



Phase 1 Environmental Report

Land South of Sapcote Road, Burbage, Leicestershire, LE10 3AA

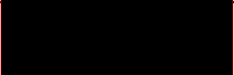
Jelson Limited

August 2022

Preface

Property Address:	Land South of Sapcote Road, Burbage, Leicestershire, LE10 3AA
NGR:	E: 445090 N: 293300
Property Use:	Agricultural Land
Site Area:	Approximately 16 Hectares (39.54 Acres)
Tenure:	Freehold
Date of Inspection:	12 August 2022
Inspection Conditions:	Bright and Sunny
Access Restrictions:	All areas of the site were accessed during the site visit
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Instruction Number:	01C201896

Report Control:

Status:		Date:
Version 3 Final		August 2022
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<i>For and on behalf of Avison Young (UK) Limited</i>		
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Contents

1.	Scope of Instruction and Brief.....	1
2.	Site Location	3
3.	Site Description	4
4.	Asbestos Containing Materials.....	9
5.	Historical Development.....	10
6.	Geological Setting	12
7.	Hydrogeology	15
8.	Hydrology and Flood Risk	16
9.	Regulatory Database Entries	18
10.	Environmental Sensitivity	20
11.	Regulatory Enquiries.....	21
12.	Environmental Risk Assessment.....	23
13.	Conclusion and Recommendations.....	26

Appendices

Appendix I	Development Proposal Plan
Appendix II	Historical Maps
Appendix III	Supporting Information
Appendix IV	Definitions and Reservations

1. Scope of Instruction and Brief

Objectives

- 1.1 Instructions were received from Jelson Limited (the Client) to undertake a Phase 1 Environmental Report for the subject property. We understand that the Client intends to redevelop the land for a residential end use with up to 343 dwellings and our report is required to support the planning application.
- 1.2 A copy of the development proposal is presented in **Appendix I**.
- 1.3 Therefore, the primary objectives of our report are to identify those environmental issues which have the potential to affect site use or may lead to regulatory intervention and to provide comment on the suitability of the site from an environmental perspective.

Background Data Sources

- 1.4 The findings of this report are based upon information provided to us and database information obtained from regulatory and statutory bodies (the Environment Agency, Local Authority, etc) as contained within the Landmark Envirocheck Report (Ref. 299830997_1_1).
- 1.5 The findings and opinions conveyed in this report are based on information obtained from a variety of sources as detailed in the report and which Avison Young assumes to be reliable, but has not been independently confirmed. Therefore, Avison Young cannot and does not guarantee the authenticity or reliability of third party information it has relied upon.
- 1.6 All Ordnance Survey Mapping contained within this report is © Crown Copyright. All rights reserved, licence number 100000795.

Report Preparation

- 1.7 This report is based on and prepared in general accordance with current best practice guidance documents concerning the assessment of potentially contaminated land including; British Standard (BS) 10175:2011+A2:2017: Investigation of Potentially Contaminated Sites, Environment Agency Land Contamination: Risk Management Guidance, DEFRA (2012): Environmental Protection Act 1990: Part 2A, Contaminated Land Statutory Guidance, the National Planning Policy Framework and the Royal Institution of Chartered Surveyors (RICS) Environmental Risks and Global Real Estate 1st Edition, November 2018.

- 1.8 This report has also been prepared in accordance with 'A Guide for Developers of Potentially Contaminated Sites in Leicestershire and Rutland (November 2011).

2. Site Location

Item	Description	
Site Location	The site is situated either side of Aston Flamville Road, which is accessed from the B4669 Sapcote Road to the immediate north west of the site. The site is situated to the east of Burbage, which is a suburb of Hinckley and is located approximately 2.5km south east of Hinckley town centre. Site location and layout plans are provided below.	
Surrounding Land Uses	North	B4669 Sapcote Road with Aston Firs, Burbage Wood and agricultural land beyond. Hinckley railway line is located approximately 1.2km to the north.
	East	Woodside Garage and van rental company together with residential properties, agricultural land and M69 motorway beyond.
	South	Agricultural land, Burbage Cemetery and M69 motorway.
	West	Residential properties.

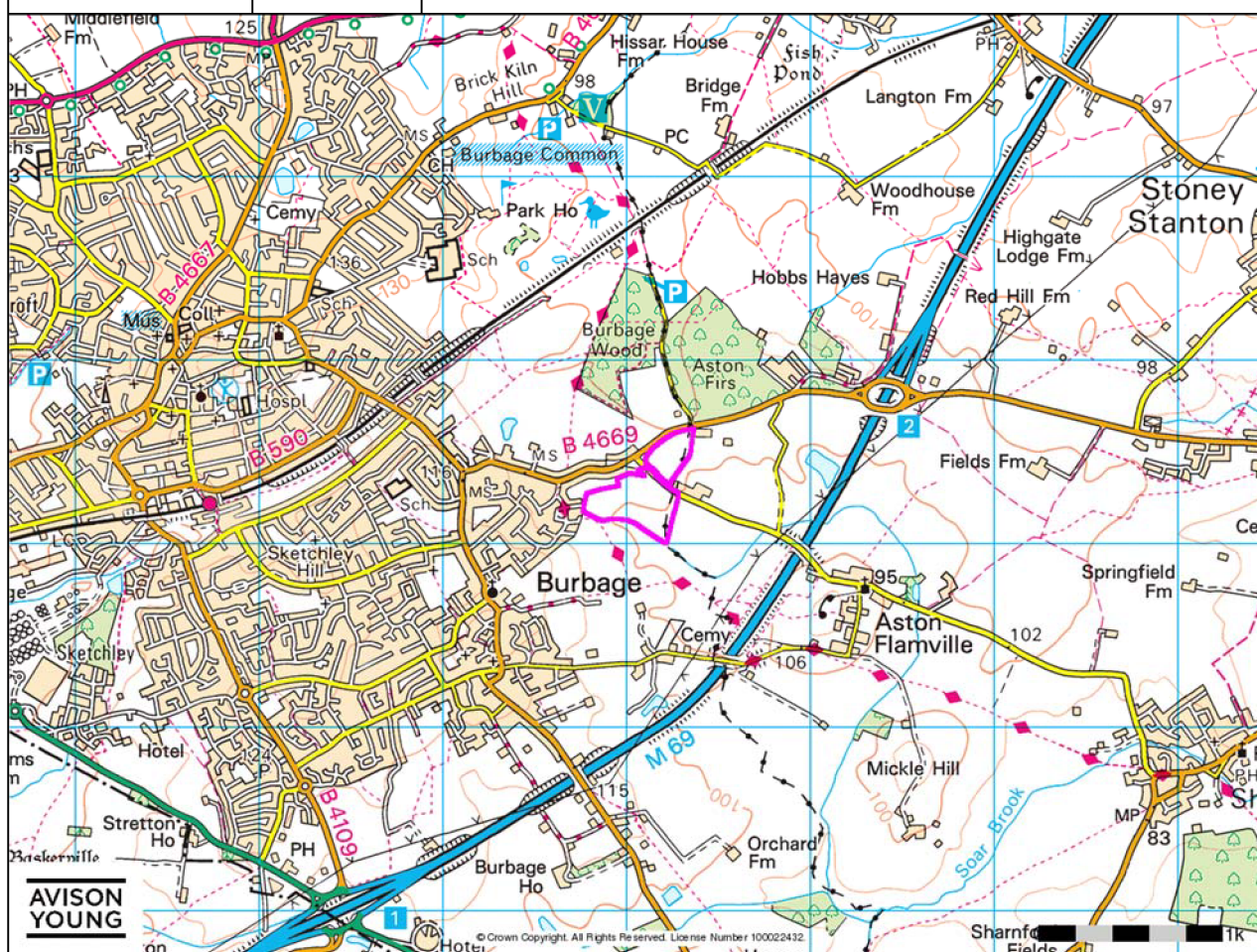


Figure 1: Site Location Plan (boundaries shown are indicative only)

3. Site Description

3.1 The following site layout plan and table provides a summary of the site’s layout, usage and condition.

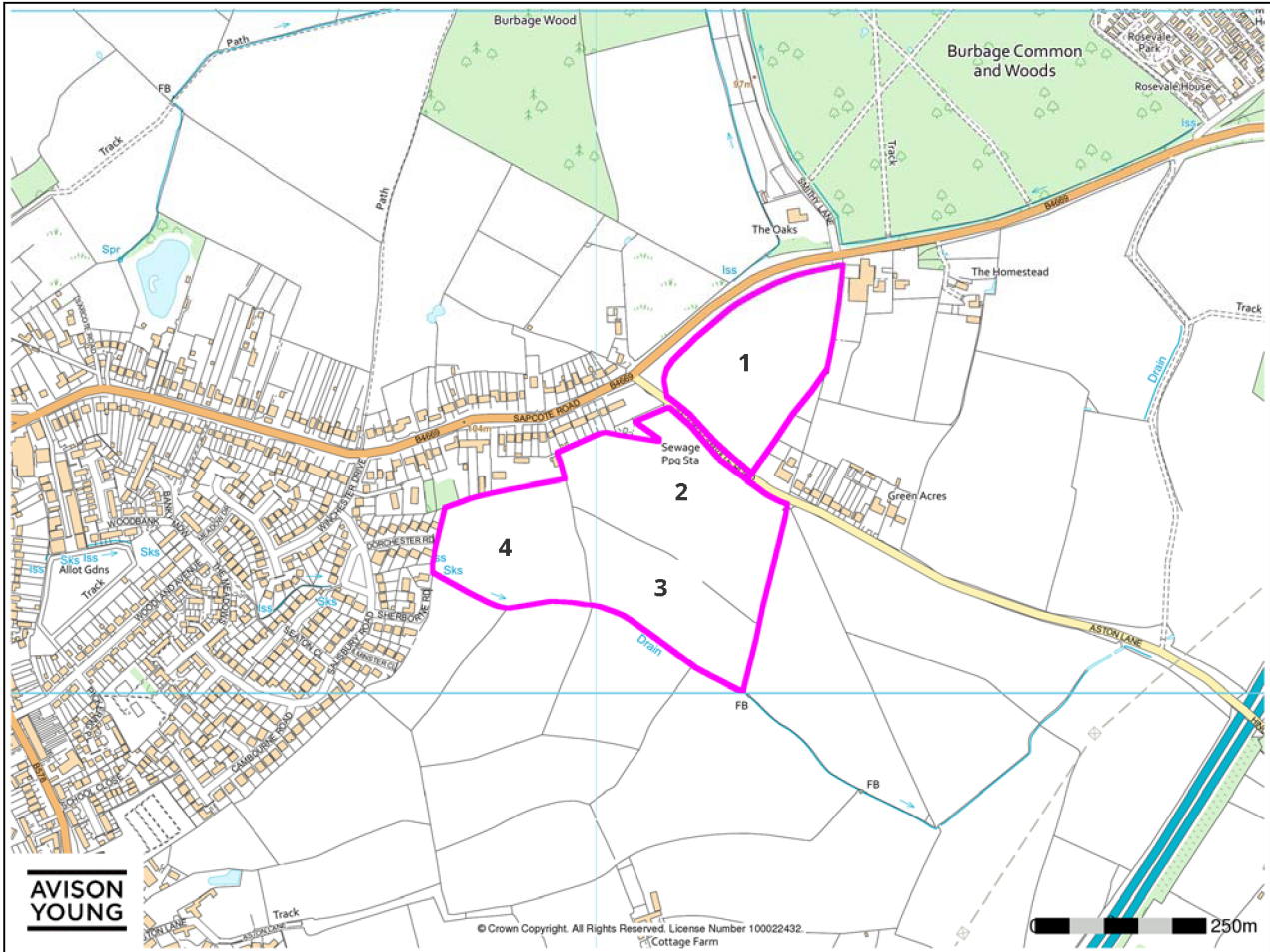


Figure 2: Site Layout Plan (boundaries shown are indicative only)

Item	Description
General Description	The site comprises approximately 16 hectares of agricultural farmland, which was laid entirely to pasture for the grazing of livestock. The fields are predominantly marked by hawthorn hedgerows with occasional mature ash and oak trees. Aston Flamville Road intersects Fields 1 and 2. A residential property, Burbage Dance Studio, Woodside Garage and a Van Rental Company are all located to the east of Field 1. The northern and western boundaries of Fields 2 and 4 are bound by residential properties, which are accessed from Sapcote Road, Dorchester Road and Sherborne Road. A rear access to a property off Sapcote Road was also noted in the north west of Field 2, with a concrete roadway bridging a field ditch. A land drain trends and flows in a south easterly direction along the southern site boundary, which forms part of the Soar Brook catchment. The land drain issues from a 1m diameter concrete culvert with brick headwall located in the south western corner of Field 4.

Item	Description
General Description	The land drain flows in a vegetated channel approximately 1m wide and is between 0.5m to 1m deep. There are a number of culverted sections along the channel to allow farm vehicles to pass across from Fields 3 and 4 to the land to the south. Field ditches that flow into the land drain were noted along the eastern boundary of Field 4 and the eastern boundaries of Fields 2 and 3. A field ditch is also present between Fields 2 and 3 which connected to the ditches at either end. With respect to Field 1, a ditch was present along the eastern boundary. Due to the topography, the northern half flowed to the north and may connect to the land drains located within Aston Firs woodland on the opposite side of Sapcote Road. The southern half flowed to the south but no specific discharge point was noted. No ponds are present on site. Field 1 was relatively flat with a very minor fall to the north and south noted along the eastern site boundary, as described above. Fields 2, 3 and 4 were also relatively flat. The ground was noted to be very dry at the time of the site walkover with desiccation cracks observed in a number of locations. Localised areas of Made Ground were noted at field entrances where hardcore (brick and concrete) has been placed in the past. No public rights of way or tracks were noted within the site boundaries.
Site Services	Overhead electricity cables trend north east to south west and from north west to south east across Field 1, with a further cable trending in a northerly direction to an off site property at the corner of Sapcote Road and Smithy Lane. Distribution transformers were noted in the northern and western corners of Field 1 associated with the overhead electricity cables. No electricity substations were noted on site. A Severn Trent Water Sewage Pumping Station is located off site centrally long the northern boundary of Field 2, which serves the local residential properties. A review of the Severn Trent Water Asset Plan identifies a public foul sewer trending from Dorchester Road in a north easterly direction across Field 4. It then continues around the north west perimeter of Field 2 until it enters the pumping station. Manhole covers associated with the public foul sewer are located in both Fields 4 and 2. The manhole cover in Field 4 was raised above its surroundings and was surrounded by Heras fencing. A pressurised foul sewer exits the Pumping Station and trends in a southerly direction across Fields 2 and 3. An abandoned pipe also runs parallel with the pressurised foul sewer. It is understood that there has been some surcharging of the foul sewers in the past leading to odour issues. A manhole cover was also observed in the northeast corner of Field 2. A review of the Severn Trent Water Asset Plan does not indicate this to be part of the public sewer network. A second, but smaller, Severn Trent Water Pumping Station is located to the north of Field 1 adjacent to Sapcote Road. This serves Woodside Garage, the Van Rental company to the east and residential properties along Sapcote Road. A pressurised public combined sewer runs immediately beyond the north western site boundary of Field 1 before feeding into the larger pumping station at Field 2.

Item	Description
Site Services	A further pressurised combined sewer is also laid within the carriageway of Aston Flamville Road which serves the residential properties to the south east of Field 1. This pressurised combined sewer also connects to the larger pumping station north of Field 2 and is shown to encroach within the north of Field 2. Surface water from the site is currently captured by a series of field ditches located at the field boundaries, which then feed into the main land drain as described above. A review of the Severn Trent Water Asset Plan confirms public surface water sewers to discharge into the land drain from the north, south and west. A private surface water pipe was noted to discharge into the field ditch in the north west corner of Field 2.
Underground/ Above Ground Tanks	From our site inspection, there are no above or below ground fuel tanks present on the site.
Chemical & Materials Storage	From our site inspection, there are no significant quantities of chemicals used or stored on site.
Waste Management Practices	No waste activities were identified on site.
Environmental Regulatory Controls	From the activities observed on site, we do not believe there is a requirement for the occupiers of the site to hold an exemption, permit or licence under the Environmental Permitting (England and Wales) Regulations 2010, the Water Resources (Abstraction and Impounding) Regulations 2006 or the Water Resources Act 1991.
Non-Native Invasive Plants	Non-native invasive plants such as Japanese Knotweed, Giant Hogweed and Himalayan Balsam were not suspected to be present on site. However, this should be confirmed by a specialist contractor / ecologist.
Environmental Observations	No significant evidence of ground contamination or hazardous processes were noted.

