GeoDyne

Geotechnical &
Environmental
Consultants

Land off Leconfield Road
Nanpantan

Phase I Geo-Environmental Desk Study Report
For
Bowbridge Homes Limited

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Project No: 40056		**Date: 31st March 2020**	
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1.0 INTRODUCTION

1.1 Introduction

GeoDyne Ltd has been instructed by the Client, Bowbridge Homes Limited, to undertake a Phase I Geo-Environmental Desk Study on a parcel of land located off Leconfield Road, Nanpantan. A site location plan (Figure No. 40056/01) is included as Appendix I.

1.2 Scope of Works

The scope of the Phase I Desk Study included the following:

- A detailed site walkover.
- Review of available historical and contemporary Ordnance Survey publications relating to the site.
- Review of the sites geology, hydrology, hydrogeology and groundwater vulnerability.
- Review of the sites coal mining status.
- Review of the sites radon status.
- Commission of a full detailed Landmark Envirocheck report relating to the site.
- Commission the use of Landmark Envirocheck Analysis tool.
- Commission of Landmark geological mapping data (including both 1:10,000 series and 1:50,000 series sheet mapping).
- Production of a site-specific preliminary Conceptual Site Model (pCSM).

1.3 Project Understanding

It is understood that a planning application is to be submitted for the development of the site with residential dwellings with private gardens. We further understand that a Phase I Geo-Environmental Desk Study report is required to assist with the planning application for the site.

This understanding has formed the basis of our report. Where our understanding is incorrect, it may be necessary to review our assessment to ensure that it continues to apply.

1.4 Objectives

The scope of works detailed herein have been designed to assist in the submission of a planning application for the redevelopment of the site with residential dwellings with private gardens, and to provide a preliminary Conceptual Site Model (CSM) in consideration of the geotechnical and environmental setting of the site.

1.5 Limitations

The conclusions and recommendations made in this report are limited to those that can be made based on the findings of the investigation. Where comments are made based on information obtained from third parties, GeoDyne Ltd assumes that all third party information is true and correct. No independent action has been undertaken to validate the findings of third parties.

This report has been prepared in accordance with our understanding of current good practice. However changes to good practice, guidance or legislation may necessitate revision of this report after the date of issue.

GeoDyne Ltd has prepared this report for the sole use and reliance of the Client, Bowbridge Homes Limited, in accordance with our Standard Conditions and Limitations (included in Appendix VII). This report may not be used or relied upon by any unauthorised third party without the explicit written agreement of GeoDyne Ltd.

2.0 SITE DESCRIPTION & HISTORY

2.1 Site Description

The site comprises an irregularly shaped parcel of land situated off the western end of Leconfield Road, Nanpantan, Leicestershire. The site may be located centred around approximate Ordnance Survey National Grid Reference 450940E 317550N and extends to an approximate area of 1.69 hectares (Ha).

A site walkover was undertaken on 24th March 2020 by an Engineer from GeoDyne Ltd and the following description is based on observations made during our visit.

Pedestrian (and vehicular) access may be gained onto the site from its southeast corner, off Leconfield Road.

Ground levels rise into the site from the entrance towards a ridge that is present towards the centre of the site trending approximately northwest to southeast. The ridge appears to be the highest ground in the site with levels falling to the southeast (towards the sites entrance), north (towards the sites northern extent) and southwest (towards the sites southwestern corner).

The site is generally covered with rough grasses with occasional semi-mature trees (potentially self set). Areas of rough vegetation were noted along part of the sites northeastern boundary.

The topographically lower areas of the site were noted to be wet underfoot. This was especially apparent towards the sites far western corner.

A number of tracks/footpaths were noted crossing the site, however, it is possible that these are informal as they are not indicated on 1:25000 Ordnance Survey mapping.

Existing residential dwellings were present to the sites immediate north, east and south, with the sites entrance present towards the sites southeastern extent. A mature woodland was present to the sites immediate west.

Our site visit was relatively brief, due to the sensitive nature of the site and the proposed development and comment from local residents.

An annotated site plan, showing the main features of the site and the immediate surrounding area, is included as Appendix II of this report (Figure No. 40056/02) and plans showing general views of the site are included in Appendix III (Figure Nos. 40056/03 to 40056/04).

An aerial photograph of the site, obtained from the Landmark Analysis tool commissioned as part of our works, is included as Figure 1 below.

Figure 1: 2020 Aerial photograph of the site (site demarcated in red).

2.2 Site History

The historical and contemporary Ordnance Survey publications included within the Landmark Envirocheck Report have been reviewed by GeoDyne to establish the history of the site and its environmental setting. The historical Ordnance Survey maps are included as Appendix IV of this report.

We would note that the boundary marked on the historical sheets within the Envirocheck Report appears to 'shift' on several of the maps due to scaling inaccuracies between maps of differing dates. This is a function of Envirocheck transposition algorithms. The key findings of the historical search are summarised in Table 1.

TABLE 1 – HISTORICAL PUBLICATION DATA

Date	Features On Site	Features Off Site
1880s	• The site is indicated to predominantly comprise open field. • A small enclosed feature, a probable pond, is indicated in the sites far western corner. • Burleigh Farm, present to the sites immediate south, extends into the sites southern extent with a farm building straddling the sites southern boundary. • A farm track crosses the site trending approximately north to south.	• Burleigh Farm is present to the sites immediate south and extends slightly onto the site. • Burleigh Wood is present to the sites immediate northwest, and has several tracks crossing through it. • Open fields are present to the sites immediate north, east and locally to the sites south. A field boundary is present between the site and the field to the north and east. • A small excavation is present approximately 50m to the sites southeast. • A quarry is present from approximately 50m to the sites southeast and extends further to the southeast. • An unnamed road is present approximately 50m to the sites south. • The wood brook is present approximately 220m to the south of the site.
1900s	• The site appears broadly unchanged.	• A small pond is indicated in the excavation to the sites southeast. • A small School is indicated approximately 40m to the

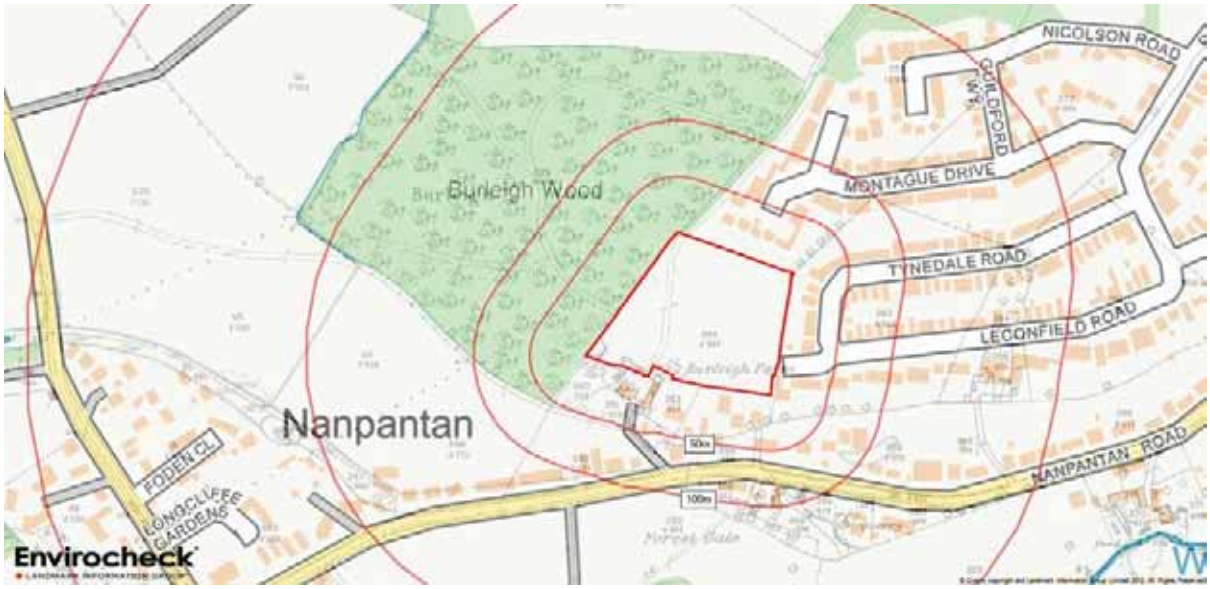
TABLE 1 – HISTORICAL PUBLICATION DATA		
Date	Features On Site	Features Off Site
		sites south. • The road to the sites south has been named Forest Road.
1920s	• Burleigh Farm to the sites south has expanded slightly with a further possible small building (or enclosure) indicated on the site.	• A terraced row of houses is present to the south of the site on the southern side of Forest Road. A pump is indicated to the rear of the dwellings.
1930s to 1950s	• The site appears broadly unchanged.	• The site environs appear broadly unchanged.
1960s	• No farm buildings are indicated on the site. • The former possible pond feature is no longer shown on the site.	• The road to the sites south has been renamed Nanpantan Road. • Residential development has taken place to the sites immediate south, with the rear gardens of the dwellings bordering the site. • The former small excavation is no longer shown (and may have been infilled). Residential dwellings have been constructed in the area of the former excavation. • The former quarry to the sites southeast is indicated to contain a Scouts Hut. • Several of the tracks formerly present in Burleigh Wood are no longer shown.
1970s	• The site appears broadly unchanged.	• A new residential development, including Leconfield Road, is present to the sites immediate east.
1980s	• The site appears broadly unchanged.	• A new residential development is indicated to the sites immediate north. • The former Burleigh Farm appears to have been renamed The Tudor Farmhouse.
2000	• The site appears broadly unchanged.	• The farm to the sites south is no longer indicated although several buildings remain.
2000s to 2020	• By 2020 the track formerly indicated to cross the site is no longer shown.	• The sites general environs appear broadly unchanged.

2.3 Aerial Photography & Historical Map Overlays

As part of the commissioned Landmark Report, the use of the Landmark Envirocheck Analysis tool was purchased to provide site specific aerial photographic imagery, and to provide the ability to undertake limited historical map and polygonised environmental datasheet overlay manipulation.

In addition to the 2020 aerial photograph included in Figure 1, a composite plan showing mapping from the 1880s overlain onto mapping from 2020 is included below.

Figure 2: Historical Mapping from 1880s and 2020s (site demarcated in red outline)



3.0 GEOLOGY & ENVIRONMENTAL SETTING

3.1 Geological References

The following geological publications were referred to:

- Landmark 1:50,000 scale Geological Maps (included in Appendix V).
- Landmark 1:10,000 scale Geological Maps (included in Appendix V).
- British Geological Survey sheet 141 *'Loughborough',* Solid and Drift Edition, 1:50,000 scale, dated 1976 & 2001.
- BGS Online Lexicon.
- Coal Authority on-line interactive map viewer.
- Landmark Envirocheck & Mining and Ground Stability Datasheet (included in Appendix VI).

3.2 Geology

The reviewed geological publications indicate that the site is immediately underlain by bedrock strata comprising the Swithland Formation Mudstone dating from the Comley (Cambrian) Period. The Swithland Mudstone Formation is indicated to be aged between approximately 526 and 508 million years old and forms part of the Brand Group.

The Swithland Mudstone is described as '*Purple to grey slaty meta-mudstones and greywackes with thin conglomeratic sandstones.'*

The sites far western extent and far eastern extent are indicated to be immediately underlain by the Tarporley Siltstone Formation; Siltstone, Mudstone and Sandstone dating from the Olenekian (Triassic) Period. This geological unit is approximately 250 to 241.5 million years old.

The Tarporley Siltstone Formation is described by the BGS Lexicon as '*Heterolithic, comprising interlaminated and interbedded siltstones, mudstones and sandstones in approximately equal proportions. The siltstones are micaceous and interlaminated with mudstones or sandstones; most of the mudstones appear structureless with a blocky habit. The sandstones are mostly very fine- to fine-grained, well sorted, and micaceous. They are typically cemented by ferroan calcite or dolomite.'*

No superficial drift deposits are indicated beneath, or in the general vicinity of, the site.

Geological sheet 141 (1976) indicates the possible presence of Grit Quartzite and Conglomerate within the site or the vicinity of the site (part of the Brand Group which also includes the Swithland Formation) and also the Bradgate and Woodhouse Grits (part of the Maplewell Series). Both of these geological units, together with the Swithland Formation are indicated to date from the Pre-Cambrian, which conflicts with more recent mapping suggesting a Cambrian date. This appears to be confirmed by the BGS Earthwise website which notes that the top most unit of the Charnian Supergroup is the Brand Group that is now regarded as Cambrian in age.

We would note that sheet 141 dates from 1976 and therefore is older than more recent Landmark geological mapping, with the Landmark 1:50,000 mapping dating from a 2000 edition of sheet 141 and Landmark 1:10,000 geological mapping based on geological sheets SK51NW (2006) and SK41NE (1997). The 2001 edition of BGS sheet 141 confirms the presence of Swithland Formation beneath the site.

We would note that recent research appears to have reclassified the Swithland Formation Mudstone from the Pre-Cambrian to the Cambrian, based on fossil evidence.

Paper OR/10/041 obtained from the BGS Earthwise website provides discussion on the age of the Swithland Formation notes the following:

'The Swithland Formation is equivalent to rocks formerly known as the 'Swithland and Groby Slates'. It forms the uppermost unit of the Brand Group, the age of which has been the subject of recent controversy. Originally, it was thought to be part of the Precambrian succession – and therefore was placed at the top of the Charnian Supergroup. A Cambrian age for Brand Group is now more likely, however, due to the discovery of the Phanerozoic trace fossil Teichichnus in local headstones that had been cut from the Swithland Formation (Bland and Goldring, 1995). These traces can be seen, for example, in the churchyard at Ratby (SK 5129 0593). The contact with the underlying Hanging Rocks Formation is nowhere exposed, although in the Hangingstone Hills section, north of Woodhouse Eaves, the two units appear to be gradational and structurally conformable. An intervening unconformity was nevertheless favoured by McIlroy et al. (1998).

In Swithland Wood, the Swithland Formation largely consists of cleaved silty mudrocks, with detrital constituents of quartz, feldspar and fine-sand grade lithic fragments in a matrix of white mica and chlorite (Worssam and Old, 1988). Bedding and lamination are expressed by variations in these constituents, with white mica preferentially developed along the sub-mm spaced Charnwood cleavage.

Interpretation: The slates originated as silts and muds that accumulated in quiescent, offshore environments on the floor of a sea (the Iapetus Ocean) that had transgressed across the eroded Charnian rocks early in Cambrian times. Because they are so fine-grained, they responded to mountain-building pressures during the end-Silurian orogeny (p. 5) by developing a regular, very closely spaced cleavage. This enabled the rocks to be split and to be used as roofing slates for many of the buildings in Charnwood Forest. Swithland slates have had a number of specialised uses, for roofing, wall stone and, most famously, for headstones. They are characteristically purple, dark grey or green-grey in colour and are well displayed on the roofs of houses in Woodhouse Eaves, Newtown Linford and in surrounding villages. Swithland slate debris has also been found at Roman sites in Leicester and at East Bridgford, Nottinghamshire (Margidunum). The rather coarsely developed cleavage made these rocks difficult to split and dress and they are, therefore, thicker and rougher than Welsh slates, which had largely replaced them by the late nineteenth century. Interest in quarrying these rocks had ceased by 1908 (Ramsey, 2007); however, intricately lettered and carved Swithland headstones survive in many local church graveyards and can be distinguished from the Welsh slate imports, some of which can be similar in colour, by the presence of characteristic natural undulations on the commonly unpolished back surface of the roughly cleaved slabs. One of the principal slate quarries was here, at the 'Great Pit', which was worked to a depth of 180 ft.(55 m) - the stone blocks had to be raised to ground level before being split, sawed and polished.'

As part of our work, we have viewed a report prepared by The Wildlife Trusts dated March 2009 *'Charnwood Forest: A Living Landscape'.* The report provides the following comments with respect to the Brand Group.

'The Brand Group (including the Swithland Greywacke Formations (colloquially the Swithland Shale). This group is traditionally and most conveniently included within the Charnian Supergroup, but rather than being Precambrian, it is now thought to be early Cambrian (c. 543 mya – the earliest part of the Phanerozoic era that extends to the present day) on the basis of distinctive and significant trace fossils. [Features of national perhaps international significance.

Relatively rarely do we see a sequence such as this that demonstrates this major transition in the history of life – from the Proterozoic (Precambrian) to Phanerozoic.]'

This report includes reference to Regionally Important Geological Sites (RIGS). Whilst the report does not appear to reference the subject site, we would note Figure 5 in the report includes reference to Buck Hill, Nanpantan (SK5017) located to the south of the site, which is identified as a RIG.

We would note that housing developments constructed to the sites south and northeast appear to have been constructed on the Swithland Formation.

3.3 Faults

No faults are indicated beneath the site on the reviewed geological map publications or within 250m of the site location.

3.4 Man-Made Deposits

Made Ground is not indicated associated with the site. However, we would note the indicated presence of a possible pond towards the sites western extent. This feature may potentially have been infilled historically and may correspond to the wet ground encountered on site. The Envirocheck Report Mining and Ground Stability Datasheet indicates the presence of potentially infilled land (water) approximately 2m to the sites west. This entry may relate to the pond formerly indicated on the site.

An area of Made Ground is indicated from a distance of 250m to the sites north. A second area of Made Ground is indicated from approximately 240m to the sites south.

An area of Landscaped Ground is indicated from approximately 120m to the sites west and 150m to the sites southwest.

The Envirocheck Report Mining and Ground Stability Datasheet indicates the presence of General Quarrying 128m to the sites southeast.

Quarrying of sand & clay, operation of sand & gravel pits is indicated 104m to the sites southeast.

Potentially infilled land (non water) is indicated 104m to the sites southeast and 128m to the sites southeast. These features may relate to the former excavation and quarry identified on historical plans to the sites southeast and the entries related above.

Infilled land (water) is also indicated 219m to the sites southwest.

3.5 Coal Mining Report

The site does not lie within a coal mining reporting area based on the online interactive map viewer. A coal mining report is therefore not required for the site.

This assessment is confirmed by the Landmark Envirocheck report which states that the site is *'in an area that might not be affected by coal mining'.*

3.6 Landmark Envirocheck Report

A Landmark Envirocheck Report was commissioned to assist in ascertaining the environmental setting of the site. The full Envirocheck Report is presented in Appendix VI and has revealed the following relevant information (details are only listed where they are within 250m of the site).

3.6.1 Agency and Hydrological

Surface Waters

No surface water features are indicated on the site. The nearest surface water feature is indicated 221m to the sites west which relates to a surface water stream that skirts the western periphery of Burleigh Wood and is shown to terminate at a field boundary (potentially out falling into a ditch or culvert).

Wood Brook is indicated approximately 220m to the south of the site.

Aquifer Status

Different aquifer classifications may be applied to superficial (drift) deposits (typically forming shallow perched groundwater units where present) and bedrock aquifers (which may contain regional groundwater units). Possible aquifer designations comprise Principal Aquifers, Secondary (A, B or Undifferentiated) Aquifers and Unproductive Strata.

The Landmark report indicates that the bedrock beneath the site are designated as a Secondary B Aquifer, which are described by the EA as *'predominantly lower permeability layers which may store and yield limited amounts of groundwater due to localised features such as fissures, thin permeable horizons and weathering. These are generally the water-bearing parts of the former non-aquifers.'* However the aquifers are also noted as a High vulnerability with intermediate pollutant speed associated with well connected fractures (associated both with the Tarporley Siltstone Formation and the Swithland Formation).

No superficial aquifer designation is provided for the site, as drift deposits are not indicated beneath the site.

Source Protection Zone Status

Source Protection Zones (SPZs) relate to a zone placed around a well or borehole for the protection of groundwater resources principally for public drinking water supply. The groundwater source catchments can be divided into three main zones – Inner (Zone I), Outer (Zone II) and Total Catchment (Zone III).

The site (and general surrounding area) does not lie within an Environment Agency designated SPZ.

Flood Risk Status

The site is not indicated to be located within an area at risk of flooding from rivers or seas without defences.

The far western extent of the site (approximately located in the area of the pond indicated on historical plans) is designated as an area with a high risk of flooding from surface water (30 year return).

The site is not indicated to be located in an area susceptible to groundwater flooding.

3.6.2 Waste

Landfill Sites

No landfill sites are indicated on or within potential influencing distance of the site.

Potentially Infilled Land

Potentially infilled land (water) is indicated 2m to the sites west.

Potentially infilled land (non water) is indicated 104m to the sites southeast and 128m to the sites southeast. These features may relate to the former excavation and quarry identified on historical plans to the sites southeast.

Infilled land (water) is also indicated 219m to the sites southwest.

3.6.3 Hazardous Substances

There are no Hazardous Substances sites (i.e. sites dealing with explosives etc.) identified on the site, or within a 250m radius of the site, in the Landmark report.

3.6.4 Geological Issues

BGS Soil Chemistry

The BGS has prepared estimated soil concentration maps for several metals (including Arsenic, Lead, Nickel, Chromium and Cadmium), which are extrapolated from records available for use within their assessments.

Whilst potentially useful for the inference of Natural Metal Enrichment (NME) of the natural soils in a general locale, the data should not be used to inform any detailed decisions with regards to the chemistry of a particular site as it does not allow for anthropogenic affects.

Estimates of the soil chemistry at the site indicate anticipated concentrations of Arsenic of <15mg/kg, Cadmium of <1.8mg/kg, Chromium of 40-90mg/kg, Lead of <100mg/kg and Nickel of 15-30mg/kg. Copies of the datasheets are included in Appendix VI.

Based on the information supplied within the Envirocheck report, the site is not shown to be located within an area where significant Natural Metal Enrichment of the underlying natural soils is likely to be present.

Ground Stability Hazards

There are no significant ground stability hazards or other geological issues (not identified elsewhere) identified in the Landmark report that are considered likely to have a potential significant adverse effect on any proposed future change in use or development.

Radon

The Landmark report identifies that the site falls within an intermediate probability radon area, as between 1 to 3% of homes are estimated to be at or above the action level.

The Envirocheck report concludes that '*No radon protective measures are necessary in the construction of new dwellings or extensions*'.

BGS Borehole Records

No BGS borehole records are available relating to the site or its immediate environs.

3.6.5 Contemporary Trade Directory Entries

No Contemporary Trade Directory Entries are indicated on the site.

3.6.6 Sensitive Land Uses

Ancient Woodland

An area of Ancient and Semi-Natural Woodland is indicated at a distance of 0m to the sites northwest. This woodland (presumed Burleigh Wood) is indicated to be present along the sites northwestern boundary and extend to the sites northwest.

Nitrate Vulnerable Zone

A nitrate vulnerable zone (NVZ) is indicated a distance of 0m from the site. The NVZ is indicated to be associated with the River Soar NVZ – Surface Water.

Sites of Special Scientific Interest (SSSI)

A site of special scientific interest (SSSI) is indicated to be present 171m to the sites south. The SSSI is indicated to be associated with Beacon Hill, Hangingstone And Out Woods.

3.7 Land Use Assessment

As part of the land use assessment, reference has been made to the '*Desk Reference Guide to potentially Contaminative Land Uses*' produced by Mr P Syms and published jointly by the ISVA (The Professional Society for Valuers and Auctioneers) in association with The Royal Institution of Chartered Surveyors (RICS) and the Chartered Institute of Environmental Health (CIEH).

We have also made reference to the Department for Environment, Food and Rural Affairs and the Environment Agency Contaminated Land Report CLR8 '*Potential Contaminants for the Assessment of Land*' (March 2002). Although now formally withdrawn, this document identifies key contaminants which may potentially be present at a site as a result of a given historical land use and is considered useful as a ready reference.

3.7.1 On Site Assessment

The site is indicated to have comprised open field since the earliest mapping epoch viewable (1880s). Historically a track crossed the site trending north to south associated with Burleigh Farm which was historically present to the sites south, whilst also encroaching slightly onto the sites southern extent.

A possible pond was historically present in the sites western extent. The location of the former pond is indicated to comprise possibly infilled ground.

The site is indicated to be underlain by the Swithland Formation Mudstone and Tarporley Formation Siltstone, Mudstone and Sandstone. The geological units underlying the site are classified as a Secondary B Aquifer by the Environment Agency. The site does not lie within a SPZ.

With reference to the publications listed in Section 3.7, the site does not fall within any of the land use categories detailed within the documents.

However, based on the information obtained from the desk study, observations made during our site visit and our experience of similar sites, potential contamination that may be present could include:

- Metals and metalloids associated with any Made Ground (possible infilled former pond etc.) or Natural Metal Enrichment (NME) in Natural Strata.
- Pesticides associated with any historical arable farming practices on the site.
- Polycyclic Aromatic Hydrocarbons (PAHs) derived from any carbonaceous or ashy inclusions in the near surface soils.
- Acid/Sulphate contaminated soils.
- Asbestos associated with former structures on the sites western extent.
- Potentially hazardous ground gases (i.e. methane and carbon dioxide) associated with any deep Made Ground or associated with the pond (if backfilled).

3.7.2 Off-Site Sources

The site lies in a predominantly rural environ with no significant sources of potential chemical contamination identified from off-site commercial or industrial sources.

Several areas of possible infilled land are indicated in the sites environs, potentially associated with infilling of the former excavation and former quarry to the sites southeast.

4.0 PRELIMINARY CONCEPTUAL SITE MODEL

4.1 General

The DEFRA publication '*Environmental Protection Act 1990: Part 2A Contaminated Land Statutory Guidance*' (dated April 2012) states the following with regards to the production of a Conceptual Site Model (CSM) for a site:

'*The process of risk assessment involves understanding the risks presented by land, and the associated uncertainties. In practice, this understanding is usually developed and communicated in the form of a "conceptual model"*'. The development of a CSM is typically undertaken in an iterative process, reflecting the changes in understanding as more detailed site information becomes available.

In developing a CSM, and specifically in the context of land contamination, consideration needs to be given to three essential elements; which form the basis of any risk present. The statutory guidance sections 3.8 and 3.9 (April 2012) states the following:

(a) '*A "contaminant" is a substance which is in, on or under the land and which has the potential to cause significant harm to a relevant receptor, or to cause significant pollution of controlled waters.*
(b) A "receptor" is something that could be adversely affected by a contaminant, for example a person, an organism, and ecosystem, property, or controlled waters...
(c) A "pathway" is a route by which a receptor is or might be affected by a contaminant.

The term "contaminant linkage" means the relationship between a contaminant, a pathway and a receptor.' For a contaminant linkage to be plausible, all three elements need to be present.

In undertaking a risk assessment and deriving a CSM for the purposes of the redevelopment of a site (i.e. planning and development control) reference has been made to both the Model Procedures for the Management of Land Contamination, as well as the National Planning Policy Framework (NPPF, dated February 2019).

The preliminary CSM should identify the hazards (source of potential contamination) and should set out the potential pollutant linkages with a view to identifying the nature and magnitude of the potential risks to receptors.

In order to undertake the foregoing assessment, consideration is required with respect to the probability or likelihood of the linkage occurring and the severity and significance of the potential consequences; taking account the nature of the pollutant linkage and the potential severity of the hazard and the sensitivity of the receptor within the context of the proposed land use (in consideration of the planning regime). Consideration of consequence/severity, probability/likelihood and risk has been based on the following guidance documentation:

- CIRIA C552 '*Contaminated Land Risk Assessment, A Guide to Good Practice*', 2001.
- EA R&D publication 66 '*Guidance for the Safe Development of Housing on Land Affected by Contamination*', 2008.

4.2 Classification of Consequences

In order to apply a consequence classification to a particular potential pollutant linkage, it is first necessary to define the terminology used within the classification system.

The following terminology and definitions detailed in Table 2 have been adopted within our assessment, based on the guidance referenced in Section 4.1.

TABLE 2 – CLASSIFICATION OF CONSEQUENCES	
Classification	Definition
Severe	• Acute risks to human health. • Short-term risk of pollution of controlled waters or significant impact on controlled waters; e.g. large-scale pollution or very high levels of contamination. • Catastrophic damage to buildings or property (such as building explosion causing collapse). • Ecological system effects – immediate risks of major damage which is likely to result in irreversible substantial adverse changes in the functioning of the ecosystem or harm to a species of special interest that endangers the long-term maintenance of the population.
Medium	• Chronic risks to human health. • Pollution of sensitive water resources (such as leaching of contaminants into controlled waters) causing a significant effect on water quality. • Ecological system effects – Immediate risks of significant damage which may result in substantial adverse changes to the ecosystems functioning or harm to a species of special interest that may endanger the long-term maintenance of the population. • Significant damage to buildings, structures and services (for example foundation damage or rendering the building unsuitable for habitation).
Mild	• Non-permanent health effects to human health (i.e. exposure is unlikely to lead to 'significant harm' in the context of Part 2A of the Environmental Protection Act 1990). • Pollution of controlled waters or non-sensitive water resources (for example non-classified groundwater) that results in a short-lived effect to water quality or a marginal effect on amenity value, agriculture or commerce. • Minor damage to buildings, structures and services. • Ecological system effects – Minor or short-term damage which is unlikely to result in substantial adverse changes to the ecosystems functioning or harm to a species of special interest. • Substantial damage to non-sensitive environments (such as arable farmland for example).
Minor	• No measurable effects on human health including non-permanent health effects to human health that are easily preventable by appropriate use of PPE/RPE. • Minor pollution of controlled waters including non-sensitive water resources with no discernible effects on water quality or ecosystems. • Minor damage to non-sensitive environments (including arable farmland for example). • Easily repairable effects of damage to buildings, structures, services or the environment (for example discolouration of concrete, loss of plants in a landscaping scheme etc.).

4.3 Classification of Probability

Once the possibility of a pollutant linkage has been established (noting that probability classification does not apply when there is no possibility of a linkage being present), the probability should be classified in accordance with Table 3.

TABLE 3 – CLASSIFICATION OF PROBABILITY		
Classification	Definition	Likelihood
High Likelihood	There is a pollutant linkage and an event is highly likely to occur in the short-term, and is almost inevitable over the long-term OR there is evidence at the receptor of harm or pollution occurring.	>95% likelihood of Consequence Occurring
Likely	There is a pollutant linkage and it is probable that an event will occur. It is not inevitable, but possible in the short-term and likely over the long-term.	50 – 95% likelihood of Consequence Occurring
Low Likelihood	There is a pollutant linkage and circumstances are possible under which an event could occur. It is by no means certain that even over a longer period such an event would take place, and less likely in the short-term.	5 – 49% Likelihood of Consequence Occurring
Unlikely	There is a pollutant linkage and it is improbable that an event would occur even in the very long-term.	<5% likelihood of Consequence Occurring

4.4 Classification of Risk

In order to establish the relevant risk term applicable to the identified pollutant linkage, one of the risk phrases identified within Table 4 must be adopted, with the definitions of each risk term detailed within Table 5.

TABLE 4 - RISK CLASSIFICATION MATRIX (BASED ON CIRIA C552, 2001)

		Consequence of Risk			
		Severe	Medium	Mild	Minor
Probability (Likelihood)	High Likelihood	Very High	High	Moderate	Moderate/Low
	Likely	High	Moderate	Moderate/Low	Low
	Low Likelihood	Moderate	Moderate/Low	Low	Negligible
	Unlikely	Moderate/Low	Low	Negligible	Negligible or No Potential Risk

TABLE 5 - RISK CLASSIFICATION DEFINITIONS (BASED ON CIRIA C552, 2001 & MODIFIED BY GEODYNE)

Very High	There is a high probability that severe harm will arise to a designated receptor from an identified hazard OR there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not undertaken already) and remediation are likely to be required.
High	Harm is likely to arise to a designated receptor from an identified hazard. Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not undertaken already) is required and remedial works may be necessary in the short term and are likely over the longer term.
Moderate	It is possible that harm could arise to a designated receptor from an identified hazard. However, there is a low likelihood that such harm would be severe, or if any harm were to occur it is more likely that the harm would be mild. Investigation (if not already undertaken) is normally required to clarify the risk and to determine the potential liability. Some remedial works may be required in the longer term.
Moderate/Low	It is possible that harm could arise to a receptor. However, a combination of likelihood and consequence results in a risk that is above low but is not of sufficient concern to be classified as moderate. It can be driven by cases where there is an acute risk which carries a severe consequence, but where the exposure is unlikely. Such harm would at worse normally be mild. The risk is unlikely to present a substantial liability. Some limited further investigation may be required to clarify the risk and any associated liability. If subsequent remediation works are necessary, they are likely to be limited in extent.
Low	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Negligible	There is a low possibility that harm could arise to a receptor. In the event of such harm being realised it is unlikely to be any worse than mild. No liability would be associated with such risks.
No Potential Risk	There is no potential risk or liability where no pollutant linkage has been established.

4.5 Contaminant [C] - Pathway [P] - Receptor [R] Considerations

The following CPR assessment has been undertaken assuming a proposed residential end use with private garden areas.

4.6 Consideration of Potential Sources of Contamination [C]

Based on the findings of our works, the potential key sources of contamination at the site that would require consideration for the derivation of an initial CSM would be the following:

TABLE 6 – SUMMARY OF POTENTIAL CONTAMINANT SOURCES	
Potential Contaminant Source	Potential Associated Contaminants
Made Ground (from infilling of former pond)	▪ Metals and metalloids ▪ Polycyclic Aromatic Hydrocarbons ▪ Ground gases (i.e. carbon dioxide and methane); where deep Made Ground or buried organic soils are encountered
Agricultural Topsoil	▪ Pesticides ▪ Metals and metalloids
Bedrock Strata	▪ Metals (from Natural Metal Enrichment) ▪ Radon
Off-site Made Ground sources	▪ Ground Gases (i.e. methane and carbon dioxide)

4.7 Consideration of Potential Pathways [P]

The potential pathways at the site are primarily:

- Direct ingestion of soil.
- Inhalation of dust.
- Direct skin contact with the ground.
- Ingestion of home-grown produce.
- Vertical and lateral migration of contamination.
- Vertical and lateral migration of ground gases.

4.8 Consideration of Potential Receptors [R]

The potential receptors at the site are:

- The final end users (residents - typically long term (chronic) exposure and site visitors – typically short term (acute) exposure).
- Neighbouring properties (i.e. off-site receptors and adjacent ecological receptors).
- Controlled Waters (i.e. underlying groundwater or nearby surface waters).
- Buildings and construction materials.

In preparing this CSM, it has been assumed that construction personnel involved with the development of the site (typically short term (acute) exposure) will adopt all necessary personal protective equipment (PPE and RPE etc.) and conform to health and safety requirements of their site-specific Risk Assessments and Method Statements (RAMS). Site workers have therefore not been included within the following table, as the adoption of these appropriate mitigation measures will result in an overall low risk of exposure to the C-P-R linkages identified.

4.9 Preliminary Risk Assessment / Conceptual Site Model

Our preliminary Conceptual Site Model (CSM) of possible pollutant linkages, applicable to the proposed site usage and based on our current understanding, is summarised in Table 7.

TABLE 7 – PRELIMINARY RISK ASSESSMENT SUMMARY (DESK STUDY)

Potential Contaminant Source [C]	Potential Pathway(s) [P]	Potential Receptor [R]	Probability of CPR Linkage	Consequence of CPR Linkage	Risk Level	Comments / Justification
Made Ground or Agricultural Topsoil	Direct contact, ingestion or inhalation of soil	End users	Low likelihood	Medium	Moderate/Low	The site is proposed for a residential end use with garden areas. End user contact with the in-situ soils may be anticipated.
	Ingestion of home-grown produce	End Users	Likely	Mild	Moderate/Low	The site is proposed for a residential end use with garden areas. The growing of vegetables for consumption is possible.
	Leaching of Contaminants through unsaturated zone	Groundwater	Unlikely	Medium	Low	The site has historically comprised open field. The site is classified as a Secondary B Aquifer and is not located in an SPZ.
	Surface run-off or base flow from contaminated groundwater	Surface Waters	Unlikely	Mild	Negligible	No surface water features have been identified within the immediate vicinity of the site.
	Inhalation of fugitive dust	Neighbouring users	Low Likelihood	Mild	Low	No significant sources of potential airborne contamination have been identified by the desk study works undertaken.
	Vertical and lateral migration of ground gases	End Users	Low Likelihood	Medium	Moderate/Low	A former pond, potentially backfilled, is present in the sites western extent.
	Vertical and lateral migration of contaminants	Adjacent Ecological Receptors	Unlikely	Medium	Low	A local wildlife site and ancient woodland is present adjacent to the site corresponding to Burleigh Wood.
Bedrock Strata	Direct contact, ingestion or inhalation	End Users	Unlikely	Mild	Negligible	No Natural Metal Enrichment (NME) of the bedrock strata is indicated by the desk study enquiries.
	Vertical and lateral migration of radon	End Users	Unlikely	Mild	Negligible	The site is located in a radon affected area as 1 to 3% of homes are estimated to contain levels of radon at or above the action level. No radon protection measures are required in new dwellings.
Off-site Made Ground Sources	Vertical and lateral migration of ground	End Users	Unlikely	Medium	Low	Off site areas of potentially infilled land are indicated in excess of 100m to the sites southeast.

TABLE 7 – PRELIMINARY RISK ASSESSMENT SUMMARY (DESK STUDY)						
Potential Contaminant Source [C]	Potential Pathway(s) [P]	Potential Receptor [R]	Probability of CPR Linkage	Consequence of CPR Linkage	Risk Level	Comments / Justification
	gases					

The foregoing pCSM highlights the potential plausible pollutant linkages that may relate to the site. Where necessary, the information contained within the conceptual model should be confirmed and revised upon completion of appropriate intrusive investigation works.

5.0 CONCLUSIONS & RECOMMENDATIONS

The following conclusions and recommendations are based on the findings of the desk study works only. Where further surety is required it would be necessary to undertake appropriate site-specific Phase II Exploratory Investigation works to confirm the findings of our desk study works. This is likely to be required as part of the planning process.

5.1 Site Summary

- The site is indicated to have comprised open field since the earliest mapping epoch viewable (1880s). Historically a track crossed the site trending north to south associated with Burleigh Farm which was historically present to the sites south, whilst also encroaching slightly onto the sites southern extent.
- Topographically the site has a ridge present towards the sites centre trending southwest to northeast. Ground levels fall to the northwest, north and southeast.
- A possible pond was historically present in the sites western extent. The location of the former pond is indicated to comprise possibly infilled ground.
- The site is indicated to be underlain by the Swithland Formation Mudstone and Tarporley Formation Siltstone, Mudstone and Sandstone. The geological units underlying the site are classified as a Secondary B Aquifer by the Environment Agency. The site does not lie within a SPZ.
- An Ancient and Semi-Natural Woodland is present to the sites immediate northwest.

5.2 Geotechnical Considerations

The majority of the site is indicated to be underlain by the Swithland Formation Mudstone with the Tarporley Siltstone, Mudstone and Sandstone indicated to outcrop in the sites far western and eastern extents. The Swithland Formation Mudstone pre-dates the Tarporley Siltstone by several hundred million years.

The solid strata are likely to represent suitable founding strata for residential dwellings at the site.

However, we would note the presence of a ridge line in the centre of the site trending southwest to northeast, with land falling to the northwest, north and southeast (towards the sites entrance).

If not already commissioned, a topographic survey should be undertaken of the site to establish ground levels and an earthworks mass balance calculation should be undertaken to establish potential development platform levels at the site (inclusive of consideration of cut and fill etc).

We would envisage that a programme of intrusive works would be required at the site, (potentially observed by an earthworks contractor) to ascertain the ease of excavation of the bedrock across the site and hence the viability of possible earthworks.

5.3 Environmental (Contamination) Considerations

Based on the information obtained from the desk study, observations made during our site visit and our experience of similar sites, potential contamination that may be present could include:

- Metals and metalloids.
- Pesticides.
- Polycyclic Aromatic Hydrocarbons (PAHs).
- Acid/Sulphate contaminated soils.
- Asbestos.
- Potentially hazardous ground gases (i.e. methane and carbon dioxide).

A programme of intrusive investigation works should be undertaken to confirm levels of contamination present at the site.

5.4 Flood Risk

The site is not indicated to be located within an area at risk of flooding from rivers or seas without defences.

The far western extent of the site (approximately located in the area of the pond indicated on historical plans) is designated as an area with a high risk of flooding from surface water (30 year return).

The site is not indicated to be located in an area susceptible to groundwater flooding.

5.5 Radon

The site is indicated to be located in a Radon affected area, as between 1% and 3% of homes are estimated to be above the radon action level. However, the Landmark report indicates that radon protection measures are not required for new dwellings.

We would recommend that this matter is discussed with the Local Planning Authority (LPA) to confirm their position with respect to radon protection.

5.6 Recommended Phase II Exploratory Investigation Works

The desk study works have identified potential on-site pollutant linkages of risk levels ranging between Negligible to Moderate/Low risk. Based on our CSM, there are considered to be no significant geo-environmental barriers to the development of the site, with the key risk drivers with respect to on-site pollutant linkages identified as the presence of any near surface soil contamination that may be encountered by future residential dwellings together with the risk of ground gases associated with on-site and off-site sources of ground gases affecting the building envelope.

Proposed Phase II Exploratory Works should be sufficient to investigate the possible issues raised in the Phase I Desk Study and should be undertaken in general accordance with current industry good practice.

At this stage, the following is recommended:

- A programme of intrusive investigation works at the site, to comprise trial pits to investigate near surface ground conditions and the ease of excavation of solid strata together with a programme of window sample boreholes to facilitate the installation of ground gas monitoring points.
- Collection of soil samples across the site (both topsoil and underlying subsoil/natural strata and any Made Ground) for a suitable suite of laboratory chemical analysis.
- Undertake a programme of ground gas monitoring at the site.

