Geo-Environmental

GROUND APPRAISAL REPORT

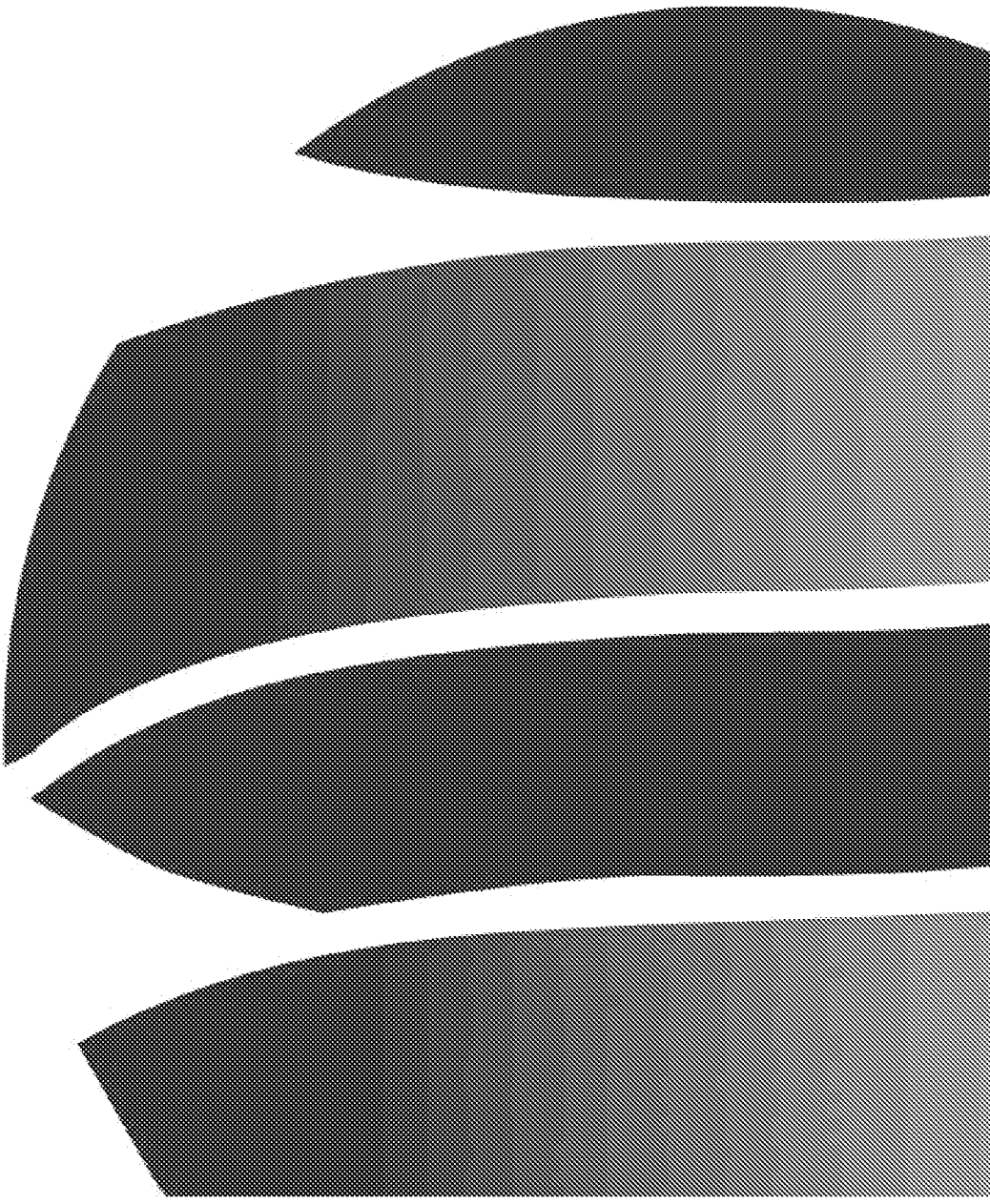
for the site at

LAND OFF LIDSEY ROAD, WOODGATE

WEST SUSSEX, PO20 3SU

on behalf of

THAKEHAM CLIENT LIMITED



ARUN DISTRICT COUNCIL AL/28/22/DOC

Report:	**GROUND APPRAISAL REPORT**
Site:	**LAND OFF LIDSEY ROAD, WOODGATE, WEST SUSSEX, PO20 3SU**
Client:	**THAKEHAM CLIENT LIMITED**
Date:	**10/10/2019**
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EXECUTIVE SUMMARY		
	Site Address	Land At Lidsey Road, Woodgate, West Sussex, PO20 3SU
	Form of Development	Construction of residential properties with gardens, car parking, access road and associated infrastructure.
Encountered Conditions	Scope of works	An intrusive investigation to confirm the ground and groundwater conditions and support the development of geotechnical and geo-environmental assessments of the site in relation to the proposed development.
	Ground Conditions	The ground conditions comprised a limited thickness of Topsoil and Made Ground overlying River Terrace Deposits and the London Clay Formation.
	Groundwater	Groundwater was encountered at depths of between 1.85m and 3.00m bgl, during the fieldworks, with water standing at depths of between 1.20m and 2.50m bgl after twenty minutes. Groundwater monitoring wells were installed within WS1, WS2, WS3 and WS6 to depths of between 2.50m and 3.70m bgl. Two return monitoring visits have been made to date, with further visits to be undertaken throughout the winter period. To date, groundwater has been recorded at depths of between 0.91m and 1.75m bgl.
Geotechnical Considerations	Foundations	Based on the ground and groundwater conditions encountered in the boreholes conventional foundations are considered suitable for the proposed low rise development. Foundations should be taken below any Made Ground, soft, desiccated or disturbed ground and bear onto the firm to very stiff sandy silty gravelly clays or silty sands of the River Terrace Deposits. Based on the laboratory results, the more clayey parts of the River Terrace Deposits *en masse* should be considered Medium Volume Change Potential in accordance with the NHBC Standards, Chapter 4.2. A minimum founding depth within the River Terrace Deposits of 0.90m is therefore applicable remote from trees. Foundations should not be less than 450mm in width. Within the zone of moisture demand of any existing, proposed or recently felled trees it is recommended that foundation depths be calculated in accordance with the NHBC Standards, Chapter 4.2.Foundations should also be taken through any major root zone and desiccated clay soils should this be found at greater depth. Design measures will be required to prevent heave forces from developing on the faces of the foundations where footing depths are in excess of 1.5m on account of trees. It should be noted that the NHBC stipulate that foundations cast at depths greater than 2.5m should be "engineer designed". Based on the typical settlement parameters for the types of soil encountered, a maximum net allowable bearing capacity of 125kPa is applicable for trench, strip or isolated pad foundations taken through any Made Ground, soft or loose zones, desiccated or disturbed soils and placed wholly into or onto the firm to very stiff sandy silty gravelly clays of the River Terrace Deposits. Under the above loading the settlements should remain within tolerable limits for the proposed scheme. It would be prudent to further consider the depth to the groundwater during the winter months as this could cause construction difficulties

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		where intercepted within foundation or service trenches. The risk of intercepting the groundwater would be higher where foundations are required to be deepened on account of the presence of trees and careful design is required in this respect.
	Floor Slabs	Based on the laboratory testing results and the presence of trees and shrinkable soils, it is recommended that suspended ground floor slabs be adopted.
	Excavations	Shallow excavations within the Made Ground should remain relatively stable in the short term. Long deep excavations within the Made Ground are likely to be prone to instability, particularly where left open for prolonged periods, and should be battered back to a safe angle, or suitable shoring techniques should be adopted to provide stability. Shallow excavations within the River Terrace Deposits should remain relatively stable in the short term. Long, deep excavations within the River Terrace Deposits are likely to be prone to instability, particularly where left open for prolonged periods, or open to wet weather conditions and should be battered back to a safe angle, or suitable shoring techniques should be adopted to provide stability. Any excavations taken below the groundwater table is likely to be prone to collapse and running sand.
	Pavements	Where encountered. the Made Ground was noted to be of mixed composition and of limited thickness. The engineering characteristics of such soils are variable and unpredictable and the CBR value of Made Ground does not predict the overall settlements that may occur in such materials. Due to the heterogeneity of the variable amounts of Made Ground it would be prudent to assume the material to be deemed non-frost susceptible throughout. As part of the investigation, three bulk samples of the underlying River Terrace Deposits were taken from hand pits referenced TP DCP1, TP DCP4 and TP DCP6, with samples taken from depths of 0.50m bgl. The results of the laboratory remoulded (2.5kg rammer method) soaked CBR tests from gave results in the range of 1% and 9.5%. In addition, six dynamic cone penetrometer tests were undertaken across the site. The results between the depth of 300mm and 600mm bgl ranged between 5% and 22%. The Transport and Road Research Laboratory Report (LR1132) entitled '*The Structural Design of Bituminous Roads*' (1984) cites an estimated equilibrium suction index of 5% for the sandy silty gravelly clays such as those of the near surface River Terrace Deposits, under average construction conditions and a high groundwater level. An overall CBR value of 5% is recommended. Furthermore, based on the geotechnical results, the near surface River Terrace Deposits should be considered as being frost susceptible for pavement design purposes with abundant gravel noted within the sandy silty clays within the upper metre.

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		It is recommended that the sub-grade be proof rolled and any soft spots removed and replaced with a suitable compacted granular fill.
	Drainage	The results indicate a relatively poor infiltration rate within the River Terrace Deposits, whilst groundwater was also noted to be shallow. Based on these findings, the design and construction of conventional soakaways may be viable, though the storage capacity will be severely restricted by the presence of the groundwater table.
	Buried Concrete	Seven pH and Sulphate tests were undertaken on the River Terrace Deposits. The results for the River Terrace Deposits corresponded to design class DS-1 as defined within the BRE Special Digest 1 (2005). The pH analyses indicate the ACEC class to be AC-1. It is recommended that a design class of DS-1 and an ACEC class of AC-1 be applied to all sub-surface concrete within this stratum.
Considerations	Human Health	All of the results indicated concentrations less than the Atkins ATRISK/C4SI screening values with the exception of Benzo(a)pyrene (TP1 0.10m 120mg/kg, TP2 0.10m 64mg/kg), Barium (TP2 0.10m 290mg/kg, WS7 0.20m 130mg/kg) and Beryllium (TP2 0.10m 2.40mg/kg). The Atkins ATRISK values for Benzo(a)pyrene are 4.95mg/kg, Barium 110mg/kg and 1.71mg/kg for Beryllium. The locations of TP1 and TP2 were within the area of the glasshouse, formerly used as a nursery. The location of WS7 was within the grounds of the residential property. Based on these initial findings, a cover system will be required within these areas. However, based on the limited sampling within these locations, it is recommended that further investigation in and around the garden nursery and residential property be undertaken. Those findings, along with these findings should be used to finalise a cover system for affected plots within those areas. As a preliminary guide it is likely that recommendations will be to strip the existing Made Ground from the proposed gardens and soft landscaping areas for the units located within the grounds of the house and glasshouse.
	Ground gas	Two ground gas monitoring visits have been undertaken to date to provide an initial assessment. No significant ground gas concentrations were noted and therefore no remedial works are required in this respect. A final assessment will be made upon completion of all monitoring visits.
	Built Environment	The current guidance on selection of materials for water supply pipes to be laid in contaminated land is contained in UK Water Industry Research's (UKWIR) report reference 10/WM/03/21 (re-issued 2010). However, the guidance is not mandatory and there have been concerns raised by various industry technical associations regarding the document and the methodologies proposed. Although there are concerns regarding the document, in lieu of any further guidance in the first instance the results of this investigation have been compared with the proposed thresholds published in UKWIR Table 3.1. The results of the relevant chemical analyses indicated elevated concentrations of SVOCs and TPH, barrier pipe is likely to be required on the area of the site currently occupied by the house and glasshouse, unless they are wholly placed in natural soils. It is recommended that the results of this investigation be presented to the water utility company as soon as reasonably practicable in order to

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		confirm the pipe material.
	Waste Disposal	Initially, the results of the laboratory testing were submitted for Catwaste classification, the results Confirmed that the near surface soils did not have any properties that would deem the material hazardous waste for all but two samples. Samples TP1 0.10m and TP2 0.10m had hydrocarbon/oil with benzo(a)pyrene marker. Waste soils within this area require further analysis in the form of Waste Characterisation testing and Waste Acceptance Criteria testing to determine classification for off-site disposal.

Further Action:

- A discovery strategy should be maintained during development such that any abnormal conditions (geotechnical or potential contamination) are identified and their potential impact on the proposed development assessed prior to determining any potential mitigation measures.
- The results of this investigation be presented to the water utility company as soon as reasonably practicable in order to confirm the pipe material
- Further investigation within the locations of the former garden nursery and residential property.
- Further waste disposal classification comprising Waste Characterisation tests and Waste Acceptance Criteria testing.

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1.0 INTRODUCTION

Geo-Environmental Services Limited was instructed by Thakeham Client Limited to undertake an investigation of the geotechnical and geo-environmental factors pertaining to Land Off Lidsey Road, Woodgate, West Sussex, PO20 3SU. The site's location is presented in Figure 1.

The proposed development is understood to comprise the construction of residential properties with private gardens, car parking access roads and associated infrastructure.

1.1 Site Description

The development site comprised a grassed field with a large dilapidated glasshouse within the south-eastern corner. The site was roughly rectangular in shape and was generally flat and level. One the eastern side of the site was a single residential property which for the purposes of the investigation was included within the site boundary. The property was a large two storey detached house with garage and indoor swimming pool with gardens on the eastern and western sides. The area immediately around the glasshouse was overgrown both within and around the structure. It was noted that immediately outside of the building was an area of fly tipped material comprising potential asbestos cement board sheeting and a fridge. Anecdotal evidence suggested that the glasshouse had been formerly used as a small commercial nursery. The site was bounded by mature trees and hedges, with a ditch along Lidsey Road, which formed the eastern boundary. A large oak tree was noted centrally within the western portion of the site.

The surrounding area comprised a small field and a public house to the north, residential properties to the east and south and a large commercial nursery to the west.

1.2 Desk Study

A standalone Desk Study was undertaken for the site in August 2019, reference GE18390-DSR-AUG19, and this is presented in Appendix A.

The poignant sections relating to the Preliminary Risk Assessment are presented in the following section for ease of reference.

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2.0 PRELIMINARY ASSESSMENT

Based on the findings of the desk study, the following sections summarise the anticipated geotechnical and environmental factors likely to impact the site.

2.1 Geotechnical Risk Assessment

2.1.1 Potential Geotechnical Issues

The following factors that might impact the geotechnical condition of the site were identified as part of the desk study:

- The presence of shallow groundwater and associated excavation stability
- Viability of soakaways.
- The presence of mature trees will need to be considered for foundation design where shrinkable clay soils are present.
- Lateral changes in ground conditions.

2.2 Preliminary Environmental Conceptual Site Model & Risk Assessment

2.2.1 Methodology

A Preliminary Risk Assessment ('PRA') and Conceptual Site Model ('CSM') have been prepared in accordance with CLR11 based on information obtained as part of the desk study. Possible risks associated with potential sources of contamination and sensitive receptors identified have been qualitatively assessed following a source-pathway-receptor ('Pollutant Linkage') approach in accordance with current UK protocols.

A risk of harm may only exist where a plausible pollutant linkage is present, and where the quantity or concentration of a contaminant is sufficient so as to pose harm. Under the statutory definition, "Contamination" may only strictly exist where contaminants pose a risk of harm to a receptor. The risk classification has been assessed in accordance with CIRIA C552 (Rudland et al., 2001). A summary of how the risks are derived and their definitions are presented in Tables 3.1 and 3.2.

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		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**High Likelihood**	Very high risk	High risk	Moderate risk	Moderate/low risk
	Likely	High risk	Moderate risk	Moderate/low risk	Low risk
	Low Likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk

Table 2.1 Risk Ratings Matrix

Risk Rating	Definitions
Very high risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not already undertaken) and remediation are likely to be required.
High risk	Harm is likely to arise to a designated receptor from an identified hazard Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not already undertaken) is required and remediation works may be necessary in the short term and are likely over the longer term.
Moderate risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild.
Moderate to low risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is unlikely that any such harm would be severe, or if any harm were to occur it is probable that the harm would be relatively mild.
Low risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very low risk	There is low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

Table 2.2 Risk Rating Definitions

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2.2.2 Summary of Plausible Sources

Possible sources of contamination identified from the desk study are summarised in Table 3.3.

Source	Description	Contaminants
Made Ground and shallow soils	The general quality of Made Ground and shallow soils could be impacted by the presence of contamination.	Possible elevated concentrations of metals, metalloids, TPH and PAH compounds, and asbestos in Made Ground (if present) or in shallow natural soils.
Ground Gases	Possible presence of ground gases as a result of Made Ground (if present) and vapours associated with organic contaminants (if present).	Possible elevated Methane, Carbon Dioxide, depleted Oxygen and Volatile Organic Compounds (VOCs)

Table 2.3 Possible Sources of Contamination

2.2.3 Summary of Plausible Pathways

The plausible pathways are summarised in Table 3.4. These pathways are based on the proposed end use, including residential properties and private gardens.

Pathway	Description
Direct Contact	Ingestion of soil particles, ingestion and bioaccumulation in vegetables/fruit and inhalation of soil derived dust (including tracked back dust), dermal contact.
Inhalation	Inhalation of ground gases and soil dust both inside and outside of buildings.
Vertical & Lateral Migration	Contaminant movement both vertically through leaching/gravity and horizontally along preferential pathways, e.g. services trenches, or with groundwater.
Root Uptake	Uptake of soil and waterborne contaminants by plants.
Chemical Attack	Attack of buried plastics and concrete by aggressive ground conditions.

Table 2.4 Possible Contamination Pathways

2.2.4 Summary of Plausible Receptors

Potential receptors associated with the site and its development are summarised in Table 3.5.

Receptor	Description	Comments
Site Workers	Persons involved in construction and future maintenance of the proposed development.	Ground Workers could become exposed during site clearance, construction and maintenance.
End Users	Residents/occupants of the proposed development.	The proposed development is likely to include private gardens and areas of soft landscaping.
Soft Landscaping	Possible areas of planting including lawns, shrubs, trees, etc.	Planting is anticipated in private gardens and soft landscaping.
Buildings and Infrastructure	Buried concrete for foundations and plastics for potable water supply pipes may be laid in contact with contaminated soils.	Significant depths of Made Ground are not anticipated; however contamination may also be present within shallow Made Ground and natural soils.
Adjacent Land Users	Sensitive land uses identified within the immediate vicinity.	Adjacent land uses include predominantly commercial and residential.

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Receptor	Description	Comments
Groundwater	Controlled Waters contained within the aquifer(s) beneath the site.	The site overlies a Secondary A Aquifer and an Unproductive Strata. The site is situated outside of any SPZ.
Surface Water	Controlled Waters within lakes, rivers, and ponds, etc., or coastal waters.	Surface water features are present on-site (ditches).

Table 2.5 Possible Receptors of Contamination

Site workers involved in the preparation and construction of the development have not been considered further in this assessment as the Principal Contractor is duty bound under the current CDM Regulations to undertake their own risk assessments with respect to their employees.

Whilst the above sources and receptors have been identified, Table 3.6 summarises the identified plausible pollution linkages and a qualitative assessment of the risks based on the desk study research.

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Potential Source/ media	Potential Receptors	Potential Pathways	Probability	Consequence	Risk and Justification
General chemical quality/Made Ground & Near Surface Soils	End Users	Direct contact	Low	Medium	Moderate to Low Future end users are likely to come into contact with potentially impacted soils via direct contact in in private garden areas.
	Adjacent Land Users	Direct contact	Low	Mild	Low During the development fugitive dust may be released which could impact neighboring land users through direct contact.
	Soft Landscaping	Root uptake	Low	Mild	Low Plants are likely within soft landscaped areas.
	Water Supply Pipes	Chemical attack	Low	Mild	Low Water supply pipes are likely to come into contact with soils.
	Buildings and Infrastructure	Chemical attack	Low	Mild	Low Foundations and utilities will be placed within soils. However, the consequence is anticipated to be mild.
	Groundwater	Vertical migration	Low	Medium	Moderate to Low Groundwater is anticipated within the granular parts of the River Terrace Deposits.

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Potential Source/ media	Potential Receptors	Potential Pathways	Probability	Consequence	Risk and Justification
Ground Gases	End Users	Inhalation	Low	Medium	Moderate to Low It is likely that end users of the site will come into contact with ground gases as off-site sources have been identified.

Table 2.6 Plausible Pollutant Linkages & Qualitative Risk Assessment

2.3 Preliminary Risk Assessment Summary

The PRA and CSM developed from the information gathered as part of the desk study process have identified plausible potential pollutant linkages that exist in relation to the proposed redevelopment of the site.

The potential pollutant linkages established within this desk study are not considered to prevent development on the subject site, but could require investigation and assessment to support further characterisation, calibration of the CSM and where/if necessary determine a remedial strategy to reduce, remove or otherwise control any risk within the site to key receptors.

It is considered that the overall risk from potential contamination on the site is 'moderate to low to low' and that further assessment would be necessary to satisfy planning conditions or to provide clarification of the risk assessment.

2.4 Investigation Scope

The scope of works for the investigation included:

- Seven window sampler boreholes to a maximum depth of 4m bgl or maximum achievable depth with in-situ testing and regular sampling.
- The installation of ground gas and groundwater monitoring wells with return monitoring visit to be undertaken during the winter period.
- Six machine excavated trial pits to a maximum depth of 3.0m bgl or maximum achievable depth with in-situ testing and regular sampling.
- Six dynamic cone penetrometer tests for CBR values along with sampling of pits adjacent to each location.
- Geotechnical laboratory testing on soil samples recovered from the exploratory holes to support the geotechnical assessment.
- Geochemical laboratory testing on near surface soils for a suite of commonly occurring brownfield contaminants (including asbestos screening of all samples).
- Provision of a Ground Appraisal Report detailing the ground and groundwater conditions encountered during the intrusive investigation, laboratory testing results, geotechnical assessment and contamination assessment.

2.5 Investigation Rationale

The exploratory holes were located to provide broad coverage across the proposed development area. The following tables summarise the strategy of the environmental (Table 1) and geotechnical (Table 2) investigations.

Environmental Area of Concern	Investigation	Positions
Near Surface Soils and Made Ground	Window Sampler boreholes and trial pits situated across the site with regular sampling and laboratory analysis	All locations
Ground Gas and Vapours	Ground gas monitoring standpipe installed within the window sampler boreholes.	WS1, WS2, WS3, WS6

Table 2.7 Summary of Environmental Investigation Strategy

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Geotechnical Area of Concern	Investigation	Positions
Lateral changes in ground conditions	Boreholes and trial pits undertaken with regular in-situ testing and sampling.	All locations
Shrinkable soils	Boreholes and trial pits undertaken with regular in-situ testing and sampling.	All locations
Highly compressible/low bearing capacity soils (soft clay)	Boreholes and trial pits undertaken across the site with regular in-situ testing and sampling.	All Locations
High groundwater table and/or flooding (including waterlogged ground)	Standpipes installed within boreholes and groundwater observations made within all holes during drilling.	WS1, WS2, WS3, WS6
Significant depths of Made Ground	Boreholes and trial pits undertaken with regular in-situ testing and sampling.	All locations
Aggressive chemical ground conditions (sulphates)	Boreholes and trial pits undertaken with regular in-situ testing and sampling.	All locations
California Bearing Ratio	DCP's and shallow trials pits undertaken to obtain samples for laboratory analysis	DCP1-DCP6

Table 2.8 Summary of Geotechnical Investigation Strategy

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3.0 ENCOUNTERED CONDITIONS

A factual record of the conditions encountered during the physical investigations of the site is presented in the following section.

For further details of the encountered ground conditions, reference should be made to the engineer's logs presented in Appendix A, the groundwater/gas monitoring assessment presented in Appendix B, the geotechnical testing results in Appendix C and the chemical testing results in Appendix D.

3.1 Ground Conditions

With reference to British Geological Survey (BGS) mapping, the geology of the site was anticipated to comprise the Alluvium overlying the River Terrace Deposits overlying the London Clay Formation.

The rivers of the south-east of England, including the River Thames and its tributaries, have been subject to at least three changes of level since Pleistocene times. One result has been the formation of a complex series of River Terrace Deposits. The deposits are generally found at an elevation close to or higher than that of the existing rivers, and generally comprise sands and gravels of roughly bedded flint or chert gravels varying degrees of coarseness.

London Clay comprises a stiff grey fissured clay, weathering to brown near surface. Concretions of argillaceous limestone in nodular form (Claystones) occur throughout the formation. Crystals of gypsum (Selenite) are often found within the weathered part of the London Clay, and precautions against sulphate attack to concrete are sometimes required.

Beneath a thin mantle of Topsoil and Made Ground the ground conditions encountered were generally consistent with those anticipated.

Topsoil was encountered within all locations with the exception of TP1, TP2 and WS7 to depths of between 0.15m and 0.30m bgl and generally comprised dark brown silty sand with roots and rootlets.

Made Ground was encountered within TP1, TP2 and WS7 to depths of between 0.25m and 0.45m bgl and was of a mixed composition comprising silty sand with ash, brick and concrete, dark brown sandy silt and reworked chalk.

Underlying the Topsoil and Made Ground, the River Terrace Deposits were encountered within all locations to depths of between 2.00m and 4.00m bgl and generally comprised soft to very stiff silty sandy clay becoming silty sandy clay with occasional fine to coarse sub-angular chert, overlying fine to medium sand.

Underlying the River Terrace Deposits at a depth of 3.50m bgl, the London Clay Formation was encountered within WS1 and WS7 only and proven to a depth of 4.00m bgl (maximum depth of the investigation). The London Clay was described as stiff grey clay.

For more detailed descriptions of the ground conditions at specific locations, reference should be made to the exploratory hole logs presented in Appendix B.

3.2 Groundwater

Groundwater was encountered at depths of between 1.85m and 3.00m bgl, during the fieldworks, with water standing at depths of between 1.20m and 2.50m bgl after twenty minutes. Groundwater monitoring wells were installed within WS1, WS2, WS3 and WS6 to depths of between 2.50m and 3.70m bgl. Two return monitoring visits have been made to date, with further visits to be undertaken throughout the winter period. To date, groundwater has been recorded at depths of between 0.91m and 1.75m bgl.

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It should be noted that changes in groundwater and perched water levels do occur for a number of reasons including seasonal effects and variations in drainage. Such fluctuations may only be recorded by the measurement of the groundwater level within a series of standpipes or piezometers installed within appropriate response zones.

3.3 Ground Gases

Dual purpose gas and water monitoring standpipes were installed within WS1, WS2, WS3 and WS6 to depths of between 2.50m and 3.70m bgl. Two return monitoring visits have been made to date, with further visits to be undertaken throughout the winter period. To date, no methane has been recorded, whilst carbon dioxide and oxygen have been recorded within the range of 0.0% v/v to 2.0% v/v and 12.6% v/v to 20.9% v/v respectively. A maximum VOC concentration of 0.2ppm has been recorded, whilst atmospheric pressure has been recorded within the range of 996mb to 1018mb. No flows have been recorded.

For further details, reference should be made to the ground gas assessment sheet in Appendix C.

3.4 Obstructions

No artificial underground obstructions were encountered on site during the intrusive works. Although unlikely, the potential for obstructions elsewhere on site should not be discounted.

3.5 Geochemical Analysis

In order to assess the general chemical quality of the strata encountered, samples of soils recovered from the exploratory holes were submitted for analysis for a range of potential contaminants selected on the basis of the findings of the desk study and supported by the joint National House Building Council (NHBC), Environment Agency (EA) and Chartered Institute of Environmental Health (CIEH) publication, '*Guidance for the Safe Development of Housing on Land Affected by Contamination*' (2008).

Soil samples were placed into plastic containers for general inorganic analysis and into amber jars for organic analysis. Samples were stored in temperature-controlled conditions from sampling until receipt at the laboratory from which time sample preparation and storage was determined by testing requirements and in line with the laboratory's protocols.

Eight soil samples were submitted for analysis for a comprehensive suite of common zootoxic and phytotoxic elements based upon determinants listed within the above guidance. In addition, four samples were scheduled for a pesticide suite while four samples were scheduled for BS 3882:2015 specification for Topsoil.

3.6 Geotechnical Analysis

The results of geotechnical testing undertaken as part of the ground investigation are summarised in Tables 3 & 4, with test results presented in Appendix D.

Parameter	River Terrace Deposits
pH	5.9-8.3
Water soluble sulphate (mg/l)	<0.02
Natural Moisture Content (%)	10-21
Liquid Limit (%)	32-50
Plastic Limit (%)	16-19
Plasticity Indices (%)	16-31
Modified Plasticity Indices (%)	10.64-30.38
Particle Size Distribution Fines <0.063mm (%)	7-16.1

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California Bearing Ratio (%)	1-9.5

Table 3.1: Summary of Geotechnical Laboratory Test Results (River Terrace Deposits)

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4.0 ENGINEERING CONSIDERATIONS

Subsequent to intrusive investigation of the site and receipt of the laboratory results, the following interpretative assessments have been made with respect to engineering considerations.

4.1 Foundations

Based on the ground and groundwater conditions encountered in the boreholes conventional foundations are considered suitable for the proposed low rise development.

Foundations should be taken below any Made Ground, soft, desiccated or disturbed ground and bear onto the firm to very stiff sandy silty gravelly clays or silty sands of the River Terrace Deposits.

Based on the laboratory results, the more clayey parts of the River Terrace Deposits *en masse* should be considered Medium Volume Change Potential in accordance with the NHBC Standards, Chapter 4.2. A minimum founding depth within the River Terrace Deposits of 0.90m is therefore applicable remote from trees. Foundations should not be less than 450mm in width.

Within the zone of moisture demand of any existing, proposed or recently felled trees it is recommended that foundation depths be calculated in accordance with the NHBC Standards, Chapter 4.2.Foundations should also be taken through any major root zone and desiccated clay soils should this be found at greater depth. Design measures will be required to prevent heave forces from developing on the faces of the foundations where footing depths are in excess of 1.5m on account of trees. It should be noted that the NHBC stipulate that foundations cast at depths greater than 2.5m should be "engineer designed".

Based on the typical settlement parameters for the types of soil encountered, a maximum net allowable bearing capacity of 125kPa is applicable for trench, strip or isolated pad foundations taken through any Made Ground, soft or loose zones, desiccated or disturbed soils and placed wholly into or onto the firm to very stiff sandy silty gravelly clays of the River Terrace Deposits. Under the above loading the settlements should remain within tolerable limits for the proposed scheme.

It would be prudent to further consider the depth to the groundwater during the winter months as this could cause construction difficulties where intercepted within foundation or service trenches. The risk of intercepting the groundwater would be higher where foundations are required to be deepened on account of the presence of trees and careful design is required in this respect.

4.2 Excavations

Shallow excavations within the Made Ground should remain relatively stable in the short term. Long deep excavations within the Made Ground are likely to be prone to instability, particularly where left open for prolonged periods, and should be battered back to a safe angle, or suitable shoring techniques should be adopted to provide stability.

Shallow excavations within the River Terrace Deposits should remain relatively stable in the short term. Long, deep excavations within the River Terrace Deposits are likely to be prone to instability, particularly where left open for prolonged periods, or open to wet weather conditions and should be battered back to a safe angle, or suitable shoring techniques should be adopted to provide stability. Any excavations taken below the groundwater table is likely to be prone to collapse and running sand.

Ground works should always be designed in such a manner to avoid man entry into excavations. However, in the event that such works cannot be avoided or designed out, they should only be undertaken in accordance with a safe system of work, following an appropriate risk assessment and in accordance with any legislative requirements, e.g.

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Confined Spaces Regulations.

4.3 Floor Slabs

Based on the laboratory testing results and the presence of trees and shrinkable soils, it is recommended that suspended ground floor slabs be adopted.

4.4 Pavements

Where encountered. the Made Ground was noted to be of mixed composition and of limited thickness. The engineering characteristics of such soils are variable and unpredictable and the CBR value of Made Ground does not predict the overall settlements that may occur in such materials. Due to the heterogeneity of the variable amounts of Made Ground it would be prudent to assume the material to be deemed non-frost susceptible throughout.

As part of the investigation, three bulk samples of the underlying River Terrace Deposits were taken from hand pits referenced TP DCP1, TP DCP4 and TP DCP6, with samples taken from depths of 0.50m bgl. The results of the laboratory remoulded (2.5kg rammer method) soaked CBR tests from gave results in the range of 1% and 9.5%.

In addition, six dynamic cone penetrometer tests were undertaken across the site. The results between the depth of 300mm and 600mm bgl ranged between 5% and 22%.

The Transport and Road Research Laboratory Report (LR1132) entitled '*The Structural Design of Bituminous Roads*' (1984) cites an estimated equilibrium suction index of 5% for the sandy silty gravelly clays such as those of the near surface River Terrace Deposits, under average construction conditions and a high groundwater level.