3.2 A selection of site photographs taken on 12 August 2022 is presented below.



Photo 1: View looking north across Field 1 towards junction of Sapcote Road



Photo 2: View looking to the north west across Field 2 towards existing housing



Photo 3: View looking south east across Field 3



Photo 4: View looking west across Field 4 and fenced manhole in centre of field



Photo 9: Manhole cover in north east corner of Field 2



Photo 10: View of Severn Trent Water Sewage Pumping Station north of Field 2



Photo 11: View of Severn Trent Water Sewage Pumping Station north of Field 1



Photo 12: View of Surface Water Sewer entering land drain in south west corner of Field 4

4. Asbestos Containing Materials

- 4.1 The Control of Asbestos Regulations 2012 came into effect in April 2012. These repeal earlier asbestos legislation, including; the Asbestos Regulations 2006, the Control of Asbestos at Work Regulations 2002, Asbestos Licensing Regulations 1983 and the Asbestos (Prohibition) Regulations 1992 (as amended).
- 4.2 Owners, occupiers, managers and/or those who have responsibilities for premises have a legal duty to either manage the risk of asbestos or a duty to co-operate with whoever manages that risk. The responsible party has to identify the existence of asbestos containing materials, record their location and condition, set out a plan to manage the risk from the material and take the necessary steps to put this plan into action.
- 4.3 An appropriately licensed asbestos contractor should remove asbestos material that is likely to be disturbed and cannot be easily protected. Reviews of this plan will have to be undertaken on an on-going basis. Details as to the location and condition of the materials must be provided to anyone who is liable to work on or disturb it.

Asbestos Survey

- 4.4 There are no buildings present on site and as such asbestos containing materials are not suspected to be present. There may be localised areas of Made Ground and the presence of asbestos in soils cannot be completely discounted in these locations.

5. Historical Development

- 5.1 In order to ascertain the historical land uses on site, Avison Young has purchased historical mapping from the Landmark Information Group, at scales of 1:1,250, 1:2,500, 1:10,000 and 1:10,560.

Date	Description
1886 to 1938	The site is shown in agricultural use and is largely laid out as present day. Roads concurrent with Sapcote Road and Aston Flamville Road are located to the north and dividing Fields 1 and 2. A watercourse is identified in the south of the site flowing in an open channel in a south easterly direction. Off site, woodland annotated as 'Aston Firs' and 'Burbage Wood' extends to the north of the site, with the village of Aston Flamville located 1km to the south east. A footpath is shown to cross the fields to the south of the site, which leads to a property annotated as 'Pilgrims Cottage' situated 100m to the south of the site. A 'Brick Works' and 'Kiln' is located approximately 800m to the south east and a depression indicating a clay pit is shown. The village of Burgage is located from 500m to the south west of the site and a railway line, trending from north east to south west, is situated 1km to the north west of the site.
1950 to 1955	Historical aerial photography dating from 1950 indicates the site to remain in agricultural use. Off site, residential properties have been constructed along Sapcote Road to the north of the site and the village of Burgage has extended easterly towards the site, with properties now situated 200m to the west. A row of properties are now present along Aston Flamville Road to the south east of Field 1, with a single property located to the east of the northern corner of Field 1. The 'Brick Works' is no longer annotated but the depression of the clay pit and a building remains.
1964 to 1979	No significant changes are noted on site, although a field boundary has been removed within the present day Field 4. Off site, a 'Garage' (petrol filling station) has been built immediately to the east of the northern corner of Field 1. In the late 1960s, the former 'Brick Works' was annotated as 'Brickyard Farm' and the depression was shown as a large pond. However, by the late 1970s, the M69 motorway has been constructed from 600m to the south east and this intercepts 'Brickyard Farm' and the pond is no longer present. Residential properties have also been constructed to the immediate west of Field 4 and the upstream section of the watercourse flowing through the south of the site has been culverted. A pumping station has been constructed to the north of Field 2, which serves the residential properties.
1992 to Present	Again, no significant changes are noted on site, although a field boundary has been removed in the north of the present day Field 2. Off site, an additional residential property (Manor View) has been constructed by 1992, located to the immediate east of the southern corner Field 1. This property has been extended in recent years. The 'Garage' to the east of Field 1 has also been extended and this is currently in use by a Van Rental Company. A pumping station is constructed to the immediate north of Field 2.

- 5.2 Selected extracts of the historical maps are provided in **Appendix II**.

Potential for Historical Contamination

- 5.3 In summary, given that the property was in greenfield use from at least 1886, we consider the potential for significant ground contamination on site to be low. However, the sewage pumping stations and garage are considered to be potential off site sources of contamination.

Unexploded Ordnance (UXO)

- 5.4 From a review of the Zetica Risk Maps, the site is located in an area where there is a low risk of unexploded ordnance (UXO).

6. Geological Setting

- 6.1 From a review of the British Geological Survey (BGS) Solid & Drift Sheet 169, Coventry at a scale of 1:50,000 and the online GeoIndex, the following geological succession has been identified at the site.

Strata	Description	Approx. Thickness
Bosworth Clay Member of the Wolston Glaciogenic Formation	Pre Devensian glacial succession of the Midlands comprising glaciolacustrine muds (clay and silt).	<5m
Wolston Sand and Gravel	Sand and gravel, locally with lenses of silt, clay or peat.	<5m
Mercia Mudstone Group	Triassic aged dominantly red, less commonly grey green mudstone with subordinate siltstone and halite bearing units in some basinal areas. Thin beds of gypsum are widespread.	>100m

- 6.2 The BGS do not map any artificial deposits across the site and limited Made Ground is anticipated given its agricultural land use. Localised areas of Made Ground to include brick and concrete is anticipated at field entrances, where rubble has been imported.

Structural Geology

- 6.3 The BGS map does not indicate the presence of any geological faults within 1km of the site.

Ground Stability Hazards

- 6.4 The Envirocheck Report indicated that the underlying geological conditions have been classified as follows:

Potential Geological Hazard	Risk Rating
Collapsible Ground Stability	Very Low
Compressible Ground Stability	Moderate
Ground Dissolution Stability	No Hazard
Landslide Ground Stability	Very Low
Running Sand Ground Stability	No Hazard
Shrinking or Swelling Clay Ground Stability	Low

- 6.5 The site has a moderate risk of compressible ground which relates to the clay and silt superficial deposits. The presence of compressible ground will need to be considered during the ground investigation, construction and building design. The effects of groundwater and building near trees will also need to be considered.
- 6.6 The Envirocheck Report does not identify the presence of any natural cavities on site or within 500m of the property.

Mineral Extraction

- 6.7 According to the British Geological Survey, no evidence of surface mineral extraction or man-made cavities have been identified on the property or within 250m.

Mining

- 6.8 The property is not located within an area that is affected by coal mining.

Radon

- 6.9 The property is in a lower probability radon area as less than 1% of homes are above the Residential Action Level of 200Bq/m³. No radon protective measures would be necessary in the construction of new dwellings or extensions.

Previous Site Investigations

- 6.10 No previous ground investigation reports are available for the site.

British Geological Survey Online Borehole Records

- 6.11 We have undertaken a search of the British Geological Survey online database for historical borehole records. There are no boreholes located on site. The nearest BGS borehole to the site is located 600m east of the site, which was drilled in May 1971 as part of the M69 motorway construction.
- 6.12 The borehole (BGS Reference: SP49SE28) indicates 0.3m Made Ground over a 0.7m thick layer of soft brown sandy silty clay. Stiff red brown marly boulder clay was proven to 3.45m below ground level (bgl). Red brown slightly clayey silty sand was then proven to a depth of 7m bgl. The bedrock was encountered as hard grey weathered siltstone to 8.8m bgl over hard red and grey sandy clay to 16m bgl.
- 6.13 A copy of the borehole record is provided in **Appendix III**.

Geotechnical Considerations

- 6.14 Limited Made Ground deposits are anticipated on site and these should not present a significant constraint to future redevelopment.
- 6.15 Topsoil should be removed from the site and preserved for reuse within the proposed development. Where there is an excess of material, it may be possible to dispose of it as a commodity subject to it conforming with BS3882:2013 Specification for Topsoil and an appropriate chemical analysis suite.
- 6.16 A significant earthworks programme is unlikely to be required given the generally level topography across the site. However, the geotechnical parameters of the shallow superficial deposits should be confirmed during future ground investigation works to confirm their suitability for re-compaction on site, where required. The competency of the deeper bedrock deposits will also need to be confirmed.
- 6.17 Shallow foundations may be considered suitable, however, should significant loadings be required, trench fill or piled foundations could be used as an alternative.
- 6.18 Cohesive shallow soils are anticipated to be present which may have shrinking and swelling properties. The potential for shrinking and swelling clays will need to be confirmed during future ground investigation works. Future foundation solutions, drainage connections and existing trees and new tree planting will need to consider and mitigate this risk.
- 6.19 Cohesive soils are also likely to exhibit low permeability, which may mean that surface water infiltration is restricted. Permeability testing of shallow soils should be completed to assist with the development of the site's future sustainable drainage strategy.
- 6.20 The volume of soil to be generated on site during construction and the volume required in the development should be determined at an early stage. There needs to be a certainty that reuse will occur on site, with sufficient supporting evidence, such as Materials Management Plan to prevent them from being considered as waste. The removal of excess materials may incur additional development costs and where materials are moved from one site to another, appropriate permits / regulatory controls should be in place.

7. Hydrogeology

Aquifer Designation

- 7.1 According to the Envirocheck Report, the following aquifer designations are assigned to the geological units beneath the site.

Geological Unit	Aquifer Designation
Bosworth Clay Member of the Wolston Glaciogenic Formation	Unproductive Strata with low permeability and have negligible significance for water supply or for the supply of base flow to streams and rivers.
Wolston Sand and Gravel	Secondary A Aquifer with permeable layers capable of supporting water supplies and base flow to rivers on a local scale.
Mercia Mudstone Group	Secondary B Aquifer with predominantly lower permeability layers which may store limited amounts of groundwater.

- 7.2 Regional groundwater flow is considered to be to the south / south east towards the Soar Brook.
- 7.3 The Water Framework Classification for the groundwater in the Soar Catchment is recorded as having a continuously good quantitative and chemical rating from 2013 to 2019 and an overall good status.
- 7.4 The Environment Agency's Groundwater Vulnerability maps show the vulnerability of groundwater to a pollutant discharged at ground level based on the hydrological, geological, hydrogeological and soil properties of the local area.
- 7.5 The site is shown to be located in an area where the superficial deposits have a low groundwater vulnerability, which means that groundwater resources are of low priority with a high degree of natural protection. The risk of pollution from spillages at the surface is therefore low to groundwater but the risk of pollution runoff to surface watercourse could be increased and activities should be managed.

Groundwater Source Protection Zone

- 7.6 The site is not located within a Groundwater Source Protection Zone.

Groundwater Abstractions

- 7.7 The Envirocheck Report does not identify any groundwater abstractions authorised by the Environment Agency on site or within 250m of the property.

8. Hydrology and Flood Risk

Hydrology

- 8.1 A land drain trends in south easterly direction along the southern site boundary, which feeds into the catchment of the Soar Brook. The Soar Brook is located approximately 1.4km to the south of the site, which trends and flows in a general easterly direction, where it becomes the River Soar. The land drain on site is not classified as a Main River by the Environment Agency, however, the downstream section of the Soar Brook and River Soar are designated as Main Rivers.
- 8.2 The on site land drain and Soar Brook are indicated to have had consistently poor ecological quality between 2013 and 2019, with the chemical quality recorded as good between 2013 and 2016 but failing in 2019. The overall classification under the Water Framework Directive is poor. The reasons for not achieving good status are indicated to include diffuse pollution from agriculture and the water industry.

Culverted Watercourses

- 8.3 There are short culverted sections across the on site land drain to allow farm vehicles to cross. The upstream section of the land drain has also been culverted and incorporated into the Severn Trent Water public surface water sewer network.
- 8.4 Where possible culverted sections throughout the proposed development should be kept to a minimum to improve biodiversity and reduce flood risk.

Surface Water Abstractions

- 8.5 The Envirocheck Report does not identify any surface water abstractions authorised by the Environment Agency on site or within 250m of the property.

Flood Risk

- 8.6 The Environment Agency's Flood Map for Planning and Flood Risk Maps indicate the following information for the site:

Flood Zone	Fluvial and Coastal Flood Risk Rating
Flood Zone 1	The Environment Agency risk rating at this location means that the site is at 'very low' risk of flooding with an annual probability of river or sea flooding of less than 1 in 1,000. This takes into account the effect of any flood defences that may be in this area. However, whilst flood defences reduce the risk they do not completely stop the chance of flooding and they can overtop or fail.

- 8.7 The Environment Agency's Flood Maps only model the risk of flooding for Main Rivers and as such the fluvial flood risk from the on site land drain is not shown and further assessment of fluvial flood risk is required.
- 8.8 The Environment Agency Surface Water Flood Maps indicate that the majority of the site is at 'very low' risk of surface water flooding, with an annual chance of flooding of less than 1 in 1,000. However, there is a 'low' risk of surface water flooding, with an annual chance of flooding between 1 in 1,000 and 1 in 100 associated with Field 3 and the eastern and southern parts of Field 4. The channels of the land drain and field ditches are indicated to be at 'medium' risk of surface water flooding with an annual chance of flooding between 1 in 100 and 1 in 30 and 'high' risk of surface water flooding with an annual chance of flooding of greater than 1 in 30. It is important to note that surface water flooding can be difficult to predict, much more so than river or sea flooding, as it is hard to forecast exactly where or how much rain will fall in any storm.
- 8.9 From a review of the British Geological Survey 'Groundwater Flooding Susceptibility Map' and based on the anticipated geological conditions of the site, groundwater flooding is not considered to be a significant risk.

Flood Risk Limitations

- 8.10 It is important to note that the above comments are based on the available desk top flood risk information for Main Rivers and flooding can also occur from smaller ordinary watercourses that are not mapped by the regulatory bodies.
- 8.11 Flooding can also occur through other mechanisms such as insufficient drainage capacity and breach of water storage infrastructure, such as reservoirs. For the avoidance of doubt, these forms of flooding have not been specifically assessed as they fall outside of the scope of this Environmental Report.
- 8.12 A Flood Risk Assessment with hydraulic modelling has been prepared by Avison Young under separate cover and should be referred to for further details.

9. Regulatory Database Entries

- 9.1 We have reviewed the Envirocheck Report to assess if there are any relevant entries that may impact the property. These entries are summarised below:

Discharge Consents

- 9.2 The Envirocheck Report identifies the following licensed surface water discharge consents authorised by the Environment Agency on or in close proximity to the subject site:
- Licence Ref: T/50/40071/O registered to Severn Trent Water since February 1995 for Aston Firs Pumping Station located to the immediate north of Field 1. The discharge is listed as 'sewage discharge – pumping station' with the receiving water identified as the tributary of the Thurlaston Brook;
 - Licence Ref: T/50/03268/O registered to Severn Trent Water since July 1972 for Sapcote Road Sewage Pumping Station located to the immediate north of Field 2. The discharge is listed as 'storm sewage overflow' with the receiving water identified as a tributary of the River Soar; and
 - Licence Ref: T/50/40061/O registered to Severn Trent Water since February 1995 and updated in September 2020 for Sapcote Road Sewage Pumping Station located to the immediate north of Field 2. The discharge is listed as 'storm sewage overflow' with the receiving water identified as a tributary of the Soar Brook.
- 9.3 There was also a discharge consent for an Ejector Station (Licence Ref: DT/8054) located 125m east of the site off Aston Flamville Road, which served the residential properties east of Field 1. This was registered to Severn Trent Water from May 1963 and revoked in August 2011. It was for 'sewage discharges' with the receiving water identified as a tributary of the Soar Brook.

Environmental Permits (EA Installations, LAIPPC, LAPPC)

- 9.4 The Envirocheck Report does not identify any of the above environmental permits on site or within 250m of the property.

Pollution Incidents

- 9.5 From a review of Environment Agency substantiated pollution incidents contained within the Envirocheck Report, there are no incidents recorded on site or in the immediate vicinity of the site that are likely to have any significant impact.