- Revision of the pCSM following receipt of the laboratory analysis and completion of the programme of ground gas monitoring.

Dependent on the findings of the foregoing works or the requirements of the Client / design team or regulatory authorities, further investigation, risk assessment or remediation works may ultimately be necessary.

5.7 Ecological Considerations

We would note that an Ancient Woodland is present to the northwest of the site corresponding to Burleigh Wood. Any potential ecological impacts to Burleigh Wood are beyond the scope of this report however specialist ecological advice is recommended (where appropriate) with respect to this feature.

5.8 Statutory Consultation

In accordance with normal planning requirements, we would recommend that a copy of our report is issued by the Client to the Local Planning Authority for review/comment and approval prior to commencing with the development of the site.

A Phase II intrusive investigation would typically be required as part of typical planning requirements in due course and to inform the development of the site.

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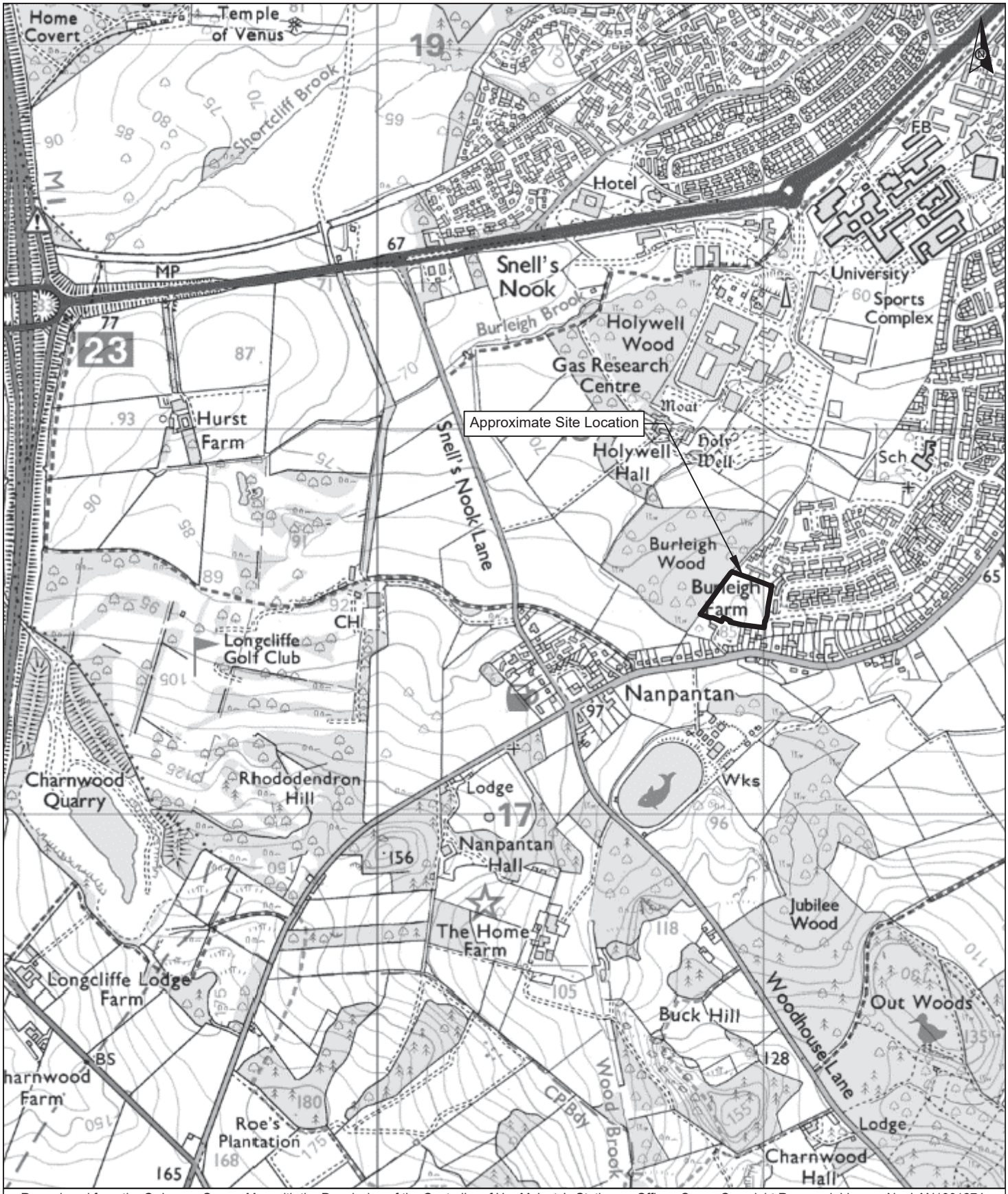
APPENDIX I

Site Location Plan
(Figure No. 40056/01)



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Client	Bowbridge Homes Ltd	Checked By	DH
		Approved By	JPH
Project	Leconfield Road, Nanpantan	Scale	NTS
		Date Drawn	20/03/2020
Title	Site Location Plan	Revision	
		Figure No.	40056/01

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Derby 01332 290 798
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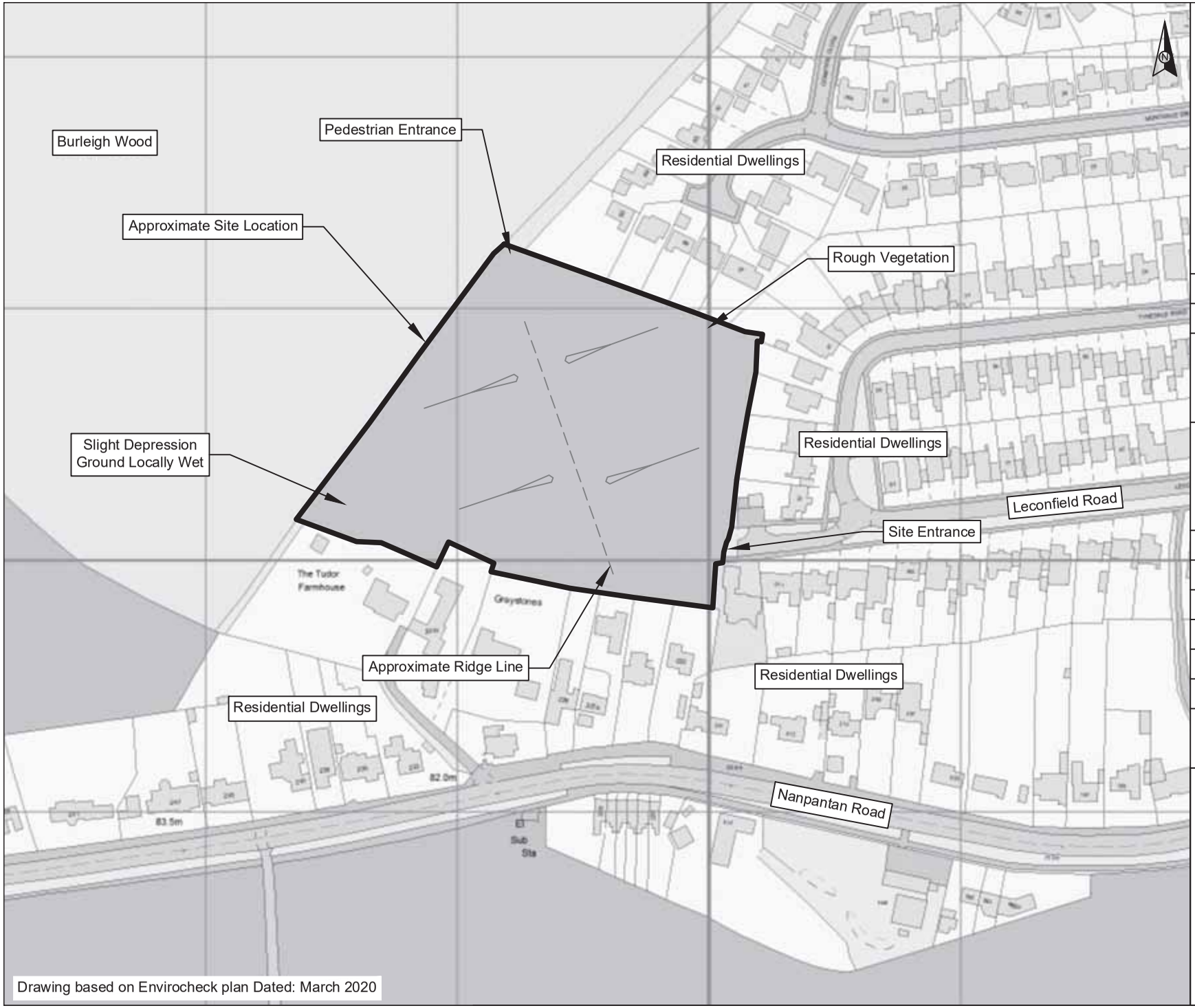
APPENDIX II

Annotated Site Plan
(Figure No. 40056/02)



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Client	Bowbridge Homes Ltd
Project	Leconfield Road, Nanpantan
Title	Annotated Site Plan
Drawn By	ACH
Checked By	DH
Approved By	JPH
Scale	NTS
Date Drawn	20/03/2020
Revision	
Figure No.	40056/02

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APPENDIX III

General Views of Site
(Figure Nos. 40056/03 to 40056/04)

Project No.	40056
Client	Bowbridge Homes Ltd
Project	Leconfield Road, Nanpantan
Title	Site Plan and General Views of Site
Drawn By	ACH
Checked By	DH
Approved By	JPH
Scale	NTS
Date Drawn	20/03/2020
Revision	
Figure No.	40056/03

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Drawing based on Envirocheck plan Dated: March 2020

Project No.	40056
Client	Bowbridge Homes Ltd
Project	Leconfield Road, Nanpantan
Title	Site Plan and General Views of Site
Drawn By	ACH
Checked By	DH
Approved By	JPH
Scale	NTS
Date Drawn	20/03/2020
Revision	
Figure No.	40056/04

Drawing based on Envirocheck plan Dated: March 2020

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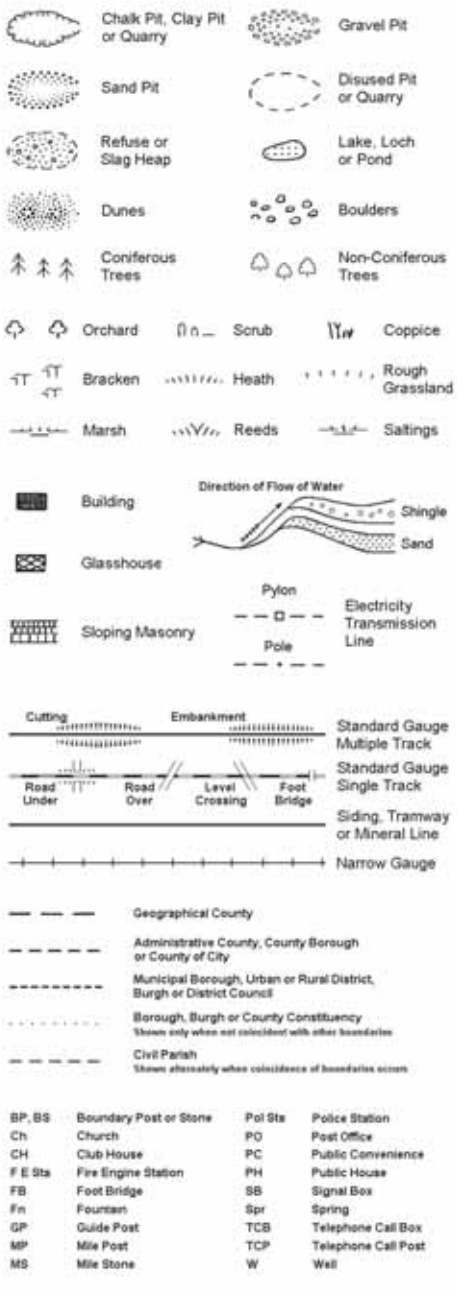
APPENDIX IV

Historical Plans

Historical Mapping Legends

Ordnance Survey County Series 1:10,560

Ordnance Survey Plan 1:10,000



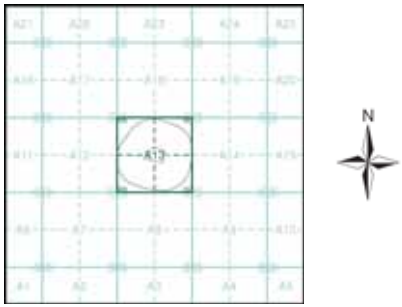
1:10,000 Raster Mapping

GeoDyne

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Leicestershire	1:10,560	1884	2
Nottinghamshire	1:10,560	1901	3
Leicestershire	1:10,560	1904	4
Leicestershire	1:10,560	1922	5
Leicestershire	1:10,560	1938	6
Ordnance Survey Plan	1:10,000	1955	7
Ordnance Survey Plan	1:10,000	1967 - 1968	8
Ordnance Survey Plan	1:10,000	1974	9
Ordnance Survey Plan	1:10,000	1983 - 1986	10
Ordnance Survey Plan	1:10,000	1993	11
10K Raster Mapping	1:10,000	2000	12
10K Raster Mapping	1:10,000	2006	13
VectorMap Local	1:10,000	2020	14

Historical Map - Slice A



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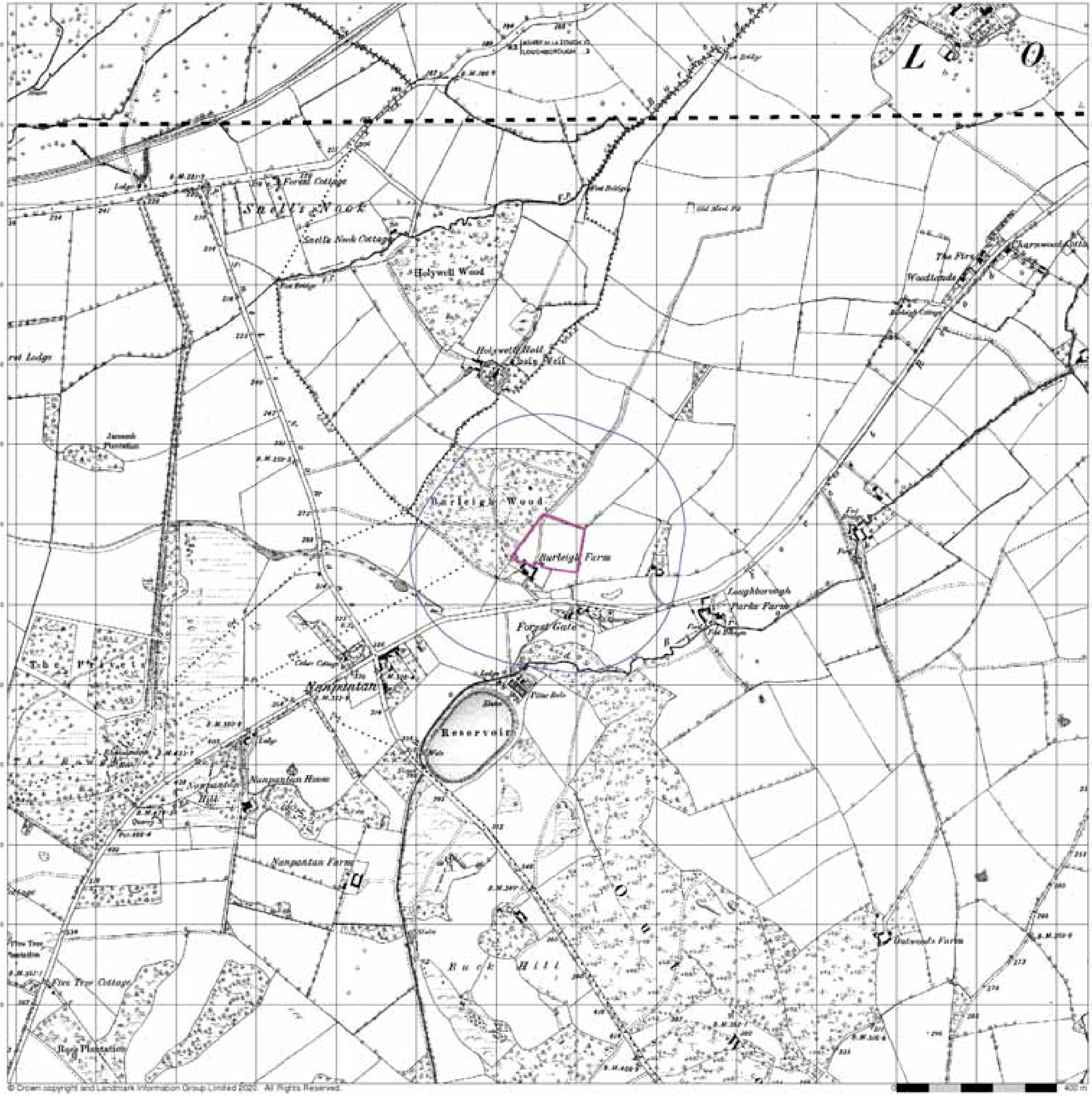
National Grid Reference: 450940, 317550
Slice: A
Site Area (Ha): 1.69
Search Buffer (m): 250

Site Details

Site at 450950, 317560

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



Leicestershire

Published 1884

Source map scale - 1:10,560

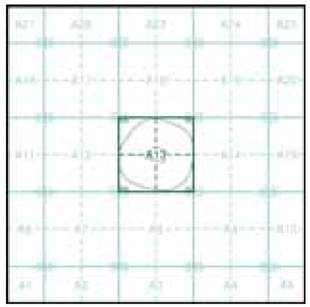
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

017NE 1884 1:10,560

017SE 1884 1:10,560

Historical Map - Slice A



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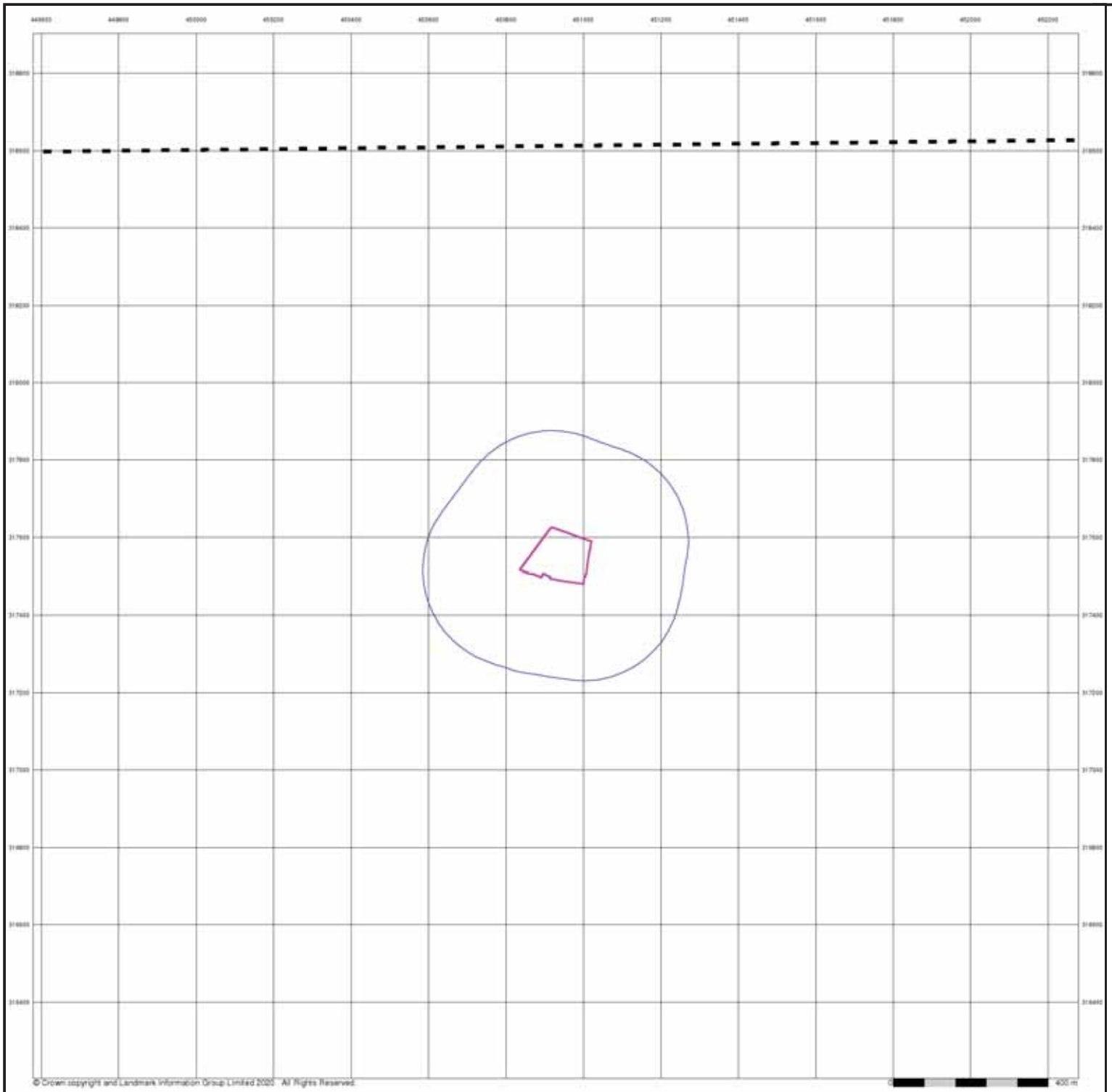

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Nottinghamshire

Published 1901

Source map scale - 1:10,560

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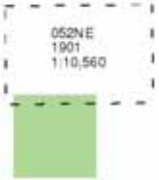
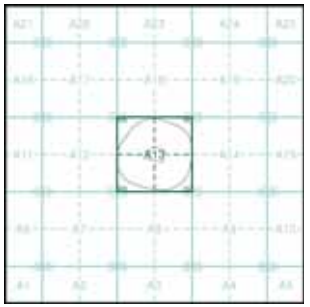


Historical Map - Slice A



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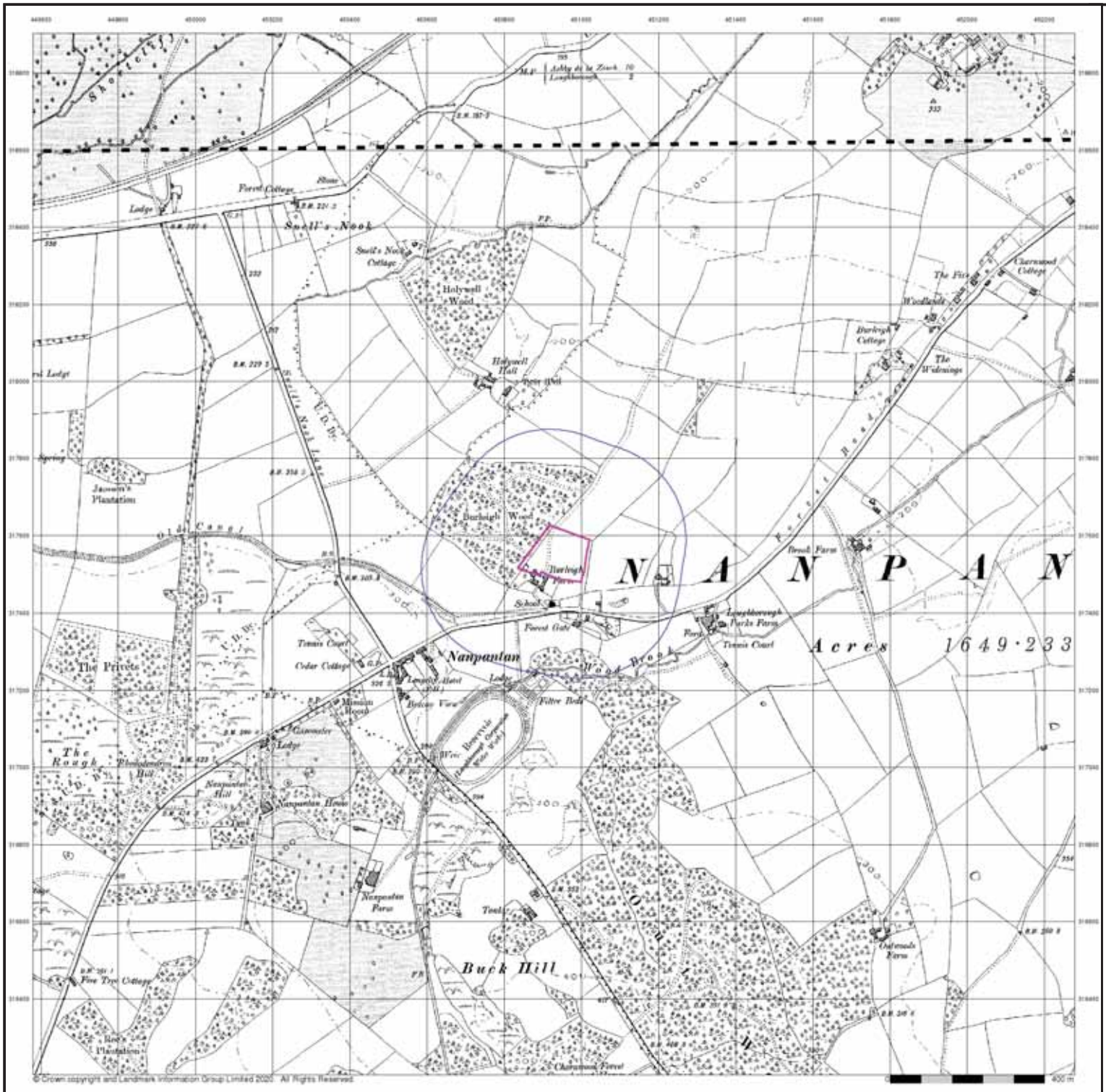

GeoDyne

Leicestershire

Published 1904

Source map scale - 1:10,560

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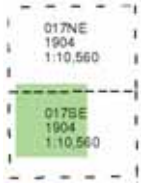
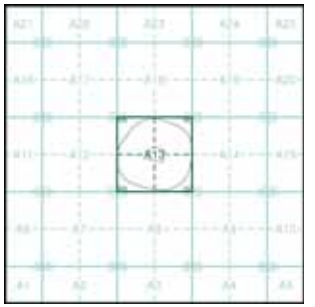
Map Name(s) and Date(s)



Historical Map - Slice A



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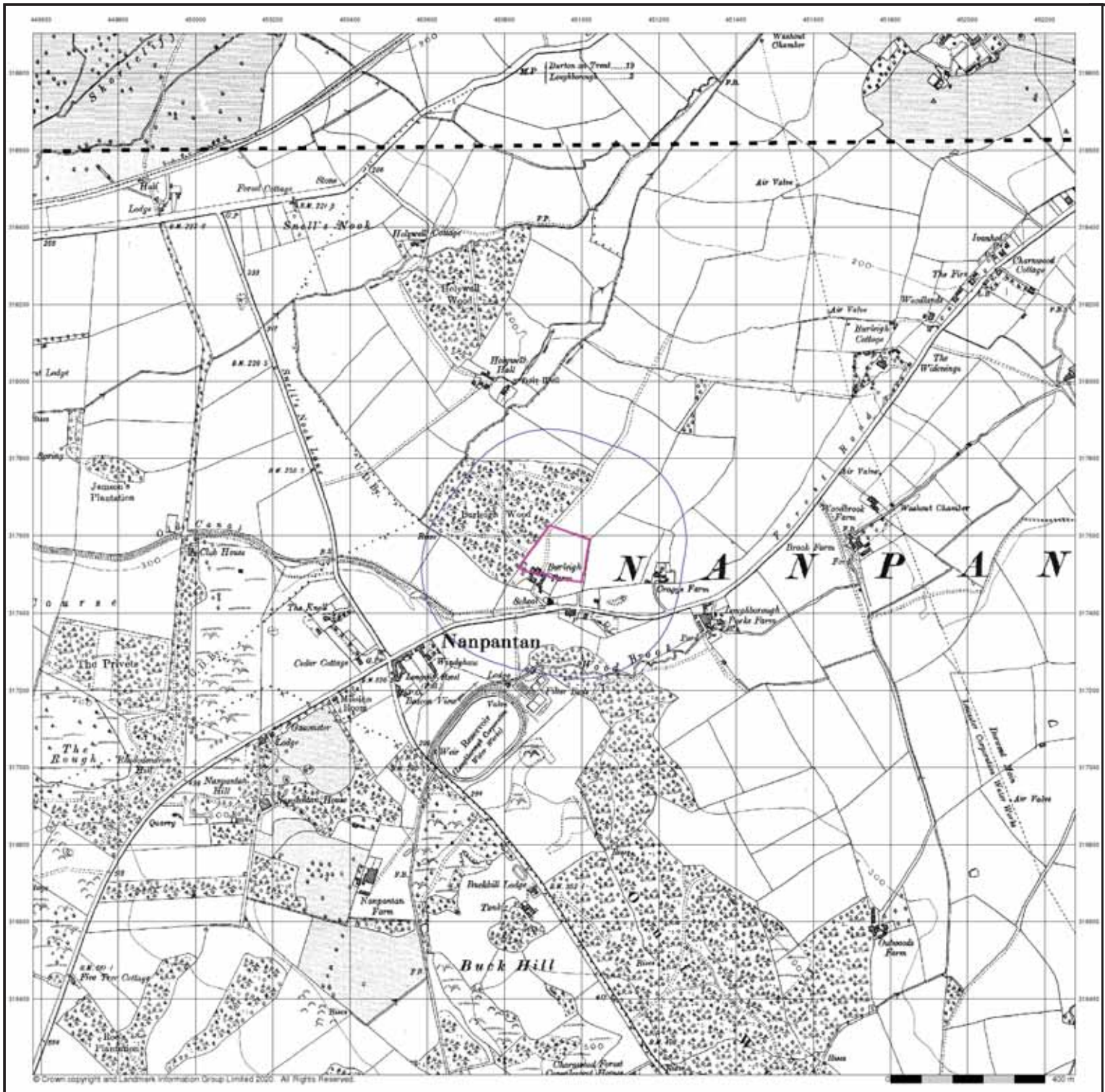

GeoDyne

Leicestershire

Published 1922

Source map scale - 1:10,560

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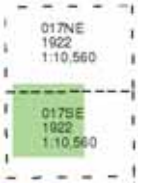
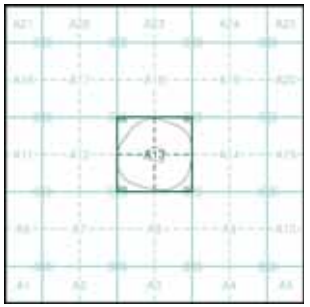
Map Name(s) and Date(s)



Historical Map - Slice A



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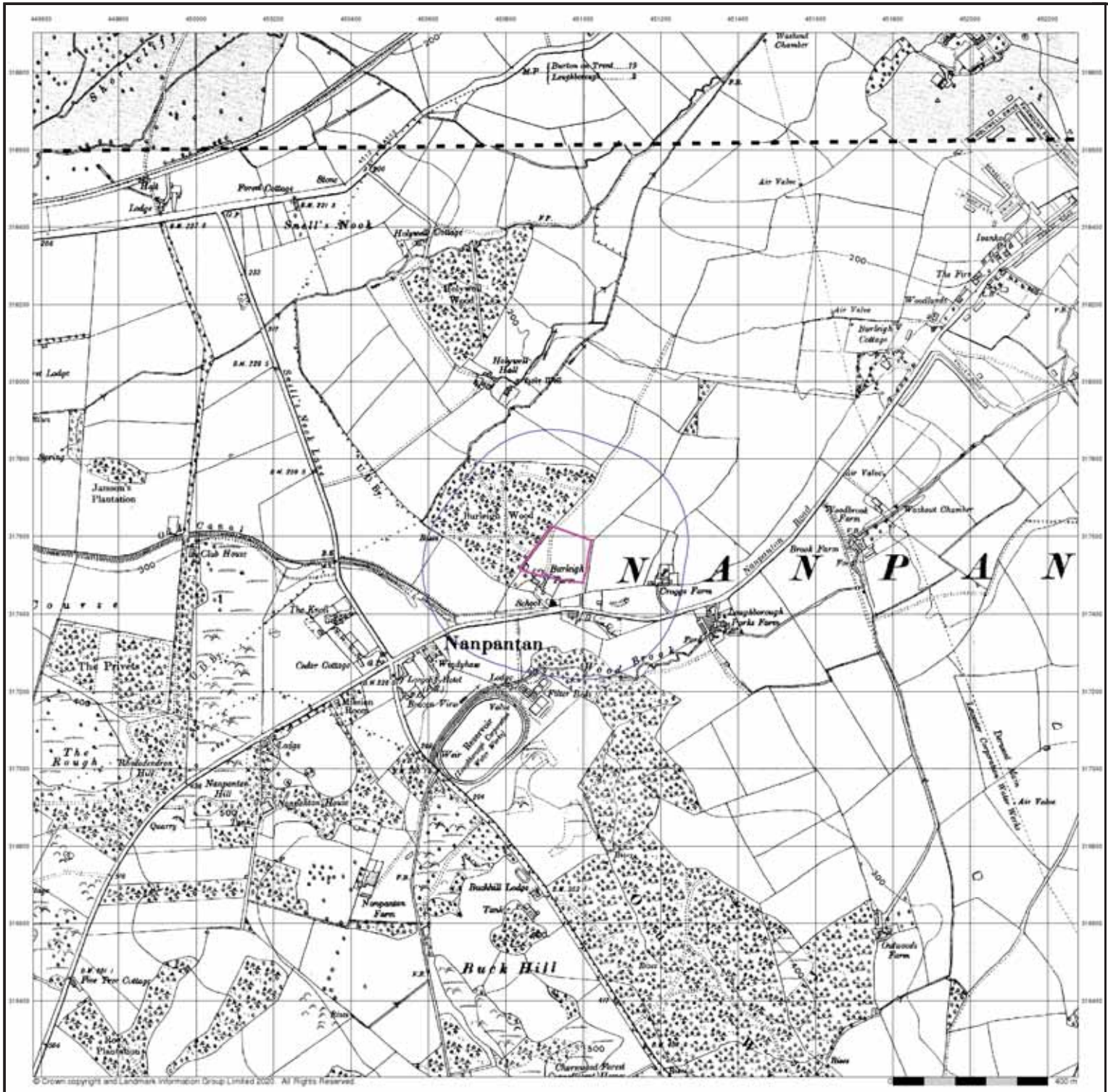


GeoDyne

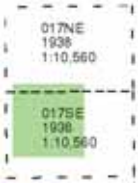
Leicestershire

Published 1938

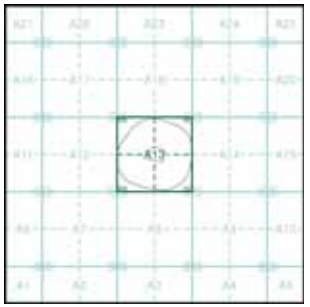
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



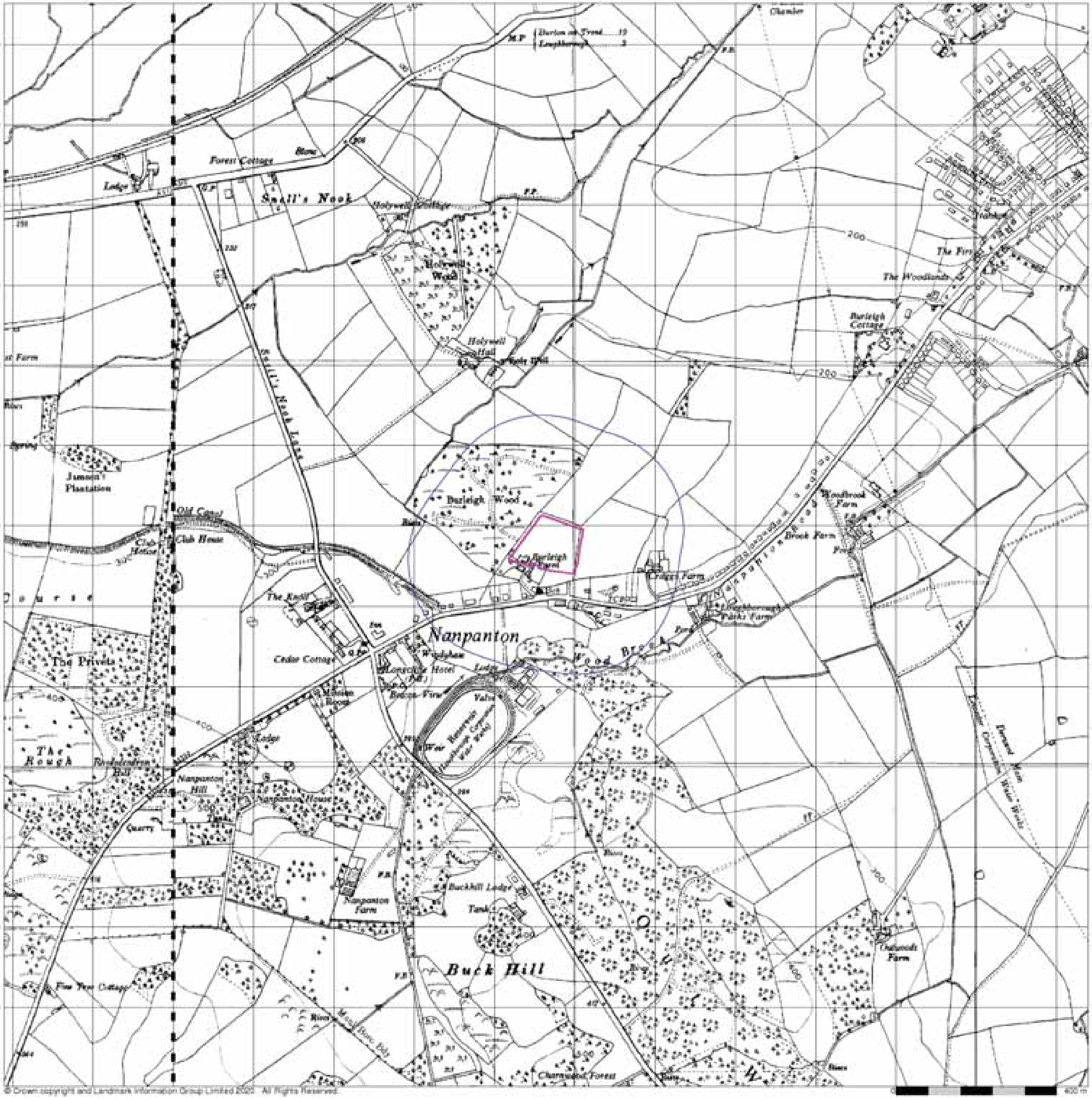
Order Details

Order Number:	237752056_1_1
Customer Ref:	40056
National Grid Reference:	450940, 317550
Slice:	A
Site Area (Ha):	1.69
Search Buffer (m):	250

Site Details

Site at 450950, 317560

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



GeoDyne

Ordnance Survey Plan

Published 1955

Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

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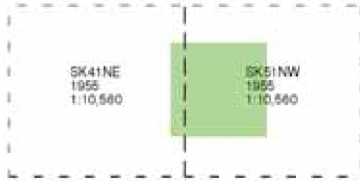
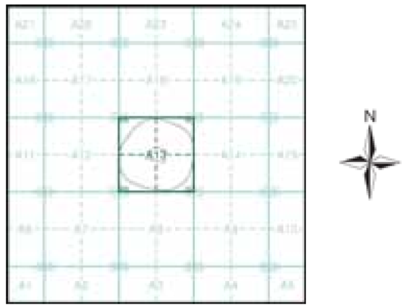


Historical Map - Slice A



Order Details

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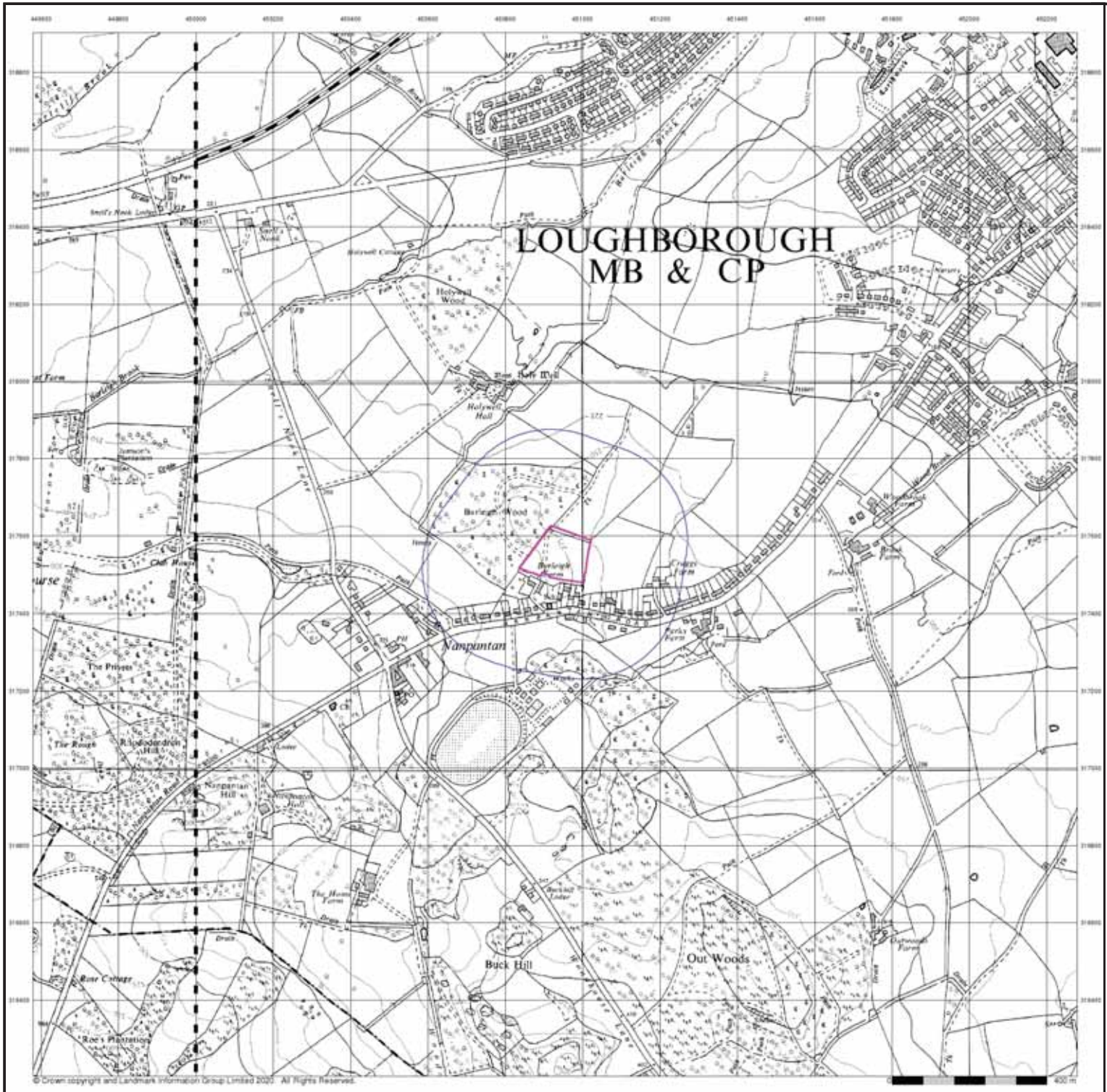