Based on the laboratory results, in-situ testing and TRRL report, a CBR value of 5% is recommended.

Furthermore, based on the geotechnical results, the near surface River Terrace Deposits should be considered as being frost susceptible for pavement design purposes with abundant gravel noted within the sandy silty clays within the upper metre.

It is recommended that the sub-grade be proof rolled and any soft spots removed and replaced with a suitable compacted granular fill.

4.5 Sulphates

Seven pH and Sulphate tests were undertaken on the River Terrace Deposits. The results for the River Terrace Deposits corresponded to design class DS-1 as defined within the BRE Special Digest 1 (2005). The pH analyses indicate the ACEC class to be AC-1. It is recommended that a design class of DS-1 and an ACEC class of AC-1 be applied to all sub-surface concrete within this stratum.

4.6 Soakaways

As part of the investigation, full scale soakage testing to BRE Digest 365 was undertaken within TP2, TP3, TP5 and TP6. Infiltration rates were calculated as follows:

Location	Test No	Infiltration Rate (m/s)
TP2	Run1	$4.9x10^{-6}$
	Run2	$5.9x10^{-6}$
	Run3	$5.4x10^{-6}$
TP3	Run1	$3.4x10^{-6}$

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	Run2	$5.8x10^{-6}$
	Run3	$5.1x10^{-6}$
TP5	Run1	$5.7x10^{-6}$
	Run2	$9.4x10^{-6}$
	Run3	$7.2x10^{-6}$
TP6	Run1	$5.4x10^{-6}$
	Run2	$1.2x10^{-5}$
	Run3	$5.7x10^{-6}$

Table 4.1: Infiltration Rates (River Terrace Deposits)

The results indicate a relatively poor infiltration rate within the River Terrace Deposits, whilst groundwater was also noted to be shallow. Based on these findings, the design and construction of conventional soakaways may be viable, though the storage capacity will be severely restricted by the presence of the groundwater table.

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5.0 ENVIRONMENTAL CONSIDERATIONS

A Generic Quantitative Risk Assessment (GQRA) was undertaken on the results of the chemical testing on the soil samples, the findings of which are presented in the following sections.

5.1 Environmental Risk Assessment

Based on a visual assessment of the soils encountered, in conjunction with the Desk Study and the proposed end use, eight soil samples from TP1 (0.10m), TP2 (0.10m), WS1 (0.10m), WS2 (0.50m), WS3 (0.20m), WS4 (0.20m), WS7 (0.20m) and WS6 (0.20m were submitted for a suite of commonly occurring contaminants including metals, metalloids, inorganic compounds, TPH, PAH and asbestos. In addition, samples WS1 (0.10m), WS3 (0.20m), WS4 (0.20m), WS7 (0.20m) and WS6 (0.20m) were submitted for organochlorine Pesticides screen suite.

Samples TP3 (0.10m), TP4 (0.10m), TP5 (0.10m) and TP6 (0.15m) were submitted for specification of Topsoil BS3882: 2015.

4.2 Soil Contamination vs. End Users

The presence of a possible contaminant does not necessarily imply that a site or area is contaminated or that there is any unacceptable risk to human health. A Preliminary Quantitative Risk Assessment has been undertaken in order to evaluate any unacceptable risks posed to human health with respect to the proposed redevelopment. It should be noted that this assessment is protective of the chronic long-term effects of contaminants, which is also likely to be protective of any possible immediate acute effects.

The results have been compared directly against Atkins ATRISK guideline values for residential end use with plant uptake. Any results that may have been greater than the guideline values or where there are no comparable values, the results have subsequently been compared against Land Quality Management Suitable 4 Use Levels (LQM S4UL) and Category 4 Screening Levels (C4SL).

Benzo(a)pyrene has been used in the assessment as a surrogate marker for PAH contamination.

All of the results indicated concentrations less than the Atkins ATRISK/C4Sl screening values with the exception of Benzo(a)pyrene (TP1 0.10m 120mg/kg, TP2 0.10m 64mg/kg), Barium (TP2 0.10m 290mg/kg, WS7 0.20m 130mg/kg) and Beryllium (TP2 0.10m 2.40mg/kg). The Atkins ATRISK values for Benzo(a)pyrene are 4.95mg/kg, Barium 110mg/kg and 1.71mg/kg for Beryllium.

The locations of TP1 and TP2 were within the area of the glasshouse, formerly used as a nursery. The location of WS7 was within the grounds of the residential property. Based on these initial findings, a cover system will be required within these areas (it should be noted that these locations have had different uses to the main portion of the site). However, based on the limited sampling within these locations, it is recommended that further investigation in and around the garden nursery and residential property be undertaken. Those findings, along with these findings should be used to finalise a cover system for affected plots within those areas. As a preliminary guide it is likely that recommendations will be to strip the existing Made Ground from the proposed gardens and soft landscaping areas for the units located within the grounds of the house and glasshouse.

5.3 Specification for Topsoil

As part of the investigation, four Topsoil samples taken from locations TP3 (0.10m), TP4 (0.10m), TP5 (0.10m) and TP6 (0.15m) and were submitted for specification of Topsoil BS3882: 2015. The results indicated that with the exception of the sample from TP4 which passed BS 3882 for Low Fertility Topsoil, the remaining samples did not meet the criteria on account of the textural classification in addition to soil pH, available plant nutrients and carbon nitrogen ratio.

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5.4 Soil Contamination vs. Adjacent land Users

Surrounding land uses were identified to mostly comprise agricultural and residential properties. As no significant concentrations of concern were identified in relation to human health (end users), no significant risks to adjacent land users are considered to exist.

However, it is recommended that dust suppression techniques, e.g. damping down exposed soils, are employed during the demolition and construction phases on site in order to minimise the potential for airborne migration of specific hazards and to manage potential nuisance issues for adjacent land users.

5.5 Soil Contamination vs. Soft Landscaping

British Standard BS3882:2015 *Specification for topsoil and requirements for use* provides assessment criteria for a number of potentially phytotoxic contaminants in terms of new planting.

The results of the chemical analysis for determinants known to pose a potential phytotoxic risk to plant growth are summarised in Table 6 together with the respective adopted Generic Assessment Criteria (GAC) for plant growth. The compliance criteria set out in BS3882:2015 are pH dependent and thus the GAC used relate to the pH range measured on samples recovered from the site.

Determinant	Phytotoxicity GAC (mg/kg)			GAC Exceedances
	pH <6.0	pH 6.0-7.0	pH >7.0	
Zinc	200	200	300	No
Copper	100	135	200	No
Nickel	60	75	110	No

Table 5.1: Summary of Plant Phytotoxicity Assessment

The phytotoxicity assessment indicated that no concentrations exceeded the assessment criteria. Therefore, remedial measures to protect plants from phytotoxic effects are not considered necessary for the proposed redevelopment.

5.6 Soil Contamination vs. Building Materials

The current guidance on selection of materials for water supply pipes to be laid in contaminated land is contained in UK Water Industry Research's (UKWIR) report reference 10/WM/03/21 (re-issued 2010). However, the guidance is not mandatory and there have been concerns raised by various industry technical associations regarding the document and the methodologies proposed. Although there are concerns regarding the document, in lieu of any further guidance in the first instance the results of this investigation have been compared with the proposed thresholds published in UKWIR Table 3.1. The results of the relevant chemical analyses indicated elevated concentrations of SVOCs and TPH, barrier pipe is likely to be required on the area of the site currently occupied by the house and glasshouse, unless they are wholly placed in natural soils. It is recommended that the results of this investigation be presented to the water utility company as soon as reasonably practicable in order to confirm the pipe material.

As a matter of good practice, and to maximise the protection to utilities, it is recommended that clean, granular backfill is used in service runs and that marker tapes are used for all buried services.

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5.7 Ground Gases

Two ground gas monitoring visits have been undertaken to date to provide an initial assessment. No significant ground gas concentrations were noted and therefore no remedial works are required in this respect. A final assessment will be made upon completion of all monitoring visits.

The results of the ground gas monitoring are presented in Appendix C.

5.8 Waste Disposal

The following information is provided for preliminary guidance purposes, as different facilities or operators may have differing acceptance criteria and Waste Acceptance Criteria (WAC) analysis may be required to confirm the exact classification. In addition, if the intention is to retain excess spoil/arisings on site for specific purposes, then these soils would not comprise waste, although this is subject to confirmation and relevant declaration under the Definition of Waste Code of Practice.

Initially, the results of the laboratory testing were submitted for Catwaste classification, the results Confirmed that the near surface soils did not have any properties that would deem the material hazardous waste for all but two samples. Samples TP1 0.10m and TP2 0.10m had hydrocarbon/oil with benzo(a)pyrene marker. Waste soils within this area require further analysis in the form of Waste Characterisation testing and Waste Acceptance Criteria testing to determine classification for off-site disposal.

Further chemical and waste acceptance criteria tests are recommended for soils destined for off-site disposal.

Natural soils (River Terrace Deposits) are likely be classified as Inert Waste (under the respective EWC codes for naturally occurring soils), suitable for disposal at an inert landfill facility.

5.9 Discovery Strategy

Whilst an intrusive investigation has been undertaken on the site, it remains possible that unexpected soil conditions may be encountered during the process of construction.

Should previously undiscovered contamination be encountered during construction by the ground worker's, this should be reported to the site manager immediately in order that any necessary inspection may be made. Records should be kept, and samples submitted for analysis where conditions encountered are not as anticipated. The results of any such testing should be sent to the authorities for consultation.

A copy of the discovery strategy should be lodged on site, and provisions made to ensure that all workers are made aware of their responsibility to observe, report, and act on any potentially suspicious or contaminated materials they may encounter.

Depending on the type, nature and extent of any such 'discovery', it may be necessary to halt works in that location until such time as the assessment has been completed. This should be reviewed on a 'discovery' specific basis and in conjunction with regulatory consultation.

As a general guide, where such unexpected conditions are encountered the following approach is recommended:

- All discoveries are to be reported to the Site Manager immediately and works at that location are to halt until further notice;
- The Site Manager is to report any such discoveries to the Client and the Environmental Consultant;
- Following notification from the Site Manager, the Environmental Consultant shall discuss the discovery

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with the Local Authority and if considered necessary, arrange to meet an Officer on site to view the discovery;

- The Environmental Consultant shall attend the site to record the location, extent and nature of the discovery and implement an appropriate sampling and analysis regime, taking due account of the type and nature of the discovery, known and probable land uses in that area of the site;
- Where remedial action is required, regulatory consultation and approval will be sought;
- A record will be produced by the Environmental Consultant and held on site (with copies held by the Environmental Consultant, Client and Local Authority), detailing the discovery, assessment works undertaken, findings thereof, confirmation either of no action required or detailing the remedial action taken and validation thereof.

The process is shown below.

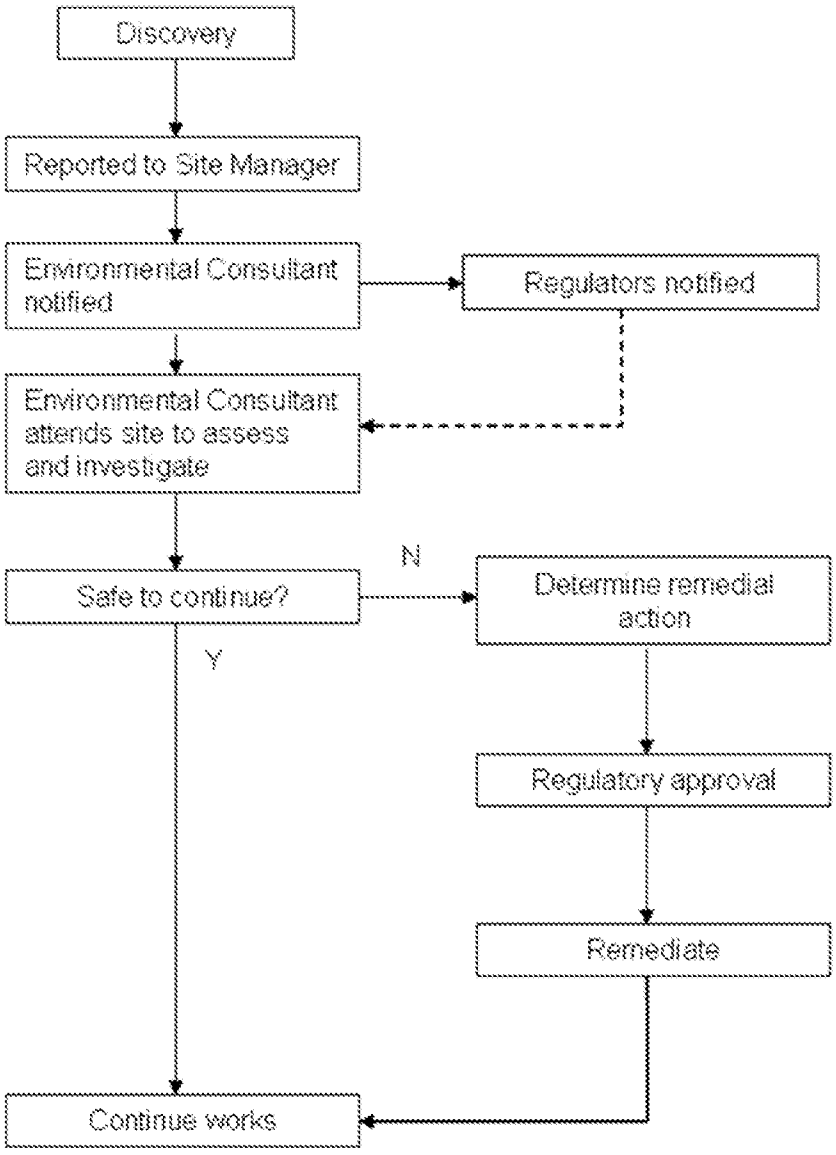


Chart 1 Discovery Strategy Process

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Caveat

The data collected from the investigations have been used to provide an interpretation of the geo-environmental conditions pertaining to the site. The recommendations and opinions expressed in this report are based on the data obtained.

Geo-Environmental Service Limited takes no responsibility for conditions that either have not been revealed in the available records, or that occurs between or under points of physical investigation. Whilst every effort has been made to interpret the conditions, such information is only indicative and liability cannot be accepted for its accuracy.

Information contained in this report is intended for the use of the client and their agents, and Geo-Environmental Services Limited can take no responsibility for the use of this information by any third party for uses other than that described in this report.

It should be noted that in particular the concentrations and levels of mobile liquid and gaseous materials are likely to vary with time. The results obtained may therefore only be representative of the conditions at the time of sampling. Such reservations have been indicated in the text where such conditions are considered to apply.

Geo-Environmental Services Limited does not indemnify any third parties such as the vendor against any dispute or claim arising from any finding or result of this investigation or any claim or dispute arising as a result of any decisions made thereof.

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FIGURE 1

Site Location Plan

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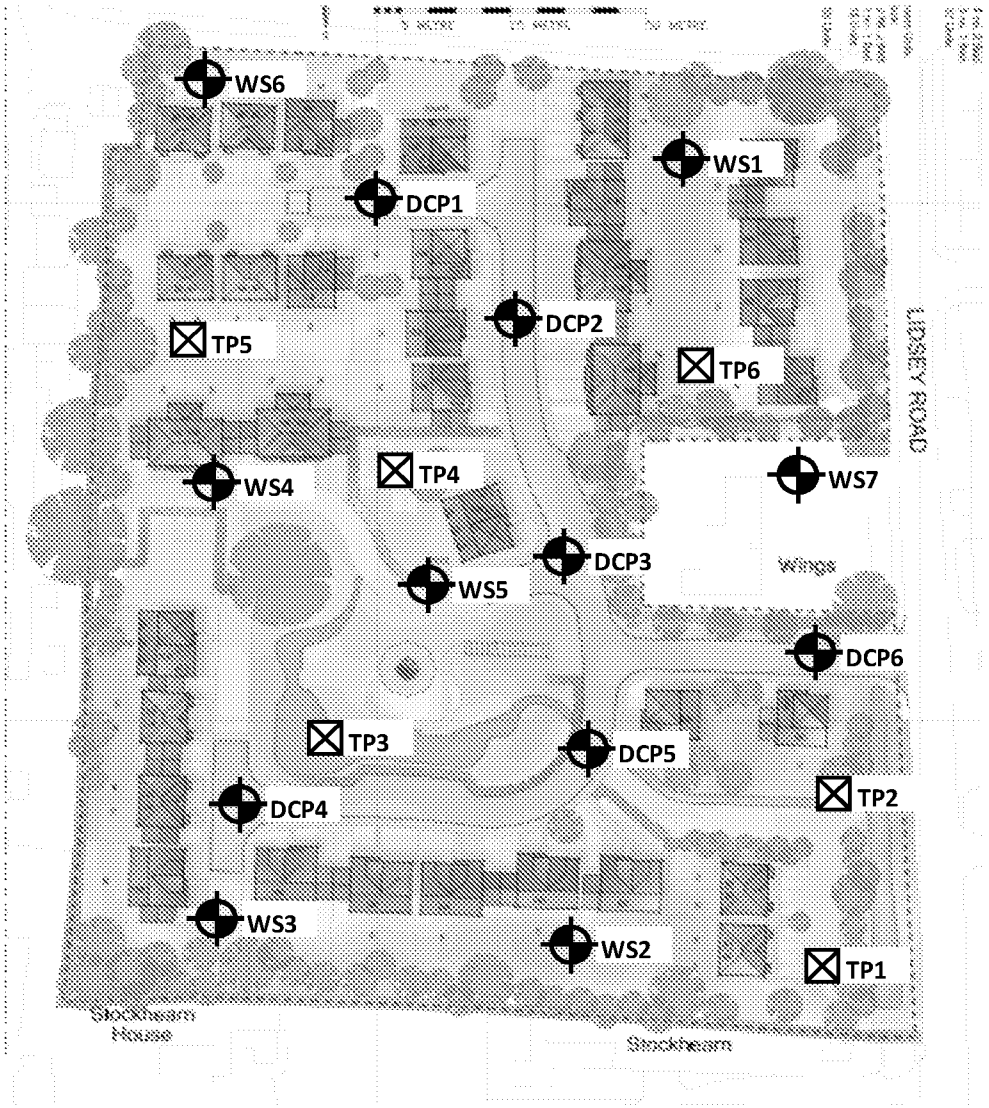


Project:	Land Off Lidsey Road, Woodgate			**Title**	Site Location Plan
Client:	Thakeham Homes Ltd			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE18390	**Revision:**	1.0		
Drawn:	AP	**Date:**	09/08/2019		
Figure:	1	**Scale:**	Not To Scale		

FIGURE 2

Site Investigation Plan

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Project:	Land Off Lidsey Road, Woodgate			**Title**	Site Investigation Plan
Client:	Thakeham Client Limited			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE18390	**Revision:**	v1		
Drawn:	AP	**Date:**	09/08/2019		
Figure:	2	**Scale:**	Not To Scale		

APPENDIX A

Standalone Desk Study

Geo-Environmental

DESK STUDY REPORT

for the site at

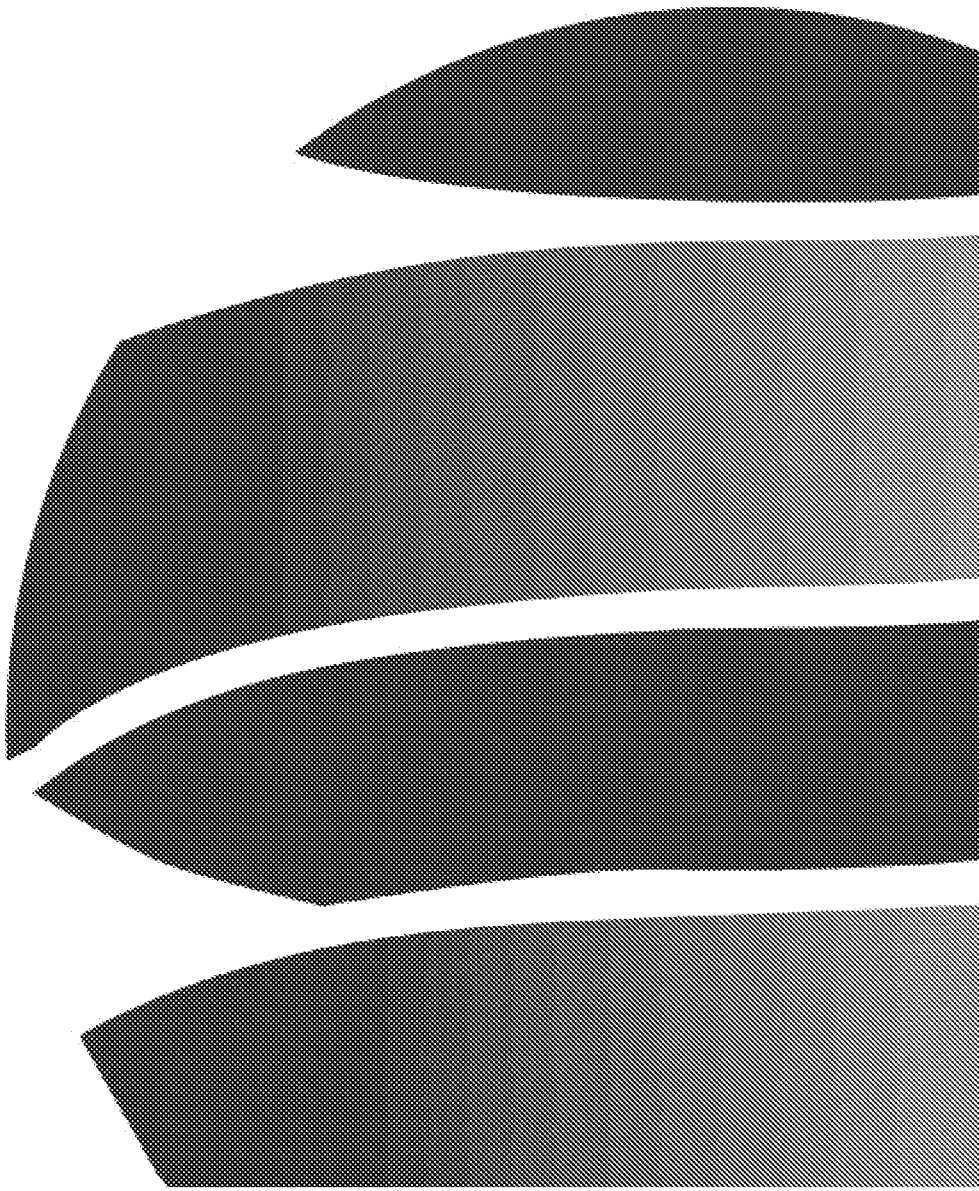
LAND OFF LIDSEY ROAD, WOODGATE

CHICHESTER, WEST SUSSEX

PO20 3SU

on behalf of

THAKEHAM CLIENT LIMITED



ARUN DISTRICT COUNCIL AL/28/22/DOC

Report:	DESK STUDY REPORT
Site:	LAND OFF LIDSEY ROAD, WOODGATE, CHICHESTER, WEST SUSSEX, PO20 3SU
Client:	THAKEHAM CLIENT LIMITED
Date:	21/08/2019
Reference:	GE18390-DSR-AUG19
Version:	2.0
Prepared by:	[redacted] ANTHONY POTTER M.Sc.,BSc (HONS).,FGS. SENIOR CONSULTANT ENGINEER
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FIGURE 1 Site Location Plan
FIGURE 2 Proposed Layout Plan

APPENDICES

APPENDIX A Desk Study Information

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1.0 INTRODUCTION

1.1 General

Geo-Environmental Services Limited (Geo-Environmental) was instructed by Thakeham Client Limited to undertake a Phase I desk study into the geotechnical and geo-environmental factors pertaining to the planned development of land off Lidsey Road, Woodgate, Chichester, West Sussex, PO20 3SU herein referred to as 'the site'. The site's location is presented in Figure 1.

1.2 Form of Development

The proposed development is expected to consist of 56 residential properties with parking, private gardens, access roads and associated infrastructure.

1.3 Objectives

The investigation was to comprise a desk study of geotechnical and geo-environmental factors pertaining to the site, including a review of available historic maps and an examination of other available sources of geo-environmental information.

A preliminary Risk Assessment (PRA) was to be undertaken as part of the desk study in accordance with CLR11. The objective of the risk assessment was to evaluate plausible pollutant linkages with respect to the proposed development, adjacent land uses, and the wider environment, in the context of planning, immediate liabilities under the Environment Act 1990, and risks posed to Controlled Waters under the Water Resources Act.

1.4 Standards

Where practicable, the desk study was undertaken in accordance with the following documents and guidance:

- National Planning Policy Framework – March 2012
- Planning Policy Statement 23 – Planning and Pollution Control;
- Model Procedures for the Management of Contaminated Land, CLR11, DEFRA and Environment Agency 2004;
- Environment Agency Guidance on Requirements for Land Contamination Reports, Version 1 dated July 2005;
- BS10175:2011 - Investigation of Potentially Contaminated Sites - Code of Practice, BSI 2011;
- BS5930: 2015 - Code of Practice for Site Investigations, BSI 2015;
- EN ISO 14688 Geotechnical Investigation and Testing Part 1-2002 and Part 2-2004;
- BS1377: 1990 - Soils for Civil Engineering Purposes, BSI1990;
- NHBC Standards Chapter 4.1 Land Quality - Managing Ground Conditions, September 1999;
- NHBC Standards Chapter 4.2 Building Near Trees;
- CIRIA C665 – Assessing risks posed by hazardous ground gases to buildings (2007);
- NHBC 10627-R01(04)- Guidance on evaluation of development proposals on sites where methane and carbon dioxide are present (2007);
- BS8485:2015+A1 2019 Code of practice for the characterisation and remediation from ground gas in affected developments;
- Department of Environment - Industry Profiles (1995 - 1996).

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1.5 Conditions

The information collected from the desk study has been used to provide an interpretation of the geotechnical and environmental conditions pertaining to the site. The recommendations and opinions expressed in this report are based on the data obtained. Geo-Environmental takes no responsibility for conditions that have either not been revealed in the available records or that occur between or under points of any physical investigation. Whilst every effort has been made to interpret the conditions, such information is only indicative and liability cannot be accepted for its accuracy.

Information contained in this report is intended for the use of the Client, and Geo-Environmental can take no responsibility for the use of this information by any party for uses other than that described in this report. Geo-Environmental makes no warranty or representation whatsoever expressed or implied with respect to the use of this information by any third party. Geo-Environmental does not indemnify the Client or any third parties against any dispute or claim arising from any finding or other result of this investigation report or any consequential losses.

2.0 DESK STUDY

The findings of the Phase I desk study are presented in the following section. A copy of the information obtained as part of the desk study is presented in Appendix A.

2.1 Site Description

The site is located approximately 6.44km north of Bognor Regis, 10.94km east of Chichester, 26.07km west of Worthing and 40km east of Portsmouth. The site itself is currently largely an undeveloped greenfield located within a semi-rural/residential area. An area to the south-east of the site is currently occupied by a number of greenhouses with some areas of hardstanding.

The topography of the site is demonstrated as lying at approximately 9.51m to 8.19m AOD, generally falling from west to east. This has been assessed via LiDAR information obtained as no topographical survey has yet been undertaken on site.

A watercourse is present to the east of site which stretches from the south-eastern corner up to the northern boundary of the site. Sections of this watercourse are culverted, including across the frontage of the existing 'Wings Nursery' building(s). It is believed that this watercourse diverts under Lidsey Road, to the east via an existing culvert. In addition to this watercourse, a further open watercourse runs along the western boundary of the site. Both watercourses are unnamed. It is believed the watercourse to the east of the site flows in a northerly direction, whilst the watercourse at the western boundary flows in a southerly direction.

2.2 Geology

British Geological Survey mapping indicated the geology of the site to comprise River Terrace Deposits overlying the London Clay Formation.

The rivers of the south-east of England, including the River Thames and its tributaries, have been subject to at least three changes of level since Pleistocene times. One result has been the formation of a complex series of River Terrace Deposits. The deposits are generally found at an elevation close to or higher than that of the existing rivers, and generally comprise sands and gravels of roughly bedded flint or chert gravels varying degrees of coarseness.

London Clay comprises a stiff grey fissured clay, weathering to brown near surface. Concretions of argillaceous limestone in nodular form (Claystones) occur throughout the formation. Crystals of gypsum (Selenite) are often found within the weathered part of the London Clay, and precautions against sulphate attack to concrete are sometimes required.

The lowest part of the formation is a sandy bed with black rounded gravel and occasional layers of sandstone and is known as the Basement Beds.

For further details, reference should be made to the Geology Datasheets, appended to this report.

2.3 Hydrogeology

With reference to information provided by the Environment Agency, the site was indicated to overlie Secondary A Aquifer (River Terrace Deposits) with the underlying solid geology (London Clay Formation) forming an Unproductive Strata.

Secondary A Aquifers are permeable layers capable of supporting water supplies at a local rather than

strategic scale and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers.

Unproductive Strata's are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

According to information provided by the Environment Agency the site lies outside of any Source Protection Zone (SPZs). An SPZ is a protection zone placed around a well or borehole that supplies groundwater of potable quality. An SPZ is divided into three zones defined as follows:

- Zone I – Travel time (of water) of 50 days or less to the groundwater source.
- Zone II – Either 25% of the source area or a travel time of 400 days whichever is greater.
- Zone III – The total area needed to support the discharge and abstraction from the protected groundwater source.

2.4 Hydrology

The nearest surface water feature identified on the environmental dataset was 0m northeast (drainage ditch).

The site was indicated to be located outside any area designated as being at risk from flooding and extreme fluvial flooding from rivers without defences, outside any area at risk of flooding from surface water, with the exception of a small pocket within the northern portion which as at a low risk of surface water flooding (1000 year return). The site was within an area with potential for groundwater flooding of the property below ground level and at surface level to occur.

No surface water abstractions were recorded within 500m of the site.

No pollution incidents to controlled waters were recorded within 500m of the site.

The desk study identified one discharge consent within 500m of the site boundary:

- 469m S – Messrs John Turner & Partners, unknown discharge, pre NRA status, receiving water: controlled sea.

2.5 Radon

Reference has been made to the Envirocheck data report. The report indicates that the site lies in an area where radon protection measures are not required.

2.6 Environmental Data

Searches of other various environmental databases were made as part of the desk study, including air pollution control sites, Part IIA contaminated land, Integrated Pollution Control (IPC) and Integrated Pollution Prevention and Control (IPPC) sites, registered radioactive substances, COMAH sites, explosives sites, Notification of Installations Handling Hazardous Substances (NIHHS) sites, planning permissions for sites involving hazardous substances and fuel station registers.

One local authority pollution prevention and controls permit was identified within 500m of the site boundary:

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- 95m SE – Lee Fencing, PG6/2 manufacturing of timber and wood based products, authorisation revoked.

Four potentially contaminative contemporary trade directory entries were identified within a 250m radius of the site boundary:

- 48m NE – Polishedact, furniture repairing and restoring, inactive.
- 97m SE – HS Cars, used car dealers, inactive.
- 166m SE – National Plastics, cladding suppliers and installers, active.
- 240m NE – Scotts Direct, car dealers, inactive.

2.7 Soil Chemistry

Data obtained as part of the desk study provides details on the estimated soil chemistry for the natural soils in the vicinity of the site. The estimated soil quality on the subject site is presented Table 2.1.

Contaminant	Estimated Concentration
Arsenic	<15
Cadmium	<1.8
Chromium	60-90
Lead	<100
Nickel	15-30

Table 2.1 Estimated Soil Concentrations on site

The natural background concentrations were below respective published Soil Guideline Values, Generic Assessment Criteria and Category 4 Screening Levels for the protection of human health under a residential land use, i.e. the most conservative proposed end use.

However these values are not necessarily representative of the site's soil chemistry. Furthermore, some SGVs and GACs are dependent on pH and soil organic matter content. Therefore, concentrations of specific determinants and the utilised SGV/GAC cannot be determined without site specific investigation and analysis.

2.8 Sensitive Land Uses

A search was made of environmentally sensitive areas, including areas of green belt, scenic or natural beauty, parks, reserves, nitrate zones, protected conservation and scientific areas.

The site was situated within a nitrate vulnerable zone.

2.9 Geotechnical Data

The Coal Authority designated the site as being in an area 'that might not have been affected by coal mining activity'.

National databases for a number of geological hazards have been compiled by the BGS, and a summary of the hazard data pertaining to the site is presented on the following table below. In accordance with BGS recommendations, the highest rating within 50m of the site boundary (or a 250m radius for shallow mining) has been recorded.

National databases for a number of different geological hazards have been compiled by the BGS, and a summary of the hazard data pertaining to the site itself is presented in Table 2.2.

Hazard	Designation

Non-coal mining	No hazard
Collapsible ground	Low
Compressible ground	No hazard
Ground dissolution	No hazard
Landslide	Very low
Running sand	Low
Shrinking and Swelling clay	Low

Table 2.2 Summary of BGS Geological Hazards

One BGS recorded mineral site was identified within 500m of the site boundary:

- 316m E – Woodgate Brick Field, opencast, Lambeth Group, ceased.

