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# **A1 North Muskham Drainage Scheme, Nottinghamshire**

## Specification for Archaeological Works

**Specification**  
June 2008



Prepared for: AMScott



## Revision Schedule

### A1 North Muskham Drainage Scheme, Nottinghamshire Specification for Archaeological Works July 2008

Rev	Date	Details	Prepared by	Reviewed by	Approved by
01	May 2008	Draft	Neil Macnab BA Senior Archaeological Consultant	Andrew Copp MA Senior Archaeological Consultant	Annette Roe BA, MA Associate
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## Table of Contents

1	Introduction .....	1
2	Site Location and Geology .....	1
3	Planning Background .....	2
4	Archaeological and Historical Background .....	2
5	Project Objectives .....	3
6	Archaeological Excavation Areas (Areas 1 and 2).....	3
7	The Watching Brief Area (Area 3).....	4
8	Methodology .....	4
9	Reporting.....	9
10	Dissemination .....	10
11	Archive Deposition .....	10
12	Copyright.....	11
13	Access Arrangements .....	11
14	Resources and Timetable.....	11
15	Monitoring .....	12
16	Confidentiality and Publicity.....	12
17	Insurances and Health and Safety.....	12
18	General Provisions .....	13
19	Method Statement for the Principal Contractor .....	14



### **List of Figures**

Figure 1 – Site Location Plan

Figure 2 – Location of Watching Brief Area 3

Figure 3 – Location of Watching Brief Areas 1 and 2

### **Appendices**

Appendix 1 – Standards and Guidance

Appendix 2 – Landscape Drawings

Appendix 3 – Scheduled Monument Consent Application Form



## 1 Introduction

- 1.1 Scott Wilson Ltd has been appointed by AMScott to design and manage the archaeological works for the delivery of the A1 North Muskham Drainage Scheme, Nottinghamshire
- 1.2 The Drainage Scheme crosses the scheduled area of a standing cross (Scheduled Ancient Monument (SAM) 29924 at North Muskham, Nottinghamshire and a further unscheduled area of archaeological significance
- 1.3 After consultation with Ursilla Spence, Senior Archaeological Officer for Nottinghamshire County Council, and Tim Allen, Assistant Inspector English Heritage East Midlands Region, it was agreed that a 2.00m stretch of drainage trench, within and close to the scheduled area, would be hand excavated by a suitably qualified and experienced archaeologist (Archaeological Excavation Area 1). This was in order to mitigate the impact of the new drainage trench on potential archaeological remains. A further stretch of the new drainage trench would also be monitored by the implementation of an archaeological watching brief (Area 3), beyond the scheduled area, to record any archaeological remains that may be revealed during the construction works. It was also agreed that a further stretch of drain run that had been impacted previously by gravel extraction activities, at the eastern end of the drain run in the vicinity of the Nottinghamshire Wildlife Trust's North Muskham Nature Reserve, would not be subject to archaeological monitoring as all archaeological interest had already been removed
- 1.4 The new drainage run is being constructed in order to replace a damaged existing drainage run that is no longer functional and is causing flooding problems. The new drainage run is not on the same alignment as the original damaged run, but is being constructed on a new alignment.
- 1.5 As part of the new drainage, AMScott have agreed to undertake a landscape enhancement scheme for the scheduled standing cross. This will involve the laying of sandstone setts in a circular pattern around the cross base. As part of this, the hand excavation of topsoil (Area 2) by a suitably qualified and experienced archaeologist will be required to the maximum depth for the insertion of the new landscaping (sub-base and sandstone setts).
- 1.6 This specification details the methods that will be used for the archaeological works and has been approved by the Assistant Archaeological Officer for Nottinghamshire County Council and English Heritage.

## 2 Site Location and Geology

- 2.1 North Muskham village lies just to the north of Newark on the east side of the A1 national trunk road, Nottinghamshire (Figure 1). The proposed drainage scheme lies between Main Street and the River Trent. The new drainage scheme commences within the scheduled



area of a standing cross (SAM 29924), NGR SK 7962 5937, on the east side of Main Street and starts at an existing manhole. The drain run then heads southeast across an area of flat grassland, out of the scheduled area, before turning east towards Dickenson Way. After crossing Dickenson Way, the drainage route heads north and then east, skirting the edge of a former gravel quarry (now Nottinghamshire Wildlife Trust's North Muskham Nature Reserve) to outfall into the River Trent.

- 2.2 The landscaping scheme concentrates solely on the scheduled standing cross (SAM 29924).
- 2.2 Both the new drainage scheme and the landscaping are situated on the sands and gravels associated with the first gravel terrace of the River Trent. The solid geology of the area consists of Upper Triassic marls and sandstone.

### 3 Planning Background

- 3.1 Consent for the works from Nottinghamshire County Council and English Heritage is subject to the implementation of a programme of archaeological works, in accordance with a specification approved in writing by the Local Planning Authority and English Heritage. It is also subject to Scheduled Monument Consent, an application for which has been made to the Department for Culture, Media and Sport, of the UK Government.

### 4 Archaeological and Historical Background

- 4.1 North Muskham is rich in archaeological evidence. Earlier prehistoric evidence exists in the form of Mesolithic, Neolithic / Early Bronze Age and Bronze Age flint scatters at South Muskham (Knight and Howard 2004, 35-36) as well as a scheduled pit alignment (NT168) just to the southwest of North Muskham village (Knight and Howard 2004, 66).
- 4.2 Immediately to the northwest of the proposed drain scheme, archaeological trial trench evaluation in advance of the construction of housing off Dickenson Way uncovered an Iron Age trackway (Spence, pers. comm.). This is part of a much more extensive spread of Iron Age enclosures and settlement evidence that extends along the west bank of the River Trent, and includes a scheduled settlement site (SAM NT173) just south of North Muskham village, scheduled square barrows to the north of North Muskham village (SAM NT167) and extensive cropmark evidence to the north and south of the village (Knight and Howard 2004, 98-99, 102-3, 144).
- 4.3 The Romans further exploited the area, which was of strategic importance, being situated just to the north and northwest of the River Trent and the Fosse Way Roman Road. A scheduled Roman military camp is situated on the east side of the River Trent at Holme (SAM 29929), to the east of the proposed drainage scheme. Occupation of the Iron Age agricultural and settlement landscape may have extended into the Roman period, Romano-British pottery being recovered from field walking at South Muskham (Knight and Howard 2004, 144).

*Neolithic  
and Bronze  
Age*



- 4.4 The village of North Muskham had its origins in the medieval period and the Church of St. Wilfrid's dates to the 12<sup>th</sup> century. The settlement would have been focussed on the church and is likely to have extended along Main Street, to the south of the new drainage scheme.
- 4.5 Two medieval crosses, now both scheduled monuments (SAM 29921 and SAM 29924), marked the points where a medieval road, known as Trent Ford Road, turned towards the River Trent in the villages of North Muskham and Holme. This medieval route led down to the River Trent where there was a ford crossing point and later a ferry crossing of the river. Before crossing the river, each passenger commended themselves at the cross in North Muskham or at the cross in Holme to the mercy of God. It is believed that the cross was also used as a place where transactions relating to the local wool trade were validated. The crosses are nationally important and are also Grade II listed buildings. SAM 29924 is situated at the north end of the medieval village of North Muskham, in between the junction of Main Street and the former Trent Ford Road. The Trent Ford Road in North Muskham has mostly been removed by improvements to the A1 and by gravel extraction activities in the modern period. The cross, however, is believed to be sited in its original position and archaeological deposits relating to its construction and use may survive intact in close proximity to it.
- 4.6 In summary, archaeological remains associated with the scheduled cross at North Muskham (SAM 29924) may survive intact in close proximity to the cross base. An area of grassland to the southeast of the cross, which is crossed by the new drainage scheme may also produce evidence for Iron Age or Romano-British activity and occupation.

Pronounced  
as  
↓  
Holme

## 5 Project Objectives

- 5.1 The objective of the archaeological works is to identify and record the presence/absence, nature, extent, and date of any archaeological remains associated with the cross or other evidence for prehistoric or later activity / occupation. The area is rich in archaeological sites and find spots, and consequentially, archaeological remains may be disturbed as a result of the new drainage scheme and associated landscaping around the cross.

## 6 Archaeological Excavation Areas (Areas 1 and 2)

- 6.1 The western most stretch of the new drainage scheme (Area 1) and the area that is required for landscaping surrounding the cross (Area 2), adjacent to the scheduled monument (SAM 29924), will be hand-excavated by a suitably qualified and experience archaeologist.
- 6.2 In Area 1, the archaeologist will hand-excavate the first part of the drainage trench within the scheduled area, commencing at the existing modern manhole. The hand excavated trench will measure 2m long and 0.60m wide and will be excavated to the top of natural



geology (Figure 3). The line of the drain run will be defined by AMScott prior to the commencement of hand excavation.

- 6.3 Area 2 is divided into two parts (a and b). The inner part (Area 2a) is scheduled (SAM 29924) (maximum 1.5m radius from the centre of the cross base). For the scheduled area 2a, topsoil will be archaeologically hand excavated to a maximum depth of 170mm from the top of the existing ground surface. For Area 2b (from 1.5m to 2.4m radius from the centre of the cross base), which is not scheduled and therefore not part of SAM 29924, topsoil will be archaeologically hand excavated to a maximum depth of 185mm from the top of the existing ground surface (Figure 3).