GeoDyne

Ordnance Survey Plan

Published 1967 - 1968

Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

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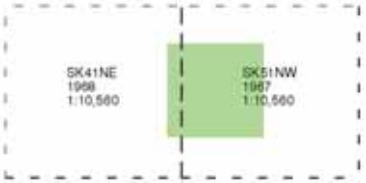
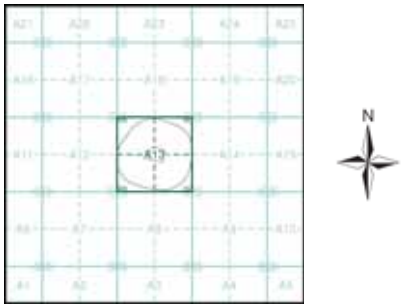


Historical Map - Slice A



Order Details

Order Number:	237752056_1_1
Customer Ref:	40056
National Grid Reference:	450940, 317550
Slice:	A
Site Area (Ha):	1.69
Search Buffer (m):	250

Site Details

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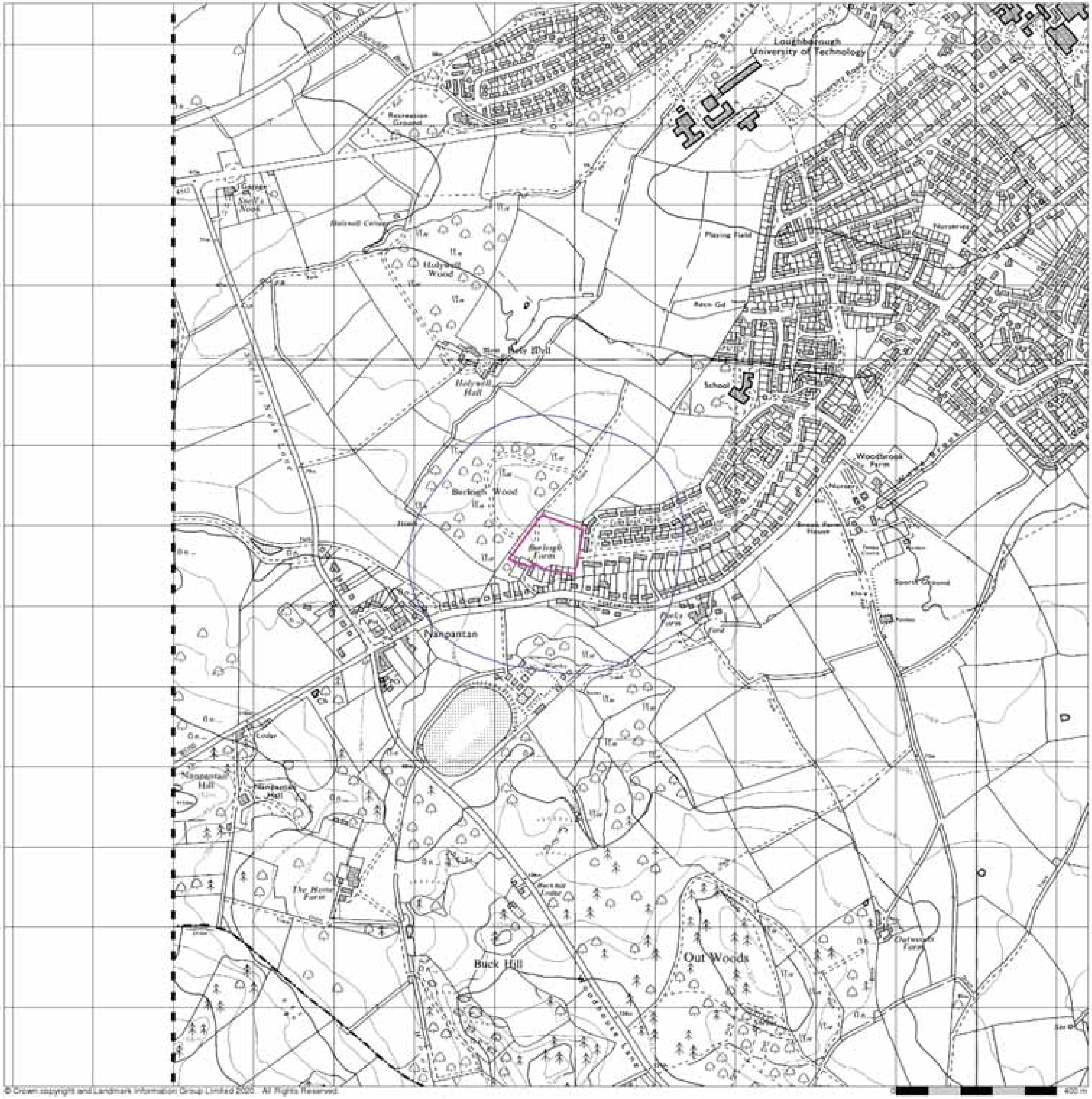


GeoDyne

Ordnance Survey Plan

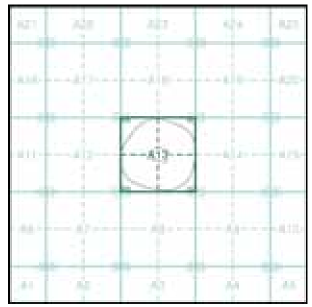
Published 1974

Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)

Historical Map - Slice A



Order Details

Order Number: 237752056_1_1
Customer Ref: 40056
National Grid Reference: 450940, 317550
Slice: A
Site Area (Ha): 1.69
Search Buffer (m): 250

Site Details

Site at 450950, 317560

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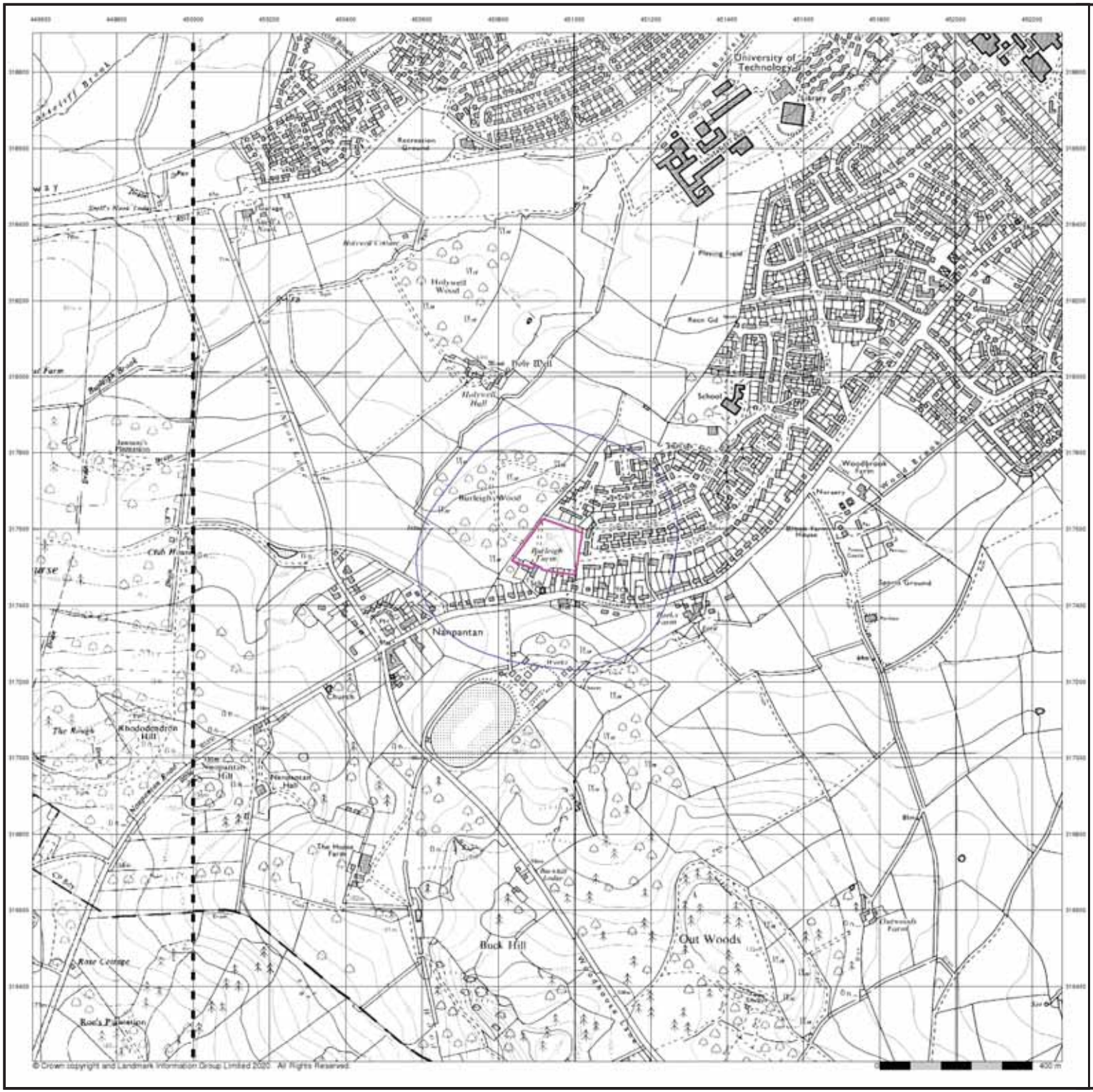

GeoDyne

Ordnance Survey Plan

Published 1983 - 1986

Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940`s, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

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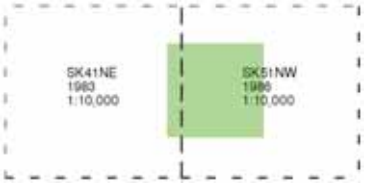
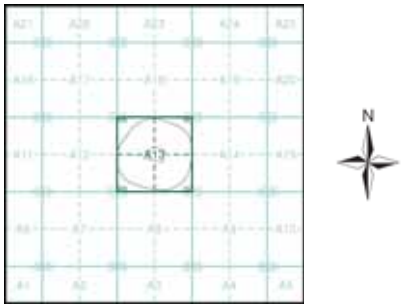


Historical Map - Slice A



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Site Area (Ha):	1.69
Search Buffer (m):	250

Site Details

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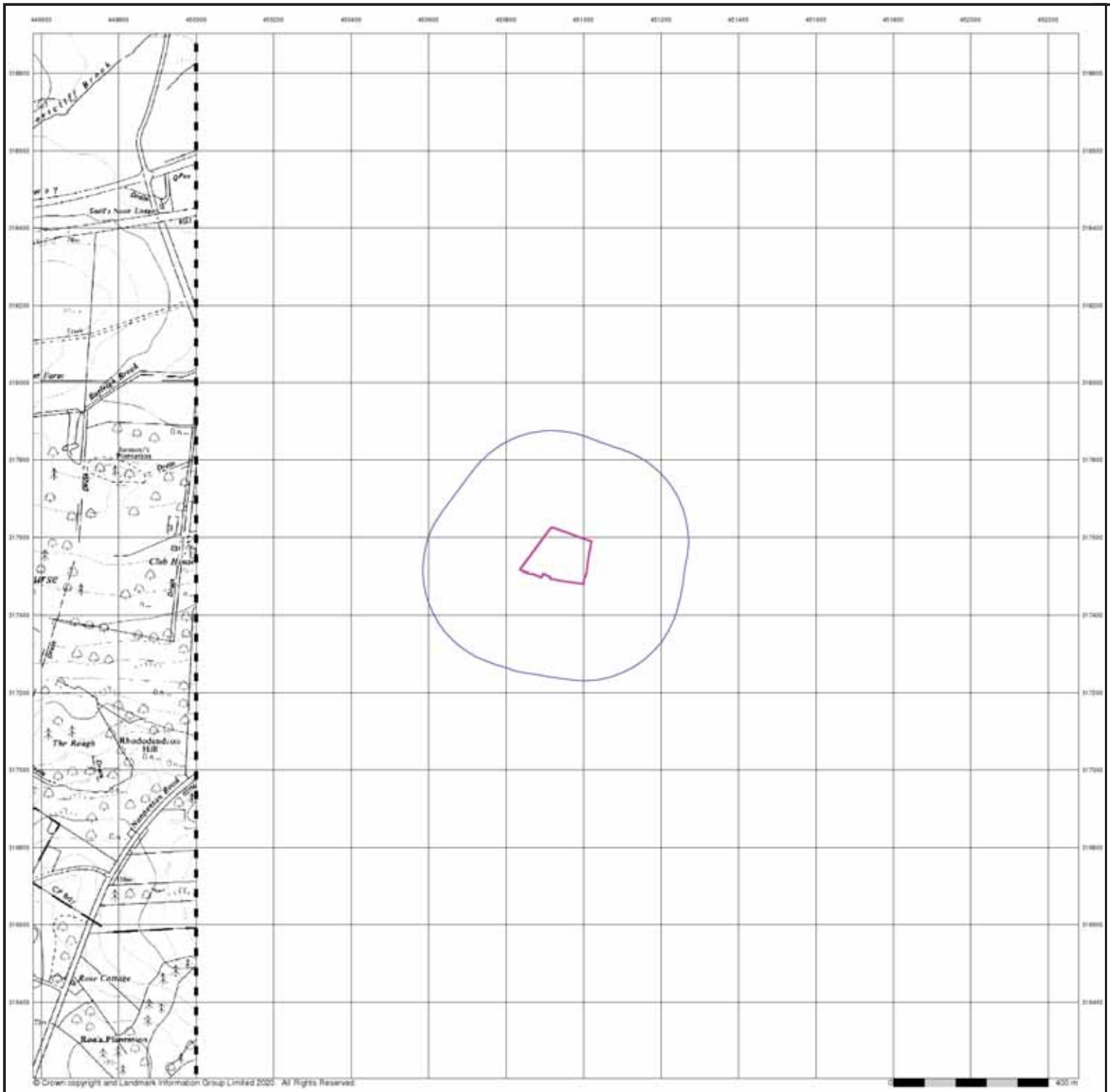


GeoDyne

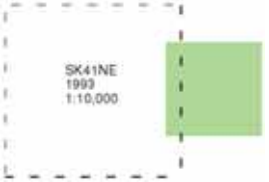
Ordnance Survey Plan

Published 1993

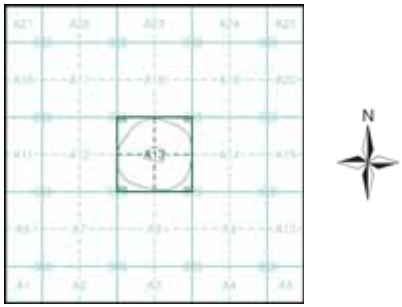
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas. In the late 1940's, a Provisional Edition was produced, which updated the 1:10,560 mapping from a number of sources. The maps appear unfinished - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

Map Name(s) and Date(s)



Historical Map - Slice A



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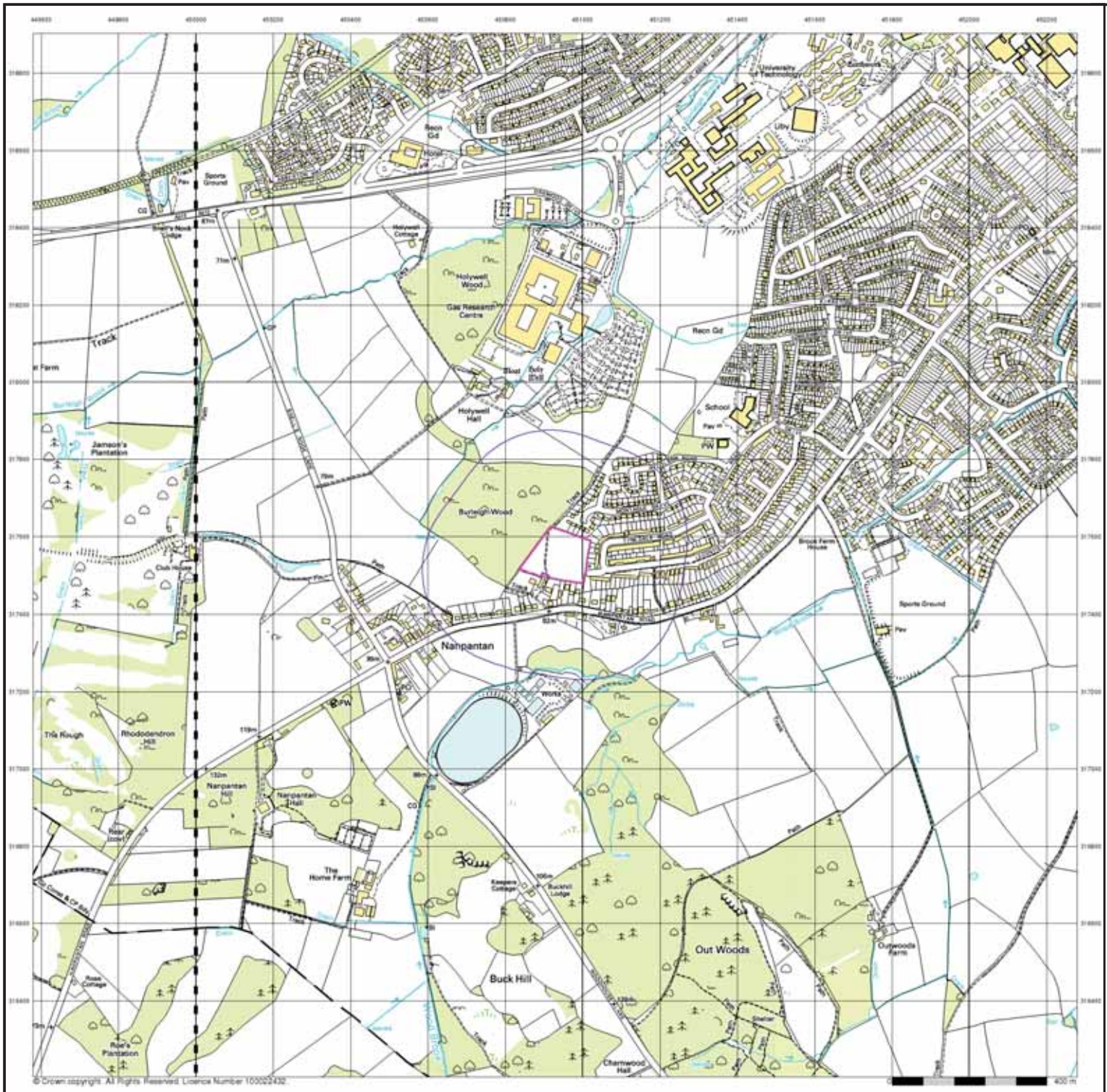


GeoDyne

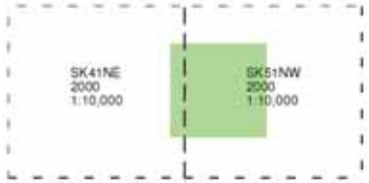
10k Raster Mapping

Published 2000

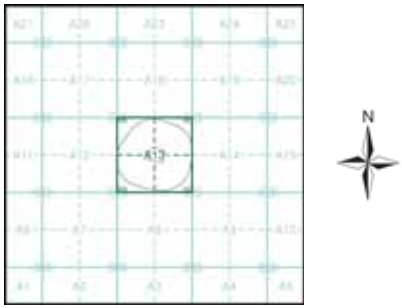
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)



Historical Map - Slice A



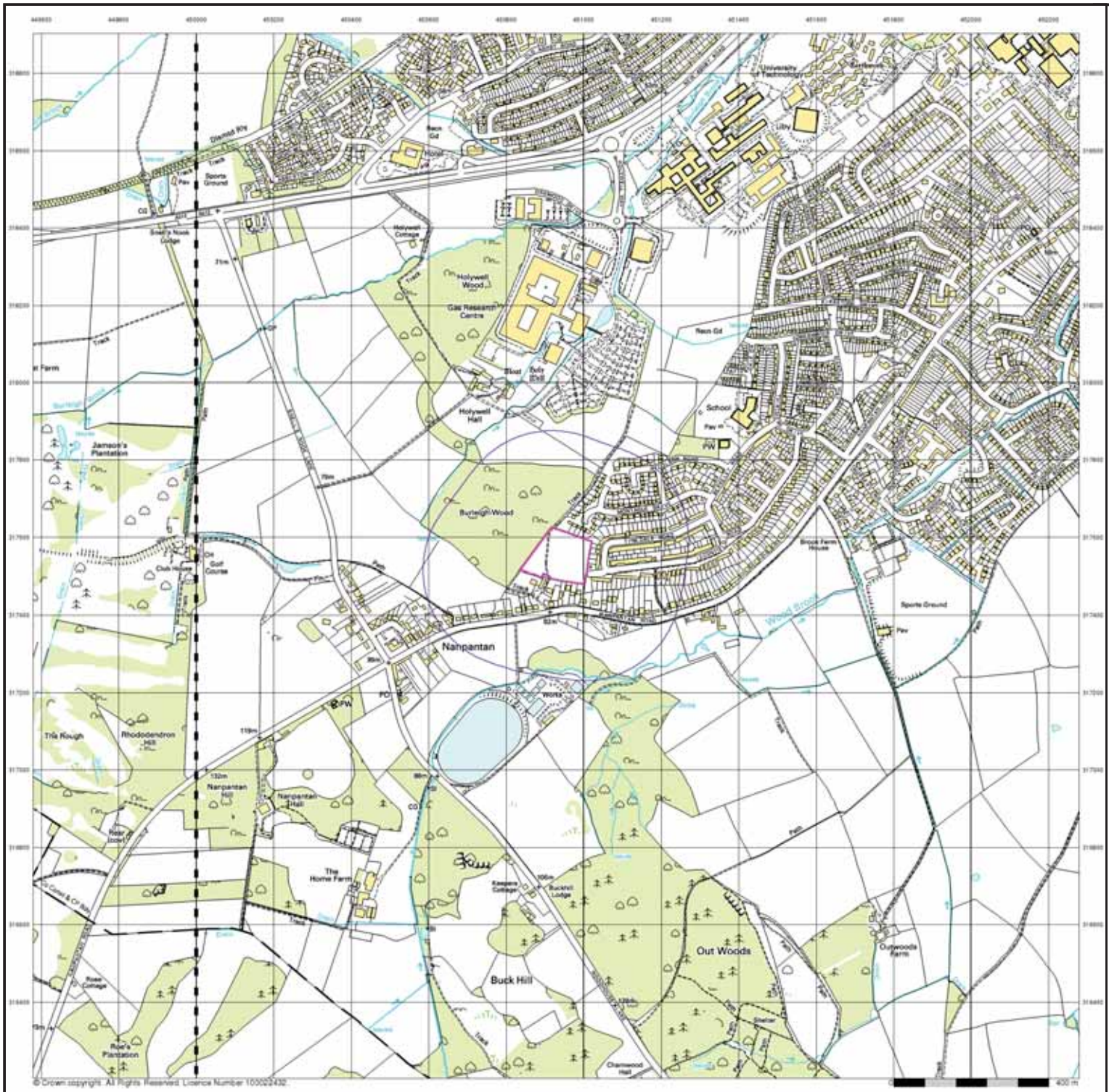
Order Details

Order Number:	237752056_1_1
Customer Ref:	40056
National Grid Reference:	450940, 317550
Slice:	A
Site Area (Ha):	1.69
Search Buffer (m):	250

Site Details

Site at 450950, 317560

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



GeoDyne

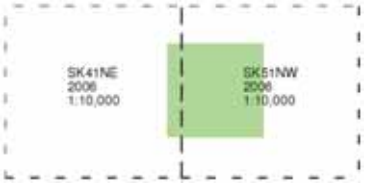
10k Raster Mapping

Published 2006

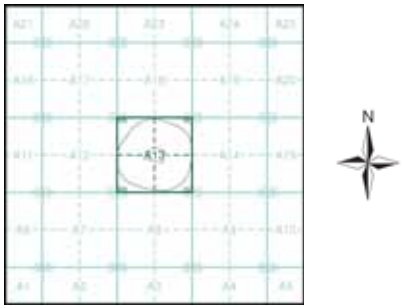
Source map scale - 1:10,000

The historical maps shown were produced from the Ordnance Survey`s 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, fences and field boundaries as well as all roads, tracks and paths. Road names are also included together with the relevant road number and classification. Boundary information depiction includes county, unitary authority, district, civil parish and constituency.

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

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Customer Ref:	40056
National Grid Reference:	450940, 317550
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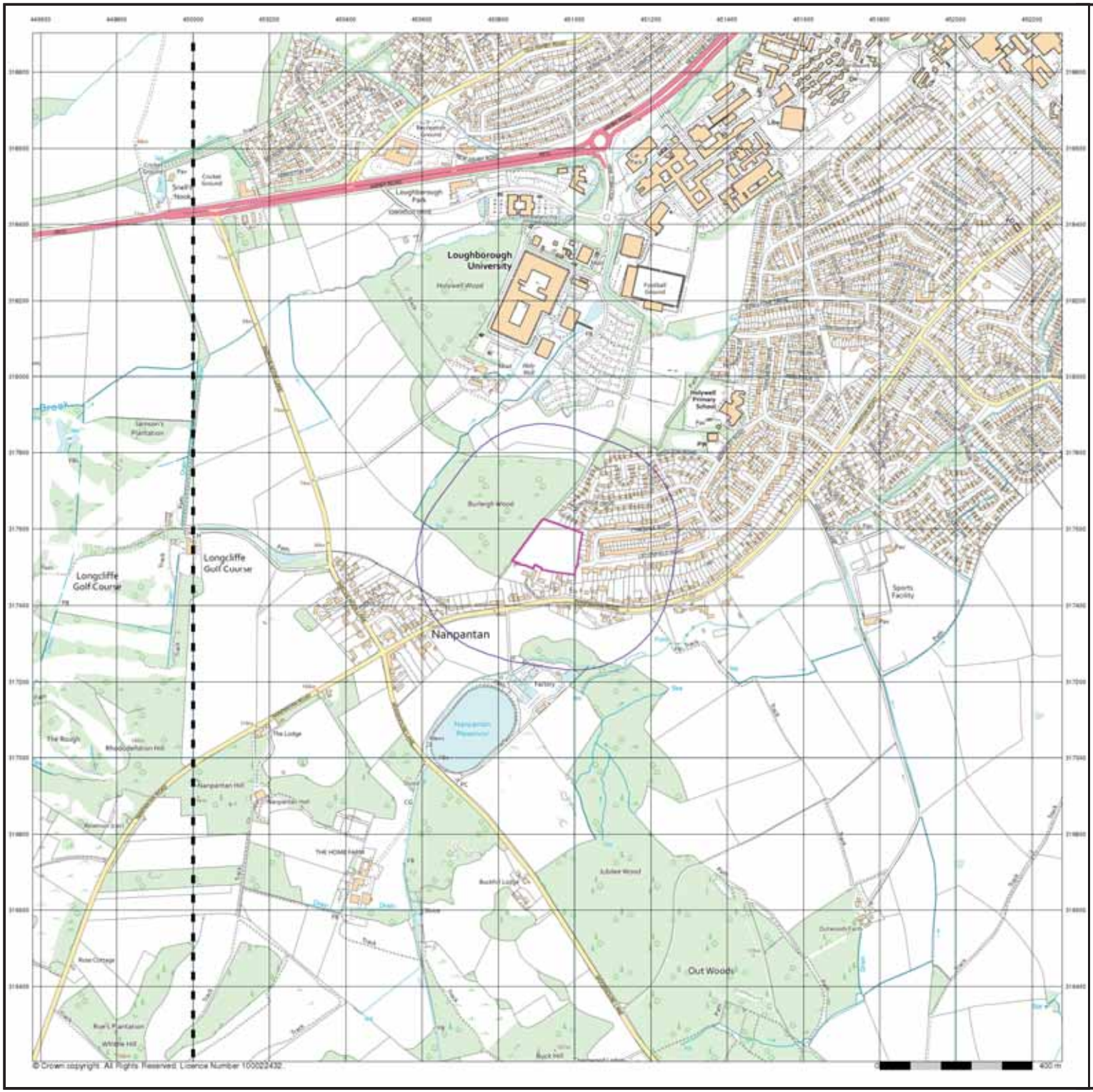


GeoDyne

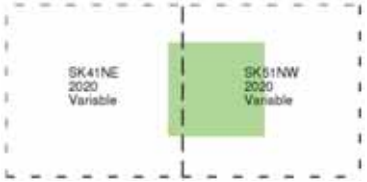
VectorMap Local

Published 2020

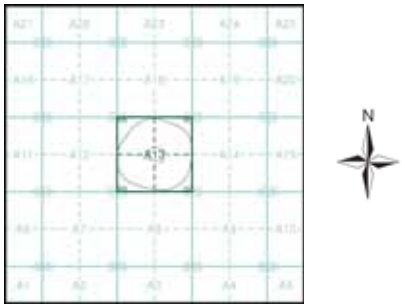
Source map scale - 1:10,000

VectorMap Local (Raster) is Ordnance Survey's highest detailed 'backdrop' mapping product. These maps are produced from OS's VectorMap Local, a simple vector dataset at a nominal scale of 1:10,000, covering the whole of Great Britain, that has been designed for creating graphical mapping. OS VectorMap Local is derived from large-scale information surveyed at 1:1250 scale (covering major towns and cities),1:2500 scale (smaller towns, villages and developed rural areas), and 1:10 000 scale (mountain, moorland and river estuary areas).

Map Name(s) and Date(s)



Historical Map - Slice A



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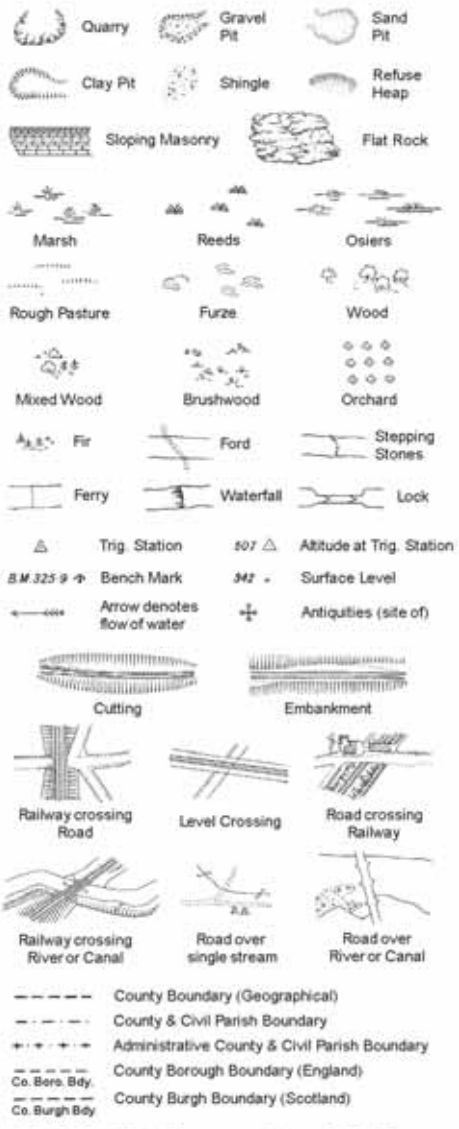
Historical Mapping Legends

Ordnance Survey County Series and Ordnance Survey Plan 1:2,500



B.S B.S	Boundary Post or Stone	P.C.B.	Police Call Box
B.R.	Bridle Road	P	Pump
E.P	Electricity Pylon	S.P	Signal Post
F.B.	Foot Bridge	Sl.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P	Guide Post or Board	T.C.B	Telephone Call Box
M.S	Mile Stone	Tr.	Trough
M.P M.R.	Mooring Post or Ring	W	Well

Ordnance Survey Plan, Additional SIMs and Supply of Unpublished Survey Information 1:2,500 and 1:1,250

BH	Beer House	P	Pillar, Pole or Post
BP, BS	Boundary Post or Stone	PO	Post Office
Cn, C	Capstan, Crane	PC	Public Convenience
Chy	Chimney	PH	Public House
D Fn	Drinking Fountain	Pp	Pump
El P	Electricity Pillar or Post	SB, S Br	Signal Box or Bridge
FAP	Fire Alarm Pillar	SP, SL	Signal Post or Light
FB	Foot Bridge	Spr	Spring
GP	Guide Post	Tk	Tank or Track
H	Hydrant or Hydraulic	TCB	Telephone Call Box
LC	Level Crossing	TCP	Telephone Call Post
MH	Manhole	Tr	Trough
MP	Mile Post or Mooring Post	Wr Pt, Wr T	Water Point, Water Tap
MS	Mile Stone	W	Well
NTL	Normal Tidal Limit	Wd Pp	Wind Pump

Large-Scale National Grid Data 1:2,500 and 1:1,250

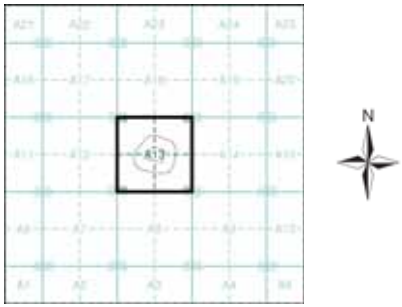
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity Pole, Pillar	SB, S Br	Signal Box or Bridge
El Sub Sta	Electricity Sub Station	SP, SL	Signal Post or Light
FB	Filter Bed	Spr	Spring
Fn / D Fn	Fountain / Drinking Ftn.	Tk	Tank or Track
Gas Gov	Gas Valve Compound	Tr	Trough
GVC	Gas Governer	Wd Pp	Wind Pump
GP	Guide Post	Wr Pt, Wr T	Water Point, Water Tap
MH	Manhole	Wks	Works (building or area)
MP, MS	Mile Post or Mile Stone	W	Well

GeoDyne

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Leicestershire	1:2,500	1884	2
Leicestershire	1:2,500	1903	3
Leicestershire	1:2,500	1921	4
Ordnance Survey Plan	1:2,500	1964	5
Ordnance Survey Plan	1:1,250	1971 - 1991	6
Supply of Unpublished Survey Information	1:1,250	1973	7
Supply of Unpublished Survey Information	1:2,500	1973	8
Ordnance Survey Plan	1:1,250	1974	9
Additional SIMs	1:1,250	1983 - 1991	10
Additional SIMs	1:1,250	1987	11
Additional SIMs	1:2,500	1989	12
Additional SIMs	1:2,500	1991	13
Large-Scale National Grid Data	1:1,250	1993	14
Large-Scale National Grid Data	1:2,500	1993	15
Historical Aerial Photography	1:2,500	1999	16

Historical Map - Segment A13



Order Details

Order Number: 237752056_1_1
Customer Ref: 40056
National Grid Reference: 450940, 317550
Slice: A
Site Area (Ha): 1.69
Search Buffer (m): 100

Site Details

Site at 450950, 317560

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Tel: 0844 844 9952
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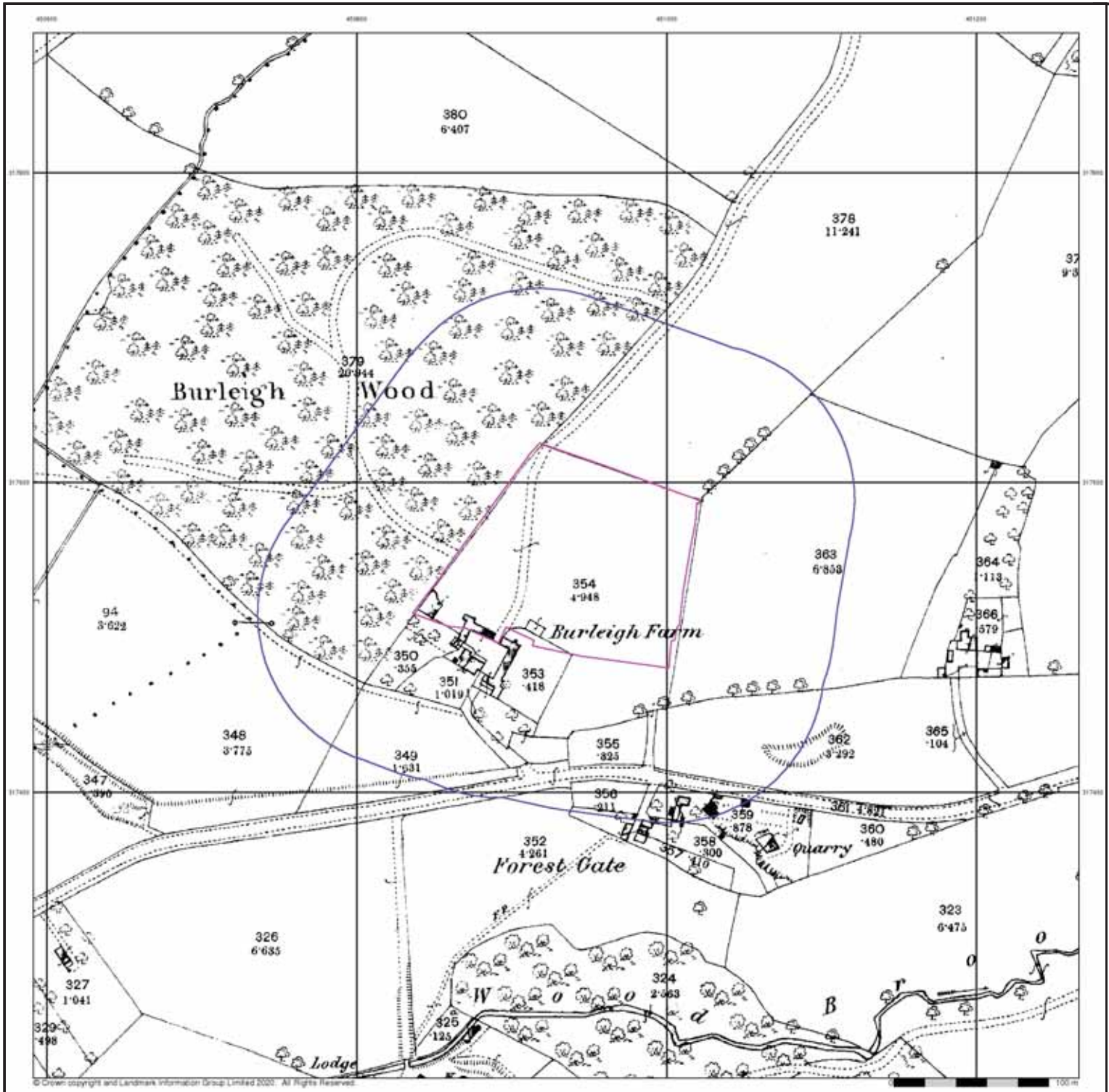
Web: www.envirocheck.co.uk



GeoDyne

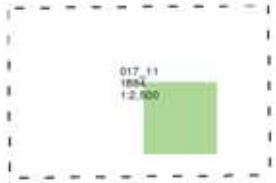
Leicestershire

Published 1884

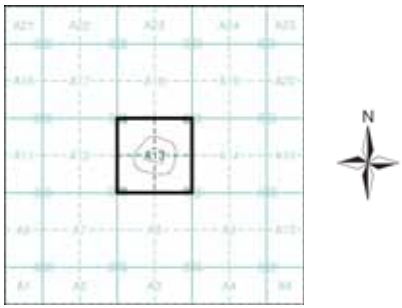
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