2.10 Landfill and Waste Management Facilities

A search of BGS recorded landfill sites, IPC registered waste sites, licensed waste management facilities, local authority recorded landfill sites, other registered landfill sites, waste transfer stations and other waste treatment or disposal sites was undertaken as part of the desk study. Such sites may form an artificial source of ground gases, such as carbon dioxide and methane, where wastes are buried or disposed of to landfill.

One licenced waste management facility was recorded within 500m of the site boundary:

- 417m SW – Lidsey Landfill Site Extension, co-disposal landfill site, licence issued.

One area of potentially infilled land (non-water) was identified within 500m of the site boundary:

- 303m E – Unknown filled ground (pit, quarry, etc) mapped 1993.

Twenty-four areas of potentially infilled land (water) were identified within 500m of the site boundary:

- 0m W – Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 0m N - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 0m S - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 0m NE - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 4m SW - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 8m NW - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 12m N - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 30m NE - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 37m S - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 45m N - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 58m SW - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 78m S - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 83m SE - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 122m NW - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 154m E - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 164m S - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 164m E - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 173m NW - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 214m N - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 228m S - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 256m SE - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.

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- 292m NW - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1914.
- 481m NW - Unknown filled ground (pond, marsh, river, stream, dock etc), mapped 1938.

With reference to the Envirocheck site sensitivity report the above appeared to mostly relate to linear features so most likely represent small scale infilled drainage ditches around fields.

2.11 Historic Mapping

Historic maps dating back to 1876 were obtained as part of the desk study. A summary of the apparent key features observed on the map extracts both on the site and within the local area is presented within Table 2.3.

Date	On Site	Off Site
1876	The site comprised part of a field network.	The surrounding area comprised a field network with the village of Woodgate c.40m north and a railway line c.80m north.
1880	Few changes since the previous map edition.	Few changes since the previous map edition.
1897	Few changes since the previous map edition.	The land to the west was indicated to form a nursery.
1899	Few changes since the previous map edition.	Few changes since the previous map edition.
1912	Few changes since the previous map edition.	Few changes since the previous map edition.
1914	Few changes since the previous map edition.	Few changes since the previous map edition.
1937	Few changes since the previous map edition.	There had been some residential development to the north, east and south.
1938-51	Few changes since the previous map edition.	Few changes since the previous map edition.
1947-49 Aerial	Few changes since the previous map edition.	Few changes since the previous map edition.
1951	Few changes since the previous map edition.	Few changes since the previous map edition.
1961-62	Few changes since the previous map edition.	Four large glass houses were indicated adjacent to the south-western boundary.
1970-79	Either a roadway or water course was indicated running in an L-shape, east to west (centrally) and north to south (western boundary).	An additional three large glass houses were indicated to the south-west and three glass houses to the west.
1974-77	Few changes since the previous map edition.	There had been further residential development to the north and east.
1974	Few changes since the previous map edition.	Few changes since the previous map edition.
1978-92	Few changes since the previous map edition.	Few changes since the previous map edition.
1980	Few changes since the previous map edition.	Few changes since the previous map edition.
1982	Few changes since the previous map edition.	Few changes since the previous map edition.
1992	Few changes since the previous map edition.	Additional glasshouses were indicated to the west.

Date	On Site	Off Site
1994	A glass house was indicated within the south-eastern portion of the site, this was commensurate with that observed during the site walkover.	Few changes since the previous map edition.
1995	Few changes since the previous map edition.	Few changes since the previous map edition.
1999 Aerial	The north-eastern portion of the site was partly wooded.	Few changes since the previous map edition.
2000	Few changes since the previous map edition.	Few changes since the previous map edition.
2006	Few changes since the previous map edition.	Few changes since the previous map edition.
2019	Few changes since the previous map edition.	Few changes since the previous map edition

Table 2.3 Summary of Historic Map extracts

2.12 Previous Ground Investigations

Geo-Environmental was not aware of any previous investigations that had been undertaken on the subject site.

2.13 Potential Contamination

Based on experience, potential contaminants associated with nurseries include pesticides, hydrocarbons from fueal storage for heating systems, and asbestos associated with insulation and heating systems. In addition, the near surface soils may have been by heavy metals and organic pollutants such as poly-aromatic hydrocarbons (PAHs) through direct placement (in the form of ash) or through aerial deposition.

Sampling and chemical testing would be recommended to verify the actual concentrations of these substances within the near surface soils.

2.14 Ground Gas Summary

The desk study has identified both on-site and off-site sources of ground gases including infilled land and a licenced landfill site albeit c.400m from the site.

3.0 PRELIMINARY ASSESSMENT

Based on the findings of the desk study, the following sections summarise the anticipated geotechnical and environmental factors likely to impact the site.

3.1 Geotechnical Risk Assessment

3.1.1 Potential Geotechnical Issues

The following factors that might impact the geotechnical condition of the site were identified as part of the desk study:

- The presence of shallow groundwater and associated excavation stability
- Viability of soakaways.
- The presence of mature trees will need to be considered for foundation design where shrinkable clay soils are present.
- Lateral changes in ground conditions.

3.2 Preliminary Environmental Conceptual Site Model & Risk Assessment

3.2.1 Methodology

A Preliminary Risk Assessment ('PRA') and Conceptual Site Model ('CSM') have been prepared in accordance with CLR11 based on information obtained as part of the desk study. Possible risks associated with potential sources of contamination and sensitive receptors identified have been qualitatively assessed following a source-pathway-receptor ('Pollutant Linkage') approach in accordance with current UK protocols.

A risk of harm may only exist where a plausible pollutant linkage is present, and where the quantity or concentration of a contaminant is sufficient so as to pose harm. Under the statutory definition, "Contamination" may only strictly exist where contaminants pose a risk of harm to a receptor. The risk classification has been assessed in accordance with CIRIA C552 (Rudland et al., 2001). A summary of how the risks are derived and their definitions are presented in Tables 3.1 and 3.2.

		Consequence			
		Severe	**Medium**	**Mild**	**Minor**
Probability	**High Likelihood**	Very high risk	High risk	Moderate risk	Moderate/low risk
	Likely	High risk	Moderate risk	Moderate/low risk	Low risk
	Low Likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
	Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk

Table 3.1 Risk Ratings Matrix

Risk Rating	Definitions
Very high risk	There is a high probability that severe harm could arise to a designated receptor from an identified hazard, OR, there is evidence that severe harm to a designated receptor is currently happening. This risk, if realised, is likely to result in a substantial liability. Urgent investigation (if not already undertaken) and remediation are likely to be required.
High risk	Harm is likely to arise to a designated receptor from an identified hazard Realisation of the risk is likely to present a substantial liability. Urgent investigation (if not already undertaken) is required and remediation works may be necessary in the short term and are likely over the longer term.
Moderate risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, or if any harm were to occur it is more likely that the harm would be relatively mild.
Moderate to low risk	It is possible that harm could arise to a designated receptor from an identified hazard. However, it is unlikely that any such harm would be severe, or if any harm were to occur it is probable that the harm would be relatively mild.
Low risk	It is possible that harm could arise to a designated receptor from an identified hazard, but it is likely that this harm, if realised, would at worst normally be mild.
Very low risk	There is low possibility that harm could arise to a receptor. In the event of such harm being realised it is not likely to be severe.

Table 3.2 Risk Rating Definitions

3.2.2 Summary of Plausible Sources

Possible sources of contamination identified from the desk study are summarised in Table 3.3.

Source	Description	Contaminants
Made Ground and shallow soils	The general quality of Made Ground and shallow soils could be impacted by the presence of contamination.	Possible elevated concentrations of metals, metalloids, TPH and PAH compounds, and asbestos in Made Ground (if present) or in shallow natural soils.
Ground Gases	Possible presence of ground gases as a result of Made Ground (if present) and vapours associated with organic contaminants (if present).	Possible elevated Methane, Carbon Dioxide, depleted Oxygen and Volatile Organic Compounds (VOCs)

Table 3.3 Possible Sources of Contamination

3.2.3 Summary of Plausible Pathways

The plausible pathways are summarised in Table 3.4. These pathways are based on the proposed end use, including residential properties and private gardens.

Pathway	Description
Direct Contact	Ingestion of soil particles, ingestion and bioaccumulation in vegetables/fruit and inhalation of soil derived dust (including tracked back dust), dermal contact.
Inhalation	Inhalation of ground gases and soil dust both inside and outside of buildings.
Vertical & Lateral Migration	Contaminant movement both vertically through leaching/gravity and horizontally along preferential pathways, e.g. services trenches, or with groundwater.
Root Uptake	Uptake of soil and waterborne contaminants by plants.
Chemical Attack	Attack of buried plastics and concrete by aggressive ground conditions.

Table 3.4 Possible Contamination Pathways

3.2.4 Summary of Plausible Receptors

Potential receptors associated with the site and its development are summarised in Table 3.5.

Receptor	Description	Comments
Site Workers	Persons involved in construction and future maintenance of the proposed development.	Ground Workers could become exposed during site clearance, construction and maintenance.
End Users	Residents/occupants of the proposed development.	The proposed development is likely to include private gardens and areas of soft landscaping.
Soft Landscaping	Possible areas of planting including lawns, shrubs, trees, etc.	Planting is anticipated in private gardens and soft landscaping.
Buildings and Infrastructure	Buried concrete for foundations and plastics for potable water supply pipes may be laid in contact with contaminated soils.	Significant depths of Made Ground are not anticipated; however contamination may also be present within shallow Made Ground and natural soils.
Adjacent Land Users	Sensitive land uses identified within the immediate vicinity.	Adjacent land uses include predominantly commercial and residential.

Receptor	Description	Comments
Groundwater	Controlled Waters contained within the aquifer(s) beneath the site.	The site overlies a Secondary A Aquifer and an Unproductive Strata. The site is situated outside of any SPZ.
Surface Water	Controlled Waters within lakes, rivers, and ponds, etc., or coastal waters.	Surface water features are present on-site (ditches).

Table 3.5 Possible Receptors of Contamination

Site workers involved in the preparation and construction of the development have not been considered further in this assessment as the Principal Contractor is duty bound under the current CDM Regulations to undertake their own risk assessments with respect to their employees.

Whilst the above sources and receptors have been identified, Table 3.6 summarises the identified plausible pollution linkages and a qualitative assessment of the risks based on the desk study research.

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Potential Source/ media	Potential Receptors	Potential Pathways	Probability	Consequence	Risk and Justification
General chemical quality/Made Ground & Near Surface Soils	End Users	Direct contact	Low	Medium	Moderate to Low Future end users are likely to come into contact with potentially impacted soils via direct contact in in private garden areas.
	Adjacent Land Users	Direct contact	Low	Mild	Low During the development fugitive dust may be released which could impact neighboring land users through direct contact.
	Soft Landscaping	Root uptake	Low	Mild	Low Plants are likely within soft landscaped areas.
	Water Supply Pipes	Chemical attack	Low	Mild	Low Water supply pipes are likely to come into contact with soils.
	Buildings and Infrastructure	Chemical attack	Low	Mild	Low Foundations and utilities will be placed within soils. However, the consequence is anticipated to be mild.
	Groundwater	Vertical migration	Low	Medium	Moderate to Low Groundwater is anticipated within the granular parts of the River Terrace Deposits.
Ground Gases	End Users	Inhalation	Low	Medium	Moderate to Low It is likely that end users of the site will come into contact with ground gases as off-site sources have been identified.

Table 3.6 Plausible Pollutant Linkages & Qualitative Risk Assessment

3.3 Preliminary Risk Assessment Summary

The PRA and CSM developed from the information gathered as part of the desk study process have identified plausible potential pollutant linkages that exist in relation to the proposed redevelopment of the site.

The potential pollutant linkages established within this desk study are not considered to prevent development on the subject site, but could require investigation and assessment to support further characterisation, calibration of the CSM and where/if necessary determine a remedial strategy to reduce, remove or otherwise control any risk within the site to key receptors.

It is considered that the overall risk from potential contamination on the site is 'moderate to low to low' and that further assessment would be necessary to satisfy planning conditions or to provide clarification of the risk assessment.

In order to progress this assessment in line with the National Planning Policy Framework, to provide further characterisation of the site and refinement of the PRA and CSM, it is recommended that intrusive investigation and associated testing is undertaken to confirm the findings of the desk study report and to provide a robust risk assessment for the site and proposed development. As such it is recommended that geochemical and geotechnical investigation be carried out on the site to include analysis of soil and groundwater (if encountered) samples for the range of potential contaminants identified within the Desk Study.

4.0 CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

The desk study has shown has shown the site to have formerly comprised fields with a glass house. The proposed end use of the site is understood to comprise a residential development with private gardens, soft landscaping and associated infrastructure. As such, sensitive uses such as in private gardens with gardening activities (including dust being tracked back into buildings) and growing vegetables are considered likely to form part of the end use scenario for this site.

It is concluded that the overall risk of harm to end users is moderate to low, to low (as defined in Section 3) and that further assessment is likely to be required to better characterise contamination on site to inform an update of the conceptual site model and allow a robust assessment of the risk to human health and the environment.

4.2 Recommendations

At this stage and based on the findings of the desk study and preliminary risk assessment, the following scope of works is recommended for the intrusive investigation on the site.

- Intrusive investigation works should be carried out in order to clarify the geo-environmental issues pertaining to redevelopment of the site.
- Laboratory analysis, on shallow soil samples and groundwater samples recovered from the exploratory holes, for an analytical suite to include the potential contaminants identified within the desk study and encountered during any intrusive investigation
- Ground gas monitoring in accordance with best practice.
- Laboratory and in-situ testing for the engineering parameters of the encountered soils to provide a basis for foundation, pavements and soakaway design.

It may be necessary to undertake remediation/risk mitigation measures on this site to break pollutant linkages and thus protect key receptors such as human health, controlled waters, built environment, soft landscaping and the like. The requirement and extent of any such remediation cannot be determined until such time as an intrusive investigation and associated testing has been completed.

FIGURE 1

Site Location Plan

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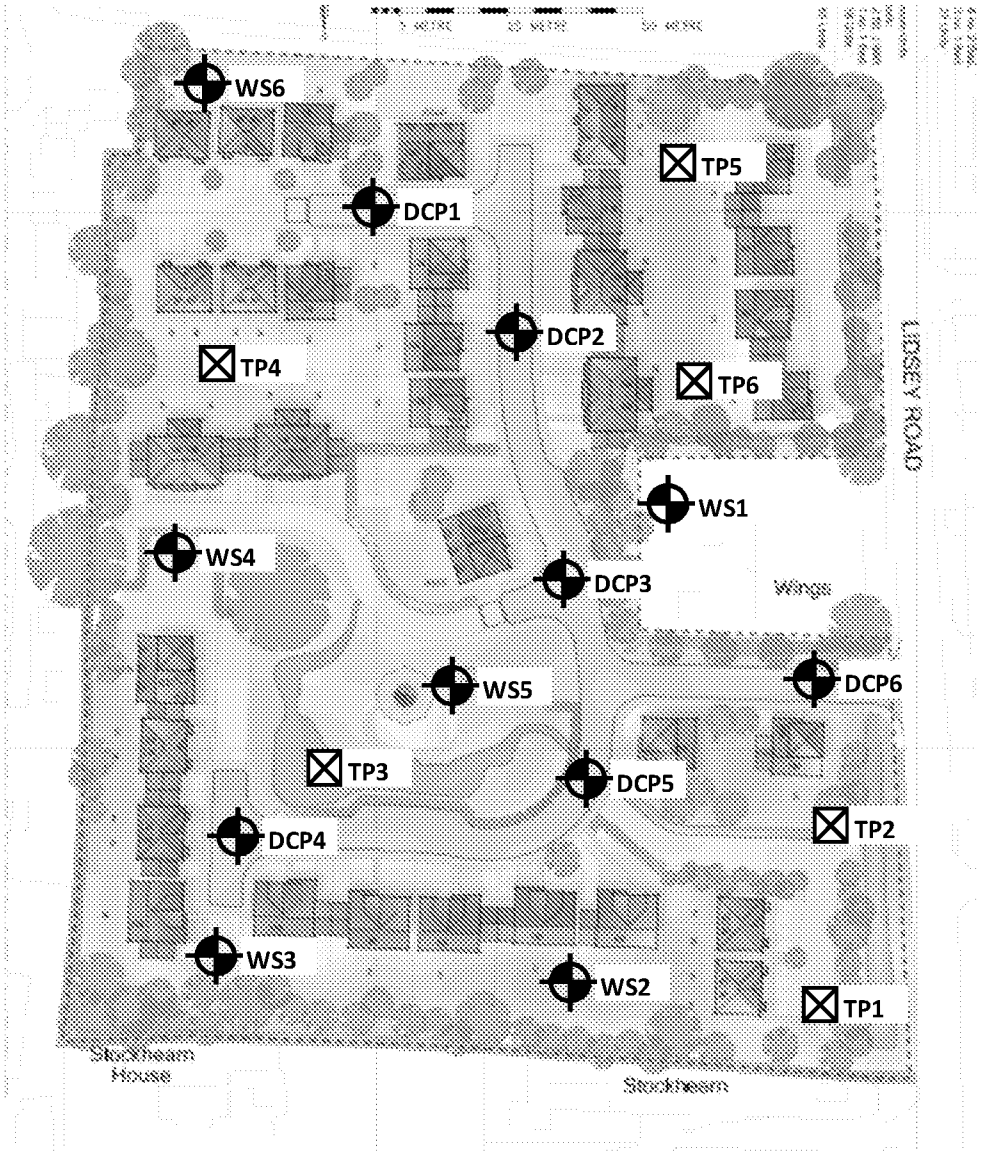


Project:	Land Off Lidsey Road, Woodgate			**Title**	Site Location Plan
Client:	Thakeham Homes Ltd			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE18390	**Revision:**	1.0		
Drawn:	AP	**Date:**	09/08/2019		
Figure:	1	**Scale:**	Not To Scale		

FIGURE 2

Proposed Layout Plan

ARUN DISTRICT COUNCIL AL/28/22/DOC



Project:	Land Off Lidsey Road, Woodgate			**Title**	Site Investigation Plan
Client:	Thakeham Homes Limited			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE18390	**Revision:**	v1		
Drawn:	AP	**Date:**	09/08/2019		
Figure:	2	**Scale:**	Not To Scale		

APPENDIX A

Desk Study Information

Geo-Environmental

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
214178583_1_1

Customer Reference:
GE18390

National Grid Reference:
493720, 104130

Slice:
A

Site Area (Ha):
2.44

Search Buffer (m):
1000

Site Details:

Lidsey Road
Woodgate
CHICHESTER
PO20 3SU

Client Details:

Mr A Potter
Geo Environmental Services Ltd
Unit 7 Danworth Farm
Cuckfield Road
Hurstpierpoint
West Sussex
BN6 9GL

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Introduction

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

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Contents

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Agency & Hydrological					
BGS Groundwater Flooding Susceptibility	pg 1	Yes	Yes	Yes	n/a
Contaminated Land Register Entries and Notices					
Discharge Consents	pg 1			1	10
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control	pg 4				19
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 9		1		
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 9	Yes			
Pollution Incidents to Controlled Waters	pg 9				3
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances					
River Quality	pg 9				1
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 9				12 (*35)
Water Industry Act Referrals					
Groundwater Vulnerability Map	pg 21	Yes	n/a	n/a	n/a
Groundwater Vulnerability - Soluble Rock Risk			n/a	n/a	n/a
Groundwater Vulnerability - Local Information			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 21	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 21	Yes	n/a	n/a	n/a
Source Protection Zones					
Extreme Flooding from Rivers or Sea without Defences				n/a	n/a
Flooding from Rivers or Sea without Defences				n/a	n/a
Areas Benefiting from Flood Defences				n/a	n/a
Flood Water Storage Areas				n/a	n/a
Flood Defences				n/a	n/a
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Licensed Waste Management Facilities (Locations)	pg 28				3
Local Authority Landfill Coverage	pg 29	2	n/a	n/a	n/a
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Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Geological					
BGS 1:625,000 Solid Geology	pg 33	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 33	Yes			Yes
BGS Recorded Mineral Sites	pg 33			1	1
BGS Urban Soil Chemistry					
BGS Urban Soil Chemistry Averages					
CBSCB Compensation District			n/a	n/a	n/a
Coal Mining Affected Areas			n/a	n/a	n/a
Mining Instability			n/a	n/a	n/a
Man-Made Mining Cavities					
Natural Cavities					
Non Coal Mining Areas of Great Britain				n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 33	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards				n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 34	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 34	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 34	Yes		n/a	n/a
Radon Potential - Radon Affected Areas	pg 34	Yes	n/a	n/a	n/a
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Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
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Areas of Unadopted Green Belt					
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Special Areas of Conservation					
Special Protection Areas					
World Heritage Sites					

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (N)	0	1	493722 104130
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NW (NW)	0	1	493700 104150
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SW (W)	96	1	493550 104130
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NW (N)	123	1	493650 104350
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13SE (SE)	173	1	493900 103900
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A18SW (N)	278	1	493600 104500
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A14NW (E)	360	1	494150 104250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A7NE (SW)	453	1	493300 103750
1	**Discharge Consents** Operator: Messrs John Turner & Partners Property Type: Undefined Or Other Location: Headhone Farm, Shripney West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S01094 Permit Version: 1 Effective Date: 19th September 1963 Issued Date: 19th September 1963 Revocation Date: Not Supplied Discharge Type: Unknown Discharge Environment: Controlled Sea Receiving Water: Controlled Sea **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 100m	A8NE (S)	469	2	493790 103570
2	**Discharge Consents** Operator: Westergate Developments Ltd. Property Type: Undefined Or Other Location: Dev. North Of Orchard Gardens, Westergate Street, Westergate , Chichester West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S01708 Permit Version: 1 Effective Date: 18th April 1968 Issued Date: 18th April 1968 Revocation Date: 31st March 1997 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Lapsed (under Environment Act 1995, Schedule 23)** Positional Accuracy: Located by supplier to within 100m	A18SE (NE)	537	2	493990 104720

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Discharge Consents** Operator: Ashmarden Ltd Property Type: Mixed Farming Location: Headhone Farm, Shripney, Bognor Regis, West Sussex, Po22 9pe Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: App/So/101su Permit Version: 1 Effective Date: 1st April 1999 Issued Date: 1st April 1999 Revocation Date: Not Supplied Discharge Type: Trade Discharge - Process Water Discharge Environment: Into Land Receiving Water: Into Land **Status: New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A8NE (S)	541	2	493750 103500
4	**Discharge Consents** Operator: G.H. Crockett Esq. A.R.I.B.A. Property Type: CONSTRUCTION OF BUILDINGS Location: Housing Site At Westergate Stree, Westergate, Chichester, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S01096 Permit Version: 1 Effective Date: 9th September 1963 Issued Date: 9th September 1963 Revocation Date: 31st March 1997 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Controlled Sea Receiving Water: Controlled Sea **Status: Lapsed (under Environment Act 1995, Schedule 23)** Positional Accuracy: Located by supplier to within 100m	A18SE (N)	562	2	493850 104780
5	**Discharge Consents** Operator: Pollards' Nurseries Ltd. Property Type: Undefined Or Other Location: Greenhouses At Hook Lane, Aldingbourne, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S01981 Permit Version: 1 Effective Date: 3rd February 1971 Issued Date: 3rd February 1971 Revocation Date: 31st March 1997 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Lapsed (under Environment Act 1995, Schedule 23)** Positional Accuracy: Located by supplier to within 100m	A18SW (N)	583	2	493470 104780
5	**Discharge Consents** Operator: Pollards' Nurseries Ltd. Property Type: Undefined Or Other Location: Greenhouses At Hook Lane, Aldingbourne, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S01981 Permit Version: 1 Effective Date: 3rd February 1971 Issued Date: 3rd February 1971 Revocation Date: 31st March 1997 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Lapsed (under Environment Act 1995, Schedule 23)** Positional Accuracy: Located by supplier to within 10m	A18SW (N)	593	2	493470 104790

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	**Discharge Consents** Operator: Lindsey Caravan Park Ltd Property Type: HOLIDAY ACCOM/CAMP SITE/CARAVAN SITE/HOTEL/HOSTEL Location: Lidsey Farm Caravan Pk, Lidsey, Bognor Regis, West Sussex, Po22 9pg Authority: Environment Agency, Southern Region Catchment Area: Aldingbourne/Barnham Rife Reference: S00001 Permit Version: 1 Effective Date: 3rd August 1981 Issued Date: 3rd August 1981 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Tributary Of The Lidsey Rife **Status:** **Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 100m	A18NE (N)	640	2	493840 104860
7	**Discharge Consents** Operator: The Occupier Property Type: Undefined Or Other Location: Black Shed, Eastergate, Chichester, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S01102 Permit Version: 1 Effective Date: 17th July 1963 Issued Date: 17th July 1963 Revocation Date: 31st March 1997 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Controlled Sea Receiving Water: Controlled Sea **Status:** **Lapsed (under Environment Act 1995, Schedule 23)** Positional Accuracy: Located by supplier to within 100m	A12SW (W)	726	2	492950 103830
8	**Discharge Consents** Operator: Phillpot Contractors Ltd. Property Type: Undefined Or Other Location: Plots 1/2 Westergate St., Westergate, Chichester, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P00337 Permit Version: 1 Effective Date: 4th February 1986 Issued Date: 4th February 1986 Revocation Date: 1st July 1991 Discharge Type: Trade Effluent Discharge-Site Drainage Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status:** **Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 10m	A18NE (N)	778	2	493790 105000
9	**Discharge Consents** Operator: Mr E. Sawday Property Type: Undefined Or Other Location: Manor Farm House, Manor Farm, Apuldram , Chichester West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: D01069 Permit Version: 1 Effective Date: 13th March 1963 Issued Date: 13th March 1963 Revocation Date: Not Supplied Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status:** **Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 100m	A9SW (S)	813	2	494060 103270

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
10	**Discharge Consents** Operator: Mrs Linda Cooper Property Type: SPORT, AMUSEMENT+RECREATION/GOLF CLUB/GYM/THEME PK/SPA Location: Old Canal Caravan Site, Lidsey Road, Bognor Regis, West Sussex, Po22 9pf Authority: Environment Agency, Southern Region Catchment Area: The River Arun Reference: Npswqd008337 Permit Version: 1 Effective Date: 23rd July 2009 Issued Date: 23rd July 2009 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Freshwater Stream/River Receiving Water: The Old Canal **Status:** **New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A8SE (S)	844	2	493737 103197
11	**Integrated Pollution Prevention And Control** Name: Lidsey Landfill Limited Location: Lidsey Landfill Site Epr/Cp3735sm, Lidsey Landfill Site, Lidsey Road,Woodgate,, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: UP3932JF Original Permit Ref: Cp3735sm Effective Date: 28th September 2018 **Status:** **Effective** Application Type: Variation App. Sub Type: Standard Positional Accuracy: Automatically positioned to the address Activity Code: 5.1 A(1) (A) Activity Description: THE INCINERATION OF HAZARDOUS WASTE IN AN INCINERATION OR CO-INCINERATION PLANT WITH A CAPACITY EXCEEDING 10 TONNES PER DAY Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A7NE (SW)	629	2	493254 103552
11	**Integrated Pollution Prevention And Control** Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road,Woodgate,, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: YP3239DT Original Permit Ref: Cp3735sm Effective Date: 30th June 2016 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Minor Positional Accuracy: Automatically positioned to the address Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A7NE (SW)	629	2	493254 103552
11	**Integrated Pollution Prevention And Control** Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road,Woodgate,, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: DP3137NV Original Permit Ref: Cp3735sm Effective Date: 31st October 2013 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Standard Positional Accuracy: Automatically positioned to the address Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A7NE (SW)	629	2	493254 103552

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	**Integrated Pollution Prevention And Control** Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road,Woodgate,, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: DP3135NC Original Permit Ref: Cp3735sm Effective Date: 28th May 2013 **Status: Superseded By Variation** Application Type: Variation App. Sub Type: Minor Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A7NE (SW)	629	2	493254 103552
11	**Integrated Pollution Prevention And Control** Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road,Woodgate,, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: GP3031FY Original Permit Ref: Cp3735sm Effective Date: 3rd December 2011 **Status: Superseded By Variation** Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A7NE (SW)	629	2	493254 103552
11	**Integrated Pollution Prevention And Control** Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road,Woodgate,, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: FP3239HA Original Permit Ref: Cp3735sm Effective Date: 7th October 2010 **Status: Superseded By Variation** Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A7NE (SW)	629	2	493254 103552
11	**Integrated Pollution Prevention And Control** Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road,Woodgate,, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency, Southern Region Permit Reference: FP3239HA Original Permit Ref: Cp3735sm Effective Date: 7th October 2010 **Status: Effective** Application Type: Variation App. Sub Type: Simple Standard Variation Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A7NE (SW)	629	2	493254 103552

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	**Integrated Pollution Prevention And Control** Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road,Woodgate,, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: WP3230KD Original Permit Ref: Cp3735sm Effective Date: 20th April 2010 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Standard Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A7NE (SW)	629	2	493254 103552
11	**Integrated Pollution Prevention And Control** Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road,Woodgate,, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency, Southern Region Permit Reference: WP3230KD Original Permit Ref: Cp3735sm Effective Date: 20th April 2010 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Standard Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A7NE (SW)	629	2	493254 103552
11	**Integrated Pollution Prevention And Control** Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road,Woodgate,, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: ZP3138UQ Original Permit Ref: Cp3735sm Effective Date: 22nd December 2007 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Substantial Positional Accuracy: Automatically positioned to the address Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A7NE (SW)	629	2	493254 103552
11	**Integrated Pollution Prevention And Control** Name: Lidsey Landfill Limited Location: Lidsey Road, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency, Southern Region Permit Reference: ZP3138UQ Original Permit Ref: Cp3735sm Effective Date: 22nd December 2007 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Substantial Positional Accuracy: Automatically positioned to the address Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A7NE (SW)	629	2	493254 103552

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
11	**Integrated Pollution Prevention And Control** Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road,Woodgate,, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: MP3130MH Original Permit Ref: Cp3735sm Effective Date: 18th June 2007 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Minor Positional Accuracy: Automatically positioned to the address Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A7NE (SW)	629	2	493254 103552
11	**Integrated Pollution Prevention And Control** Name: Lidsey Landfill Limited Location: Lidsey Road, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency, Southern Region Permit Reference: MP3130MH Original Permit Ref: Cp3735sm Effective Date: 18th June 2007 **Status:** **Superseded By Variation** Application Type: Variation App. Sub Type: Minor Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A7NE (SW)	629	2	493254 103552
11	**Integrated Pollution Prevention And Control** Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road,Woodgate,, Bognor Regis, West Sussex, PO22 9PL Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: CP3735SM Original Permit Ref: Cp3735sm Effective Date: 16th December 2005 **Status:** **Superseded By Variation** Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A7NE (SW)	629	2	493254 103552
11	**Integrated Pollution Prevention And Control** Name: Lidsey Landfill Limited Location: Lidsey Landfill Site, Lidsey Landfill Site, Lidsey Road, Woodgate, BOGNOR REGIS, West Sussex, PO22 9PL Authority: Environment Agency, Southern Region Permit Reference: Cp3735sm Original Permit Ref: Cp3735sm Effective Date: 16th December 2005 **Status:** **Superseded By Variation** Application Type: Application App. Sub Type: New Positional Accuracy: Automatically positioned to the address Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 5.2 A(1) (A) Activity Description: Waste Landfilling; Greater Than 10 T/D With Capacity Greater Than 25,000T Excluding Inert Waste Primary Activity: Y	A7NE (SW)	629	2	493254 103552