## 7 The Watching Brief Area (Area 3)

- 7.1 The machine excavation of the remainder of the drain run (Area 3) and excavation for the new manhole chamber (CP1) from the edge of the scheduled area to the western edge of the footpath of Dickenson Way will be archaeologically monitored. A further manhole chamber (CP2) for a new manhole on the eastern side of Dickenson Way will also be archaeologically monitored during machine excavation (Figure 2).

## 8 Methodology

### *Archaeological Hand-Excavation (Areas 1 and 2)*

- 8.1 All archaeological works will be carried out in accordance with this Specification for Archaeological Works, the Standard and Guidance for Archaeological Excavation of the Institute of Field Archaeologists (IFA), the IFA Code of Conduct, and will adhere to all current and relevant best practice and standards and guidelines.
- 8.2 The excavation area will be set out using electronic survey equipment and agreed with AMScott and English Heritage prior to the commencement of hand-excavation.
- 8.3 The excavation areas will be clearly defined by 2 sets of fencing. The Principal Contractor will be responsible for setting up a cordon of Heras fencing (see section 19.2) surrounding the Scheduled Monument and the western stretch of the new drainage run. The Archaeological Contractor will clearly demarcate by road pins and orange barrier fencing the areas that are subject to archaeological excavation. This is to ensure that persons or vehicles cannot inadvertently traverse the areas of investigation within the cordon while archaeological works are in progress. The fencing will be regularly inspected and maintained until investigations in the area have been completed, inspected, approved and signed off by the statutory authorities and Scott Wilson.
- 8.4 Topsoil and sub-soil will be stored in separate stockpiles in areas defined by AMScott and the Principal Contractor. It will be the Principal Contractor's responsibility to remove the stockpiled topsoil and subsoil (see section 19.10).

### *Hand Excavation*



- 8.5 All archaeological remains will be hand excavated in an archaeologically controlled and stratigraphic manner, in order to meet the aims and objectives of the investigation.
- 8.6 The complete excavation of all exposed archaeological remains within Areas 1 and 2 is necessary, in advance of the construction of the drainage trench. All archaeological deposits/features will be investigated in order to:
- understand and record the complete stratigraphic sequence, down to naturally occurring deposits; and
  - to understand and record all inter-relationships between features
- 8.7 In the unlikely event that features with a greater depth than can be safely excavated in one stage are encountered, the following procedure will be undertaken. The feature will hand excavated in steps to enable the excavation and recording of their full depth. All steps will be a minimum of 1m wide. Generally, the maximum safe depth is c.1.2m, but this will be dependant upon local conditions.
- Recording**
- 8.8 The extent of the excavation area will be accurately recorded using electronic survey equipment and tied into the Ordnance Datum. The data will be overlaid at a scale of 1:500 onto the Ordnance Survey national grid (using digital map data).
- 8.9 During the course of the excavation the stratigraphic matrix will be established.
- 8.10 A full written, drawn and photographic record will be made even where no archaeological features are identified. Hand drawn plans and sections of features will be produced at an appropriate scale (normally 1:20 for plans and 1:10 for sections). One long section of the area excavation will be drawn at a scale of not less than 1:10. All plans and sections will include spot heights relative to Ordnance Datum in metres, correct to two decimal places.
- 8.11 All investigations will be accurately located using electronic survey equipment and fixed in relation to nearby permanent structures and roads and tied into the Ordnance Datum. The data will be overlaid at a scale of 1:500 (or other scale as appropriate) onto the Ordnance Survey national grid (using digital map data).
- 8.12 Colour transparency and monochrome negative photographs will be taken at a minimum format of 35mm. In addition to records of archaeological features, a number of general site photographs prior to, during and after the works will be taken.
- 8.13 All non-modern artefacts will be retained. If appropriate, all 'small' finds will be recorded three dimensionally. If artefact scatters are encountered these should be also recorded three dimensionally. Bulk finds such as pottery and animal bone will be collected by context. If unusually large quantities of finds, or very small types of material are found (i.e. fish bones), such that the recovery by hand is not practicable, soil samples will be taken for sieving. Small finds will be packed separately from the bulk material



- 8.14 If delicate artefacts are discovered appropriate immediate measures will be undertaken to ensure they do not deteriorate. Following this, arrangements should be made for the finds to be sent to a laboratory for stabilisation.
- 8.15 Finds will be stored in controlled conditions where appropriate. All artefacts will be retained, cleaned, labelled and stored as detailed in the guidelines of the UKIC (United Kingdom Institute of Conservators).
- 8.16 During the course of the excavation, all exposed surfaces and excavation horizons will be metal-detected to ensure optimum recovery of artefacts. This will be undertaken at frequent intervals. Any artefacts identified will be excavated from their associated context in stratigraphic sequence. Metal detecting will be employed during normal hand excavation and the spoil will be inspected regularly.
- 8.17 Spoil heaps will be scanned for ferrous and non-ferrous metal artefacts using a metal detector. Modern artefacts are to be noted but not retained (19th century material and earlier should be retained). It is understood that the Archaeological Contractor will use a C-Scope 220X detector or similar device. There will be no discrimination set on the equipment.
- 8.18 All artefacts recovered will be stored in appropriate materials and conditions, and monitored to minimise further deterioration.
- 8.19 The archive of finds and records generated during the fieldwork will be kept secure and in appropriate conditions and materials at all stages of the project. The archive will be removed from site each evening and will be kept in secure premises at the Archaeological Contractors main office.
- 8.20 Samples of material considered suitable for scientific dating including AMS C14 dating and, archaeomagnetism or thermoluminescence will be taken where appropriate. The value of assessing these will be made following completion of the excavation and suitable recommendations will be put forward.
- 8.21 If human remains are encountered they will be left *in situ* and Scott Wilson will be informed immediately. Scott Wilson will inform H. M. Coroner and will consult with English Heritage, Nottinghamshire County Council and the client prior to a decision being made regarding their exhumation. Human remains will only be excavated / exhumed with the appropriate Ministry of Justice licence and following current Environmental Health regulations and the Burial Act 1857. An exhumation licence application, under the Burial Act 1857, will be made by the Archaeological Contractor to the Ministry of Justice if this is necessary. Removal of human remains will follow English Heritage and IFA best practice standards and guidance (Appendix 1).
- 8.22 Where human remains are encountered, it is important that the post-excavation assessment contains an analysis and statement for the future retention of the assemblage including options for reburial.



- 8 23 Any artefacts which are recovered that fall within the scope of the 1996 Treasure Act will be reported to Scott Wilson immediately. Scott Wilson will inform English Heritage, Nottinghamshire County Council, the client and H. M. Coroner

**Sampling**

- 8 24 If significant environmental deposits are found during the investigations, an environmental strategy shall be carried out in accordance with the environmental guidelines produced by English Heritage (2002) Provision should also be made for a specialist to visit the site and discuss the sampling strategy, if necessary.
- 8 25 Any samples taken must come from appropriately cleaned surfaces, be collected with clean tools and be placed in clean containers. They will be adequately recorded and labelled and a register of all samples will be kept. Once the samples have been obtained they will be stored appropriately in a secure location prior to being sent to the appropriate specialist. All work will be carried out in accordance with the *Standard and Guidance for Archaeological Excavation* produced by the Institute of Field Archaeologists (2001 and subsequent variations), the *IFA Code of Conduct* and appropriate standard methodologies and national guidance (Appendix 1).

**Archaeological Watching Brief (Area 3)**

- 8 26 A suitably qualified and experienced archaeologist should be present on site to monitor all excavation and/or soil disturbance within the specified stretch of new drainage trench subject to archaeological watching brief, as agreed with Nottinghamshire County Council. The archaeologist will monitor the area as it is being stripped and will, where possible and practicable, view any available trench sections after excavation is completed.
- 8 27 An approved Archaeological Contractor will carry out the work. The Archaeological Contractor will record the date, time and duration of all visits and the nature and extent of the works being monitored.
- 8 28 If extensive or significant archaeological deposits and or features are identified the Archaeological Contractor will notify Scott Wilson immediately. Additional archaeologists may be deployed, but only with the prior written consent of Scott Wilson.
- 8 29 Any archaeological deposits/features identified will be cleaned and hand excavated in an archaeologically controlled and stratigraphic manner sufficient to meet the aims and objectives of the investigation
- 8 30 The areas of excavation/ground disturbance (even if they reveal no archaeological features) will be recorded on a suitable base map/development plan and the stratigraphy and depth of excavation will be recorded.
- 8 31 A full written, drawn and photographic record will be made of all archaeological features. Hand drawn plans and sections of features will be produced at an appropriate scale (normally 1:20 for plans and 1:10 for sections). Drawings will include spot heights relative to Ordnance Datum in metres, correct to two decimal places.



