaces will also be 100% excavated. Where appropriate the advice of the Historic England Regional Science Advisor will be obtained. Any problems encountered during this investigation, which may require a variation in the investigation strategy, shall be discussed as a matter of priority with the NYCC Heritage Services.

5.5 In certain cases, the use of mechanical excavation equipment may also be appropriate for removing deep intrusions (e.g. modern brick and concrete floors or footings); or for putting sections through major features after partial excavation (e.g. ditches); or through deposits to check that they are of natural origin.

Watching Brief

5.6 The watching brief works shall comprise the archaeological monitoring of groundworks undertaken for the laying of underground cables to link the site to the existing power infrastructure. This is to enable the identification and recording of any archaeological material that might be uncovered, along the cable route that was not available for evaluation. Recording within the watching brief zones will be undertaken in a manner as to avoid delaying progress to the development.

General.

5.7 A full written, drawn and photographic record will be made of all material revealed during the course of the investigation. Plans should be completed at a scale of 1:50 or 1:20 (as appropriate) whilst section drawings should be at a scale of 1:10.

5.8 A strategy for the recovery and sampling of environmental remains will be devised in collaboration with a recognised palaeo-environmental specialist. An opportunity shall be afforded for the specialist to visit the site during the investigation and to discuss the strategy.

5.9 The following categories of artefacts may be predicted on this site: pottery, flint, ferrous and non-ferrous metalwork, glass, worked bone, worked stone and ceramic building material. These are most likely to be of prehistoric (Neolithic to Iron Age) date, although the possibility of earlier and later finds should not be excluded.

5.10 All stratified finds (artefacts and ecofacts) that predate the early modern period recovered during excavation will be collected and processed, unless variations in this principle are agreed with the NYCC HS. Finds will be collected by context. However, this does not preclude the

potential for the adoption of more detailed collection strategies, such as 3D recording, in cases where this would clearly benefit interpretation of the archaeological remains. If poorly fired prehistoric pottery is encountered this may require in-situ stabilisation prior to lifting. The project conservator will visit site as necessary to advise and undertake any such stabilisation and lifting.

5.11 All recording, marking and storage material will be of archive quality and recording systems will be compatible with the recipient museum. Allowance will be made for preliminary conservation and stabilisation of all objects and an assessment of long-term conservation and storage needs. Finds will be appropriately packaged and stored under optimum conditions, as detailed in the RESCUE/UKIC publication *First Aid for Finds*. In accordance with the procedures outlined in MAP2, all iron objects, a selection of non-ferrous artefacts (including all coins), and a sample of any industrial debris relating to metallurgy will be X-radiographed before assessment

5.12 A specialist assessment report on the recovered artefacts will be undertaken, with a view to their potential for further study. The conservation report will form an Appendix to the assessment report. Allowance will be made for preliminary conservation and stabilisation of all objects and an assessment of long-term conservation and storage needs.

5.13 Assessment of artefacts will include inspection of X-radiographs of all iron objects, a selection of non-ferrous artefacts (including coins), and a sample of any industrial debris relating to metallurgy.

5.14 A rapid scan of all excavated material will be undertaken by conservators and finds researchers in collaboration. Material considered vulnerable will be selected for stabilisation after specialist recording. Where intervention is necessary, consideration must be given to possible investigative procedures (e.g. glass composition studies, residues in or on pottery, and mineral-preserved organic material).

5.15 Waterlogged organic materials should be dealt with, following the English Heritage (and subsequent re-issues under Historic England) documents, *Guidelines for the care of waterlogged archaeological leather*, and *Guidelines on the recording, sampling, conservation and curation of waterlogged wood*. If preserved organic artefacts are encountered the project conservator will be consulted prior to lifting any such materials. However, it should be noted that waterlogged deposits are not anticipated to be present on this site.