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	**Integrated Pollution Prevention And Control** Name: Angus Energy Weald Basin No.3 Limited Location: Lidsey Well Site, Lidsey Well Site, Lidsey Road,Lidsey,Nr Bognor Regis, Bognor Regis, West Sussex, PO22 9PH Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: GP3238YH Original Permit Ref: Yp3232II Effective Date: Not Supplied **Status:** **Valid** Application Type: Variation App. Sub Type: Standard Positional Accuracy: Located by supplier to within 10m Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 1.2 A(1) (H) (I) Activity Description: Loading/Storage/Treatment Etc Of Crude Oil Primary Activity: Y	A9SE (SE)	906	2	494430 103390
12	**Integrated Pollution Prevention And Control** Name: Key Petroleum Weald Basin Ltd Location: Lidsey Well Site, Lidsey Oilfield, Lidsey Road, Bognor Regis, West Sussex, PO22 9PH Authority: Environment Agency, Southern Region Permit Reference: YP3232LL Original Permit Ref: Yp3232II Effective Date: 28th February 2007 **Status:** **Effective** Application Type: Application App. Sub Type: New Positional Accuracy: Manually positioned within the geographical locality Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 1.2 A(1) (H) (I) Activity Description: Loading/Storage/Treatment Etc Of Crude Oil Primary Activity: Y	A9SE (SE)	930	2	494433 103360
12	**Integrated Pollution Prevention And Control** Name: Angus Energy Weald Basin No3 Limited Location: Lidsey Well Site - Epr/Yp3232II, Lidsey Oilfield, Lidsey Road,,, BOGNOR REGIS, West Sussex, PO22 9PH Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: DP3236ZM Original Permit Ref: Yp3232II Effective Date: 15th March 2013 **Status:** **Effective** Application Type: Variation App. Sub Type: Minor Positional Accuracy: Located by supplier to within 10m Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N Activity Code: 1.2 A(1) (H) (I) Activity Description: Loading/Storage/Treatment Etc Of Crude Oil Primary Activity: Y Activity Code: 1.2 Part A (1) e) (A) 2017 Activity Description: Activities are less than 500,000 tonnes per annum Primary Activity: N	A9SE (SE)	951	2	494420 103320
12	**Integrated Pollution Prevention And Control** Name: Key Petroleum Weald Basin Ltd Location: Lidsey Well Site, Lidsey Oilfield, Lidsey Road,,, BOGNOR REGIS, West Sussex, PO22 9PH Authority: Environment Agency - South East Region, Solent & South Downs Area Permit Reference: YP3232LL Original Permit Ref: Yp3232II Effective Date: 28th February 2007 **Status:** **Superseded By Variation** Application Type: Application App. Sub Type: New Positional Accuracy: Located by supplier to within 10m Activity Code: 1.2 A(1) (H) (I) Activity Description: Loading/Storage/Treatment Etc Of Crude Oil Primary Activity: Y Activity Code: 0.0 Associated Process Activity Description: Associated Process Primary Activity: N	A9SE (SE)	951	2	494420 103320

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
13	**Local Authority Pollution Prevention and Controls** Name: Lee Fencing Location: Lidsey Road, Woodgate, CHICHESTER, West Sussex, PO20 6SU Authority: Arun District Council, Environmental Health Department Permit Reference: Epa/2/92 Dated: 22nd April 1992 Process Type: Local Authority Air Pollution Control Description: PG6/2 Manufacture of timber and wood-based products **Status: Authorisation revoked** Positional Accuracy: Manually positioned to the road within the address or location	A13SE (SE)	95	3	493809 103945
	Nearest Surface Water Feature	A13SE (E)	0	-	493792 104106
14	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Other Location: Watercourse/Barnham Rife Authority: Environment Agency, Southern Region Pollutant: Sewage Debris/Litter Note: Surcharging Manhole; Water Company Sewage: Combined Sewer Overflow Incident Date: 18th January 1994 Incident Reference: 845 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Plc Sewage Other Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	573	2	494290 104500
15	**Pollution Incidents to Controlled Waters** Property Type: Water Company Sewage: Storm Overflow Location: Tributary Of Lidsey Rife Authority: Environment Agency, Southern Region Pollutant: Storm Sewage Note: Surcharging Manhole Incident Date: 20th December 1993 Incident Reference: 812 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Plc Sewage Other Incident Severity: Category 3 - Minor Incident Positional Accuracy: Located by supplier to within 100m	A14SW (E)	584	2	494380 104090
16	**Pollution Incidents to Controlled Waters** Property Type: Miscellaneous Premises: Unknown Location: Adjacent To Lec, ALDINGBOURNE Authority: Environment Agency, Southern Region Pollutant: Oils - Unknown Note: Oil On The Aldingbourne Rife Incident Date: 15th December 1998 Incident Reference: 2842 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Poor Operational Practice Incident Severity: Category 3 - Minor Incident Positional Accuracy: Unknown	A18NE (N)	854	2	493950 105060
	River Quality Name: Lidsey Rife GQA Grade: River Quality E Reach: Aldingbourne/Barnham Rifes - Westergate Estimated Distance (km): 6.1 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	A14SE (E)	650	2	494451 104042
17	**Water Abstractions** Operator: Ashmarden Limited Licence Number: 10/41/542102/R01 Permit Version: 2 Location: Between Points A&B At Lidsey,Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 13th December 2018 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NW (E)	575	2	494358 104312

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
17	**Water Abstractions** Operator: Ashmarden Ltd Licence Number: 10/41/542102/R01 Permit Version: 1 Location: Between Points A&B At Lidsey,Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 1st April 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NW (E)	575	2	494358 104312
17	**Water Abstractions** Operator: Ashmarden Ltd Licence Number: 10/41/542102 Permit Version: 101 Location: Between Points A&B At Lidsey,Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Plan Accompaning This Licence Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 10th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NW (E)	598	2	494380 104320
17	**Water Abstractions** Operator: Ashmarden Ltd Licence Number: 10/41/542102 Permit Version: 100 Location: Between Points A&B At Lidsey,Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): 909 Yearly Rate (m3): 24545.2 Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Plan Accompaning This Licence Authorised Start: 01 March Authorised End: 31 August Permit Start Date: 20th May 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A14NW (E)	598	2	494380 104320
18	**Water Abstractions** Operator: Mr R Eggins Licence Number: 27/208/R01 Permit Version: 1 Location: West Branch Of The Lidsey Rife Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 1st April 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	855	2	494290 103340

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
18	**Water Abstractions** Operator: Lidsey Farm Licence Number: 27/208 Permit Version: 1 Location: West Branch Of The Lidsey Rife Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 16th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	855	2	494290 103340
18	**Water Abstractions** Operator: Ashmarden Limited Licence Number: So/041/0024/007 Permit Version: 3 Location: Lidsey Rife (West Branch) At Headhone Farm Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 13th December 2018 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	859	2	494281 103329
18	**Water Abstractions** Operator: Ashmarden Ltd Licence Number: So/041/0024/007 Permit Version: 2 Location: Lidsey Rife (West Branch) At Headhone Farm Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 8th February 2018 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	859	2	494281 103329
18	**Water Abstractions** Operator: Ashmarden Ltd Licence Number: So/041/0024/007 Permit Version: 1 Location: Lidsey Rife (West Branch) At Headhone Farm Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Headhone Farm, Lidsey Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 31st March 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	859	2	494281 103329

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
19	**Water Abstractions** Operator: Messrs W H & D Gillbard Licence Number: 10/41/541301 Permit Version: 100 Location: Park Farm Reach E-F, Aldingbourne Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used Only On Land Marked Pink On The Plan Accompanying This Licence Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NE (NW)	929	2	493050 104930
20	**Water Abstractions** Operator: Lidsey Farm Licence Number: 10/41/542010 Permit Version: 101 Location: Lidsey Rife Reach A-B,Lidsey Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used Be Used On Land Coloured Pink On The Said Map Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 31st March 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SW (SE)	933	2	494310 103260
20	**Water Abstractions** Operator: Lidsey Farm Licence Number: 10/41/542010 Permit Version: 100 Location: Lidsey Rife Reach A-B,Lidsey Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used Be Used On Land Coloured Pink On The Said Map Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 10th May 1995 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A9SW (SE)	933	2	494310 103260
	Water Abstractions Operator: The Woodhorn Group Licence Number: 10/41/541310 Permit Version: 103 Location: Points A To B On Aldingbourne Rife At Upper Woodhorn Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land Outlined In Black On Map Labelled Amendment No. 2 Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11SE (W)	1139	2	492510 103930

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: The Woodhorn Group Licence Number: 10/41/541310 Permit Version: 102 Location: Points A To B On Aldingbourne Rife At Upper Woodhorn Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land Outlined In Black On Map Labelled Amendment No. 2 Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 16th August 2002 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11SE (W)	1139	2	492510 103930
	Water Abstractions Operator: Mr A J Pitts Licence Number: 10/41/541310 Permit Version: 101 Location: Points A To B On Aldingbourne Rife At Upper Woodhorn Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land Outlined In Black On Map Labelled Amendment No. 2 Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 30th May 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11SE (W)	1139	2	492510 103930
	Water Abstractions Operator: Messrs W H & D Gillbard Licence Number: 10/41/541301 Permit Version: 100 Location: Park Farm Reach C-D, Aldingbourne Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used Only On Land Marked Pink On The Plan Accompanying This Licence Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NW (NW)	1203	2	492840 105110
	Water Abstractions Operator: Lidsey Farm Licence Number: 10/41/542010 Permit Version: 101 Location: Lidsey Rife Reach C-D, Lidsey Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used Be Used On Land Coloured Pink On The Said Map Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 31st March 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A10NW (SE)	1238	2	494930 103540

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Lidsey Farm Licence Number: 10/41/542010 Permit Version: 100 Location: Lidsey Rife Reach C-D, Lidsey Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): 227 Yearly Rate (m3): 14090 Details: Water Abstracted Shall Be Used Be Used On Land Coloured Pink On The Said Map Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 10th May 1995 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A10NW (SE)	1238	2	494930 103540
	Water Abstractions Operator: Ashmarden Limited Licence Number: 10/41/541309/R01 Permit Version: 2 Location: Points B-C, Lidsey, Berstead Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11NE (W)	1261	2	492392 104272
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/541309/R01 Permit Version: 1 Location: Points B-C, Lidsey, Berstead Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 1st April 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11NE (W)	1261	2	492392 104272
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/541309 Permit Version: 101 Location: Points B-C, Lidsey, Berstead Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 10th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A11NE (W)	1263	2	492390 104270

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/541309 Permit Version: 100 Location: Points A-B, Lidsey, Berstead Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): 909 Yearly Rate (m3): 12272.6 Details: Water Abstracted Shall Be Used Only On Land And Buildings Shown In Pink On The Plan Accompanying This Licence Authorised Start: 01 May Authorised End: 31 August Permit Start Date: 22nd May 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A11NE (W)	1263	2	492390 104270
	Water Abstractions Operator: A J Pitts Licence Number: 541203 Permit Version: Not Supplied Location: Upper Woodhorn, OVING CHICHESTER Authority: Environment Agency, Southern Region Abstraction: Spray Irrigation Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 1241 Yearly Rate (m3): 113635 Details: Oving Rife Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A6SE (SW)	1284	2	492620 103270
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 541309 Permit Version: Not Supplied Location: Lidsey, BERSTED Authority: Environment Agency, Southern Region Abstraction: Spray Irrigation Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 909 Yearly Rate (m3): 12272 Details: Aldingbourne Rife Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A1NE (SW)	1401	2	492600 103110
	Water Abstractions Operator: Hall Hunter Partnership (Farming) Licence Number: 27/185 Permit Version: 102 Location: Right Bank Of The Aldingbourne Rife Looking Downstream. Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Outlined In Black On Map Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1NE (SW)	1668	2	492490 102840

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Mr A Tukker Licence Number: 27/185 Permit Version: 101 Location: Right Bank Of The Aldingbourne Rife Looking Downstream. Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Outlined In Black On Map Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 16th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A1NE (SW)	1668	2	492490 102840
	Water Abstractions Operator: The Donald Langmead Partnership Licence Number: 10/41/541002 Permit Version: 100 Location: Point 1 At Shripney Farm & Flansham Farm Authority: Environment Agency, Southern Region Abstraction: General Farming And Domestic Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): 5 Yearly Rate (m3): 1659.1 Details: Water Abstracted Shall Be Used On Land And Buildings In The Occupation Of The Licence Holder At Shripney And Flansham Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 21st March 2001 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A1SE (SW)	1668	2	492580 102760
	Water Abstractions Operator: Ashmarden Limited Licence Number: 10/41/542102/R01 Permit Version: 2 Location: Between Points C&D At Lidsey,Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 13th December 2018 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A5SW (SE)	1717	2	494931 102749
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/542102/R01 Permit Version: 1 Location: Between Points C&D At Lidsey,Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 1st April 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A5SW (SE)	1717	2	494931 102749

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/542102 Permit Version: 101 Location: Between Points C&D At Lidsey,Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Plan Accompaning This Licence Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 10th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A5SW (SE)	1737	2	494950 102740
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/542102 Permit Version: 100 Location: Between Points C&D At Lidsey,Bersted Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Plan Accompaning This Licence Authorised Start: 01 March Authorised End: 31 August Permit Start Date: 20th May 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A5SW (SE)	1737	2	494950 102740
	Water Abstractions Operator: J R Robinson Licence Number: 10/41/542105 Permit Version: 100 Location: Point A At Eastergate Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted To Be Used On Land Marked Pink On Said Map Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 31st March 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(N)	1753	2	494260 105910
	Water Abstractions Operator: Langmead Farms Ltd Licence Number: 10/41/541004 Permit Version: 102 Location: At Shripney Farm, Bognor Regis Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SW)	1782	2	492870 102440

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Mr D W Langmead Licence Number: 10/41/541004 Permit Version: 100 Location: At Shripney Farm, Bognor Regis Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 11th March 1994 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(SW)	1782	2	492870 102440
	Water Abstractions Operator: A J Pitts Esq Licence Number: 541310 Permit Version: Not Supplied Location: Aldingbourne Rife, UPPER WOODHORN Authority: Environment Agency, Southern Region Abstraction: Spray Irrigation Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 1241 Yearly Rate (m3): 22727 Details: Aldingbourne Rife Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(W)	1925	2	491730 104330
	Water Abstractions Operator: Langmead Farms Ltd Licence Number: 27/186 Permit Version: 103 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Outlined In Black On Map Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 16th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1926	2	492428 102551
	Water Abstractions Operator: Mr D W Langmead Licence Number: 10/41/541001/R01 Permit Version: 1 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Licence Map Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1934	2	492430 102539

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Langmead Farms Ltd Licence Number: 27/186 Permit Version: 104 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1934	2	492430 102539
	Water Abstractions Operator: Ashmarden Limited Licence Number: 10/41/541309/R01 Permit Version: 2 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1934	2	492430 102539
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/541309/R01 Permit Version: 1 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 1st April 2016 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1934	2	492430 102539
	Water Abstractions Operator: Mr D W Langmead Licence Number: 10/41/541001 Permit Version: 101 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Licence Map Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 10th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1934	2	492430 102539

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/541309 Permit Version: 101 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Not Supplied Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 10th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1934	2	492430 102540
	Water Abstractions Operator: Ashmarden Ltd Licence Number: 10/41/542102 Permit Version: 101 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Direct Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Water Abstracted Shall Be Used On Land And Buildings Marked Pink On The Plan Accompaning This Licence Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 10th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1934	2	492430 102540
	Water Abstractions Operator: Langmead Farms Ltd Licence Number: 27/186 Permit Version: 102 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Outlined In Black On Map Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 1st November 2003 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1934	2	492430 102540
	Water Abstractions Operator: Mr D W Langmead Licence Number: 27/186 Permit Version: 101 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Outlined In Black On Map Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 1st January 2003 Permit End Date: 31st October 2003 Positional Accuracy: Located by supplier to within 10m	A1SE (SW)	1934	2	492430 102540

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Mr D W Langmead Licence Number: 27/186 Permit Version: 100 Location: Left Bank Of The Aldingbourne Rife Looking Downstream Authority: Environment Agency, Southern Region Abstraction: General Agriculture: Spray Irrigation - Storage Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: Outlined In Black On Map Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 20th February 1996 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A1SE (SW)	1934	2	492430 102540
	Water Abstractions Operator: The Woodhorn Group Licence Number: 10/41/541310 Permit Version: 103 Location: Point E At Tangmere Airfield Composting Site Authority: Environment Agency, Southern Region Abstraction: Refuse And Recycling: Process Water Abstraction Type: Water may be abstracted from a single point Source: Surface Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: At Tangmere Airfield Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 16th April 2019 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A21SW (NW)	1950	2	492130 105440
	Groundwater Vulnerability Map Combined Classification: Secondary Superficial Aquifer - High Vulnerability Combined Vulnerability: High Combined Aquifer: Unproductive Bedrock Aquifer, Productive Superficial Aquifer Pollutant Speed: High Bedrock Flow: Mixed Dilution: 300-550 mm/year Baseflow Index: >70% Superficial Patchiness: >90% Superficial Thickness: 3-10m Superficial Recharge: High	A13SE (N)	0	4	493722 104130
	Groundwater Vulnerability - Soluble Rock Risk None				
	Bedrock Aquifer Designations Aquifer Designation: Unproductive Strata	A13SE (N)	0	4	493722 104130
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SE (N)	0	4	493722 104130
	Extreme Flooding from Rivers or Sea without Defences None				
	Flooding from Rivers or Sea without Defences None				
	Areas Benefiting from Flood Defences None				
	Flood Water Storage Areas None				
	Flood Defences None				

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
21	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 58.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 2	A13SE (E)	0	5	493792 104106
22	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 62.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 2	A13SE (E)	0	5	493792 104132
23	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	0	5	493788 104168
24	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 49.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	0	5	493788 104168
25	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	0	5	493786 104218
26	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 189.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SW (W)	1	5	493646 104132
27	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 18.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	8	5	493787 104230
28	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	27	5	493787 104248
29	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 10.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NE (NE)	30	5	493788 104252

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
30	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 80.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SE (SE)	88	5	493798 103951
31	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 136.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13SW (S)	177	5	493633 103869
32	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 140.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	260	5	493401 104280
33	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 65.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NE (S)	292	5	493852 103753
34	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 337.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NW (S)	295	5	493599 103754
35	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 26.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A13NW (NW)	301	5	493410 104399
36	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NE (SE)	329	5	494007 103786
37	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 295.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NE (SE)	341	5	494024 103784
38	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 115.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A8NE (S)	350	5	493833 103691

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
39	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 602.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12SE (W)	402	5	493241 104046
40	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A7NE (SW)	424	5	493302 103794
41	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 11.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A7NE (SW)	429	5	493296 103795
42	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 488.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12SE (SW)	437	5	493284 103796
43	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 54.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12NE (NW)	437	5	493251 104388
44	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.1 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12NE (NW)	456	5	493228 104380
45	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 252.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A12NE (NW)	457	5	493229 104387
46	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 301.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SE (N)	510	5	493928 104712
47	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 99.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SE (N)	510	5	493928 104712

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
48	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 14.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17SE (NW)	533	5	493298 104620
49	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 443.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SE (N)	549	5	493760 104772
50	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 115.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14NW (E)	551	5	494322 104371
51	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 504.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SW (E)	556	5	494353 104120
52	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 242.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14NW (NE)	557	5	494294 104457
53	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 340.3 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14NW (NE)	557	5	494294 104457
54	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 28.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18SE (N)	563	5	493855 104781
55	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 147.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SW (SE)	587	5	494354 103850
56	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 32.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A14SW (SE)	588	5	494354 103850

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
57	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A9NW (SE)	598	5	494298 103712
58	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 242.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A9NW (SE)	600	5	494301 103712
59	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 675.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A19SW (NE)	633	5	494222 104683
60	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 18.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18NE (N)	687	5	493743 104911
61	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 29.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18NE (N)	705	5	493746 104929
62	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18NE (N)	705	5	493746 104929
63	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 48.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18NE (N)	734	5	493744 104958
64	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 7.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A9NW (SE)	740	5	494275 103474
65	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 147.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A9NW (SE)	740	5	494275 103474

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
66	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 23.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A18NE (N)	780	5	493738 105005
67	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 402.7 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A7SE (SW)	837	5	493226 103320
68	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 891.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A17NE (NW)	859	5	493168 104933
69	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 40.8 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A9SW (SE)	862	5	494284 103328
70	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 213.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A19SE (NE)	878	5	494514 104717
71	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 160.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A9SW (SE)	899	5	494290 103287
72	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 57.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: West Streams Primacy: 1	A3NW (S)	989	5	493715 103053

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
73	**Historical Landfill Sites** Licence Holder: Bower Farms Limited Location: Lidsey, Sussex Name: Disused Canal Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD20081 First Input Date: 31st December 1979 Last Input Date: 31st December 1988 Specified Waste Type: Deposited Waste included Inert and Industrial Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 3800/8107 BGS Ref: Not Supplied Other Ref: WD27/142, WD13/69	A8SW (S)	774	2	493484 103287
74	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Lidsey, Sussex Name: Disused Canal East Of A27 Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD20381 First Input Date: 31st December 1950 Last Input Date: 31st December 1960 Specified Waste Type: Deposited Waste included Inert Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 3800/8106 BGS Ref: Not Supplied Other Ref: WD27/141	A9SW (SE)	883	2	494290 103306
75	**Licensed Waste Management Facilities (Landfill Boundaries)** Name: Lidsey Landfill Site Extension Licence Number: 19728 Location: Lidsey Landfill Site Extension, Lidsey Road, Lidsey, Bognor Regis, West Sussex, PO22 9PL Licence Holder: Sita Southern Ltd Authority: Environment Agency - South East Region, Solent & South Downs Area Site Category: Co-disposal Landfill Sites Max Input Rate: Not Supplied **Licence Status: Issued** Issued: 19th September 1997 Positional Accuracy: Positioned by the supplier Boundary Accuracy: As Supplied	A12SE (SW)	417	2	493261 103881
76	**Licensed Waste Management Facilities (Landfill Boundaries)** Name: Lidsey Landfill Site Licence Number: 19729 Location: Lidsey Landfill Site, Lidsey Road, Lidsey, Bognor Regis, West Sussex, PO22 9PL Licence Holder: Sita Southern Ltd Authority: Environment Agency - South East Region, Solent & South Downs Area Site Category: Co-disposal Landfill Sites Max Input Rate: Not Supplied **Licence Status: Closure** Issued: 12th September 1989 Positional Accuracy: Positioned by the supplier Boundary Accuracy: As Supplied	A7NE (SW)	571	2	493288 103599
77	**Licensed Waste Management Facilities (Locations)** Licence Number: 19728 Location: Lidsey Landfill Site Extension, Lidsey Road, Lidsey, Bognor Regis, West Sussex, PO22 9PL Operator Name: Sita Southern Ltd Operator Location: Not Supplied Authority: Environment Agency - South East Region, Solent & South Downs Area Site Category: Co-disposal Landfill Sites **Licence Status: Issued** Issued: 19th September 1997 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Manually corrected supplier location	A7NE (SW)	633	2	493250 103550

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
78	**Licensed Waste Management Facilities (Locations)** Licence Number: 19729 Location: Lidsey Landfill Site, Lidsey Road, Lidsey, Bognor Regis, West Sussex, PO22 9PL Operator Name: Sita Southern Ltd Operator Location: Not Supplied Authority: Environment Agency - South East Region, Solent & South Downs Area Site Category: Co-disposal Landfill Sites **Licence Status: Closed** Issued: 12th September 1989 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 100m	A7NW (SW)	844	2	493000 103500
79	**Licensed Waste Management Facilities (Locations)** Licence Number: 404020 Location: Lidsey Well Site, Lidsey Road, Lidsey, Bognor Regis, West Sussex, PO22 9PH Operator Name: Angus Energy Weald Basin No.3 Limited Operator Location: Not Supplied Authority: Environment Agency - South East Region, Solent & South Downs Area Site Category: Mining Waste Operations **Licence Status: Issued** Issued: 28th April 2017 Last Modified: Not Supplied Expires: Not Supplied Suspended: Not Supplied Revoked: Not Supplied Surrendered: Not Supplied IPPC Reference: Not Supplied Positional Accuracy: Located by supplier to within 10m	A9SE (SE)	908	2	494437 103394
	Local Authority Landfill Coverage Name: Arun District Council - Has no landfill data to supply		0	6	493722 104130
	Local Authority Landfill Coverage Name: West Sussex County Council - Has supplied landfill data		0	7	493722 104130
80	**Local Authority Recorded Landfill Sites** Location: Old Canal East Of A29, Lidsey Reference: Not Supplied Authority: West Sussex County Council, Environment & Development **Last Reported Status: Unknown** Types of Waste: Not Supplied Date of Closure: Not Supplied Positional Accuracy: Located by supplier to within 100m Boundary Quality: Not Applicable	A9SE (SE)	954	7	494400 103300
81	**Potentially Infilled Land (Non-Water)** Bearing Ref: E Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A14SW (E)	303	-	494099 104018
82	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13NW (W)	0	-	493647 104134
83	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SE (N)	0	-	493722 104133
84	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SW (S)	0	-	493718 104046
85	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1961	A13NE (NE)	0	-	493789 104211
86	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SW (SW)	4	-	493641 104079
87	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13NW (NW)	8	-	493650 104224

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
88	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13NE (N)	12	-	493729 104237
89	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13NE (NE)	30	-	493817 104234
90	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SW (S)	37	-	493717 104005
91	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13NE (N)	45	-	493737 104272
92	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SW (SW)	58	-	493647 103987
93	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SW (S)	78	-	493709 103964
94	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SE (SE)	83	-	493821 103960
95	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13NW (NW)	122	-	493603 104337
96	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SE (E)	154	-	493951 104053
97	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SW (S)	164	-	493633 103882
98	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SE (E)	164	-	493961 104128
99	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13NW (NW)	173	-	493522 104335
100	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13NW (N)	214	-	493615 104437
101	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SW (S)	228	-	493682 103812
102	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A13SE (SE)	256	-	494003 103887
103	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A18SW (NW)	292	-	493513 104481
104	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1938	A12NE (NW)	481	-	493203 104384
105	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1880	A18SE (N)	515	-	493930 104717
106	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1961	A17SE (NW)	538	-	493303 104632
107	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1880	A18SE (N)	552	-	493931 104756
108	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1880	A18NE (N)	638	-	493879 104854

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
109	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A19NW (NE)	774	-	494104 104929
110	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1961	A19NW (NE)	880	-	494328 104917
111	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1914	A19NW (N)	941	-	494094 105112
112	**Registered Landfill Sites** Licence Holder: Bower Farms Ltd Licence Reference: 5/AS/80 Site Location: Dis-Used Chichester/Arundel Canal, (West Of A29), Lidsey, Bognor Regis, West Sussex Licence Easting: 493600 Licence Northing: 103250 Operator Location: Basing Park, Privett, Alton, Hampshire Authority: Environment Agency - Southern Region, Sussex Area Site Category: Landfill Max Input Rate: Undefined Waste Source Restrictions: No known restriction on source of waste Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled Dated: 8th August 1980 Preceded By Licence: Not Given Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Brick Rubble,Broken Concrete, Stone Chalk, Subsoil Other Totally Inert Solid Waste Prohibited Waste: Any Non-Totally Inert Waste Contaminated Soil Grass Cuttings Paper Vegetable Matter Waste Ex Sites With Haz./Poll. Mat'Ls Wood	A8SW (S)	797	2	493600 103250

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Registered Landfill Sites				
113	Licence Holder: A & J Bull (Southern) Ltd Licence Reference: WSX/L1/0168 Site Location: Lidsey Landfill Site Extension, Lidsey Road, Lidsey, Bognor Regis, West Sussex, Po22 9pl Licence Easting: 492900 Licence Northing: 103700 Operator Location: 4 London Wall Buildings, Blomfield Street, LONDON, Greater London, EC2M 5UQ Authority: Environment Agency - Southern Region, Sussex Area Site Category: Landfill Max Input Rate: Very Large (Equal to or greater than 250,000 tonnes per year) Waste Source Restrictions: No known restriction on source of waste Status: Operational as far as is knownOperational Dated: 19th September 1997 Preceded By Licence: 5/BT/88 Superseded By Licence: Not Given Positional Accuracy: Manually positioned to the address or location Boundary Accuracy: Not Applicable Authorised Waste: Animal And Food Processing Wastes Asbestos Cement Products Cellulose Wastes Contaminated Rubbish/Bags/Sacks Contaminated Soil Dog Faeces From Poop Scoop Scheme Empty Used Containers Gully Empty'S (Spec.Waste By Oil Cont) House, Com + Ind.Waste Incinerator Residues Damped At Source Lighting Lamps/Tubes/Fluorescents Mineral Processing Wastes Oil/Diesel Contam.Spillage From Beach Polymeric Mat' (Prods/Scrap) Polyurethane Prods/Scrap Scrap Rubber And Shredded Tyres Silt And Dredgings Slag, Boiler/Flue Cleanings Spec.Waste Oil Contam.Spillage Beach Stable Wastes Tyres Used Filter Mat'Ls,Kieselguhr,Carbon,Cloth Waste Treated Timber Wastes From Sewage Treatment Prohibited Waste: Cadmium & Its Compounds Carcinogenic/Mutagenic/Teratogenic Sub Cyanides Difficult Waste Not Specified Below Liquids & Pumpable Sludges Mercury & Its Compounds Organohalogen Cpds (Or Sub'S May Form) Organophosphorus Cmpds Organotin Cmpds Pressurised Cont'Rs > 1000 Ml Spec.Waste (Epa '90) Not Listed Below Waste N.O.S.	A7NW (SW)	820	2	492900 103700

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: Thames Group	A13SE (N)	0	1	493722 104130
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: <15 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A13SE (N)	0	1	493722 104130
	BGS Estimated Soil Chemistry Source: British Geological Survey, National Geoscience Information Service Soil Sample Type: Sediment Arsenic Concentration: 15 - 25 mg/kg Cadmium Concentration: <1.8 mg/kg Chromium Concentration: 60 - 90 mg/kg Lead Concentration: <100 mg/kg Nickel Concentration: 15 - 30 mg/kg	A8SW (S)	755	1	493680 103289
114	**BGS Recorded Mineral Sites** Site Name: Woodgate Brick Field Location: Woodgate, Bognor Regis, West Sussex Source: British Geological Survey, National Geoscience Information Service Reference: 157580 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Quaternary Geology: River Terrace Deposits (Undifferentiated) Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A14SW (E)	316	1	494111 103999
115	**BGS Recorded Mineral Sites** Site Name: Lidsey Canal Brick Works Location: Lidsey, Bognor Regis, West Sussex Source: British Geological Survey, National Geoscience Information Service Reference: 18269 Type: Opencast **Status: Ceased** Operator: Unknown Operator Operator Location: Not Supplied Periodic Type: Palaeocene Geology: Lambeth Group (Woolwich & Reading Beds) Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A8SW (S)	842	1	493400 103240
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain No Hazard				
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (N)	0	1	493722 104130
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	218	1	493989 103935
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (N)	0	1	493722 104130

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (N)	0	1	493722 104130
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (N)	0	1	493722 104130
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (N)	0	1	493722 104130
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	218	1	493989 103935
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (N)	0	1	493722 104130
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (SE)	218	1	493989 103935
	Radon Potential - Radon Affected Areas Affected Area: The property is in an Intermediate probability radon area (1 to 3% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SE (N)	0	1	493722 104130
	Radon Potential - Radon Protection Measures Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions Source: British Geological Survey, National Geoscience Information Service	A13SE (N)	0	1	493722 104130

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
116	**Contemporary Trade Directory Entries** Name: Polishedact Location: 5, Oak Tree Lane, Woodgate, Chichester, West Sussex, PO20 3GU Classification: Furniture - Repairing & Restoring **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	48	-	493820 104259
117	**Contemporary Trade Directory Entries** Name: H S Cars Location: Lidsey Road, Woodgate, Chichester, West Sussex, PO20 3SU Classification: Car Dealers - Used **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	97	-	493830 103947
118	**Contemporary Trade Directory Entries** Name: National Plastics Location: Unit 8, Lees Yard, Lidsey Road, Woodgate, Chichester, PO20 3SU Classification: Cladding Suppliers & Installers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	166	-	493932 103942
119	**Contemporary Trade Directory Entries** Name: Scotts Direct Location: The Grange, Westergate Street, Woodgate, Chichester, West Sussex, PO20 3SQ Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	240	-	493982 104365
120	**Contemporary Trade Directory Entries** Name: D W Transport Refrigeration Location: 15, Orchard Gardens, Woodgate, Chichester, West Sussex, PO20 3QW Classification: Refrigerators & Freezers - Servicing & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NE (NE)	252	-	493896 104450
121	**Contemporary Trade Directory Entries** Name: G P Oven Cleaners Location: Grove Farmhouse, Lidsey Road, Bognor Regis, PO22 9PL Classification: Oven cleaning **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	286	-	493802 103753
121	**Contemporary Trade Directory Entries** Name: Chanctonbury Pet Foods Location: Headholme Cottage, Lidsey Road, Bognor Regis, West Sussex, PO22 9PL Classification: Pet Foods & Animal Feeds **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	303	-	493795 103737
122	**Contemporary Trade Directory Entries** Name: Polishedact Location: Woodgate Centre, Oak Tree Lane, Woodgate, Chichester, West Sussex, PO20 3GU Classification: Antiques - Repairing & Restoring **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	328	-	494120 104212
122	**Contemporary Trade Directory Entries** Name: Daven Ports Location: Woodgate Centre, Oak Tree Lane, Woodgate, Chichester, West Sussex, PO20 3GU Classification: Cabinet Makers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NW (E)	329	-	494120 104216
122	**Contemporary Trade Directory Entries** Name: Weston Heating Services Location: Woodgate Centre,Unit B2, Chichester, West Sussex, PO20 6ST Classification: Heating Services - Industrial and Commercial **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A14NW (E)	341	-	494133 104180
123	**Contemporary Trade Directory Entries** Name: Elizabeth Robson Location: 12, Lamorna Gardens, Westergate, Chichester, West Sussex, PO20 3RL Classification: Furniture - Repairing & Restoring **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SW (N)	486	-	493686 104713