- 8.32 Colour transparency and monochrome negative photographs will be taken at a minimum format of 35mm. In addition to records of archaeological features, a number of general site photographs will also be taken to give an overview of the site and the scope of the works taking place.
- 8.33 All non-modern artefacts will be retained and stored. If appropriate, the artefacts will be processed in accordance with standard methodologies and national guidelines (Appendix 1). If appropriate, 'small' finds will be recorded three dimensionally and a unique number sequence allocated. Bulk finds such as pottery, industrial waste or animal bone will be collected and recorded by context.
- 8.34 If delicate artefacts are recovered, appropriate measures will be taken to ensure they do not deteriorate. Following this, arrangements should be made for the finds to be sent to a laboratory for professional stabilisation.
- 8.35 Where necessary the artefacts will be stabilised, conserved and stored in accordance with the UKIC (United Kingdom Institute of Conservators) guidelines (Appendix 1).
- 8.36 The archive of finds and records generated during the fieldwork will be kept secure and in appropriate conditions at all stages of the project.
- 8.37 All ferrous objects and a selection of non-ferrous objects (including all coins) will be x-rayed.
- 8.38 A metal detector should be used to check for the presence of metal artefacts within the spoil from the excavation, as there is potential for metal artefacts dating from the Iron Age / Roman period to occur.
- 8.39 If human remains are encountered they will be left *in situ* and Scott Wilson will be informed immediately. Scott Wilson will inform H. M. Coroner and consult with Nottinghamshire County Council and the client prior to a decision being made regarding their exhumation. Human remains will only be excavated / exhumed with the appropriate Ministry of Justice licence and following current Environmental Health regulations and the Burial Act 1857. An exhumation licence application, under the Burial Act 1857, will be made by the Archaeological Contractor to the Ministry of Justice if this is necessary. Removal of human remains will follow English Heritage and IFA best practice standards and guidance (Appendix 1).
- 8.40 Where human remains are encountered, it is important that the post-excavation assessment contains an analysis and statement for the future retention of the assemblage, including options for reburial.
- 8.41 The archive of finds and records generated during the fieldwork will be kept secure and in appropriate conditions and materials at all stages of the project.
- 8.42 Any artefacts which are recovered that fall within the scope of the 1996 Treasure Act will be reported to Scott Wilson immediately. Scott Wilson will inform the Assistant Archaeologist for Nottinghamshire County Council and H. M. Coroner.



- 8.43 If archaeological remains are identified, works will cease in the effected area and the archaeologists will be given sufficient time to excavate and record the remains as appropriate.

## 9 Reporting

- 9.1 Verbal progress reports will be provided to Scott Wilson on request.
- 9.2 Immediately after completion of fieldwork any finds and samples will be processed. A suitably qualified archaeologist or specialist will examine each category of find or environmental material.
- 9.3 A detailed report will be submitted within 4 weeks of the completion of fieldwork. The report will take account of the results of previous research and investigations at the site and will include the following:
- a non-technical summary;
  - introduction (to include site code/project number, dates of field work/visits and grid references);
  - site location;
  - archaeological and historical background;
  - aims and objectives;
  - methodology;
  - results (to include full description, assessment of condition, quality and significance of remains. If archaeological remains are observed these will be described in the context of the known archaeology in the area);
  - discussion;
  - general location and detailed plans showing the areas of excavation/ground disturbance (to a known scale);
  - detailed plans and sections as appropriate (where archaeological deposits are exposed, with ground level, ordnance datum and vertical and horizontal scale);
  - a cross-referenced index of the project archive; and
  - general site photographs (a minimum of 35mm format), as well as photographs of any significant archaeological deposits or artefacts that are encountered).



- 9.4 One copy of the completed report will be submitted to Scott Wilson as a draft. Scott Wilson will submit the report to English Heritage and Nottinghamshire County Council for comment. In finalising the report the comments of Scott Wilson, English Heritage and Nottinghamshire County Council will be taken into account
- 9.5 Six bound copies, one unbound copy and a digital version of the report will be required within one week of the receipt of Scott Wilson's and the statutory consultees comments on the draft report.
- 9.6 Electronic files will be provided in Word for Windows and pdf format
- 9.7 Scott Wilson will submit one bound copy and a digital (pdf) copy on CD-ROM to English Heritage and Nottinghamshire Archaeology Section for inclusion on the Sites and Monuments Record.

## 10 Dissemination

- 10.1 The Nottinghamshire Sites and Monuments Record (SMR) supports the *Online Access to Index of Archaeological Investigations (OASIS) Project*. The overall aim of the OASIS project is to provide an online index to the mass of archaeological grey literature that has been produced as a result of the advent of large-scale developer funded fieldwork
- 10.2 The Archaeological Contractor must therefore complete the online OASIS form at <http://ads.ahds.ac.uk/project/oasis/> within 3 months of the completion of the fieldwork. When filling out the form the Archaeological Contractor must make reference to the Regional Research Framework. The Archaeological Contractor is advised to ensure that adequate time and costings are built into their tenders to allow the forms to be filled in.
- 10.3 Technical advice should be sought in the first instance from OASIS ([oasis@ads.ahds.ac.uk](mailto:oasis@ads.ahds.ac.uk)) and not from the Nottinghamshire SMR.
- 10.4 Once a report has become a public document by submission to or incorporation into the Nottinghamshire SMR. Nottinghamshire SMR will validate the OASIS form thus placing the information into the public domain on the OASIS website.
- 10.5 The Archaeological Contractor must indicate that they agree to this procedure within this specification submitted to Nottinghamshire Archaeology Section and English Heritage for approval

## 11 Archive Deposition

- 11.1 The archive of finds and records generated during the fieldwork will be kept secure at all stages of the project. All records and materials produced will be archived to the standards outlined in Appendix 3 of English Heritage's *Management of Archaeological Projects MAP2* (1991)



- 11.2 The Archaeological Contractor shall, prior to the start of fieldwork, liaise with an appropriate Museum to obtain agreement in principle of the Museum to accept the archive for long-term storage and curation. The Archaeological Contractor shall be responsible for identifying any specific requirements or policies of the museum in respect of the archive, and for adhering to those requirements.
- 11.3 The deposition of the archive forms the final stage of the project. The Archaeological Contractor shall provide copies of communication with the recipient museum and written confirmation of the deposition of the archive.

## 12 Copyright

- 12.1 The Archaeological Contractor shall assign copyright in all reports and documentation/images produced as part of this project to Scott Wilson. The Archaeological Contractor retains the right to be identified as the author/originator of the material. This applies to all aspects of the project. It is the responsibility of the Archaeological Contractor to obtain such rights from sub-contracted specialists.
- 12.2 The Archaeological Contractor may apply in writing to use/disseminate any of the project archive or documentation (including images). Such permission will not be unreasonably withheld.
- 12.3 The results of the archaeological work will be submitted to English Heritage and Nottinghamshire County Council by Scott Wilson and will ultimately be made available for public access.

## 13 Access Arrangements

- 13.1 Information relating to access to the sites will be provided by Scott Wilson. The new drainage scheme is situated on public open space and in the grounds of the Nottinghamshire Wildlife Trust's Nature Reserve at North Muskham. Access is therefore not a significant constraint.

## 14 Resources and Timetable

- 14.1 All archaeological personnel involved in the project should be suitably qualified and experienced professionals.
- 14.2 The timetable for the work will be dependant upon AMScott's and the principal contractor's programme and the gaining of Scheduled Monument Consent.



## 15 Monitoring

- 15.1 The Archaeological Contractor will be subject to monitoring by Scott Wilson who will be given full access to site records or any other information
- 15.2 Scott Wilson will liaise with English Heritage and Nottinghamshire County Council to inform them of the progress of the works and offer them the opportunity to visit and monitor the works as required.

## 16 Confidentiality and Publicity

- 16.1 Information regarding the development is in the public domain and the archaeological works may attract interest.
- 16.2 All communication regarding the project is to be directed through Scott Wilson. The Archaeological Contractor will refer all inquiries to Scott Wilson without making any unauthorised statements or comments.
- 16.3 The Archaeological Contractor will not disseminate information or images associated with the project for publicity or information purposes without the prior written consent of Scott Wilson.

## 17 Insurances and Health and Safety

- 17.1 The Archaeological Contractor will provide Scott Wilson with details of public and professional indemnity insurance prior to fieldwork commencing.
- 17.2 The Archaeological Contractor will have their own Health and Safety policies compiled using national guidelines and which conform to all relevant Health and Safety legislation. A copy of the Health and Safety policy will be submitted to Scott Wilson in advance of fieldwork.
- 17.3 The Archaeological Contractor will undertake a risk assessment detailing project specific Health and Safety requirements. The risk assessment shall be submitted to Scott Wilson in advance of commencement of site work. If amendments are made to the assessment during the works, Scott Wilson must be provided with the amended version at the earliest opportunity. Health and Safety will take priority over archaeological issues.
- 17.4 Scott Wilson will provide information regarding the approximate location of known services within the area of investigation.
- 17.5 Prior to the monitoring of groundwork all personnel involved in the monitoring of the groundwork will require a Health and Safety Induction that will be coordinated by the principal contractor. They will also adhere with the requirements of the principal contractor's Health and Safety Plan.



## 18 General Provisions

- 18.1 The Archaeological Contractor will undertake the works to the specification as issued by Scott Wilson and in any subsequent written variations. No variation from, or changes to, the specification will occur except by prior agreement with Scott Wilson in consultation with English Heritage and the Senior Archaeological Officer for Nottinghamshire County Council.
- 18.2 All communications on archaeological matters to the Senior Archaeological Officer or other interested parties will be directed through Scott Wilson.



