

PINS document reference 5.4.16.2

APPENDIX ES16.2
ARCHAEOLOGICAL MITIGATION STRATEGY



consultancy | project management | expert witness

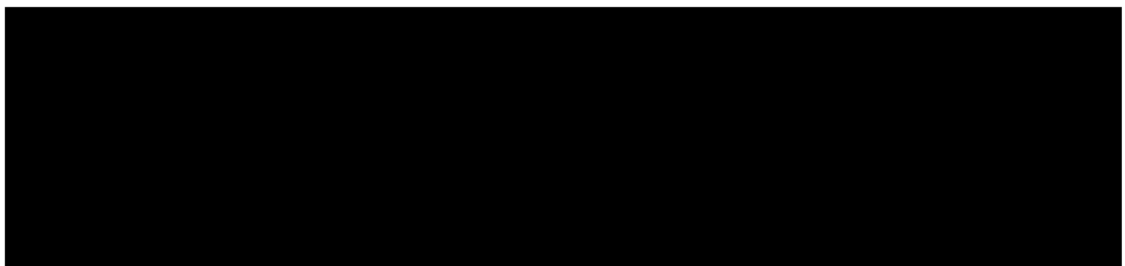
PINS Project Reference: WS010005

Planning Act 2008

**The Infrastructure Planning (Applications:
Prescribed Forms and Procedures) Regulations
2009**

Regulation 5(2)(a)

PINS document reference: 5.4.16.2



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Appendix A

Approval of this Archaeological Mitigation Strategy by the
Northamptonshire County Archaeologist

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1. Introduction

1.1 SCOPE OF THIS WSI AND PROPOSED WORK

1.1.1 This Archaeological Mitigation Strategy (AMS) has been prepared by Andrew Josephs Associates on behalf of Augean South Ltd (Augean). It details the methodology for undertaking a programme of archaeological works on land that is proposed as an extension to a hazardous waste facility at the East Northants Resource Management Facility (ENRMF), Stamford Road, PE8 6XX.

1.1.2 The western extension area is centred on National Grid Reference (NGR) TL 00308 99890 and extends to 29.16 hectares. **Figure 1** shows the location of the proposed development and the extension area which is currently under agricultural usage.

1.1.3 As part of the planning application and EIA, a desk-based assessment, geophysical survey and trial-trenching was undertaken.

1.1.4 The purpose of this AMS is to define the scope of work required to mitigate the effects of the development on archaeology. It has been approved by the Northamptonshire County Archaeological Service¹ as an appropriate mitigation strategy to be implemented should permission be granted (**Appendix A**). An addendum to this AMS would be produced after the appointment of a contractor that would include details specific to that contractor such as staffing, procedure, health and safety and insurance, as well as stating that they will follow the scope of work set out in this document.

1.2 STANDARDS

1.2.1 The appointed contractor will be a Chartered Institute for Archaeologists' Registered Organisation or of equivalent standing.

¹ from 1st April 2021 the responsible archaeological officer will be based at North Northants Council

2. Archaeological Baseline

2.1 DESK-BASED RESEARCH

2.1.1 A desk-based assessment was carried out. The results are documented in the Heritage Statement that accompanies the planning application². A brief summary is presented below.

Archaeology within the western extension area

2.1.2 Three entries are recorded within the western extension area. They comprise an area on the enclosure award map that was probably lawn, a fieldname and a crop mark of a field boundary that appears on the 1950s Ordnance Survey mapping.

2.1.3 No archaeological investigations are known to have taken place within the western extension area prior to the current project, although it is considered likely that the western extension area was fieldwalked by David Hall during his extensive fieldwalking programme of the local landscape between 1960 and 1999.

2.1.4 Aerial photographs of the western extension area were examined as part of the National Mapping Programme, and the field boundary that used to cross the centre of the western extension area was identified.

Archaeological investigations in the vicinity

2.1.5 The vicinity of the western extension area has been extensively examined, in particular by David Hall. Numerous archaeological sites have been located, notably of Roman date, and including possible settlements, buildings and ironworking located by fieldwalking. The National Aerial Photographic Mapping Programme has covered the area.

2.1.6 A large number of landscape features were identified from the Rockingham Forest Project. Supported by the Heritage Lottery Fund and English Heritage its aim was to track the evolution of the Forest from the 10th to 20th centuries. This followed work by David Hall in locating earthwork enclosure banks and ditches.

2.1.7 An archaeological watching brief was undertaken during soil removal in advance of development of the current ENRMF in 2008. No archaeological deposits or artefacts were identified.

² Josephs, A. 2021. NID Project Reference: WS010005. Heritage Statement. AJA.

2.1.8 An excavation is recorded in Collyweston Great Wood, 900m north-north-east of the western extension area. This took place in 1953-4 and identified a Romano-British temple of several periods of construction including hexagonal and octagonal stone buildings, and associated finds.

2.1.9 In September 2016, an archaeological evaluation was undertaken by Cotswold Archaeology at Collyweston Quarry, 1km west of the western extension area. The evaluation comprised the excavation of eleven trial trenches. A geophysical survey of the site had indicated that it had a low potential for archaeological remains, although a rectilinear anomaly, suggestive of a possible enclosure but interpreted as being of natural origin, was identified. The natural origin of the anomaly, which was probably formed by glacial and periglacial processes, was confirmed and no archaeological remains or artefactual material were encountered elsewhere within the site.