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
124	**Contemporary Trade Directory Entries** Name: Microplumb Location: Headhone Barns,Lidsey Road, Bognor Regis, West Sussex, PO22 9RG Classification: Water Softeners **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NE (S)	501	-	493780 103539
125	**Contemporary Trade Directory Entries** Name: Time For You (Hampshire) Ltd Location: 12, Elmcroft Place, Westergate, Chichester, West Sussex, PO20 3XL Classification: Ironing & Home Laundry Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (N)	557	-	493922 104763
125	**Contemporary Trade Directory Entries** Name: Time For You (West Sussex) Ltd Location: 12, Elmcroft Place, Westergate, Chichester, West Sussex, PO20 3XL Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (N)	557	-	493922 104763
125	**Contemporary Trade Directory Entries** Name: Time For You (Hampshire) Ltd Location: 12, Elmcroft Place, Westergate, Chichester, West Sussex, PO20 3XL Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A18SE (N)	557	-	493922 104763
126	**Contemporary Trade Directory Entries** Name: Lidsey Landfill Ltd Location: Lidsey Road, Bognor Regis, West Sussex, PO22 9PL Classification: Waste Disposal Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NE (SW)	629	-	493254 103552
127	**Contemporary Trade Directory Entries** Name: Emberleaf Workshops Location: Martins, Westergate Street, Westergate, Chichester, West Sussex, PO20 3QU Classification: Builders' Tools & Equipment Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A18NE (N)	755	-	493831 104975
127	**Contemporary Trade Directory Entries** Name: Dimensions (Chichester) Ltd Location: Westergate St, Westergate, Chichester, West Sussex, PO20 3QX Classification: Office Furniture & Equipment **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A18NE (N)	791	-	493850 105010
128	**Contemporary Trade Directory Entries** Name: E & T Plumbing & Heating Ltd Location: The Mission Hall, Lidsey Road, Bognor Regis, West Sussex, PO22 9PH Classification: Boilers - Servicing, Replacements & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	851	-	493858 103190
129	**Contemporary Trade Directory Entries** Name: The Cleaning Biz Location: White House, Westergate Street, Westergate, Chichester, West Sussex, PO20 3QY Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A23SE (N)	962	-	493858 105181
130	**Contemporary Trade Directory Entries** Name: Howla Mountain Boards Location: Polson Dairy, Lidsey Road, Bognor Regis, West Sussex, PO22 9PF Classification: Sports Equipment Manufacturers & Distributors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A3NE (S)	993	-	493944 103057
131	**Points of Interest - Commercial Services** Name: Sparkles Mobile Valeting Chichester West Sussex Location: 34 Ivy Lane, Westergate, Chichester, PO20 3RE Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A24SW (NE)	1000	8	494155 105152

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
132	**Points of Interest - Commercial Services** Name: L J M Transport Location: 2 St. Richards Road, Westergate, Chichester, PO20 3RD Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A23SE (N)	1000	8	493985 105202
133	**Points of Interest - Manufacturing and Production** Name: Tank Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	173	8	493614 103875
133	**Points of Interest - Manufacturing and Production** Name: Tank Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13SW (SW)	196	8	493592 103857
134	**Points of Interest - Manufacturing and Production** Name: Piggery Location: PO20 Category: Farming Class Code: Livestock Farming Positional Accuracy: Positioned to address or location	A13NW (NW)	271	8	493392 104289
135	**Points of Interest - Manufacturing and Production** Name: Tank Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13NW (NW)	331	8	493401 104437
135	**Points of Interest - Manufacturing and Production** Name: Tanks Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	332	8	493412 104451
135	**Points of Interest - Manufacturing and Production** Name: Tank Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13NW (NW)	334	8	493402 104443
135	**Points of Interest - Manufacturing and Production** Name: Tank Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13NW (NW)	337	8	493402 104447
135	**Points of Interest - Manufacturing and Production** Name: Tank Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13NW (NW)	340	8	493404 104454
135	**Points of Interest - Manufacturing and Production** Name: Tank Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A13NW (NW)	343	8	493400 104454
136	**Points of Interest - Manufacturing and Production** Name: Tank Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A18SE (N)	406	8	493864 104621
137	**Points of Interest - Manufacturing and Production** Name: Tank Location: PO20 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18NW (N)	776	8	493624 105003

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
138	**Points of Interest - Manufacturing and Production** Name: R A Eggins Location: New Barn Farm, Lidsey Road, Bognor Regis, PO22 9TH Category: Farming Class Code: Arable Farming Positional Accuracy: Positioned to address or location	A8SW (S)	817	8	493413 103262
138	**Points of Interest - Manufacturing and Production** Name: R A Eggins Location: Lidsey Road, Bognor Regis, PO22 9TH Category: Farming Class Code: Livestock Farming Positional Accuracy: Positioned to address or location	A8SW (S)	817	8	493414 103262
139	**Points of Interest - Manufacturing and Production** Name: Tank Location: PO22 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A9SW (SE)	874	8	494391 103397
140	**Points of Interest - Manufacturing and Production** Name: Lidsey Landfill - Landfill Gas (DECC) Location: Headhome Farm, Near Bognor Regis, PO22 Category: Industrial Features Class Code: Energy Production Positional Accuracy: Positioned to an adjacent address or location	A7SW (SW)	911	8	493000 103400
141	**Points of Interest - Manufacturing and Production** Name: Tank Location: PO22 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A9SE (SE)	969	8	494511 103383
142	**Points of Interest - Public Infrastructure** Name: SITA UK Ltd Location: Headhone Farm, Lidsey Road, Bognor Regis, PO22 9PL Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A8NE (S)	536	8	493789 103503
143	**Points of Interest - Public Infrastructure** Name: Lidsey Landfill Ltd Location: Lidsey Road, Bognor Regis, PO22 9PL Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A7NE (SW)	629	8	493254 103552
143	**Points of Interest - Public Infrastructure** Name: Lidsey Landfill Ltd Location: Lidsey Road, Bognor Regis, PO22 9PL Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A7NE (SW)	629	8	493253 103552
144	**Points of Interest - Public Infrastructure** Name: Landfill Site Location: PO22 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A7SE (SW)	829	8	493129 103395
145	**Points of Interest - Public Infrastructure** Name: Landfill Site Location: PO22 Category: Infrastructure and Facilities Class Code: Refuse Disposal Facilities Positional Accuracy: Positioned to an adjacent address or location	A7NW (SW)	986	8	492840 103474
146	**Points of Interest - Recreational and Environmental** Name: Playground Location: Olivers Meadow, PO20 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A23SW (N)	976	8	493695 105203
146	**Points of Interest - Recreational and Environmental** Name: Playground Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A23SW (N)	977	8	493685 105204

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Nitrate Vulnerable Zones				
147	Name: Aldingbourne Rife Nvz Description: Surface Water Source: Environment Agency, Head Office	A13SE (N)	0	4	493722 104130

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Arun District Council - Environmental Health Department	July 2013	Annual Rolling Update
Chichester District Council - Environmental Health Department	July 2013	Annual Rolling Update
Discharge Consents		
Environment Agency - Southern Region	April 2019	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Southern Region	March 2013	Annual Rolling Update
Integrated Pollution Controls		
Environment Agency - Southern Region	October 2008	Variable
Integrated Pollution Prevention And Control		
Environment Agency - South East Region - Solent & South Downs Area	April 2019	Quarterly
Environment Agency - Southern Region	April 2019	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Arun District Council - Environmental Health Department	December 2014	Variable
Chichester District Council - Environmental Health Department	October 2014	Variable
Local Authority Pollution Prevention and Controls		
Arun District Council - Environmental Health Department	December 2014	Not Applicable
Chichester District Council - Environmental Health Department	October 2014	Not Applicable
Local Authority Pollution Prevention and Control Enforcements		
Arun District Council - Environmental Health Department	December 2014	Variable
Chichester District Council - Environmental Health Department	October 2014	Variable
Nearest Surface Water Feature		
Ordnance Survey	January 2019	
Pollution Incidents to Controlled Waters		
Environment Agency - Southern Region	December 1999	Not Applicable
Prosecutions Relating to Authorised Processes		
Environment Agency - Southern Region	March 2013	Annual Rolling Update
Prosecutions Relating to Controlled Waters		
Environment Agency - Southern Region	March 2013	Annual Rolling Update
Registered Radioactive Substances		
Environment Agency - Southern Region	June 2016	
River Quality		
Environment Agency - Head Office	November 2001	Not Applicable
River Quality Biology Sampling Points		
Environment Agency - Head Office	July 2012	Annually
River Quality Chemistry Sampling Points		
Environment Agency - Head Office	July 2012	Annually
Substantiated Pollution Incident Register		
Environment Agency - South East Region - Solent & South Downs Area	April 2019	Quarterly
Environment Agency - Southern Region - Solent and South Downs	April 2019	Quarterly
Environment Agency - Southern Region - Sussex Area	April 2019	Quarterly
Water Abstractions		
Environment Agency - Southern Region	July 2019	Quarterly
Water Industry Act Referrals		
Environment Agency - Southern Region	October 2017	Quarterly
Groundwater Vulnerability Map		
Environment Agency - Head Office	June 2018	Annually
Groundwater Vulnerability - Soluble Rock Risk		
Environment Agency - Head Office	June 2018	Annually
Bedrock Aquifer Designations		
Environment Agency - Head Office	January 2018	Annually

Agency & Hydrological	Version	Update Cycle
Superficial Aquifer Designations Environment Agency - Head Office	January 2018	Annually
Source Protection Zones Environment Agency - Head Office	July 2019	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	May 2019	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	May 2019	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	May 2019	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	May 2019	Quarterly
Flood Defences Environment Agency - Head Office	May 2019	Quarterly
OS Water Network Lines Ordnance Survey	April 2019	Quarterly
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	October 2013	Annually
Surface Water Suitability Environment Agency - Head Office	October 2013	Annually
BGS Groundwater Flooding Susceptibility British Geological Survey - National Geoscience Information Service	May 2013	Annually

Waste	Version	Update Cycle
BGS Recorded Landfill Sites		
British Geological Survey - National Geoscience Information Service	June 1996	Not Applicable
Historical Landfill Sites		
Environment Agency - Head Office	July 2019	Quarterly
Integrated Pollution Control Registered Waste Sites		
Environment Agency - Southern Region	October 2008	Not Applicable
Licensed Waste Management Facilities (Landfill Boundaries)		
Environment Agency - South East Region - Solent & South Downs Area	July 2018	Quarterly
Environment Agency - Southern Region - Solent and South Downs	July 2018	Quarterly
Environment Agency - Southern Region - Sussex Area	July 2018	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - South East Region - Solent & South Downs Area	April 2019	Quarterly
Environment Agency - Southern Region - Solent and South Downs	April 2019	Quarterly
Environment Agency - Southern Region - Sussex Area	April 2019	Quarterly
Local Authority Landfill Coverage		
Arun District Council - Technical Support Unit	May 2000	Not Applicable
Chichester District Council - Environmental Health Department	May 2000	Not Applicable
West Sussex County Council - Environment & Development	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
Arun District Council - Technical Support Unit	May 2000	Not Applicable
Chichester District Council - Environmental Health Department	May 2000	Not Applicable
West Sussex County Council - Environment & Development	May 2000	Not Applicable
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites		
Environment Agency - Southern Region - Solent and South Downs	March 2003	Not Applicable
Environment Agency - Southern Region - Sussex Area	March 2003	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Southern Region - Solent and South Downs	March 2003	Not Applicable
Environment Agency - Southern Region - Sussex Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites		
Environment Agency - Southern Region - Solent and South Downs	March 2003	Not Applicable
Environment Agency - Southern Region - Sussex Area	March 2003	Not Applicable
Hazardous Substances	**Version**	**Update Cycle**
Control of Major Accident Hazards Sites (COMAH)		
Health and Safety Executive	April 2018	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Annually
Notification of Installations Handling Hazardous Substances (NIHHS)		
Health and Safety Executive	November 2000	Not Applicable
Planning Hazardous Substance Enforcements		
Arun District Council - Technical Support Unit	February 2016	Variable
Chichester District Council - Planning Department	February 2016	Variable
West Sussex County Council - Environment & Development	October 2006	Annual Rolling Update
Planning Hazardous Substance Consents		
Arun District Council - Technical Support Unit	February 2016	Variable
Chichester District Council - Planning Department	February 2016	Variable
West Sussex County Council - Environment & Development	October 2006	Annual Rolling Update

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

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

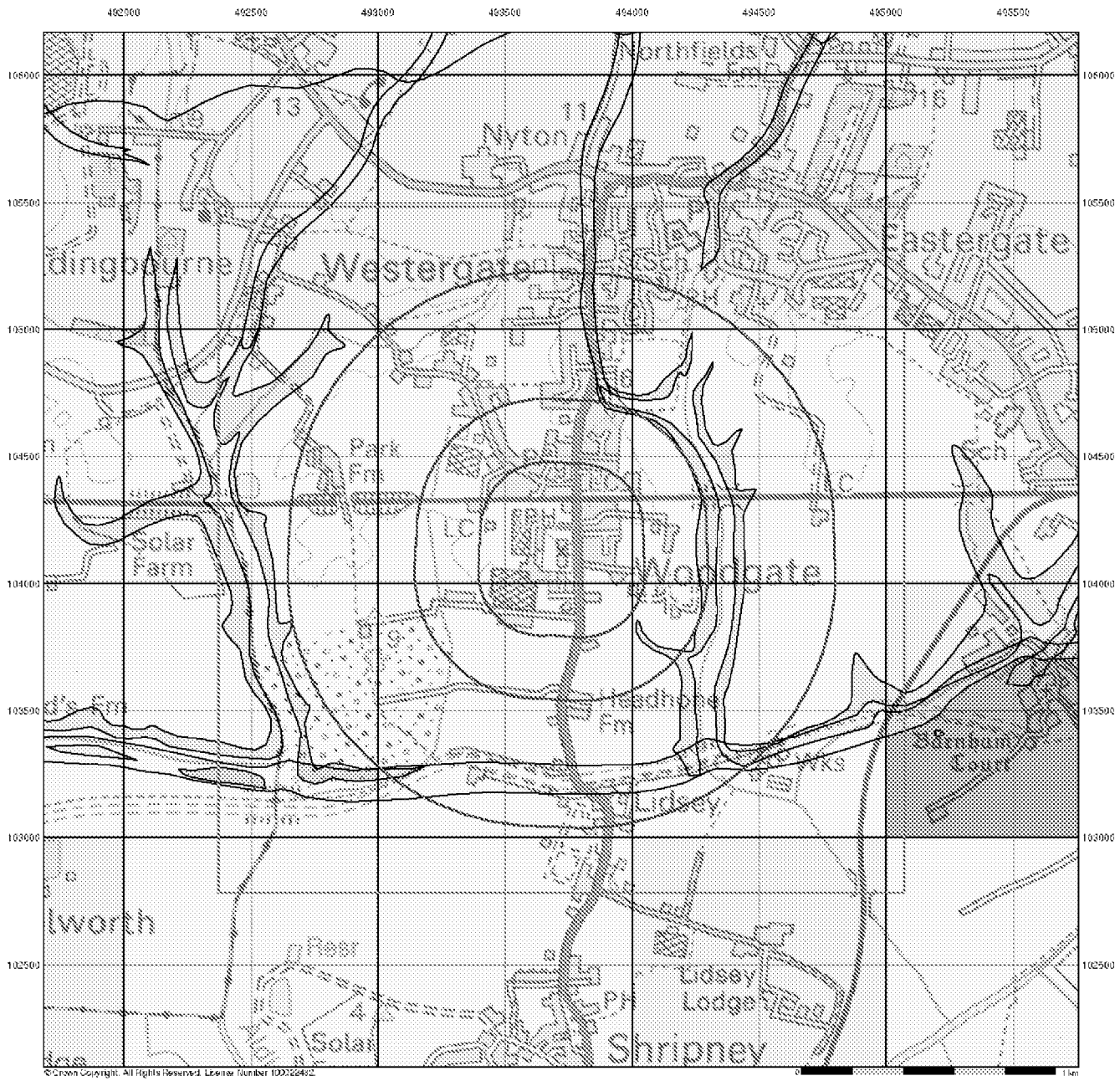
Data Suppliers

A selection of organisations who provide data within this report

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

Contact	Name and Address	Contact Details
1	**British Geological Survey - Enquiry Service** British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	Telephone: 0115 936 3143 Fax: 0115 936 3276 Email: enquiries@bgs.ac.uk Website: www.bgs.ac.uk
2	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	Telephone: 03708 506 506 Email: enquiries@environment-agency.gov.uk
3	**Arun District Council - Environmental Health Department** Civic Centre, Maltravers Road, Littlehampton, Sussex, BN17 5LF	Telephone: 01903 737696 Fax: 01903 723936 Email: Environment@arun.gov.uk Website: www.arun.gov.uk
4	**Environment Agency - Head Office** Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	Telephone: 01454 624400 Fax: 01454 624409
5	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	Telephone: 03456 05 05 05 Email: customerservices@ordnancesurvey.co.uk Website: www.ordnancesurvey.gov.uk
6	**Arun District Council - Technical Support Unit** Civic Centre, Maltravers Road, Littlehampton, Sussex, BN17 5LF	Telephone: 01903 737500 Fax: 01903 730442 Website: www.arun.gov.uk
7	**West Sussex County Council - Environment & Development** County Hall, Tower hall, Chichester, West Sussex, PO19 1RH	Telephone: 01243 777100 Website: www.westsussex.gov.uk
8	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	Website: www.pointx.co.uk
9	**Natural England** County Hall, Spetchley Road, Worcester, WR5 2NP	Telephone: 0300 060 3900 Email: enquiries@naturalengland.org.uk Website: www.naturalengland.org.uk
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	Telephone: 01235 822622 Fax: 01235 833891 Email: radon@phe.gov.uk Website: www.ukradon.org
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	Telephone: 0844 844 9952 Fax: 0844 844 9951 Email: customerservices@landmarkinfo.co.uk Website: www.landmarkinfo.co.uk

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



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Geo-Environmental
Groundwater Vulnerability

General

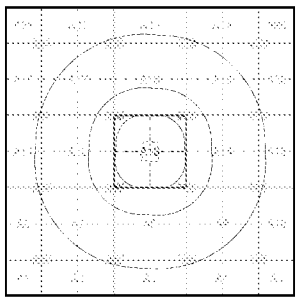
Specified Site | Specified Buffer(s) | Bearing Reference Point
Slice | Map ID

Agency and Hydrological

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

Unproductive Aquifer
Soluble Rock

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

Site Details

Lidsey Road, Woodgate, CHICHESTER, PO20 3SU

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



Geo-Environmental
Bedrock Aquifer Designation

General

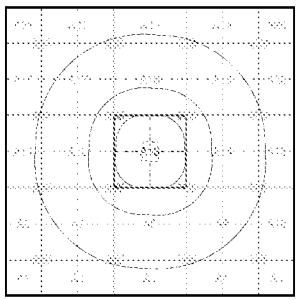
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

Site Details

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Geo-Environmental
Superficial Aquifer Designation

General

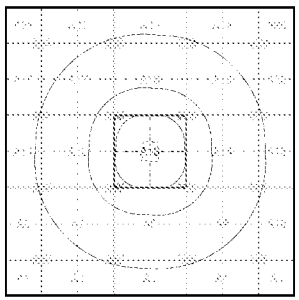
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

Agency and Hydrological

Geological Classes

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

Site Sensitivity Context Map - Slice A



Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

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Geo-Environmental
Source Protection Zones

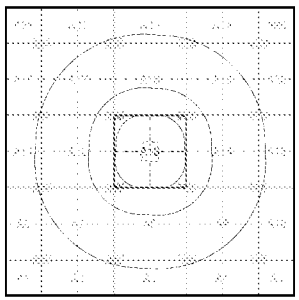
General

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

Agency and Hydrological

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

Site Sensitivity Context Map - Slice A



N

Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

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Geo-Environmental Sensitive Land Uses

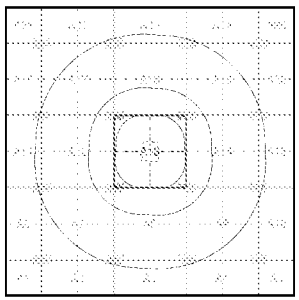
General

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

Sensitive Land Uses

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

Site Sensitivity Context Map - Slice A



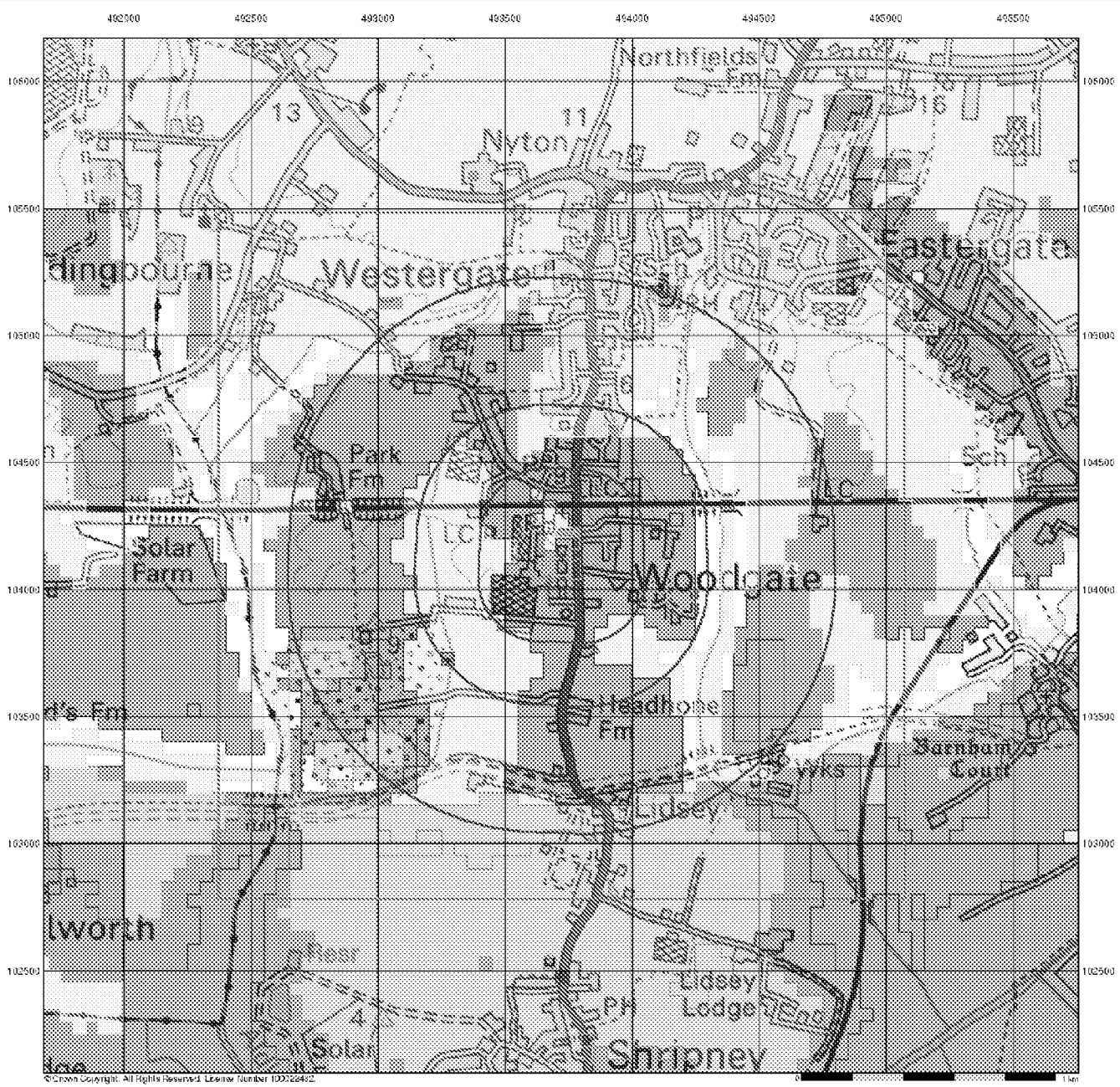
Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
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Geo-Environmental

BGS Flood GFS Data

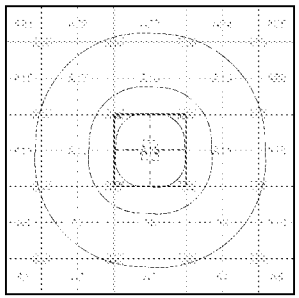
General

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

Agency and Hydrological (Flood)

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

Site Sensitivity Context Map - Slice A



Order Details

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Geology 1:50,000 Maps Legends

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Not Supplied - Holocene
	RTDU	River Terrace Deposits (Undifferentiated)	Sand, Silt and Clay	Not Supplied - Quaternary
	RBD1	Raised Beach Deposits, 1	Sand and Gravel	Not Supplied - Quaternary
	RMD	Raised Marine Deposits	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary
	HEAD	Head	Clay, Silt, Sand and Gravel	Not Supplied - Quaternary
	HEAD	Head	Gravel, Sand, Silt and Clay	Not Supplied - Quaternary
	ALF	Alluvial Fan Deposits	Gravel, Sand, Silt and Clay	Not Supplied - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	LC	London Clay Formation	Clay, Silt and Sand	Not Supplied - Ypresian
	LMBE	Lambeth Group	Clay, Silt and Sand	Not Supplied - Thanetian
	LPCK	Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation and Portsdown Chalk Formation (Undifferentiated)	Chalk	Not Supplied - Turonian

Geo-Environmental

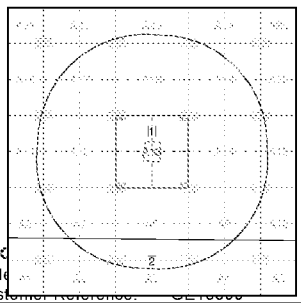
Geology 1:50,000 Maps

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

Geology 1:50,000 Maps Coverage

Map ID:	1	**Map ID:**	2
Map Sheet No:	317	**Map Sheet No:**	332
Map Name:	Chichester and I	**Map Name:**	Chichester and I
Map Date:	1996	**Map Date:**	1996
Bedrock Geology:	Available	**Bedrock Geology:**	Available
Superficial Geology:	Available	**Superficial Geology:**	Available
Artificial Geology:	Available	**Artificial Geology:**	Available
Faults:	Not Supplied	**Faults:**	Not Supplied
Landslip:	Available	**Landslip:**	Available
Rock Segments:	Not Supplied	**Rock Segments:**	Not Supplied

Geology 1:50,000 Maps - Slice A



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Customer Reference: GL18000

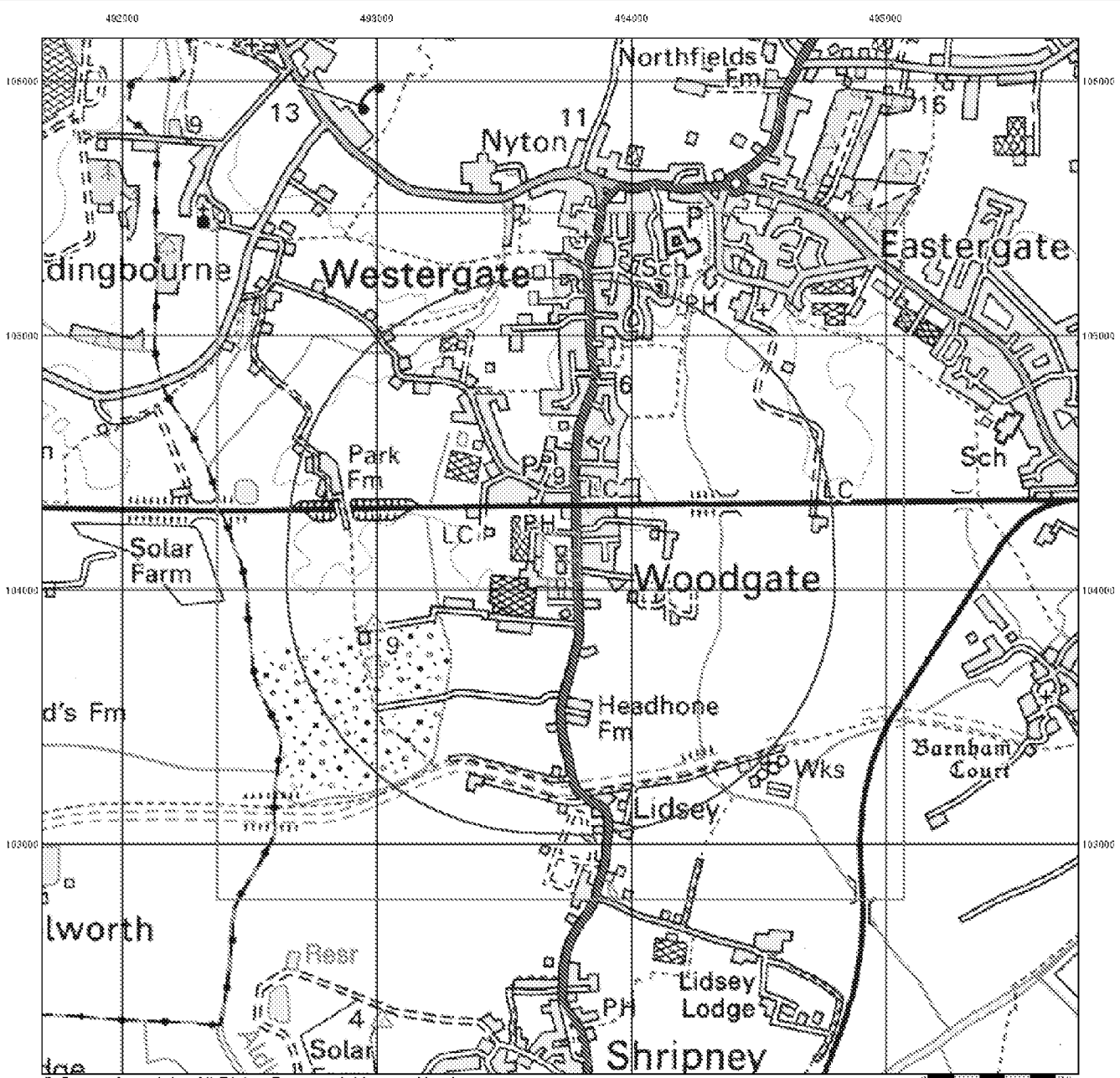
National Grid Reference: 493720, 104130
Slice: A
Site Area (Ha): 2.44
Search Buffer (m): 1000

Site Details:

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Geo-Environmental

Artificial Ground and Landslip

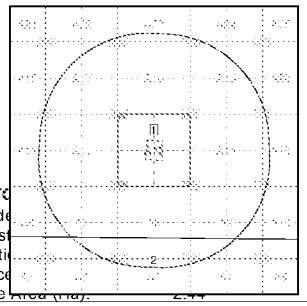
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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

Artificial ground includes:

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

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

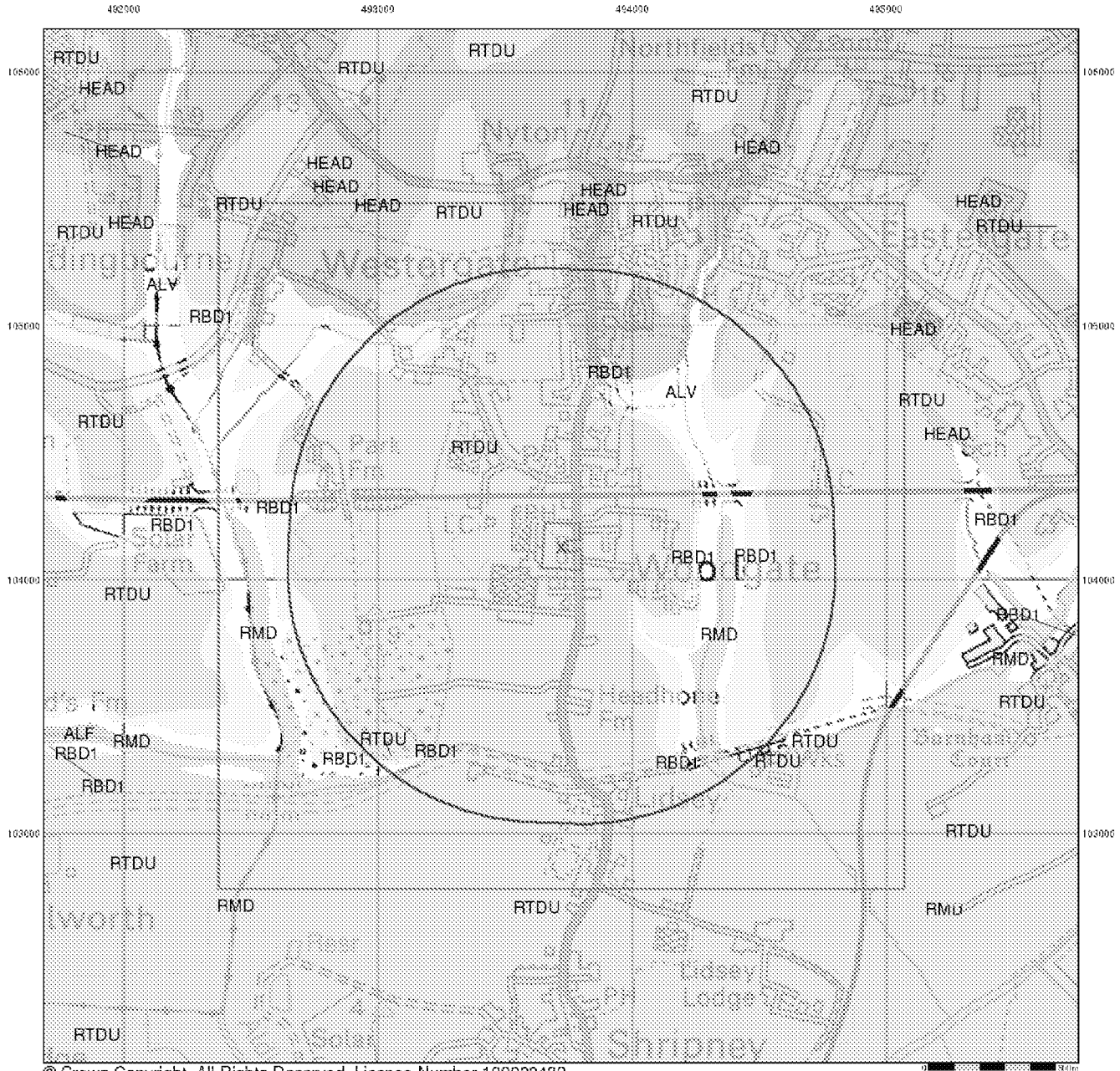
Artificial Ground and Landslip Map - Slice A