5.16 A programme of monitoring visits is to be agreed with the North Yorkshire County Council Heritage Services.

5.17 *On-Site Archaeology* has made provision within the excavation strategy, where necessary, for the use of shoring, stepping of trench sides or pumps. The strategy also allows for sampling for radiocarbon, archaeomagnetic and/or dendrochronological determinations, as appropriate. The advice of the Historic England Regional Advisor on Archaeological Science will be obtained with regards to appropriate sampling strategies.

5.18 All finds of gold and silver (and prehistoric objects defined by the Act amendments as treasure) will be moved to a safe place and reported to the coroner's office according to the procedures relating to the 1996 Treasure Act and its subsequent amendments. Where removal cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the artefacts from theft or damage.

6.0 Report Preparation, Contents & Distribution.

6.1 Upon completion of the investigation, the artefacts, soil samples and stratigraphic information shall be assessed as to their potential and significance for further analysis.

6.2 A report shall be prepared to include the following:

- a) A non-technical summary of the results of the work.
- b) An introduction page to include the site code, planning reference number and NYCC HS reference number, dates when the fieldwork and post-excavation analyses took place, and a National Grid Reference.
- c) An account of the methods and results of the investigation, including phasing and interpretation of the site sequence and spot dating of ceramics. This shall be supported by an overall plan of the site accurately identifying the location of trenches; individual trench plans as excavated indicating the location of archaeological features, with sections detailing the stratigraphic sequence of deposits; and photographs.
- d) A specialist assessment of the artefacts recovered with a view to their potential for further study. Allowance shall be made for preliminary conservation and stabilisation of all objects and an assessment of long-term conservation and storage needs.
- e) A specialist assessment of environmental samples taken, with a view to their potential for subsequent study.
- f) A specialist assessment of any technological residues or samples taken for dating purposes.
- g) An assessment of the archaeological significance of the deposits identified, in relation to other sites in the region.
- h) A conclusion with recommendations for further post-excavation work, if required.
- i) Details of archive location and destination, together with a catalogue of what is contained within the archive.

6.3 Copies of the report will be submitted to the commissioning body, the Local Planning Authority, and North Yorkshire Historic Environment Record, within an agreed timetable and subject to any contractual requirements on confidentiality.

6.4 A brief, interim report can be made available, subject to requirement, shortly after the completion of the fieldwork.

7.0 Copyright, Confidentiality & Publicity.

7.1 Unless the organisation commissioning the project wishes to state otherwise, the copyright of any written, graphic or photographic records and reports rests with *On-Site Archaeology*. Agreements on copyright should be agreed with the commissioning body at the outset of the project.

7.2 The circumstances under which the report or records can be used by other parties should be identified at the commencement of the project, as should the proposals for distribution of the report (see 6 above). *On-Site Archaeology* will respect the commissioning body's requirements over confidentiality, but will endeavour to emphasise their professional obligation to make the results of archaeological work available to the wider archaeological community within a reasonable time (normally 6 months).

7.3 *On-Site Archaeology* has a duty of confidence to the client commissioning the work. All aspects of publicity must be agreed at the outset of the project between the commissioning body and *On-Site Archaeology*.

8.0 Archive Preparation & Deposition.

8.1 The requirements for archive preparation and deposition shall be addressed and undertaken in a manner agreed with the recipient museum, subject to the agreement regarding their collecting policy. The recipient museum will be contacted before commencement of fieldwork

8.2 A site archive shall be prepared in accordance with the specification outlined in *Management of Archaeological Projects* (MAP2, English Heritage 1991, 5.4; Appendix 3). See also *Towards an Accessible Archaeological Archive, the Transfer of Archaeological Archives to Museums: Guidelines for use in England, Northern Ireland, Scotland and Wales* Society of Museum Archaeologists 1995.

8.3 The site archive, including finds and environmental material, subject to the permission of the relevant landowners, will be labelled, conserved and stored according to the United Kingdom Institute for Conservation (UKIC)'s *Guidelines for the preservation of excavation archives for long term storage* (Walker 1990) and the Museums and Galleries Commission's *Standards in the museum care of archaeological collections*. Provision shall be made for the stable storage of paper records and their long-term storage on a suitable medium, such as microfilm, a copy of which should be deposited with the NMR (RCHME). An index to the contents of the archive, together with details of its date and place of deposition will be lodged with the SMR.