## 19 Method Statement for the Principal Contractor

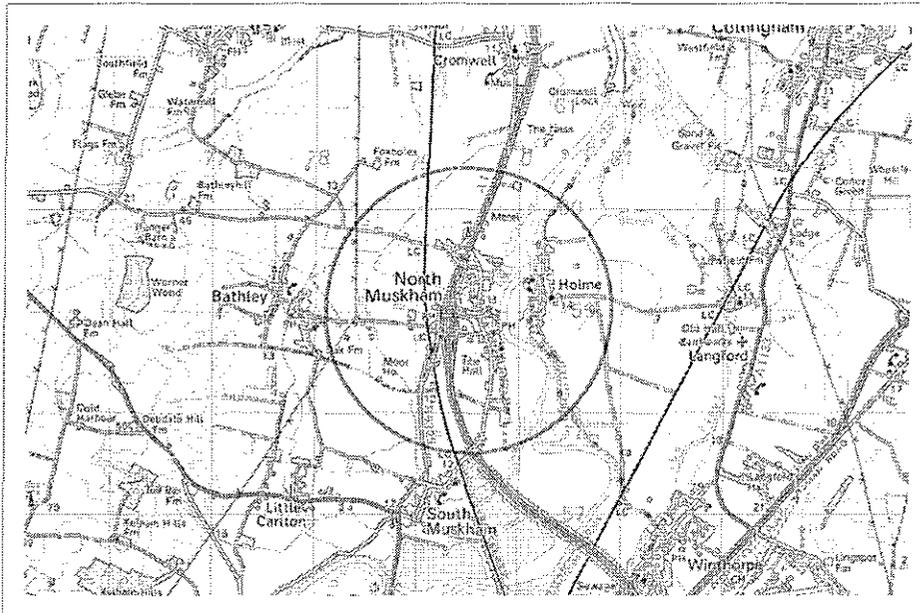
- 19.1 The Principal Contractor will undertake all on-site works, other than the archaeological works which will be undertaken by the Archaeological Contractor. The Principal Contractor will have a special regard for the works detailed within this specification, the depths specified in the landscape design and method statements, and this method statement.
- 19.2 The Principal Contractor will cordon off an area around the scheduled standing cross with Heras Fencing during the site works. The area will measure 8m long and 8m wide. The Principal Contractor will ensure that the fencing is inspected and maintained at regular intervals to ensure that the site is secure and any faults or defects remedied immediately.
- 19.3 The Archaeological Contractor will be responsible for the inner fencing (road pins and orange barrier mesh fencing), that will define the areas for archaeological excavation (see section 8.3 above).
- 19.4 No machine excavation shall be undertaken within the scheduled area (see Figure 3) as specified in this specification for archaeological works. All topsoil and sub-soil (bar sterile natural deposits within the drainage trench) will be hand-excavated by the Archaeological Contractor. It is the Archaeological Contractor's responsibility to ensure that the correct levels are reached within the Area 2 excavation for the landscaping works to proceed.
- 19.5 A JCB sitemaster, fitted with toothed bucket may be used in relation to the excavation of sterile natural deposits within the drainage trench, or for the careful placement of sub-base materials / mortar around the scheduled cross base as per the detailed landscape drawings and method statement.
- 19.6 All other vehicles will be denied access to the fenced area.
- 19.7 The JCB will be operated by an experienced, competent and fully licenced driver, with at least 2 years experience of driving and operating a JCB. The JCB shall only be driven / operated within the fenced area under the presence of an experienced and competent banksman. The banksman should have at least two years experience and must be used to working with the chosen machine driver. The machine driver shall operate only under the guidance of the banksman. The machine driver shall ensure that any activities using the machine are carried out in a slow, methodical and careful manner, with due diligence and care. The machine driver shall ensure that he can see the scheduled standing cross and the Banksman at all times and shall always work away from the scheduled standing cross. A large heavy metal fence panel (full sheet) or similar, on rubber bases, shall be erected between the scheduled cross and the manhole to ensure that the machine does not strike the standing cross during the excavation for the new drainage trench.
- 19.8 As soon as the drainage trench has been excavated it will be trench shored to ensure that the sides do not collapse and also to ensure the stability of the ground within close proximity to the scheduled standing cross.



- 19.9 All refuelling / greasing / oiling of the machine shall be undertaken outside of the fenced area and all materials disposed of in an appropriate manner by the Principal Contractor. No materials shall be left on site at night that may be used to deface or contaminate the scheduled monument or its immediate proximity.
- 19.10 All topsoil and subsoil that is produced through the process of archaeological hand excavation will be stock piled in separate piles, in areas defined by AMScott and the Principal Contractor. It shall be the Principal Contractor's responsibility to remove excess topsoil and subsoil from site after the completion of the archaeological excavations and archaeological watching brief.



## FIGURES



**Key:**

 Site Location

 Study Area

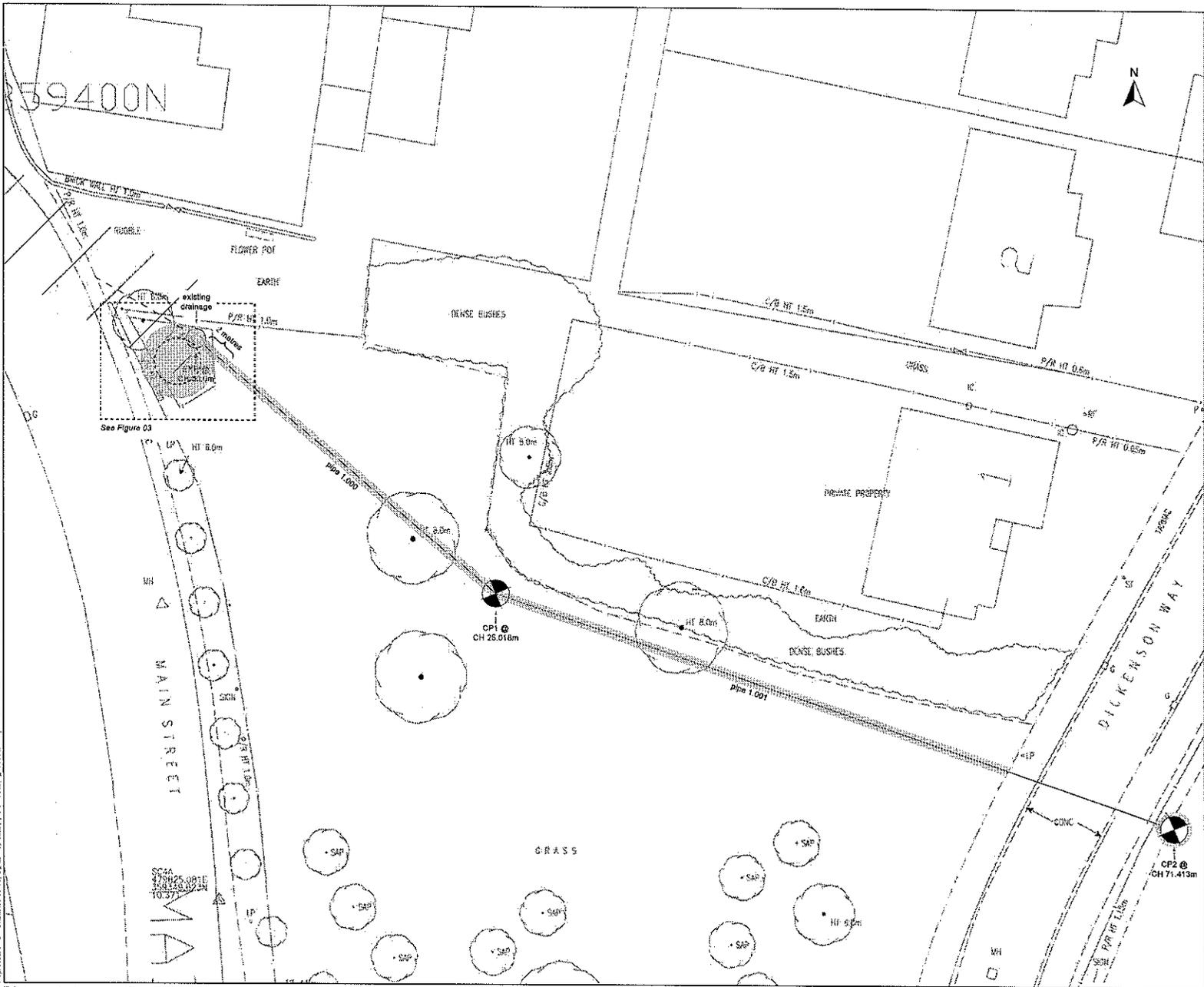
 N



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<b>Job Title</b> North Nuskham Drainage Scheme	<b>Dwg Ref Number</b> D101103-L027/AR/01		Scott Wilson Ltd <b>WESTONE</b> Leeds LS1 1BA Telephone: (0113) 204 5000 Fax: (0113) 204 5001	
<b>Drawing Title</b> Site Location Plan	<b>Scale(s) @ A4</b> 1:50,000 1:2,500		<b>Figure Number</b> <b>Figure 01</b>	
<b>Dm</b> A Csaba		<b>Chk</b> N Macnab N Macnab App	<b>Date</b> 02/05/08	





This drawing may be used for the purpose intended and only written dimensions shall be used.