Search Buffer (m): 1000

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Geo-Environmental

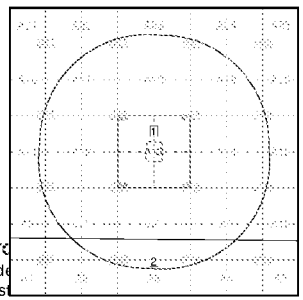
Superficial Geology

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

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

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

Superficial Geology Map - Slice A



N

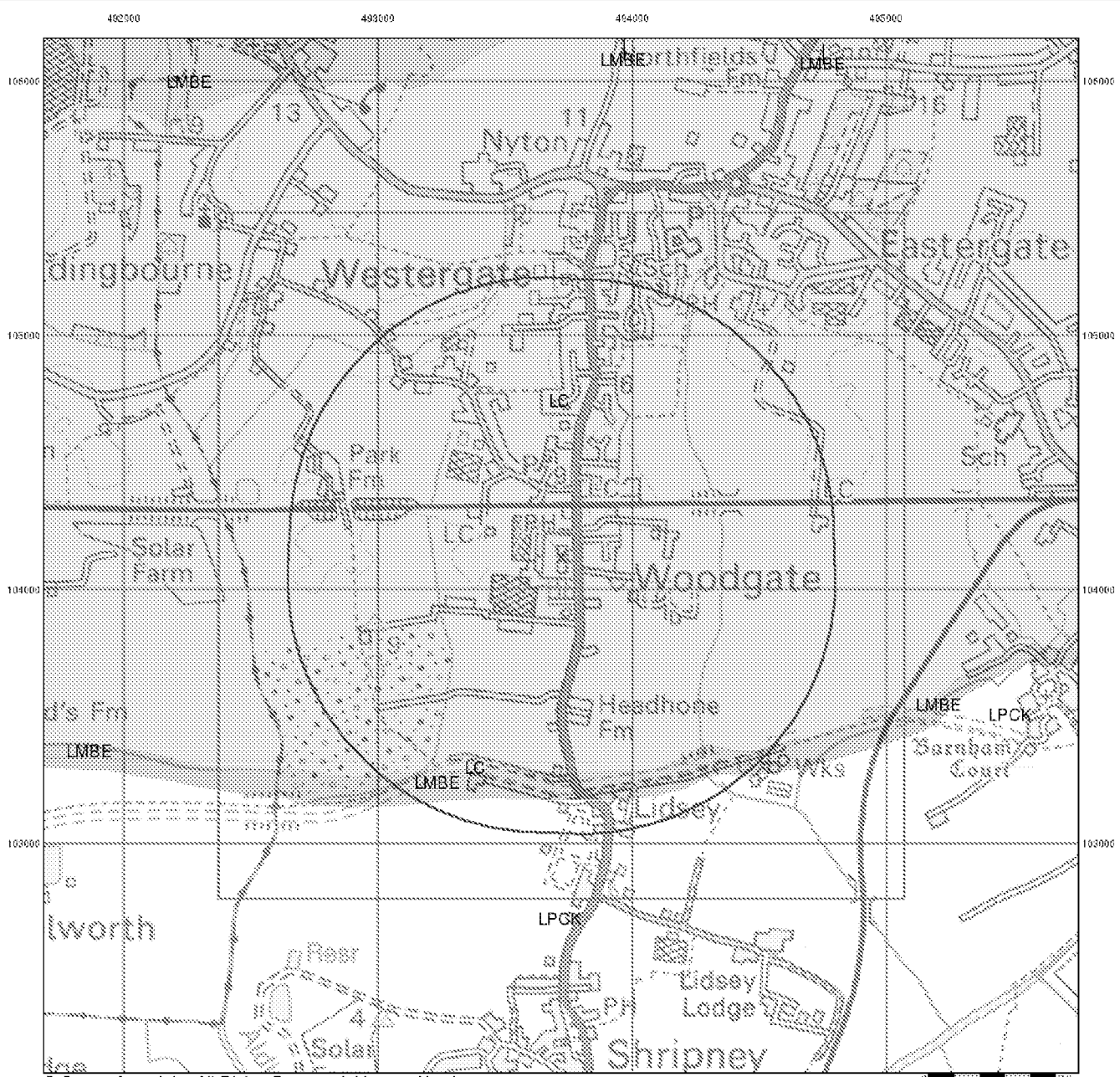
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National Grid Reference: 493720, 104130
Slice: A
Site Area (Ha): 2.44
Search Buffer (m): 1000

Site Details:

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Geo-Environmental

Bedrock and Faults

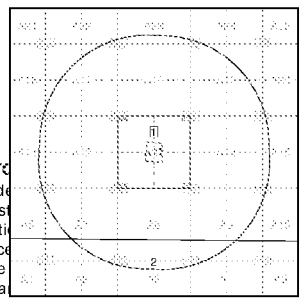
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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

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

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

Bedrock and Faults Map - Slice A

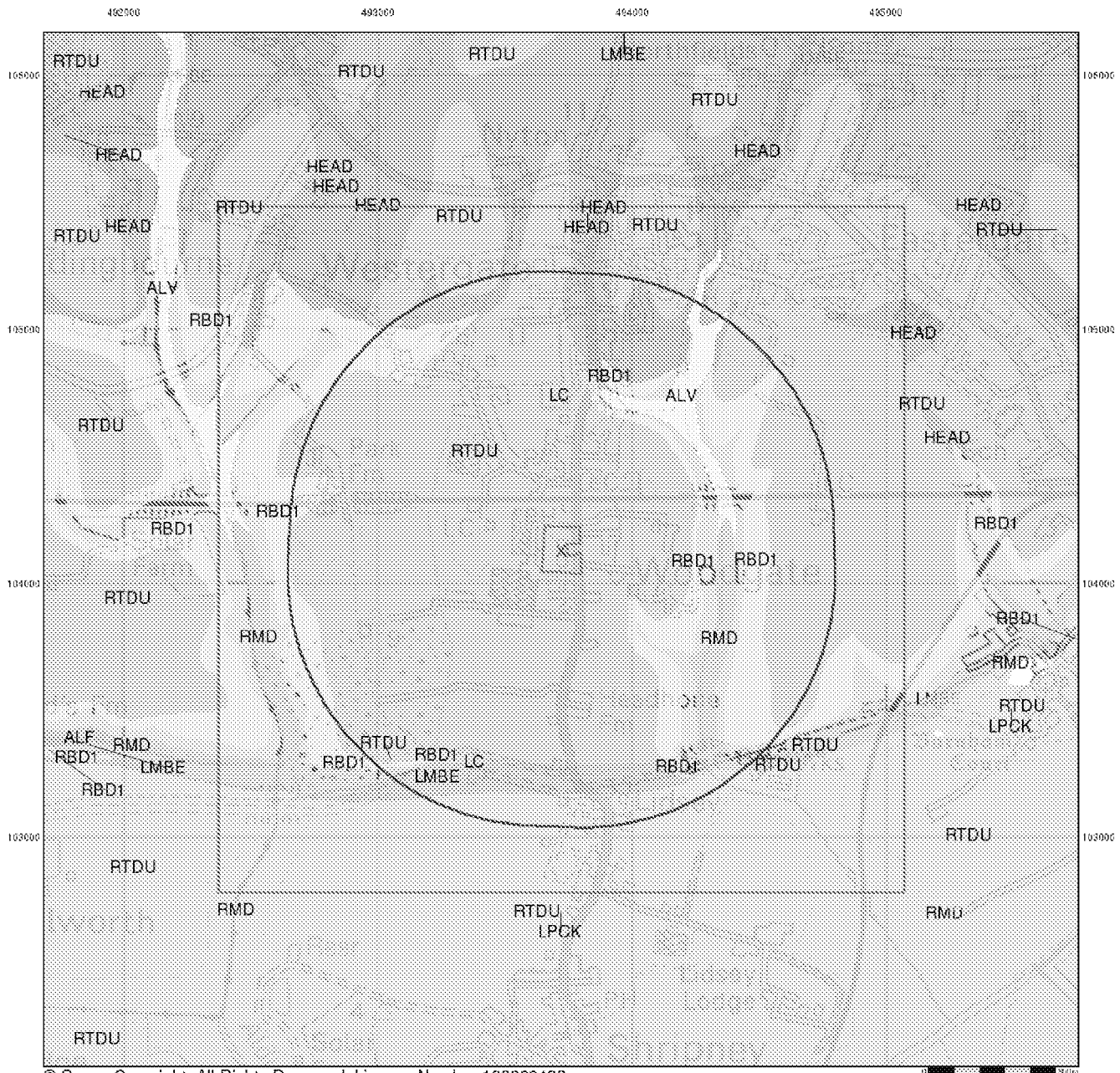


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Sea

Site Details:

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Web: www.landmarkinfo.co.uk



Geo-Environmental

Combined Surface Geology

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

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

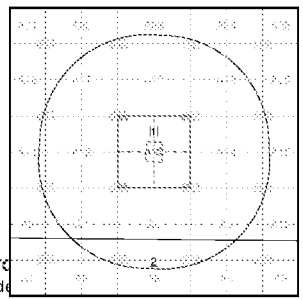
Additional Information

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

Contact

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

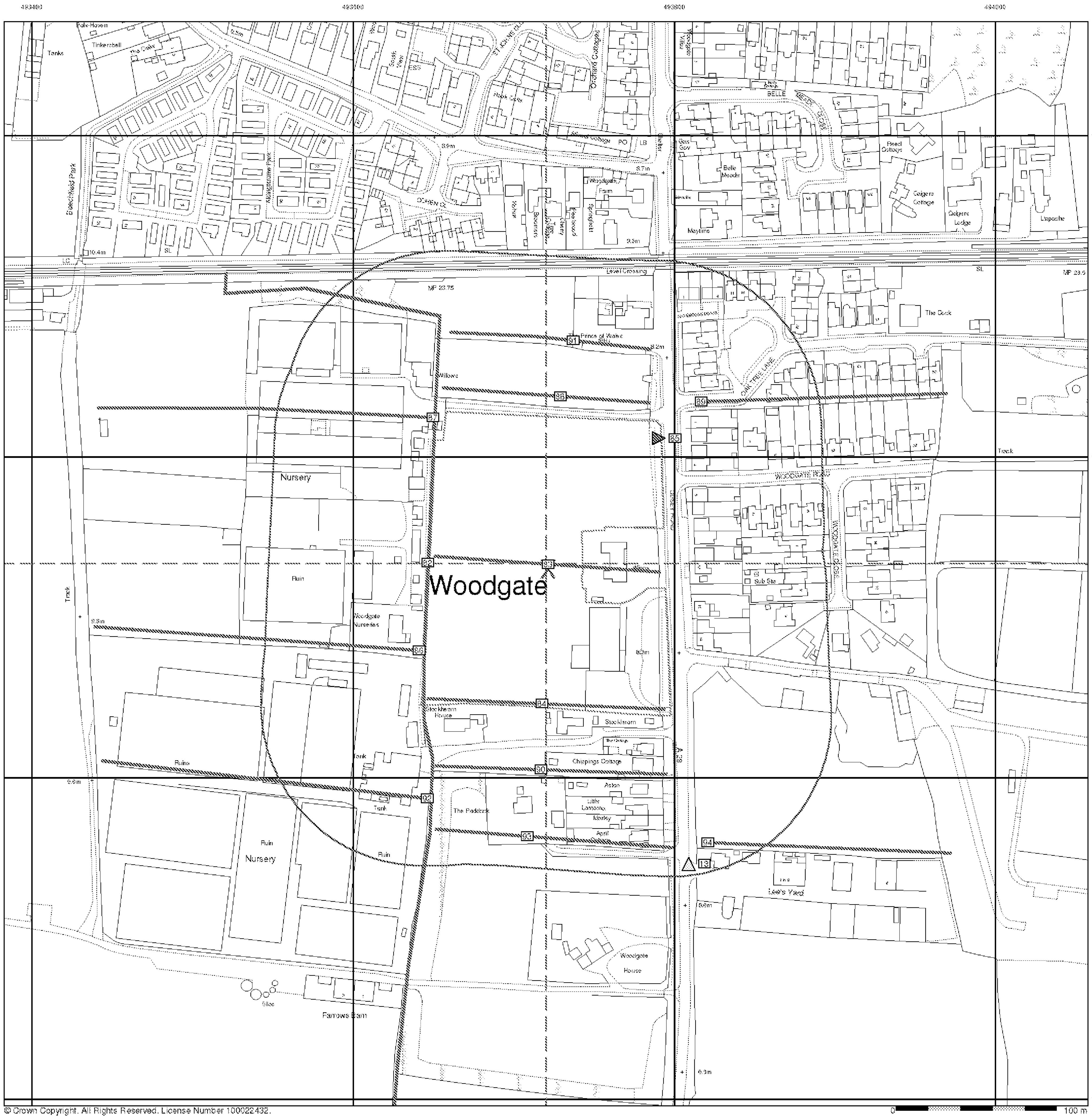
Combined Geology Map - Slice A



Customer Reference: GE18390
National Grid Reference: 493720, 104130
Slice: A
Site Area (Ha): 2.44
Search Buffer (m): 1000

Site Details:

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Geo-Environmental

General

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

Agency and Hydrological

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

Hazardous Substances

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

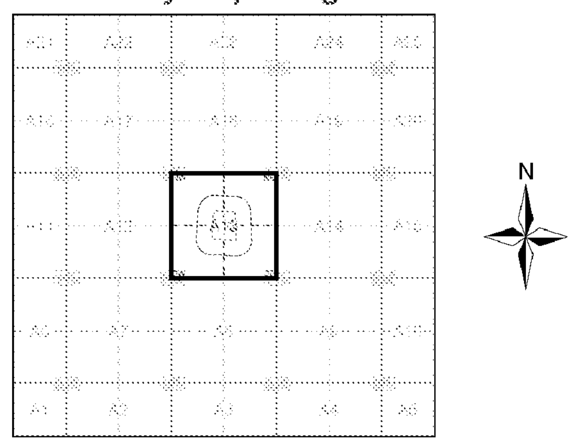
Geological

- BGS Recorded Mineral Site

Waste

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

Site Sensitivity Map - Segment A13



Order Details

Order Number: 214178583_1_1
Customer Ref: GE18390
National Grid Reference: 493720, 104130
Slice: A
Site Area (Ha): 2.44
Plot Buffer (m): 100

Site Details

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Geo-Environmental

General

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

Agency and Hydrological

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

Hazardous Substances

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

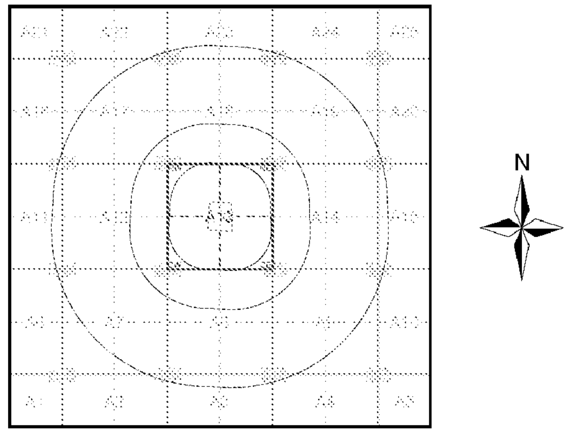
Geological

- BGS Recorded Mineral Site

Waste

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

Site Sensitivity Map - Slice A



Order Details

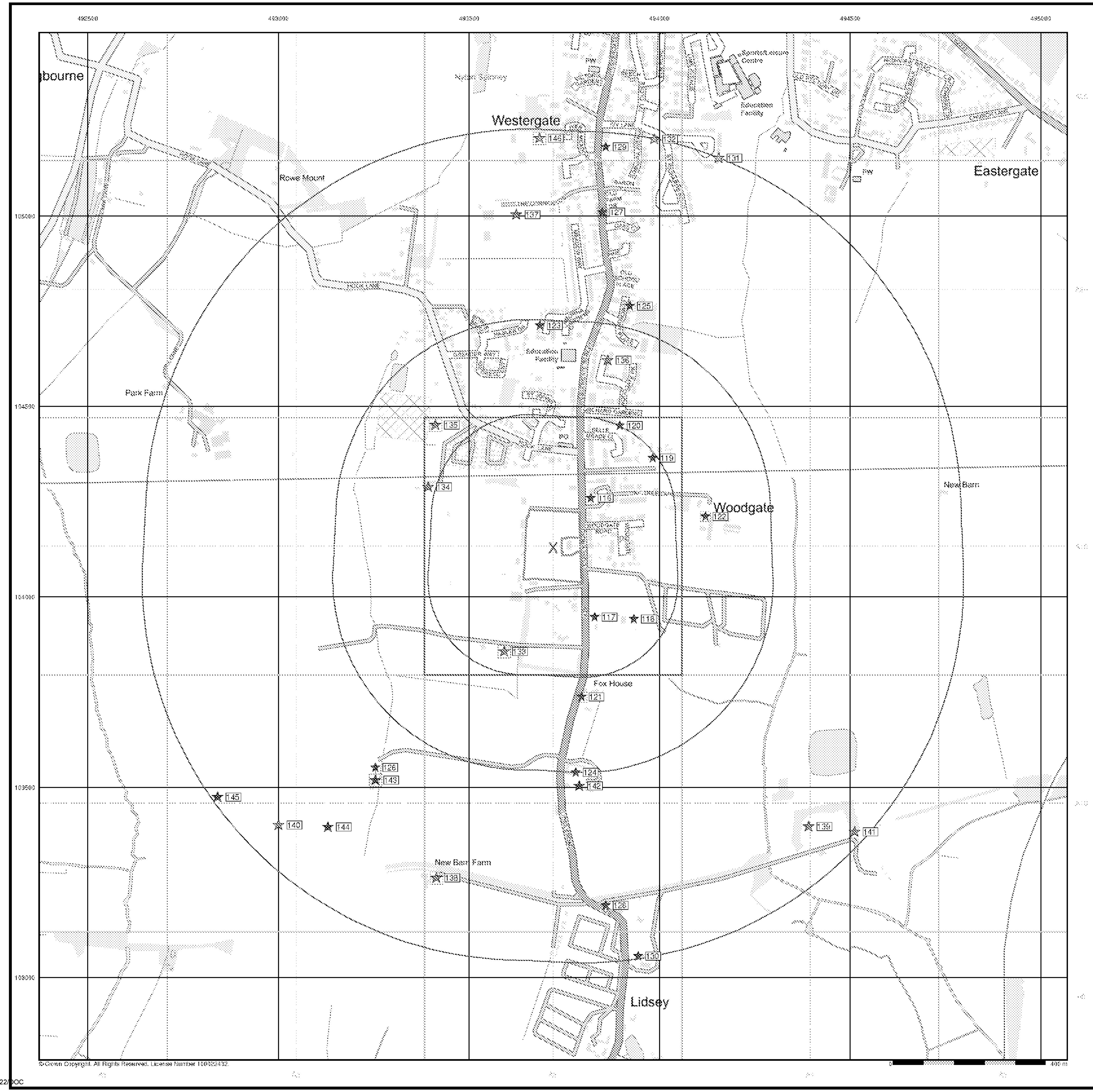
Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
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Geo-Environmental
Industrial Land Use Map

General

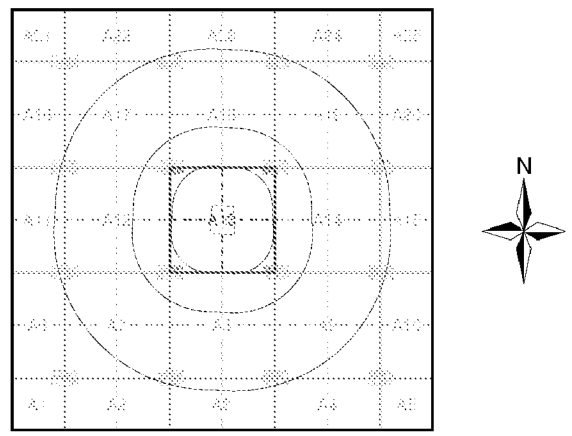
Specified Site · Specified Buffer(s) · Bearing Reference Point

Slice · Map ID

Industrial Land Use

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

Industrial Land Use Map - Slice A



Order Details

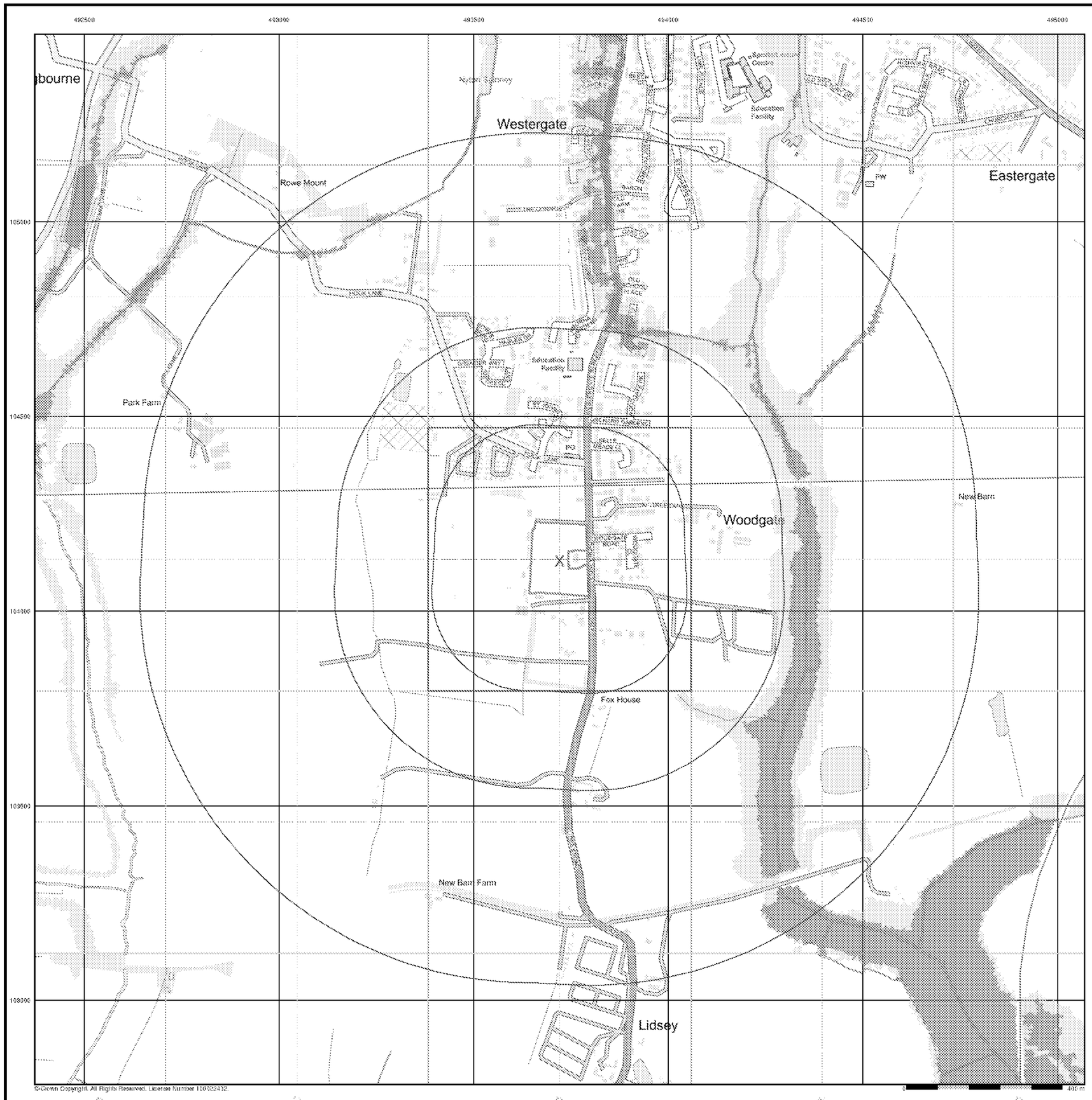
Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

Site Details

Lidsey Road, Woodgate, CHICHESTER, PO20 3SU

Landmark INFORMATION GROUP

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



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Geo-Environmental

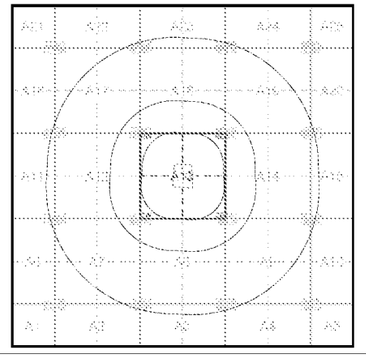
General

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

Agency and Hydrological (Flood)

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

Flood Map - Slice A



N

Order Details

Order Number:	214178583_1_1
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National Grid Reference:	493720, 104130
Slice:	A
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Geo-Environmental

General

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

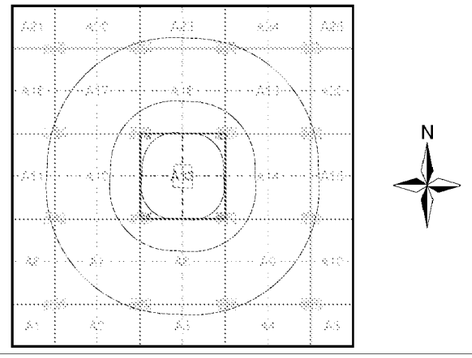
Agency and Hydrological (Boreholes)

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

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

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

Borehole Map - Slice A



Order Details

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Geo-Environmental

General

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

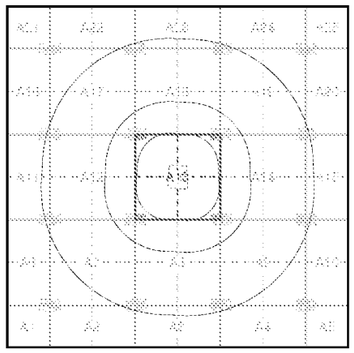
OS Water Network Data

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

Contours (height in meters)

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

OS Water Network Map - Slice A



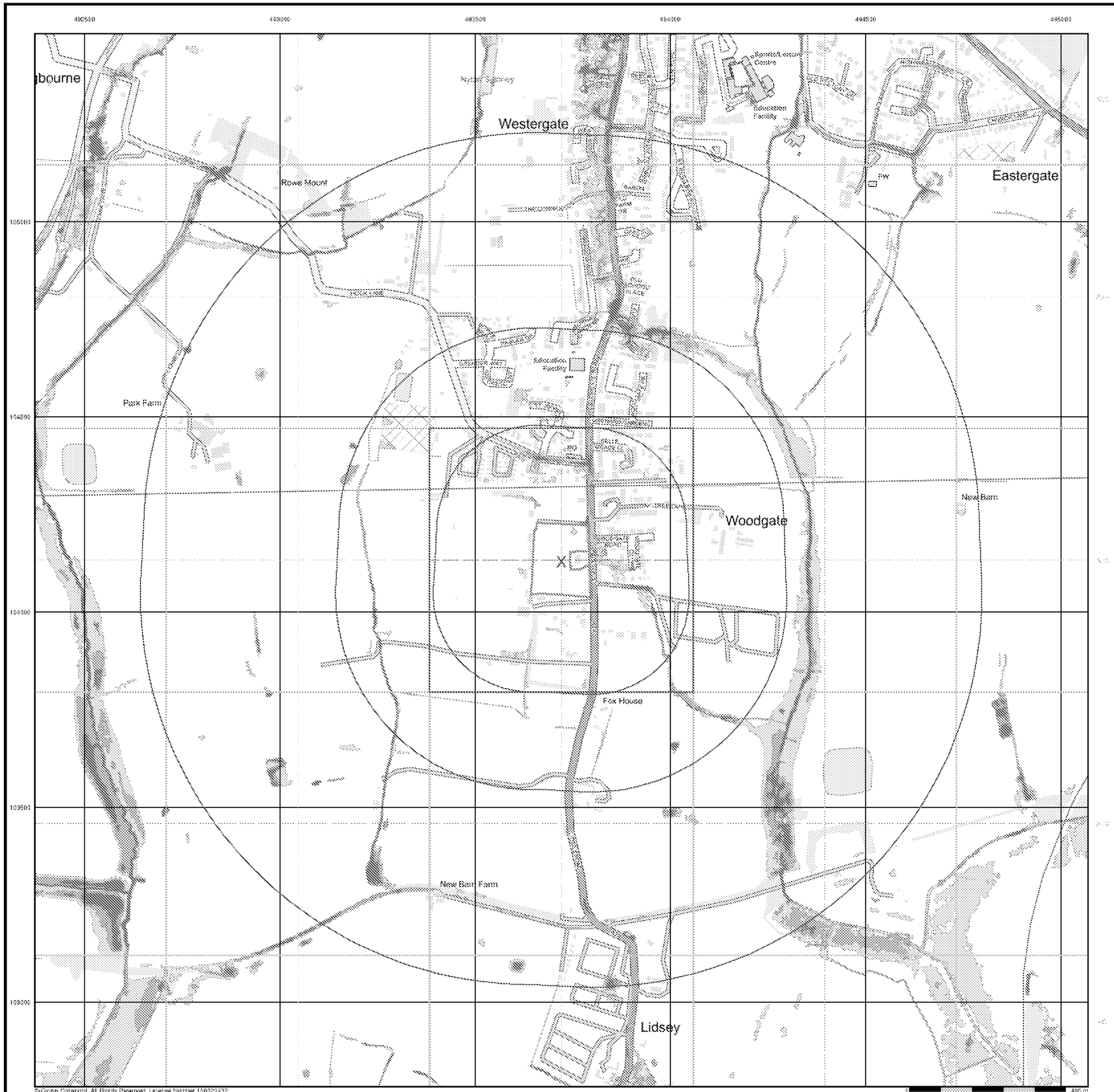
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National Grid Reference:	493720, 104130
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Geo-Environmental

General

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

Risk of Flooding from Surface Water

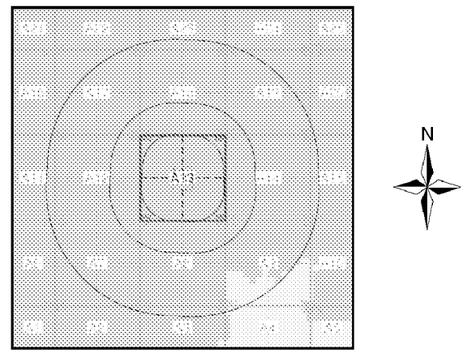
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