Archaeological background

2.1.10 Few parts of England have been examined in as much detail as this part of Northamptonshire. The combined efforts of David Hall and the former County Archaeologist, Glen Foard, ensured that programmes of desk-based research and field-based examination mapped large numbers of sites and possible sites.

2.1.11 Prehistoric sites are rare. A possible cooking site identified during fieldwalking 340m north of the western extension area was marked by burnt and cracked pebbles. Two possible Bronze Age ring ditches were identified approximately 1km north-west of the western extension area. In this same area there is evidence for an Iron Age smelting site. A further possible prehistoric barrow was identified in Westhay Wood, to the south of the western extension area, comprising a low mound about 15m in diameter.

2.1.12 Despite fieldwalking and aerial photographic assessment, and a large number of Roman sites in the landscape, there are no known Roman sites close to the western extension area. The nearest is 500m distant and comprised a significant find scatter of Roman date including building stone and pottery, located by David Hall. About 900m to the north-east of the western extension area there is the Romano-British temple complex, referred to above (para 2.1.8) and a further probable settlement and ironworking site lies 1200m south-east of the western extension area. A similar Roman settlement, including evidence for a building from aerial photographs and ironworking, lies to the east of Westhay Lodge. A Romano-British iron smelting furnace (was found in a 1977 watching brief 1.25km north west of the western extension area and a possible section of a Roman road is also recorded. The latter was identified by a 1982 aerial survey, 1.2km west of the western extension area. In addition to the iron slag from defined sites,

further undated surface finds might reflect the more extensive nature of metal working in the Roman period.

2.1.13 The medieval and post-medieval periods have been intensively examined, both in the field by David Hall who mapped earthwork enclosure banks and ditches, and more recently by the Rockingham Forest Project. The landscape of these periods has been re-created with some success. Given that this is an area of historic woodland it is of no surprise that woodland activities are present within the study area, and in particular the production of charcoal. Five locations scattered across the study area produced evidence suggesting charcoal production of which only one is dated, in that case to the post- medieval period.

2.2 GEOPHYSICAL SURVEY

2.2.1 Geophysical survey was carried out by Tigergeo in November 2019 and May 2020³.

2.2.2 There was very little identified that could be described, with certainty, as of archaeological interest, most of the suitable anomalies being non-connected linear examples with weak magnetic enhancement and no coherent layout. Some were considered to be ditch fills, others drains or former paths, and some contrast so weakly defined from their surroundings as to be only tentatively identified. The southern part of the western extension area is dominated by services, pipelines and under-drainage.

2.2.3 The main features identified were ditch fills that define the western part of a small rectilinear enclosure. They lacked internal features but the strength of magnetic enhancement associated with the fills, relative to other ditch fills on the site, might suggest the presence of materials commonly associated with intensive use. These can include cultural debris and heated soils.

2.3 ARCHAEOLOGICAL TRIAL TRENCHING

2.3.1 The Museum of London's Northampton Office carried out trial-trenching across the western extension area in October and November 2020.

2.3.2 The trenching targeted geophysical anomalies to check their origin and blank areas to act as a control. In total the evaluation comprised the excavation of fifty-one 50m x 1.8m trial trenches.

2.3.3 The results of the evaluation⁴ identified low levels of activity from the Roman period onwards. Where present, archaeological preservation levels

³ Tigergeo. 2020. Land near King's Cliffe, Northamptonshire. Geophysical Survey Report.

were consistently high and most of the remains encountered did not appear to have been significantly affected by modern activities, such as ploughing. Features of interest were primarily concentrated within the northern half of the northern field and the north-eastern extent of the southern field.

2.3.4 A sparse artefactual assemblage was recovered during the investigation, which has left the majority of the encountered archaeological features undated. The paucity of datable material has hindered understanding of the chronological progression of the site's formation and development. However, it is probable that the archaeological remains recorded represent a focus on the economy of the landscape, predominantly concerning stock management.

2.3.5 Two ditches thought to form part of a large, square enclosure identified by the geophysical survey were excavated in the northern field (Trenches 10 and 11). No internal features associated with the enclosure were identified within the constraints of the evaluation. As such, it is possible that these ditches functioned as boundaries for a field system and perhaps delineated an enclosed area related to farming management. The animal bone assemblage recovered indicates that cattle, sheep or goat are the most probable species of livestock which may have been managed within this system. Neither ditch revealed evidence of prolonged use.

2.3.6 Potential charcoal production was evidenced in one location within the southern half of trench 33. The feature (a pit) was similar to small charcoal production pits identified at several sites in the east of England. As only a single feature associated with this activity was identified during the evaluation, it is probable that this represents a very small-scale of charcoal production, possibly for domestic purposes rather than industrial.

2.3.7 At present, the relationship between this probable enclosure and the further undated archaeological features remains unclear. It is possible that the features concentrated within the northern half of the northern field may be associated with the enclosure ditches, perhaps defining land or route boundaries and providing field drainage

2.3.8 The results of the evaluation corroborated the geophysical survey. It identified only a sparse number of archaeological features given the size of the site and there is limited potential to address the research objectives detailed in the regional research agenda.