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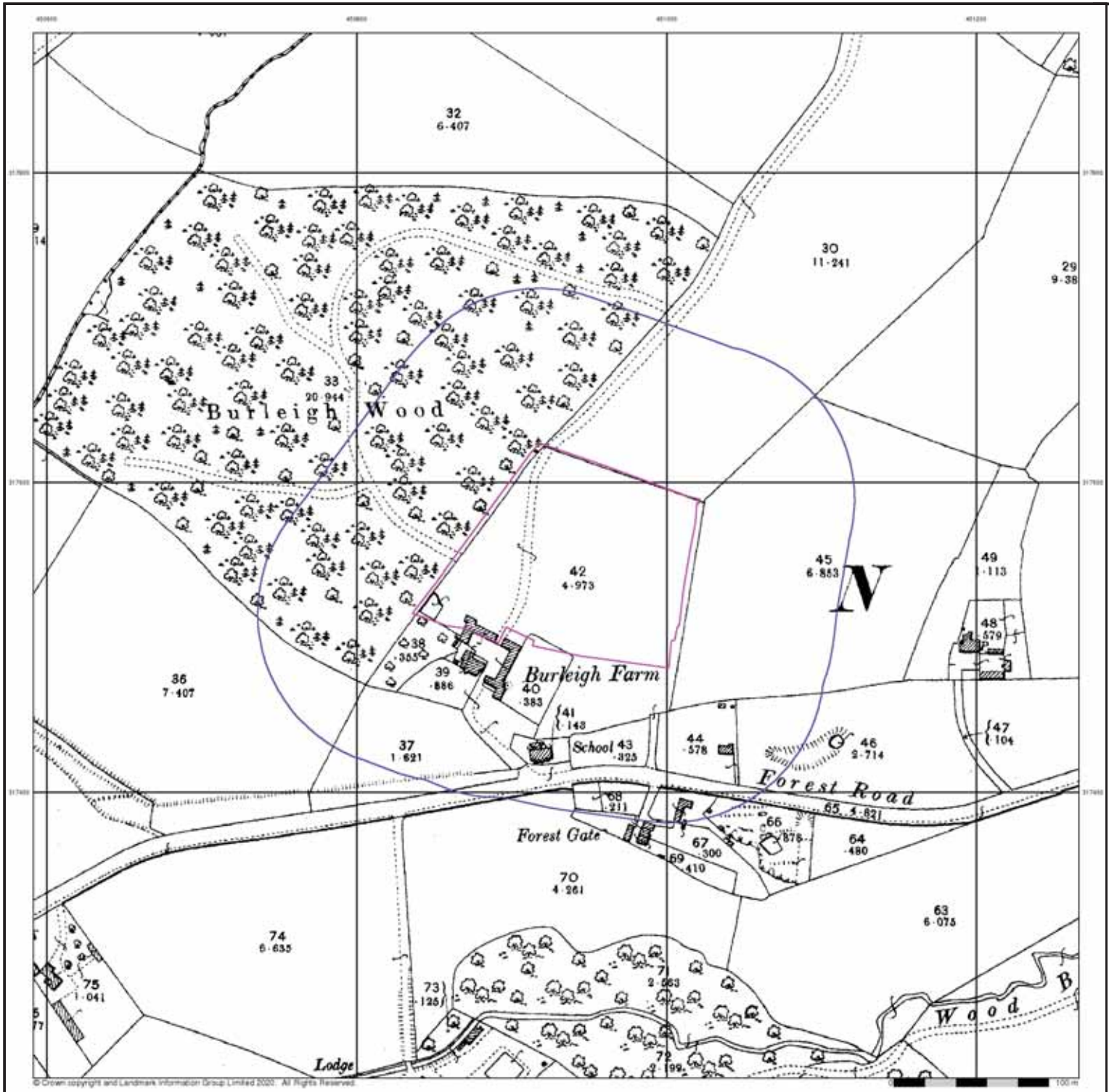
Customer Ref:	40056
National Grid Reference:	450940, 317550
Slice:	A
Site Area (Ha):	1.69
Search Buffer (m):	100

Site Details

Site at 450950, 317560

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



GeoDyne

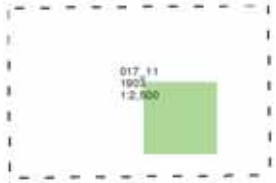
Leicestershire

Published 1903

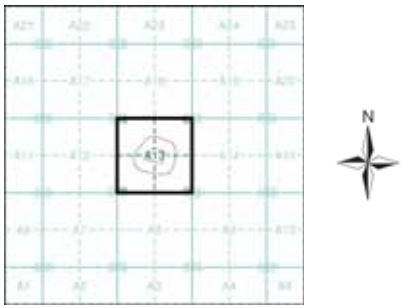
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

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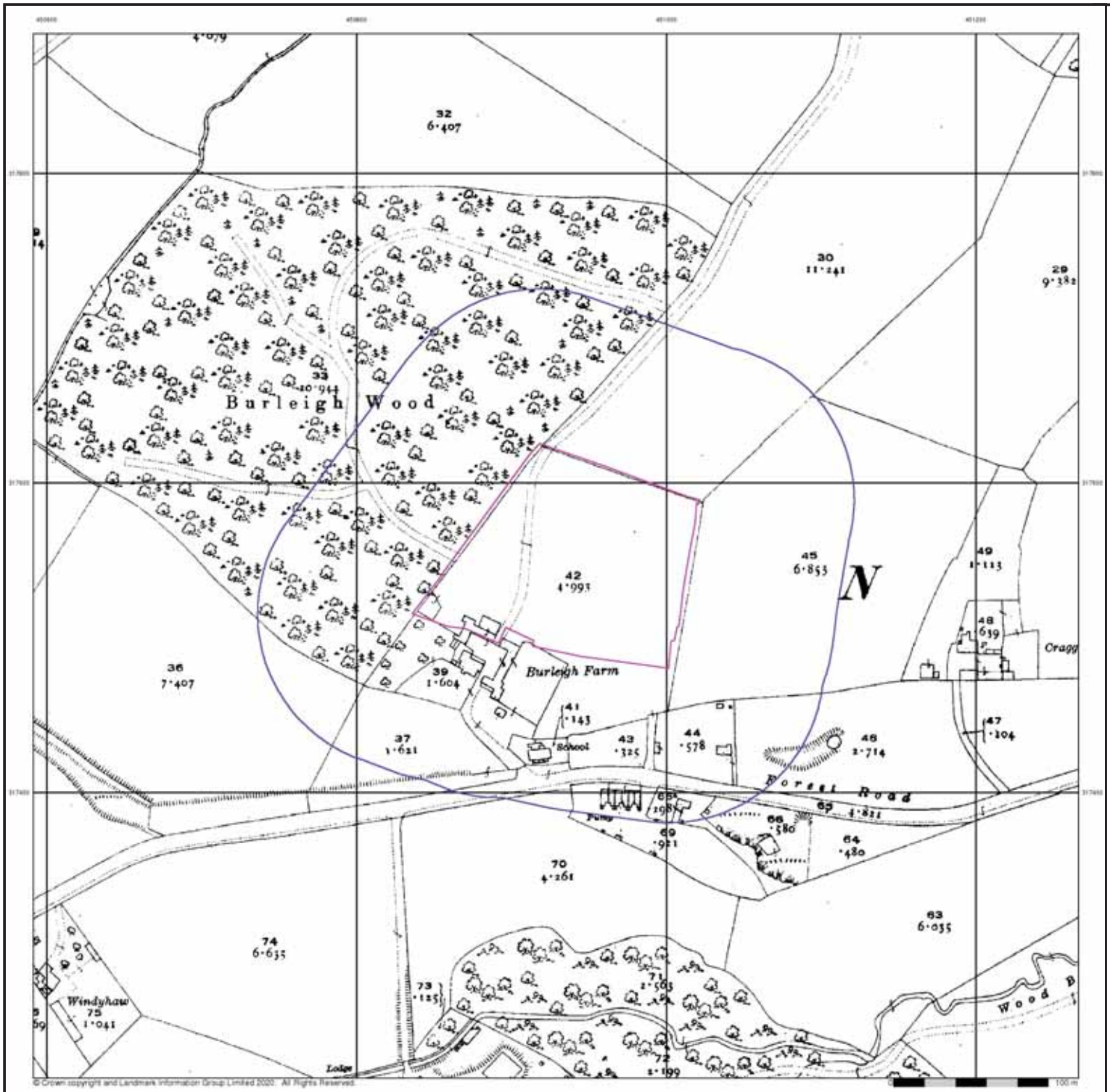


GeoDyne

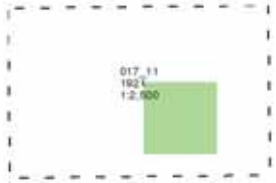
Leicestershire

Published 1921

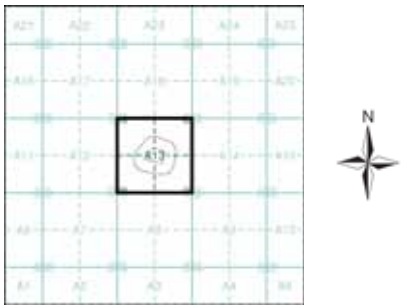
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

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National Grid Reference:	450940, 317550
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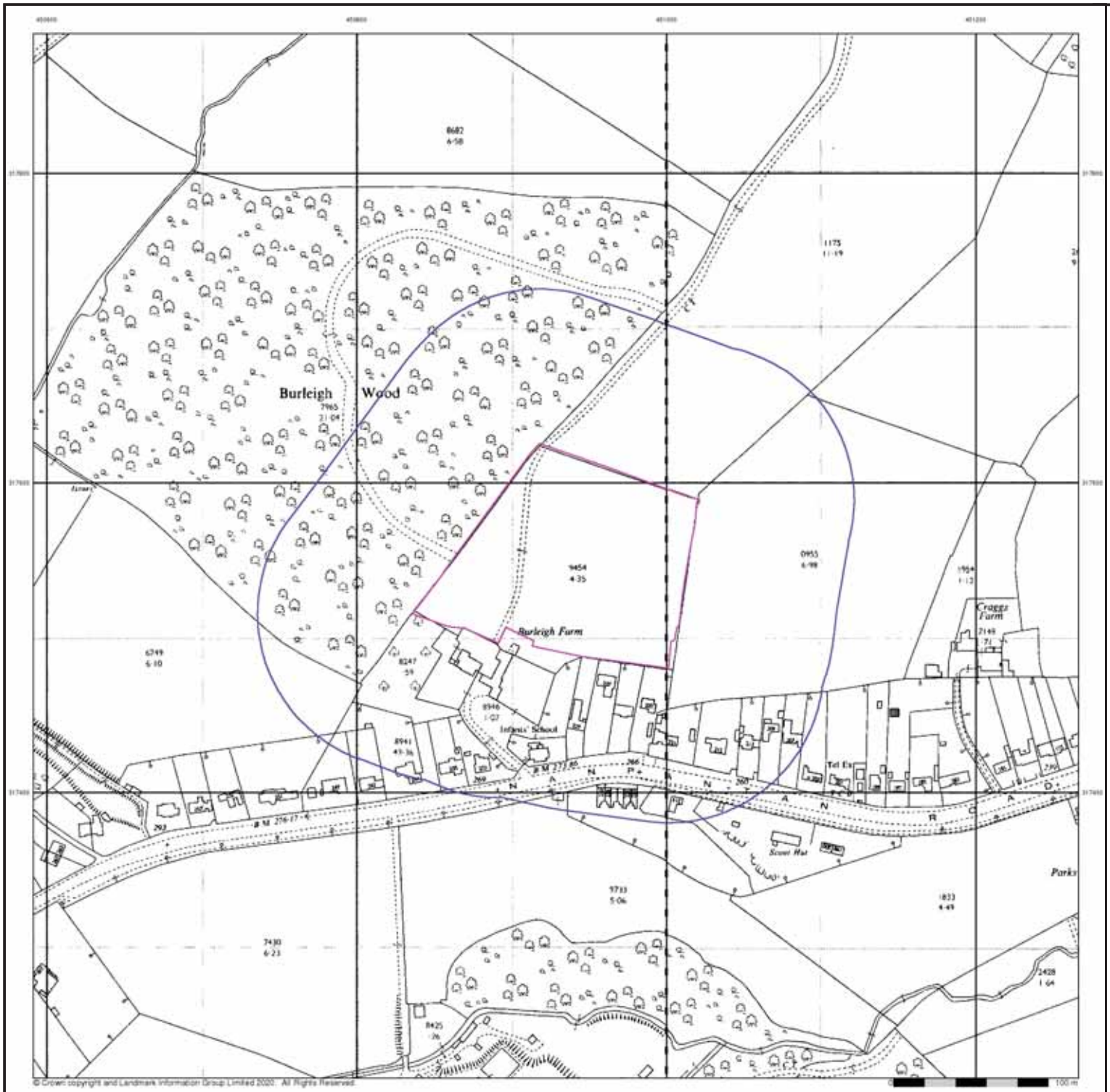


GeoDyne

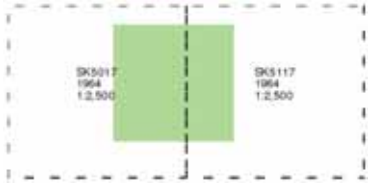
Ordnance Survey Plan

Published 1964

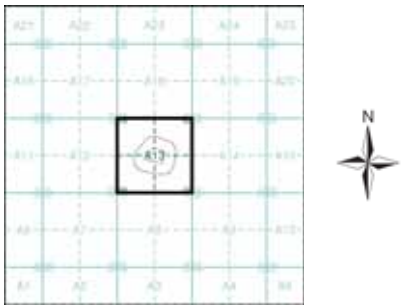
Source map scale - 1:2,500

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



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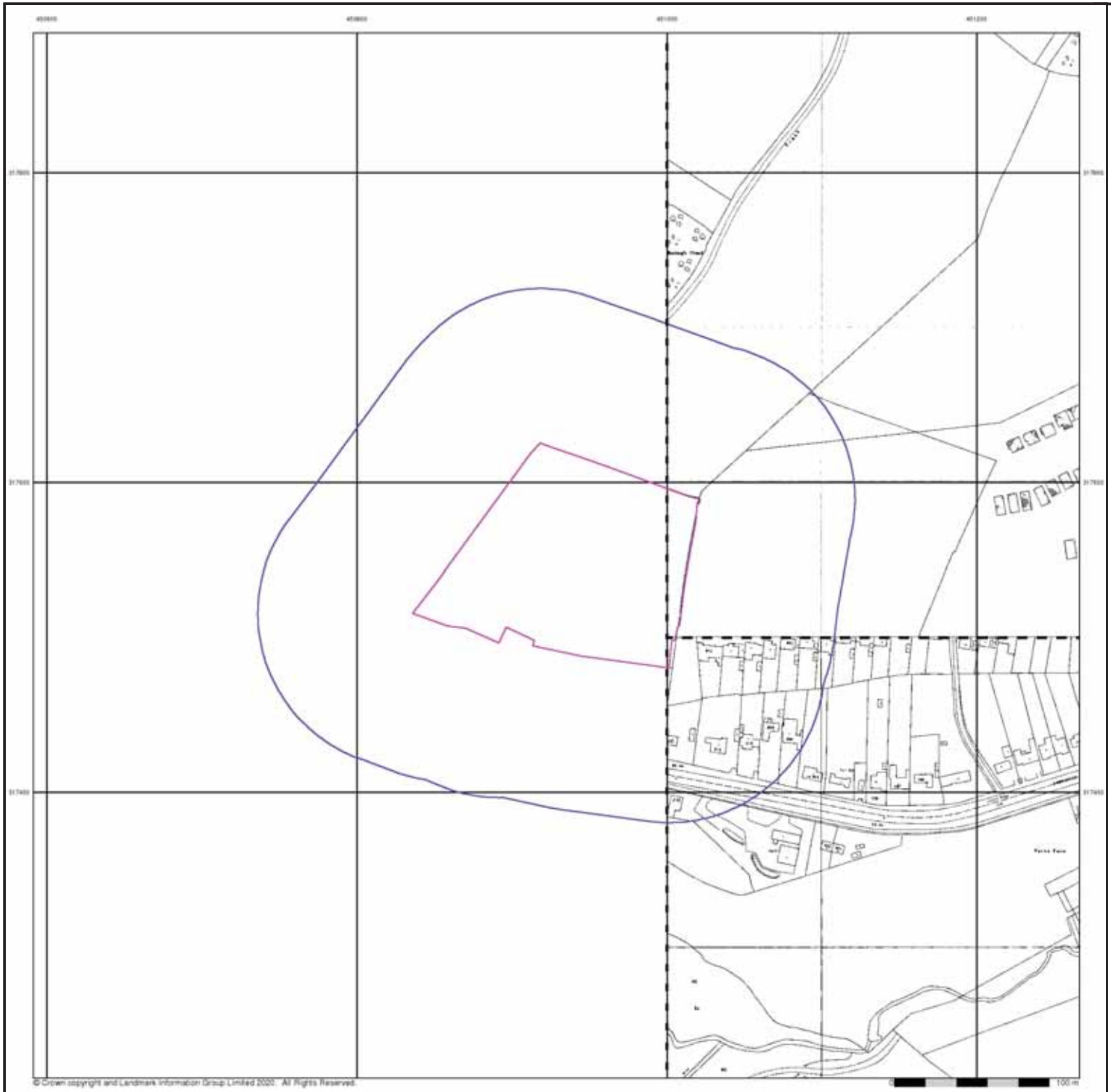


GeoDyne

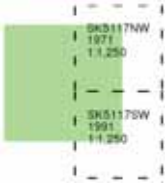
Ordnance Survey Plan

Published 1971 - 1991

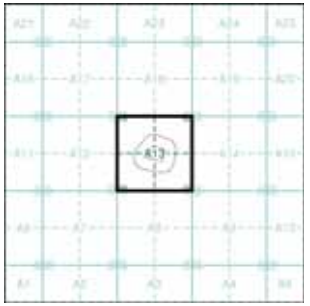
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



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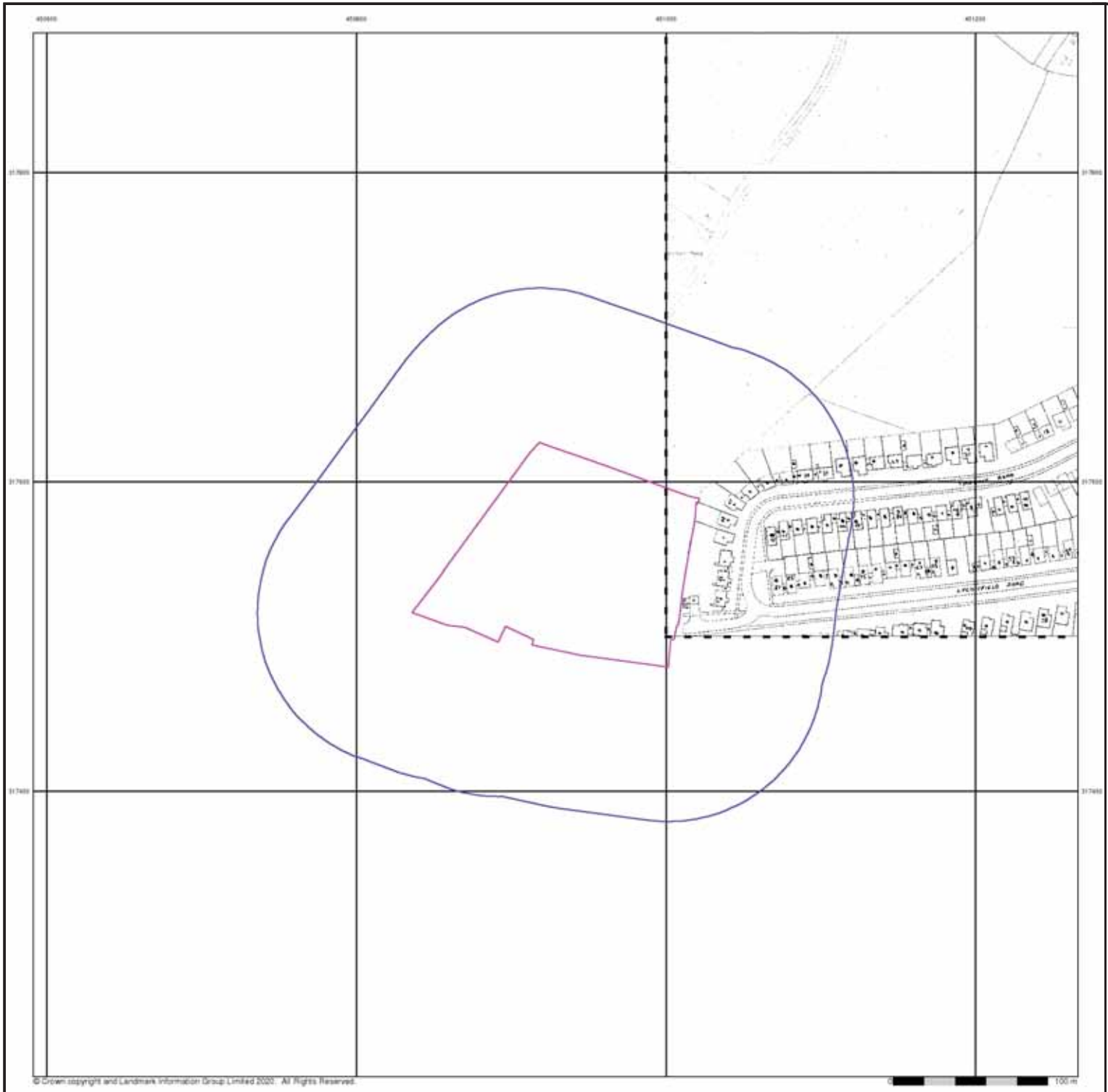


GeoDyne

Supply of Unpublished Survey Information

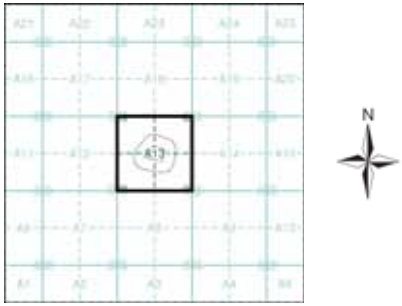
Published 1973

Source map scale - 1:1,250

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a 'work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

Historical Map - Segment A13



Order Details

Order Number:	237752056_1_1
Customer Ref:	40056
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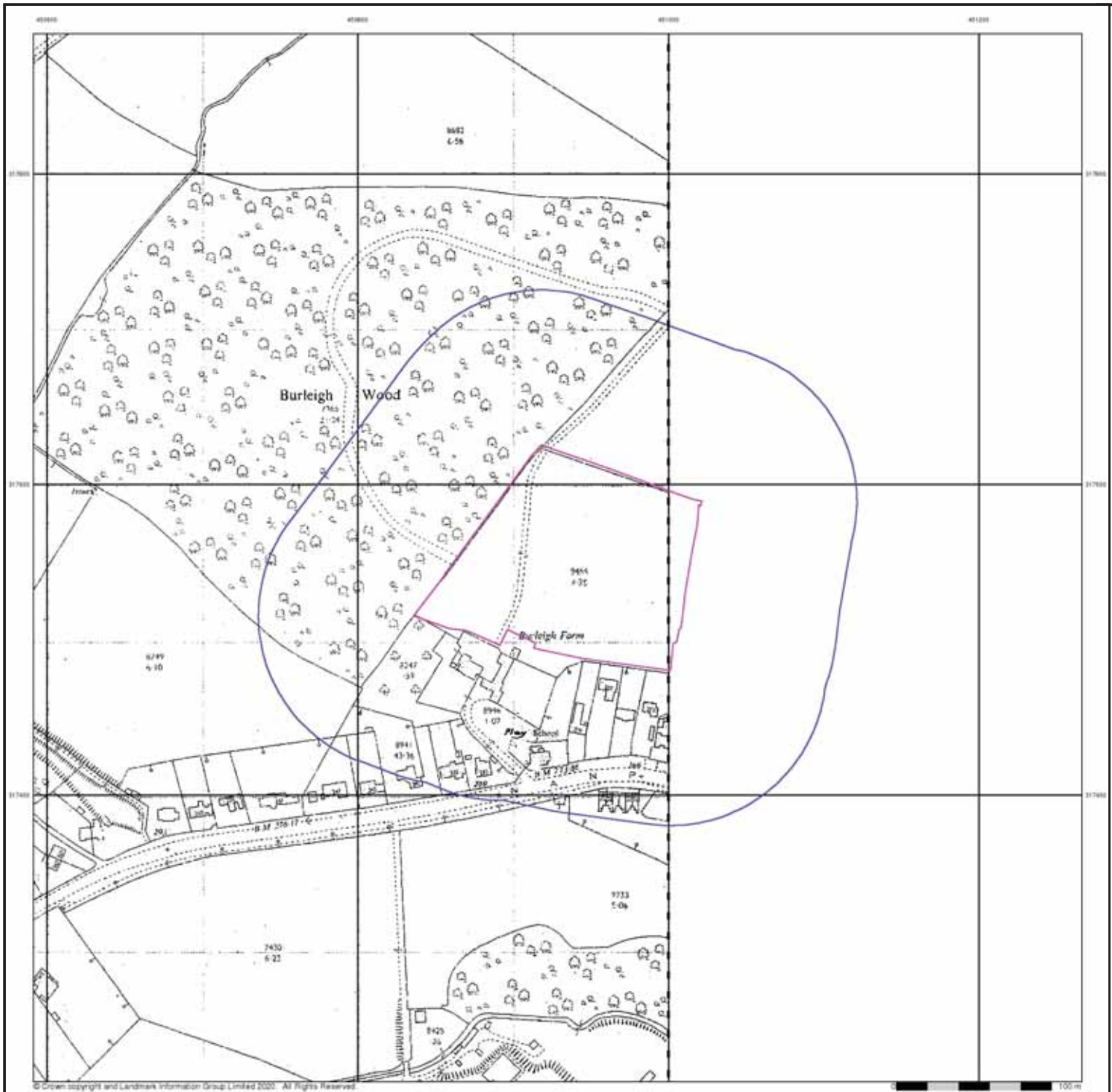

GeoDyne

Supply of Unpublished Survey Information

Published 1973

Source map scale - 1:2,500

SUSI maps (Supply of Unpublished Survey Information) were produced between 1972 and 1977, mainly for internal use at Ordnance Survey. These were more of a 'work-in-progress' plan as they showed updates of individual areas on a map. These maps were unpublished, and they do not represent a single moment in time. They were produced at both 1:2,500 and 1:1,250 scales.

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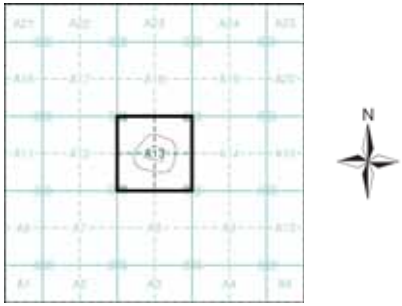
Historical Map - Segment A13



Order Details

Order Number:	237752056_1_1
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GeoDyne

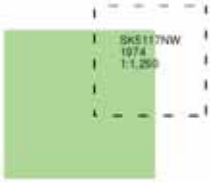
Ordnance Survey Plan

Published 1974

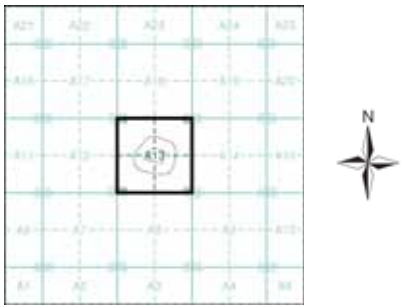
Source map scale - 1:1,250

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	237752056_1_1
Customer Ref:	40056
National Grid Reference:	450940, 317550
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Site Details

Site at 450950, 317560

Landmark INFORMATION GROUP
Tel: 0844 844 9952
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Web: www.envirocheck.co.uk

GeoDyne

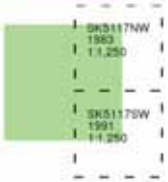
Additional SIMs

Published 1983 - 1991

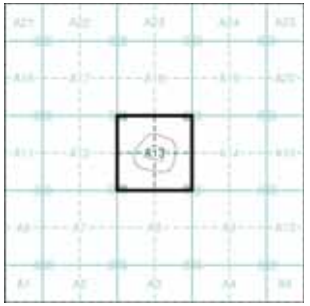
Source map scale - 1:1,250

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	237752056_1_1
Customer Ref:	40056
National Grid Reference:	450940, 317550
Slice:	A
Site Area (Ha):	1.69
Search Buffer (m):	100

Site Details

Site at 450950, 317560

Landmark INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk

GeoDyne

Additional SIMs

Published 1987

Source map scale - 1:1,250

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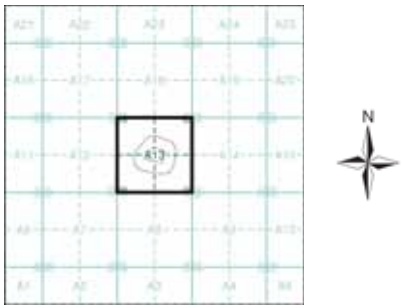
Map Name(s) and Date(s)

Historical Map - Segment A13



Order Details

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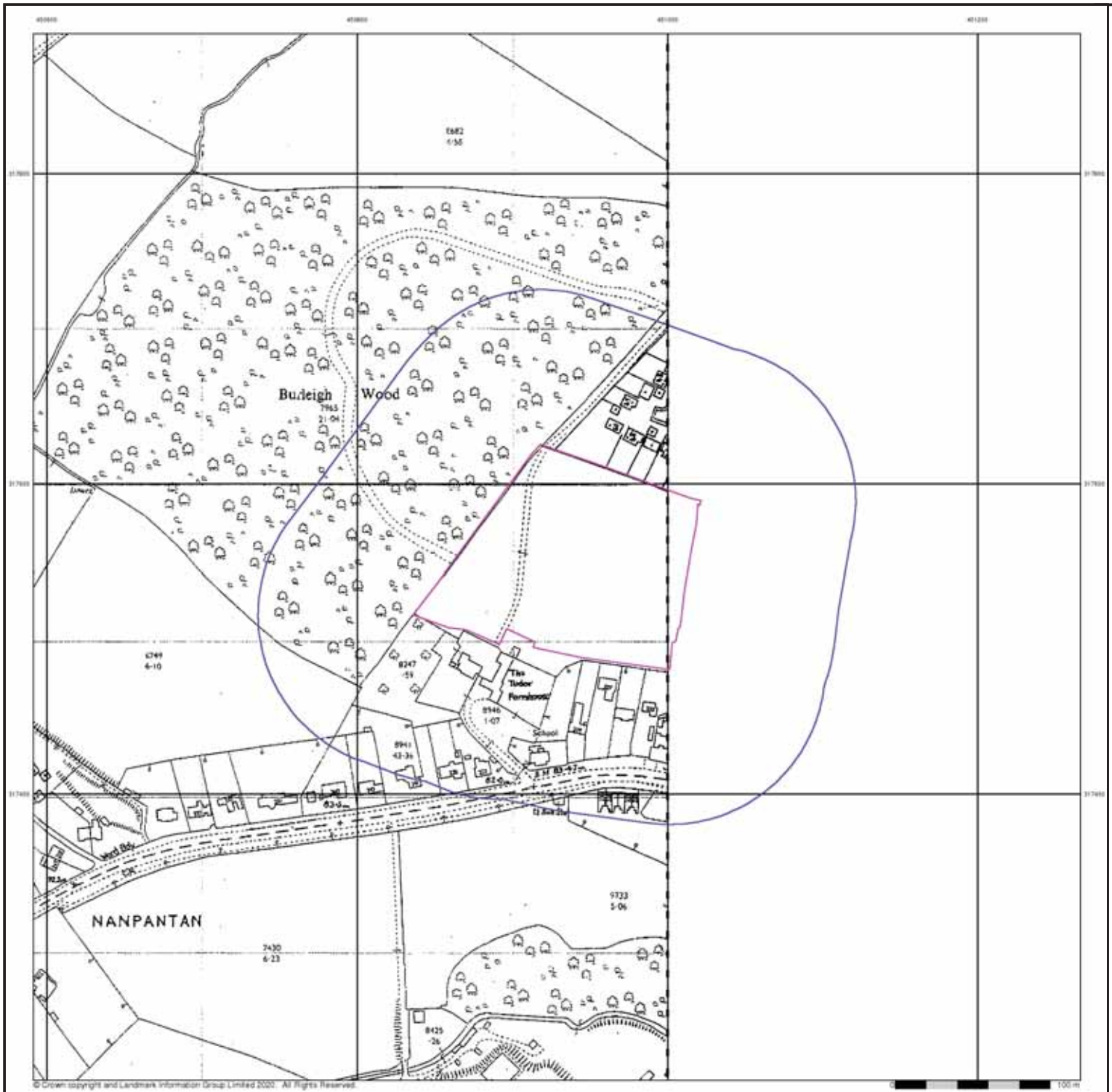


GeoDyne

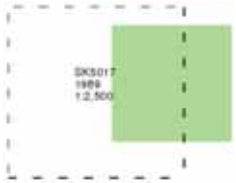
Additional SIMs

Published 1989

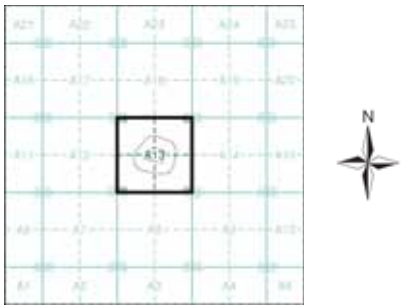
Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



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Site Details

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GeoDyne

Additional SIMs

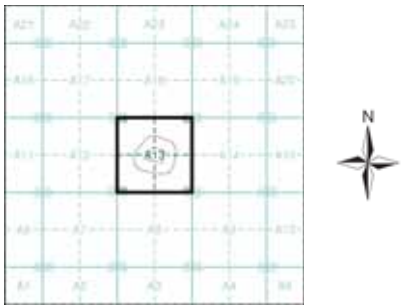
Published 1991

Source map scale - 1:2,500

The SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') are further, minor editions of mapping which were produced and published in between the main editions as an area was updated. They date from 1947 to 1994, and contain detailed information on buildings, roads and land-use. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)

Historical Map - Segment A13



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GeoDyne

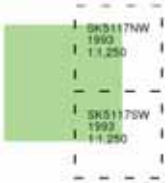
Large-Scale National Grid Data

Published 1993

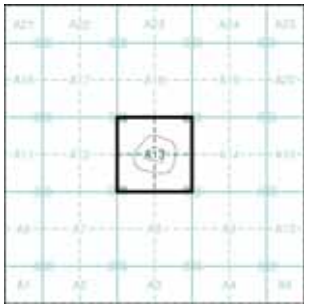
Source map scale - 1:1,250

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



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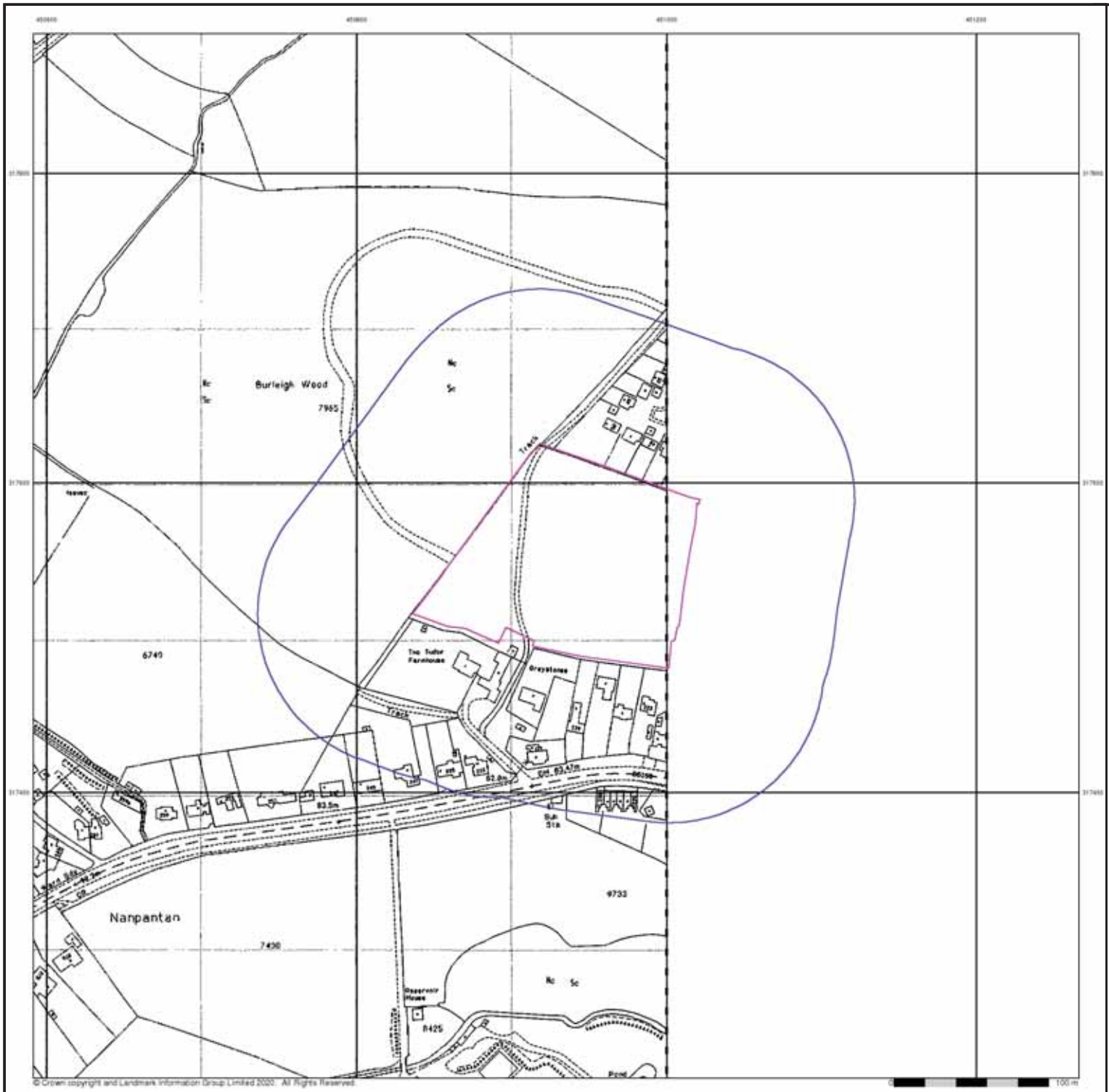


GeoDyne

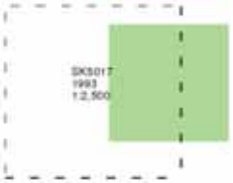
Large-Scale National Grid Data

Published 1993

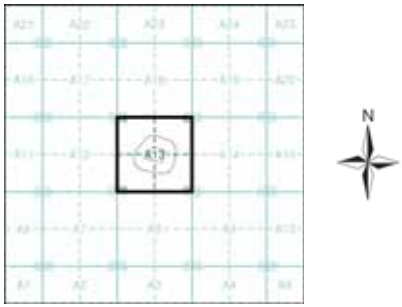
Source map scale - 1:2,500

'Large Scale National Grid Data' superseded SIM cards (Ordnance Survey's 'Survey of Information on Microfilm') in 1992, and continued to be produced until 1999. These maps were the fore-runners of digital mapping and so provide detailed information on houses and roads, but tend to show less topographic features such as vegetation. These maps were produced at both 1:2,500 and 1:1,250 scales.