Waste Management Sites

- 9.6 The Envirocheck Report does not identify any historical or operational landfills on site, or within 250m of the property.
- 9.7 Furthermore, there are no operational waste treatment or transfer facilities located within a 250m radius of the site.

Hazardous Substances (COMAH etc)

- 9.8 Industrial operations that involve the storage and use of significant quantities of hazardous substances are regulated by the Local Authority, the Environment Agency and Health and Safety Executive. The Envirocheck Report does not identify any authorisations/consents on site or within 1km of the property.

Sensitive Land Uses

- 9.9 The Envirocheck Report indicates that Aston Firs is recorded as Ancient Woodland, whilst Burbage Wood is designated as a Local Nature Reserve. Both areas of woodland are located on the northern side of Sapcote Road and are also designated as a Site of Special Scientific Interest (designation date July 1983).
- 9.10 The sensitivity of the woodland and land drains running through this area will need to be considered during the design, construction and operational phase of the development to prevent any adverse impacts upon them.

10. Environmental Sensitivity

10.1 The environmental sensitivity of the site has been assessed using the information in the above sections and is summarised in the following table.

Attribute	Environmental Sensitivity		
	Low	Medium	High
Aquifer designation	☒	☐	☐
Permeability of aquifer	☒	☐	☐
Groundwater abstractions	☒	☐	☐
Groundwater Source Protection Zones	☒	☐	☐
Sensitivity of receiving waters	☐	☒	☐
Surface water abstractions	☒	☐	☐
Proximity to human occupation	☐	☐	☒
Presence of Site of Special Scientific Interest	☐	☒	☐
Presence of Areas of Outstanding Natural Beauty	☒	☐	☐
Presence of Local and National Nature Reserves	☐	☒	☐
Presence of RAMSAR sites	☒	☐	☐
Presence of Special Protection Areas	☒	☐	☐

10.2 On consideration of the hydrology, geology, hydrogeology and ecological receptors, the site and its surrounding area is considered to be of 'medium' environmental sensitivity. Whilst there is limited potential for the leaching and migration of potential contaminants due to the permeability of the soils, there is a high risk of surface water runoff impacting the local watercourses.

11. Regulatory Enquiries

Hinckley and Bosworth Borough Council

11.1 A review of the site's planning history on the Hinckley and Bosworth Borough Council website indicates that the following planning application has been made:

- Planning application ref. 14/00475/OUT for a residential development (outline access only) was made in June 2014 and refused in November 2014. Comments submitted from Environmental Health confirmed that they had no objection in principle to the proposed development.

11.2 We have made regulatory enquiries to Mr Giles Rawdon, Environmental Health Officer at Hinckley and Bosworth Borough Council regarding environmental issues that may impact the future development of the site.

11.3 In summary, the Council has confirmed the following details:

- No records are held by Environmental Health (Pollution) relating to past contaminative land uses on the site. It is unlikely the site would be deemed contaminated land under Part IIA of the Environmental Protection Act 1990 based upon current knowledge of the site;
- Environmental Health (Pollution) are unaware of any previous ground investigation reports, monitoring records or other documents relevant to land contamination issues as the site is undeveloped;
- Environmental Health (Pollution) does not hold any records of landfill, waste management sites or regulated premises (Pollution Prevention and Control Authorisations) at the site;
- Environmental Health (Pollution) does not hold any records of pollution incidents occurring at the site or that may affect the site and
- Environmental Health (Commercial) have confirmed that they do not hold any records of private abstraction wells/water supplies on or near the site.

11.4 Where relevant, copies of the regulatory responses are provided in **Appendix III**.

Leicestershire County Council

- 11.5 Verbal enquiries have been made with Mr John Pritchard, Petroleum Officer at Trading Standards Service, Leicestershire County Council regarding Woodside Garage.
- 11.6 Woodside Garage is registered to D Tallis Hire Limited and the Petroleum Officer confirmed that the vehicle hire operations did originally continue with some fuel sales but these have now ceased. The fuel station has not been fully decommissioned and further works to fully decommission the site are required. The Petroleum Officer was not aware of any major recorded incidents that would have led to ground contamination.

12. Environmental Risk Assessment

- 12.1 In order to assess the risks associated with the presence of ground contamination, the linkages between the sources and potential receptors need to be established and evaluated. This is in accordance with Part 2A of the Environmental Protection Act (EPA) 1990, which provides a statutory definition of Contaminated Land.
- 12.2 To fall within this definition it is necessary that, as a result of the condition of the land, substances may be present in, on or under the land such that:
- Significant harm is being caused or there is a significant possibility of such harm being caused; or
 - Significant pollution of controlled waters is being, or is likely to be, caused.
- 12.3 This regime does not take into account future uses which could need a specific grant of planning permission. To ensure a site is suitable for its new use and to prevent unacceptable risk from pollution, the implications of contamination for a new development are considered by the local planning authority.

Risk Exposure

- 12.3 In consideration of the above regulatory regime and available information, the overall risk with respect to issues identified on the site has been assessed qualitatively as low, moderate or high. A risk exposure matrix for plausible pollutant linkages for future use is shown below:

Potential Contamination	Pathways	Receptors	Risk Evaluation of Pollutant Linkage
Historical contaminants – <u>On site –</u> Arable Land – <i>use of pesticides and herbicides</i> <u>Off site –</u> Arable Land – <i>use of pesticides and herbicides</i> Former Fuel Station – <i>potential for oil and fuel hydrocarbons from spillages or underground tanks</i> Current contaminants – <u>On site –</u> Agricultural Land – <i>limited Made Ground associated with imported building rubble at field entrances</i> Foul Sewage Runs (surcharging of manholes) – <i>potential for sewage leading to odours and localised elevated heavy metals, ammonium, cyanides, pathogens</i>	Direct contact / ingestion of contaminated soil	Site Workers / Site Visitors / Residents	Low - The site has been in agricultural use since at least 1886 and there have been no buildings or ponds on site. Significant contamination is not anticipated but there may be localised areas of Made Ground or land impacted from surcharged sewers. The off site sewage pumping stations and former fuel station / existing vehicle hire depot are potential contaminant sources but the presence of low permeability clays will reduce the potential for migration on site. Ground investigation works should be completed to confirm potential sources of contamination.
		Construction Workers	Low - Construction workers are unlikely to be exposed to significant contamination in soil during any future ground works. Localised areas of contamination could be encountered along drainage runs and adjacent to potential off site sources. Appropriate mitigation measures should be implemented.
	Inhalation of ground gases / dust / fibres	Site Workers / Site Visitors / Residents	Low - No significant sources of ground gas have been identified on site. Low permeability clays will limit the potential for ground gas migration. Low - No potential sources of asbestos have been identified on site but its present in Made Ground cannot be completely discounted. Any asbestos identified during development will require mitigation measures.
		Construction Workers / Neighbouring Residents	Low - No significant sources of ground gas have been identified on site. Construction workers may be exposed to low concentrations of methane and carbon dioxide associated with foul sewer drainage runs. Low - No potential sources of asbestos have been identified on site but the potential for asbestos in any Made Ground soils cannot be completely discounted. During construction works, workers and nearby residents could be exposed to localised contaminants in windblown soils and appropriate mitigation measures should be implemented.
	Permeation of contamination through water supply pipes	Site Workers / Site Visitors / Residents	Low - No significant sources of contamination have been identified but risk assessment will be required as part of the future ground investigation works. Any new water supply pipes laid should take account of the encountered ground conditions.

Potential Contamination	Pathways	Receptors	Risk Evaluation of Pollutant Linkage
<u>Off site –</u> Sewage Pumping Station - <i>potential for sewage overflow leading to odours and localised elevated heavy metals, ammonium, cyanides, pathogens</i> Vehicle Hire and Former Fuel Station - <i>potential for oil and fuel hydrocarbons from spillages or underground tanks, use of paint, lubricating oils, surfactants, antifreeze, etc.</i>	Direct contact with contaminated soils	Buildings and Services	Low - No significant sources of contamination have been identified that are likely to cause the deterioration of concrete. Ground investigation works will need to confirm sulphate concentrations and pH in accordance with BRE SD1:2005 to inform buried concrete design.
	Plant uptake from soil	Landscaped areas	Low - No evidence of vegetation die back was noted. However, the potential presence of phytotoxic contaminants in soils should be assessed and suitable subsoil and topsoil cover layers should be used for gardens and areas of landscaping, where required.
	Ingestion of site grown fruit and vegetable	Site Workers / Site Visitors / Residents	Low - Significant contamination is not anticipated on site. Future development proposals will need to ensure a suitable clean cover layer is provided in private residential gardens.
	Leaching to groundwater and migration in groundwater	Unproductive Strata over Secondary Aquifers	Low - No significant sources of contamination noted and low permeability clays will limit potential for any contamination to migrate vertically. No groundwater abstractions have been identified locally to the site.
	Migration in groundwater to watercourse	Field ditches and land drain on site feeding into the Soar Brook catchment	Low - Unlikely given the absence of significant sources of contamination and presence of low permeability clays. No surface water abstractions have been identified downstream of site.
	Surface water runoff		Moderate - Low permeability clays across the surface of the site results in increased surface water run off to watercourses. No significant sources of current contaminants identified on site. However, suitable control measures will need to be implemented during the construction phase to prevent incidents, accidents and the creation of silt runoff.
	Surface water runoff to adjacent land	Off-site property	Moderate - Low permeability clays across the surface of the site result in increased surface water runoff which may flow over land. No significant sources of current contaminants identified on site. However, suitable control measures will need to be implemented during the construction phase to prevent incidents, accidents and the creation of silt runoff.
	Migration in groundwater to adjacent land		Low - Site and adjacent property have not had a significantly contaminative history and presence of low permeability clays will limited any migration in groundwater.

13. Conclusion and Recommendations

- 13.1 The Avison Young Environmental Services Team has completed a Phase 1 Environmental Report for the subject property.
- 13.2 In conclusion, based on our assessment of historical map sources and background data, together with our site inspection, we consider that the site represents a **Low Environmental Risk** from an environmental perspective for future redevelopment for a residential end use.
- 13.3 A ground investigation will be required to establish the ground conditions and obtain suitable information to design any future earthworks specifications, foundation requirements, assess the potential for soil shrinkage, aggressive ground conditions and determine the permeability of the ground to aid with future drainage design. Sufficient information should also be obtained to enable liaison with the Water Company and complete a risk assessment for buried water supply pipes. The locations adjacent to potential off site sources of contamination should also be investigated to confirm if any contamination migration on site has occurred.
- 13.4 Should any unforeseen ground conditions and potential ground contamination be identified, it would be necessary to undertake appropriate sampling and testing to enable a Quantitative Risk Assessment to be completed. This would assess the potential source-pathway-receptor linkages and determine the actual risks to human health and the environment.
- 13.5 Any proposed earthworks programme is likely to generate soils that could be reused on site or may require off site disposal. A Materials Management Plan should be developed at an early stage to help provide the most sustainable and cost effective solution for their reuse either on or off site.
- 13.6 The topsoil present at the site should be carefully stripped to enable reuse within the proposed development. Care should also be taken to prevent silt and sediment runoff to local watercourses during this process and throughout the earthworks / construction phases. The guidance in BS3882:2015 Specification for Topsoil should be followed and any deleterious materials / contamination should be removed prior to its replacement in gardens and areas of landscaping.
- 13.7 A site specific Flood Risk Assessment with hydraulic modelling will be required to support any future planning application and this has been prepared under separate cover by Avison Young. An easement either side of the land drain will be required. Easements either side of the public sewers will also be required.

- 13.8 The presence and condition of any culverts to remain along the route of the land drain should be fully understood to determine their potential impact upon the proposed development of the site. Where possible, the future development scheme should look to remove the culverts and naturalise the watercourse.
- 13.9 Non-native invasive plants such as Japanese Knotweed, Giant Hogweed and Himalayan Balsam were not suspected to be present on site.
- 13.10 Definitions and Reservations are provided in **Appendix IV**.

Appendix I

Development Proposal Plan



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Ordnance Survey Mastermap - Crown Copyright. All rights reserved. Licence Number: 100019980 (Centremapslive.com)

Site Boundary

16.00 Ha

Built Development

Residential Area

Up to 343 Units @ 35 DPH

9.85 Ha

Feature Squares

Primary / Secondary Roads

Shared Driveways

Vehicular Access Point: Aston Flamville Road

Pedestrian Access Point off Dorchester Road

Existing Residential Development

Existing Roads

Green Infrastructure

Green Infrastructure

6.15 Ha

Attenuation Ponds

(Location subject to engineers recommendation)

Play Areas

(A: LEAP, B: LAP)

Structural Planting

Pedestrian Network

Existing Trees & Hedgerows

Existing Public Rights of Way

Potential Link to Public Right of Way

Scale: 1:5000 @ A3

0

200

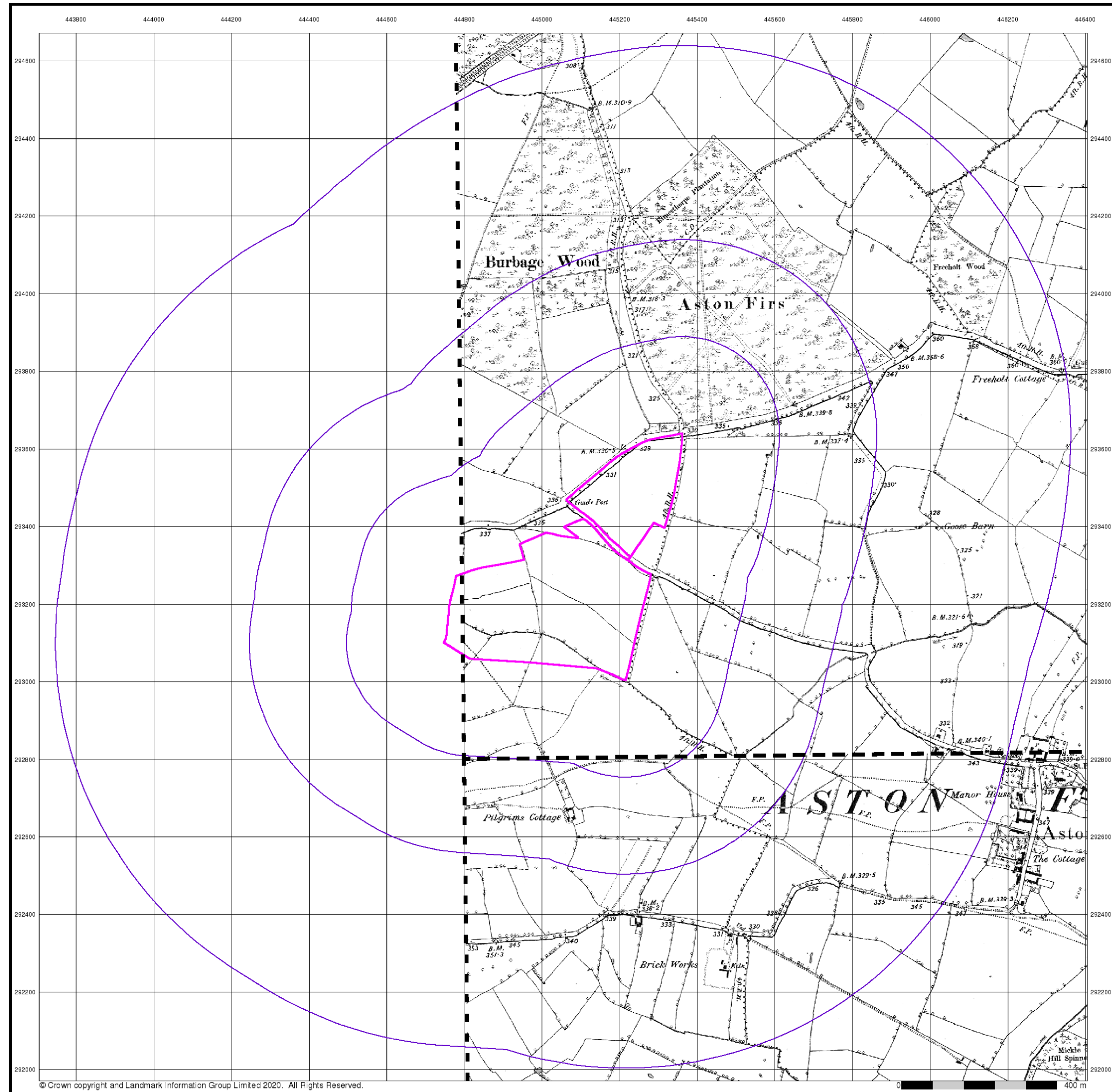
400m

N

J:\7100\7162\LANDS\Plans\7162-L-04 ILLUSTRATIVE MASTERPLAN REV E.indd

Appendix II

Historical Maps



Leicestershire

Published 1886

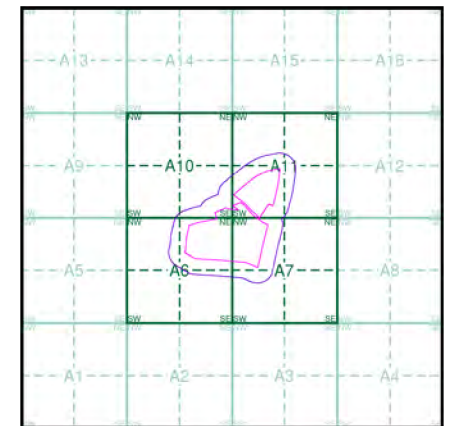
Source map scale - 1:10,560

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)