⁴ Collins, C. 2020. Archaeological Evaluation at ENRMF Proposed Extension, Northamptonshire. MOLA report 20/076.

3. Archaeological Mitigation

3.1 OVERVIEW OF PROPOSED MITIGATION

3.1.1 National Planning Policy Framework 2019 requires developers to record and advance understanding of heritage assets to be lost and make this evidence publicly accessible (paragraph 199). This can include a programme of archaeological work secured by condition/s on planning permission.

3.1.2 In this case, a programme of pre-development archaeological work secured by condition would be appropriate. This would comprise:

- Soil stripping under the direction of an archaeologist followed by archaeological excavation of two defined areas shown on **Figures 2-4**.
- Watching brief during development within existing service corridors that could not be evaluated as part of the EIA (**Figure 2**).
- The deposition of reports with the Historic Environment Record, the deposition of archives with the appropriate public museum or receiving institution (normally Northamptonshire Archaeological Resource Centre) and publication commensurate with the significance of any discoveries made.
- Public outreach appropriate to the significance of the findings.

3.2 ARCHAEOLOGICAL EXCAVATION

Methodology

3.2.1 The appointed contractor will secure a NHER event and OASIS numbers before commencing fieldwork.

3.2.2 It is proposed to carry out the work in one or two phases dependent upon the availability of the land from the farmer. This is better for recording the continuity of archaeological features.

3.2.3 Soils will be removed within the excavation area by a 360-machine equipped with a toothless bucket under archaeological direction. All subsequent excavation will be undertaken by hand, although mechanical equipment may be used to remove modern deposits or geological features with the agreement of the Northamptonshire CC Archaeologist. Exposed surfaces will be selectively cleaned in order to aid the identification of any features.

Sampling strategies and recording

3.2.4 Sampling strategies would include:

- 50% of intrusive non-structural features (pits, random postholes). Up to 50% (by number) to be then fully excavated following assessment.
- At least 10 % of each linear feature's exposed area, and all terminals & intersections if definition of relationships is unclear. The actual percentage amount will depend on the type of site being investigated, and, for example, lengths of post-medieval field ditch system that have previously been sampled and dated in previous phases would require only limited further excavation to be undertaken, comprising examination of their terminals and intersections.
- 100% of domestic/industrial working features (hearths, ovens), graves and features of high palaeo-environmental potential (excluding ponds and palaeo-channels).

3.2.5 All exposed archaeological deposits will be recorded using a pro forma recording system.

3.2.6 All archaeological contexts will be recorded on context record sheets. A further more-general record of the work comprising a description and discussion of archaeological remains will be maintained as appropriate. Context sheets will be primarily filled in by the archaeologist excavating the feature or deposit. Context sheets will be checked for completeness and accuracy on a regular basis and before the area in which they occur is signed off.

3.2.7 Context information will be entered into a scheme database. Context grouping will be carried out in parallel with fieldwork. If appropriate a Harris Matrix will be compiled for each area of investigation during the course of fieldwork.

3.2.8 A complete drawn record of excavated archaeological features and deposits will be compiled. This will include both plans and sections, drawn to appropriate scales (generally 1:20 or using survey grade GPS for plans, 1:10 for sections), and with reference to a site grid tied to the OS National Grid. The OD height of all principal features and levels will be calculated and plans/sections will be annotated with OD heights. Drawn plans and sections will be on polyester-based drafting film and clearly labelled.

3.2.9 A full photographic record will be maintained using digital cameras. The photographic record will illustrate both the detail and the general context of the principal features, finds excavated, and the site as a whole.

3.2.10 Photographs will be recorded on *pro forma* Record Sheets.

Finds

Finds

3.2.11 All artefacts from excavated contexts will be retained, except those from features or deposits of obviously modern date. In such circumstances, sufficient artefacts will be retained in order to elucidate the date and/or function of the feature or deposit. Material of undoubtedly modern date observed on the spoil heap of each trench would not be noted or retained.

3.2.12 Artefacts will be recovered carefully by hand excavation. An appropriately qualified and experienced archaeological conservator will assist where appropriate in the lifting of fragile finds of significance and/or value.

3.2.13 Artefacts will be collected and bagged by archaeological context. The location of special finds will be recorded in three dimensions. Three-dimensional recording of *in-situ* flint working deposits will be carried out, as appropriate.

3.2.14 Where appropriate to address the research objectives of the archaeological investigation, sieving of deposits will be undertaken to maximise recovery of small artefacts.

3.2.15 Registers of artefact assemblages and special finds will be maintained throughout the course of fieldwork and post excavation works. Records of artefact assemblages will clearly state how they have been recovered, sub-sampled and processed.

3.2.16 Excavated artefacts will be bagged upon recovery or placed in finds trays. They will not be left loose on site. Artefacts will normally be stored in plastic bags which contain two plastic labels. Labels will be clearly marked in indelible ink with site code, context number and date of finding.

3.2.17 Special finds, those of a fragile nature or requiring special conditions will be individually packaged and labelled as appropriate to the artefact. Where appropriate, for example in the case of fragile faunal remains of early prehistoric date, the advice of a suitably qualified conservator will be sought with regard to their lifting, storage and conservation.