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

EA/NRW Suitability Map - Slice A



Order Details

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Search Buffer (m):	1000

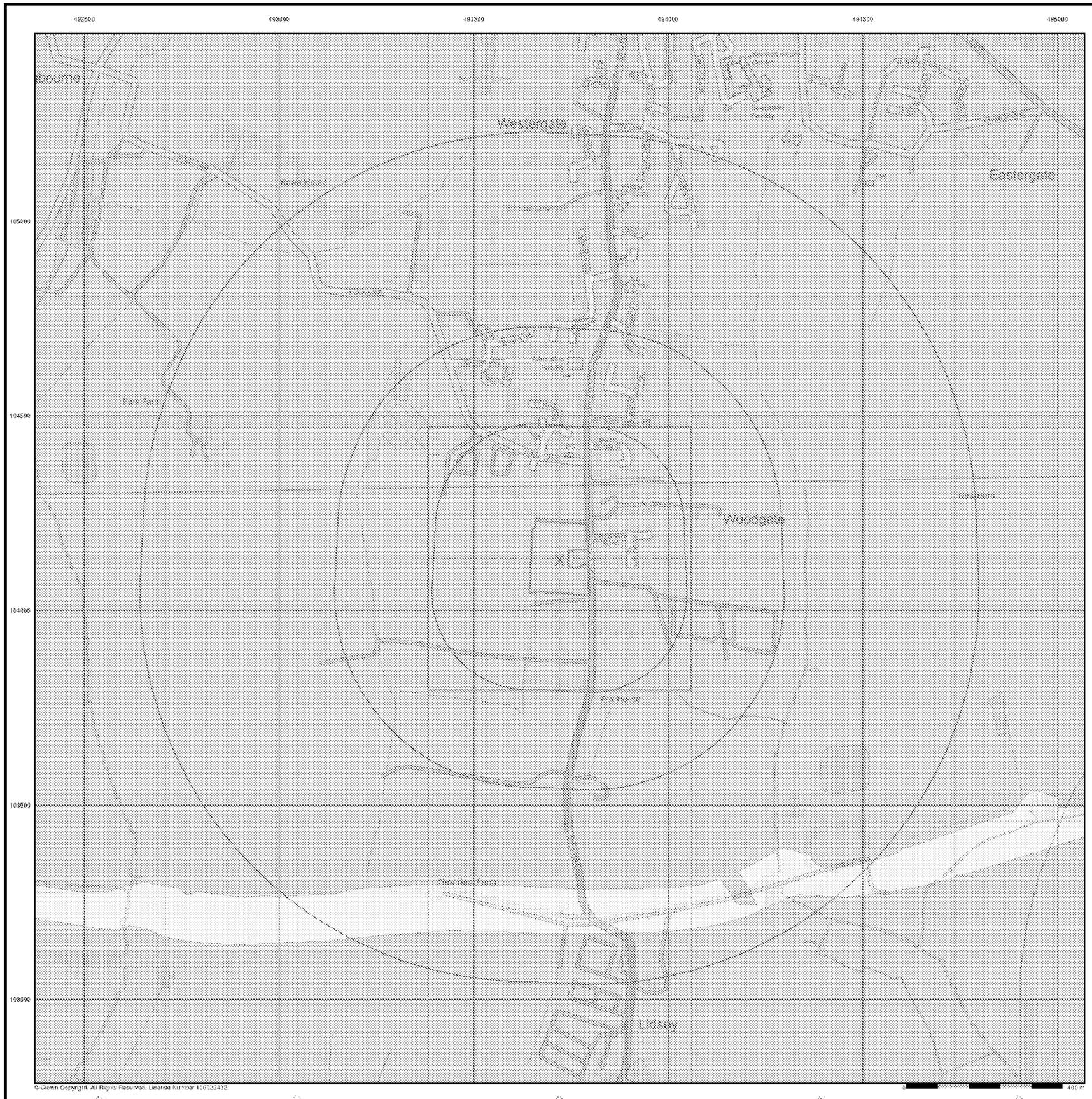
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Geo-Environmental

General

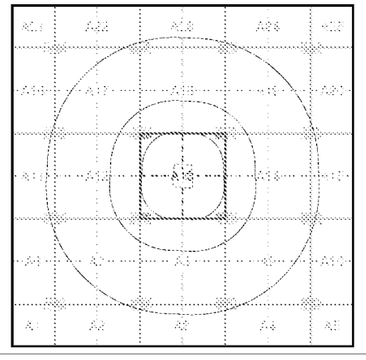
Specified Site | Specified Buffer(s) | Bearing Reference Point

Estimated Soil Chemistry Arsenic

Arsenic Concentrations mg/kg

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

Estimated Soil Chemistry Arsenic - Slice A



Order Details

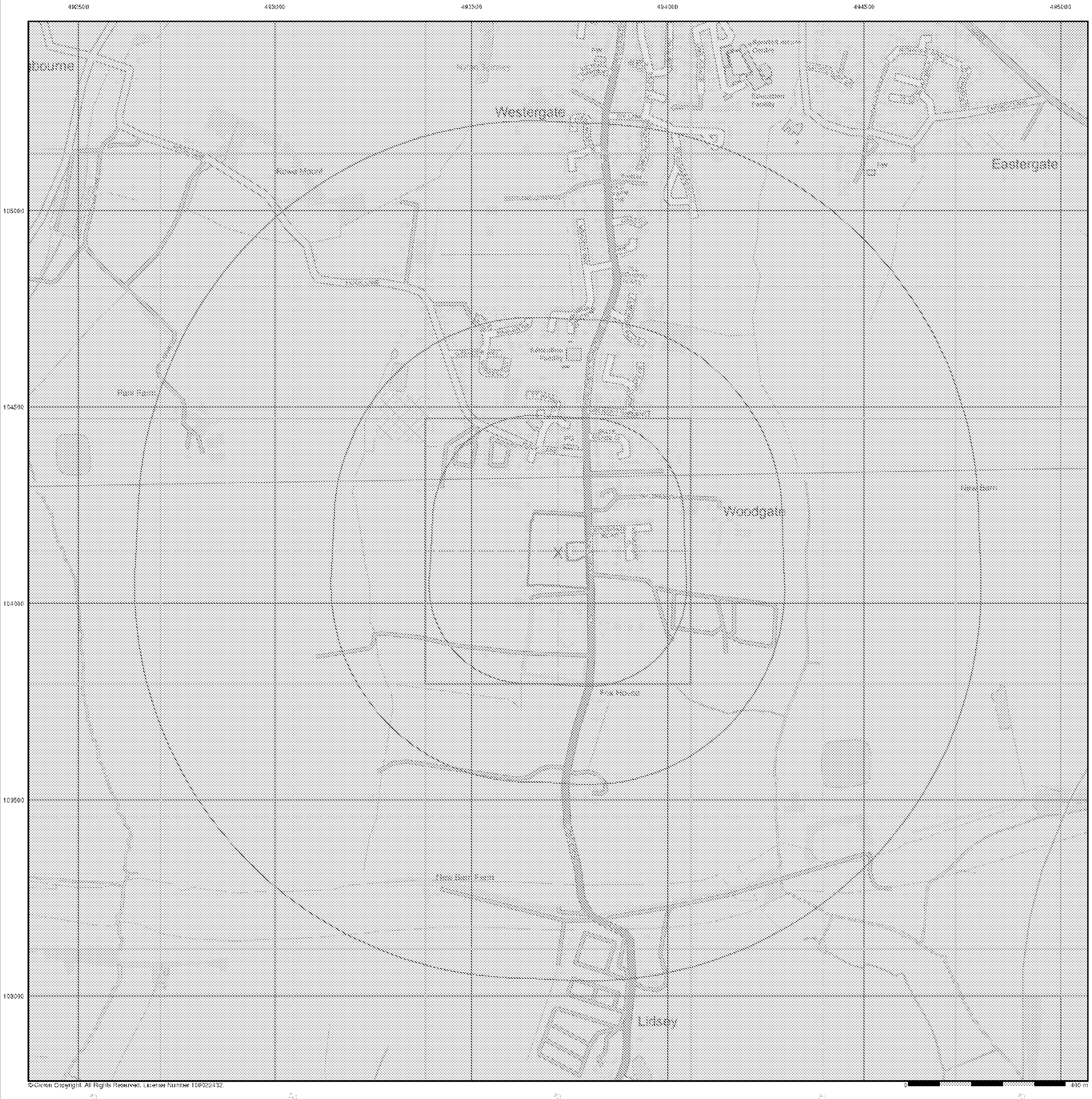
Order Details:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
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Geo-Environmental

General

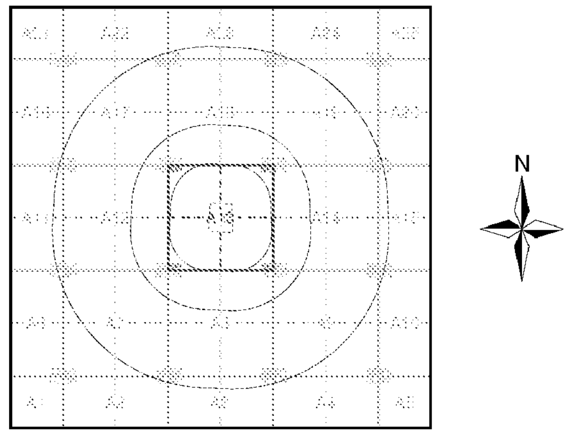
Specified Site   Specified Buffer(s)   X Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg

	< 1.8
	1.8 - 2.2
	2.2 - 3.0
	> 3.0

Estimated Soil Chemistry Cadmium - Slice A



Order Details

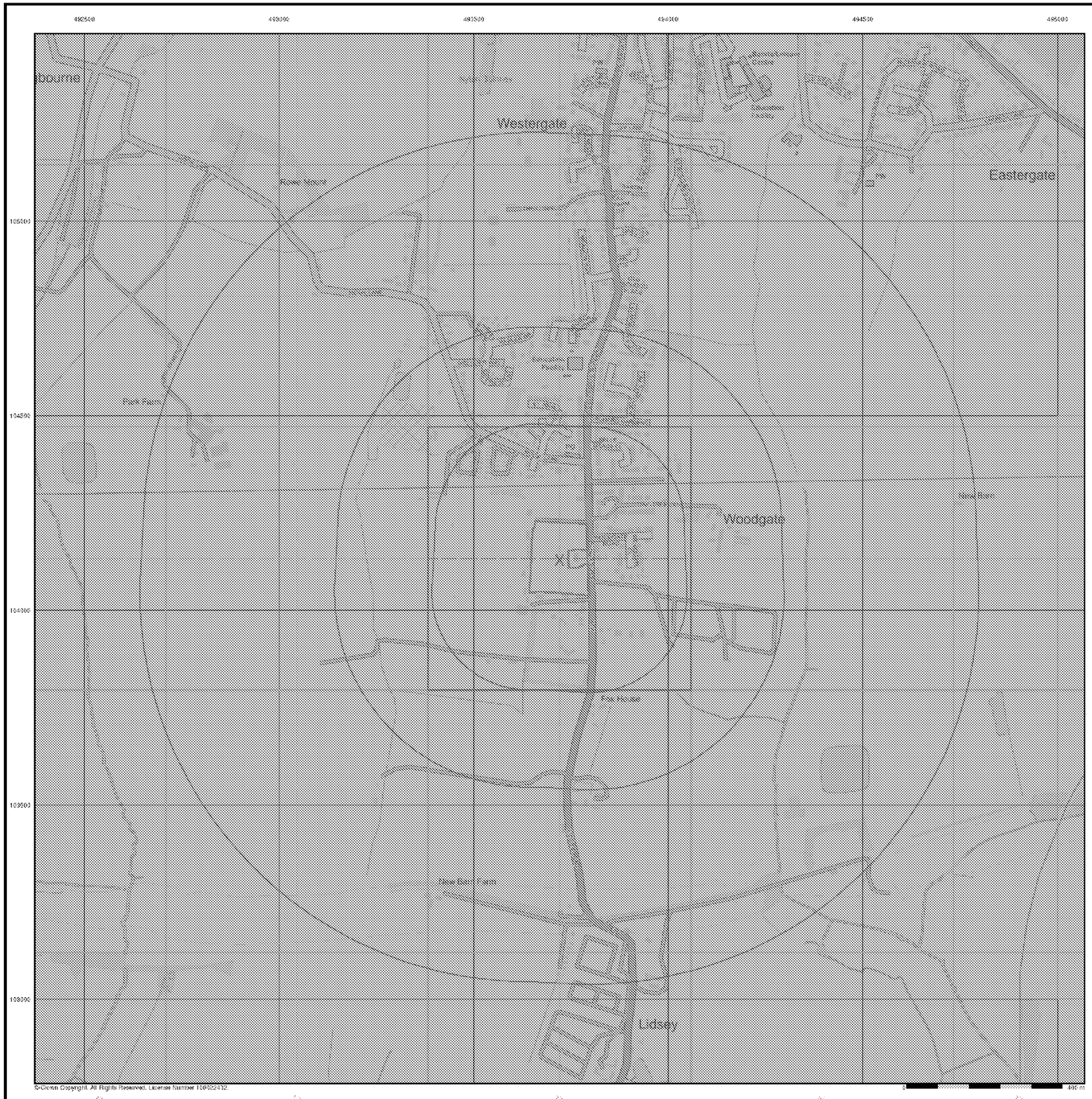
Order Details: 214178583_1_1
Customer Ref: GE18390
National Grid Reference: 493720, 104130
Slice: A
Site Area (Ha): 2.44
Search Buffer (m): 1000

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Geo-Environmental

General

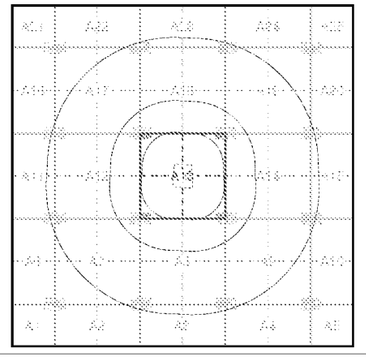
Specified Site | Specified Buffer(s) | Bearing Reference Point

Estimated Soil Chemistry Chromium

Chromium Concentrations mg/kg

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

Estimated Soil Chemistry Chromium - Slice A



Order Details

Order Details:	214178583_1_1
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Geo-Environmental

General

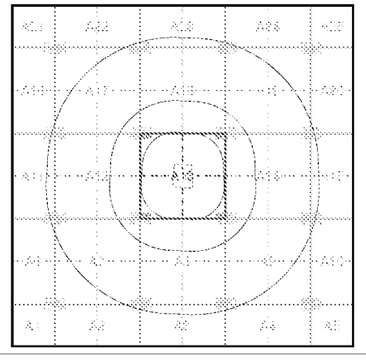
Specified Site | Specified Buffer(s) | Bearing Reference Point

Estimated Soil Chemistry Lead

Lead Concentrations mg/kg

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

Estimated Soil Chemistry Lead - Slice A



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General

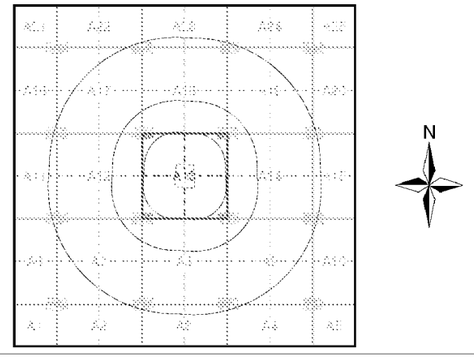
Specified Site | Specified Buffer(s) | Bearing Reference Point

Estimated Soil Chemistry Nickel

Nickel Concentrations mg/kg

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

Estimated Soil Chemistry Nickel - Slice A



Order Details

Order Details:	214178583_1_1
Customer Ref:	GE18390
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Slice:	A
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Site Details

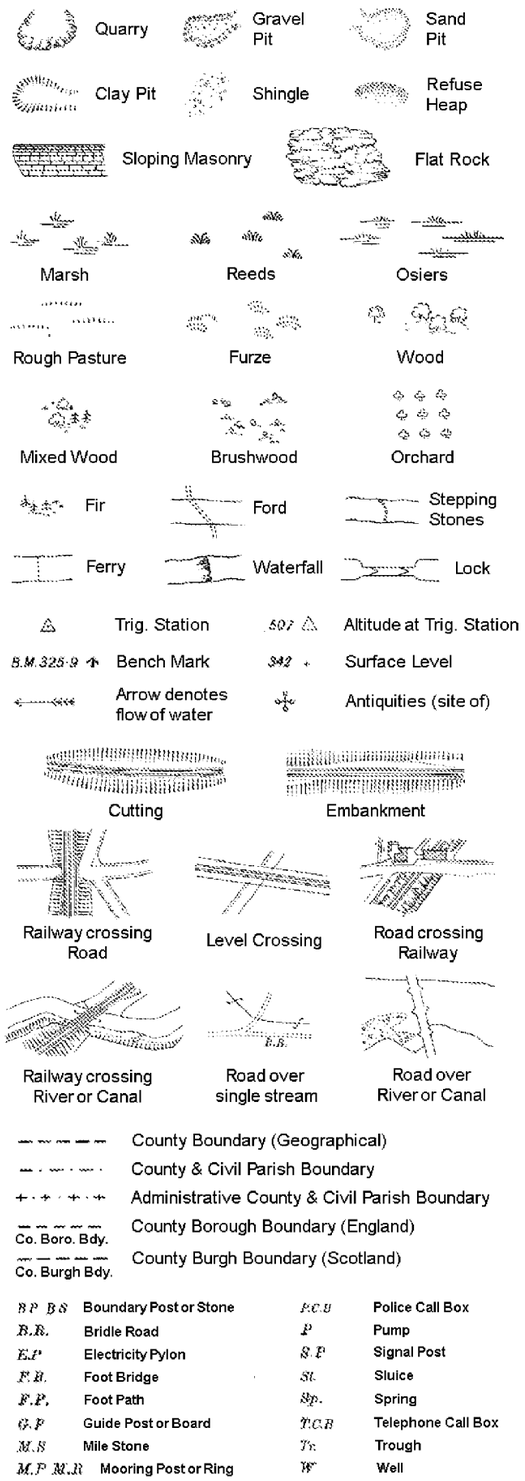
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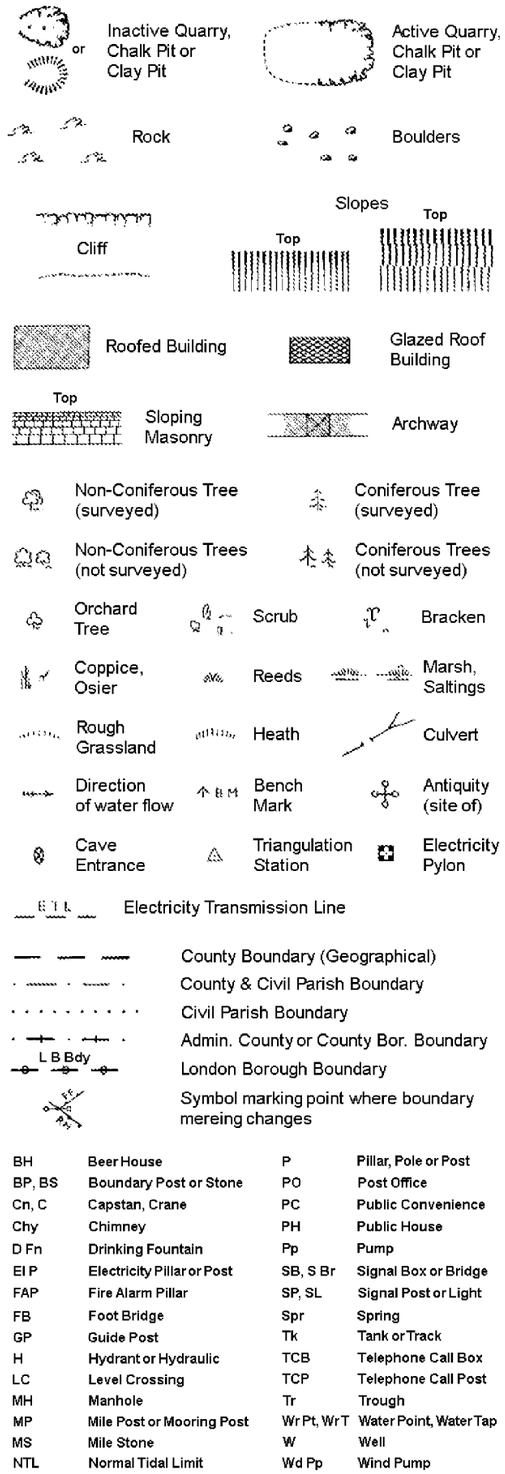
Historical Mapping Legends

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



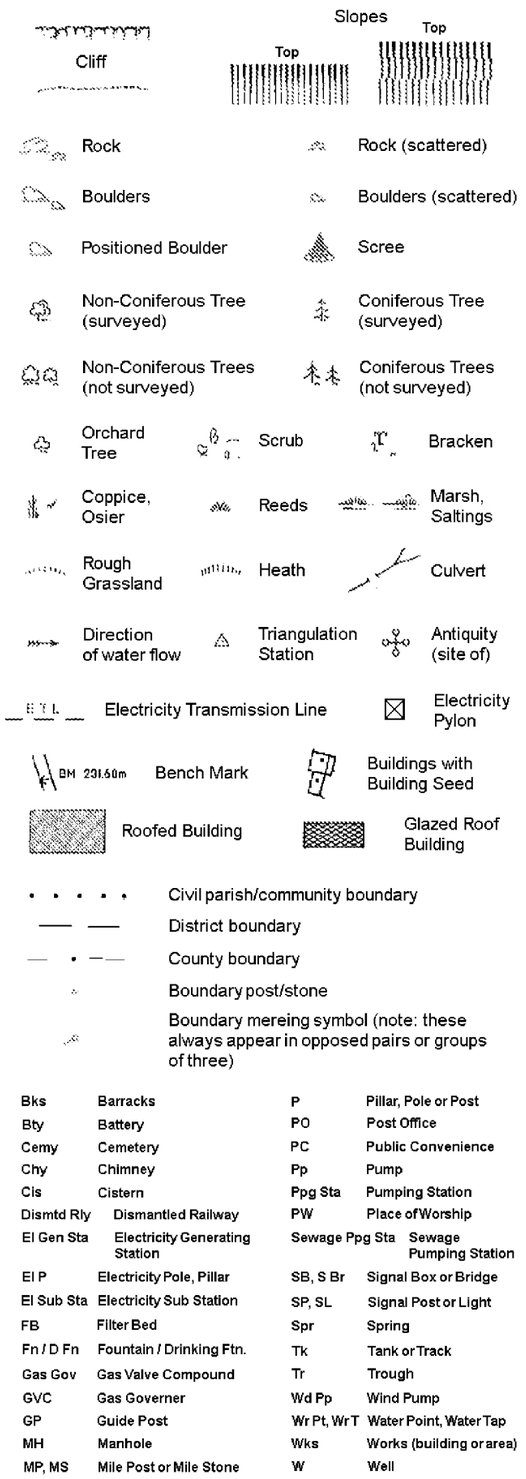
B.P. B.S.	Boundary Post or Stone	P.C.B.	Police Call Box
B.R.	Bridle Road	P.	Pump
E.P.	Electricity Pylon	S.P.	Signal Post
F.B.	Foot Bridge	Sl.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P.	Guide Post or Board	T.C.B.	Telephone Call Box
M.S.	Mile Stone	Tr.	Trough
M.P. M.R.	Mooring Post or Ring	W.	Well

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



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

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



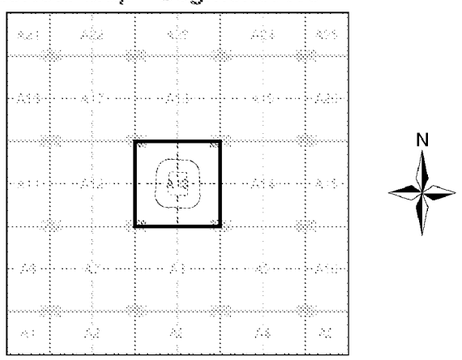
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity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

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Geo-Environmental
Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Sussex	1:2,500	1876	2
Sussex	1:2,500	1897	3
Sussex	1:2,500	1912	4
Sussex	1:2,500	1937	5
Ordnance Survey Plan	1:2,500	1974 - 1977	6
Supply of Unpublished Survey Information	1:2,500	1974	7
Additional SIMs	1:2,500	1978 - 1992	8
Additional SIMs	1:2,500	1980	9
Additional SIMs	1:2,500	1982	10
Ordnance Survey Plan	1:2,500	1986	11
Additional SIMs	1:2,500	1992	12
Large-Scale National Grid Data	1:2,500	1994	13
Large-Scale National Grid Data	1:2,500	1995	14
Historical Aerial Photography	1:2,500	1999	15

Historical Map - Segment A13



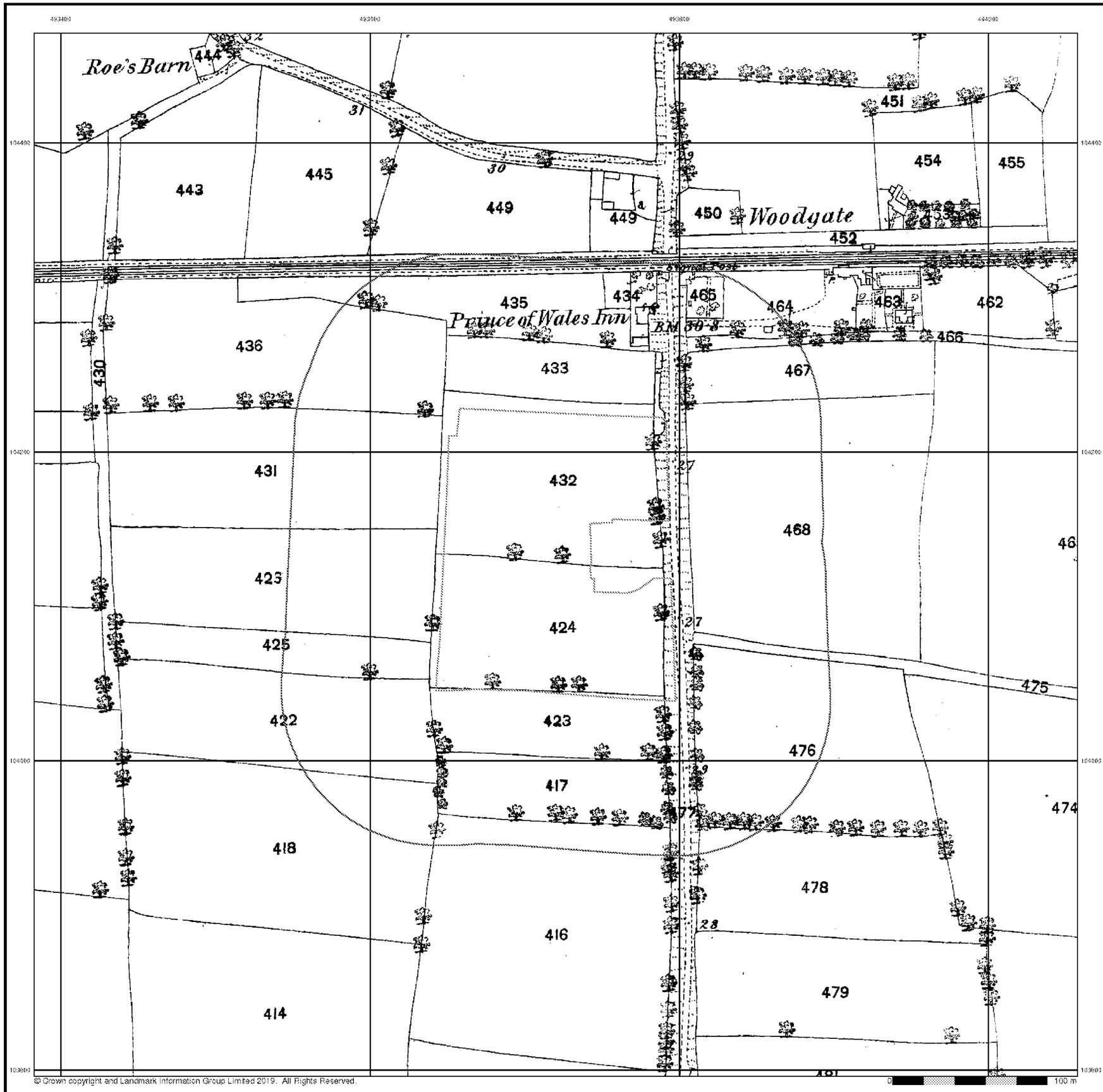
Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
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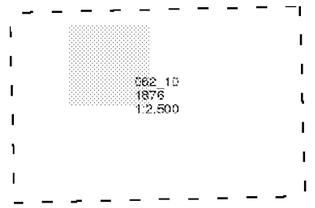
Geo-Environmental
Sussex

Published 1876

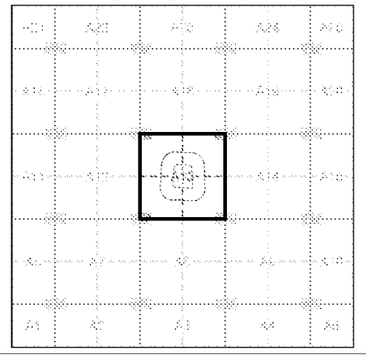
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

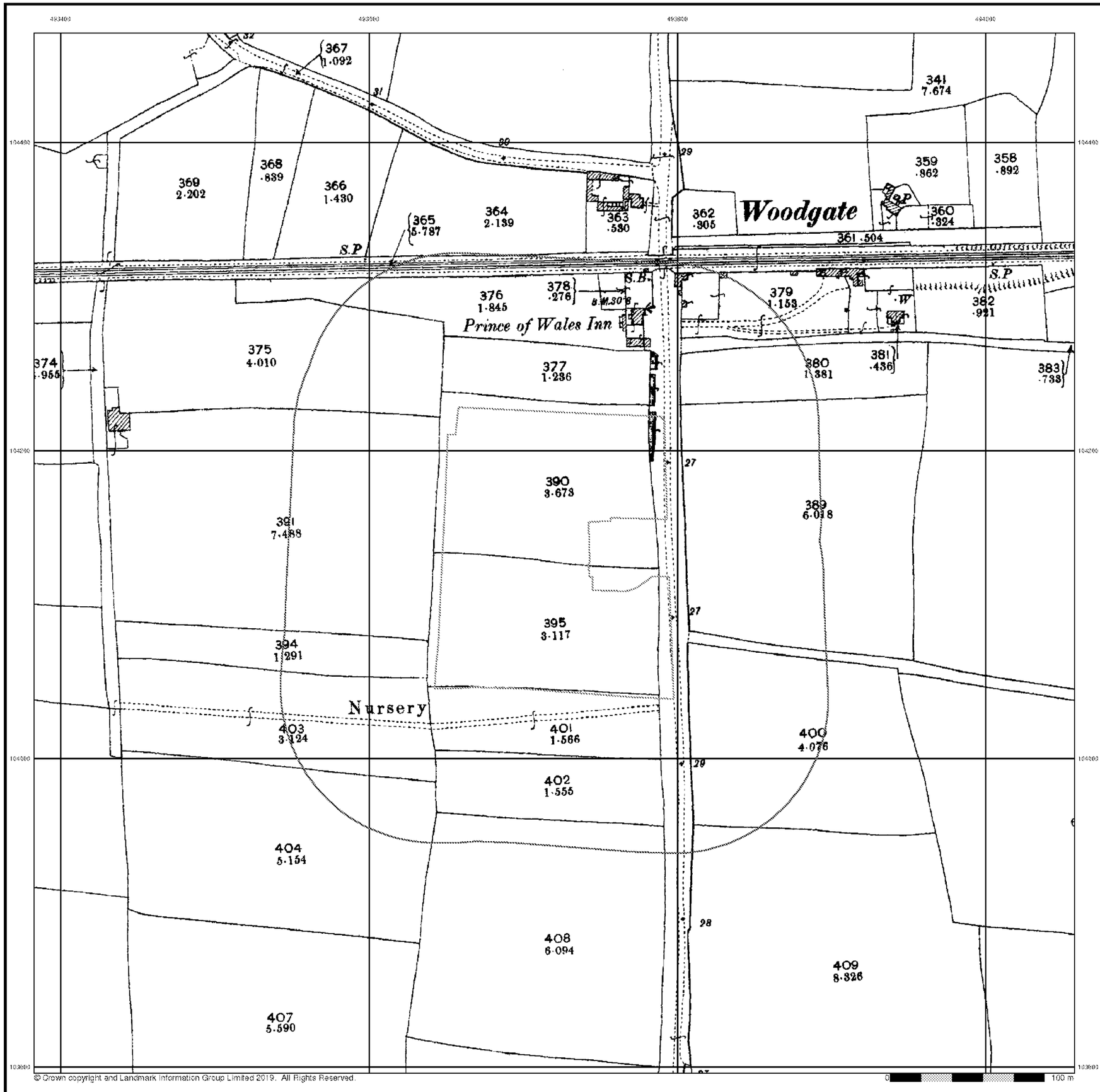
Order Number:	214178583_1_1
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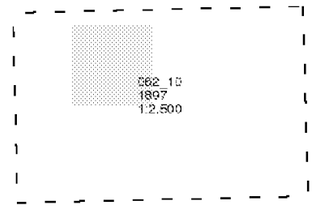
Geo-Environmental
Sussex

Published 1897

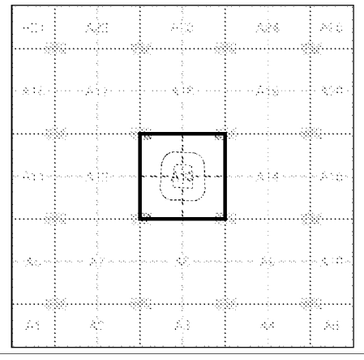
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