- Key:**
-  Extent of Hand Excavated (Areas 1 and 2)
  -  Extent of Watching Brief (Area 3)
  -  Outer Limit of Scheduled Ancient Monument (SAM) 29924

Revision Details	By	Date	Suffix
	Check		

Job Title  
**North Muskham Drainage Scheme**

Drawing Title  
**Location of Watching Brief Area 3**

Scale(s) at AS  
**1:250**

Drn	Chk	App	Date
A.Cseba	N.Macnab	W.Macnab	05-05-08

Dwg Ref Number: **D101103-L027/AR/02**

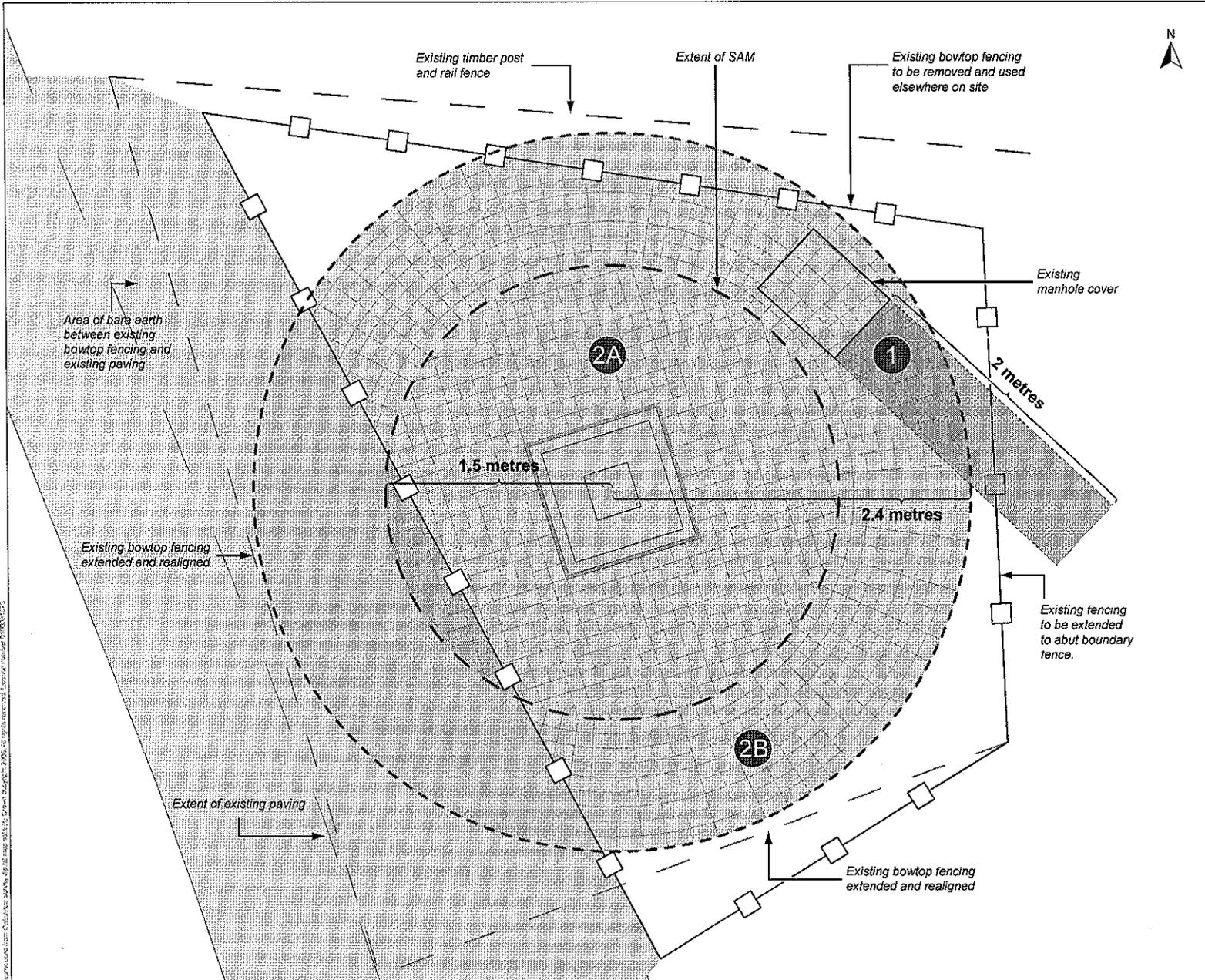
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Figure Number  
**Figure 02**

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This drawing may be used for the purpose intended and only written dimensions shall be used.

- Key:**
-  Area 2A
  -  Area 2B
  -  Area 1
  -  Outer Limit of Scheduled Ancient Monument (SAM) 29924

Revision Details	By	Date	Suffix
	Check		

Job Title  
**North Muskham Drainage Scheme**

Drawing Title  
**Location of Watching Brief Areas 1 and 2**

Scale(s) at A3  
**NTS**

Em	Chk	App	Date
A.Csaba	N.Macnab	N.Macnab	02-07-08

Dwg Ref Number  
**D101103-L027/AR/03**

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Figure Number  
**Figure 03**

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**APPENDIX 1**  
**Standards and Guidelines**



## **Archaeological Standards and Guidelines**

ACBMG 2004 *Draft Minimum Standards for the Recovery, Analysis and Publication of Ceramic Building Material* (Third edition) Archaeological Ceramic Building Materials Group

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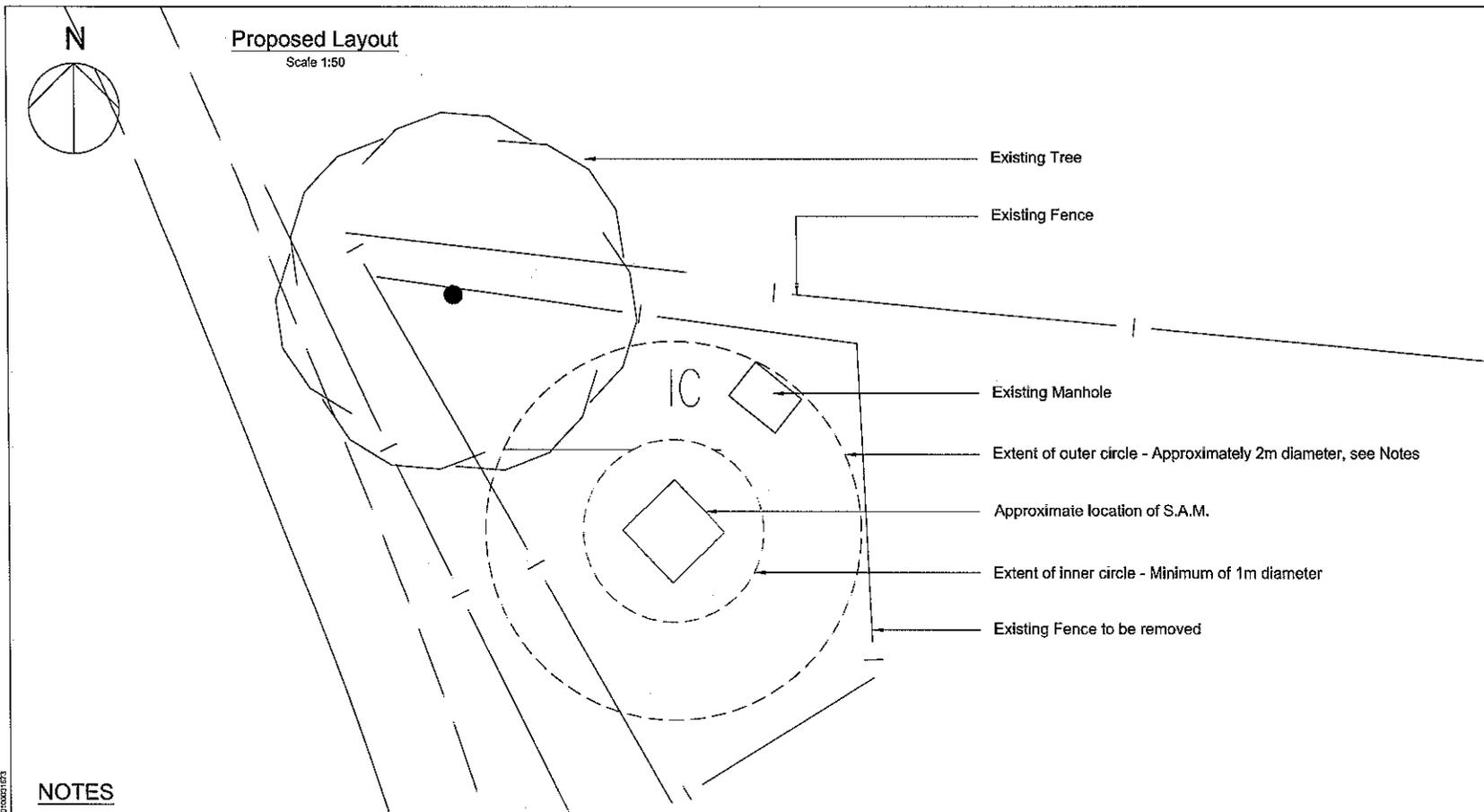
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**APPENDIX 2**  
**Landscape Drawings**



This drawing may be used for the purpose intended and only written dimensions shall be used.