3.2.18 All retained artefacts will, as a minimum, be washed, weighed, counted and identified. Any artefacts requiring conservation or specific storage conditions will be dealt with immediately in line with *First Aid for Finds* (Watkinson & Neal 1998). Ironwork from stratified contexts will be X-rayed and stored in a stable environment along with other fragile and delicate material. The X-raying of objects and other conservation needs will be undertaken by an appropriate approved conservation centre. Suitable material, primarily the pottery, worked flint and non-ferrous metalwork, will be scanned to assess the date range of the relevant assemblages.

Vertebrate remains

3.2.19 If faunal remains are recovered, their condition should be considered: it might be appropriate to record the remains in-situ and lift following consultation with a specialist conservator.

Treatment of treasure

3.2.20 Finds falling under the statutory definition of Treasure (as defined by the Treasure Act of 1996 and its revision of 2002) will be reported immediately to the relevant Coroner's Office, the landowner, the Northamptonshire CC Archaeologist and the Portable Antiquities Scheme. A Treasure Receipt will be completed and a report submitted to the Coroner's Office within 14 days of understanding that the find is Treasure. The Treasure Receipt and Report will include the date and circumstances of the discovery, the identity of the finder and (as exactly as possible) the location of the find

Human Remains

3.2.21 If human remains are encountered, the Northamptonshire CC Archaeologist, the Coroner and the client will be informed. Removal of these remains will be carried out in accordance with all appropriate Environmental Health regulations and will only occur after a Ministry of Justice licence has been obtained.

3.2.22 Where practicable, inhumation burials will be fully excavated by hand within 24 hours of exposure. Cremations should be lifted en-bloc and excavated in the laboratory.

3.2.23 The client will put in place arrangements to ensure the security, protection from deterioration, damage and criminal activity, and the respectful treatment of human remains and burial goods.

3.2.24 All excavation and post-excavation analysis of human remains will be in accordance with the standards set out in CIFA Technical Paper 13 *Excavation and post-excavation treatment of cremated and inhumed remains* and in the Historic England reporting guidelines: *Human Bones from Archaeological Sites: Guidelines for Producing Assessment Documents and Analytical Reports*, 2004. Appropriate specialist guidance/site visits will be undertaken by suitably qualified specialists. The final deposition of human remains following analysis will be subject to the requirements of the Ministry of Justice Licence.

Environmental sampling

3.2.25 Environmental sampling appropriate to the aims of the project will be implemented. Samples will be taken from archaeologically significant features and deposits, where appropriate. Advice will be sought as appropriate from the Historic England Regional Science Advisor. The strategy and

methodology for the sampling, recording, processing, assessment, analysis and reporting of deposits with environmental archaeology potential will be in accordance with Historic England *Environmental Archaeology - A guide to theory and practice of methods, from sampling and recovery to post-excavation*, second edition, 2011. Any variation to this guidance will be agreed in advance with the Historic England Science Advisor and the Northamptonshire CC Archaeologist.

3.2.26 Bulk environmental soil samples for charred plant macrofossils, small animal bones and other small artefacts will be taken from appropriate well sealed and dated/datable archaeological contexts. Samples of between 40-60 litres will be taken or 100% of smaller contexts. Samples will not be taken from the intersection of features or across context boundaries.

3.2.27 Bulk environmental soil samples will be processed by water flotation and a preliminary assessment for environmental potential will be carried out on an on-going basis. Results will be fed back during fieldwork, in order to guide the course of action for further sampling.

3.2.28 For deposits where anaerobic preservation is seen or expected, 20 litre bulk samples will be taken for the retrieval of uncharred plant macrofossils and insects.

3.2.29 Details of the environmental samples and assemblages will be input into a project database.

3.2.30 A geoarchaeologist will record any deposits of particular significance and advise on depositional processes.

3.2.31 Appropriate provision will be made for the application of scientific dating techniques such as radiocarbon, dendrochronology, archaeomagnetic dating, OSL and TL dating. The advice of the Historic England Science Advisor will be sought in advance of the application of these techniques.

3.2.32 Where appropriate, the guidance in the following Historic England papers will be followed:

- Watkinson, D and Neal V, *First Aid for Finds* (London: Rescue/UKICAS/HE 2001)
- *Animal Bones and Archaeology: Guidelines for Best Practice* 2014
- *Animal Bones and Archaeology - Recovery to archive*, 2019
- *Human bones from Archaeological Sites: Guidelines for Producing Assessment Documents and Analytical Reports*, 2004
- *The Role of the Human Osteologist in an Archaeological Fieldwork Project*, 2018

- *Dendrochronology: Guidelines on producing and interpreting dendrochronological dates*, 2004
- *Guidelines on the X-radiography of archaeological metalwork*, 2006
- *Archaeometallurgy*, 2015
- *Environmental Archaeology: A guide to theory and practice of methods, from sampling and recovery to post-excavation* second edition, 2011
- *Geoarchaeology: Using earth sciences to understand the archaeological record*, 2015
- *Mineralised Plant and Invertebrate Remains*, 2020
- *Waterlogged Wood: Guidelines on the recording, sampling, conservation and curation of waterlogged wood*, 2010
- *Waterlogged Organic Artefacts*, 2018
- *Archaeomagnetic Dating: Guidelines on producing and interpreting archaeomagnetic dates* 2006
- *Guidelines for the Curation of Waterlogged Macroscopic Plant and Invertebrate Remains*, 2008
- *Luminescence Dating: Guidelines on using luminescence dating in archaeology* 2008

3.3 FURTHER MITIGATION

3.3.1 Should significant archaeology be identified that continues outside the defined excavation area, further mitigation may be required. The decision would be taken in consultation with the Northamptonshire CC Archaeologist and the project's archaeological consultant.