Map Name(s) and Date(s)



Historical Map - Segment A13



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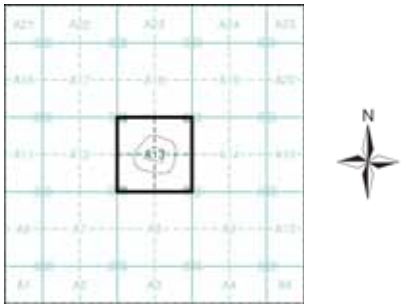
GeoDyne

Historical Aerial Photography

Published 1999

This aerial photography was produced by Getmapping, these vertical aerial photographs provide a seamless, full colour survey of the whole of Great Britain

Historical Aerial Photography - Segment A13



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GeoDyne

APPENDIX V

Landmark Geological Maps

Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	WGR	Worked Ground (Undivided)	Void	Not Supplied - Holocene
	MGR	Made Ground (Undivided)	Artificial Deposit	Not Supplied - Holocene
	WMGR	Infilled Ground	Artificial Deposit	Not Supplied - Holocene
	SLIP	Landslide Deposit	Clay and Silt	Not Supplied - Quaternary

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	WASG	WANLIP MEMBER	Sand and Gravel	Not Supplied - Devensian
	BISG	BIRSTALL MEMBER	Sand and Gravel	Not Supplied - Wolstonian
	THT	THRUSSINGTON MEMBER	Diamicton	Not Supplied - Anglian
	ODT	Oadby Member	Diamicton	Not Supplied - Anglian
	GFDMP	Glaciofluvial Deposits, Mid Pleistocene	Sand and Gravel	Not Supplied - Cromerian
	GFDMP	Glaciofluvial Deposits, Mid Pleistocene	Sand and Gravel	Not Supplied - Cromerian
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary
	RTDU	River Terrace Deposits (Undifferentiated)	Sand and Gravel	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	GUN	Gunthorpe Member	Mudstone	Not Supplied - Anisian
	GUN	Gunthorpe Member	Sandstone	Not Supplied - Anisian
	SHSA	Shepshed Sandstone Member	Sandstone	Not Supplied - Anisian
	TPSF	Tarporley Siltstone Formation	Siltstone, Mudstone and Sandstone	Not Supplied - Olenekian
	TPSF	Tarporley Siltstone Formation	Sandstone	Not Supplied - Olenekian
	SWSL	Swithland Formation	Mudstone	Not Supplied - Comley
	CMBG	Buck Hills Member	Tuffaceous-mudstone	Not Supplied - Ediacaran
	OTB	Outwoods Breccia Member	Volcaniclastic-breccia	Not Supplied - Ediacaran
	CMBT	Bradgate Formation	Volcaniclastic-siltstone	Not Supplied - Ediacaran
	BCT	Beacon Tuff Member	Volcaniclastic Rocks (Both Pyroclastic & Reworked Volcanic Rocks)	Not Supplied - Ediacaran
	SND	Sandhills Lodge Member	Tuffaceous-sandstone	Not Supplied - Ediacaran
	BCT	Beacon Tuff Member	Tuff, Dacitic	Not Supplied - Ediacaran
	BCT	Beacon Tuff Member	Tuff, Dacitic	Not Supplied - Ediacaran
	CMBG	Buck Hills Member	Tuffaceous-sandstone	Not Supplied - Ediacaran
	BLK	Blackbrook Reservoir Formation	Volcaniclastic-sandstone	Not Supplied - Ediacaran
	BLK	Blackbrook Reservoir Formation	Volcaniclastic Rocks (Both Pyroclastic & Reworked Volcanic Rocks)	Not Supplied - Ediacaran
	NCHD	North Charnwood Diorite	Diorite	Not Supplied - Ediacaran
	BLK	Blackbrook Reservoir Formation	Volcaniclastic-breccia	Not Supplied - Ediacaran
	CMBA	Benscliffe Breccia Member	Volcaniclastic-breccia	Not Supplied - Ediacaran
	CMBH	Beacon Hill Formation	Tuff, Dacitic	Not Supplied - Ediacaran
	BCT	Beacon Tuff Member	Tuff	Not Supplied - Ediacaran
		Faults		

GeoDyne

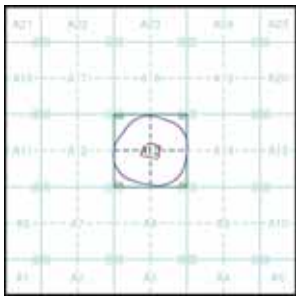
Geology 1:50,000 Maps

This report contains geological map extracts taken from the BGS Digital Geological map of Great Britain at 1:50,000 scale and is designed for users carrying out preliminary site assessments who require geological maps for the area around the site. This mapping may be more up to date than previously published paper maps.
The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page. Not all layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:50,000 Maps Coverage

Map ID:	1
Map Sheet No:	141
Map Name:	Loughborough
Map Date:	2000
Bedrock Geology:	Available
Superficial Geology:	Available
Artificial Geology:	Available
Faults:	Not Supplied
Landslip:	Available
Rock Segments:	Not Supplied

Geology 1:50,000 Maps - Slice A



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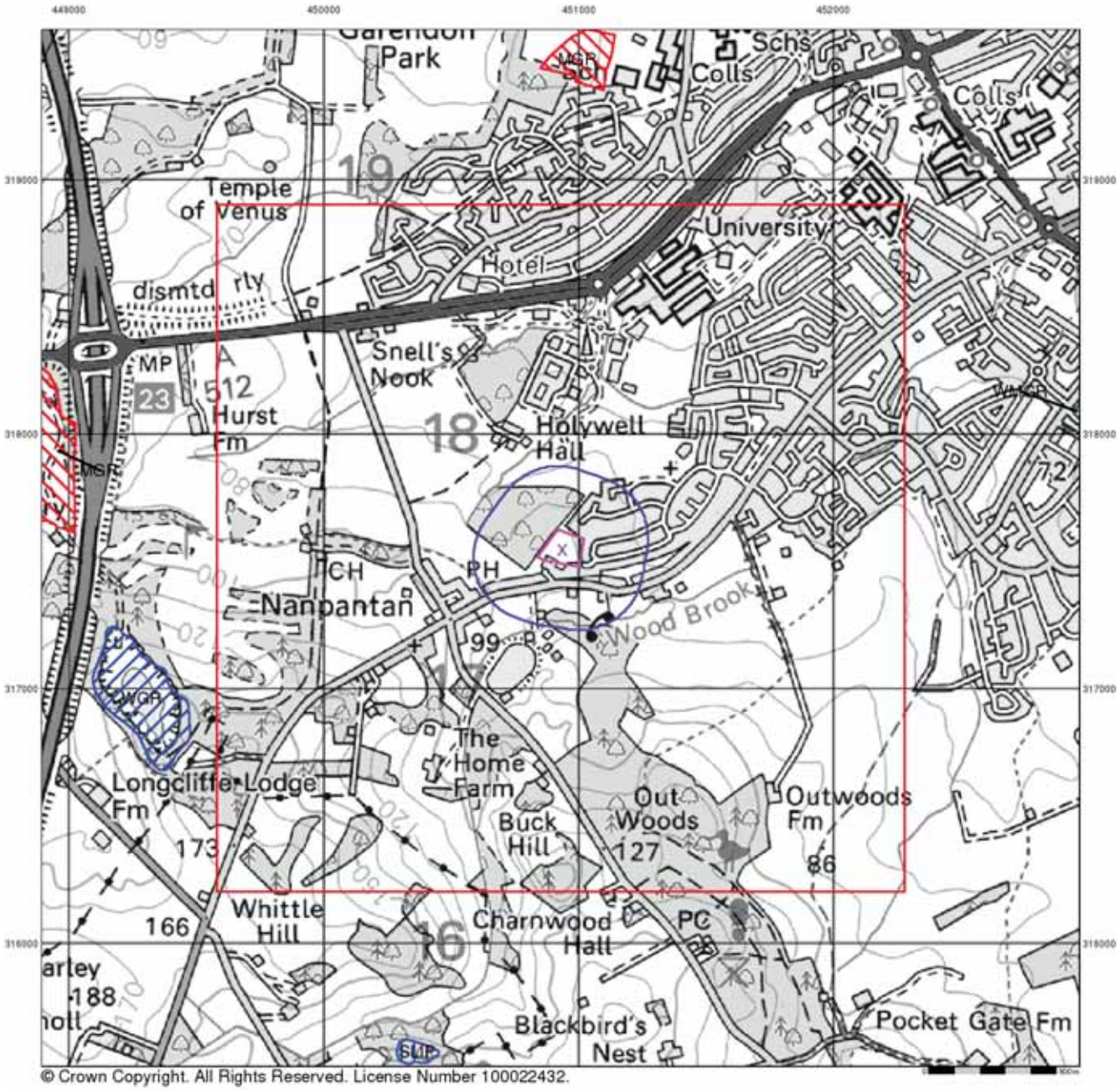
National Grid Reference:	450940, 317550
Slice:	A
Site Area (Ha):	1.69
Search Buffer (m):	250

Site Details:

Site at 450950, 317560

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



GeoDyne

Artificial Ground and Landslip

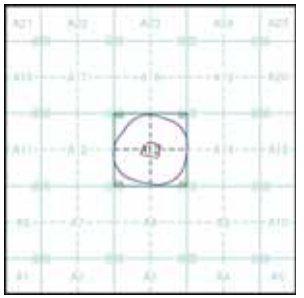
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions and unstable ground.

Artificial ground includes:

- Made ground - man-made deposits such as embankments and spoil heaps on the natural ground surface.
- Worked ground - areas where the ground has been cut away such as quarries and road cuttings.
- Infilled ground - areas where the ground has been cut away then wholly or partially backfilled.
- Landscaped ground - areas where the surface has been reshaped.
- Disturbed ground - areas of ill-defined shallow or near surface mineral workings where it is impracticable to map made and worked ground separately.

Mass movement (landslip) deposits on BGS geological maps are primarily superficial deposits that have moved down slope under gravity to form landslips. These affect bedrock, other superficial deposits and artificial ground. The dataset also includes foundered strata, where the ground has collapsed due to subsidence.

Artificial Ground and Landslip Map - Slice A



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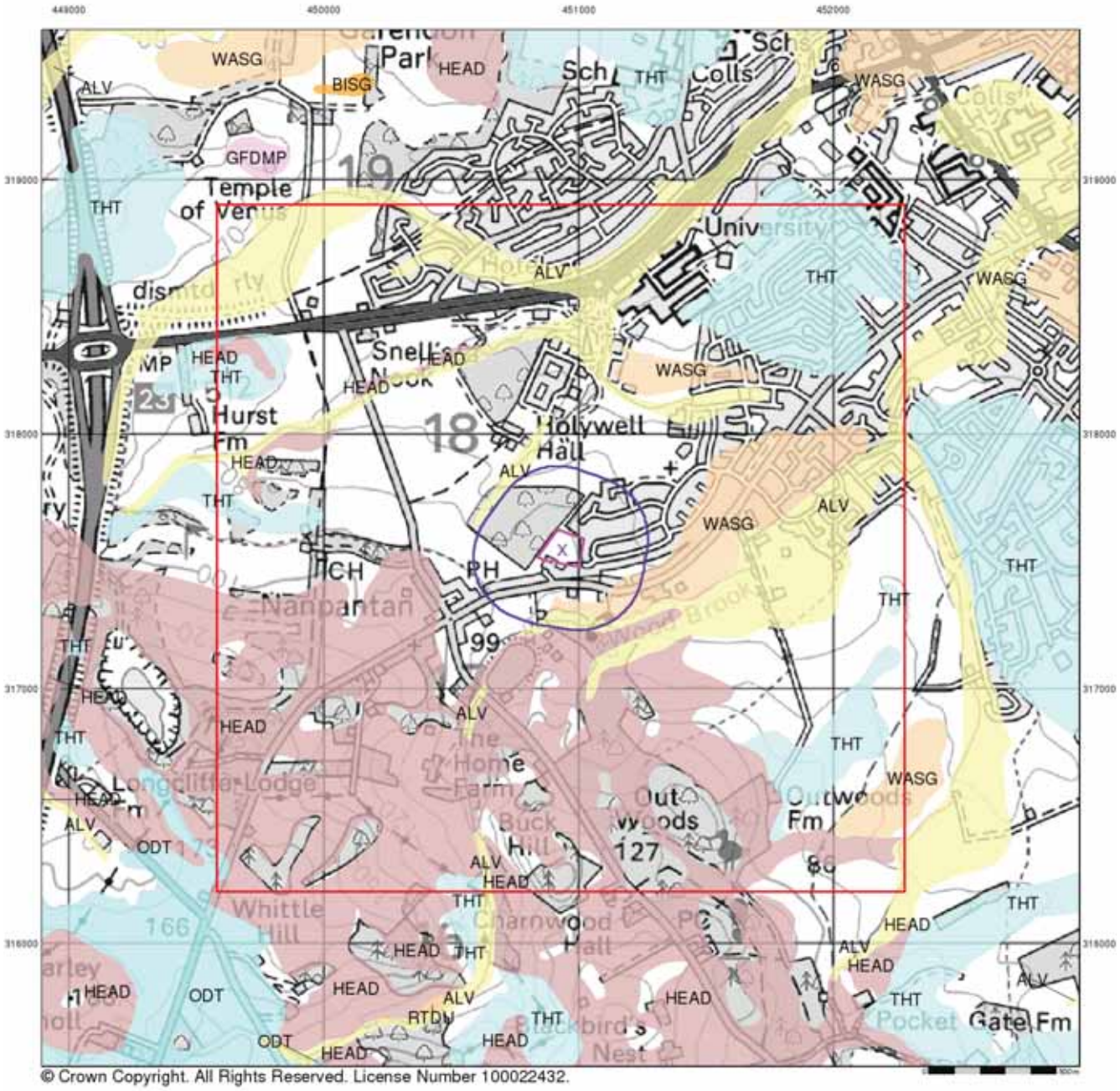


GeoDyne

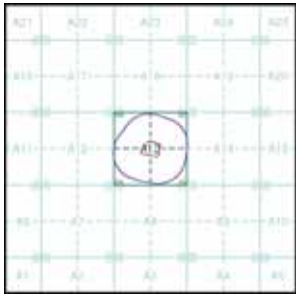
Superficial Geology

Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A



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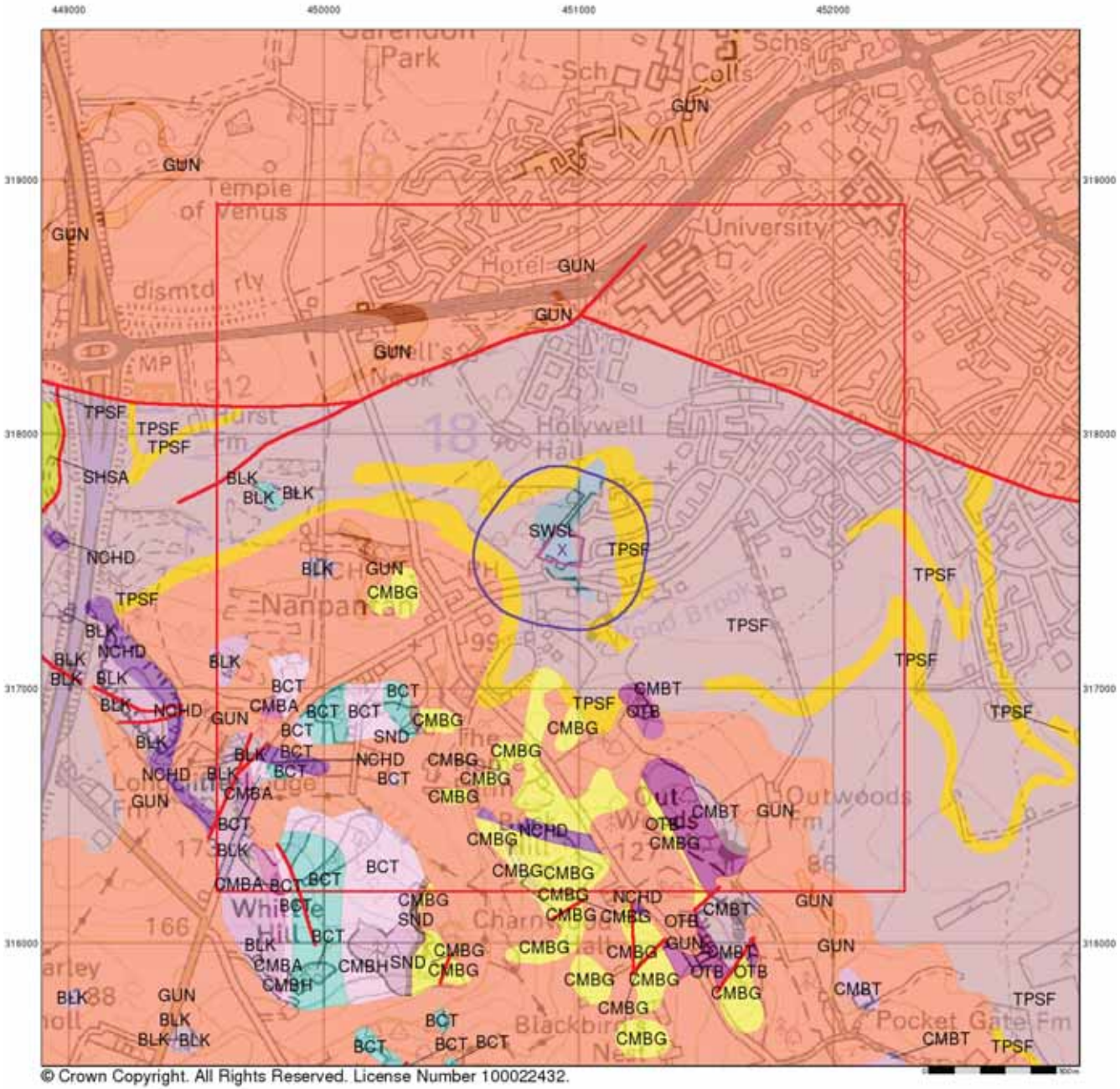


GeoDyne

Bedrock and Faults

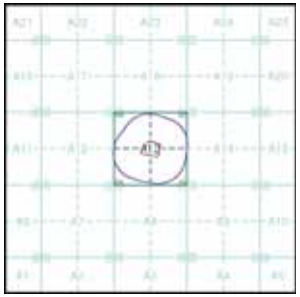
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults (e.g. normal, thrust), and thin beds mapped as lines (e.g. coal seam, gypsum bed). Some of these are linked to other particular 1:50,000 Geology datasets, for example, coal seams are part of the bedrock sequence, most faults and mineral veins primarily affect the bedrock but cut across the strata and post date its deposition.

Bedrock and Faults Map - Slice A



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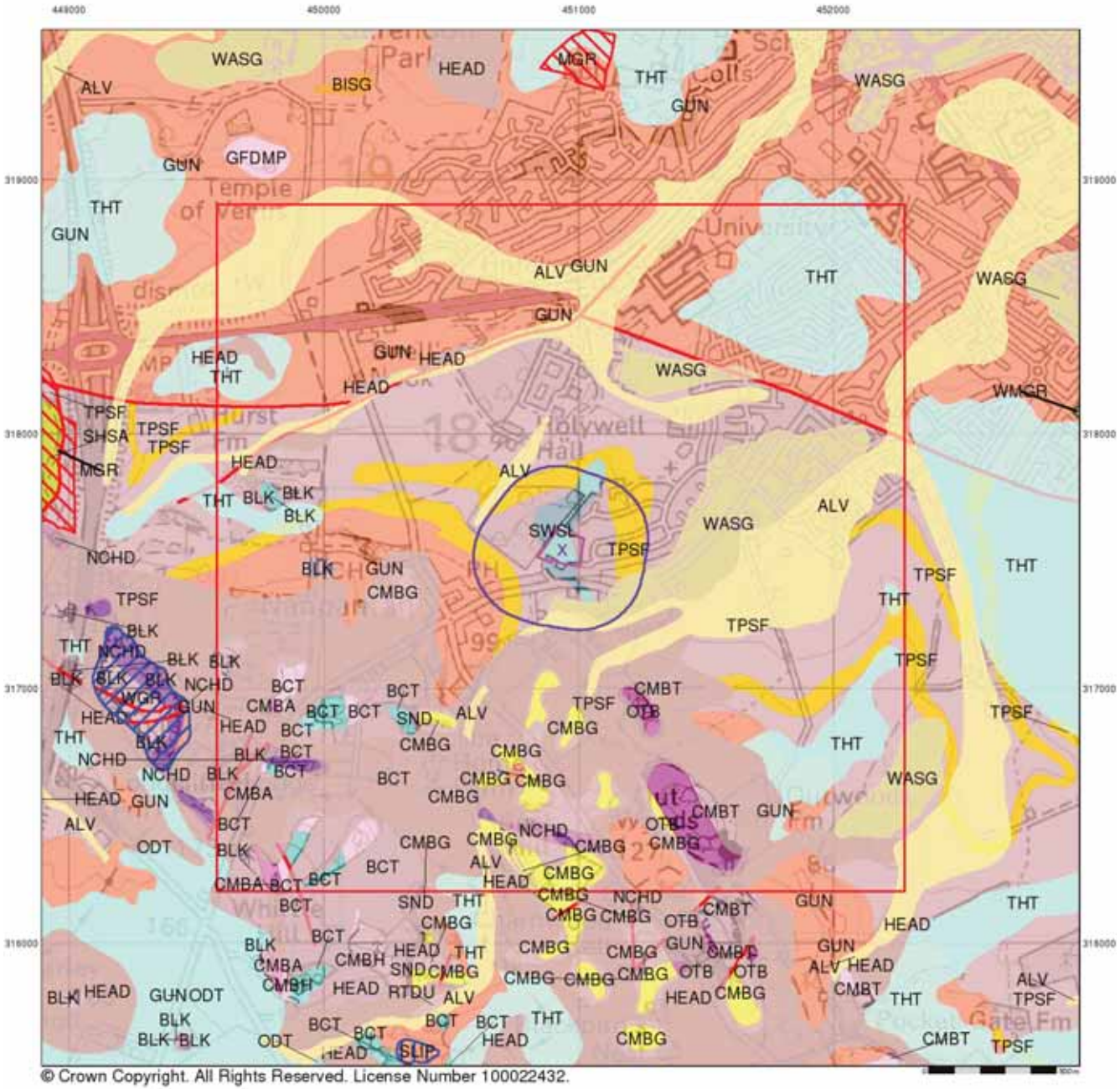


GeoDyne

Combined Surface Geology

The Combined Surface Geology map combines all the previous maps into one combined geological overview of your site.

Please consult the legends to the previous maps to interpret the Combined "Surface Geology" map.

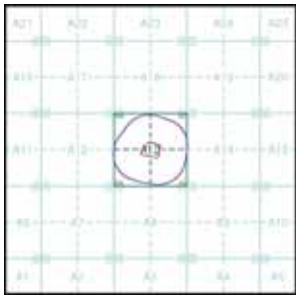
Additional Information

More information on 1:50,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

Contact

British Geological Survey
Kingsley Dunham Centre
Keyworth
Nottingham
NG12 5GG
Telephone: 0115 936 3143
Fax: 0115 936 3276
email: enquiries@bgs.ac.uk
website: www.bgs.ac.uk

Combined Geology Map - Slice A



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Slice:	A
Site Area (Ha):	1.69
Search Buffer (m):	250

Site Details:

Site at 450950, 317560

Geology 1:10,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	LSGR	Landscaped Ground (Undivided)	Unknown/Unclassified Entry	Holocene - Holocene
	MGR	Made Ground (Undivided)	Artificial Deposit	Holocene - Holocene

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Flandrian - Pleistocene
	WASG	WANLIP MEMBER	Sand and Gravel	Devensian - Ipswichian
	THT	THRUSSINGTON MEMBER	Diamicton	Anglian - Flandrian
	ODT	Oadby Member	Diamicton	Anglian - Flandrian
	HEAD	Head	Clay, Silt, Sand and Gravel	Quaternary - Ryazanian
	HEAD	Head	Clay, Silt, Sand and Gravel	Quaternary - Ryazanian

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	GUN	Gunthorpe Member	Mudstone	Ladinian - Anisian
	GUN	Gunthorpe Member	Sandstone	Ladinian - Anisian
	TPSF	Tarporley Siltstone Formation	Siltstone and Sandstone	Anisian - Olenekian
	TPSF	Tarporley Siltstone Formation	Siltstone and Sandstone	Anisian - Olenekian
	TPSF	Tarporley Siltstone Formation	Sandstone	Anisian - Olenekian
	SWSL	Swithland Formation	Conglomerate	Comley - Comley
	SWSL	Swithland Formation	Mudstone	Comley - Comley
	CMBG	Buck Hills Member	Tuffaceous-mudstone	Ediacaran - Ediacaran
	OTB	Outwoods Breccia Member	Breccia	Ediacaran - Ediacaran
	CMBT	Bradgate Formation	Metavolcaniclastic-igneous-rock	Ediacaran - Ediacaran
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	Fault			

GeoDyne

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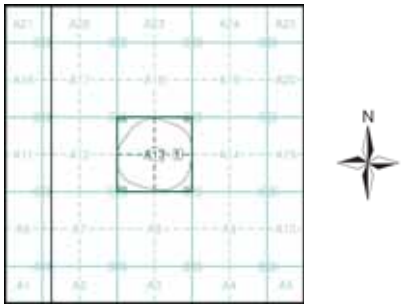
The various geological layers - artificial and landslip deposits, superficial geology and solid (bedrock) geology are displayed in separate maps, but superimposed on the final 'Combined Surface Geology' map. All map legends feature on this page.

Please Note: Not all of the layers have complete nationwide coverage, so availability of data for relevant map sheets is indicated below.

Geology 1:10,000 Maps Coverage

Map ID:	1	**Map ID:**	
Map Name:	SK51NW	**Map Name:**	SK41NE
Map Date:	2006	**Map Date:**	1997
Bedrock Geology:	Available	**Bedrock Geology:**	Available
Superficial Geology:	Available	**Superficial Geology:**	Available
Artificial Geology:	Available	**Artificial Geology:**	Available
Faults:	Available	**Faults:**	Available
Landslip:	Available	**Landslip:**	Not Available
Rock Segments:	Not Available	**Rock Segments:**	Not Available

Geology 1:10,000 Maps - Slice A



Order Details

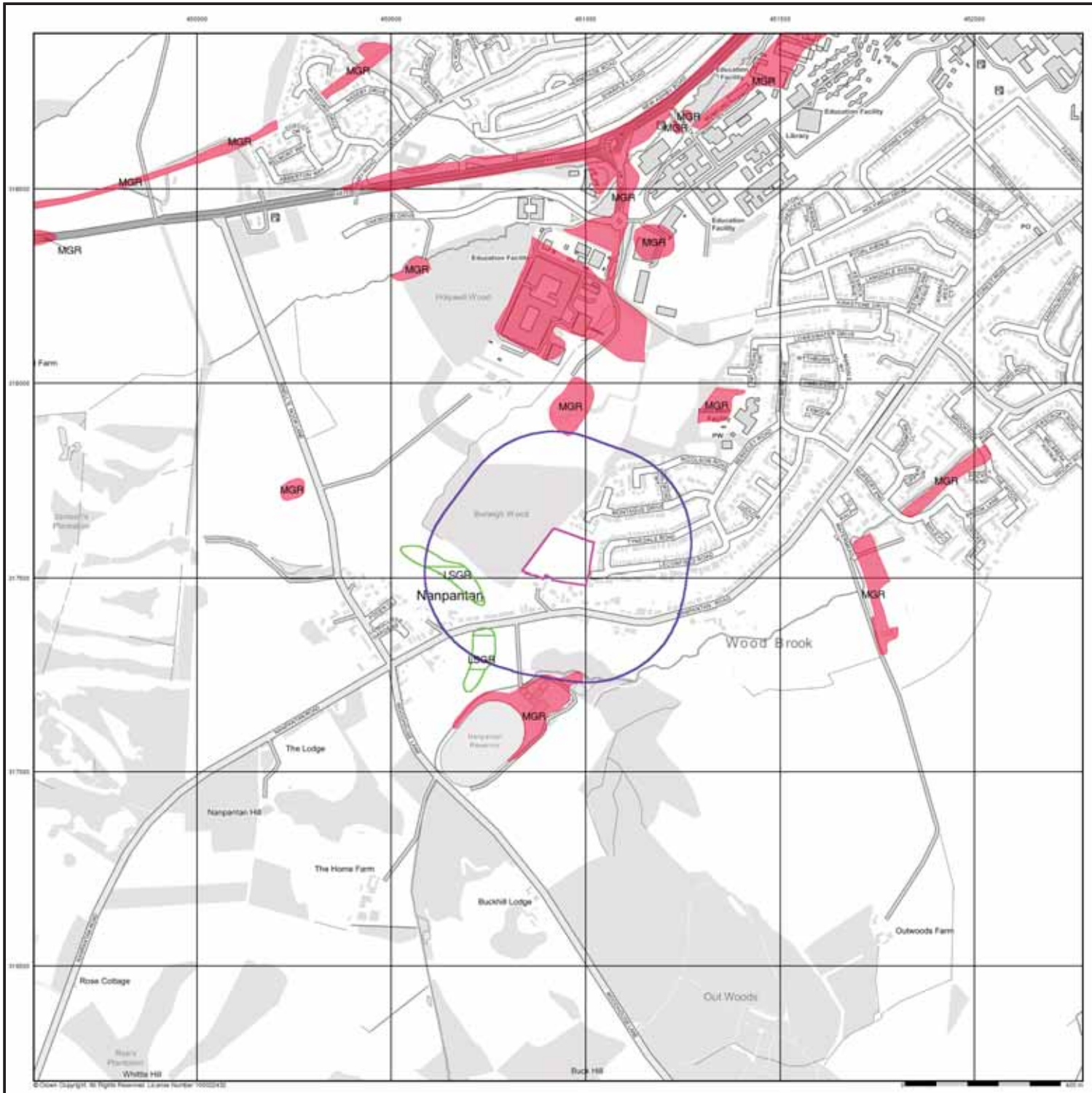
Order Number:	237752056_1_1
Customer Ref:	40056
National Grid Reference:	450940, 317550
Slice:	A
Site Area (Ha):	1.69
Search Buffer (m):	250

Site Details

Site at 450950, 317560

Landmark INFORMATION GROUP

Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



GeoDyne

Artificial Ground and Landslip

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Artificial ground includes:

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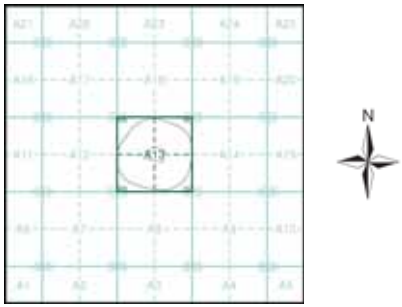
Artificial Ground and Landslip Map - Slice A



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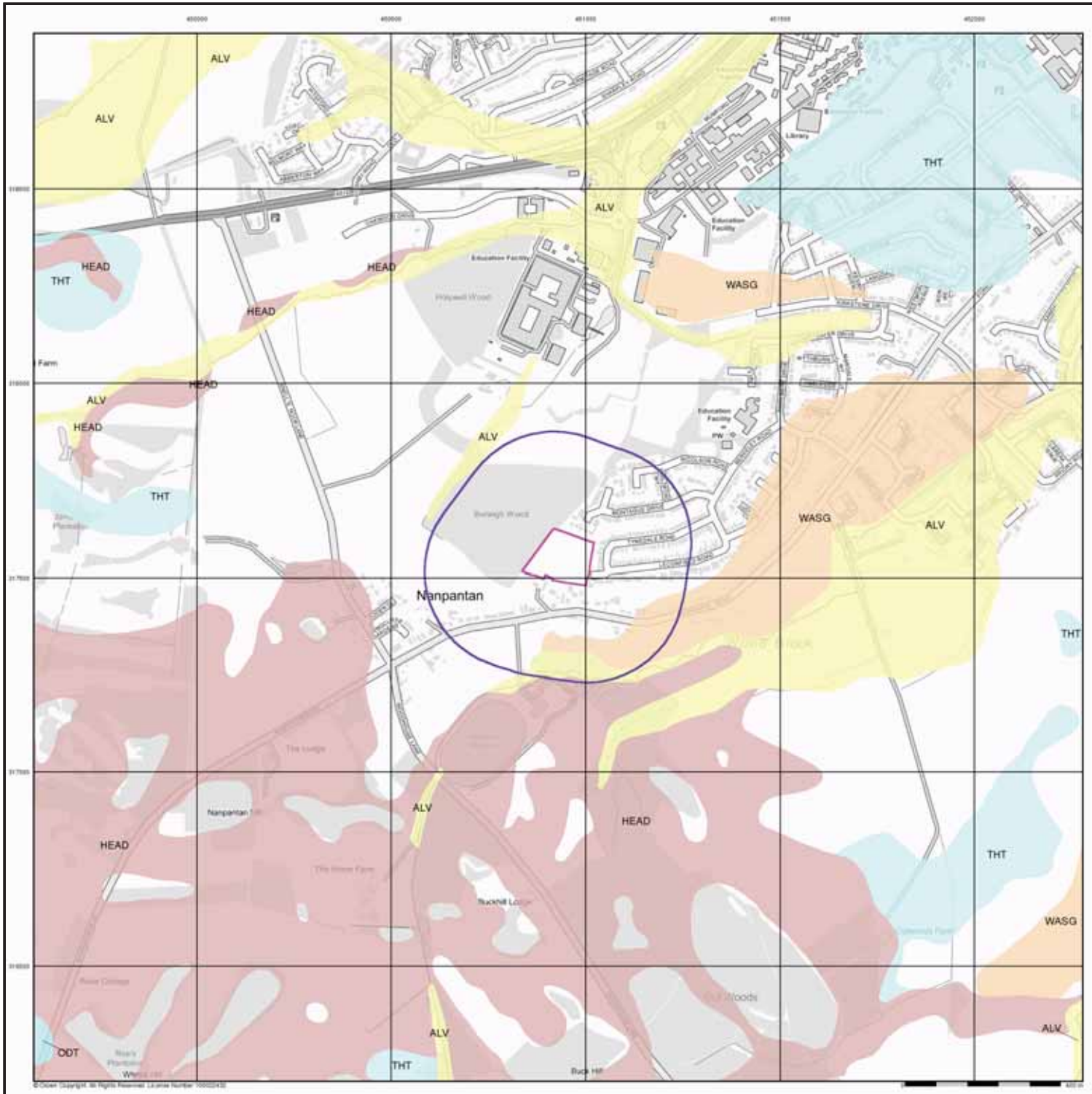


GeoDyne

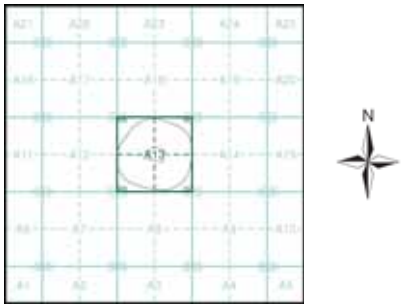
Superficial Geology

BGS 1:10,000 Superficial Deposits are the youngest geological deposits formed during the most recent period of geological time, which extends back about 1.8 million years from the present.

They rest on older deposits or rocks referred to as Bedrock. This dataset contains Superficial deposits that are of natural origin and 'in place'. Other superficial strata may be held in the Mass Movement dataset where they have been moved, or in the Artificial Ground dataset where they are of man-made origin.

Most of these Superficial deposits are unconsolidated sediments such as gravel, sand, silt and clay, and onshore they form relatively thin, often discontinuous patches or larger spreads.

Superficial Geology Map - Slice A



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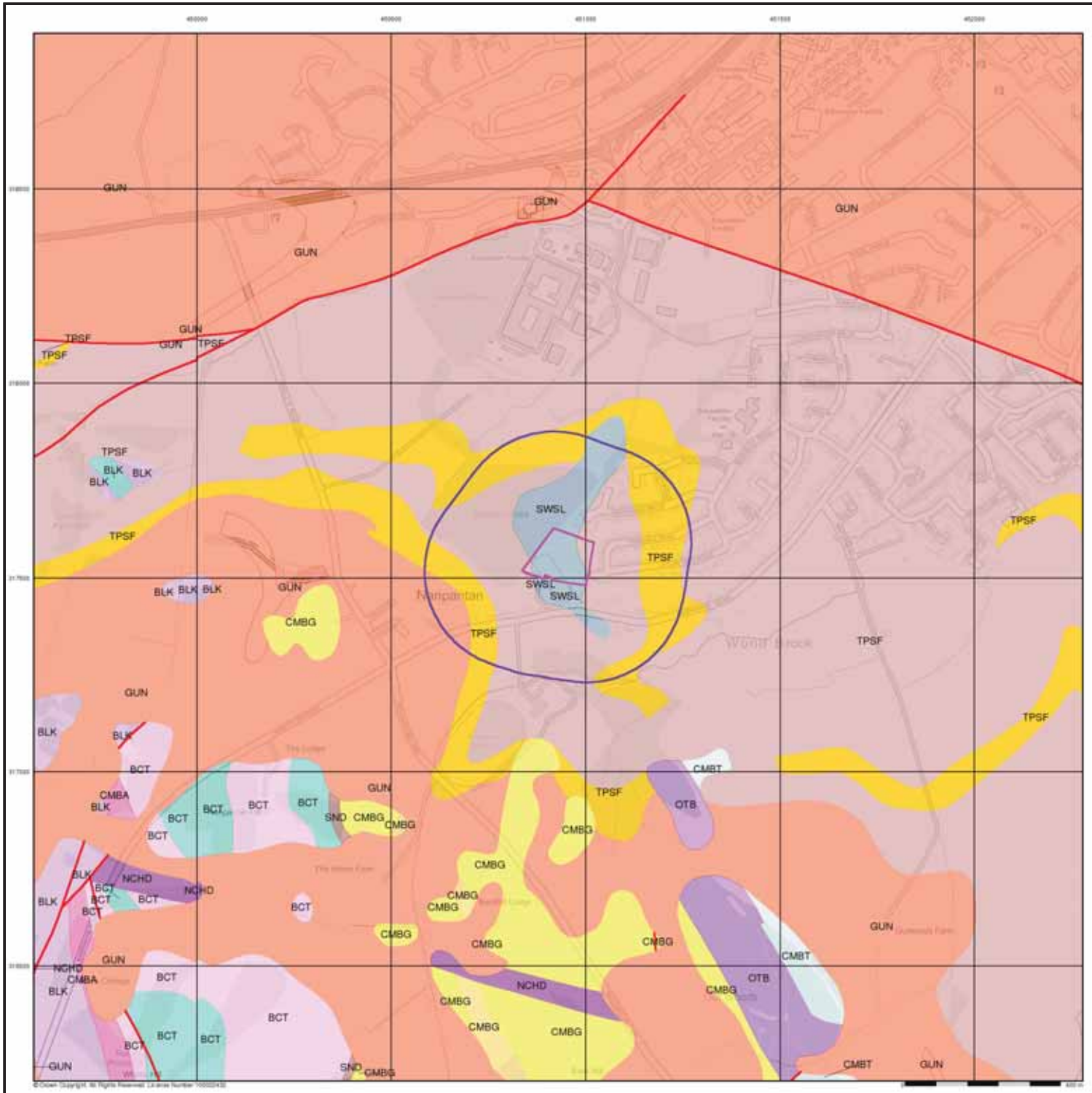


GeoDyne

Bedrock and Faults

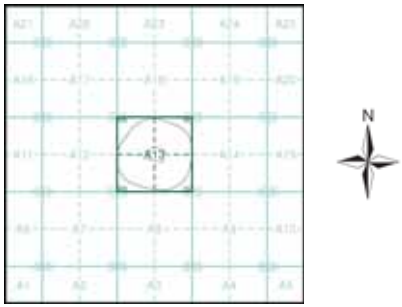
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

The bedrock has formed over vast lengths of geological time ranging from ancient and highly altered rocks of the Proterozoic, some 2500 million years ago, or older, up to the relatively young Pliocene, 1.8 million years ago.

The bedrock geology includes many lithologies, often classified into three types based on origin: igneous, metamorphic and sedimentary.

The BGS Faults and Rock Segments dataset includes geological faults and thin beds mapped as lines such as coal seams and mineral veins. These are not restricted by age and could relate to features of any of the 1:10,000 geology datasets.

Bedrock and Faults Map - Slice A



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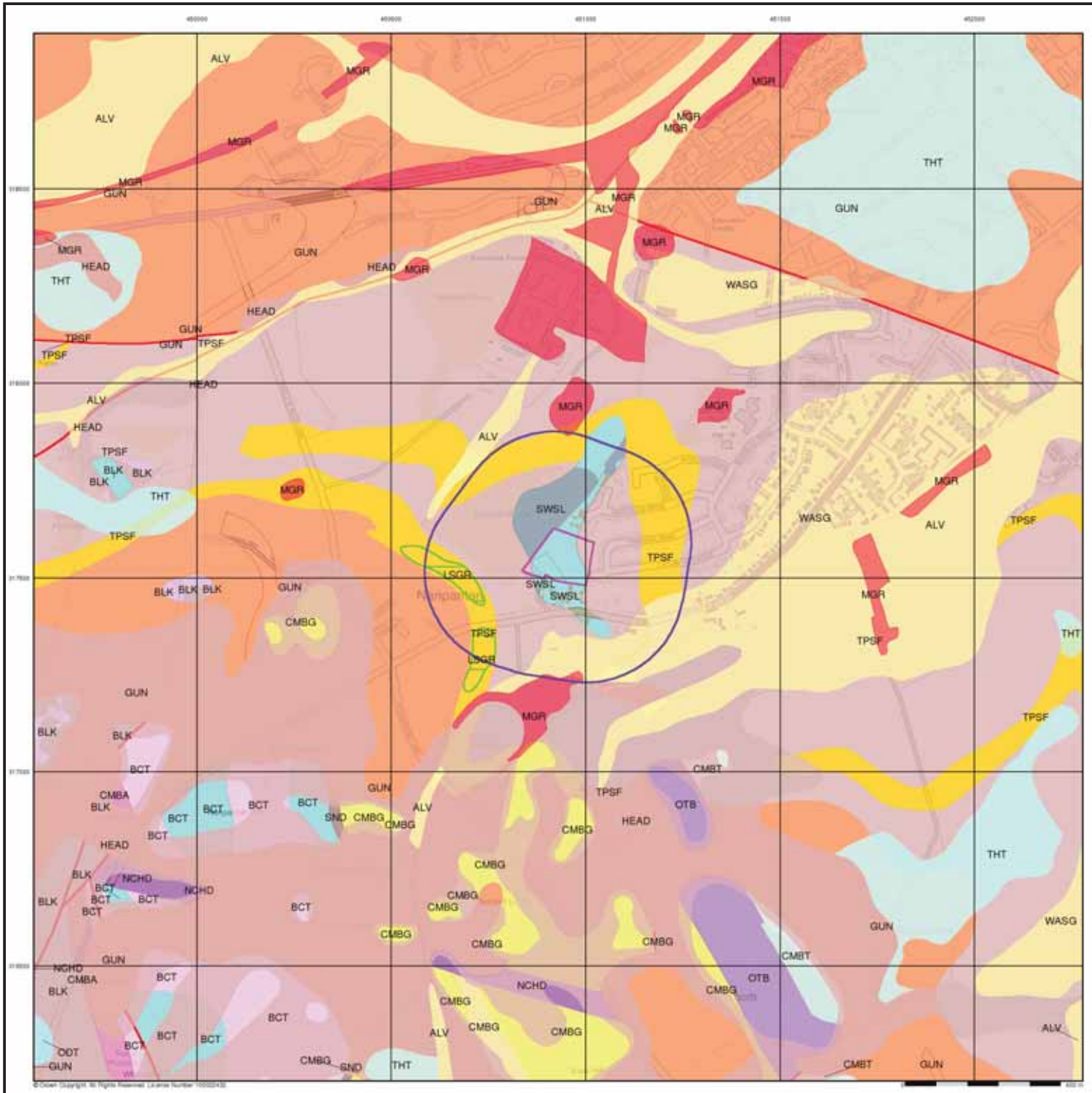

GeoDyne

Combined Surface Geology

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Additional Information

More information on 1:10,000 Geological mapping and explanations of rock classifications can be found on the BGS website. Using the LEX Codes in this report, further descriptions of rock types can be obtained by interrogating the 'BGS Lexicon of Named Rock Units'. This database can be accessed by following the 'Information and Data' link on the BGS website.