8.4 Should no further archaeological work be initiated, the archive will be deposited with a suitable repository which meets the criteria for the storage of archaeological material. An

agreed allowance will be made for a contribution to the recipient museum towards the curation and storage of material.

8.5 The previous evaluation archive will be incorporated into the final archive.

8.6 Archive deposition shall be arranged in consultation with the recipient museum and the NYCC HS and will take account of the requirements of the recipient museum and the relevant sections of the Museums and Galleries Commissions Guidelines relating to the preparation and transfer of archives. The timetable for deposition shall be agreed on completion of the site archive and narrative.

9.0 Publication & Dissemination.

9.1 It is anticipated that the results of the archaeological investigation may be of sufficient importance to warrant inclusion within an academic peer reviewed journal such as the *Yorkshire Archaeology Journal*.

10.0 Monitoring, Health and Safety, Staffing & Insurance.

10.1 The work will be monitored under the auspices of the NYCC HS who will be consulted before the commencement of site works.

10.2 Health and safety will take priority over archaeological matters. All archaeologists undertaking fieldwork will comply with all Health and Safety Legislation, this includes the preparation of a Risk Assessment.

10.3 Necessary precautions will be taken over underground services and overhead lines. Archaeological stripping will not take place beneath overhead cables, or above known buried cables.

10.4 *On-Site Archaeology* will ensure that they, or any proposed sub-contractors, are appropriately qualified to undertake such projects.

10.5 *On-Site Archaeology* will ensure that they are adequately insured, to cover all eventualities, including risks to third parties.

11.0 Personnel.

All work will be under the overall supervision of Mr. N Pearson MIFA (Member of the Institute for Archaeologists). Other project staff may include: -

<i>Project Officer</i>	Tim Robinson
<i>Palaeo-environmental advisor</i>	Ellen Simmons Sheffield Archaeobotanical Consultancy University of Sheffield
<i>Human Remains Finds Analysis</i>	Katie Keefe Dr Chris Cumberpatch John Tibbles

Ruth Leary
Nicky Rogers
Blaise Vyner
Conservation Ian Panter, York Archaeological Trust
Radiocarbon Determinations Beta Analytic Inc.

12.0 Appendix 1 ~ Machine & Hand Excavated Trenches.

12.1 Excavation.

12.1 The entire site will be visually inspected before the commencement of any machine excavation. This will include the examination of any available exposures (e.g. recently cut ditches and geotechnical test pits).

12.1.2 Normally trench positions will be accurately surveyed prior to excavation and related to the National Grid. It may be necessary to survey the positions after excavation in some instances.

12.1.3 All machining will be carried out by appropriate sized plant which will be operated by drivers who have prior experience of archaeological fieldwork. Plant will normally be a JCB 3CX or similar or 360 degree tracked excavator with a 5' or 6' wide toothless bucket. Where access or working space is restricted a mini excavator such as a Kubota KH 90 will be used.

12.1.4 All machining will be carried out under direct control of an experienced archaeologist.

12.1.5 Undifferentiated topsoil or overburden of recent origin will be removed in successive level spits down to the first significant archaeological horizon.

12.1.6 Excavated material will be examined in order to retrieve artefacts to assist in the analysis of the spatial distribution of artefacts.

12.1.7 On completion of machine excavation, all faces of the trench that require examination or recording will be cleaned using appropriate hand tools.

12.1.8 All investigation of archaeological horizons will be by hand, with cleaning, inspection, and recording both in plan and section.

12.1.9 A minimum number of features, within each significant archaeological horizon, required to meet the aims will be sampled by half-sectioning although some features may require complete excavation. Linear features will be sectioned as appropriate.

12.1.10 Any excavation, whether by machine or by hand, will be undertaken with a view to avoiding damage to any archaeological features or deposits which appear to be demonstrably worthy of preservation in situ.