3.4 REPORTING

3.4.1 Following completion of all fieldwork a Post-excavation Assessment Report will be produced. This report will include an Updated Project Design that sets out a programme of post-excavation analysis through to completion of the full report and publication of the findings. The report will include, as appropriate:

- A non-technical summary.
- Details of the scheme and the commissioning body.
- A description of the site, including its geology and topography.
- A description of the methods employed during the investigation.
- A review of the effectiveness of the archaeological strategies and methodologies

- A description and interpretation of the results.
- Plans and sections showing archaeological features and deposits.
- Photographs of significant archaeological features and deposits.
- Specialist reports.
- A list of references.
- Tabulated context and finds data.
- Recommendations and a timetable for further analysis and publication.

3.4.2 An Oasis report will be initiated prior to the start of fieldwork and will be updated following the completion of the project.

3.4.3 The scope of the full report and the format and destination of subsequent publication(s) arising from excavation and post-excavation work on the site will be agreed with the Northamptonshire CC Archaeologist.

3.5 SPECIALIST INPUT

3.5.1 A list of specialists to be employed on the project will be submitted to the Northamptonshire CC Archaeologist.

3.6 ARCHIVE PREPARATION AND DEPOSITION

3.6.1 The archive will comprise written, drawn, photographic, digital, artefactual and environmental material.

3.6.2 Throughout the archaeological programme, the archive will be kept secure, clean and stored in a suitable environment.

3.6.3 The site archive, to include all project records and cultural material produced by the project, will be prepared in accordance with *Guidelines for the preparation of excavation archives for long term storage* (UKIC 1990) and *Standards in the Museum Care of Archaeological Collections* (Museums and Galleries Commission 1992).

3.6.4 The archive will be fully catalogued, indexed, cross-referenced and checked for consistency before deposition.

3.6.5 On completion of the project the archaeological contractor will arrange for the archive to be deposited at the appropriate public museum or receiving body (normally Northamptonshire Archaeological Resource Centre), in accordance with arrangements made at the outset of the project. A museum accession number will be requested before post-excavation work commences.

3.6.6 Relevant guidelines and requirements of the museum receiving the archive will be adhered to. The potential for discard of bulk materials will be included within specialist post excavation assessment reports.

3.6.7 All artefactual material recovered will be held in temporary storage and the permission of the landowner will be sought for the transfer of such archaeological finds to the appropriate depository to facilitate future study and ensure proper preservation of all artefacts. In the unlikely event that artefacts of significant monetary value are discovered, and if they are not subject to Treasure Act legislation, separate ownership arrangements may be negotiated.

3.7 HEALTH AND SAFETY

3.7.1 A risk assessment will be undertaken and approved and will be kept on site in a file which will contain all relevant health and safety documentation. The Health and Safety file will be available to view at any time.

3.7.2 All staff will be subject to a Health and Safety induction by Augean South Ltd before commencing work on site.

3.8 MONITORING OF WORKS

3.8.1 The Northamptonshire CC Archaeologist will be informed of dates and arrangements to allow for adequate monitoring of the works. They will have free access to the site (subject to Health and Safety considerations) and all records to ensure the works are being carried out in accordance with this document and all other relevant standards.

3.9 EXTERNAL LINKS, EDUCATION AND OUTREACH

3.10 Subject to Health and Safety considerations, local primary schools may be invited to visit archaeological excavations. Public events could be organised, especially as part of recognised formats such as the Festival of British Archaeology. When deemed appropriate, public open days will also be advertised and held. Local lectures could be given if the results warrant it.

**Appendix A – Approval of this AMS by the Northamptonshire CC
Archaeologist**

WS010005. Archaeological Mitigation Strategy. March 2021.

From: Liz Mordue
Sent: 29 March 2021 08:31
To: Andrew Josephs
Subject: RE: Kings Cliffe landfill Archaeological Mitigation Strategy

Dear Andy

Thank you for the AMS. It is all in order and I am happy with the scope of work proposed.

A method statement from the archaeological contractor would of course be expected to confirm that they will follow the AMS.

It may be worth adding a footnote to the AMS to clarify that from 1st April 2021 I will be Archaeological Advisor at North Northants Council, rather than at NCC which will no longer exist.