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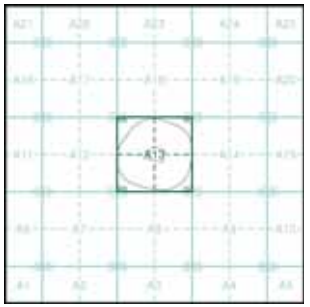
Fax: 0115 936 3276
email: enquiries@bgs.ac.uk
website: www.bgs.ac.uk

Combined Geology Map - Slice A



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Site Details

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APPENDIX VI

Landmark Envirocheck & Mining and Ground Stability Reports

GeoDyne

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
237752056_1_1

Customer Reference:
40056

National Grid Reference:
450940, 317550

Slice:
A

Site Area (Ha):
1.69

Search Buffer (m):
250

Site Details:

Site at 450950, 317560

Client Details:

Mr J Hollands
GeoDyne Ltd
Clarendon House
Clarendon Business Park
Clumber Avenue
Nottingham
NG5 1AH

Landmark INFORMATION GROUP

GeoDyne

Contents

Introduction

The Environment Act 1995 has made site sensitivity a key issue, as the legislation pays as much attention to the pathways by which contamination could spread, and to the vulnerable targets of contamination, as it does the potential sources of contamination.
For this reason, Landmark's Site Sensitivity maps and Datasheet(s) place great emphasis on statutory data provided by the Environment Agency/Natural Resources Wales and the Scottish Environment Protection Agency; it also incorporates data from Natural England (and the Scottish and Welsh equivalents) and Local Authorities; and highlights hydrogeological features required by environmental and geotechnical consultants. It does not include any information concerning past uses of land. The datasheet is produced by querying the Landmark database to a distance defined by the client from a site boundary provided by the client.
In this datasheet the National Grid References (NGRs) are rounded to the nearest 10m in accordance with Landmark's agreements with a number of Data Suppliers.

Report Version v53.0

GeoDyne

Summary

Data Type	Page Number	On Site	0 to 250m (*up to 500m)
Agency & Hydrological			
BGS Groundwater Flooding Susceptibility	pg 1		Yes
Contaminated Land Register Entries and Notices			
Discharge Consents			
Prosecutions Relating to Controlled Waters			n/a
Enforcement and Prohibition Notices			
Integrated Pollution Controls			
Integrated Pollution Prevention And Control			
Local Authority Integrated Pollution Prevention And Control			
Local Authority Pollution Prevention and Controls			
Local Authority Pollution Prevention and Control Enforcements			
Nearest Surface Water Feature	pg 1		Yes
Pollution Incidents to Controlled Waters			
Prosecutions Relating to Authorised Processes			
Registered Radioactive Substances			
River Quality			
River Quality Biology Sampling Points			
River Quality Chemistry Sampling Points			
Substantiated Pollution Incident Register			
Water Abstractions	pg 1		(*5)
Water Industry Act Referrals			
Groundwater Vulnerability Map	pg 3	Yes	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a
Groundwater Vulnerability - Local Information			n/a
Bedrock Aquifer Designations	pg 3	Yes	n/a
Superficial Aquifer Designations			n/a
Source Protection Zones			
Extreme Flooding from Rivers or Sea without Defences	pg 3		Yes
Flooding from Rivers or Sea without Defences	pg 3		Yes
Areas Benefiting from Flood Defences			
Flood Water Storage Areas			
Flood Defences			
OS Water Network Lines	pg 3		4

GeoDyne

Summary

Data Type	Page Number	On Site	0 to 250m (*up to 500m)
Waste			
BGS Recorded Landfill Sites			
Historical Landfill Sites			
Integrated Pollution Control Registered Waste Sites			
Licensed Waste Management Facilities (Landfill Boundaries)			
Licensed Waste Management Facilities (Locations)			
Local Authority Landfill Coverage	pg 5	2	n/a
Local Authority Recorded Landfill Sites			
Potentially Infilled Land (Non-Water)	pg 5		2
Potentially Infilled Land (Water)	pg 5		2
Registered Landfill Sites			
Registered Waste Transfer Sites			
Registered Waste Treatment or Disposal Sites			
Hazardous Substances			
Control of Major Accident Hazards Sites (COMAH)			
Explosive Sites			
Notification of Installations Handling Hazardous Substances (NIHHS)			
Planning Hazardous Substance Consents			
Planning Hazardous Substance Enforcements			

GeoDyne

Summary

Data Type	Page Number	On Site	0 to 250m (*up to 500m)
Geological			
BGS 1:625,000 Solid Geology	pg 6	Yes	n/a
BGS Estimated Soil Chemistry	pg 6	Yes	Yes
BGS Recorded Mineral Sites			
BGS Urban Soil Chemistry			
BGS Urban Soil Chemistry Averages			
CBSCB Compensation District			n/a
Coal Mining Affected Areas			n/a
Mining Instability			n/a
Man-Made Mining Cavities			
Natural Cavities			
Non Coal Mining Areas of Great Britain	pg 6	Yes	
Potential for Collapsible Ground Stability Hazards	pg 7	Yes	
Potential for Compressible Ground Stability Hazards	pg 7		Yes
Potential for Ground Dissolution Stability Hazards			
Potential for Landslide Ground Stability Hazards	pg 7	Yes	
Potential for Running Sand Ground Stability Hazards	pg 7		Yes
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 7	Yes	Yes
Radon Potential - Radon Affected Areas	pg 7	Yes	n/a
Radon Potential - Radon Protection Measures			n/a
Industrial Land Use			
Contemporary Trade Directory Entries			
Fuel Station Entries			
Points of Interest - Commercial Services			
Points of Interest - Education and Health			
Points of Interest - Manufacturing and Production			
Points of Interest - Public Infrastructure			
Points of Interest - Recreational and Environmental			
Gas Pipelines			
Underground Electrical Cables			

GeoDyne

Summary

Data Type	Page Number	On Site	0 to 250m (*up to 500m)
Sensitive Land Use			
Ancient Woodland	pg 8	1	1
Areas of Adopted Green Belt			
Areas of Unadopted Green Belt			
Areas of Outstanding Natural Beauty			
Environmentally Sensitive Areas			
Forest Parks			
Local Nature Reserves			
Marine Nature Reserves			
National Nature Reserves			
National Parks			
Nitrate Sensitive Areas			
Nitrate Vulnerable Zones	pg 8	1	1
Ramsar Sites			
Sites of Special Scientific Interest	pg 8		1
Special Areas of Conservation			
Special Protection Areas			
World Heritage Sites			

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (W)	88	1	450750 317500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	100	1	451100 317650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (SW)	109	1	450750 317450
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (E)	129	1	451150 317546
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (E)	130	1	451150 317600
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (NW)	143	1	450850 317750
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	175	1	450937 317800
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (SW)	187	1	450750 317350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (SE)	188	1	451050 317300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (SE)	206	1	451100 317300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	220	1	450700 317700
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (N)	225	1	450937 317850
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NW (W)	230	1	450650 317650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (W)	239	1	450600 317550
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NW (NW)	249	1	450700 317750
	Nearest Surface Water Feature	A13NW (W)	221	-	450632 317597
	Water Abstractions Operator: Mr G De Lisle Licence Number: 03/28/57/0078 Permit Version: 100 Location: Holywell Hall, Leics - Well Authority: Environment Agency, Midlands Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Holywell Hall, Leics - Well Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st April 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18SW (N)	394	2	450800 318000

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Severn Trent Water Ltd Licence Number: 03/28/57/0062 Permit Version: 103 Location: Nanpantan Reservoir Authority: Environment Agency, Midlands Region Abstraction: Public Water Supply: Potable Water Supply - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Blackbrook/Nanpanton Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 3rd December 2018 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A8NW (S)	408	2	450800 317100
	Water Abstractions Operator: Severn Trent Water Limited Licence Number: 03/28/57/0062 Permit Version: 102 Location: Nanpantan Reservoir Authority: Environment Agency, Midlands Region Abstraction: Public Water Supply: Potable Water Supply - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Blackbrook/Nanpanton Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 22nd October 2010 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A8NW (S)	408	2	450800 317100
	Water Abstractions Operator: Severn Trent Water Limited Licence Number: 03/28/57/0062 Permit Version: 101 Location: Nanpantan Reservoir Authority: Environment Agency, Midlands Region Abstraction: Public Water Supply: Potable Water Supply - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Blackbrook/Nanpanton Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 7th August 2000 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8NW (S)	408	2	450800 317100
	Water Abstractions Operator: Severn Trent Water Licence Number: 03/28/57/0062 Permit Version: 100 Location: Nanpantan Reservoir Authority: Environment Agency, Midlands Region Abstraction: Public Water Supply: Potable Water Supply - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Blackbrook/Nanpanton Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 3rd January 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A8NW (S)	408	2	450800 317100

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: <40% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A13SE (SW)	0	3	450937 317546
	Groundwater Vulnerability Map Combined Classification: Secondary Bedrock Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Productive Bedrock Aquifer, No Superficial Aquifer Pollutant Speed: Intermediate Bedrock Flow: Well Connected Fractures Dilution: 300-550 mm/year Baseflow Index: <40% Superficial Patchiness: <90% Superficial Thickness: <3m Superficial Recharge: No Data	A13SE (E)	0	3	451000 317546
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Secondary Aquifer - B	A13SE (SW)	0	3	450937 317546
	Superficial Aquifer Designations No Data Available				
	Extreme Flooding from Rivers or Sea without Defences Type: Extent of Extreme Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (S)	162	2	450937 317320
	Flooding from Rivers or Sea without Defences Type: Extent of Flooding from Rivers or Sea without Defences Flood Plain Type: Fluvial Models Boundary Accuracy: As Supplied	A13SE (S)	171	2	450937 317315
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				
1	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 443.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A13NW (W)	221	4	450632 317597
2	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 580.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Wood Brook Catchment Name: Trent Primacy: 1	A13SE (S)	223	4	450964 317260

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 69.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Trent Primacy: 1	A13SE (S)	243	4	451037 317241
4	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 85.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Wood Brook Catchment Name: Trent Primacy: 1	A13SE (S)	243	4	451037 317241

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Local Authority Landfill Coverage Name: Leicestershire County Council - Has supplied landfill data		0	6	450937 317546
	Local Authority Landfill Coverage Name: Charnwood Borough Council - Has no landfill data to supply		0	5	450937 317546
5	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A13SE (SE)	104	-	451093 317432
6	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A13SE (SE)	128	-	451063 317369
7	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1955	A13SW (W)	2	-	450842 317526
8	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1955	A13SW (SW)	219	-	450652 317398

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Triassic Rocks (Undifferentiated)	A13SE (SW)	0	1	450937 317546
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (SW)	0	1	450937 317546
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 40 - 60 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13NE (E)	0	1	450980 317555
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13SW (S)	179	1	450920 317311
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SW (S)	245	1	450904 317246
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Rural Soil Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 30 - 45 mg/kg	A13NW (NW)	249	1	450764 317819
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	450937 317546

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	450937 317546
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	179	1	450920 317311
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	245	1	450731 317783
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	450937 317546
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	179	1	450920 317311
	Potential for Compressible Ground Stability Hazards Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	245	1	450731 317783
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	450937 317546
	Potential for Landslide Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	450937 317546
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	450980 317555
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	450937 317546
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	129	1	450916 317363
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	179	1	450920 317311
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	245	1	450731 317783
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	245	1	450904 317246
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	450980 317555
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	450937 317546
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	172	1	450920 317311
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	245	1	450731 317783
	Radon Potential - Radon Affected Areas Affected Area: The property is in an Intermediate probability radon area (1 to 3% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	450937 317546
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	450937 317546

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	**Ancient Woodland** Name: Not Supplied Reference: 1412972 Area(m²): 84512.04 Type: Ancient and Semi-Natural Woodland	A13NW (NW)	0	8	450887 317584
10	**Ancient Woodland** Name: Outwood Reference: 1105189 Area(m²): 546861.99 Type: Plantation on Ancient Woodland	A13SW (S)	171	8	450917 317318
11	**Nitrate Vulnerable Zones** Name: Soar R Nvz Description: Surface Water Source: Environment Agency, Head Office	A13SE (SW)	0	3	450937 317546
12	**Nitrate Vulnerable Zones** Name: Burton Description: Groundwater Source: Environment Agency, Head Office	A13NW (N)	76	3	450918 317701
13	**Sites of Special Scientific Interest** Name: Beacon Hill, Hangingstone And Out Woods Multiple Areas: Y Total Area (m2): 1474866.46 Source: Natural England Reference: 1002689 Designation Details: Geological Conservation Review Designation Date: 1st August 1987 Date Type: Notified Designation Details: Nature Conservation Review Designation Date: 1st August 1987 Date Type: Notified Designation Details: Site Of Special Scientific Interest Designation Date: 1st August 1987 Date Type: Notified	A13SW (S)	171	8	450917 317318

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Charnwood Borough Council - Environmental Health Department	January 2015	Annual Rolling Update
North West Leicestershire District Council - Environmental Protection Department	September 2014	Annual Rolling Update
Discharge Consents		
Environment Agency - Midlands Region	October 2019	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Midlands Region	March 2013	Annual Rolling Update
Integrated Pollution Controls		
Environment Agency - Midlands Region	October 2008	Variable
Integrated Pollution Prevention And Control		
Environment Agency - Midlands Region	January 2020	Quarterly
Local Authority Integrated Pollution Prevention And Control		
North West Leicestershire District Council - Environmental Health Department	July 2014	Variable
Charnwood Borough Council - Environmental Health Department	March 2015	Variable
Local Authority Pollution Prevention and Controls		
North West Leicestershire District Council - Environmental Health Department	July 2014	Annual Rolling Update
Charnwood Borough Council - Environmental Health Department	March 2015	Not Applicable
Local Authority Pollution Prevention and Control Enforcements		
North West Leicestershire District Council - Environmental Health Department	July 2014	Variable
Charnwood Borough Council - Environmental Health Department	March 2015	Variable
Nearest Surface Water Feature		
Ordnance Survey	January 2020	
Pollution Incidents to Controlled Waters		
Environment Agency - Midlands Region	December 1999	Not Applicable
Prosecutions Relating to Authorised Processes		
Environment Agency - Midlands Region	July 2015	Annual Rolling Update
Prosecutions Relating to Controlled Waters		
Environment Agency - Midlands Region	March 2013	Annual Rolling Update
Registered Radioactive Substances		
Environment Agency - Midlands Region	June 2016	
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register		
Environment Agency - Midlands Region - East Area	January 2020	Quarterly
Environment Agency - Midlands Region - Lower Trent Area	January 2020	Quarterly
Water Abstractions		
Environment Agency - Midlands Region	January 2020	Quarterly
Water Industry Act Referrals		
Environment Agency - Midlands Region	October 2017	Quarterly
Groundwater Vulnerability Map		
Environment Agency - Head Office	June 2018	As notified
Bedrock Aquifer Designations		
Environment Agency - Head Office	January 2018	Annually
Superficial Aquifer Designations		
Environment Agency - Head Office	January 2018	Annually
Source Protection Zones		
Environment Agency - Head Office	October 2019	Quarterly

Data Currency

Agency & Hydrological	Version	Update Cycle
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	November 2019	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	November 2019	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	November 2019	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	November 2019	Quarterly
Flood Defences Environment Agency - Head Office	November 2019	Quarterly
OS Water Network Lines Ordnance Survey	January 2020	Quarterly
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water Suitability Environment Agency - Head Office	October 2013	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites		
Environment Agency - Head Office	October 2019	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Midlands Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - Midlands Region - East Area	November 2019	Quarterly
Environment Agency - Midlands Region - Lower Trent Area	November 2019	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - Midlands Region - East Area	January 2020	Quarterly
Environment Agency - Midlands Region - Lower Trent Area	January 2020	Quarterly
Local Authority Landfill Coverage		
Charnwood Borough Council - Environmental Health Department	May 2000	Not Applicable
Leicestershire County Council	May 2000	Not Applicable
North West Leicestershire District Council - Environmental Health Department	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
Charnwood Borough Council - Environmental Health Department	May 2000	Not Applicable
Leicestershire County Council	May 2000	Not Applicable
North West Leicestershire District Council - Environmental Health Department	May 2000	Not Applicable
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites		
Environment Agency - Midlands Region - East Area	March 2003	Not Applicable
Environment Agency - Midlands Region - Lower Trent Area	March 2003	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Midlands Region - East Area	March 2003	Not Applicable
Environment Agency - Midlands Region - Lower Trent Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites		
Environment Agency - Midlands Region - East Area	March 2003	Not Applicable
Environment Agency - Midlands Region - Lower Trent Area	March 2003	Not Applicable
Hazardous Substances	**Version**	**Update Cycle**
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements		
Charnwood Borough Council	February 2016	Variable
Leicestershire County Council	February 2016	Variable
North West Leicestershire District Council	February 2016	Variable
Planning Hazardous Substance Consents		
Charnwood Borough Council	February 2016	Variable
Leicestershire County Council	February 2016	Variable
North West Leicestershire District Council	February 2016	Variable

Geological	Version	Update Cycle
BGS 1:625,000 Solid Geology British Geological Survey - National Geoscience Information Service	January 2009	Not Applicable
BGS Estimated Soil Chemistry British Geological Survey - National Geoscience Information Service	October 2015	Annually
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	October 2019	Bi-Annually
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	Annually
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	Annually
Industrial Land Use	**Version**	**Update Cycle**
Contemporary Trade Directory Entries Thomson Directories	January 2020	Quarterly
Fuel Station Entries Catalist Ltd - Experian	December 2019	Quarterly
Gas Pipelines National Grid	July 2014	
Points of Interest - Commercial Services PointX	March 2020	Quarterly
Points of Interest - Education and Health PointX	March 2020	Quarterly
Points of Interest - Manufacturing and Production PointX	March 2020	Quarterly
Points of Interest - Public Infrastructure PointX	March 2020	Quarterly
Points of Interest - Recreational and Environmental PointX	March 2020	Quarterly
Underground Electrical Cables National Grid	December 2015	

Data Currency

Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural England	 August 2018	 Bi-Annually
Areas of Adopted Green Belt Charnwood Borough Council North West Leicestershire District Council	 February 2020 February 2020	 As notified As notified
Areas of Unadopted Green Belt Charnwood Borough Council North West Leicestershire District Council	 February 2020 February 2020	 As notified As notified
Areas of Outstanding Natural Beauty Natural England	 June 2019	 Bi-Annually
Environmentally Sensitive Areas Natural England	 January 2017	
Forest Parks Forestry Commission	 April 1997	 Not Applicable
Local Nature Reserves Natural England	 March 2019	 Bi-Annually
Marine Nature Reserves Natural England	 July 2019	 Bi-Annually
National Nature Reserves Natural England	 July 2019	 Bi-Annually
National Parks Natural England	 April 2017	 Bi-Annually
Nitrate Vulnerable Zones Environment Agency - Head Office Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	 December 2017 October 2015	 Bi-Annually
Ramsar Sites Natural England	 April 2019	 Bi-Annually
Sites of Special Scientific Interest Natural England	 March 2019	 Bi-Annually
Special Areas of Conservation Natural England	 June 2019	 Bi-Annually
Special Protection Areas Natural England	 April 2019	 Bi-Annually

Data Suppliers

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
Environment Agency	
Scottish Environment Protection Agency	
The Coal Authority	
British Geological Survey	
Centre for Ecology and Hydrology	
Natural Resources Wales	
Scottish Natural Heritage	
Natural England	
Public Health England	
Ove Arup	
Peter Brett Associates	

Useful Contacts

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	**Environment Agency - Head Office** Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
4	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
5	**Charnwood Borough Council - Environmental Health Department** Macaulay House, 5 Cattle Market, Loughborough, Leicestershire, LE11 3DH	Telephone: 01509 634636 Fax: 01509 211703 Website: www.charnwoodbc.gov.uk
6	**Leicestershire County Council** County Hall, Glenfield, Leicestershire, LE3 8RH	Website: www.leics.gov.uk
7	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
8	**Natural England** County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in place for enquiries.

GeoDyne

General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Map ID
Several or Type at Location | Pylon | Overhead Transmission Line

Agency and Hydrological

- Contaminated Land Register Entry or Notice (Location)
- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
- Integrated Pollution Control
- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
- Local Authority Pollution Prevention and Control Enforcement
- Pollution Incident to Controlled Waters
- Prosecution Relating to Authorised Processes
- Prosecution Relating to Controlled Waters
- Registered Radioactive Substance
- River Network or Water Feature
- River Quality Sampling Point
- Substantiated Pollution Incident Register
- Water Abstraction
- Water Industry Act Referral

Hazardous Substances

- COMAH Site
- Explosive Site
- NIHHS Site
- Planning Hazardous Substance Consent
- Planning Hazardous Substance Enforcement

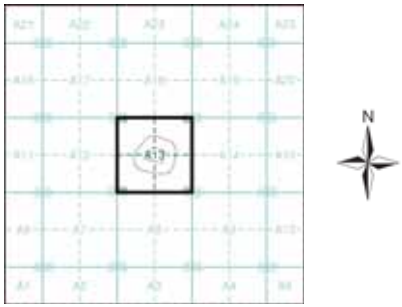
Geological

- BGS Recorded Mineral Site

Waste

- BGS Recorded Landfill Site (Location)
- BGS Recorded Landfill Site
- EA Historic Landfill (Buffered Point)
- EA Historic Landfill (Polygon)
- Integrated Pollution Control Registered Waste Site
- Licensed Waste Management Facility (Landfill Boundary)
- Licensed Waste Management Facility (Location)
- Local Authority Recorded Landfill Site (Location)
- Local Authority Recorded Landfill Site
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Non-water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Potentially Infilled Land (Water)
- Registered Landfill Site
- Registered Landfill Site (Location)
- Registered Landfill Site (Point Buffered to 100m)
- Registered Landfill Site (Point Buffered to 250m)
- Registered Waste Transfer Site (Location)
- Registered Waste Transfer Site
- Registered Waste Treatment or Disposal Site (Location)
- Registered Waste Treatment or Disposal Site

Site Sensitivity Map - Segment A13



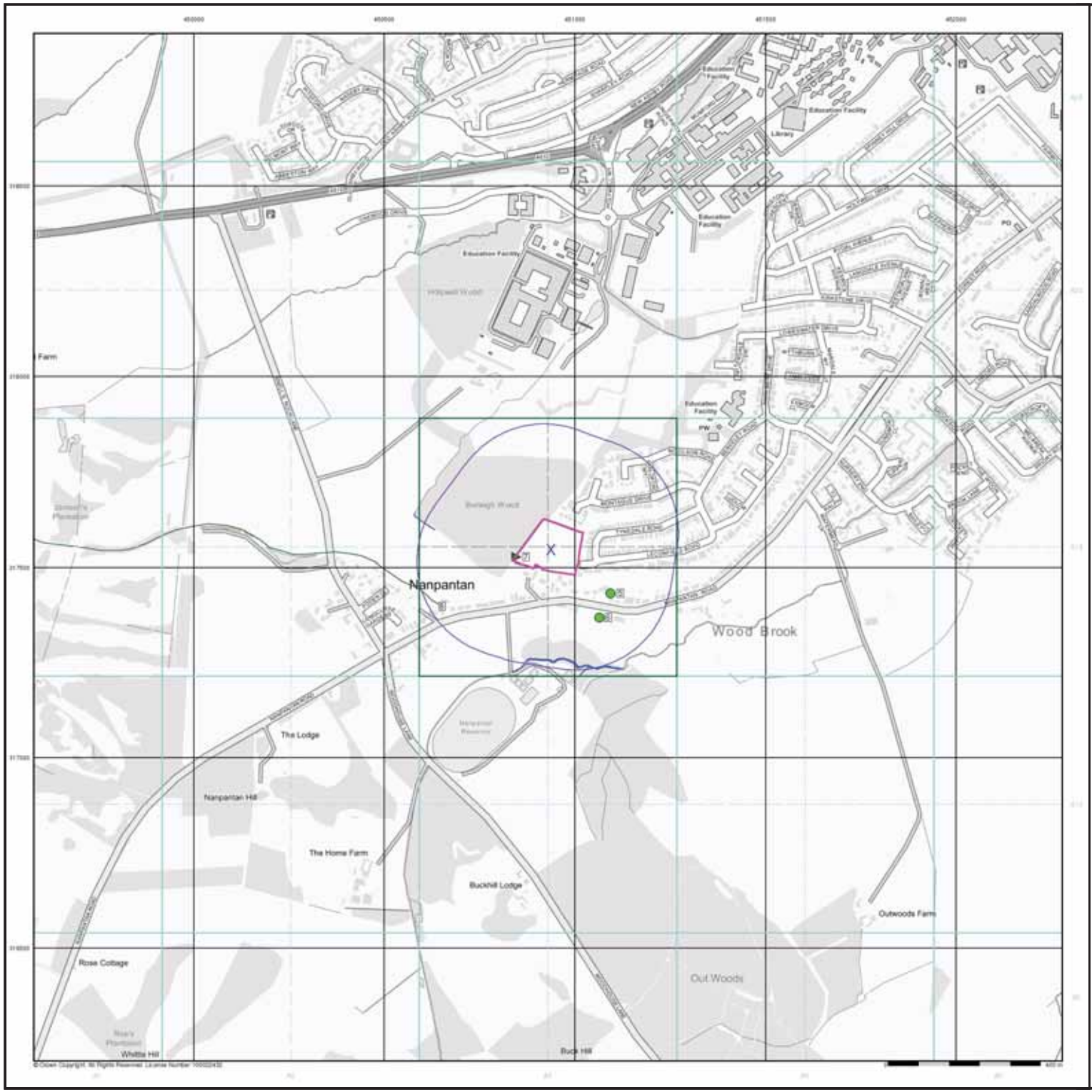
Order Details

Order Number:	237752056_1_1
Customer Ref:	40056
National Grid Reference:	450940, 317550
Slice:	A
Site Area (Ha):	1.69
Plot Buffer (m):	100

Site Details

Site at 450950, 317560

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



GeoDyne

General
Specified Site | Specified Buffer(s) | Bearing Reference Point | Map ID
Several of Type at Location

Agency and Hydrological
Contaminated Land Register Entry or Notice (Location)
Contaminated Land Register Entry or Notice
Discharge Consent
Enforcement or Prohibition Notice
Integrated Pollution Control
Integrated Pollution Prevention Control
Local Authority Integrated Pollution Prevention and Control
Local Authority Pollution Prevention and Control
Local Authority Pollution Prevention and Control Enforcement
Pollution Incident to Controlled Waters
Prosecution Relating to Authorised Processes
Prosecution Relating to Controlled Waters
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River Quality Sampling Point
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Water Abstraction
Water Industry Act Referral

Hazardous Substances
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BGS Recorded Mineral Site

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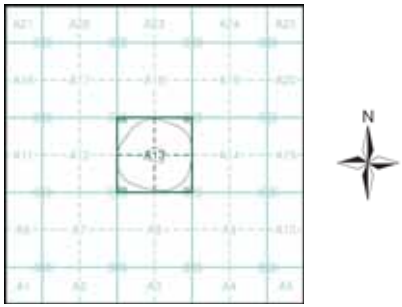
Registered Waste Transfer Site
Registered Waste Treatment or Disposal Site (Location)
Registered Waste Treatment or Disposal Site

Site Sensitivity Map - Slice A



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Search Buffer (m):	250

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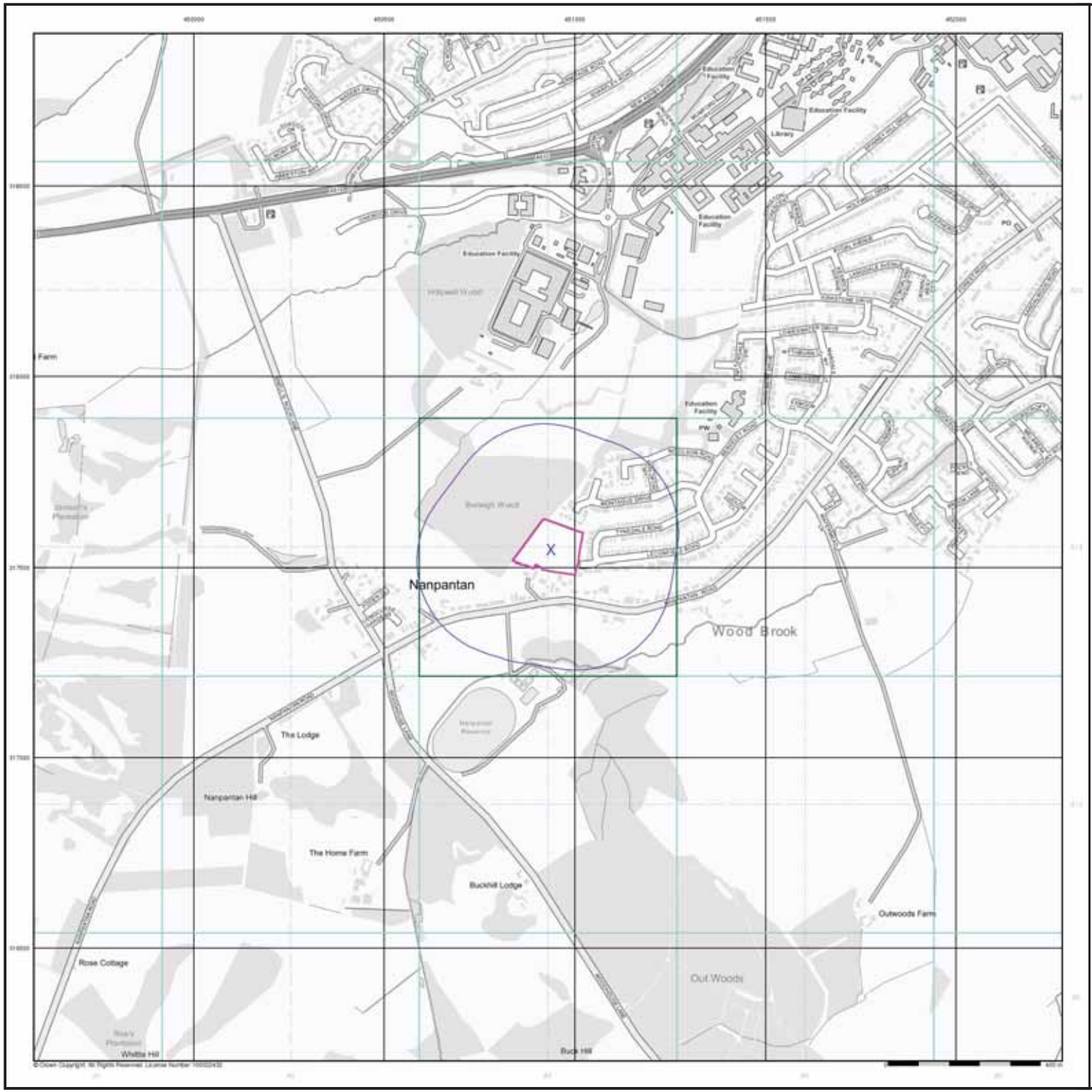


GeoDyne

Industrial Land Use Map

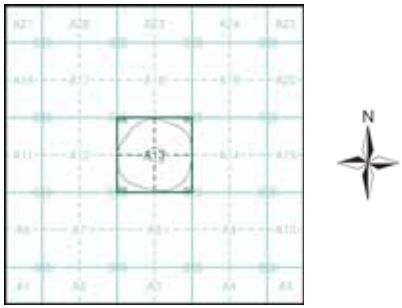
General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Pipeline
- Points of Interest - Commercial Services
- Points of Interest - Education and Health
- Points of Interest - Manufacturing and Production
- Points of Interest - Public Infrastructure
- Points of Interest - Recreational and Environmental
- Underground Electrical Cables

Industrial Land Use Map - Slice A



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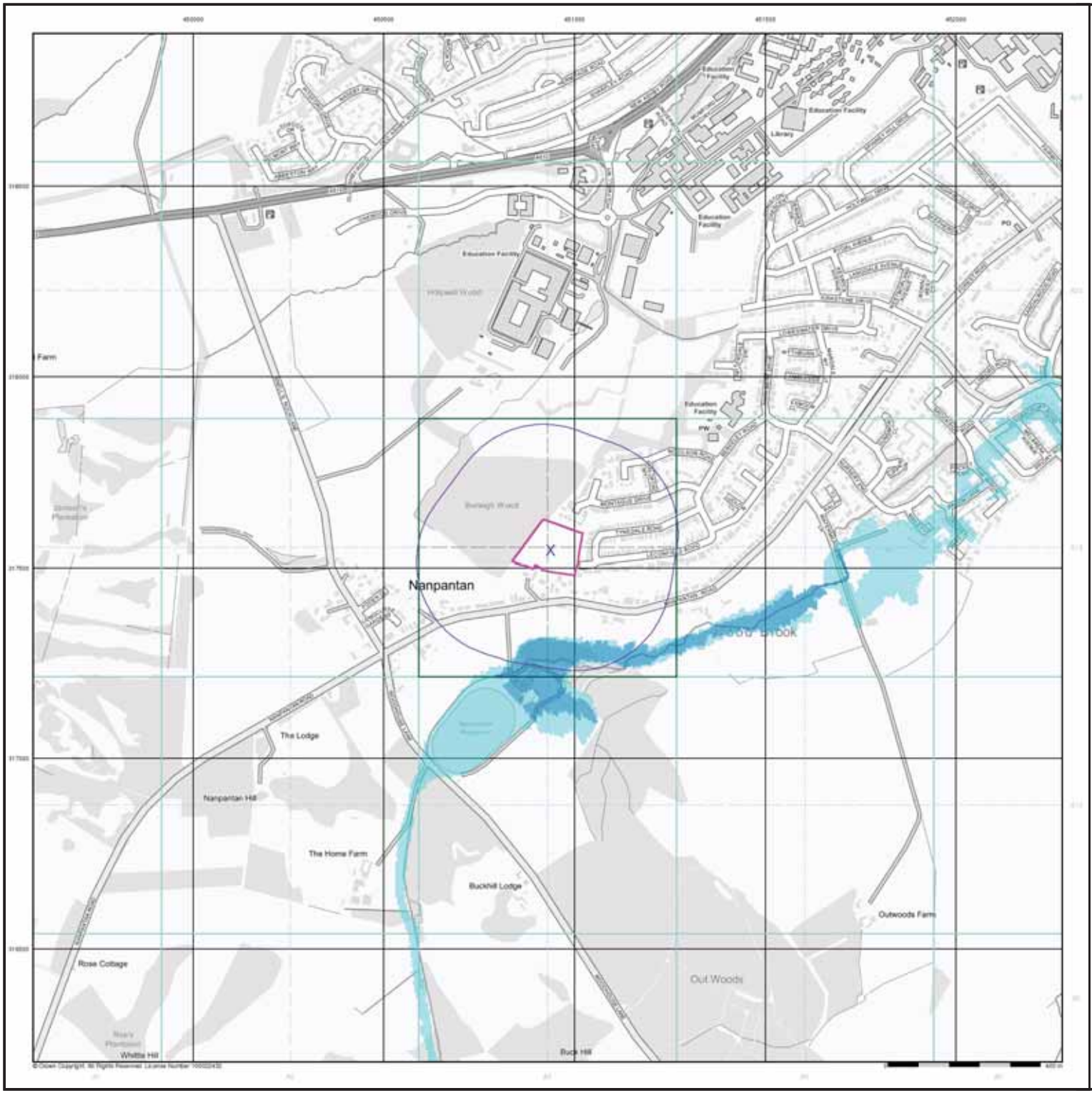


GeoDyne

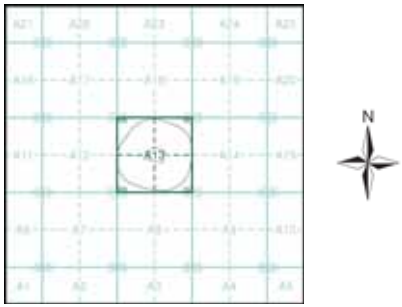
General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Agency and Hydrological (Flood)

- Extreme Flooding from Rivers or Sea without Defences (Zone 2)
- Flooding from Rivers or Sea without Defences (Zone 3)
- Area Benefiting from Flood Defence
- Flood Water Storage Areas
- Flood Defence

Flood Map - Slice A



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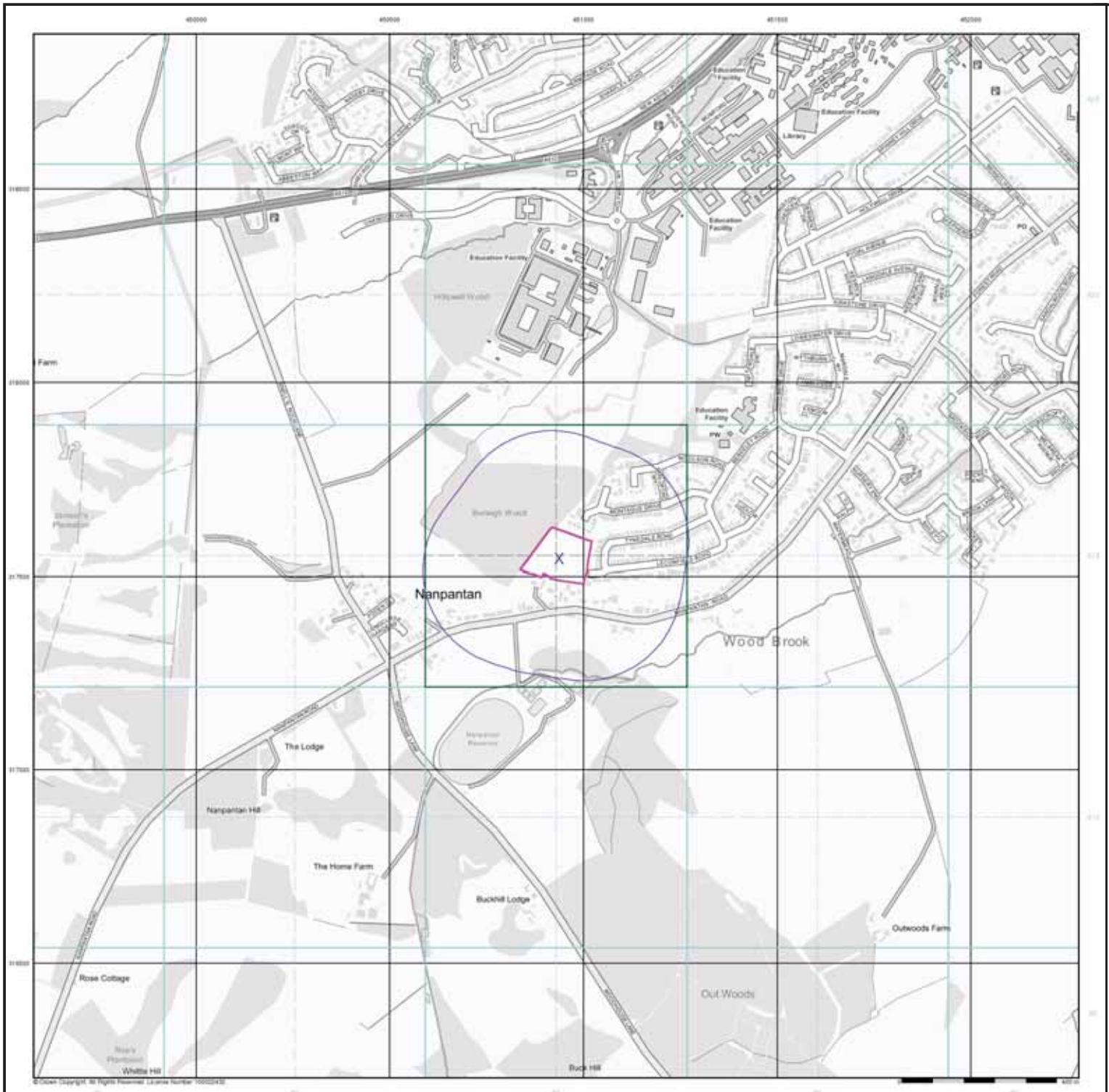


GeoDyne

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point
- Map ID
- Several of Type at Location

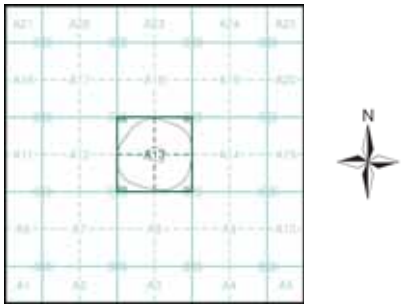
Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- BGS Borehole Depth 30m +
- Confidential
- Other

For Borehole information please refer to the Borehole .csv file which accompanied this slice.

A copy of the BGS Borehole Ordering Form is available to download from the Support section of www.envirocheck.co.uk.