**NOTES**

Hard landscaping area to be constructed in two distinct sections from Sandstone setts 100 x 100mm. Thickness to be confirmed  
All levels to be constructed to drain to the edge of the setts.

**Inner Section**

Minimum 1m diameter dependant upon precise dimensions of SAM  
Excavated to a maximum depth of 100mm.  
Sub-base constructed from lightly compacted free draining material.  
Sett joints filled with a weak sand cement mix (9:1).

**Outer Section**

Approximateley 2m diameter (dependant upon on location of SAM in relation to existing manhole and existing tree).  
Excavated to maximum depth of 200mm  
Setts to laid in mortar on a compacted sub-base to create a retaining ring for inner section.  
Existing manhole cover to be replaced with recessed block pavior cover and Inlaid with setts.  
Setts to be jointed with a dry sand cement mix (3:1).

Revision Details	By	Date	Suffix
	Check		

Job Title  
**North Muskham**

Drawing Title  
**Proposed Landscaping Works**

Scale(s) of A3  
**Scale 1:50**

Drn	Chk	App	Date
RB			23 05 08

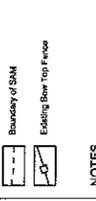
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Drawing Number  
**D101103/LA/001**

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THE FOLLOWING MARKINGS SHALL ONLY BE USED FOR THE PURPOSES INDICATED AND ONLY WHERE INDICATED ON THE SAM. THE MARKINGS SHALL BE USED AS SHOWN.



**LEGEND**

- Horizontal Slabs
- Dry Laid Slabs
- Boundary of SAM
- Existing Bow Top Finish

**NOTES**

All sets to be laid within the boundary of the Scheduled Ancient Monument (SAM) are to be laid as follows:

- Maximum excavation of 150mm.
- Maximum of 100mm lightly compacted free stone to be laid on the existing sub-base.
- 20mm loose coarse sand bedding.
- sets to be filled with a weak mix cement mortar (M7.5).

All sets outside the SAM boundary to be laid as follows:

- 20mm well compacted fine draying sub-base.
- Job to be filled with dry sand/cement mix (M7.5).

Area round base of the SAM to be filled with a weak mix cement mortar (M7.5) to ensure drainage.

Detail 1 to be retained with sub-laid angle as shown.

Each set to be laid with a 1:1 in 60 fall away from each face of the cross base.

**Design 1**

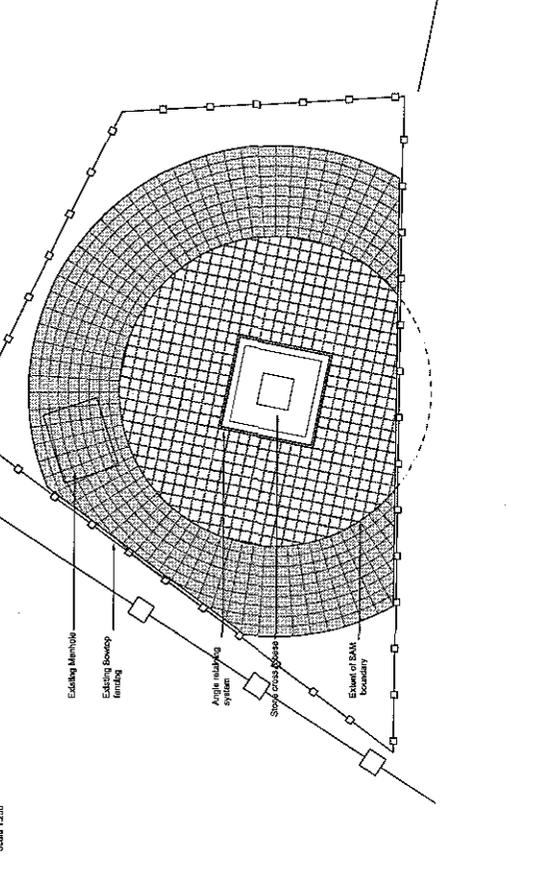
Whole area outside SAM to be laid rigid.

Area within SAM laid flexible.

Area of SAM is not identified physically.

All sets to be the same colour and finish.

Scale 1:250



**Design 2**

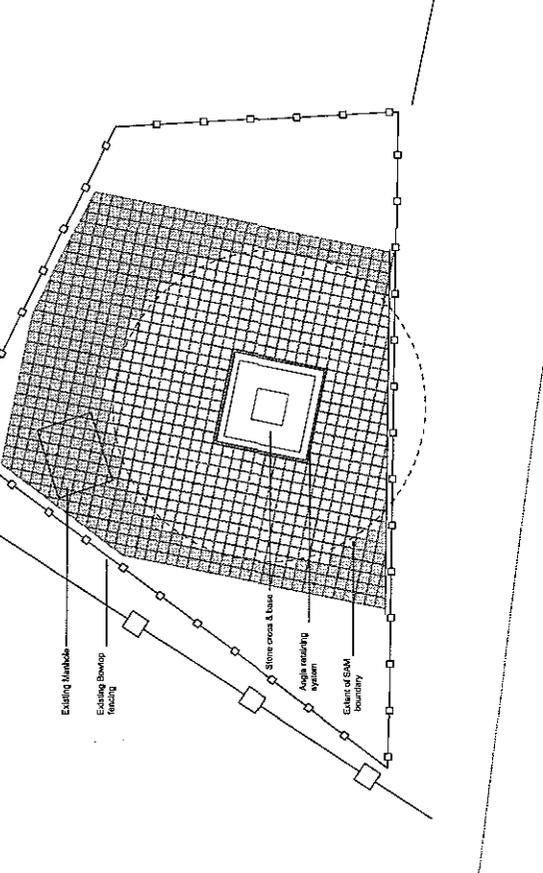
Whole area outside SAM to be laid rigid.

Area within SAM laid flexible.

Area of SAM is identified by change in set design.

All sets to be the same colour and finish.

Scale 1:250



**Design 3**

Whole area outside SAM to be laid rigid.

Area within SAM laid flexible.

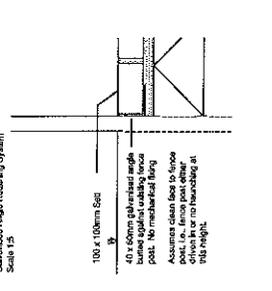
Area of SAM is identified by a circular ring of sets. All sets to be the same colour and finish.

Scale 1:250



**Section 1**

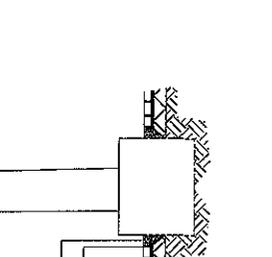
Scale 1:25



**Detail 1**

Galvanised Angle Fixing System

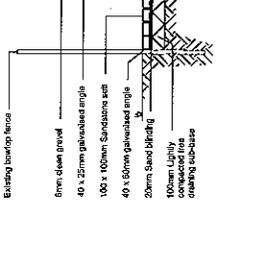
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**Detail 2**

Compensation for sets within SAM

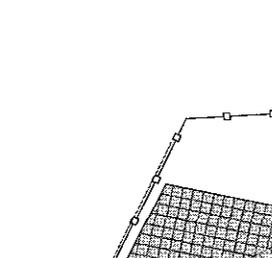
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**Detail 3**