12.1.11 For palaeoenvironmental research different sampling strategies will be employed according to established research targets and the perceived importance of the strata under investigation. For carbonised remains, bulk samples of a minimum of 10 litres (but up to 40 litres for early prehistoric features) will be collected. Bulk samples of 10-40 litres will be taken for analysis of macroscopic plant remains from all funerary deposits and buried soils. Columns for pollen analysis will be taken where appropriate. As a minimum this will include multiple tins from any buried soil horizons and from the barrow ditch fills. Mollusc samples will be gathered when required. Pollen analysis will aim to address environmental landscape

conditions prior to the construction of the barrow and during its use/disuse phases, and sampling will reflect these aims. Other bulk samples for small animal bones and other small artefacts may be taken from appropriate deposits.

12.1.12 Any finds of human remains will, unless the brief specifies otherwise, be left in situ, covered and protected. The coroner's office will be informed. Removal will only take place under the relevant Ministry of Justice licence to remove and local authority environmental health regulations.

12.1.13 All finds of gold and silver will be moved to a safe place and reported to the coroner's office according to the procedures relating to the 1996 Treasure Act and subsequent amendments. Where removal cannot be effected on the same working day as the discovery, suitable security measures will be taken to protect the artefacts from theft or damage.

12.2 Recording.

12.2.1 For each area, a block of numbers in a continuous sequence will be allocated.

12.2.2 Written descriptions, comprising both factual data and interpretative elements, will be recorded on standardised sheets.

12.2.3 Where stratified deposits are encountered a 'Harris' type matrix will be compiled during the course of the excavation.

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

12.2.5 Plans will normally be drawn at a scale of 1:100, but on urban or deeply stratified sites a scale of 1:50 or 1:20 will be used. Burials will be drawn at 1:10. Other detailed plans will be drawn at an appropriate scale.

12.2.6 Long sections of trenches showing layers and any cut features will be drawn at 1:50. Sections of features or short lengths of trenches will be drawn at 1:10.

12.2.7 Generally all sections will be accurately related to Ordnance Datum. There may on occasions be instances where this is unnecessary when it will be agreed with the local authority's archaeological representative in advance.

12.2.8 Registers of sections and plans will be kept.

12.2.9 A full photographic record will be maintained. This will illustrate the principal features and finds both in detail and in a general context. The photographic record will also include working shots to represent more generally the nature of the fieldwork.

12.2.10 A register of all photographs taken will be kept on standardised forms.

12.2.11 All recording will be in accordance with the standards and requirements of the project brief and/or the Archaeological Field Manual (Museum of London Archaeology Service 3rd edition 1994).

12.3 Finds.

12.3.1 All identified finds and artefacts will be collected and retained. Certain classes of material i.e. post-medieval pottery and building material may on occasion be discarded after recording if a representative sample is kept. No finds will be discarded without the prior approval of the archaeological representative of the local authority and the receiving museum.

12.3.2 Finds will be scanned to assess the date range of the assemblage with particular reference to pottery. In addition the artefacts will be used to characterise the site, and to establish the potential for all categories of finds should further archaeological work be necessary.

12.3.3 All finds and samples will be treated in a proper manner and to standards agreed in advance with the recipient museum. Finds will be exposed, lifted, cleaned, conserved, marked, bagged and boxed in accordance with the guidelines set out in United Kingdom Institute for Conservation's Conservation Guidelines No. 2.

12.3.4 At the beginning of the project (prior to commencement of fieldwork) the landowner and the relevant museum will be contacted regarding the preparation, ownership and deposition of the archive and finds.

12.4 Conservation strategy

12.4.1 Artefacts from all categories and all periods will be recovered as a matter of routine during the excavation with the exception of obviously modern or early modern material. When retrieved from the ground finds will be kept in a finds tray or appropriate bags in accordance with *First Aid for Finds*. Where necessary, a conservator may be required to recover fragile finds from the ground depending upon circumstances.