Borehole Map - Slice A



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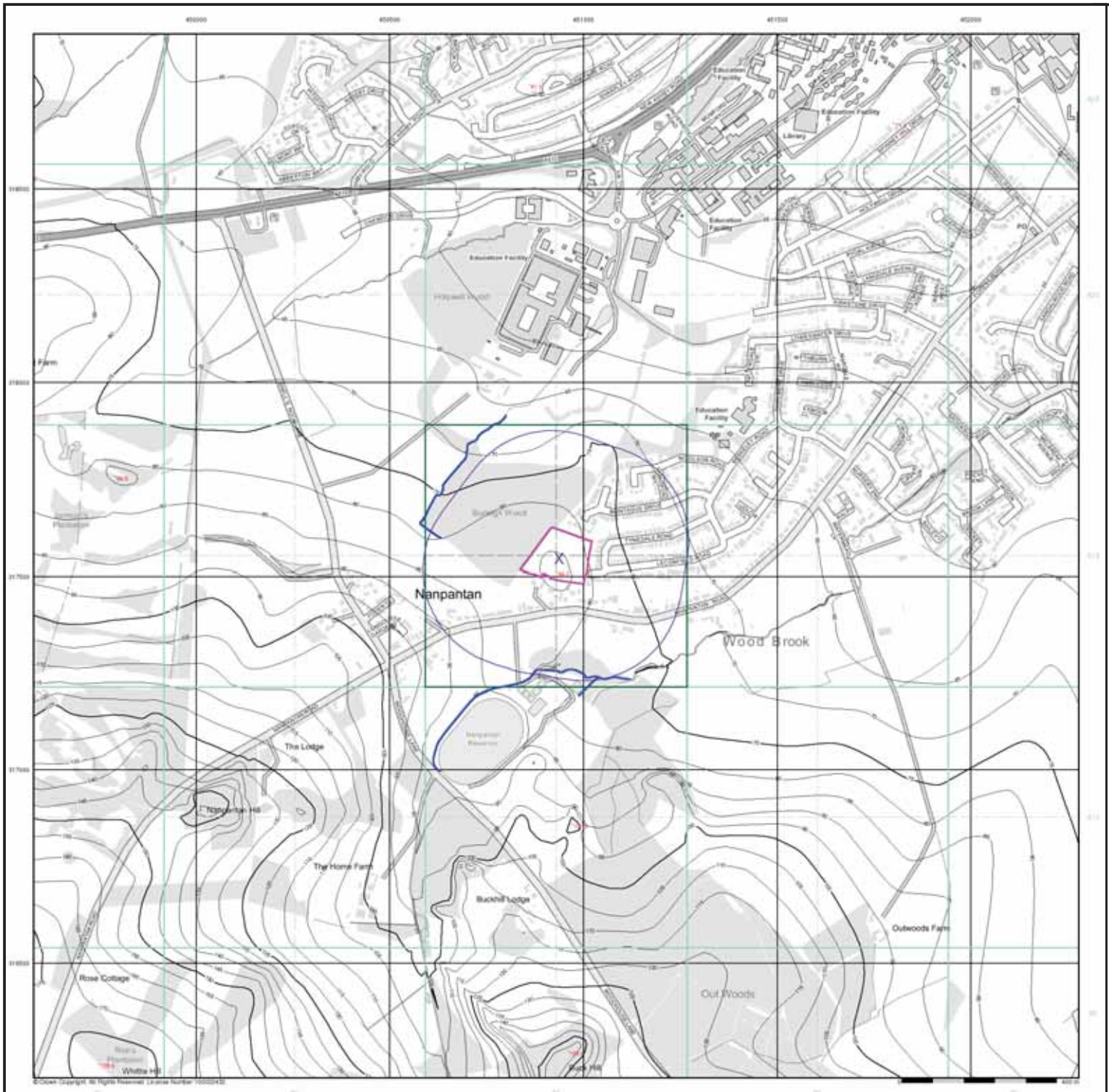


GeoDyne

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

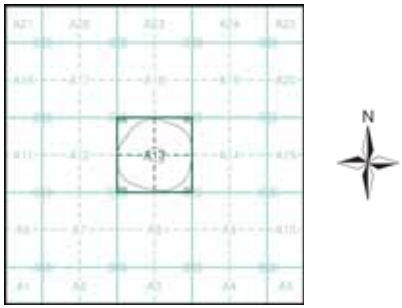
OS Water Network Data

- Canal
- Reservoir
- Foreshore
- Marsh
- Tidal River
- Inland River
- Drain
- Other
- Lake
- Transfer
- Lock Or Flight Of Locks
- Sea

Contours (height in meters)

- Standard Contour
- Master Contour
- Spot Height
- MLW Mean Low Water
- MHW Mean High Water

OS Water Network Map - Slice A



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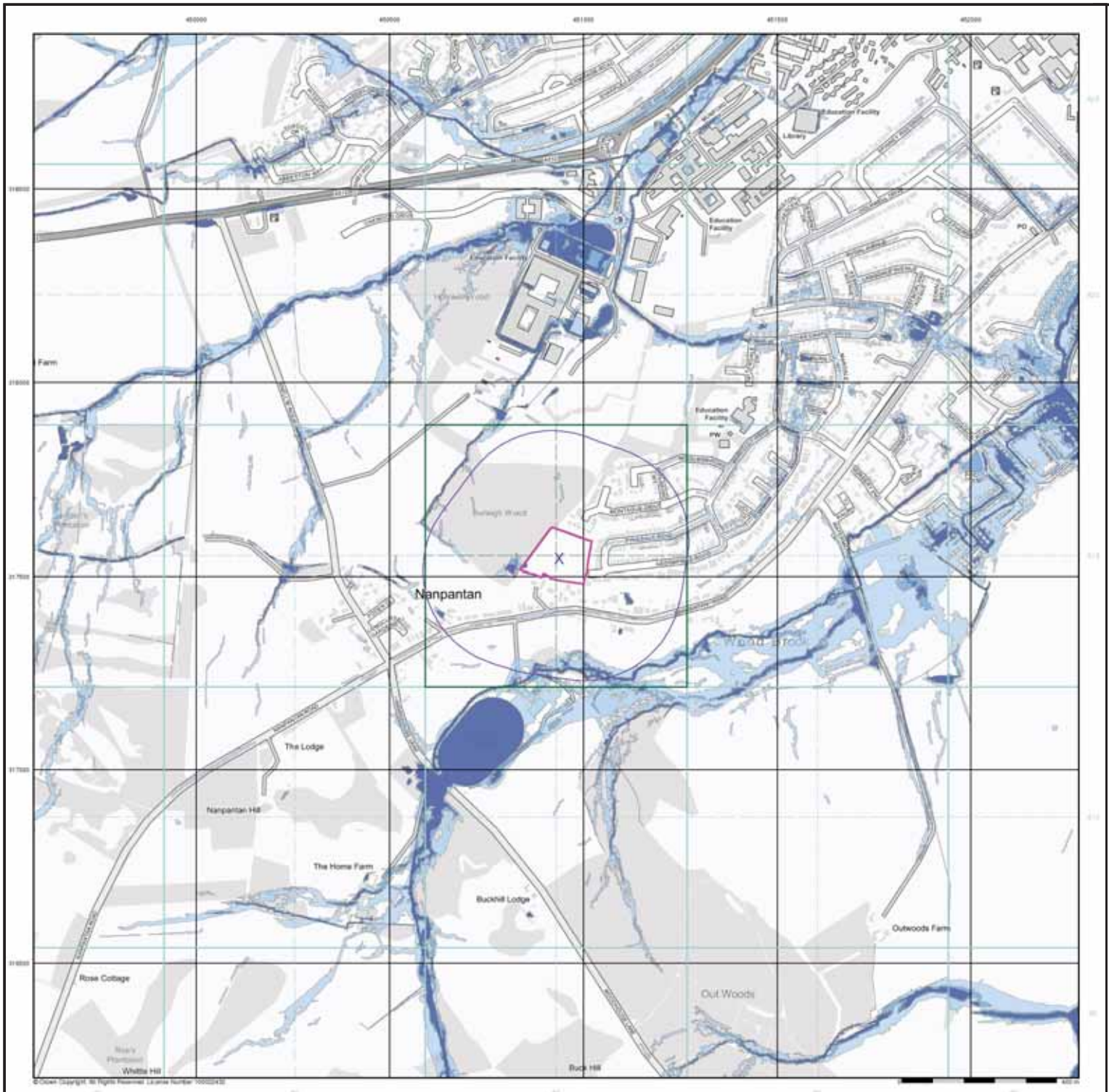


GeoDyne

General

- Specified Site
- Specified Buffer(s)
- Bearing Reference Point

Risk of Flooding from Surface Water

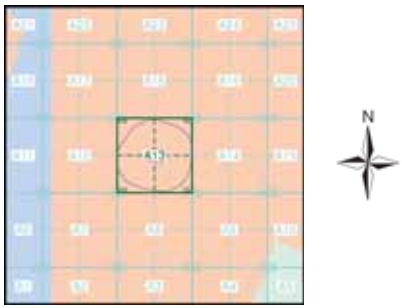
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

- National to county
- County to town
- Town to street
- Street to parcels of land
- Property

EA/NRW Suitability Map - Slice A



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Site Details

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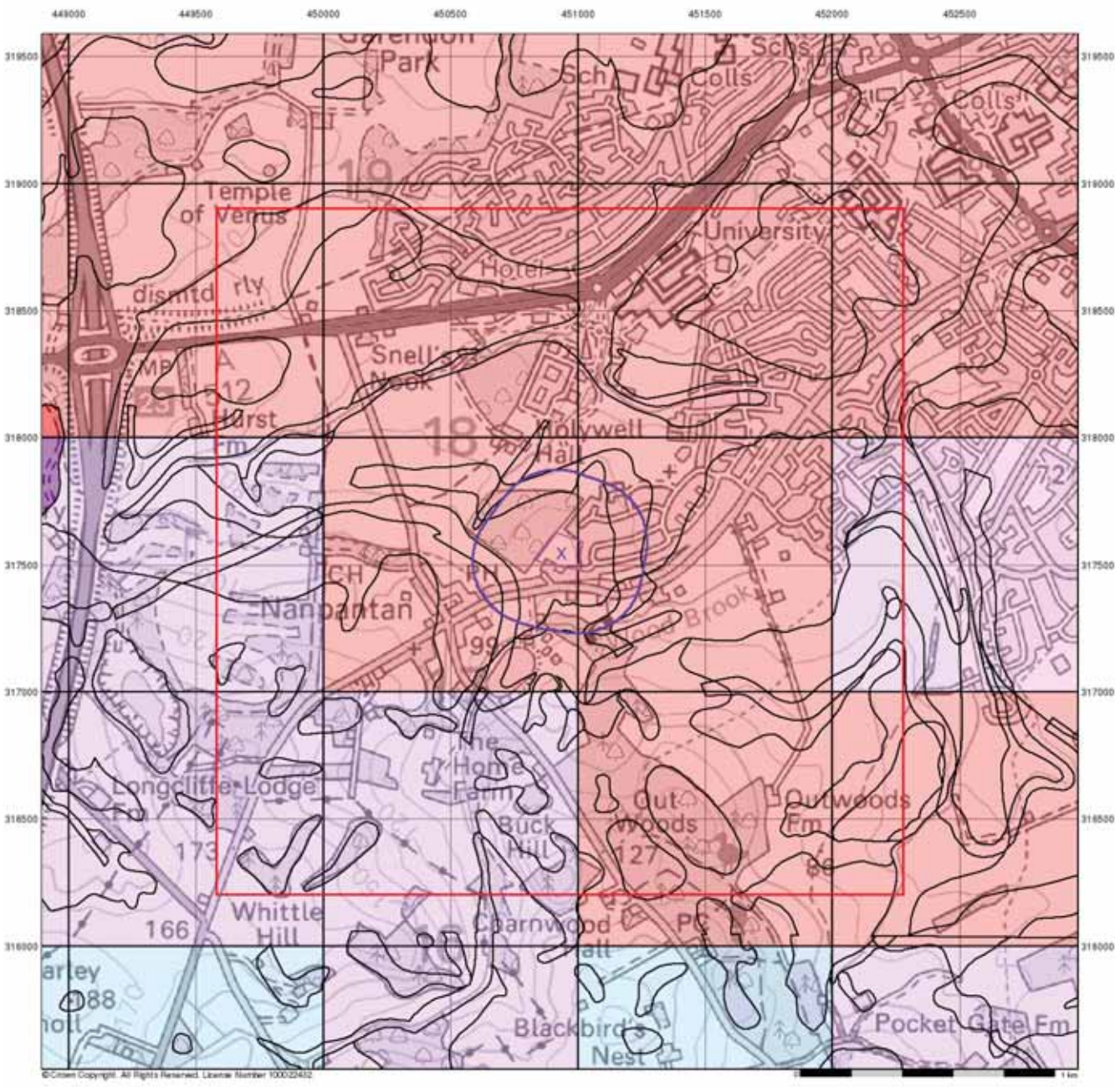


GeoDyne

Groundwater Vulnerability

General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

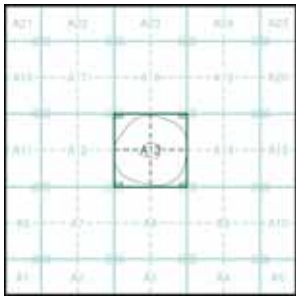
Agency and Hydrological

Bedrock Aquifers	Superficial Aquifers
High Vulnerability, Principal Aquifer	High Vulnerability, Principal Aquifer
High Vulnerability, Secondary Aquifer	High Vulnerability, Secondary Aquifer
Medium Vulnerability, Principal Aquifer	Medium Vulnerability, Principal Aquifer
Medium Vulnerability, Secondary Aquifer	Medium Vulnerability, Secondary Aquifer
Low Vulnerability, Principal Aquifer	Low Vulnerability, Principal Aquifer
Low Vulnerability, Secondary Aquifer	Low Vulnerability, Secondary Aquifer

Unproductive Aquifer

Soluble Rock

Site Sensitivity Context Map - Slice A



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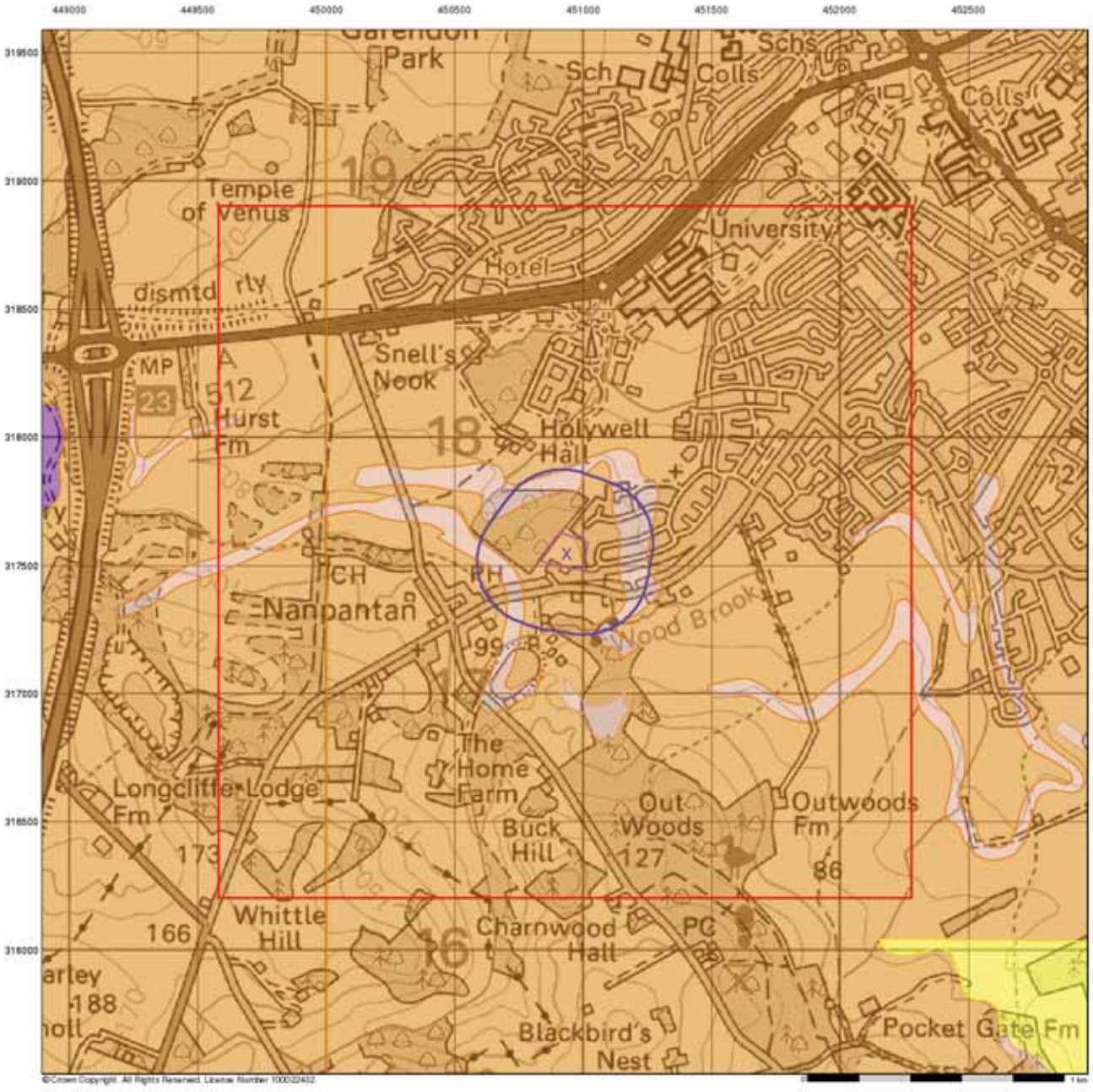


GeoDyne

Bedrock Aquifer Designation

General

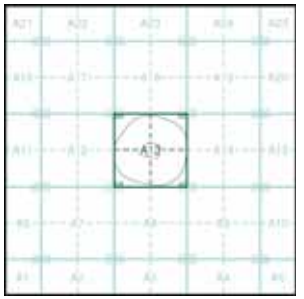
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



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Slice:	A
Site Area (Ha):	1.69
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Site Details

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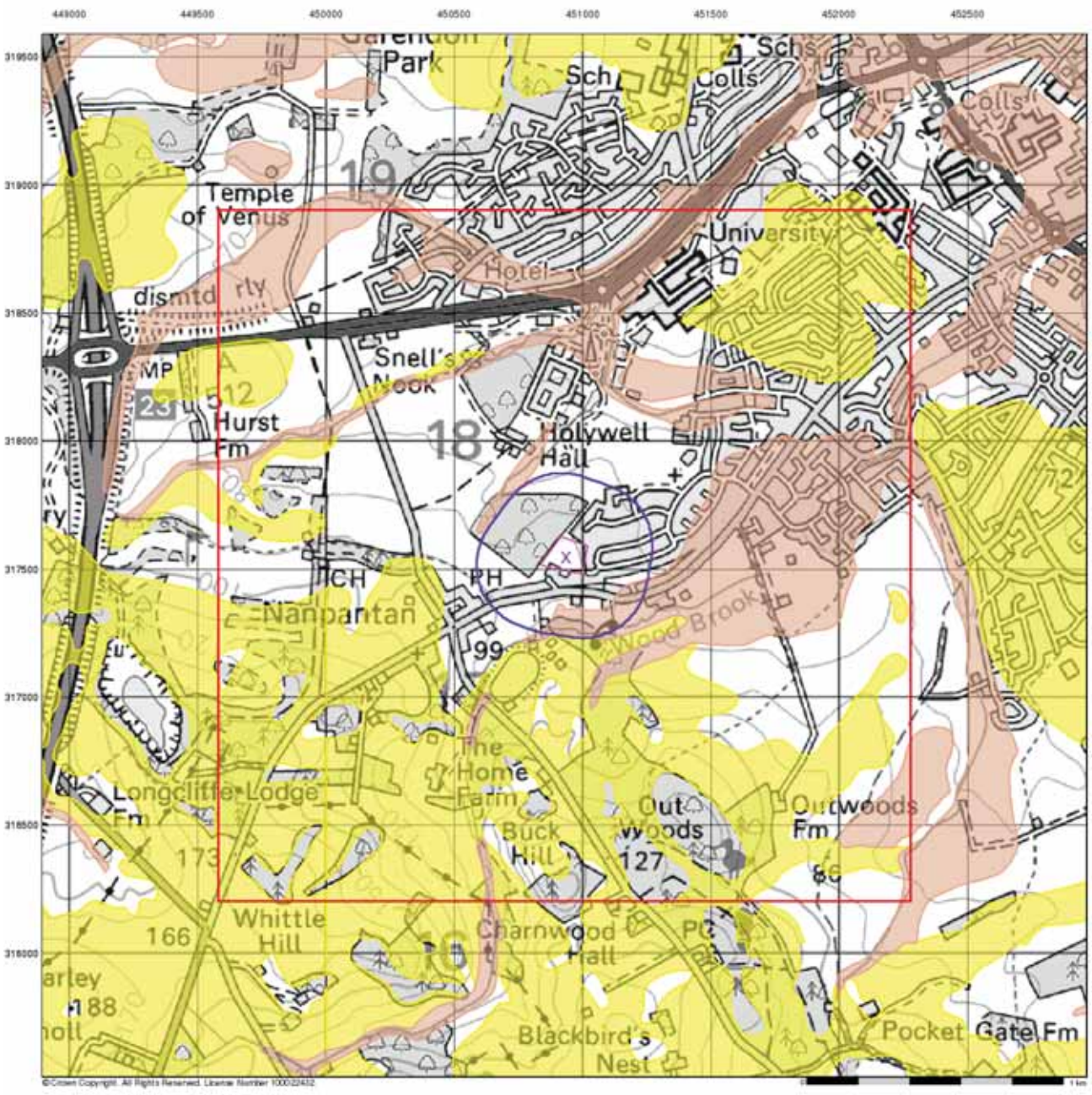


GeoDyne

Superficial Aquifer Designation

General

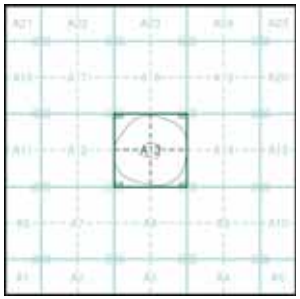
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

- Principal Aquifer
- Secondary A Aquifer
- Secondary B Aquifer
- Secondary Undifferentiated
- Unproductive Strata
- Unknown
- Unknown (Lakes and Landslip)

Site Sensitivity Context Map - Slice A



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Site Details

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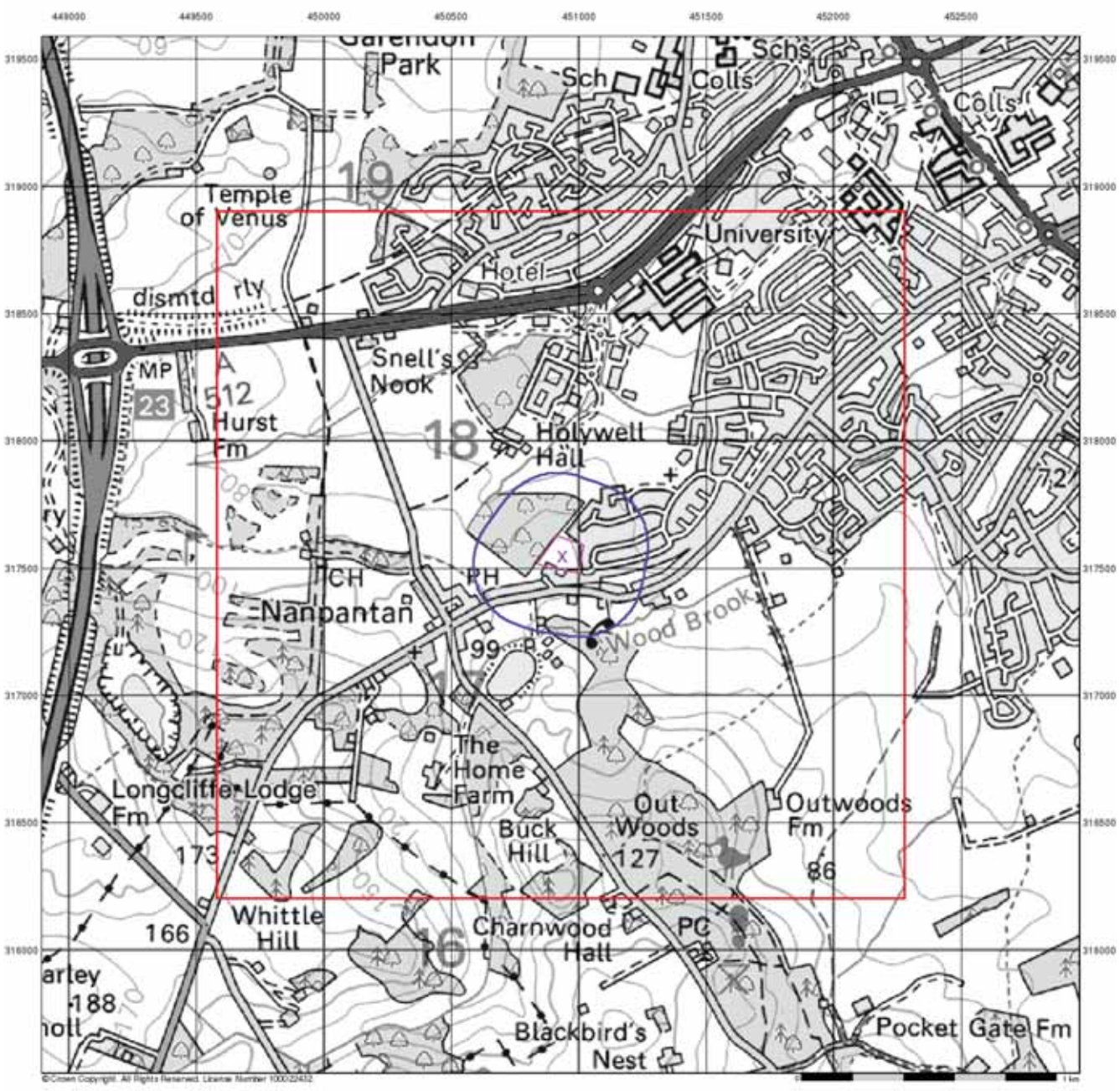


GeoDyne

Source Protection Zones

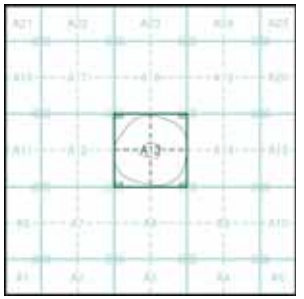
General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

- Inner zone (Zone 1)
- Inner zone - subsurface activity only (Zone 1c)
- Outer zone (Zone 2)
- Outer zone - subsurface activity only (Zone 2c)
- Total catchment (Zone 3)
- Total catchment - subsurface activity only (Zone 3c)
- Special interest (Zone 4)

Site Sensitivity Context Map - Slice A



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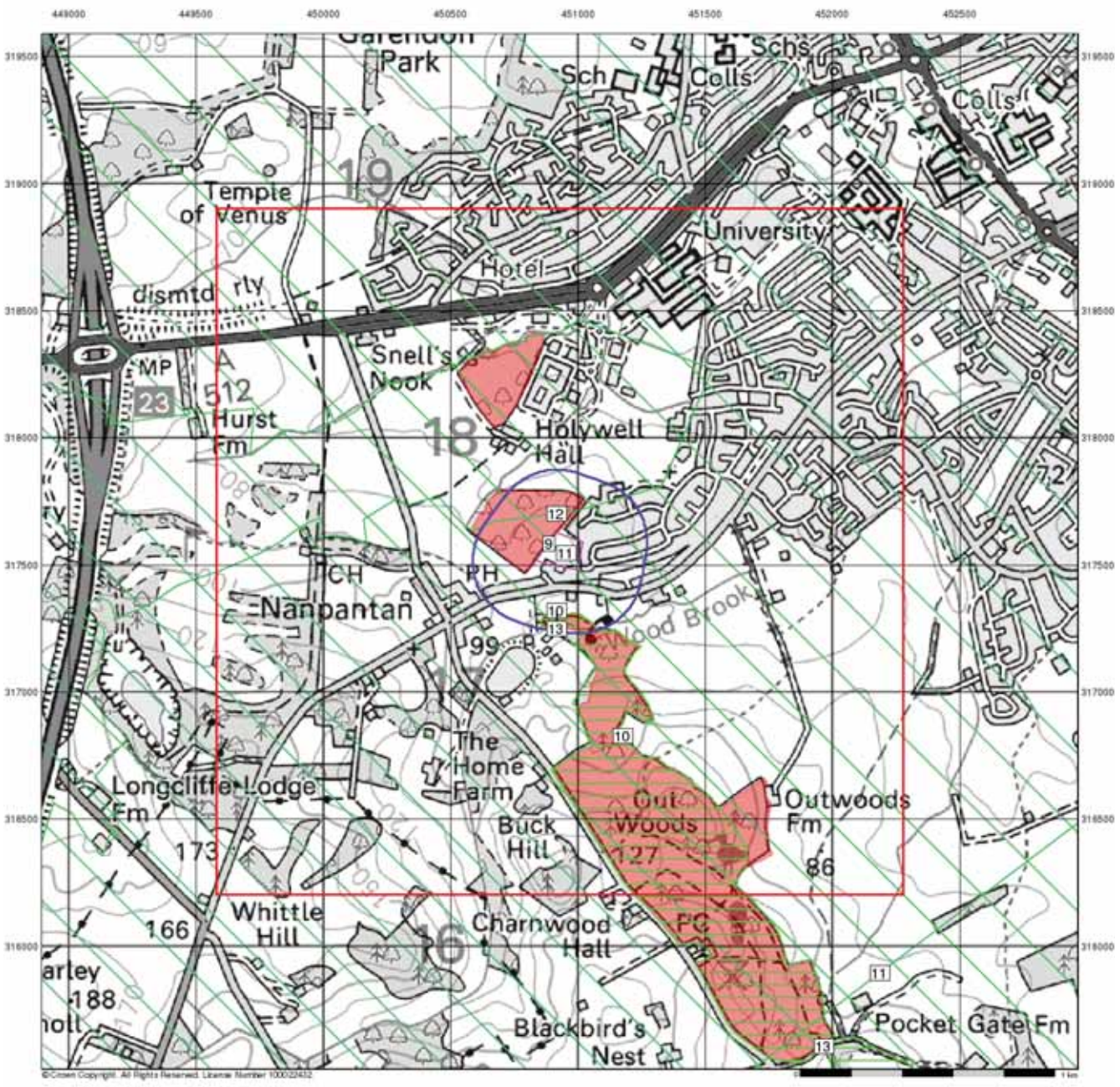


GeoDyne

Sensitive Land Uses

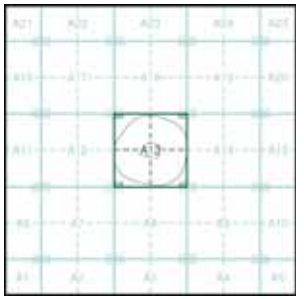
General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Sensitive Land Uses

- Ancient Woodland
- Area of Adopted Green Belt
- Area of Unadopted Green Belt
- Area of Outstanding Natural Beauty
- Environmentally Sensitive Area
- Forest Park
- Local Nature Reserve
- Marine Nature Reserve
- National Nature Reserve
- National Park
- Nitrate Sensitive Area
- Nitrate Vulnerable Zone
- Ramsar Site
- Site of Special Scientific Interest
- Special Area of Conservation
- Special Protection Area
- World Heritage Sites

Site Sensitivity Context Map - Slice A



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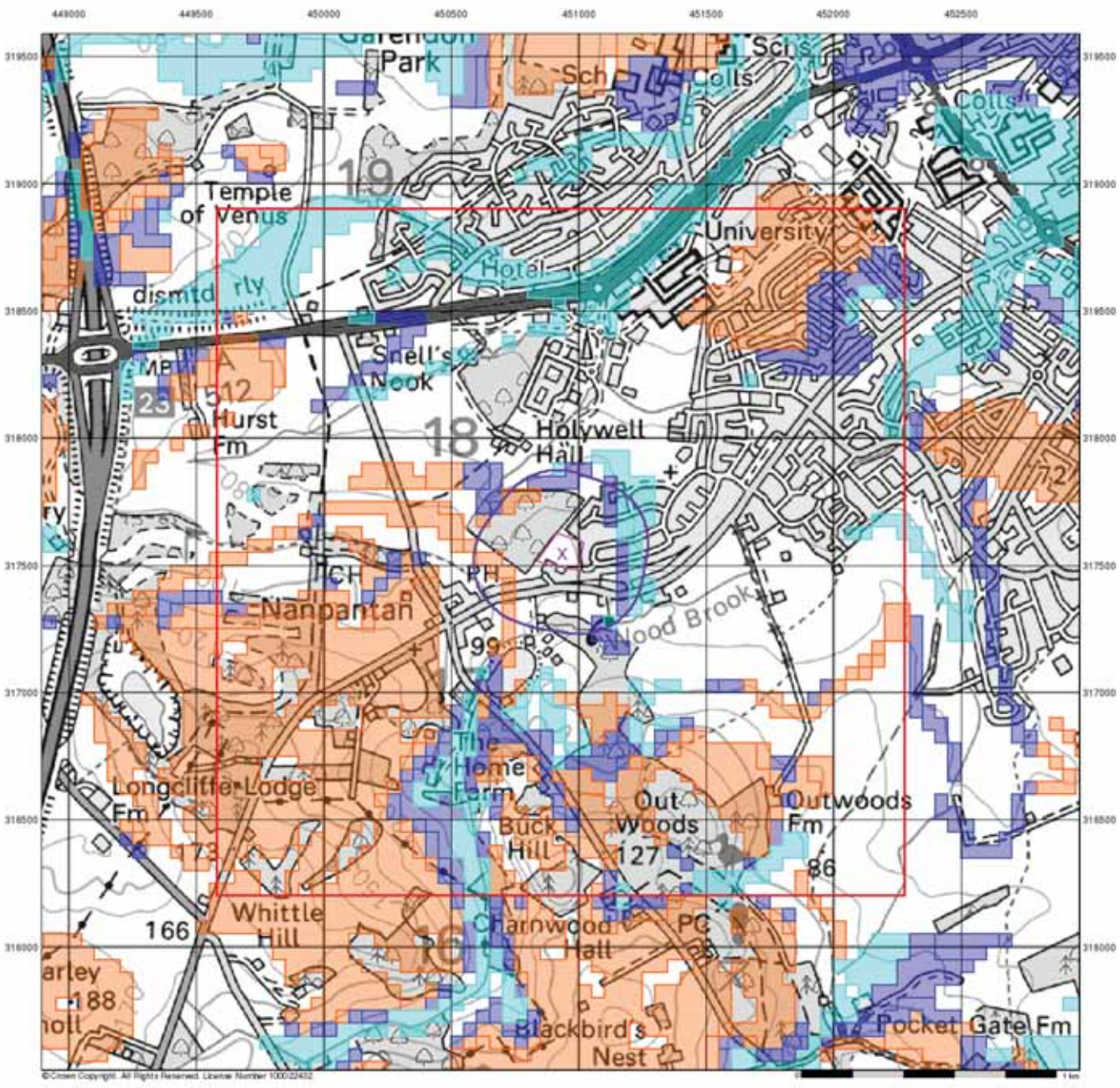


GeoDyne

BGS Flood GFS Data

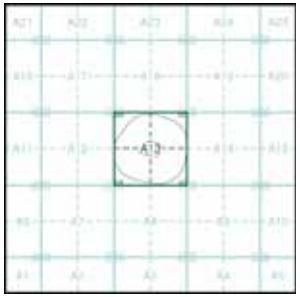
General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice

Agency and Hydrological (Flood)

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

Site Sensitivity Context Map - Slice A



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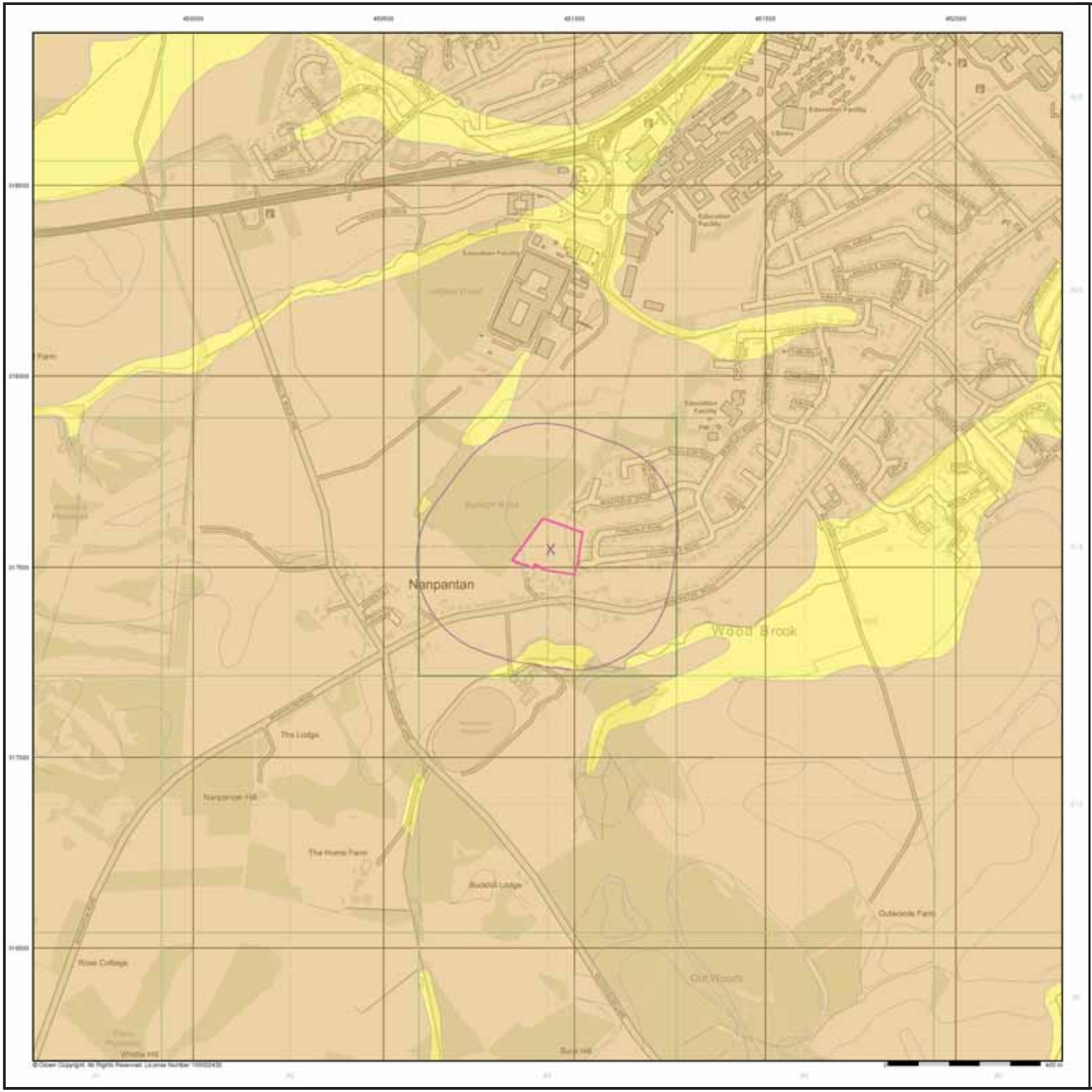
Site Details

Site at 450950, 317560



GeoDyne

General

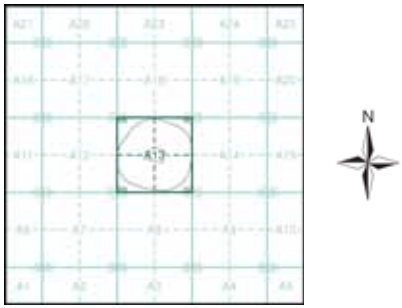
Specified Site | Specified Buffer(s) | X Steering Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg

- < 15
- 15 - 25
- 25 - 35
- 35 - 45
- 45 - 60
- 60 - 120
- > 120

Estimated Soil Chemistry Arsenic - Slice A



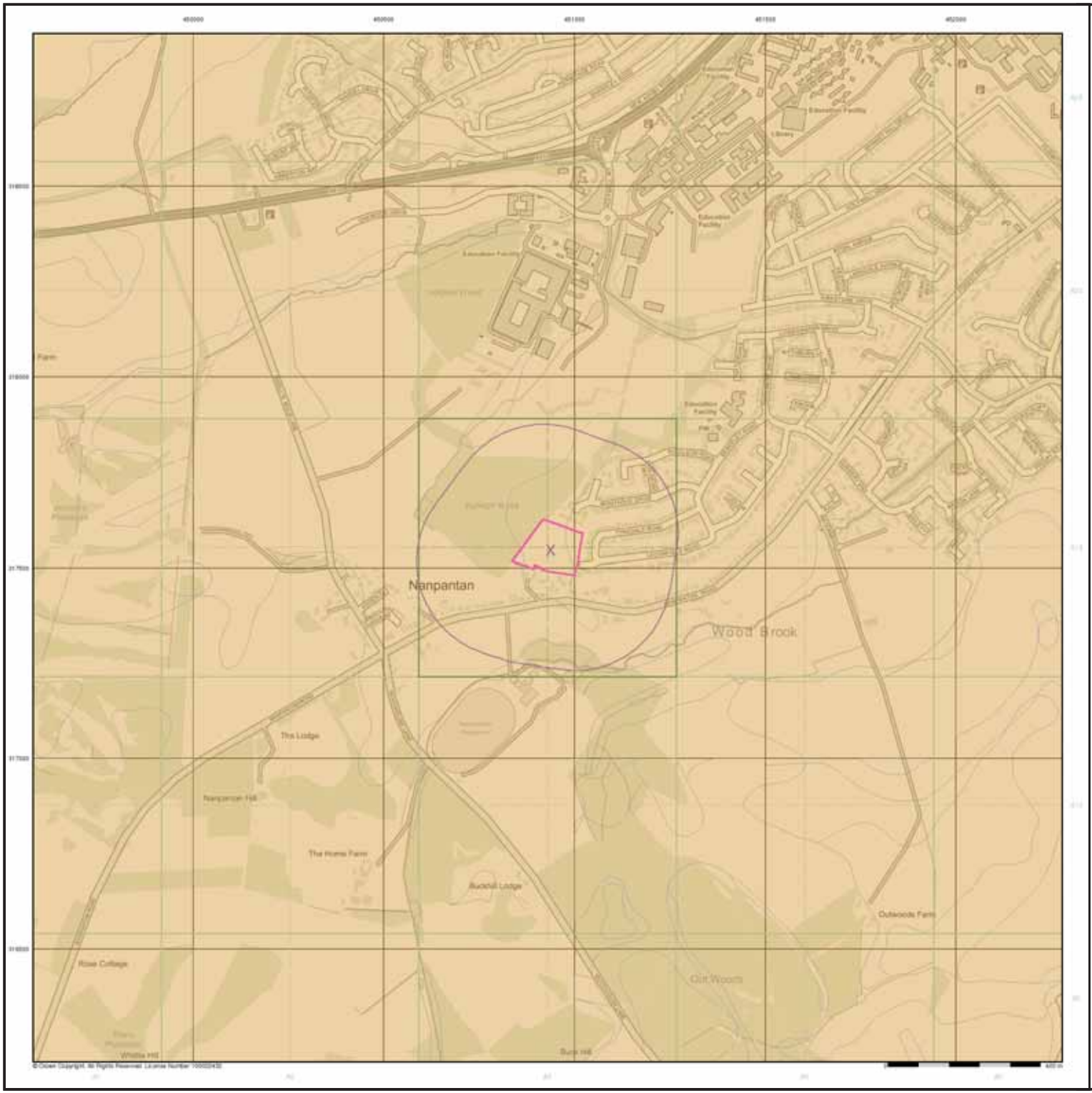
Order Details

Order Details:	237752056_1_1
Customer Ref:	40056
National Grid Reference:	450940, 317550
Slice:	A
Site Area (Ha):	1.69
Search Buffer (m):	250