Compensation for sets within SAM

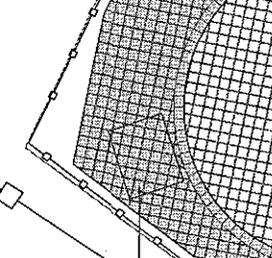
Scale 1:5



**Detail 4**

Compensation for sets outside SAM

Scale 1:5



**North Muskham**

Drawing No: 12500-001

**FOR COMMENT**

Client: SAC

Drawn: SAC

Checked: SAC

Scale: 1:250

Client: SAC

Drawn: SAC

Checked: SAC

Scale: 1:250

Client: SAC

Drawn: SAC

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Scale: 1:250

**FOR COMMENT**

Client: SAC

Drawn: SAC

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Scale: 1:250

**FOR COMMENT**

Client: SAC

Drawn: SAC

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Scale: 1:250

**FOR COMMENT**

Client: SAC

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**FOR COMMENT**

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**FOR COMMENT**

Client: SAC

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Client: SAC

Drawn: SAC

Checked: SAC

Scale: 1:250

**FOR COMMENT**

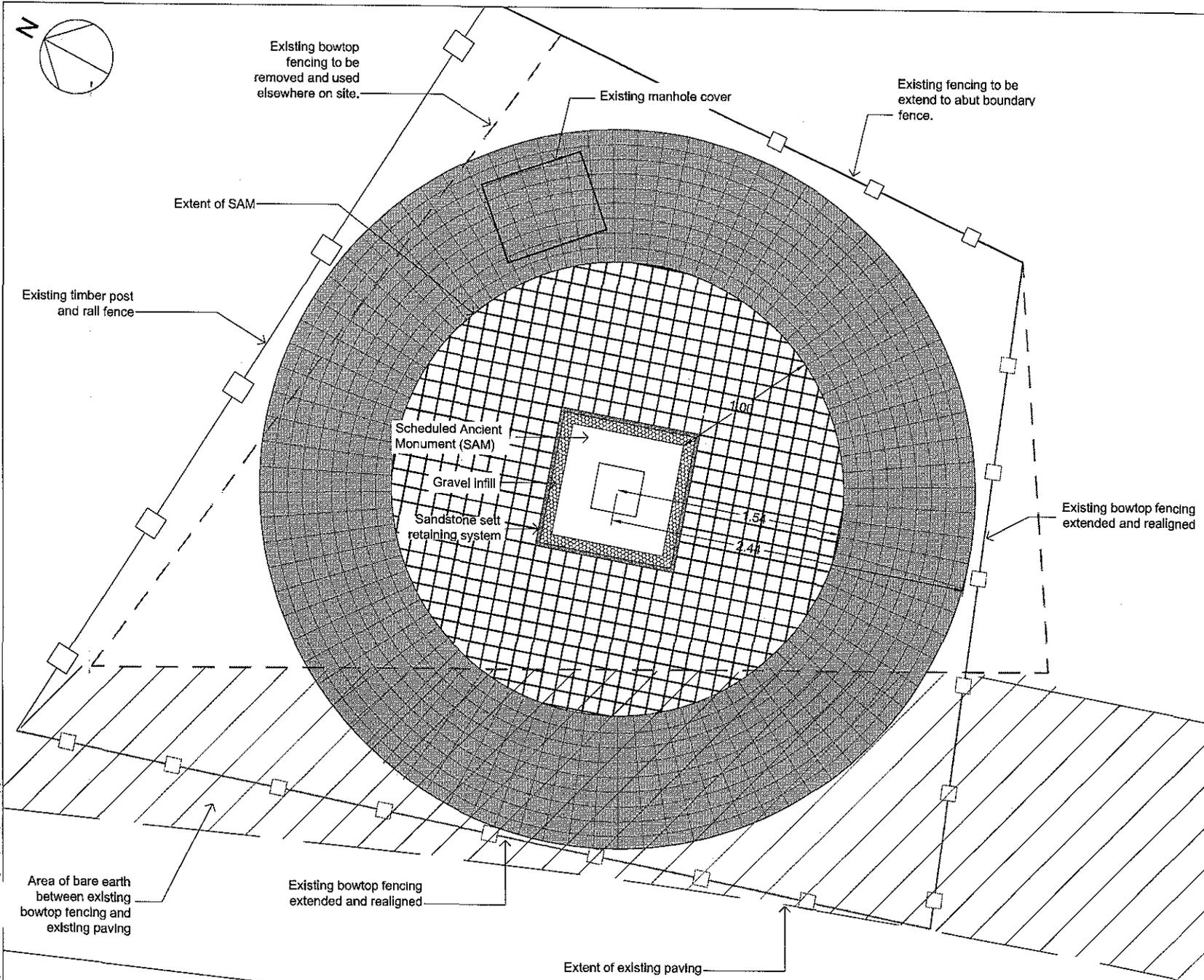
Client: SAC

Drawn: SAC

Checked: SAC

Scale: 1:250

1/2 R HT 1.0m



This drawing may be used for the purpose intended and only written dimensions shall be used.

**Notes**

All measurements of existing elements are approximate and will require an accurate site survey to confirm.

Measurement of SAM based on a measurement of 1000mm from the furthest extent of the visible base of the stone cross.

Re-alignment of existing fencing to be subject to on site approval by CA.

Cut sets to be not less than one half of a full size block.

Marked for Construction RB/RC 21.01.09 B

Paving area extended, fencing amended RB/RC 03.07.08 A

Revision Details	By	Date	Suffix
	Check		

Job Title

North Muskham

Drawing Title

Design 2

Scale(s) on A3

1:25

Disc	Chk	App	Date
RB	RC		03.07.08

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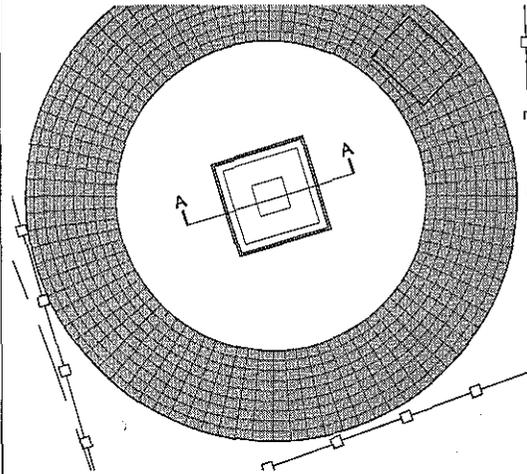
Drawing Number  
**D101103 LA 003 B**

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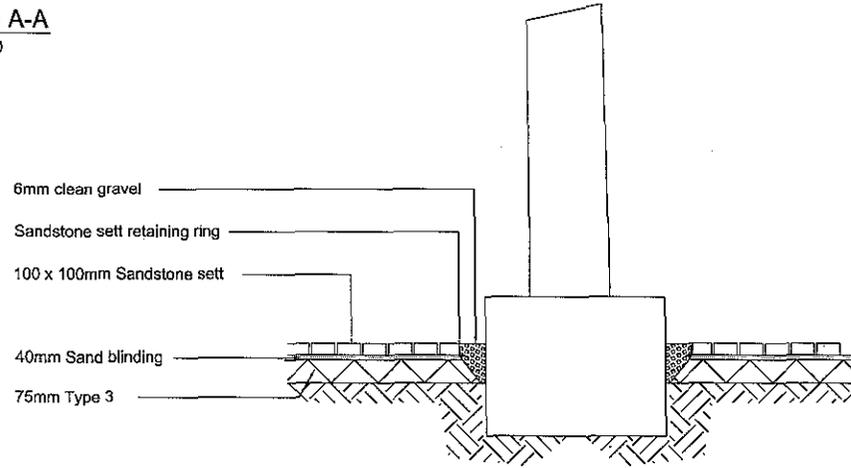
**Location Plan**

Scale 1:20



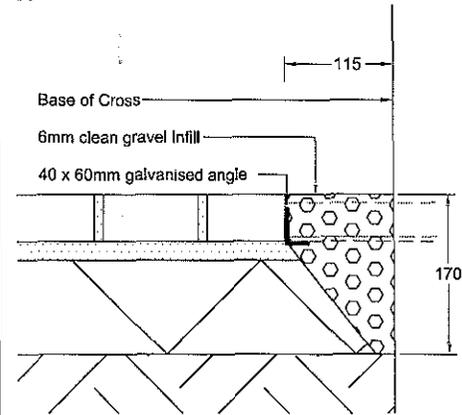
**Section A-A**

Scale 1:20



**Detail 1**

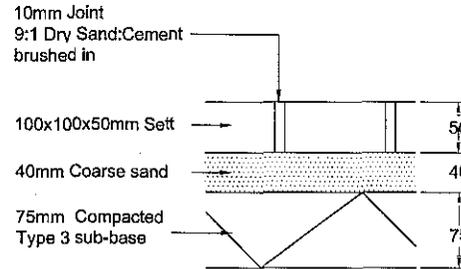
Sandstone sett retaining ring  
Scale 1:5



Setts surrounding base of SAM to be retained using 4 lengths of 40x25mm galvanised angle bolted or welded together to form a 1000x1000mm square.  
Retaining system to be level laid on the sand blinding with finished height at least 10mm below surface of the setts and covered with 6mm clean gravel fill.  
Area round base of the SAM to be filled with a loose 6mm clean gravel to ensure drainage around base.  
Colour to match the setts.

**Detail 2**

Laying method for setts within SAM  
Scale 1:5

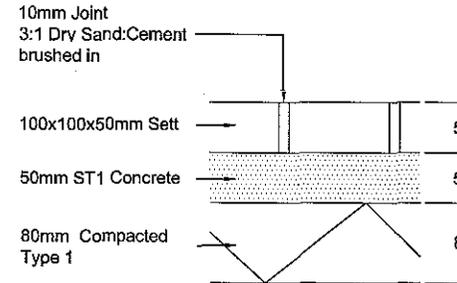


All setts to be laid within the boundary of the Scheduled Ancient Monument (SAM) are to be laid as follows:

Maximum excavation of 170mm.  
Maximum of 75mm compacted Type 3 sub-base  
40mm coarse sand blinding  
Joints to be filled with a weak mix sand:cement (9:1)

**Detail 3**

Laying method for setts outside SAM  
Scale 1:5



All setts outside the SAM boundary to be laid as follows:

80mm well compacted Type 1 sub-base  
50mm ST1 concrete  
Joints to be filled with dry sand:cements mix (3:1)

This drawing may be used for the purpose intended and only written dimensions shall be used.

**Notes**

All measurements of existing elements are approximate and will require an accurate site survey to confirm.

Existing manhole cover to be replaced with a recessed cover and inlaid with setts to match surrounding.