043NW
1886
1:10,560
043SW
1886
1:10,560

Historical Map - Slice A

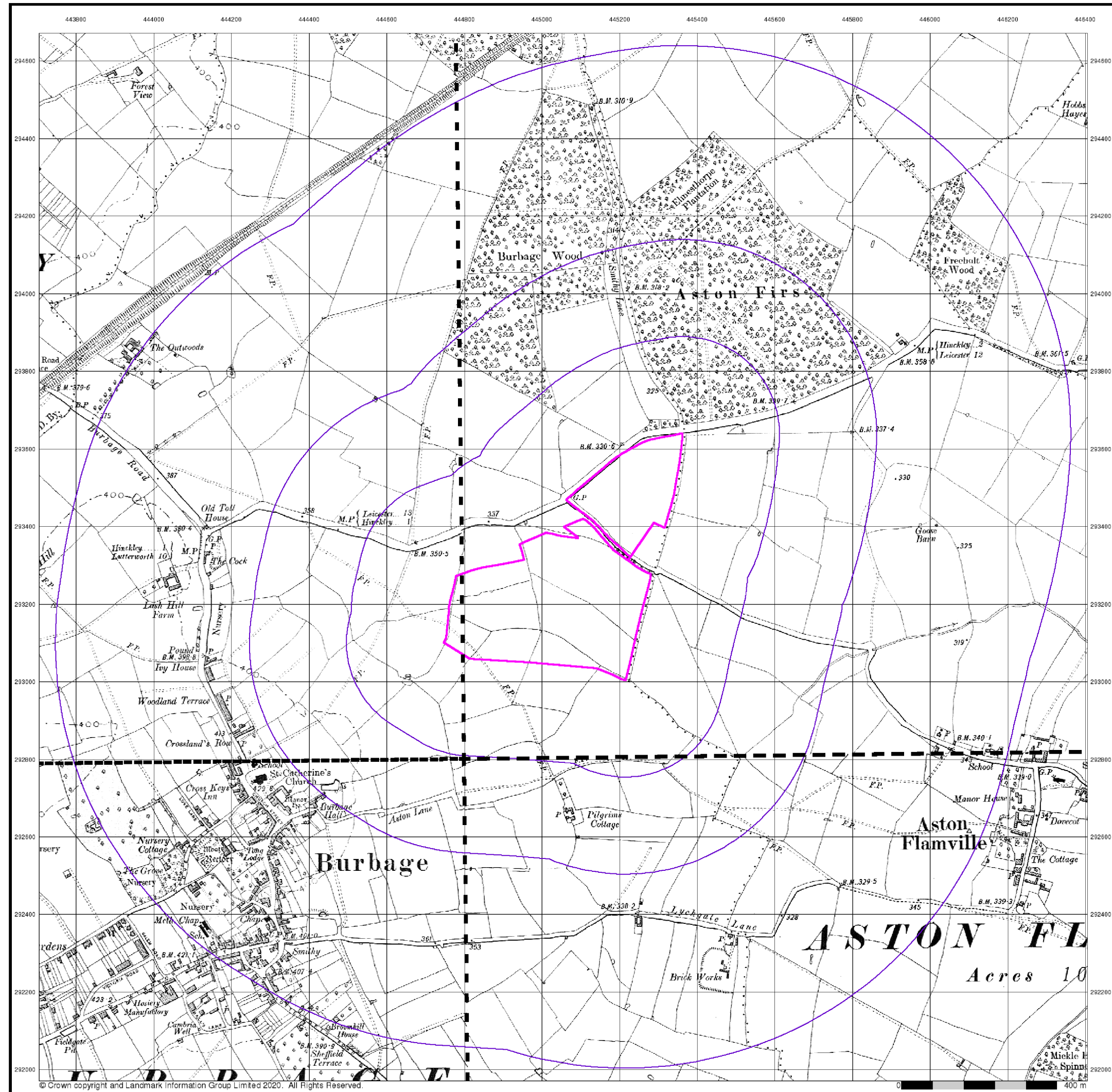


Order Details

Order Number: 238923381_1_1
Customer Ref: Burbage 01C000315
National Grid Reference: 445090, 293300
Slice: A
Site Area (Ha): 19.53
Search Buffer (m): 1000

Site Details

Site at, Burbage, Leicestershire



Leicestershire

Published 1904

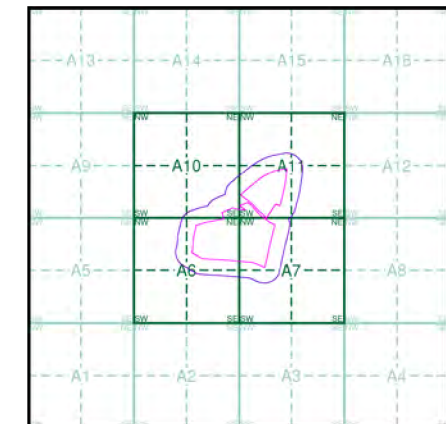
Source map scale - 1:10,560

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Map Name(s) and Date(s)

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042SE 1904 1:10,560	043SW 1904 1:10,560

Historical Map - Slice A

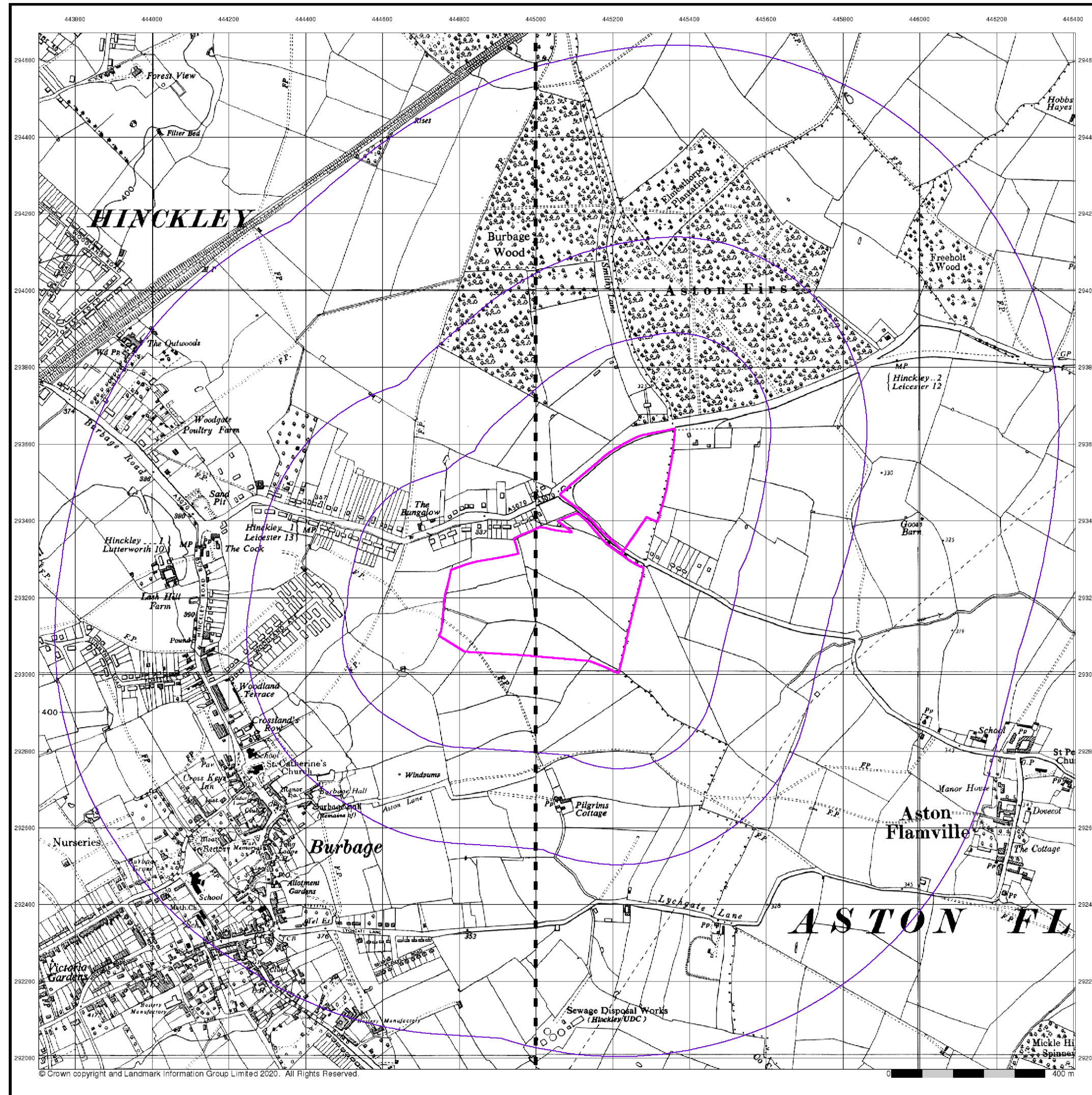


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Slice: A
Site Area (Ha): 19.53
Search Buffer (m): 1000

Site Details

Site at, Burbage, Leicestershire



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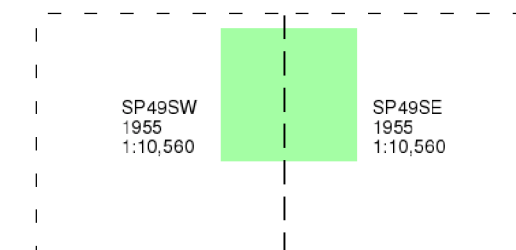
Ordnance Survey Plan

Published 1955

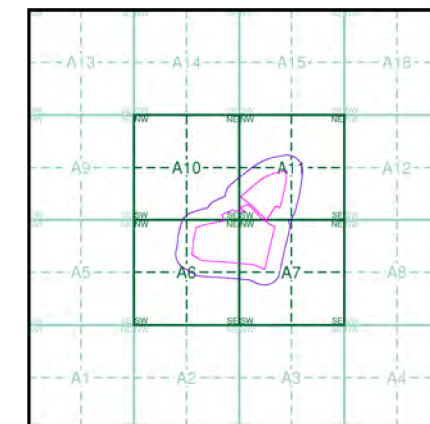
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Map Name(s) and Date(s)



Historical Map - Slice A

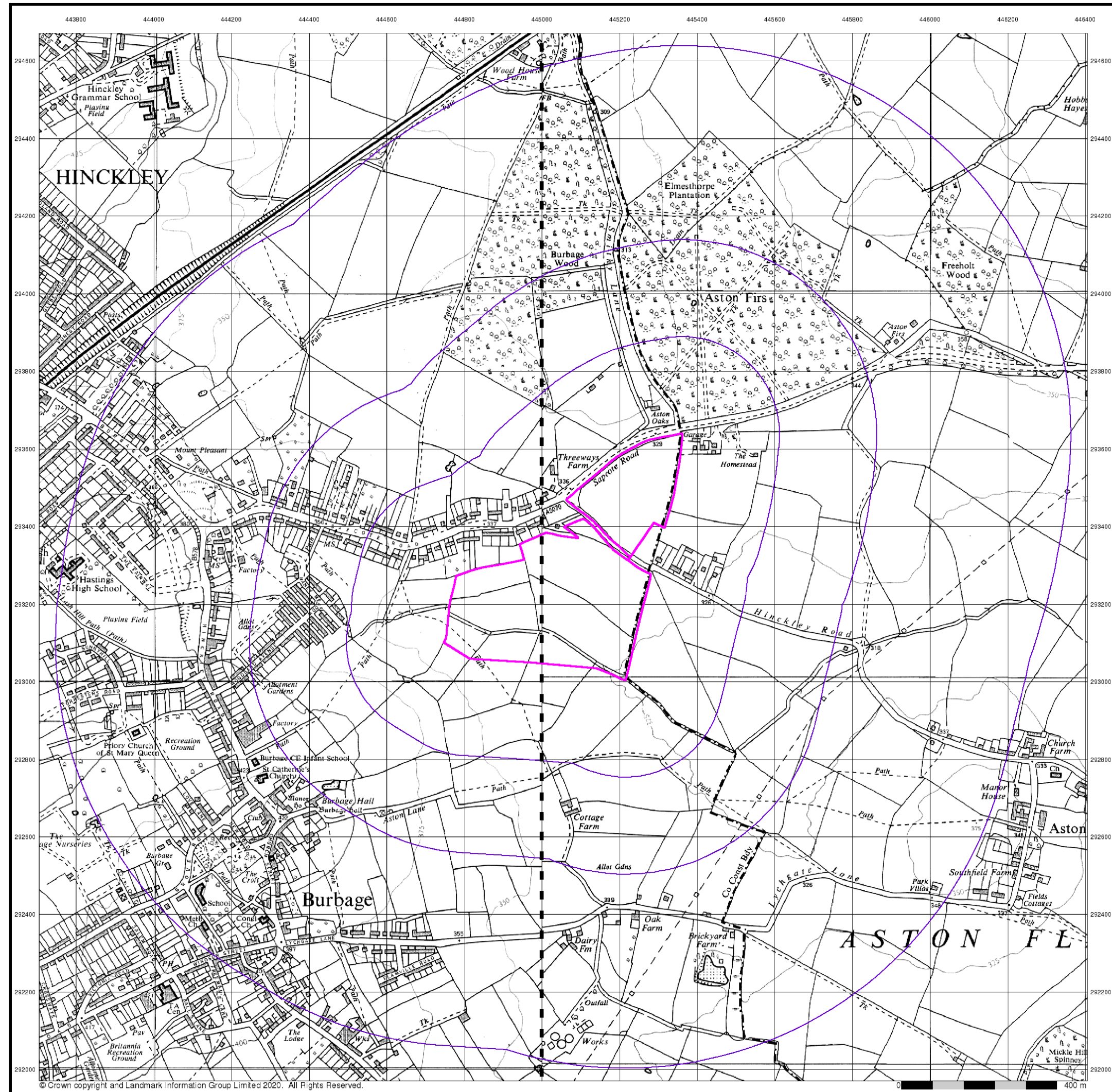


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Site Details

Site at, Burbage, Leicestershire



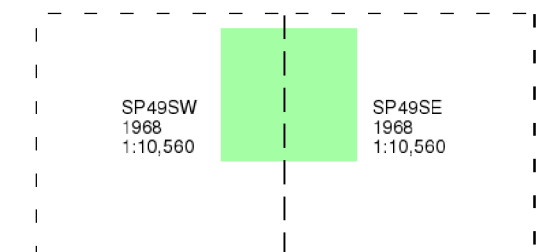
Ordnance Survey Plan

Published 1968

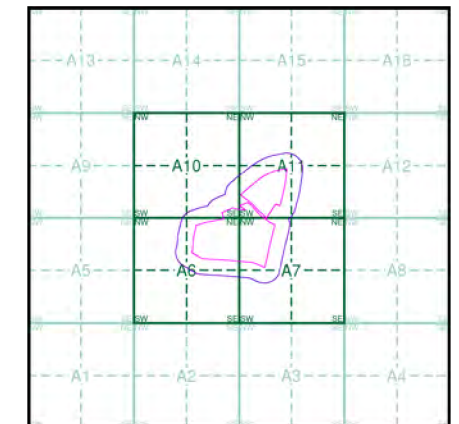
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. 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