Regards
Liz

Liz Mordue
Archaeological Advisor

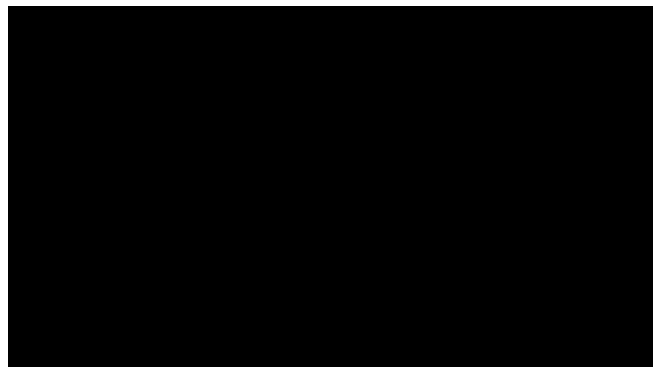
From: Andrew Josephs
Sent: 22 March 2021 08:55
To: Liz Mordue
Subject: Kings Cliffe landfill Archaeological Mitigation Strategy

Dear Liz

Please find attached an AMS for your comments/approval.

Kind regards

Andy



Figures

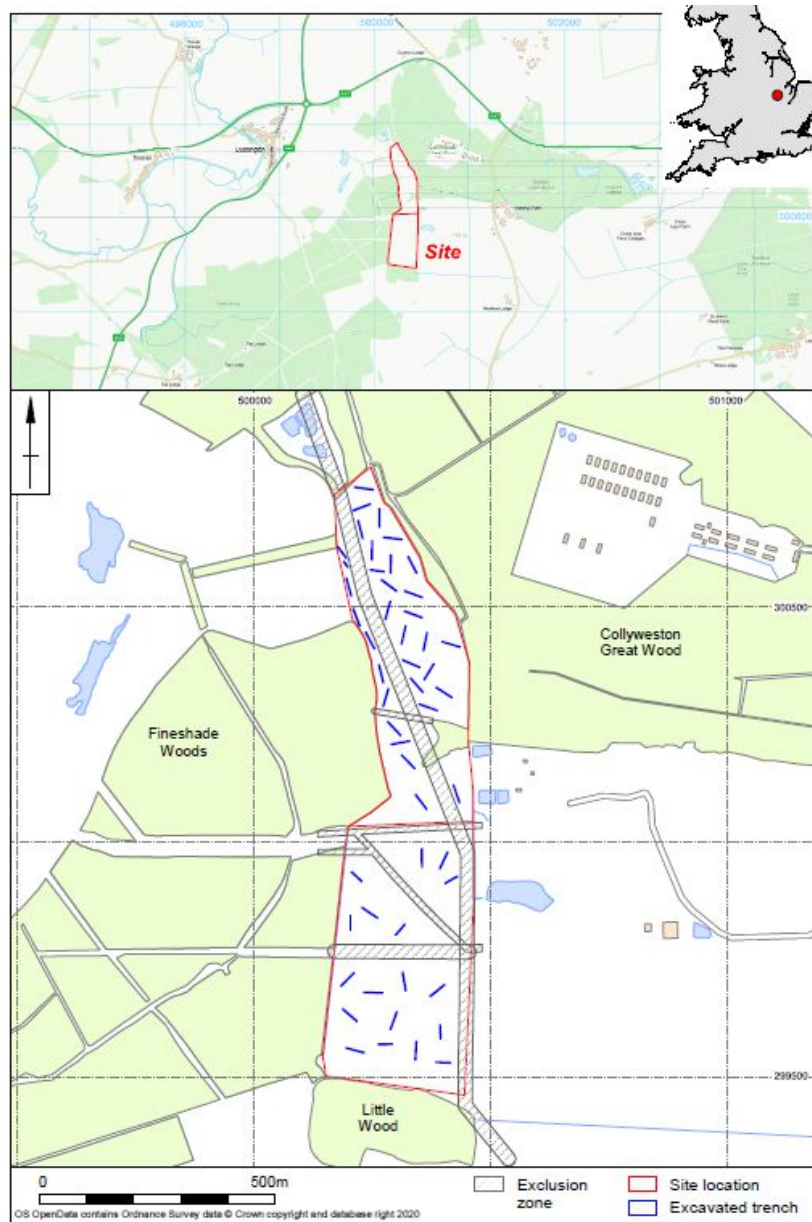


Figure 1 Site Location and Layout of Trenches

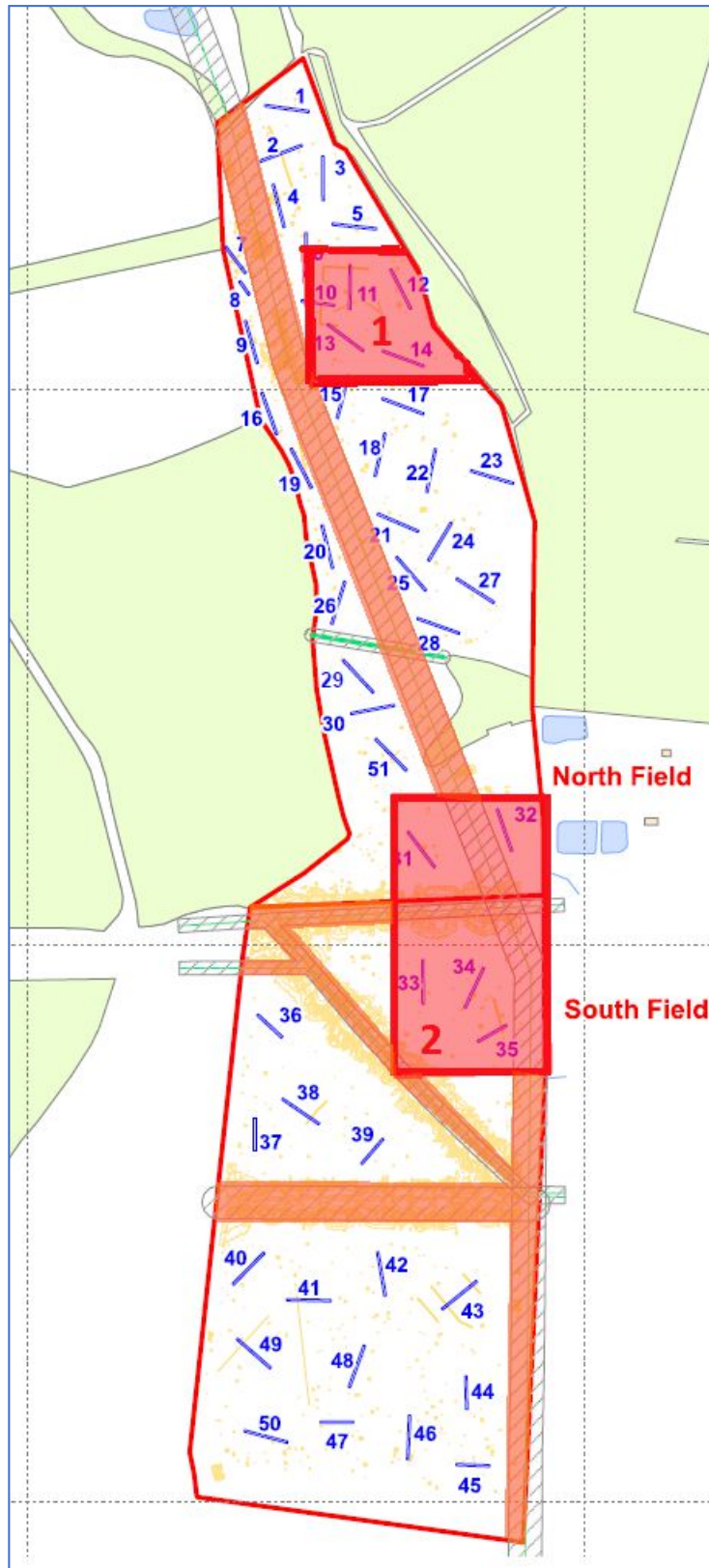


Figure 2 Set-Piece Excavation Areas (red) and Watching Brief along existing service corridors (orange)