12.4.2 If waterlogged conditions are encountered a wide range of organic materials may be recovered, including wood, leather and textiles. Advice will be sought from a conservator to discuss optimum storage requirements before any attempt is made to retrieve organic finds and structural timbers from the ground.

12.4.3 After the completion of the fieldwork stage, a conservation assessment will be undertaken which will include the X-radiography of all the ironwork (after initial screening to separate obviously modern debris), and a selection of the non-ferrous finds (including all coins). A sample of slag may also be X-rayed to assist with identification and interpretation. Wet-packed material, including glass, bone and leather will be stabilised and consolidated to ensure their long-term preservation. All finds will be stored in optimum conditions in accordance with *First Aid for Finds* and *Guidelines for the Preparation of Excavation Archives for Long-Term Storage* (Walker 1990).

12.4.4 Waterlogged wood, including structural elements will be assessed following the English Heritage guidelines, *Waterlogged wood: sampling, conservation and curation of structural wood* (Brunning 1996). The assessment will include species identification, technological examination and potential for dating.

12.4.5 The conservation assessment report will include statements on condition, stability and potential for further investigation (with conservation costs) for all material groups. The conservation report will be included in the updated project design prepared for the analysis stage of the project.

12.4.6 Conservation strategy references:

Brunning, R. 1996

Waterlogged wood. Guidelines on the recording, sampling, conservation and curation of waterlogged wood. English Heritage, London.

Walker, K. 1990 *Guidelines for the preparation of excavation archives for long-term storage*, Archaeology Section of the United Kingdom Institute for Conservation.

Watkinson, D. and Neal, V. 1998 *First Aid for Finds* (3rd edition), RESCUE and the Archaeology Section of the United Kingdom Institute for Conservation.

12.5 Environmental strategy

12.5.1 This document presents an outline for the examination of biological remains from archaeological deposits at Great Broughton, North Yorkshire.

12.5.2 Sampling of deposits will be undertaken by the excavating unit following *Environmental Archaeology: A guide to the theory and practice of methods from sampling and recovery to post-excavation* (English Heritage/Centre for Archaeology Guidelines 2002).

12.5.3 Samples should be collected as appropriate to the aims of the investigation, e.g. from deposits where biological remains may provide information regarding past activities and environments at the site. For example, from pit and other cut features which may contain domestic refuse and other waste which reflect the past economy and living conditions of the site and the diet of the inhabitants; from ditch/gully fills where the remains may allow reconstruction of the local environment; from fills of ‘specialised’ use features such as garderobes where food remains may be preserved as well as other remains (e.g. parasite eggs) which may provide an insight into the general health of the inhabitants.

12.5.4 Selected sub-samples of sufficient size (usually 1 to 3 kg where the deposit/sample size allows) will be processed as General Biological Analysis (‘GBA’ *sensu* Dobney *et al.* 1992) samples, following the methods of Kenward *et al.* (1980; 1986), for the recovery of plant and invertebrate macrofossils.

12.5.5 The individual layers may not provide sufficient sediment for such processing to be appropriate and, in such cases, subsamples may be examined as spot samples. Small concentrations of biological remains may also be collected specifically as spot samples and examined as such.

12.5.6 Where appropriate, small subsamples will be examined for microfossil remains using the 'squash' technique. This method is primarily for the detection of the eggs of intestinal parasitic nematodes but may also provide a non-quantitative indication of the presence/absence of other microfossils (e.g. pollen, diatoms) and their state of preservation.

12.5.7 Initial discussion of any hand-collected remains will be addressed according to distribution by feature type and date and/or archaeological phase of activity.

12.5.8 The results of the examination will be presented as a report including recommendations for any further work required.

12.5.9 The quantity of samples taken will be based on the principle of samples size of up to 40l of material from all primary feature fills and preserved surfaces. Spot sampling will be employed for organic rich deposits or other deposits likely to contain preserved material such as burnt deposits.

12.5.10 The Environmental Specialists appointed for this work are: Sheffield Archaeobotanical Consultancy, Department of Archaeology University of Sheffield, Northgate House, West Street, Sheffield. S1 4ET.