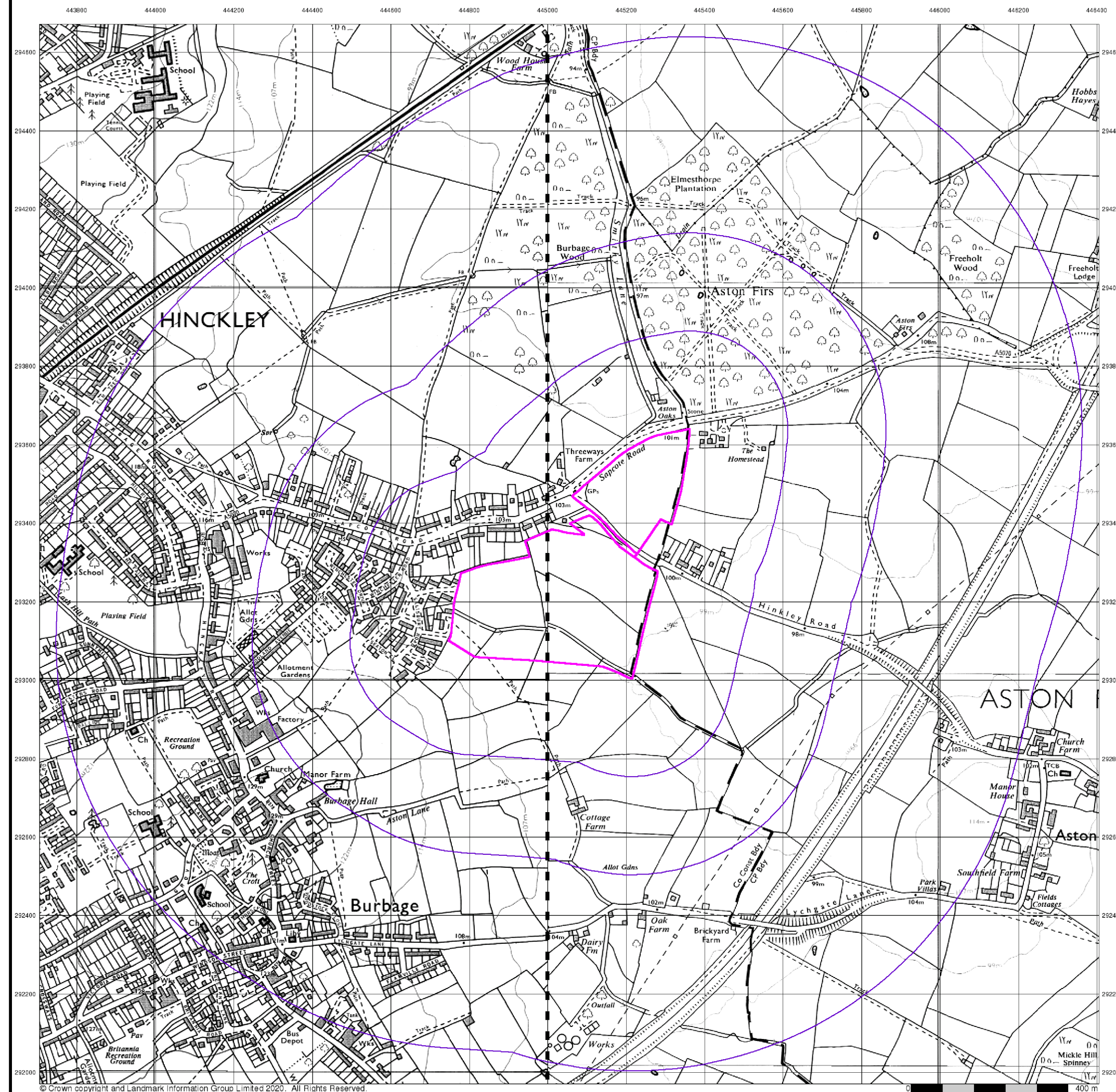


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Customer Ref: Burbage 01C000315
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Slice: A
Site Area (Ha): 19.53
Search Buffer (m): 1000

Site Details

Site at, Burbage, Leicestershire



Envirocheck®

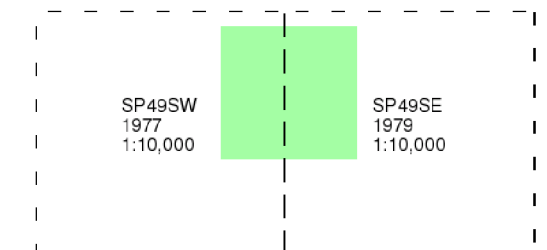
LANDMARK INFORMATION GROUP®

Ordnance Survey Plan

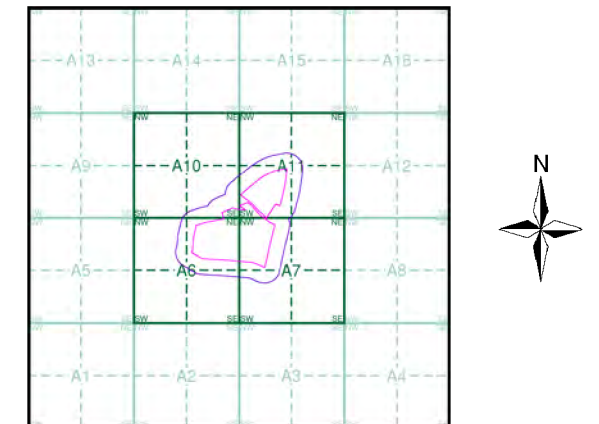
Published 1977 - 1979

Source map scale - 1:10,000

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Map Name(s) and Date(s)

Historical Map - Slice A



Order Details

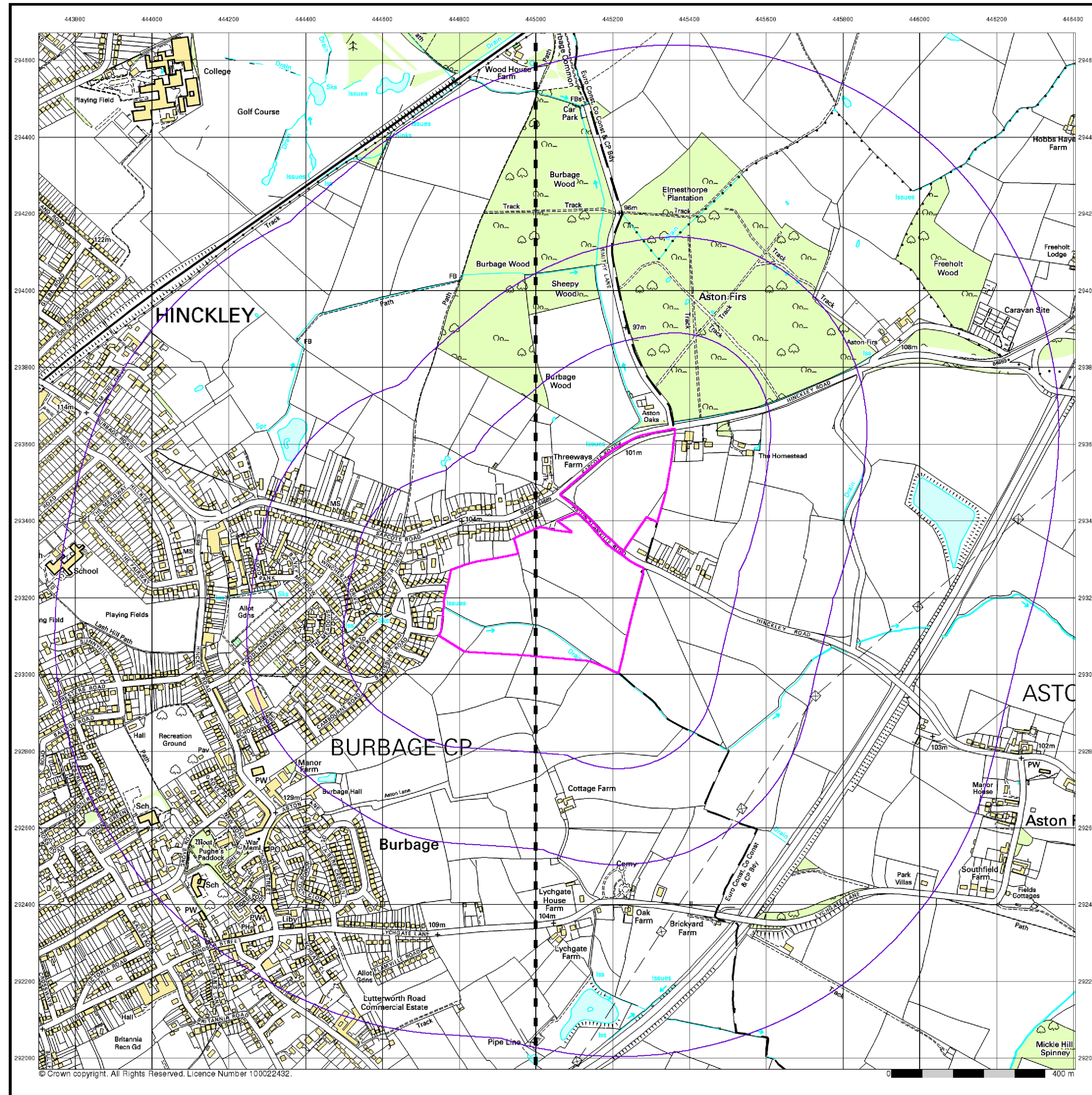
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National Grid Reference: 445090, 293300
Slice: A
Site Area (Ha): 19.53
Search Buffer (m): 1000

Site Details

Site at, Burbage, Leicestershire

Landmark
INFORMATION GROUP

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



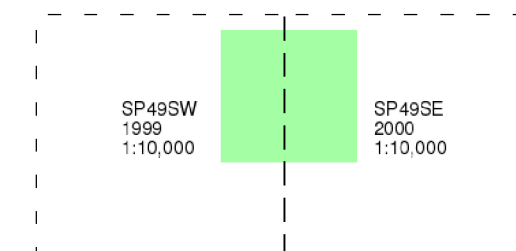
10k Raster Mapping

Published 1999 - 2000

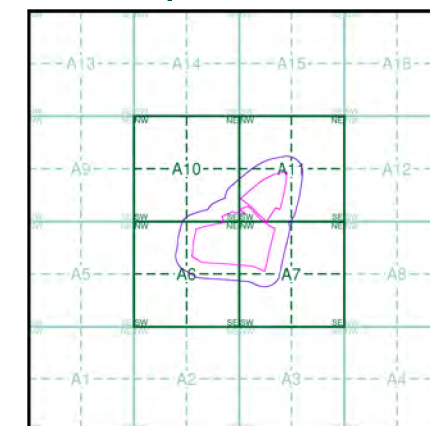
Source map scale - 1:10,000

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

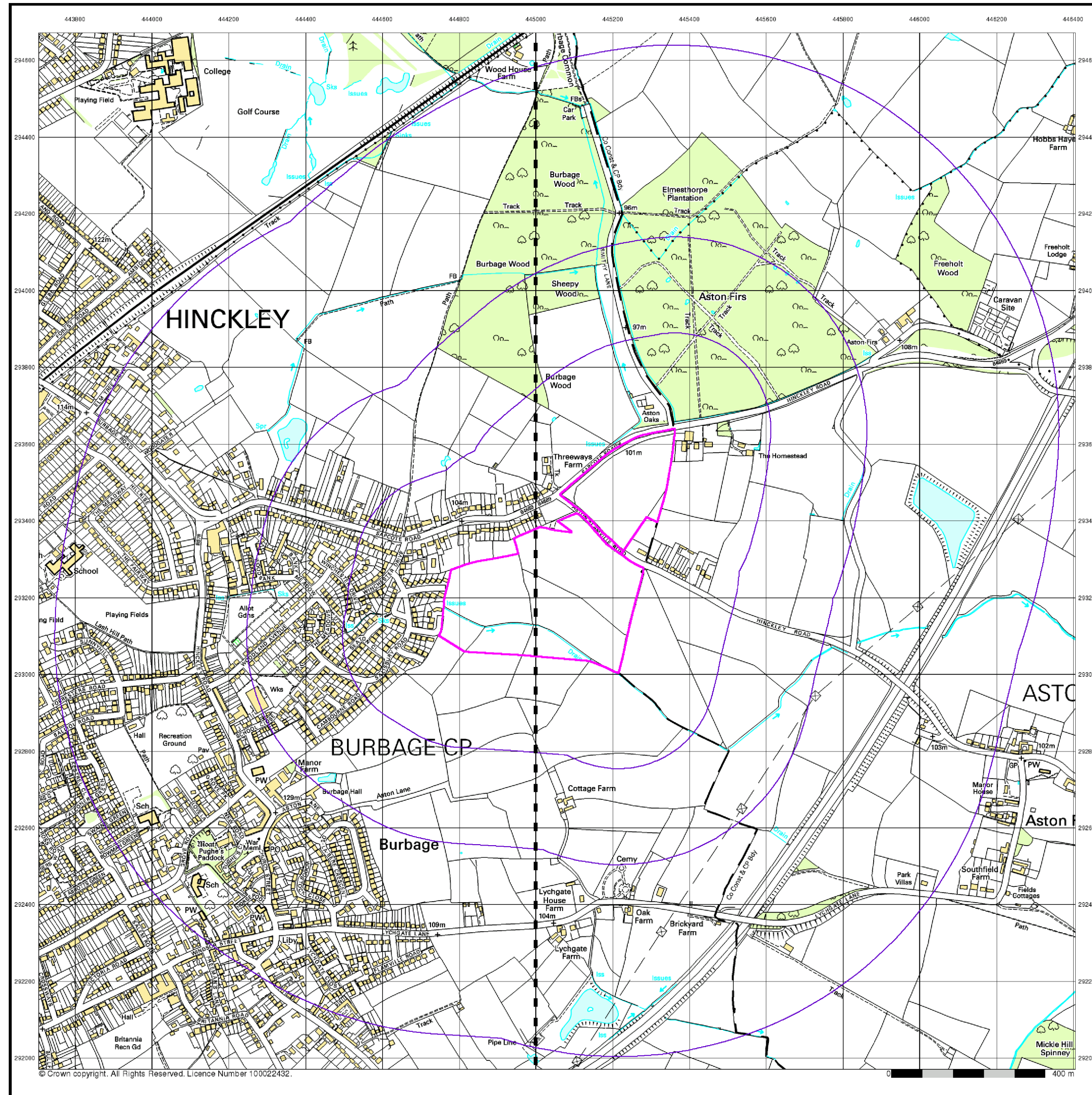


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Customer Ref: Burbage 01C000315
National Grid Reference: 445090, 293300
Slice: A
Site Area (Ha): 19.53
Search Buffer (m): 1000

Site Details

Site at, Burbage, Leicestershire



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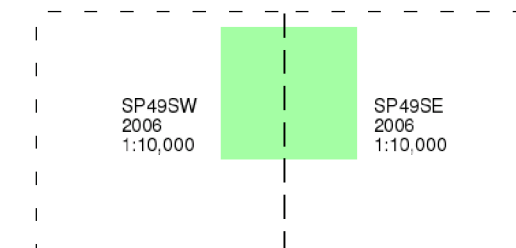
10k Raster Mapping

Published 2006

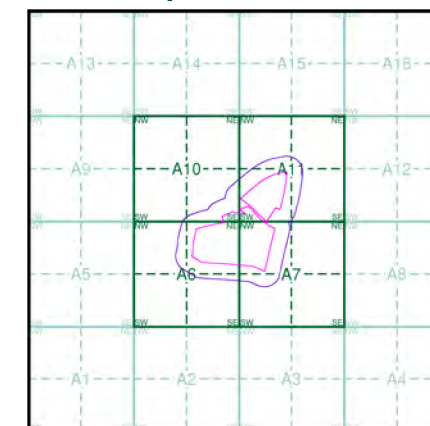
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The historical maps shown were produced from the Ordnance Survey's 1:10,000 colour raster mapping. These maps are derived from Landplan which replaced the old 1:10,000 maps originally published in 1970. The data is highly detailed showing buildings, 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