Falls - all paving to be laid with a 1 in 60 fall away from each face of the cross base.

Cut setts to be not less than one half of a full size sett.

Marked for Construction RB/RC 21.01.09 A

Revision Details	By	Date	Suffix
	Check		

Job Title

North Muskham

Drawing Title

CONSTRUCTION DETAILS

Scale(s) as A3

1:40

Disc	Chk	App	Date
RB			26.06.08

Scott Wilson Ltd  
WESTONE  
Leeds  
LS1 1BA  
Telephone (0113) 204 5000  
Fax (0113) 204 5001



Drawing Number

D101103 LA 004 A



## **APPENDIX 3**

### **Scheduled Monument Consent Application Form**

# Application for Scheduled Monument Consent

Ancient Monuments and Archaeological Act 1979 (as amended) Section 2

To be completed by or on behalf of the applicant in BLOCK CAPITALS or typescript

## 1. Applicant details

Full Name	NICK LOWE (PROJECT MANAGER)		
Address	AMSCOTT, THE WILLOWS, RANSOM WOOD BUSINESS PARK, SOUTHWELL ROAD WEST, MANSFIELD		
Postcode	NG21 0HJ	Telephone No.	01623 676613

## 2. Owner/Occupier of the Monument (if not the applicant)

Full Name	LEANNE BAINES (NEWARK AND SHERWOOD DISTRICT COUNCIL)		
Address	NEWARK AND SHERWOOD DISTRICT COUNCIL, ESTATE DEPARTMENT, KELHAM HALL, NEWARK, NOTTINGHAM		
Postcode	NG23 5QX	Telephone No.	01636 655697

## 3. Monument to which this application relates

Name (if any) of the Monument	STANDING CROSS NORTH OF TRENT FARM		
Address	THE MONUMENT IS LOCATED ADJACENT TO MAIN STREET, NORTH MUSKHAM, 300M NORTH OF TRENT FARM		
County / National Monument No.	29924	National Grid Ref.	SK 7962 5937

## 4. Description of the proposed works

EXCAVATION OF NEW DRAINAGE TRENCH, 2M LONG, 2M DEEP 0.60M WIDE (SAM) FROM AN EXISTING DRAINAGE MANHOLE BESIDE SCHEDULED CROSS AND TRAVERSING AREA IMMEDIATELY ADJACENT TO SAM (SEE ATTACHED PLAN & SPECIFICATION). LANDSCAPING AROUND CROSS BASE (REMOVAL OF 170MM <sup>1</sup> OF TOPSOIL WITHIN SAM <sup>2</sup> AND 185MM OF TOPSOIL IN AREA ADJACENT TO SAM (AREA 26)) - SEE ACCOMPANYING LANDSCAPE DRAWING AND FIGURE 3 OF SPECIFICATION LAYING OF SUB-BASE AND SANDSTONE SETTS IN CIRCULAR PATTERN AROUND <del>SAM</del> SAM (LANDSCAPE ENHANCEMENT SCHEME). MANHOLE COVER TO BE REPLACED WITH RECESSED BLOCK PAVING COVER AND INLAID WITH SANDSTONE SETTS. BOW TOP FENCING TO BE MOVED (SEE ATTACHED LANDSCAPE DRAWING)
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**5. List of plans and drawings accompanying the application**

PART OF THE NEW DRAINAGE TRENCH AND THE TOPSOIL TO BE REMOVED WITHIN THE LANDSCAPED AREA (AREA 2a+2b) WILL BE HAND EXCAVATED TO THE REQUIRED DEPTH OR TO THE TOP OF NATURAL GEOLOGY BY A SUITABLY QUALIFIED ARCHAEOLOGIST. BEYOND THE HAND EXCAVATED AREAS, AN ARCHAEOLOGICAL WATCHING BRIEF WILL BE UNDERTAKEN (AREA 3). PLEASE FIND WORKS SPECIFICATION AND DRAWINGS ATTACHED.
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**6. Any other information relevant to the application**

THE ABOVE ARCHAEOLOGICAL WORKS (AT SECTION 5) FORM THE MITIGATION STRATEGY FOR THE IMPACTS OF THE NEW DRAINAGE TRENCH AND LANDSCAPING ON THE ARCHAEOLOGICAL RESOURCE AS AGREED WITH TIM ALLEN (ASSISTANT INSPECTOR ENGLISH HERITAGE EAST MIDLANDS REGION) AND URSILLA SPENCE (SENIOR ARCHAEOLOGIST NOTTINGHAMSHIRE COUNTY COUNCIL).
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I/we hereby apply for scheduled monument consent for the works described in this application and shown on the accompanying plans and drawings

Signature Neil Macnab Date 02/07/08

(Please print name here) NEIL MACNAB (SENIOR ARCHAEOLOGICAL CONSULTANT)

\*on behalf of AMSCOTT

\*where an application is being dealt with by an agent to whom correspondence should be sent please state the:

Name of Agent	NEIL MACNAB		
Address	SCOTT WILSON LTD, WEST ONE, WELLINGTON STREET, LEEDS		
Postcode	LS1 1BA	Telephone No.	0113 204 5000

neil.macnab@scottwilson.com

*Note – the Secretary of State may refuse to entertain an application for scheduled monument consent unless it is accompanied by one or more of the following certificates signed by or on behalf of the applicant.*

**Forms of Certificate for the Purposes of Paragraph 2(1) of Schedule 1 to the Act**

Certificate in accordance with paragraph 2(1)(a)

It is hereby certified that no person other than the applicant was the owner (x) of the monument to which the accompanying application relates at the beginning of the period of twenty-one days which ended on the date of the application.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Certificate in accordance with paragraph 2(1)(b)

It is hereby certified that the applicant has given the requisite notice (w) of the accompanying application to all the persons other than the applicant who, at the beginning of the period of twenty-one days which ended on the date of the application, were owners (x) of the monument to which the application relates, namely (y):

Name	Address
OWNER: NEWARK AND SHERWOOD DISTRICT COUNCIL	ESTATE DEPARTMENT, KELHAM HALL, NEWARK, NOTTINGHAM, NG23 5QX

Signature \_\_\_\_\_ Date \_\_\_\_\_

Certificate in accordance with paragraph 2(1)(c)

It is hereby certified: -

(1) that the applicant is unable to issue a certificate in accordance with either paragraph 2(1)(a) or 2(1)(b) of Schedule 1 to the Ancient Monuments & Archaeological Areas Act 1979:

(2) that the applicant has given the requisite notice (w) of the accompanying application to the following persons who, at the beginning of the period of twenty-one days which ended on the date of the application, were owners (x) of the monument to which the application relates, namely (y):

Name	Address
------	---------

and

(3) that the applicant has taken such steps as are reasonably open to him to ascertain the names and addresses of the remainder of the persons who, at the beginning of that period, were owners (x) of that monument and has been unable to do so.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Certificate in accordance with paragraph 2(1)(d)

It is hereby certified that the applicant is unable to issue a certificate in accordance with paragraph 2(1)(a) of Schedule 1 to the Ancient Monuments & Archaeological Act 1979, but has taken such steps as are reasonably open to him to ascertain the names and addresses of the other persons who, at the beginning of the period of twenty-one days which ended on the date of the application, were owners (x) of the monument to which the application relates and has been unable to do so.

Signature \_\_\_\_\_ Date \_\_\_\_\_

(w) Form AM112A

(x) "Owner means a person who is for the time being owner in respect of the fee simple in the monument or is entitled to a tenancy of the monument, granted or extended for a term of years certain, of which not less than seven years remain unexpired"

(y) Insert names and addresses

**Form of notice for the purposes of Paragraph 2(1) of Schedule 1 of the Ancient Monuments and Archaeological Areas Act 1979:**

Note: This notice should be served by the applicant on all those who own or have an interest in the monument. The names and addresses of those on whom it has been served should be listed on the paragraph 2(1)(b) or 2(1)(c) certificates and should accompany the application form.

**Notice of application for Scheduled Monument Consent**

Delete the words in square brackets, as appropriate, and omit the brackets

This notice relates to the ancient monument at (x)

MAW STREET NORTH MUSKHAM (STANDING CROSS 300m NORTH
OF TRENT FARM) - SCHEDULED MONUMENT No. 29924
NGR SK 7962 5937

An application is to be made ~~by~~ or [on behalf of] (y)

NICK LOWE (PROJECT MANAGER) AMSCOTT

To the Secretary of State for Culture, Media and Sport for Scheduled Monument Consent under the Ancient Monuments and Archaeological Areas Act 1979 to carry out the following works: (z)

NEW DRAINAGE TRENCH AND LANDSCAPING ENHANCEMENT
SCHEME. THE NEW DRAINAGE TRENCH RUNS FROM AN EXISTING
MANHOLE WITHIN THE SCHEDULED AREA, SOUTHEAST ACROSS
GRASSLAND CLOSE TO THE SCHEDULED CROSS. THE NEW LANDSCAPING
WITH SANDSTONE SETTS WILL IMPROVE AND ENHANCE THE SETTING OF THE
SCHEDULED CROSS.

An opportunity to make representations with respect to the application will be offered by the Secretary of State before the application is determined.

Signature Nick Macnab Date 02/07/08