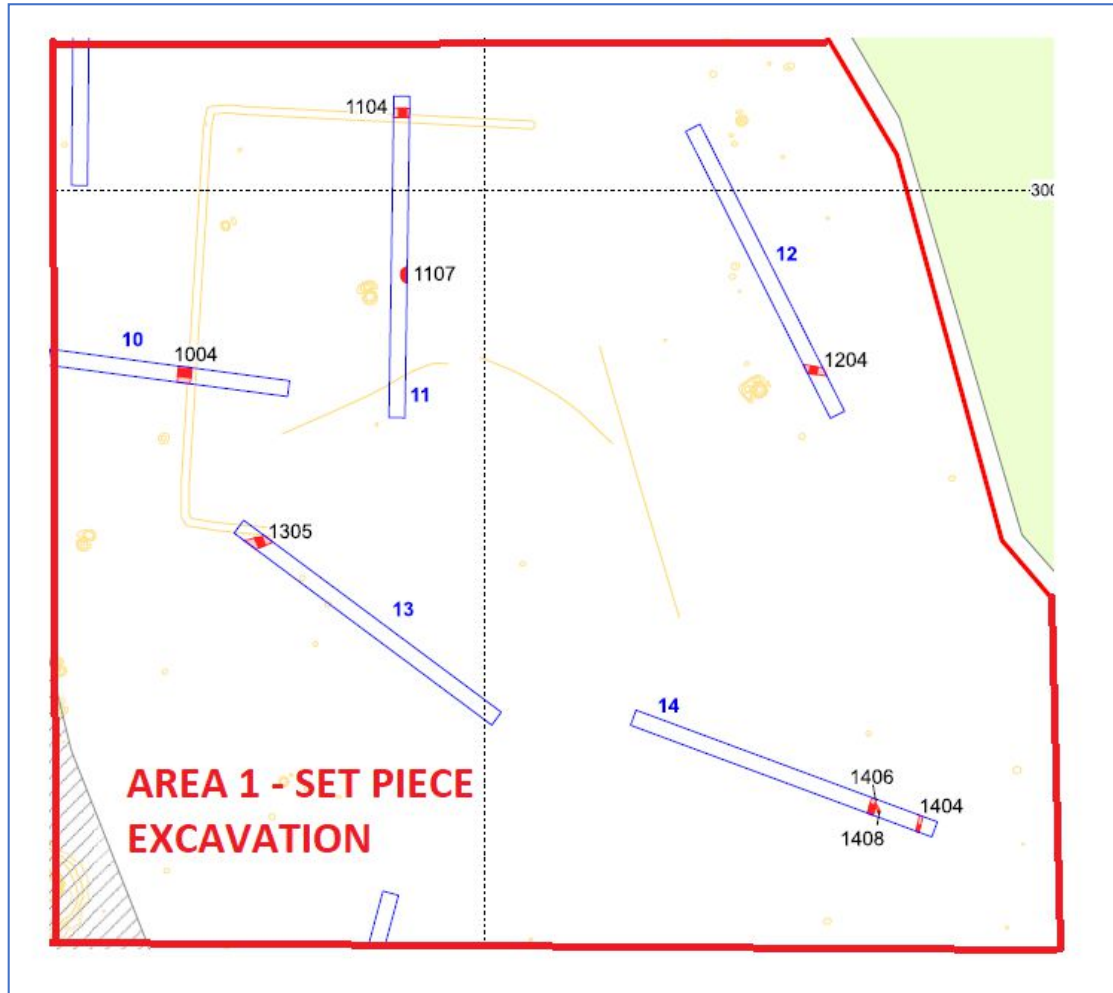


Figure 3 Set-Piece Excavation Area 1 – northern field

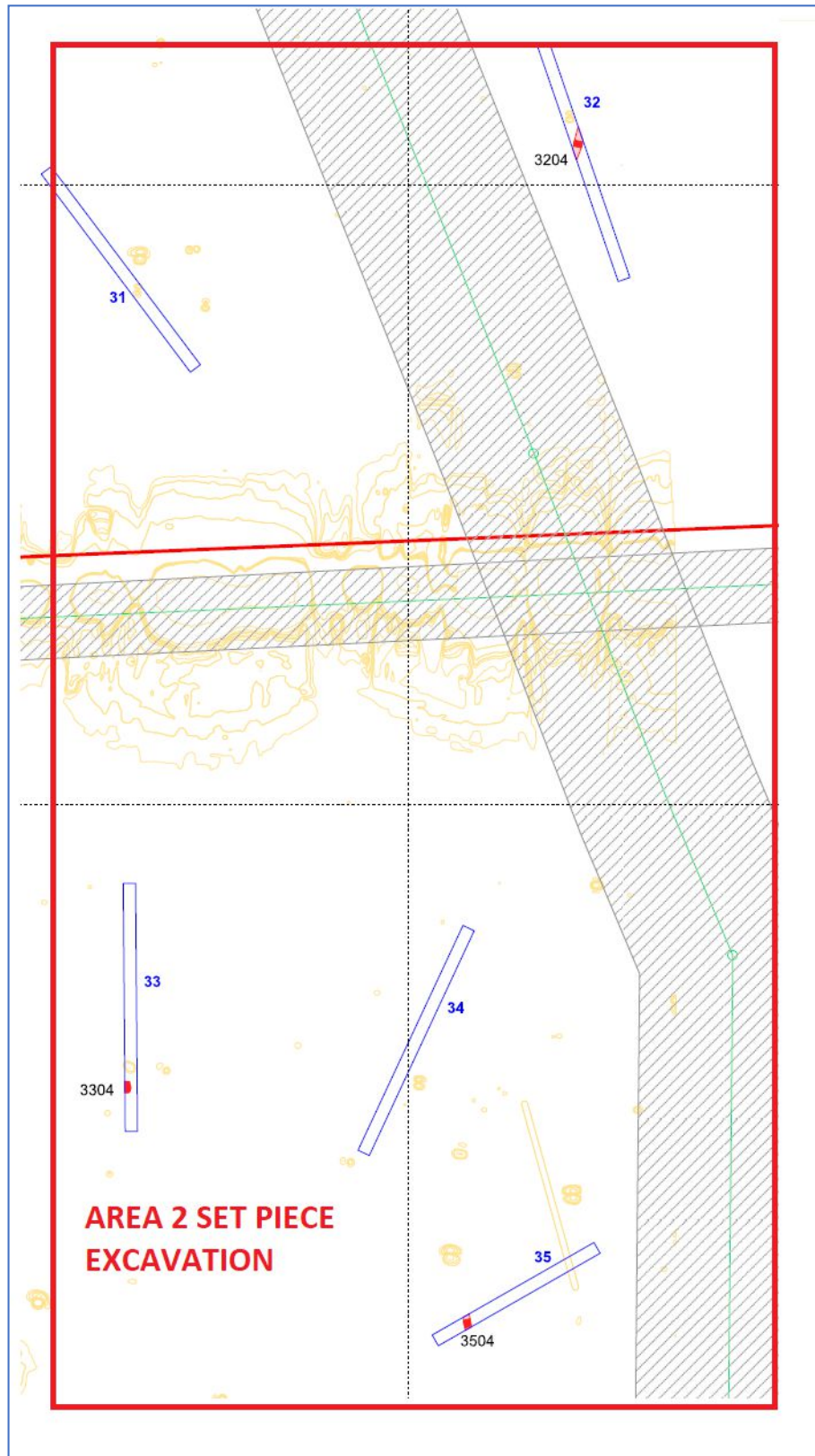


Figure 4 Set-Piece Excavation Area 2 – southern field

AJA

andrew josephs associates