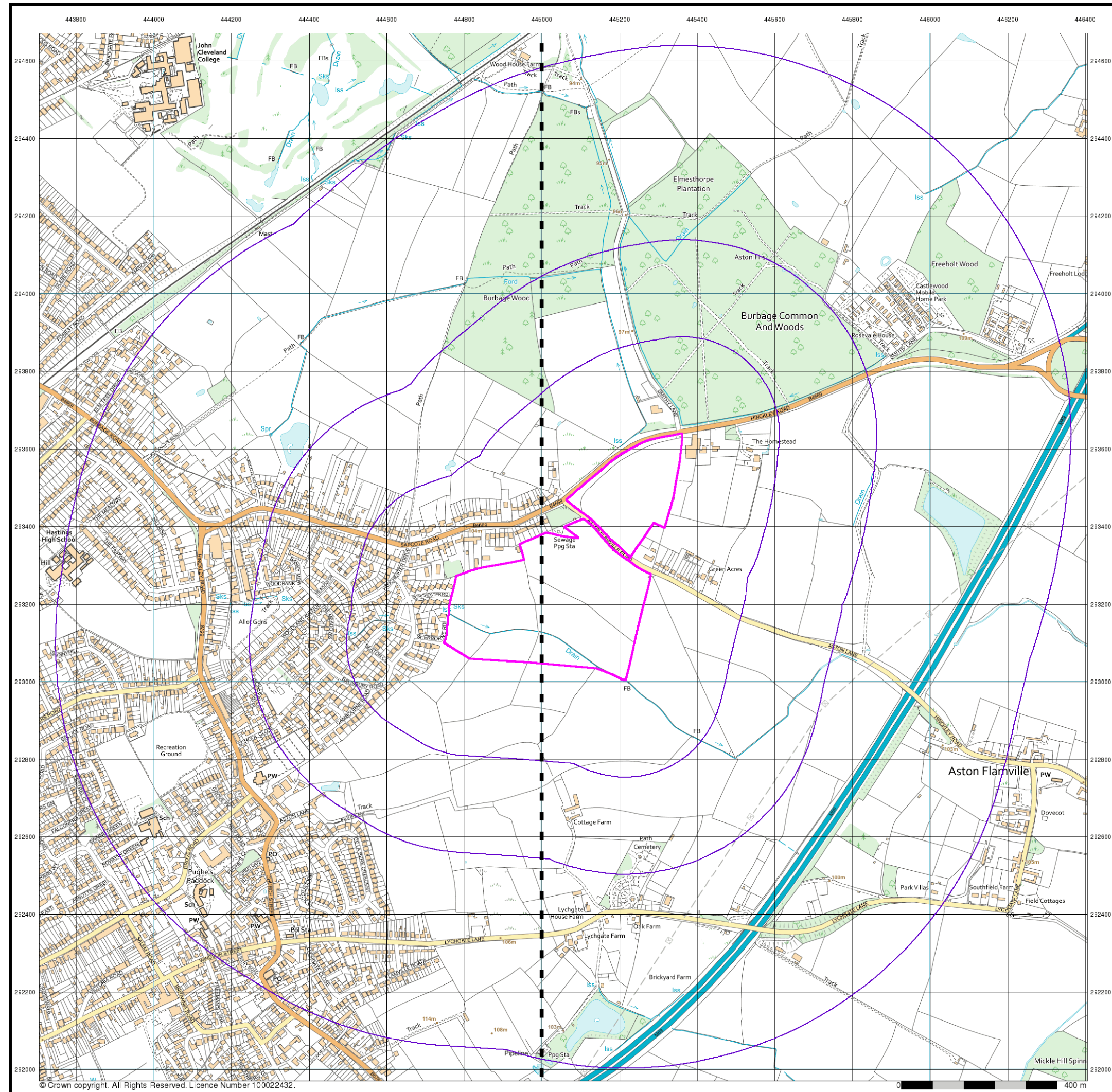


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Customer Ref: Burbage 01C000315
National Grid Reference: 445090, 293300
Slice: A
Site Area (Ha): 19.53
Search Buffer (m): 1000

Site Details

Site at, Burbage, Leicestershire



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)

SP49SW
2020
Variable

SP49SE
2020
Variable

Historical Map - Slice A

A13

A14

A15

A16

A9

A10

A1

A12

A5

A6

A7

A8

A1

A2

A3

A4

N

Order Details

Order Number:

238923381_1_1

Customer Ref:

Burbage 01C000315

National Grid Reference:

445090, 293300

Slice:

A

Site Area (Ha):

19.53

Search Buffer (m):

1000

Site Details

Site at, Burbage, Leicestershire

Appendix III

Supporting Information

Contains British Geological Survey Materials © UKRI 2020



GENERAL CONDITIONS AND PRECAUTIONS TO BE TAKEN WHEN CARRYING OUT WORK ADJACENT TO SEVERN TRENT WATER'S APPARATUS

Please ensure that a copy of these conditions is passed to your representative and/or your contractor on site. If any damage is caused to Severn Trent Water Limited (STW) apparatus (defined below), the person, contractor or subcontractor responsible must inform STW immediately on:
0800 783 4444 (24 hours)

- a) These general conditions and precautions apply to the public sewerage, water distribution and cables in ducts including (but not limited to) sewers which are the subject of an Agreement under Section 104 of the Water Industry Act 1991(a legal agreement between a developer and STW, where a developer agrees to build sewers to an agreed standard, which STW will then adopt); mains installed in accordance with an agreement for the self-construction of water mains entered into with STW and the assets described at condition b) of these general conditions and precautions. Such apparatus is referred to as "STW Apparatus" in these general conditions and precautions.
- b) Please be aware that due to The Private Sewers Transfer Regulations June 2011, the number of public sewers has increased, but many of these are not shown on the public sewer record. However, some idea of their positions may be obtained from the position of inspection covers and their existence must be anticipated.
- c) On request, STW will issue a copy of the plan showing the approximate locations of STW Apparatus although in certain instances a charge will be made. The position of private drains, private sewers and water service pipes to properties are not normally shown but their presence must be anticipated. This plan and the information supplied with it is furnished as a general guide only and STW does not guarantee its accuracy.
- d) STW does not update these plans on a regular basis. Therefore the position and depth of STW Apparatus may change and this plan is issued subject to any such change. Before any works are carried out, you should confirm whether any changes to the plan have been made since it was issued.
- e) The plan must not be relied upon in the event of excavations or other works in the vicinity of STW Apparatus. It is your responsibility to ascertain the precise location of any STW Apparatus prior to undertaking any development or other works (including but not limited to excavations).
- f) No person or company shall be relieved from liability for loss and/or damage caused to STW Apparatus by reason of the actual position and/or depths of STW Apparatus being different from those shown on the plan.

In order to achieve safe working conditions adjacent to any STW Apparatus the following should be observed:

1. All STW Apparatus should be located by hand digging prior to the use of mechanical excavators.
2. All information set out in any plans received from us, or given by our staff at the site of the works, about the position and depth of the mains, is approximate. Every possible precaution should be taken to avoid damage to STW Apparatus. You or your contractor must ensure the safety of STW Apparatus and will be responsible for the cost of repairing any loss and/or damage caused (including without limitation replacement parts).
3. Water mains are normally laid at a depth of 900mm. No records are kept of customer service pipes which are normally laid at a depth of 750mm; but some idea of their positions may be obtained from the position of stop tap covers and their existence must be anticipated.
4. During construction work, where heavy plant will cross the line of STW Apparatus, specific crossing points must be agreed with STW and suitably reinforced where required. These crossing points should be clearly marked and crossing of the line of STW Apparatus at other locations must be prevented.
5. Where it is proposed to carry out piling or boring within 20 metres of any STW Apparatus, STW should be consulted to enable any affected STW Apparatus to be surveyed prior to the works commencing.
6. Where excavation of trenches adjacent to any STW Apparatus affects its support, the STW Apparatus must be supported to the satisfaction of STW. Water mains and some sewers are pressurised and can fail if excavation removes support to thrust blocks to bends and other fittings.
7. Where a trench is excavated crossing or parallel to the line of any STW Apparatus, the backfill should be adequately compacted to prevent any settlement which could subsequently cause damage to the STW Apparatus. In special cases, it may be necessary to provide permanent support to STW Apparatus which has been exposed over a length of the excavation before backfilling and reinstatement is carried out. There should be no concrete backfill in contact with the STW Apparatus.
8. No other apparatus should be laid along the line of STW Apparatus irrespective of clearance. Above ground apparatus must not be located within a minimum of 3 metres either side of the centre line of STW Apparatus for smaller sized pipes and 6 metres either side for larger sized pipes without prior approval. No manhole or chamber shall be built over or around any STW Apparatus.
9. A minimum radial clearance of 300 millimetres should be allowed between any plant or equipment being installed and existing STW Apparatus. We reserve the right to increase this distance where strategic assets are affected.
10. Where any STW Apparatus coated with a special wrapping is damaged, even to a minor extent, STW must be notified and the trench left open until the damage has been inspected and the necessary repairs have been carried out. In the case of any material damage to any STW Apparatus causing leakage, weakening of the mechanical strength of the pipe or corrosion-protection damage, the necessary remedial work will be recharged to you.
11. It may be necessary to adjust the finished level of any surface boxes which may fall within your proposed construction. Please ensure that these are not damaged, buried or otherwise rendered inaccessible as a result of the works and that all stop taps, valves, hydrants, etc. remain accessible and operable. Minor reduction in existing levels may result in conflict with STW Apparatus such as valve spindles or tops of hydrants housed under the surface boxes. Checks should be made during site investigations to ascertain the level of such STW Apparatus in order to determine any necessary alterations in advance of the works.
12. With regard to any proposed resurfacing works, you are required to contact STW on the number given above to arrange a site inspection to establish the condition of any STW Apparatus in the nature of surface boxes or manhole covers and frames affected by the works. STW will then advise on any measures to be taken, in the event of this a proportionate charge will be made.
13. You are advised that STW will not agree to either the erection of posts, directly over or within 1.0 metre of valves and hydrants,
14. No explosives are to be used in the vicinity of any STW Apparatus without prior consultation with STW.

TREE PLANTING RESTRICTIONS

There are many problems with the location of trees adjacent to sewers, water mains and other STW Apparatus and these can lead to the loss of trees and hence amenity to the area which many people may have become used to. It is best if the problem is not created in the first place. Set out below are the recommendations for tree planting in close proximity to public sewers, water mains and other STW Apparatus.

15. Please ensure that, in relation to STW Apparatus, the mature root systems and canopies of any tree planted do not and will not encroach within the recommended distances specified in the notes below.
16. Both Poplar and Willow trees have extensive root systems and should not be planted within 12 metres of a sewer, water main or other STW Apparatus.
17. The following trees and those of similar size, be they deciduous or evergreen, should not be planted within 6 metres of a sewer, water main or other STW Apparatus. E.g. Ash, Beech, Birch, most Conifers, Elm, Horse Chestnut, Lime, Oak, Sycamore, Apple and Pear. Asset Protection Statements Updated May 2014
18. STW personnel require a clear path to conduct surveys etc. No shrubs or bushes should be planted within 2 metre of the centre line of a sewer, water main or other STW Apparatus.
19. In certain circumstances, both STW and landowners may wish to plant shrubs/bushes in close proximity to a sewer, water main of other STW Apparatus for screening purposes. The following are shallow rooting and are suitable for this purpose: Blackthorn, Broom, Cotoneaster, Elder, Hazel, Laurel, Privet, Quickthorn, Snowberry, and most ornamental flowering shrubs.

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soil mechanics department				BOREHOLE No. 1/2 239	
CONTRACT Coventry - Leicester Motorway Stage II				REPORT No. 8640/JD	
Client Midland R.C.U.		SP 49 SE/28 WRETHAM PARK		Ground Level 97.37 m.O.D.	
Site Address Ansty to Enderby.				Boring Commenced 21.5.71 Boring Completed 22.5.71	
Type and Dia. of Boring Shell and Auger 0.2 m. diameter.					
Water Strikes		Water Levels Recorded During Boring			
1. 8.40	Hole Depth	9.20			
2.	Casing Depth	9.00			
3.	Water Level	None			
Remarks					
Description		Scale 20mm = 1 m		Samples	
		Depth	Legend	Ref. No.	Depth
Made ground (clay, brick, stones, root fibres, etc.) Soft brown sandy silty clay with small stones and occasional organic patches. (cl) Stiff red-brown marly boulder clay. (ci)		0.30		5447 J	0.15
				5448 J	0.38
		1.00		5449 U	0.45-0.90
		3.45		5450 J	1.50
Red-brown slightly clayey silty sand. (sf)		5.45		5451 U	1.95-2.40
		7.00		5452 J	2.70
Hard grey weathered siltstone.		8.40		5453 U	3.45-3.90
Grey siltstone. Hard/		8.80		5454 J	4.20
				5455 U	4.95-5.40
				5456 J	5.70
				5457 U	6.45-6.90
				5458 J	7.20
				5465 U	7.95-8.40
				5466 J	8.50

Code: U—Undisturbed Sample

D—Large Disturbed Sample

J—Jar Sample

W—Water Sample

SP 49 SE/28

soil mechanics department

BOREHOLE No.

2/2

239

Continuation Sheet No. 1

CONTRACT Coventry - Leicester Motorway Stage II

REPORT No. 8640/JD

Description	Scale 20mm = 1 m		Samples		Depth	S.P.T. blows/ft
	Depth	Legend	Ref. No.	Type		
Hard red and grey sandy clay. (Keuper Marl).		U				
		U	5467	U	9.45-9.90	
		U	5468	J	10.20	
		U				
		U	5469	U	10.95-11.40	
		J				
		U	5470	J	11.70	
		U				
		U	5471	U	12.45-12.90	
		U	5472	J	13.20	
		U				
		U	5473	U	13.95-14.40	
		U	5474	J	14.70	
		U				
		U	5475	U	15.45-15.90	
	16.00	U	5476	W	(8.40)	

Code: U—Undisturbed Sample

D—Large Disturbed Sample

J—Jar Sample

W—Water Sample

Please ask for: Mr G Rawdon
Direct Dial: 01455 255684
My Ref: 20/11141/LQS
Date: 18 March 2020
Direct Fax: 01455 251172
Email: giles.rawdon@hinckley-bosworth.gov.uk

Helen Bayliss
Avison Young UK Ltd
Three Brindley Place
Birmingham
B1 2JB

Dear Ms Bayliss

Re: Land south of Sapcote Road Burbage Leicestershire

I refer to your email of 16 March regarding the above site and will answer your questions in turn- the site can be seen on the attached map supplied by you in the above email.

1. No records are held by Environmental Health (Pollution) relating to past contaminative land uses on the site. It is unlikely the site would be deemed contaminated land under Part IIA of the Environmental Protection Act 1990 based upon current knowledge of the site.
2. Environmental Health (Pollution) are unaware of any previous ground investigation reports, monitoring records or other documents relevant to land contamination issues. The site is undeveloped.
3. Environmental Health (Pollution) does not hold any records of landfill, waste management sites or regulated premises (Pollution Prevention and Control Authorisations) at the property.
4. Environmental Health (Pollution) does not hold any records of pollution incidents occurring at the property or that may affect the property.
5. Environmental Health (Commercial) have confirmed that they do not hold any records of private abstraction wells/water supplies on or near the site.

It must be understood that the information provided above is based on records and files from varying sources of varying reliability. Consequently, the Hinckley & Bosworth Borough Council is not able to offer any warranty as to the accuracy or completeness of the information provided, nor can it accept any liability whatsoever for any loss or damage arising from the interpretation and/or use of the information.

I trust the above is of use to you but should you require any further information please do not hesitate to contact me on the above telephone number.

Yours sincerely

Giles Rawdon
Environmental Health Officer

Map showing “Land South of Sapcote Road, Burbage”



Appendix IV

Definitions and Reservations

Environmental Definitions

1. Environmental Reports

Any reference to environmental reports should be taken to mean one or all of the following types of report:

Phase 1

This is a desk-based study (supported by a site inspection if agreed) of past and present uses of the site, geological and hydrogeological conditions, regulatory review and qualitative risk assessment.

The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the site and meetings and discussions with relevant authorities and other interested parties.

The opinions given in the report have been dictated by the finite data on which it is based and is relevant only to the purpose for which the report was commissioned.

The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions.

Should additional information become available which may affect the opinions expressed in this report, Avison Young reserves the right to review such information and, if warranted, to modify the opinions accordingly.

It should be noted that any risks identified in this report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site.