Site Details

Site at 450950, 317560

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
Web: www.envirocheck.co.uk



GeoDyne

General

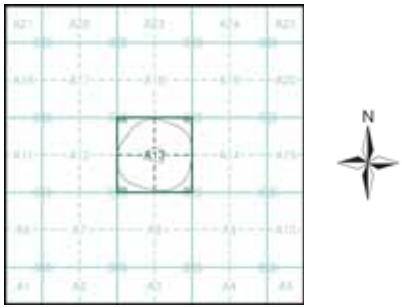
Specified Site | Specified Buffer(s) | Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg

- < 1.8
- 1.8 - 2.2
- 2.2 - 3.0
- > 3.0

Estimated Soil Chemistry Cadmium - Slice A



Order Details

Order Details:	237752056_1_1
Customer Ref:	40056
National Grid Reference:	450940, 317550
Slice:	A
Site Area (Ha):	1.69
Search Buffer (m):	250

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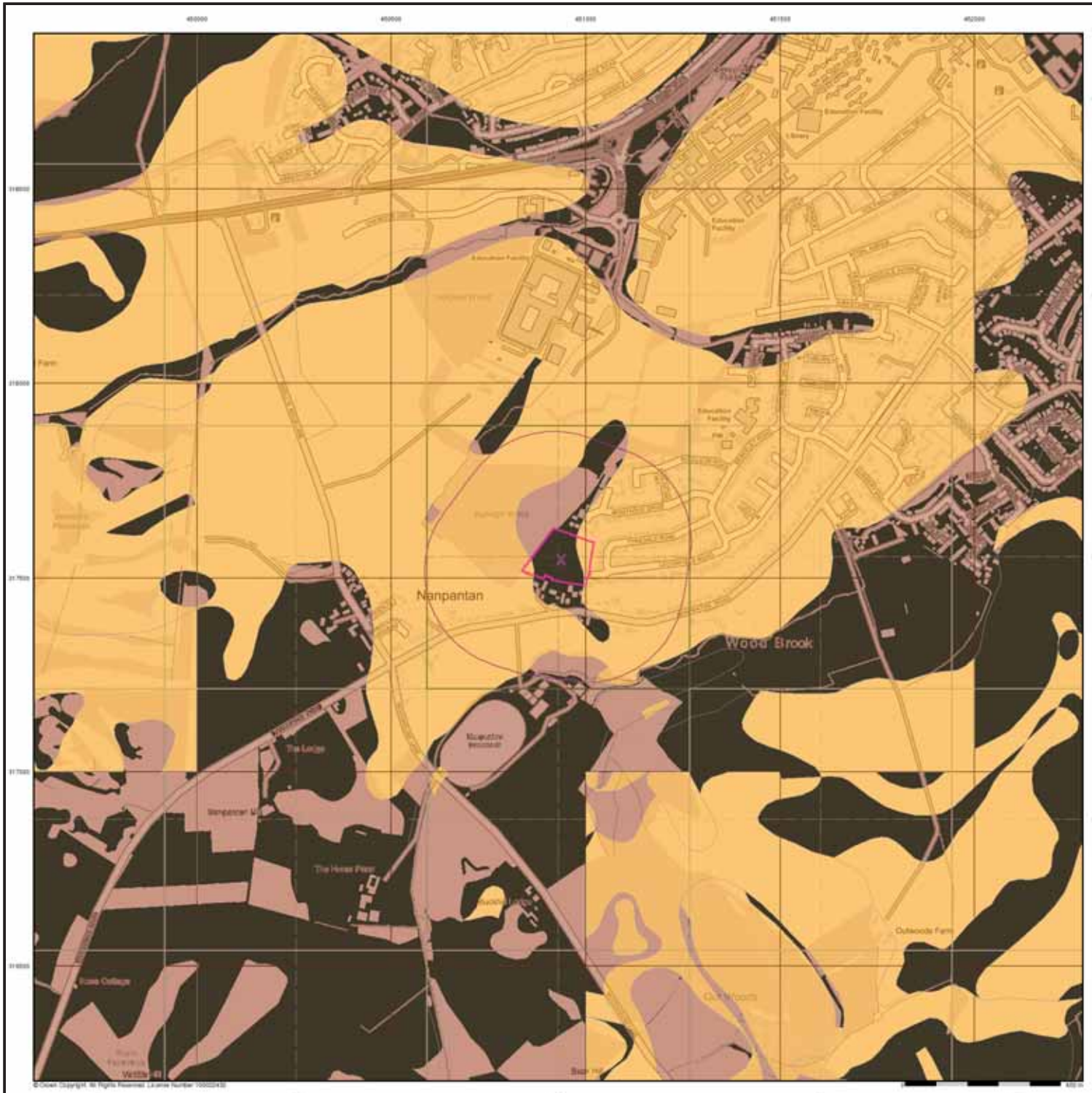


GeoDyne

General

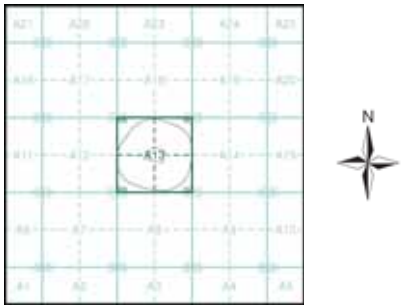
Specified Site Specified Buffer(s) Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg

- < 20
- 20 - 40
- 40 - 60
- 60 - 90
- 90 - 120
- 120 - 180
- > 180

Estimated Soil Chemistry Chromium - Slice A



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Customer Ref:	40056
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Slice:	A
Site Area (Ha):	1.69
Search Buffer (m):	250

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Site at 450950, 317560

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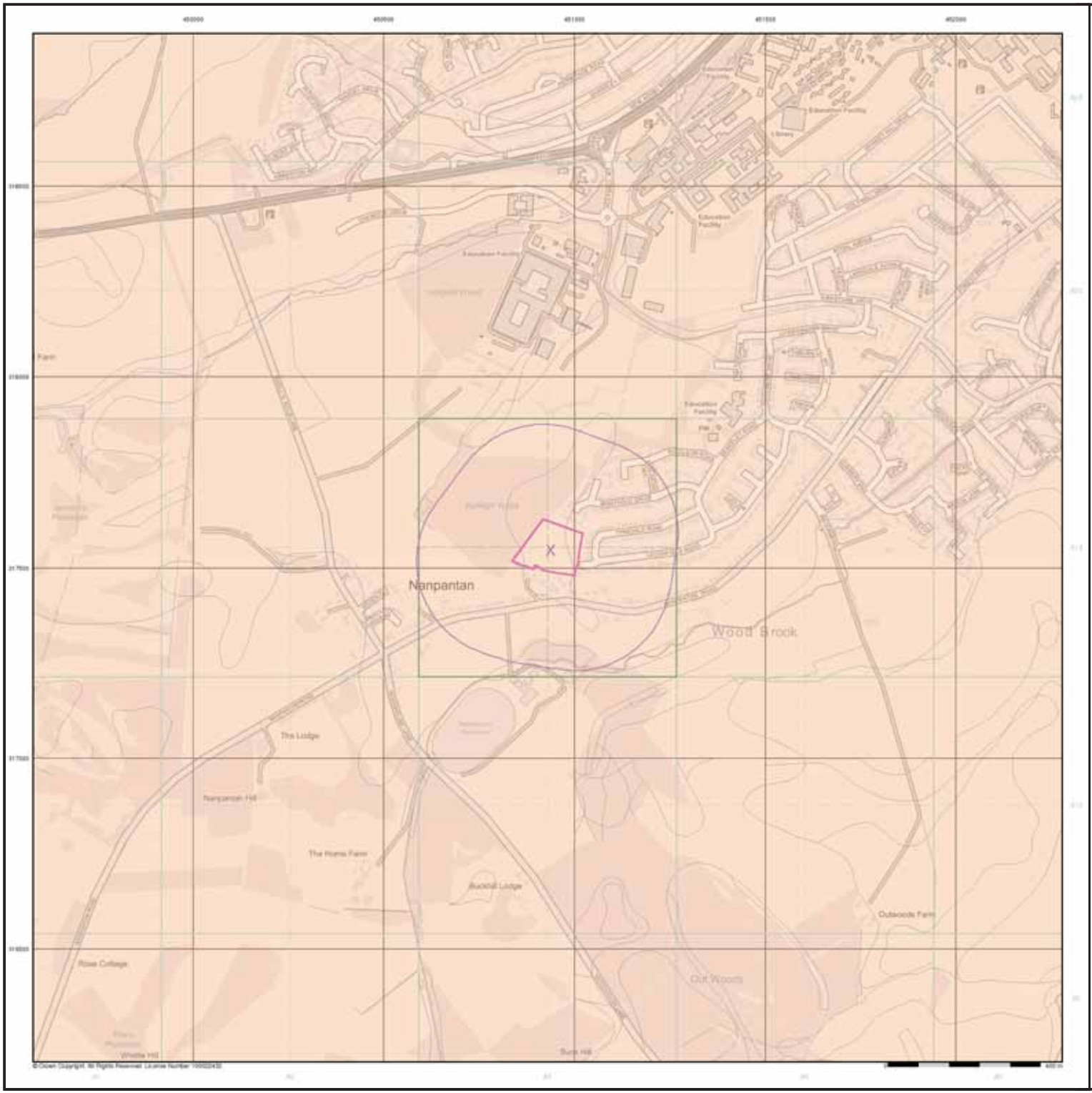


GeoDyne

General

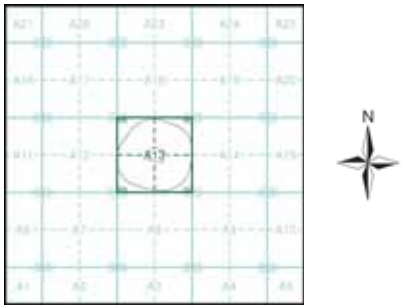
Specified Site | Specified Buffer(s) | X Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg

- <100 mg/kg
- 100 - 200
- 200 - 300
- 300 - 600
- 600 - 1200
- >1200

Estimated Soil Chemistry Lead - Slice A



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Site Area (Ha):	1.69
Search Buffer (m):	250

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General

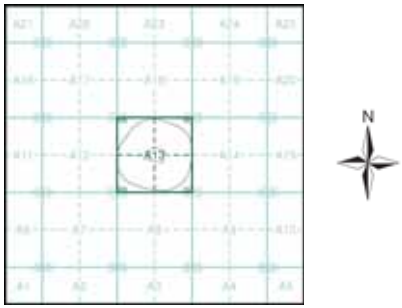
Specified Site Specified Buffer(s) X Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg

- < 15
- 15 - 30
- 30 - 45
- 45 - 60
- 60 - 80
- 80 - 100
- > 100

Estimated Soil Chemistry Nickel - Slice A



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Envirocheck® Report:

Mining and Ground Stability Datasheet

Order Details:

Order Number:
237752056_1_1

Customer Reference:
40056

National Grid Reference:
450940, 317550

Slice:
A

Site Area (Ha):
1.69

Search Buffer (m):
250

Site Details:

Site at 450950, 317560

Client Details:

Mr J Hollands
GeoDyne Ltd
Clarendon House
Clarendon Business Park
Clumber Avenue
Nottingham
NG5 1AH

Landmark INFORMATION GROUP

GeoDyne

Contents

Report Version v53.0

GeoDyne

Summary

Data Type	Page Number	On Site	0 to 250m
Mining and Natural Cavities Data			
BGS Recorded Mineral Sites			
Coal Mining Affected Areas			n/a
Man Made Mining Cavities			
Mining Instability			n/a
Natural Cavities			
Non Coal Mining Areas of Great Britain	pg 1	Yes	
Potential Mining Areas			
Historical Land Use Information (1:2,500)			
Extractive Industries or Potential Excavations from 1855-1909 (100m)			
Extractive Industries or Potential Excavations from 1893-1915 (100m)			
Extractive Industries or Potential Excavations from 1906-1937 (100m)			
Extractive Industries or Potential Excavations from 1924-1949 (100m)			
Extractive Industries or Potential Excavations from 1950-1980 (100m)			
Subterranean Features (100m)			
Historical Land Use Information (1:10,000)			
Air Shafts			
Disturbed Ground			
General Quarrying	pg 2		1
Heap, unknown constituents			
Mineral Railway			
Mining & quarrying general			
Mining of coal & lignite			
Quarrying of sand & clay, operation of sand & gravel pits	pg 2		1
Former Marshes			
Potentially Infilled Land (Non-Water)	pg 2		2
Potentially Infilled Land (Water)	pg 2		2
Ground Stability Data (1:50,000)			
CBSCB Compensation District			n/a
Brine Pumping Related Features			
Brine Subsidence Solution Area			
Potential for Collapsible Ground Stability Hazards	pg 3	Yes	Yes
Potential for Compressible Ground Stability Hazards	pg 3	Yes	Yes
Potential for Ground Dissolution Stability Hazards	pg 3	Yes	
Potential for Landslide Ground Stability Hazards	pg 3	Yes	
Potential for Running Sand Ground Stability Hazards	pg 3	Yes	Yes
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 3	Yes	Yes
Salt Mining Related Features			

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Summary

Report Version v53.0

Mining and Natural Cavities Data

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Coal Mining Affected Areas In an area which may not be affected by coal mining				
	Non Coal Mining Areas of Great Britain Risk: Highly Unlikely Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	450937 317546

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Historical Land Use Information (1:10,000)

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
1	**General Quarrying** Use: Not Supplied Date of Mapping: 1938	A13SE (SE)	128	-	451063 317369
2	**Quarrying of sand & clay, operation of sand & gravel pits** Use: Not Supplied Date of Mapping: 1938	A13SE (SE)	104	-	451093 317432
3	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A13SE (SE)	104	-	451093 317432
4	**Potentially Infilled Land (Non-Water)** Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1986	A13SE (SE)	128	-	451063 317369
5	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1955	A13SW (W)	2	-	450842 317526
6	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1955	A13SW (SW)	219	-	450652 317398

Ground Stability Data (1:50,000)

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	CBSCB Compensation District The site does not fall within the brine compensation area.				
	Brine Subsidence Solution Area The site does not fall within the brine subsidence solution area.				
7	**Potential for Collapsible Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	450937 317546
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	179	1	450920 317311
	Potential for Collapsible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	245	1	450731 317783
8	**Potential for Compressible Ground Stability Hazards** Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	179	1	450920 317311
9	**Potential for Compressible Ground Stability Hazards** Hazard Potential: Moderate Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	245	1	450731 317783
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	450937 317546
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	450937 317546
10	**Potential for Landslide Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	450980 317555
	Potential for Landslide Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	450937 317546
11	**Potential for Running Sand Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	129	1	450916 317363
12	**Potential for Running Sand Ground Stability Hazards** Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	179	1	450920 317311
13	**Potential for Running Sand Ground Stability Hazards** Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	245	1	450731 317783
14	**Potential for Running Sand Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	245	1	450904 317246
	Potential for Running Sand Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	450937 317546
15	**Potential for Shrinking or Swelling Clay Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SW)	0	1	450937 317546
16	**Potential for Shrinking or Swelling Clay Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	172	1	450920 317311
17	**Potential for Shrinking or Swelling Clay Ground Stability Hazards** Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NW (NW)	245	1	450731 317783
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (E)	0	1	450980 317555

Historical Map List

The following mapping has been analysed for Historical Land Use Information (1:2,500):

1:2,500	Mapsheet	Published Date
Ordnance Survey Plan	SK5017	1964
Ordnance Survey Plan	SK5117	1964

The following mapping has been analysed for Historical Land Use Information (1:10,000):

1:10,560	Mapsheet	Published Date
Leicestershire	017_NE	1886
Leicestershire	017_SE	1887
Leicestershire	017_NE	1904
Leicestershire	017_SE	1904
Nottinghamshire	052_NE	1904
Leicestershire	017_NE	1922
Leicestershire	017_SE	1922
Leicestershire	017_NE	1938
Leicestershire	017_SE	1938
Ordnance Survey Plan	SK41NE	1955
Ordnance Survey Plan	SK51NW	1955
1:10,000	**Mapsheet**	**Published Date**
Ordnance Survey Plan	SK51NW	1986
Ordnance Survey Plan	SK41NE	1993

Mining and Cavities Data	Version	Update Cycle
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	October 2019	Bi-Annually
Coal Mining Affected Areas The Coal Authority - Property Searches	March 2014	Annual Rolling Update
Man Made Mining Cavities Peter Brett Associates	December 2019	Bi-Annually
Mining Instability Ove Arup & Partners	October 2000	Not Applicable
Natural Cavities Peter Brett Associates	December 2019	Bi-Annually
Non Coal Mining Areas of Great Britain British Geological Survey - National Geoscience Information Service	May 2015	Not Applicable
Historical Land Use Information (1:2,500)	**Version**	**Update Cycle**
Subterranean Features Landmark Information Group Limited	February 2020	Bi-Annually
Ground Stability Data (1:50,000)	**Version**	**Update Cycle**
CBSCB Compensation District Cheshire Brine Subsidence Compensation Board (CBSCB)	August 2011	Not Applicable
Potential for Collapsible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	January 2019	Annually
Brine Subsidence Solution Area Johnson Poole & Bloomer	January 2015	Annual Rolling Update

Data Suppliers

A selection of organisations who provide data within this report

Data Supplier	Data Supplier Logo
Ordnance Survey	
British Geological Survey	
The Coal Authority	
Ove Arup	
Peter Brett Associates	
Wardell Armstrong	
Johnson Poole & Bloomer	

Useful Contacts

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

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Historical Land Use Information (1:2,500)

General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Map ID | Several of Type at Location

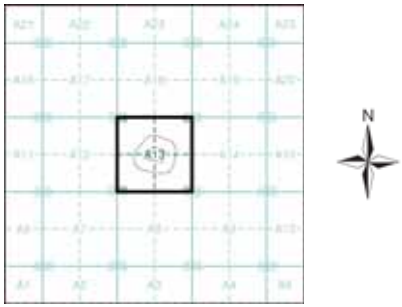
Potentially Contaminative Industrial Uses (Extractive Industries Activity)

	Point	Line	Polygon
Extractive Industries Activity from 1855 - 1909	▲	—	▭
Extractive Industries Activity from 1893 - 1915	▲	—	▭
Extractive Industries Activity from 1906 - 1937	▲	—	▭
Extractive Industries Activity from 1924 - 1949	▲	—	▭
Extractive Industries Activity from 1950 - 1980	▲	—	▭

Subterranean Features

	Point	Line	Polygon
Subterranean Features	▼	- - -	▭

Mining and Ground Stability - Segment A13



Order Details

Order Number:	237752056_1_1
Customer Ref:	40056
National Grid Reference:	450940, 317550
Slice:	A
Site Area (Ha):	1.69
Plot Buffer (m):	100

Site Details

Site at 450950, 317560

Landmark INFORMATION GROUP
Tel: 0844 844 9952
Fax: 0844 844 9951
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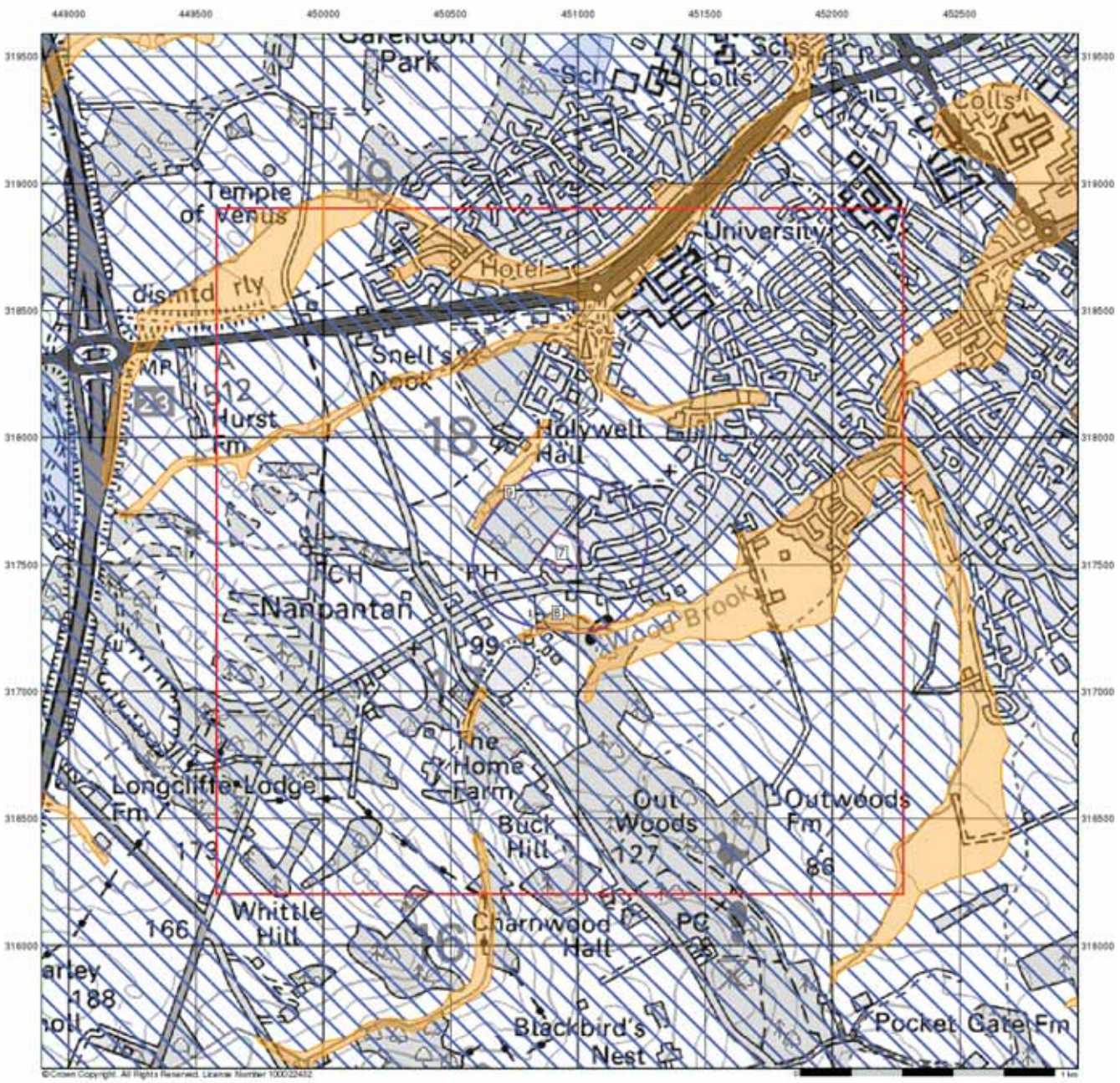

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Ground Stability Data (1:50,000)

General

Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Potential for Compressible Ground Stability Hazards

High | Low
Moderate | Very Low

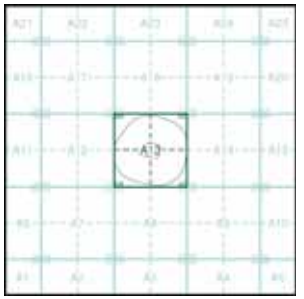
Potential for Collapsible Ground Stability Hazards

High | Low
Moderate | Very Low

Brine Pumping and Salt Mining

	Point	Polygon
Brine Pumping Related Feature	▲	▨
Salt Mining Related Feature	▲	▨

Mining and Ground Stability - Slice A



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Search Buffer (m):	250

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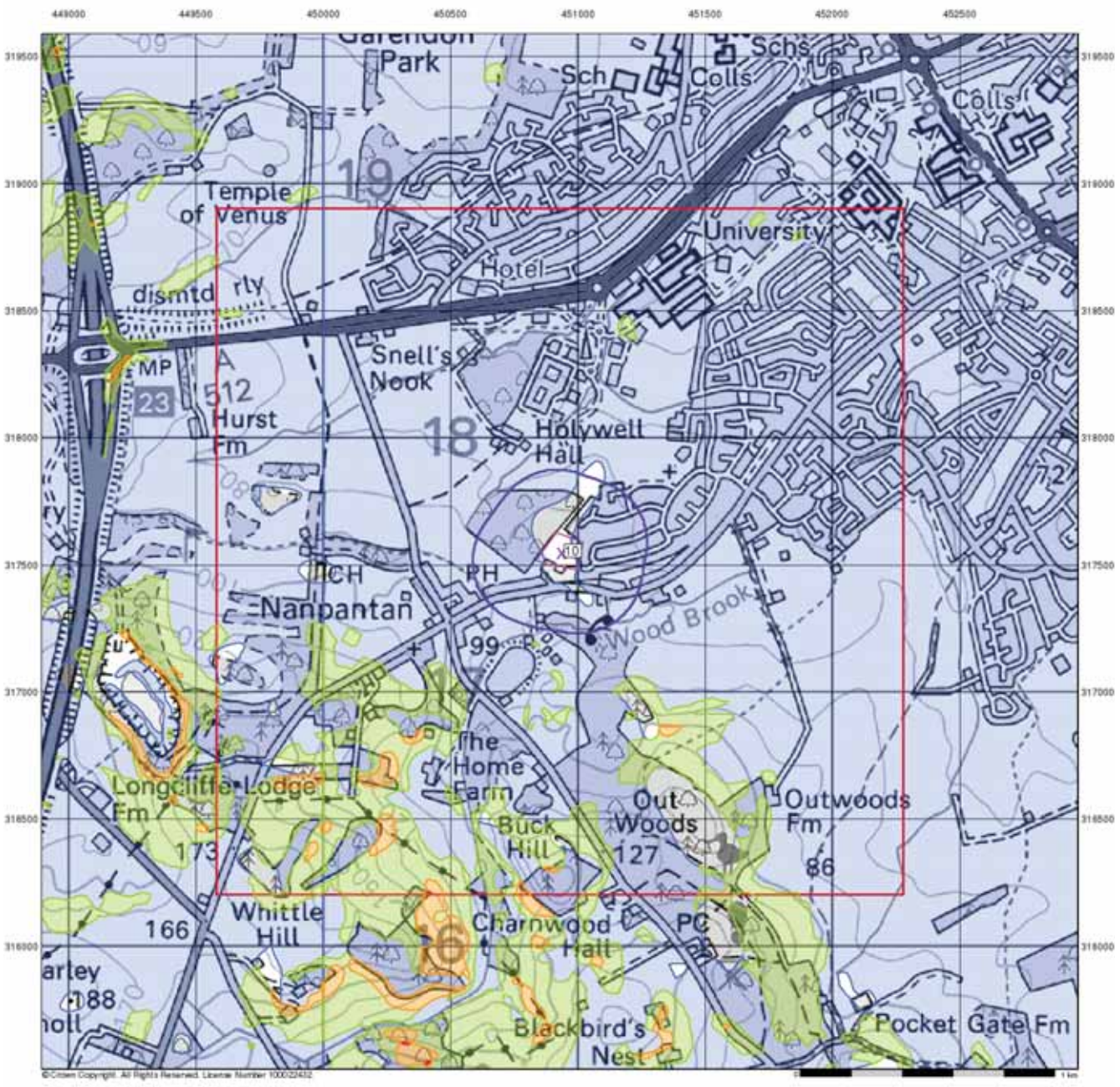

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Ground Stability Data (1:50,000)

General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

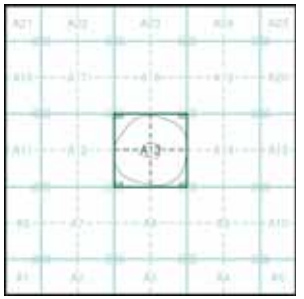
Potential for Landslide Ground Stability Hazards

High | Low | Moderate | Very Low

Potential for Ground Dissolution Stability Hazards

High | Low | Moderate | Very Low

Mining and Ground Stability - Slice A



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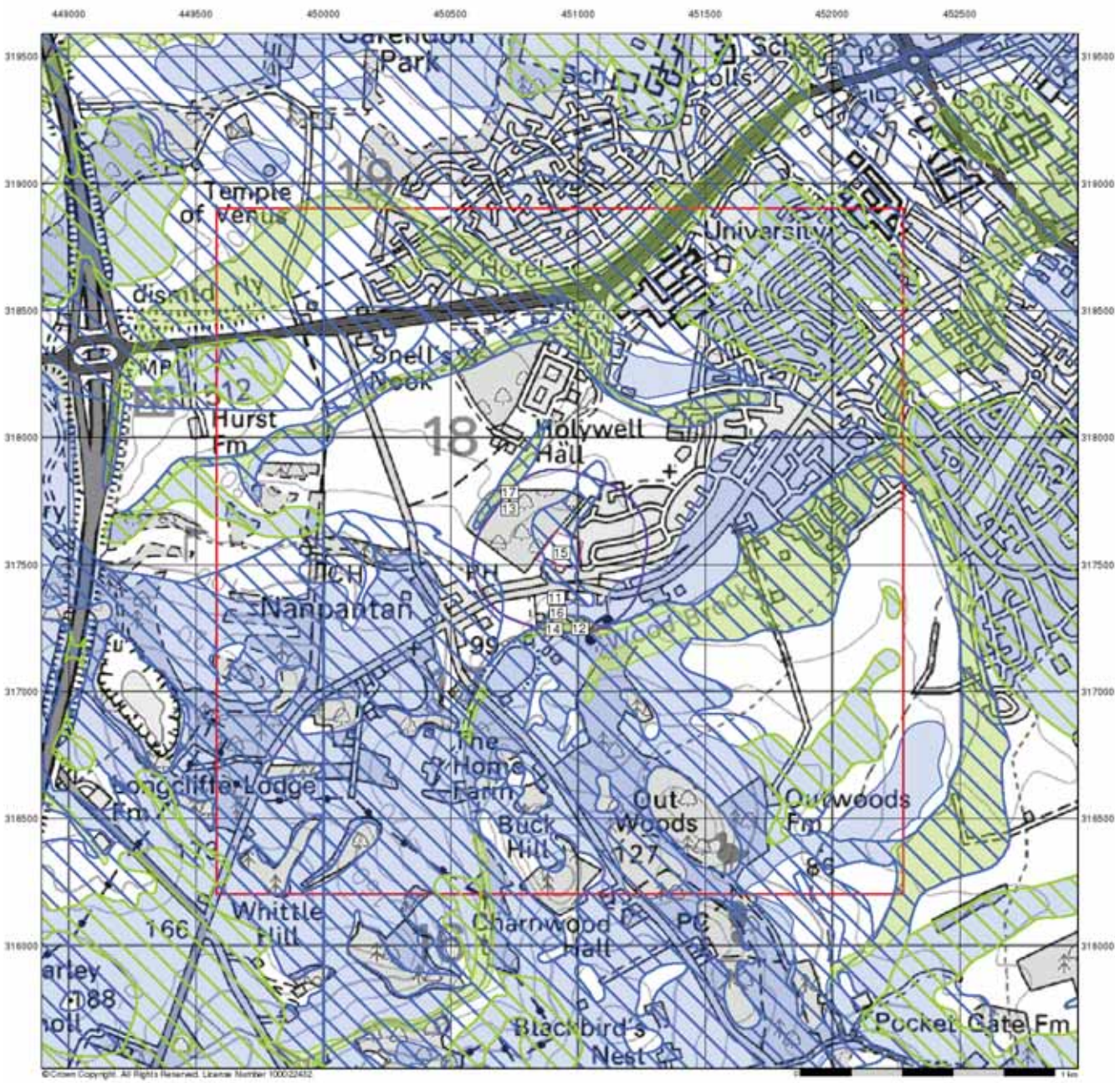

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Ground Stability Data (1:50,000)

General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

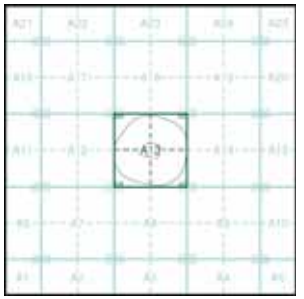
Potential for Running Sand Ground Stability Hazards

High | Low | Moderate | Very Low

Potential for Shrinking or Swelling Clay Ground Stability Hazards

High | Low | Moderate | Very Low

Mining and Ground Stability - Slice A



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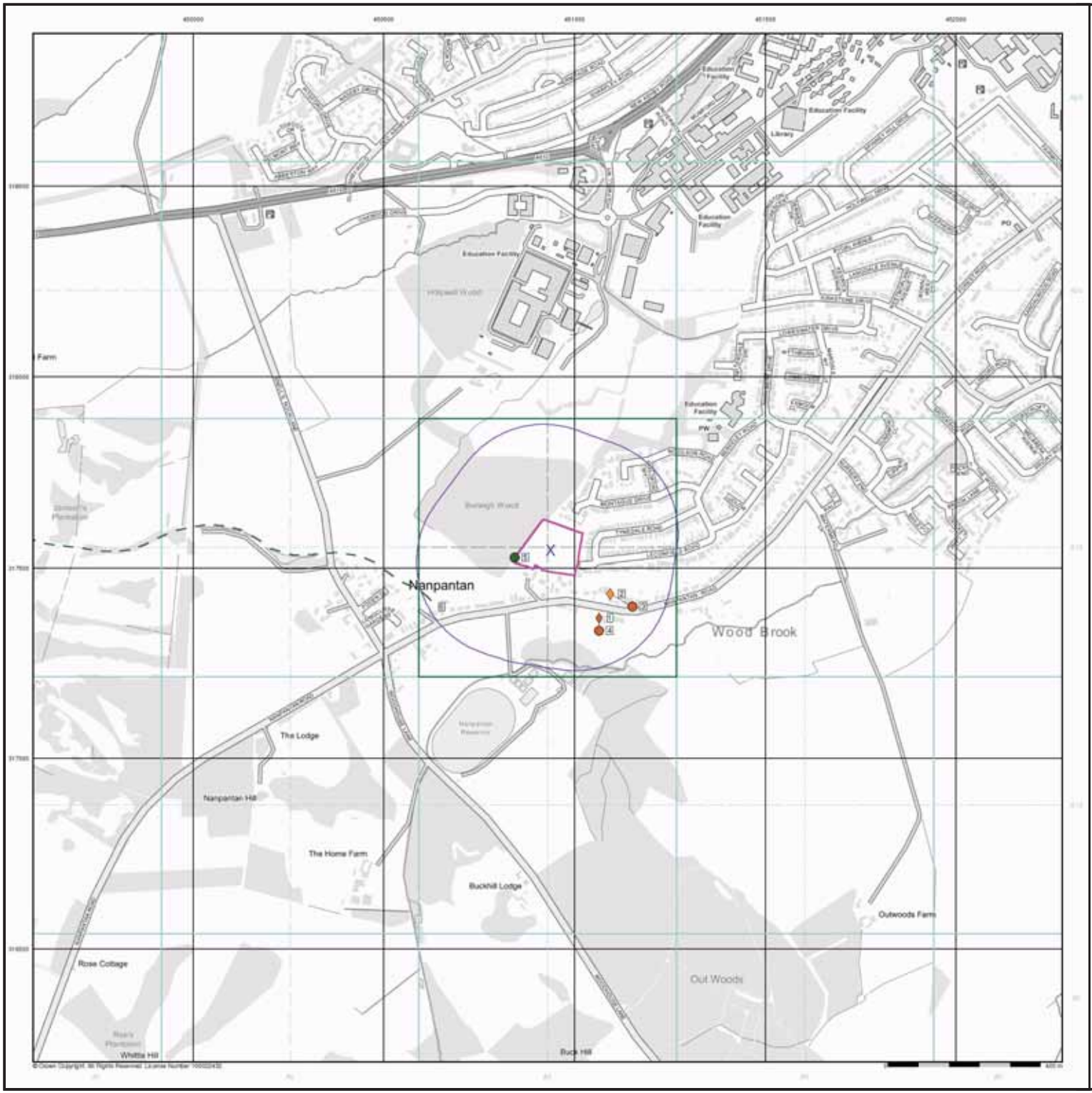

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Historical Land Use Information (1:10,000)

General

Specified Site | Specified Buffer(s) | Bearing Reference Point | Map ID

Several of Type at Location

Potentially Contaminative Industrial Uses (Past Land Uses - Mining)

	Point	Line	Polygon
Air Shafts			
Disturbed Ground			
General Quarrying			
Heap, unknown constituents			
Mineral Railway			
Mining and Quarrying General			
Mining of Coal & Lignite			
Quarrying of Sand and Clay, Operation of Sand and Gravel Pits			

Historical Land Use

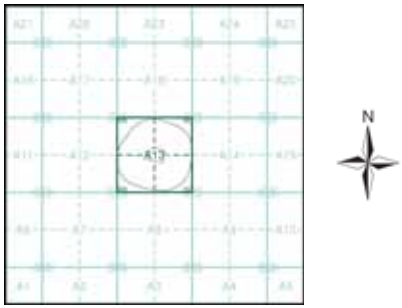
	Point	Line	Polygon
Potentially Infilled Land (Non-Water)			
Potentially Infilled Land (Water)			
Former Marsh			

Mining Data

Potential Mining Area

BGS Recorded Mineral Site

Mining and Ground Stability - Slice A



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APPENDIX VII

Conditions & Limitations

Conditions & Limitations

Phase I Desk Studies

1. Works undertaken to provide the basis of the Phase I Desk Study report comprise a review of information available from a number of sources/parties (potentially also including the Client) together with a walk over of the site (where applicable and included within the quotation). The opinions given in the Phase I Desk Study are based on the information available from third parties/sources that has been obtained within the available timeframe. GeoDyne Limited assumes all third party information to be true and correct and therefore cannot accept liability for the accuracy of such information supplied.

2. Should additional information become available that may affect the comments and opinions made within the Phase I Desk Study, GeoDyne Limited reserves the right to review such information and make modifications to comments/opinions as appropriate.

3. It should be borne in mind that a Phase I Desk Study collates available information to generate a conceptual model of the site. The actual geotechnical and environmental considerations can only be fully quantified by intrusive investigation works to confirm the accuracy of the conceptual site model.

Phase II Intrusive Investigations

1. Our quotation assumes that access to the site will be arranged by others at no cost to ourselves.

2. We have assumed that free access is available throughout to the entire site and that works can be undertaken during a single mobilisation. Where restricted access is encountered, or where additional unscheduled mobilisations are required, additional costs may be incurred to the client.

3. We have assumed that all available information relating to buried services will be supplied by the Client at no cost to ourselves. No responsibility will be accepted for damage to underground services that have not been brought to our prior attention by the Client.

4. All excavations/boreholes will be backfilled with compacted arisings upon completion, with any excess arisings left proud of ground levels. Excess arisings will not be removed from the site unless specifically requested by the Client. Where we are requested to remove excess arisings, all associated costs will be passed to the Client.

5. We will attempt to leave the site in a clean and tidy state, however, it must be understood that some disturbance of the site is unavoidable during intrusive works.

6. Exploratory holes are positioned approximately on site by GeoDyne Limited. Should the client require precise locations of all exploratory points, additional fees will be incurred. It must be borne in mind that backfilled trial pits can create ‘soft spots’, therefore, should the Client wish to designate ‘no dig’ zones, for example under the footprint of proposed structures, these must be brought to our attention prior to commencement of works.

7. Groundwater observations relate to conditions encountered at the time of investigation. It must be understood that groundwater levels may vary as a result of recent climatic conditions or seasonal variation.

8. Trial pits and boreholes examine only a small proportion of the total site area. No liability can be accepted for conditions not revealed in exploratory holes, particularly between positions. All extrapolations of available data are given in good faith.

Payment

1 Payment terms are strictly 28 days from the invoice date.

2 Prior to commencement of works, we require receipt of formal written instruction from the party accepting full financial responsibility for the work. In the absence of such an instruction, we would expect the instructing Consulting Engineers/Architects to accept full financial responsibility for the works.

3 Receipt of instruction to commence work shall be taken as acceptance and compliance of the foregoing conditions.

Liability

1. GeoDyne Limited offer £5,000,000.00 Professional Indemnity Insurance (in aggregate over the year). This shall be the limit of our liability for works undertaken. No individual liability shall be implied to, or accepted by, any employee for works undertaken for and on the behalf of GeoDyne Limited.