Phase 2

This is an intrusive phase of works involving the drilling of boreholes/trial pits and the testing of soil, groundwater and soil gas samples for environmental and geotechnical purposes.

The investigation of the site has been carried out to provide sufficient information concerning the type and degree of contamination, geotechnical characteristics, and ground and groundwater conditions to provide a reasonable assessment of the environmental risks together with engineering and development implications. If costs have been included in relation to site remediation these must be confirmed by a qualified quantity surveyor.

The exploratory holes undertaken, which investigate only a small volume of the ground in relation to the size of the site can only provide a general indication of site conditions.

The opinions provided and recommendations given in this report are based on the ground conditions apparent at the site of each of the exploratory holes.

There may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.

The comments made on groundwater conditions are based on observations made at the time that site work was carried out.

It should be noted that groundwater levels will vary owing to seasonal, tidal and weather related effects.

The scope of the investigation was selected based on the specific development proposed by the Client and may be inappropriate to another form of development or scheme.

The risk assessment and opinions provided, inter alia, take into consideration currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

Avison Young accepts no liability what so ever for the content or conduct of the Environmental Consultant/Engineer of Sub Consultants/ Contractors appointed on behalf of the client by us.

2. Geology and Mining

2.1. Ground Conditions

Ground conditions consider the underlying geology, the presence of mining or quarrying, geological faults and the potential for contaminated land.

2.2. Superficial Deposits

Superficial deposits are the youngest geological deposits that rest on older deposits or rocks referred to as bedrock. They generally comprise unconsolidated sediments such as gravels, sand, silt and clay. They may be present as relatively thin discontinuous patches or larger spreads.

2.3. Bedrock Geology

The bedrock geology (sometimes referred to as solid geology) is the term used for the main units of rocks that have formed the Earth over millions of years. They may be present at the surface or concealed beneath younger superficial deposits. Bedrock is classified as either igneous, metamorphic or sedimentary.

2.4. Geological Fault

A fracture in the rock along which movement takes place.

Environmental Definitions

2.5. Underground Workings

Areas where coal or other minerals and rock has been mined, or is currently being mined under the surface. Historic mining may have been undertaken from bell pits, pillar and stall workings or longwall techniques.

2.6. Mine Entries

Refers to a mineshaft or adit which provides an opening to gain access to underground workings.

2.7. Brine Compensation District

Formed by the Cheshire Brine Pumping (Compensation for Subsidence) Act 1952 as a District within which a person can serve a notice on the Brine Board if they think their property has suffered damage resulting from subsidence caused by extraction of brine.

3. Hydrogeology and Hydrology

3.1. Controlled Water

Section 104 of the Water Resources Act 1991 defines Controlled Waters as all inland freshwaters, i.e. rivers, watercourses, lakes and ponds (other than public sewers or sewers or drains which drain into a public sewer), groundwater, coastal waters (extending landward from the limit of the highest tide or freshwater limit) and relevant territorial waters (extending seaward for three miles from the baseline from which the breadth of the territorial sea is measured).

3.2. Groundwater

Groundwater is all water which is below the surface of the ground in the saturation zone and in direct contact with the ground or subsoil.

3.3. Surface Water

Any inland freshwaters, coastal waters or relevant territorial waters i.e. water that is above the surface of the ground.

3.4. Tributary

A stream or river that flows into a larger stream or river.

3.5. Confluence

The point at which two rivers or streams join together.

3.6. Catchment

The total area from which rainfall flows into a river or stream.

3.7. Discharge Consents

For England, discharge consents to Controlled Waters (surface water and groundwater) are authorised by the Environment Agency under the Environmental Permitting (England and Wales) Regulations 2010. In considering whether or not to grant consents the Environment Agency takes account of whether the point source discharges into the water environment has the potential to cause pollution relevant to quality standards and whether it will affect the appropriate uses of the water. These consents do not apply to discharges to sewers, since the sewerage undertaker regulates these.

Discharges for sewage effluent are exempt where they are 5m³/day or less to surface water or 2m³/day to ground. Exempt discharges are not required to be reported and as such they are not considered within our assessments.

3.8. Water Abstractions

The Environment Agency has a duty under the Water Resources Acts 1963 and 1991 to take action, when necessary, in order to conserve, re-distribute, or increase water resources in England, and to secure its proper use. They may also draw up provisions for determining acceptable flows or minimum volumes for inland waters. Those wishing to abstract water above a specified quantity must apply to the Agency for Abstraction Licences and adhere to the conditions that apply. Premises abstracting less than 20m³ water per day from watercourses and the ground can do so without the need of a licence and as such these locations are not recorded.

These records are held under Scottish legislation to protect the public water supply. These records therefore relate only to public water supplies.

3.9. Water Industry Act Referrals

The Environment Agency is given powers to regulate some discharges to public sewers or certain dangerous substances under the Water Industry Act 1991.

3.10. Aquifer Designations

An aquifer is a geological unit containing sufficient saturated permeable rock that will yield water. The following aquifer designations are consistent with the Water Framework Directive and reflect their importance in terms of groundwater as a resource (drinking water supply) but also their role in supporting surface water flows and wetland ecosystems.

Unproductive Strata

Defined as rock layers or drift deposits with low permeability that has negligible significance for water supply or river base flow.

Environmental Definitions

Principal Aquifer

Defined as rock layers or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

Secondary Aquifers

These include a wide range of rock layers or drift deposits with an equally wide range of water permeability and storage. Secondary aquifers are subdivided into two types ('A' and 'B').

Secondary 'A' Aquifers

Defined as rock layers or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale. In most cases, principal aquifers are aquifers previously designated as major aquifer.

Secondary 'B' Aquifers

Defined 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.

Secondary Undifferentiated

The Secondary Undifferentiated classification is assigned in cases where it has not been possible to attribute either category Secondary A or Secondary B to a rock type.

3.11. Groundwater Source Protection Zones

The Environment Agency has defined Source Protection Zones (SPZ) for 2000 groundwater sources such as wells, boreholes and springs used for public water supply. These zones show the risk of contamination from any activities that might cause pollution in the area. The closer the activity, the greater the risk. There are three main zones:

Inner Zone (Zone 1) – defined as the 50 day travel time from any point below the water table to the source. This zone has a minimum radius of 50m;

Outer Zone (Zone 2) – defined as a 400 day travel time from a point below the water table. The previous methodology gave an option to define SPZ2 as the minimum recharge area required to support 25% of the protected yield;

Total Catchment (Zone 3) – defined as the area around a source within which all groundwater recharge is presumed to be discharged at the source. In confined aquifers, the source catchment may be displaced some distance from the source. For heavily exploited aquifers, the final source catchment protection zone can be defined as the whole aquifer recharge area where the ratio of the groundwater abstraction to aquifer recharge is >0.75 .

In the past, the Environment Agency has also applied a fourth zone of special interest:

Special Interest (Zone 4) – this represents a surface water catchment which drains into the aquifer feeding the groundwater supply.

3.12. Groundwater Vulnerability

The pollution hazard of an activity will be greater in certain hydrological, geological and soil situations than in others. Superficial aquifers are the most vulnerable to pollution due to their shallow water table and little or no protective cover. Bedrock aquifers can be equally vulnerable where drift deposits are absent and where the unsaturated zone is thin or fractured.

Activities in areas of unproductive strata do not represent a risk to groundwater resources and therefore are not assigned a groundwater vulnerability.

High

These are high priority groundwater resources that have very limited natural protection. This results in a high overall pollution risk to groundwater from surface activities. Operations or activities in these areas are likely to require additional measures over and above good practice pollution prevention requirements to ensure that groundwater isn't impacted.

Medium-high

These are high priority groundwater resources that have limited natural protection. This results in a medium-high overall pollution risk to

groundwater from surface activities. Activities in these areas may require additional measures over and above good practice to ensure they do not cause groundwater pollution.

Medium

These are medium priority groundwater resources that have some natural protection resulting in a moderate overall groundwater risk. Activities in these areas should as a minimum follow good practice to ensure they do not cause groundwater pollution.

Environmental Definitions

Medium-low

These are lower priority groundwater resources that have some natural protection resulting in a moderate to low overall groundwater pollution risk. Activities in these areas should follow good practice to ensure they do not cause groundwater pollution.

Low

These are low priority groundwater resources that have a high degree of natural protection. This reduces their overall risk of pollution from surface activities. However, activities in these areas may be a risk to surface water due to increased run-off from lower permeability soils and near-surface deposits. Activities in these areas should be adequately managed to ensure they do not cause either surface or groundwater pollution.

Further information relating to groundwater vulnerability is provided in the Environment Agency report (Ref: SC040016/R) 'New groundwater vulnerability mapping methodology in England and Wales'.

3.13. Soil Leaching

The potential for soil leaching considers a range of soil properties such as moisture content, soil clay content and carbon content. There are three soil leaching classes:

High (H)

Soils of high leaching potential with little ability to attenuate diffuse soil pollutants and in which non-adsorbed diffuse source pollutants and liquid discharges have the potential to move rapidly to underlying strata or groundwater. Three subclasses are recognised:

H1 – soils that readily transmit liquid discharges because they are either shallow or susceptible to rapid flow;

H2 – deep, permeable, coarse-textured soils that readily transmit a wide range of pollutants because of their rapid drainage and low attenuation potential;

H3 – coarse-textured or moderately shallow soils that rapidly transmit non-adsorbed pollutants and liquid discharges, but which have some ability to attenuate adsorbed pollutants because of their clay or organic matter.

Intermediate (I)

Soils of intermediate leaching potential that have a moderate ability to attenuate diffuse source pollutants or in which it is possible that some non-adsorbed diffuse source pollutants and liquid discharges could penetrate the soil layer. Two subclasses are recognised:

I1 – soils that can potentially transmit a wide range of pollutants;

I2 – Soils that can potentially transmit a wide range of pollutants and liquid discharges but are unlikely to transmit adsorbed pollutants.

Low (L)

Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal or they have a significant ability to attenuate diffuse source pollutants.

4. Flood Risk

4.1. National Planning Policy Framework (Flooding)

This relates to the National Planning Policy Framework and the associated Technical Guidance.

4.2. Floodplain

A floodplain is the area that would naturally be affected by flooding if a river rises above its banks, or high tides and stormy seas cause flooding in coastal areas.

4.3. Flood Zones

Flood Zone 1

The area where flooding from rivers or sea is very unlikely as defined by the Environment Agency. There is less than 0.1% (1 in 1000) chance of flooding occurring each year.

Flood Zone 2

The area of medium probability of flooding as defined by the Environment Agency – a flood with an annual chance of occurring of between 1% (1 in 100) to 0.1% (1 in 1000) for river flooding and 0.5% (1 in 200) to 1% (1 in 1000) for coastal flooding.

Flood Zone 3A

The area of high probability of flooding as defined by the Environment Agency – a flood with an annual chance of occurring of 1% (1 in 100) or greater for river flooding and 0.5% (1 in 200) or greater for coastal flooding.

Flood Zone 3B

The boundary between 3a and 3b is a planning decision made by the Local Authority. This information is usually in the strategic flood risk assessment. This area is a functional floodplain as defined by the Environment Agency. It is an area which is designed to flood – a flood return period of 1 in 20 or less.

4.4. Flood Return Period

A return period is an estimate of the likelihood of an event occurring. Flood return periods are commonly expressed as either a ratio or a percentage, for example, a 1% or 1 in 100 year event, means there is a 1% (1 in 100) chance of flooding occurring each year.

Environmental Definitions

4.5. Pluvial (Surface Water) Flooding

Pluvial flooding results from rainfall running over ground before entering a watercourse or sewer. It is usually associated with high intensity rainfall events (typically greater than 30mm per hour) but can also occur with lower intensity rainfall or melting snow where the ground is already saturated, frozen, developed (for example in an urban setting) or otherwise has low permeability.

4.6. Groundwater Flooding

Groundwater flooding is defined as the emergence of groundwater at the surface, rising up from the underlying rocks and tends to after long periods of sustained rainfall.

4.7. Flood Risk Rating

Low – The site is at little or no risk of flooding from any sources.

Low to Moderate – It is possible that flooding could arise and the presence of features such as watercourses, canals, flood defences or flood storage areas in the locality may suggest that the site could be at risk of flooding. Flood resilient materials may be required in the construction of properties.

Moderate - Information from existing datasets suggests that there are certain features which may present a risk of flooding to the site and its occupants. Appropriate measures to manage flood risk may be required in addition to the use of water resistant materials in the construction of properties.

Moderate to High - Information from existing datasets suggests that there are certain features which may present a significant risk to the site and its occupants. Flood defences may be required to reduce the risk of flooding and flood storage areas may be required.

High – There is a risk to life and property. This means that existing datasets reveal significant flood risk issues which will need to be addressed.

4.8. Flood Resistance

Flood resistance refers to products that may be permanent or temporary and are designed to stop water entering a property through existing openings (doors, windows, vents and pipes). Permanent measures do not need to be deployed, whilst temporary measures need to be installed before flood water arrives.

4.9. Flood Resilience

Flood resilience measures are designed to reduce the amount of damage to a property when water enters a building. They will enable the clean-up to take place more easily without the need for major refurbishment.

4.10. Flood Defence

Infrastructure used to protect an area against floods such as floodwalls and embankments. They are designed to a specific standard of protection (design standard).

4.11. Standard of Protection

The flood event return period above which significant damage and possible failure of the flood defences could occur.

4.12. Flood Storage

A temporary area that stores excess runoff or river flow, which are often ponds or reservoirs.

5. Drainage

5.1. Attenuation

The storing of water to reduce the peak discharge of water.

5.2. Below Ground Attenuation Storage

Large below ground voided spaces used to temporarily store surface water runoff before infiltration, controlled release to the public sewer network or re-use. The storage structure can be formed by a tank, oversized pipework or geocellular modular crates.

5.3. Brownfield Site

A site that has been previously developed as either residential, commercial or industrial use.

5.4. CCTV Survey

A survey of inaccessible below ground drainage assets by controlled closed-circuit television, which is operated remotely.

5.5. Culvert

A tunnel (pipe or box-shaped) carrying a stream or open drain under a road, railway or land.

5.6. Design for Exceedance

Designing a system to manage effectively events that exceed (bigger or rarer than) the drainage systems required level of service so that they do not impact upon life or property.

5.7. Design Life

The period of time during which a component or product is expected by its designers to work within its specified parameters.

Environmental Definitions

5.8. Detention Basins

During a rainfall event, surface water runoff drains to a landscaped depression with an outlet that restricts flow, so that the basin fills and provides attenuation. Basins are generally designed to be vegetated dry features, except during and immediately following the rainfall event. Runoff is treated filtered as it flows across the vegetation in the base of the basin.

5.9. Exceedance Flow

Surface water flows during rainfall events bigger or rarer than the design standard of the drainage system.

5.10. Filter Strips

Runoff from an impermeable area is allowed to flow across a grassed or planted area to promote sedimentation and filtration.

5.11. Filter Drains

Runoff is temporarily stored below the surface in a shallow trench filled with stone / gravel and provides attenuation, conveyance and treatment.

5.12. Flow Control Device

A device used to limit the flow rate on surface water from the outlet of drainage or SuDS component. This is usually limited to meet a required discharge rate.

5.13. Freeboard

The height above the designed water level in a pond or infiltration basin or the distance between the base of a soakaway and the resting groundwater level.

5.14. Greenfield

Land that has never been developed and has only been used for agricultural or recreational use.

5.15. Greenfield Run-off

The rate of surface water run-off from a site before development.

5.16. Green Roofs

A planted soil layer constructed on the roof of a building to create a living roof. Water is stored in the soil layer and absorbed by the vegetation.

5.17. Infiltration Systems

These systems collect and store runoff allowing it to infiltrate into the ground. Pollution risk to underlying groundwater can be reduced by the overlying vegetation or unsaturated soils.

5.18. Peak Discharge Rate

The highest rate of flow of water from a given rainfall event.

5.19. Pervious Pavements

Surface water runoff is allowed to soak through structural paving i.e. the gaps between block paving or porous paving where water filters through the block itself. Water can be stored in the sub-base of the pavement/roadway and potentially allowed to infiltrate to the ground or passed forward to a carrier drain.

5.20. Ponds and Wetlands

Features that have a permanent pool of water that can be used to provide attenuation. The outfall has a controlled discharge and the water levels increase following rainfall events. Ponds and wetlands also enhance the treatment of rainwater and promote biodiversity.

5.21. Rainwater Harvesting Systems

Rainwater is collected from the roof of a building or other paved impermeable surfaces in an over ground or underground tank, which then allows the water to be reused either for landscape irrigation or for flushing or toilets. Some treatment may be required depending on the reuse of the water.

5.22. Return Period (Drainage)

An estimate of the likelihood of a particular event occurring. A 100 year storm refers to the storm that occurs on average once every hundred years. In other word, its annual probability of exceedance is 1% (or 1 in 100 years).

5.23. Sewer Flooding

Flooding caused by a blockage or overflowing in a sewer or urban drainage system.

5.24. Surface Water Runoff

The flow of water from rainfall over the ground surface.

5.25. Sustainable Drainage Systems (SuDS)

Sustainable Drainage Systems are designed to manage and use rainwater close to where it falls on the surface incorporating vegetation to improve water quality, amenity and biodiversity. They can take the form of both above and below ground features and most SUDS schemes use a combination of components to achieve the overall design objectives.

5.26. Swales

A grassed channel used to convey and treat surface water runoff at the surface. They can be designed to infiltrate water to the ground or lined so that water is passed forward to other SuDS features. Swales can be designed to be wet or dry features.

Environmental Definitions

6. Environmental Regulatory Information

6.1. Pollution Incidents

The Environment Agency and Natural Resource Wales have a duty to investigate pollution incidents reported to them by members of the public, emergency services, local authorities, government departments, other regulators, industry, and agency staff. Substantiated incidents are held on a public register of information and relate to specific events that fall within their responsibility given that they may have an environmental and/or operational impact.

Examples may include reports that may affect land, air, and water, fish kills, illegal abstraction, low river flows, speeding vessels, and flooding. Public register information is provided by regional offices.

Incidents are graded from category 1 (Major Incident) to category 4 (No Impact). An impact category must be assigned for each affected environmental media; air, land, and water. An impact level is assigned to a particular incident but is determined by the maximum severity affecting one of the three media.

6.2. Landfill

Sites accepting waste were not required to be licensed until the introduction of the Control of Pollution Act 1974 and landfilling prior to this is often unrecorded unless captured through planning records or on historic plans.

Information on landfill sites relates to open and closed site and is captured from a number of sources within the Landmark Envirocheck Report to include:

- A survey of active landfill sites conducted on behalf of the Department of Environment in 1973, which over 3,000 sites accepting waste prior to the Control of Pollution Act 1974, and would therefore not have been subject to any strict regulation or monitoring;
- Information sourced from individual Local Authorities that were able to provide information on sites operating prior to the introduction of the Control of Pollution Act 1974;
- Information from the British Geological Survey which includes outline plans, site descriptions, waste types and tipping histories;
- Consents for landfill sites issued by the Environment Agency under Section 64 of the Environmental Protection Act 1990 (Part 2), prescribed by Regulation 10 of SI No.1056 the Waste Management Licensing Regulations 1994 and the Environmental Permitting (England Wales) Regulations 2010; and

- Information sourced from consents that were issued by the Environment Agency and the Scottish Environment Protection Agency, under the Control of Pollution Act 1974 and Section 36 of the Environmental Protection Act 1990.

6.3. Environmental Permitting

The Environmental Permitting (England and Wales) Regulations 2010 (as amended) (EPR 2010) have been introduced over a number of years so that they now encompass licences that were previously held under the several sets of legislation. The Landmark Envirocheck Report provides information on open and closed sites under each of the following pieces of legislation:

- Integrated Pollution Controls (IPC) held under the former Environment Protection (Prescribed Processes and Substances) Regulations 1991;
- Records of Local Authority Integrated Pollution Prevention and Control (LAIPPC) and Integrated Pollution Prevention and Control (IPPC) were previously maintained under the Pollution Prevention and Control Act 1999, originally set up under the Environmental Protection Act 1990. LAIPPC continue to be regulated by the Local Authority and are referred to as Part A2 Installations and Part B Installations, whilst the IPPC continue to be regulated the Environment Agency and are referred to as Part A1 Installations.
- Registered Waste Transfer, Treatment and Disposal Sites were previously recorded under the Control of Pollution Act (COPA) 1974, Section 36 of the Environmental Protection Act (EPA) 1990 and the Environmental Permitting (England and Wales) Regulations 2007.
- All waste activities now fall within EPR 2010 under a number of waste exemptions, standard rules environmental permits and bespoke environmental permits.

6.4. Waste Exemptions

Waste exemptions allow the use, storage, disposal and treatment of specific wastes that only create a low risk of pollution, when the quantities of waste are limited and stored in a specific manner.

6.5. Standard Rules Environmental Permits

Standard Rules environmental permits allow low to medium risk waste storage, transfer and treatment activities to occur at specific locations and are issued where the Environment Agency does not need to make a site specific decision about whether the regulated activity can take place at a specific location.

Environmental Definitions

6.6. Bespoke Environmental Permits

A Bespoke Environmental Permit is required where there are no exemptions or Standard Rules Environmental Permits available for the proposed activity. The Environment Agency makes a site specific assessment about the proposed regulated activity in relation to its environment to ensure waste and emissions do not have a detrimental effect.

7. Land Designations

7.1. Areas of Outstanding Natural Beauty (AONB)

The National Parks and Access to the Countryside Act 1949 as amended by the Countryside Act 1968, Wildlife and Countryside Act 1981 and Environment Act 1995, allowed for the designation of Areas of Outstanding Natural Beauty (AONB). The equivalent designations for Scotland are National Scenic Areas.

AONBs are landscapes of national conservation importance for their distinctive character and natural beauty. They are generally smaller than National Parks, and are owned by individuals e.g. farmers. Some are adjacent to National Parks and many include areas of Heritage Coast. Planning law protects development within them.

7.2. Sites of Special Scientific Interest

Sites of Special Scientific Interest (SSSI) have been designated under the Wildlife and Countryside Act 1981 Section 28 to protect areas of important flora, fauna, geological and/or physiographical features. They provide the basis for other national and international designations. Parties notified include site owner(s) and occupier(s), local planning authorities, water and sewerage companies, and the appropriate Secretary of State. The Land Registry also records these as local land changes.

The appropriate party must be consulted on developments, or notified of potentially damaging operations, which may affect an SSSI.

Most SSSIs are privately owned or managed. Others are owned or managed by public bodies such as the Forestry Commission, Ministry of Defence and the Crown Estate, or by the voluntary conservation movement. Some SSSIs are also designated as Special Protection Areas and Ramsar Sites.

7.3. RAMSAR Sites

Under the Convention on Wetlands of International Importance especially as Waterfowl Habitat, the Government is committed to designate 'Wetlands of International Importance'. The Convention was adopted in Ramsar, Iran in 1971 and ratified by the UK Government in 1976.

The purpose is to stem progressive encroachment on and loss of wetlands now and in the future. Aims include the conservation, management and wise use of migratory wildfowl stocks and to promote the conservation of wetlands.

Wetlands are areas of peat land, fen, marsh or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water.

7.4. Local Nature Reserves

These reserves are areas created by Local Authorities in conjunction with their appropriate national authority in the interest of conservation, amenity value and public enjoyment of the countryside. Some, but not all Local Nature Reserves (LNRs) are also designated SSSIs. They are controlled by bylaws.

7.5. National Nature Reserves

These reserves have been designated under the Wildlife and Countryside Act 1981 or the National Parks and Access to the Countryside Act 1949, Section 19, as areas of high national or international importance for nature conservation. They are designated by Natural England, Scottish Natural Heritage and the Countryside Council for Wales.

National Nature Reserves are Sites of Special Scientific Interest, and may have coastal frontage or be offshore islands.

7.6. Special Areas of Conservation

Special Areas of Conservation are lands designated under the ECC Directive on the Conservation of Natural Habitats and Wild Fauna and Flora (92/43/EEC), commonly known as the Habitats and Species Directive. These sites are to be afforded absolute protection subject to 'imperative reasons of overriding public interest, including those of a social or economic nature.

7.7. Special Protection Areas

Special Protection Areas are classified under Article 4 of the EC Directive on the Conservation of Wild Birds 1979, commonly known as the Wild Birds Directive.

The purpose of Special Protection Areas is to safeguard the habitats of migratory and certain particularly threatened bird species. Together with Special Areas of Conservation, they constitute 'Natura 2000' areas for protection.

Environmental Definitions

8. Hazardous Substances

8.1. Asbestos Containing Materials (ACM's)

Includes any of the following materials; crocidolite, amosite, chrysotile, fibrous actinolite, fibrous anthophyllite, fibrous tremolite and any mixture containing any of these materials.

8.2. Asbestos Surveys

Any reference to asbestos surveys is given the same meaning as that given in HSE Guidance Document HSG 264 entitled 'Asbestos: The Survey Guide'.

8.3. Control of Major Accident Hazard Sites

The Health and Safety Executive in conjunction with the Environment Agency and the Scottish Environment Protection Agency keeps records of those sites, which manufacture or store dangerous toxic or flammable chemicals (including petrochemicals, pharmaceuticals and agrochemicals) and explosives in excess of threshold quantities specified in the Control of Major Accident Hazards (COMAH) Regulations 2015. Sites are divided into upper and lower tier sites based on the type and quantities of substances being stored or manufactured.

The COMAH Regulations require emergency plans to be kept up to date and regularly tested.

8.4. Planning Hazardous Substance Consents

This data is collected, collated and geo-coded by Landmark. The records relate to consents granted under the Planning (Hazardous Substances) Act 1990 as amended, for England and Wales and the Planning (Hazardous Substances) (Scotland) Act 1997, in Scotland.

The regulations require a consent to be granted by the Local Authority for sites where the storage of certain hazardous substances is above the specified or controlled quantity.

9. Non-Native Invasive Plants

The Wildlife and Countryside Act 1981 (as amended) is the principal legislation which regulates the release of non-native species. Section 14(2) prohibits the release of certain invasive non-native plants into the wild in Great Britain; it is an offence under Section 14(2) to "plant or otherwise cause to grow in the wild" any plants listed on Part II of Schedule 9. The most common plant species found on brownfield and urban sites include Japanese Knotweed, Giant Hogweed and Himalayan Balsam.

Japanese Knotweed

Japanese knotweed is a strong-growing, clump-forming perennial, with tall, dense stems. Stem growth is renewed each year from the existing crown of the rhizomes which grows underground. Japanese Knotweed is a particular problem as not only does it out compete native species, it also has the potential to damage buildings, pavements, roads, etc.

Himalayan Balsam

This is a non-native invasive terrestrial plant species that has spread to most parts of UK, particularly along the banks of watercourse and in damp woodland. Individual plants reach 2m in height and its rapid growth shades out most of our native species.

Giant Hogweed

Giant Hogweed is part of the same family as Cow Parsley and Hogweed, but is significantly larger in size extending up to 4m in height. The sap of Giant Hogweed contains toxic chemicals known as furanocoumarins, which when contact with the skin, and in the presence of sunlight cause a condition called phyto-photodermatitis (reddening of the skin, burns and blistering).

10. Environmental Risk Assessment

10.1. Contamination

This is taken to mean specifically, the presence of toxic, noxious or polluting substances in, on or under land.

10.2. Contaminated Land

Any reference to contaminated land should be construed in the statutory sense.

Land is defined as being contaminated land under Section 78 of the Environmental Protection Act 1990 where any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land that:

Significant harm is being caused or there is a significant possibility of such harm being caused; or

Significant pollution of controlled waters is being, or is likely to be caused.

10.3. Conceptual Site Model (CSM)

The conceptual site model is the initial phase of the environmental risk assessment process which identifies the all potential sources of contamination, the receptors capable of being harmed and the pathways capable of exposing a receptor to the contaminant source. Only where there are complete source-pathway-receptor linkages is there considered to be a potential risk.

Environmental Definitions

10.4. Environmental Risk

Any reference to environmental risk shall be taken to mean:

High Risk

Those properties where environmental risks have been identified that will affect land value, business interruption, lead to regulatory intervention and/or result in material financial expenditure by the client in the short term.

Moderate Risk

Those properties where environmental risks have been identified that have the potential to affect land value, lead to regulatory intervention and/or result in material financial expenditure by the client in the medium to long term.

Low Risk

Those properties where no environmental risks have been identified that have the potential to affect land value, lead to regulatory intervention and/or result in material financial expenditure by the client.

Environmental Reservations

Composite Panels and Insurance

We will not test any panels within the property to see whether there are any polystyrene insulated composite panels. The presence of such panels may result in the property being uninsurable, which would have an adverse impact on value.

Enquiries

Where necessary, any enquiries (verbal and written) undertaken by Avison Young of local authorities and statutory undertakers are made in respect of environmental issues. Local searches are not undertaken and no responsibility is accepted for any inaccurate information provided.

Environmental Liability

Any reference to environmental liability should be taken to mean a combination of the following types of liabilities:

Actual Liabilities

These are known present obligations of the business arising from past or future events, the settlement of which will require future expenditure.

These will include costs associated with regulatory compliance e.g. known monitoring, decommissioning requirements, fines, damages, and surrender provisions imposed by statute and /or contract.

Latent and Contingent Liabilities

These are unknown obligations arising from past or future events that exist, but where the outcome will only be known following the occurrence or non-occurrence of future events that are outside the control of the business.

These might include, unknown costs associated with site remediation, decommissioning and the possibility of unforeseen future events such as a pollution incident.

Ground Conditions

Any discussion of ground conditions in this report have been based on a review of existing documentary information prepared by British Geological Survey, the Coal Authority and/or other parties. Avison Young accepts no responsibility for the accuracy or completeness of information prepared by third parties.

Information

All information supplied by the Client, the Client's staff and professional advisers, local authorities, other statutory bodies, investigation agencies and other stated sources is accepted as being correct unless otherwise specified.

Legal issues

Any interpretation of leases and other legal documents and legal assumptions is given in our capacity as Property Consultants (including Chartered Surveyors and Chartered Town Planners) and must be verified by a suitability qualified lawyer if it is to be relied upon. No responsibility or liability is accepted for the true interpretation of the legal position of the client or other parties.

Where opinions expressed in this report are based on current available guidelines and legislation, no liability can be accepted by Avison Young for the effects of any future changes to such guidelines and legislation.

Plans

Any plans supplied are for identification purposes only unless otherwise stated. The Report assumes site boundaries are as indicated to us. The reproduction of Ordnance Survey sheets has been sanctioned by the Controller of Her Majesty's Stationery Office, Crown Copyright reserved.

Property Condition

Our inspection of a property does not constitute a structural survey. When preparing our report we have regard to apparent defects and wants of repair and take into account the age of the property. We do not however carry out a detailed search for defects which is undertaken as part of the structural survey neither do we necessarily set out the various defects when making the report. We do not inspect woodwork or other parts of the structure which are covered, unexposed or inaccessible. We do not arrange for any investigation to be carried out to determine whether or not high alumina cement concrete or calcium chloride additive or any other deleterious materials or permanent woodwool shuttering or composite panelling has been used in the construction.

Unless so instructed we do not arrange for any investigations to be carried out to determine whether or not any deleterious or hazardous material or techniques have been used in the construction of the property or has since been incorporated and the services are not tested.

We are therefore unable to report that the property is free from defect in these respects.

For reporting purposes we assume unless otherwise stated that the property (including associated plant and machinery, fixtures and fittings) is in serviceable order and will remain so for the foreseeable future. It will be assumed that the building(s) is/are in good repair, except for defects specifically noted.

Environmental Reservations

Services Installations

Unless otherwise instructed, we do not inspect or test any of the water, mechanical, heating, electrical or drainage installations. Where appropriate we will make recommendations in relation to the execution of specialist tests to establish the condition. The implementation of such work would normally involve an additional fee.

Site Areas

Site areas are normally computed from plans or the Ordnance Survey and not from a physical site survey. They are approximate unless otherwise indicated.

Tenure

Title Deeds and Leases are not inspected (unless specifically stated) and, unless we are informed to the contrary, it is assumed that a property is free of any onerous covenants, easements, other restrictions or liabilities including mortgages, grants and capital allowances that may affect the value.

Warranties

The client warrants and represents that, to the best of its knowledge, information and belief, the information supplied by and on its behalf to Avison Young is true and accurate and that it will advise and instruct its third party advisers to advise Avison Young in the event that it and/they receive notice that any such information is either misleading or inaccurate.

Contact Details

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