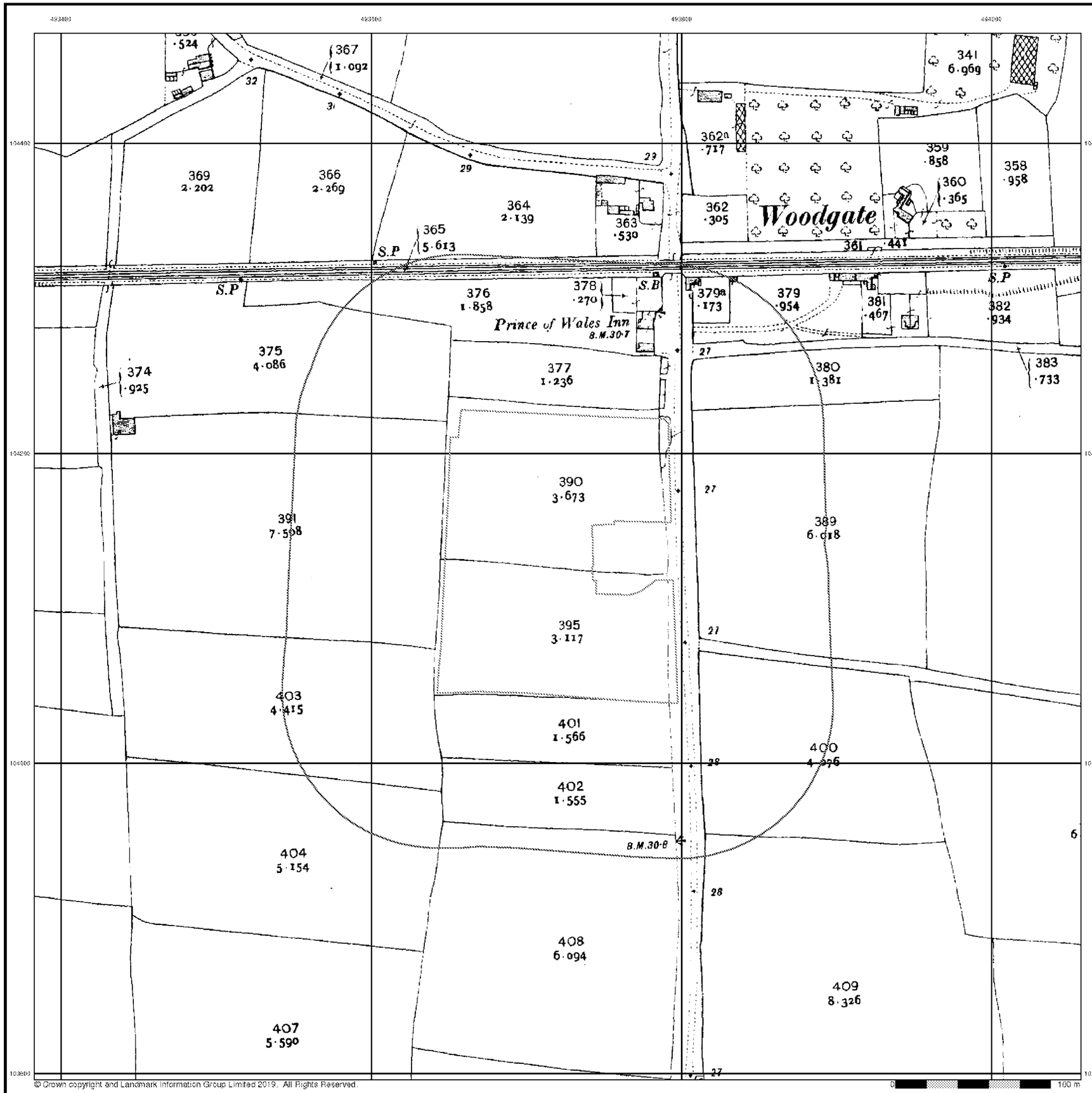
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0 100 m

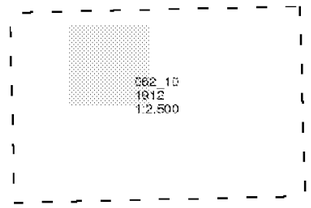
Geo-Environmental
Sussex

Published 1912

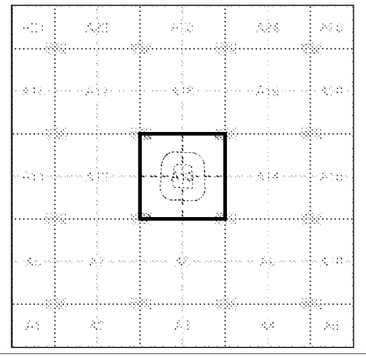
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



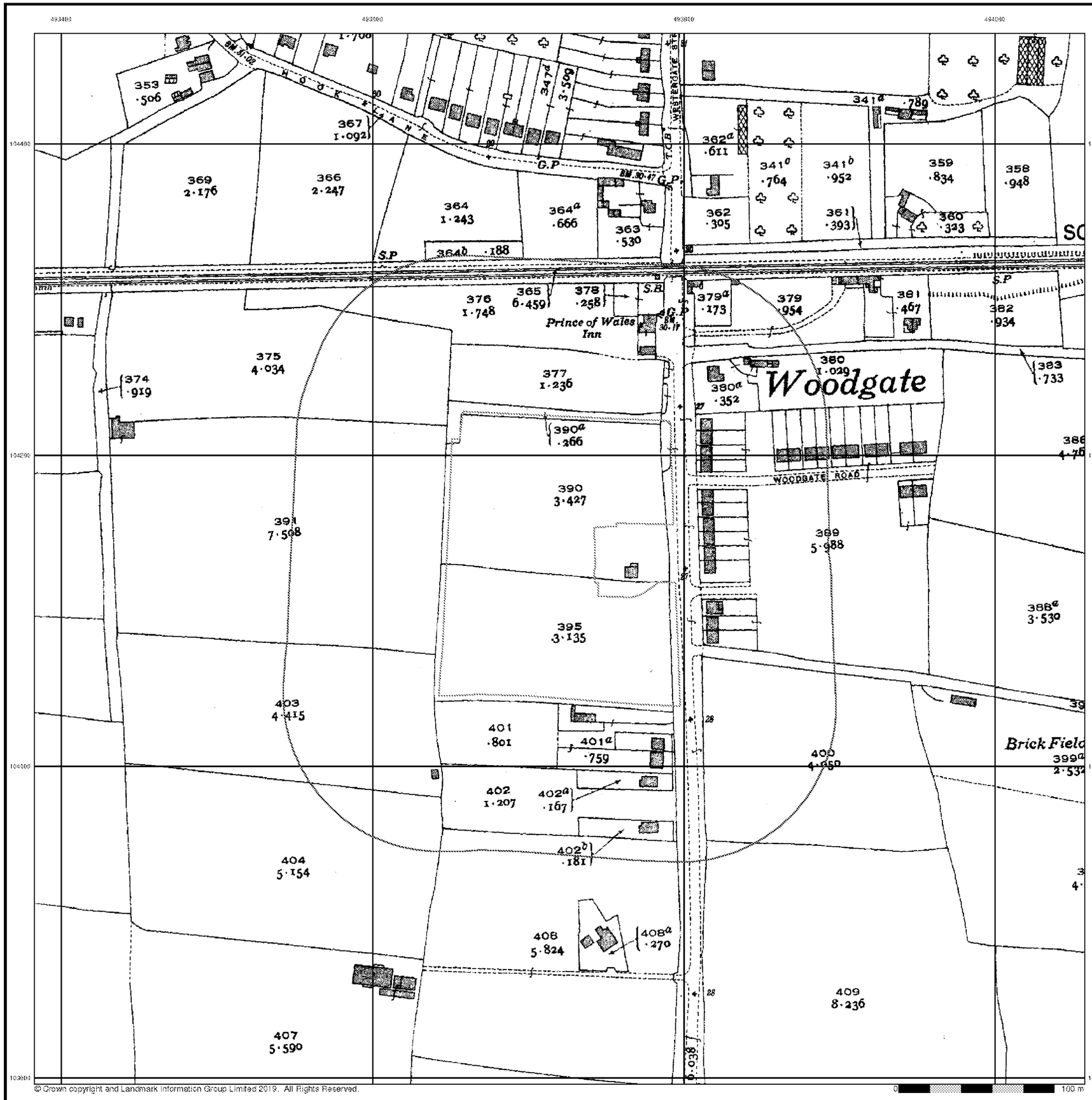
Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	100

Site Details

Lidsey Road, Woodgate, CHICHESTER, PO20 3SU

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



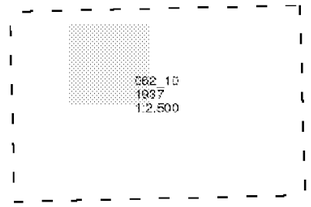
Geo-Environmental
Sussex

Published 1937

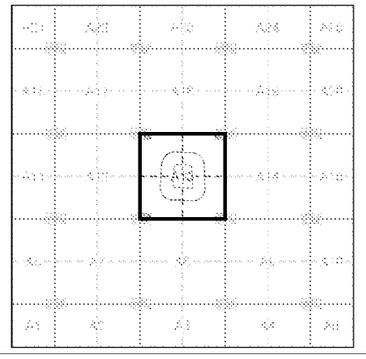
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

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ARUN DISTRICT COUNCIL AL/28/22/DOC



Geo-Environmental

Ordnance Survey Plan

Published 1974 - 1977

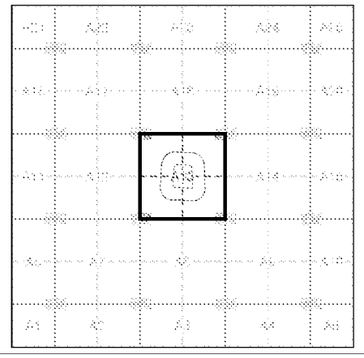
Source map scale - 1:2,500

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

Map Name(s) and Date(s)

SU9304 1977 1:2,500	SU9404 1974 1:2,500
SU9303 1975 1:2,500	SU9403 1974 1:2,500

Historical Map - Segment A13



Order Details

Order Number:	214178583_1_1
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Geo-Environmental

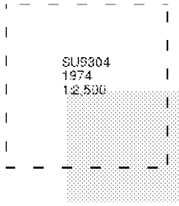
Supply of Unpublished Survey Information

Published 1974

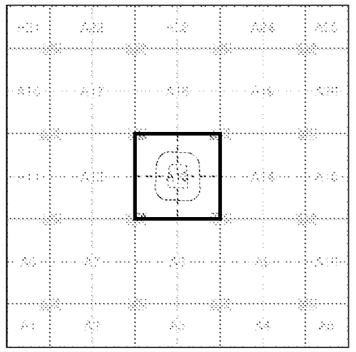
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
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Geo-Environmental
Additional SIMs
Published 1978 - 1992
Source map scale - 1:2,500

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

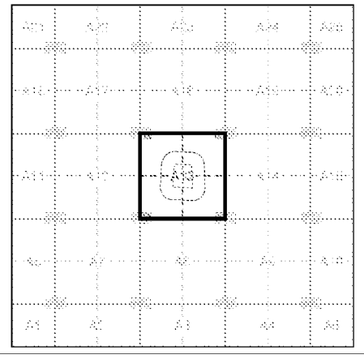
Map Name(s) and Date(s)

SU9304 1978 12,500

SU9303 1992 12,500

SU9403 1992 12,500

Historical Map - Segment A13



Order Details

Order Number:	214178583_1_1
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National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	100

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ARUN DISTRICT COUNCIL AL/28/22/DOC



Geo-Environmental

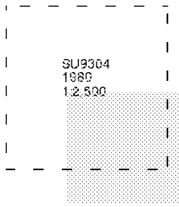
Additional SIMs

Published 1980

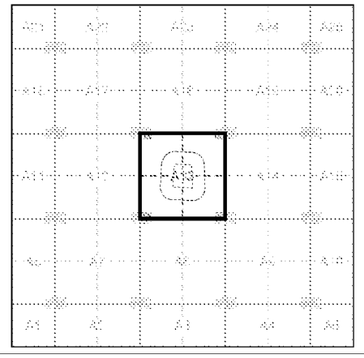
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

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National Grid Reference:	493720, 104130
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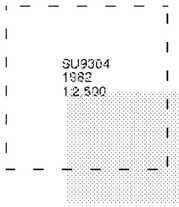
Geo-Environmental
Additional SIMs

Published 1982

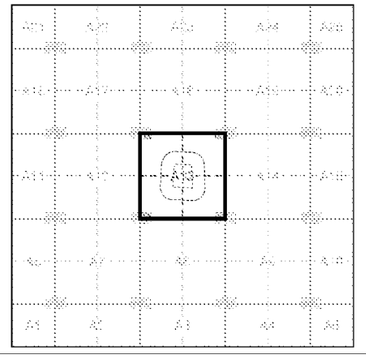
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

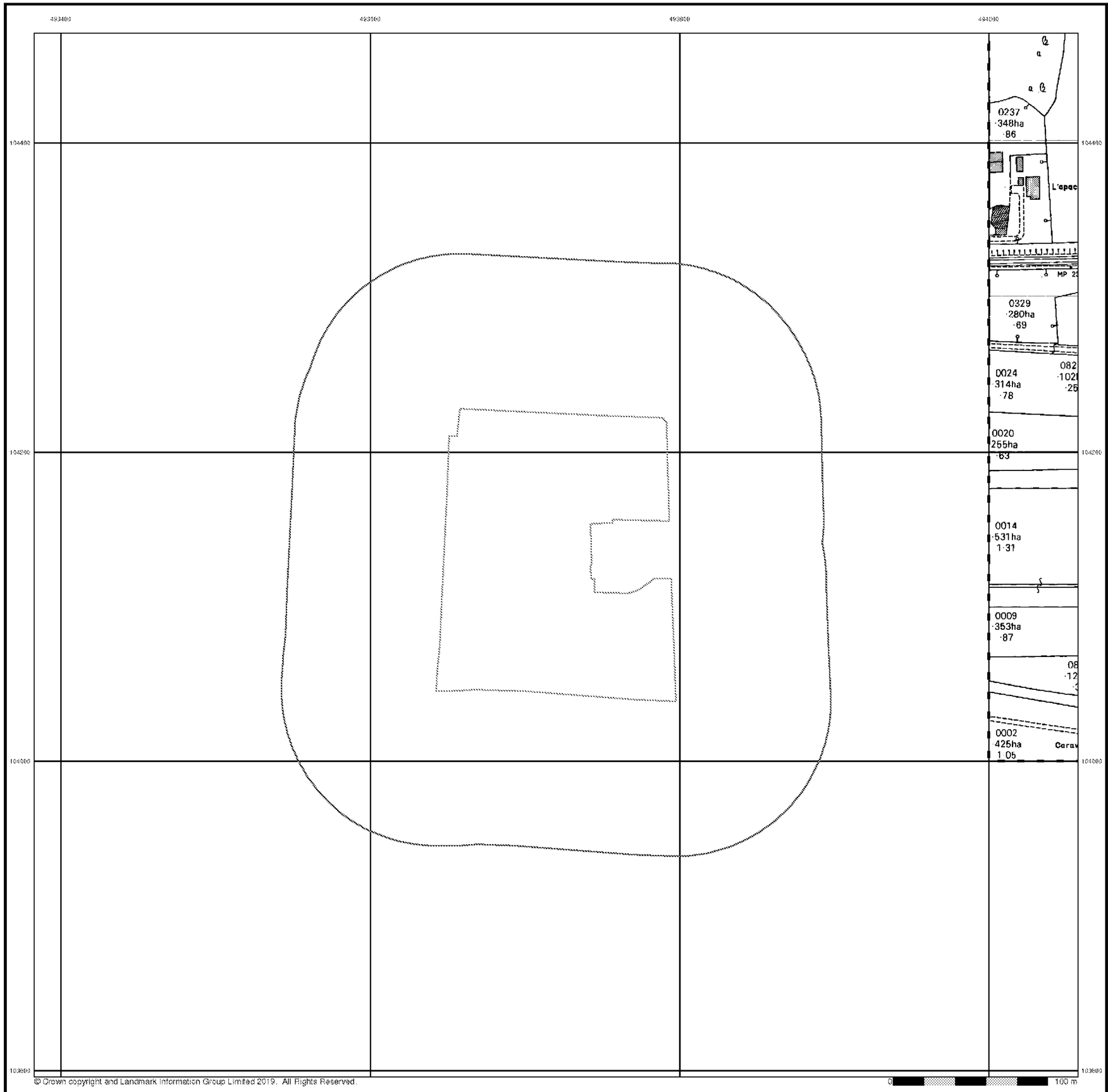
Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
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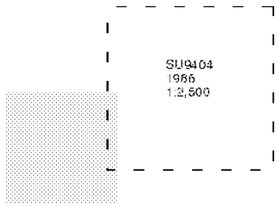


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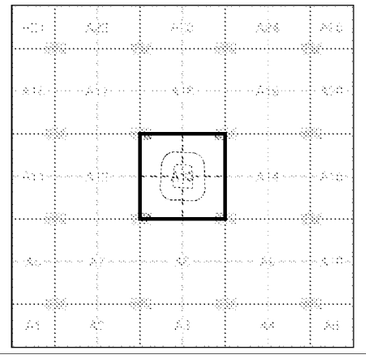
Geo-Environmental
Ordnance Survey Plan
Published 1986
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



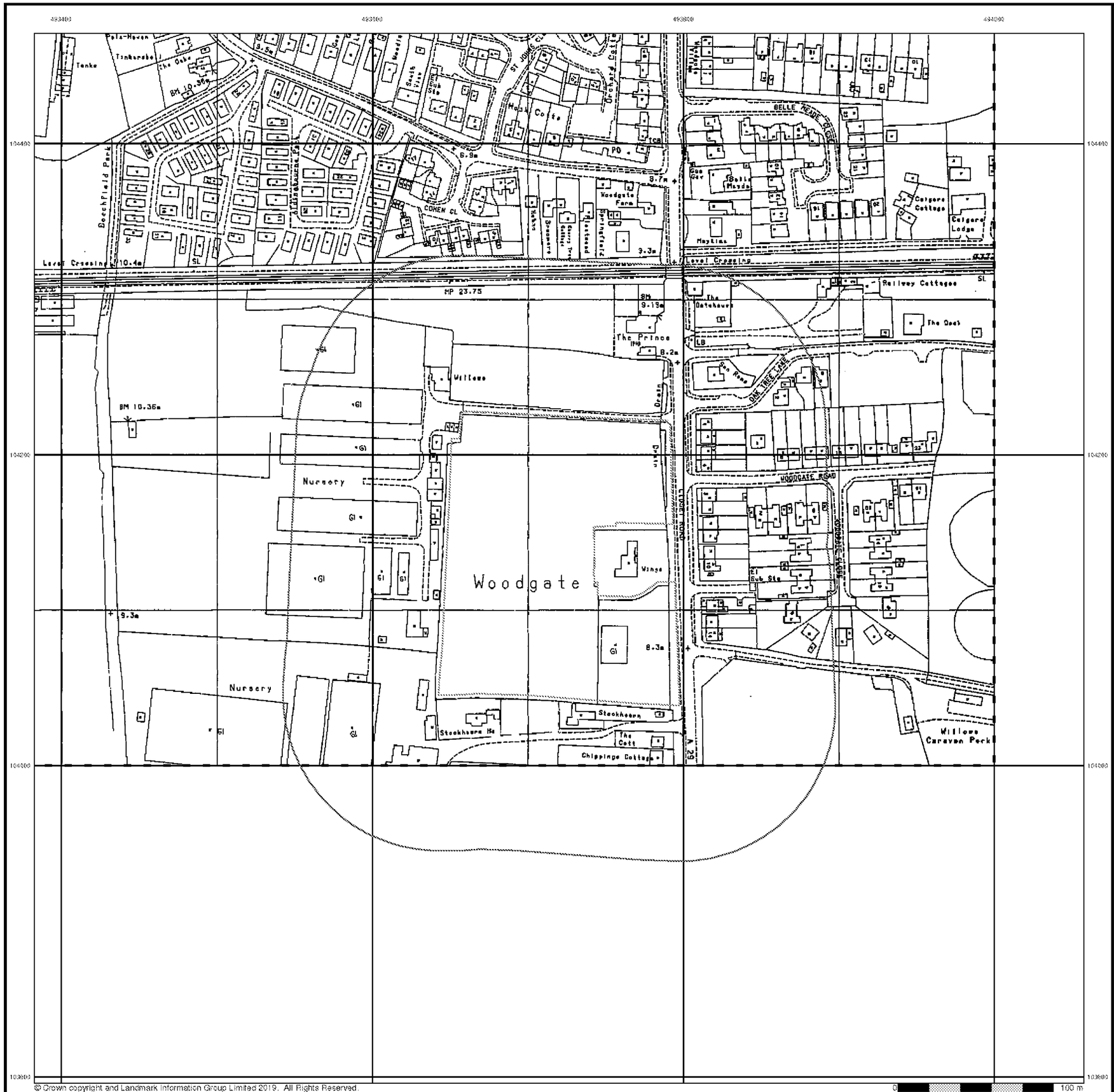
Order Details

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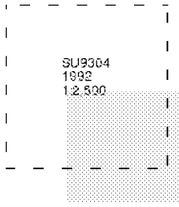
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0 100 m

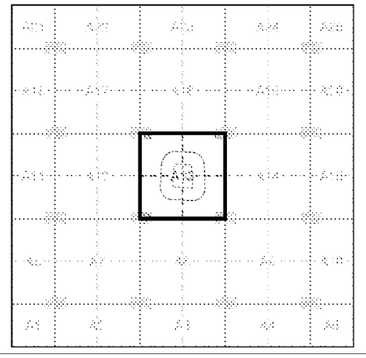
Geo-Environmental
Additional SIMs
Published 1992
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



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Geo-Environmental

Large-Scale National Grid Data

Published 1994

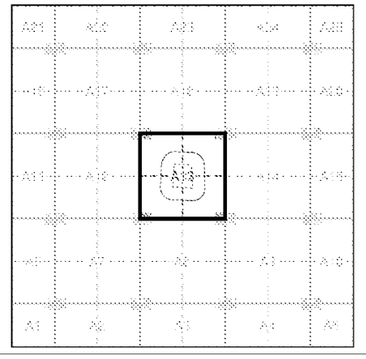
Source map scale - 1:2,500

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

Map Name(s) and Date(s)

SU9304 1994 1:2,500	SU9404 1994 1:2,500
SU9303 1994 1:2,500	SU9403 1994 1:2,500

Historical Map - Segment A13



Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
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0 100 m

Geo-Environmental

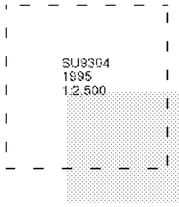
Large-Scale National Grid Data

Published 1995

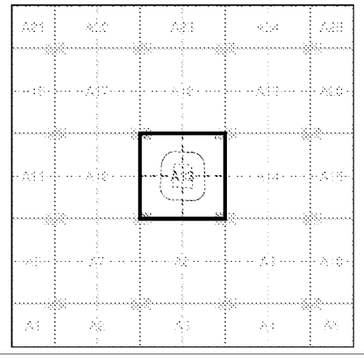
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

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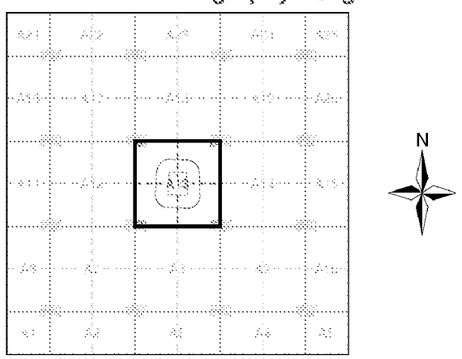
Geo-Environmental

Historical Aerial Photography

Published 1999

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

Historical Aerial Photography - Segment A13



Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
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Historical Mapping Legends

Ordnance Survey County Series 1:10,560

Gravel Pit
Sand Pit
Other Pits
Quarry
Shingle
Orchard
Osiers
Reeds
Marsh
Mixed Wood
Deciduous
Brushwood
Fir
Furze
Rough Pasture
Arrow denotes flow of water
Trigonometrical Station
Site of Antiquities
Bench Mark
Pump, Guide Post, Signal Post
Well, Spring, Boundary Post
285 Surface Level

Sketched Contour
Instrumental Contour
Main Roads
Fenced
Un-Fenced
Minor Roads
Fenced
Un-Fenced
Sunken Road
Raised Road
Road over Railway
Railway over River
Railway over Road
Level Crossing
Road over River or Canal
Road over Stream
Road over Stream

County Boundary (Geographical)
County & Civil Parish Boundary
Administrative County & Civil Parish Boundary
Co. Boro. Bdy. County Borough Boundary (England)
Co. Burgh Bdy. County Burgh Boundary (Scotland)
R.D. Bdy. Rural District Boundary
Civil Parish Boundary

Ordnance Survey Plan 1:10,000

Chalk Pit, Clay Pit or Quarry
Gravel Pit
Sand Pit
Disused Pit or Quarry
Refuse or Slag Heap
Lake, Loch or Pond
Dunes
Boulders
Coniferous Trees
Non-Coniferous Trees
Orchard
Scrub
Coppice
Bracken
Heath
Rough Grassland
Marsh
Reeds
Saltings
Building
Direction of Flow of Water
Shingle
Sand
Glasshouse
Pylon
Sloping Masonry
Electricity Transmission Line
Pole

Cutting
Embankment
Standard Gauge Multiple Track
Road Under
Road Over
Level Crossing
Foot Bridge
Standard Gauge Single Track
Siding, Tramway or Mineral Line
Narrow Gauge

Geographical County
Administrative County, County Borough or County of City
Municipal Borough, Urban or Rural District, Burgh or District Council
Borough, Burgh or County Constituency
Shown only when not coincident with other boundaries
Civil Parish
Shown alternately when coincidence of boundaries occurs

BP, BS	Boundary Post or Stone	Pol Sta	Police Station
Ch	Church	PO	Post Office
CH	Club House	PC	Public Convenience
F E Sta	Fire Engine Station	PH	Public House
FB	Foot Bridge	SB	Signal Box
Fn	Fountain	Spr	Spring
GP	Guide Post	TCB	Telephone Call Box
MP	Mile Post	TCP	Telephone Call Post
MS	Mile Stone	W	Well

1:10,000 Raster Mapping

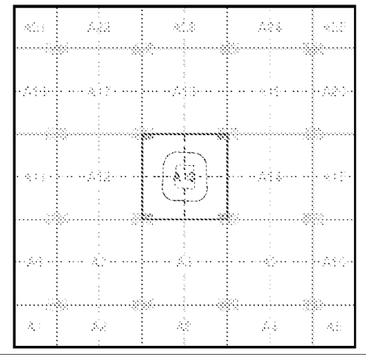
Gravel Pit
Refuse tip or slag heap
Rock
Rock (scattered)
Boulders
Boulders (scattered)
Shingle
Mud
Sand
Sand Pit
Slopes
Top of cliff
General detail
Underground detail
Overhead detail
Narrow gauge railway
Multi-track railway
Single track railway
County boundary (England only)
Civil, parish or community boundary
District, Unitary, Metropolitan, London Borough boundary
Constituency boundary
Area of wooded vegetation
Non-coniferous trees
Non-coniferous trees (scattered)
Coniferous trees
Coniferous trees (scattered)
Positioned tree
Orchard
Coppice or Osiers
Rough Grassland
Heath
Scrub
Marsh, Salt Marsh or Reeds
Water feature
Flow arrows
Mean high water (springs)
Mean low water (springs)
Telephone line (where shown)
Electricity transmission line (with poles)
BM 123.45 m Bench mark (where shown)
Triangulation station
Point feature (e.g. Guide Post or Mile Stone)
Pylon, flare stack or lighting tower
Site of (antiquity)
Glasshouse
General Building
Important Building

Geo-Environmental

Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Sussex	1:10,560	1880	2
Sussex	1:10,560	1899	3
Sussex	1:10,560	1914	4
Sussex	1:10,560	1938 - 1951	5
Historical Aerial Photography	1:10,560	1947 - 1949	6
Sussex	1:10,560	1951	7
Ordnance Survey Plan	1:10,000	1961 - 1962	8
Ordnance Survey Plan	1:10,000	1967	9
Ordnance Survey Plan	1:10,000	1970 - 1979	10
Ordnance Survey Plan	1:10,000	1979	11
Ordnance Survey Plan	1:10,000	1980	12
Ordnance Survey Plan	1:10,000	1992 - 1993	13
10K Raster Mapping	1:10,000	2000	14
10K Raster Mapping	1:10,000	2006	15
VectorMap Local	1:10,000	2019	16

Historical Map - Slice A



Order Details

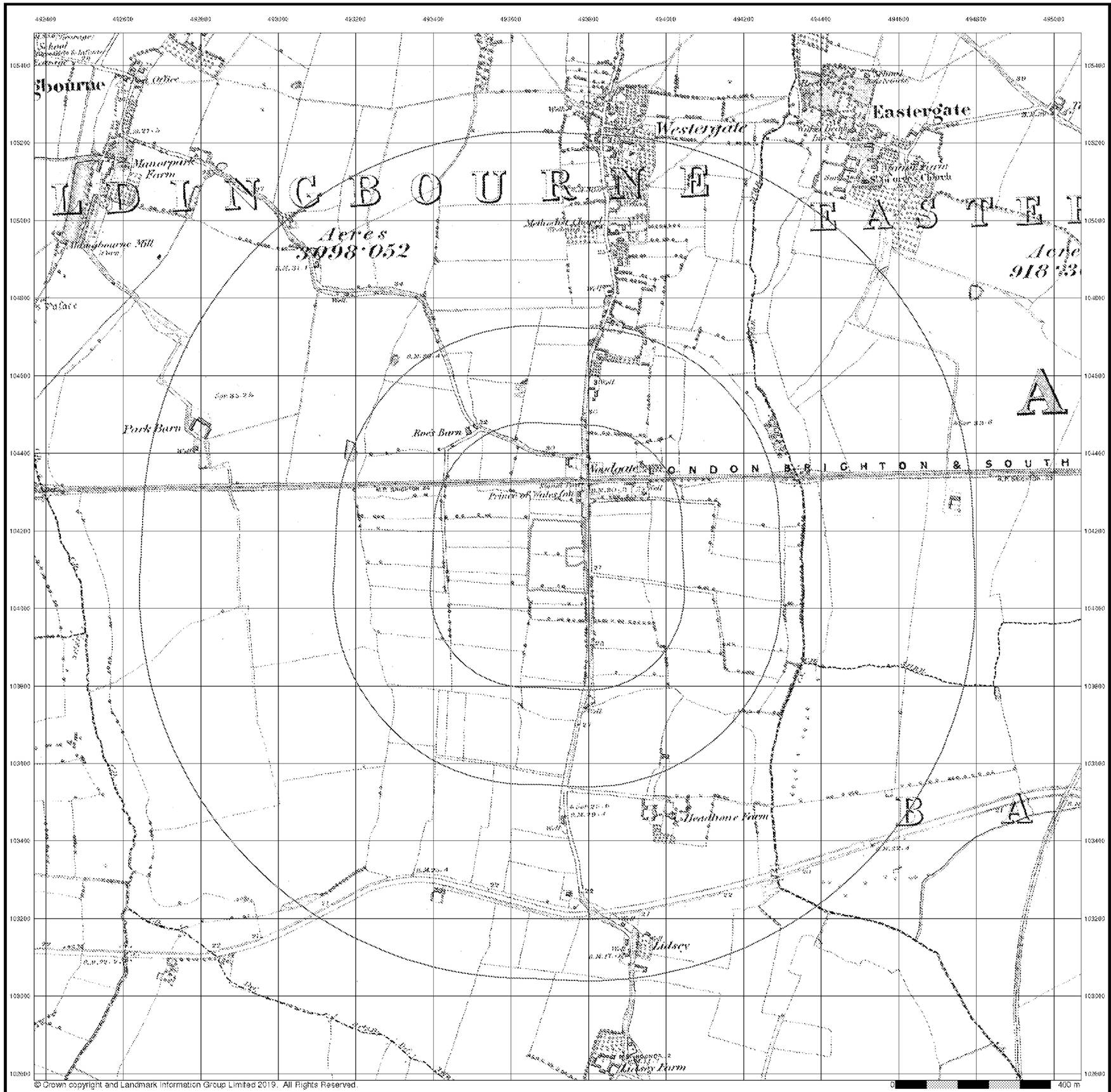
Order Number: 214178583_1_1
Customer Ref: GE18390
National Grid Reference: 493720, 104130
Slice: A
Site Area (Ha): 2.44
Search Buffer (m): 1000

Site Details

Lidsey Road, Woodgate, CHICHESTER, PO20 3SU

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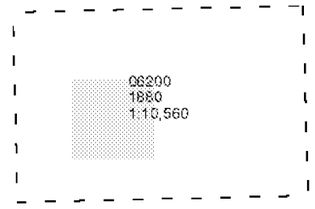
Geo-Environmental
Sussex

Published 1880

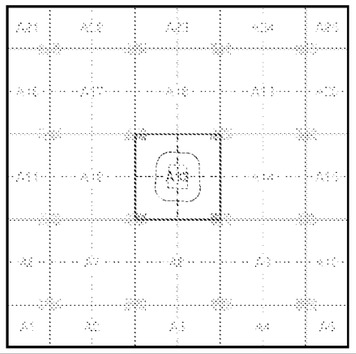
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

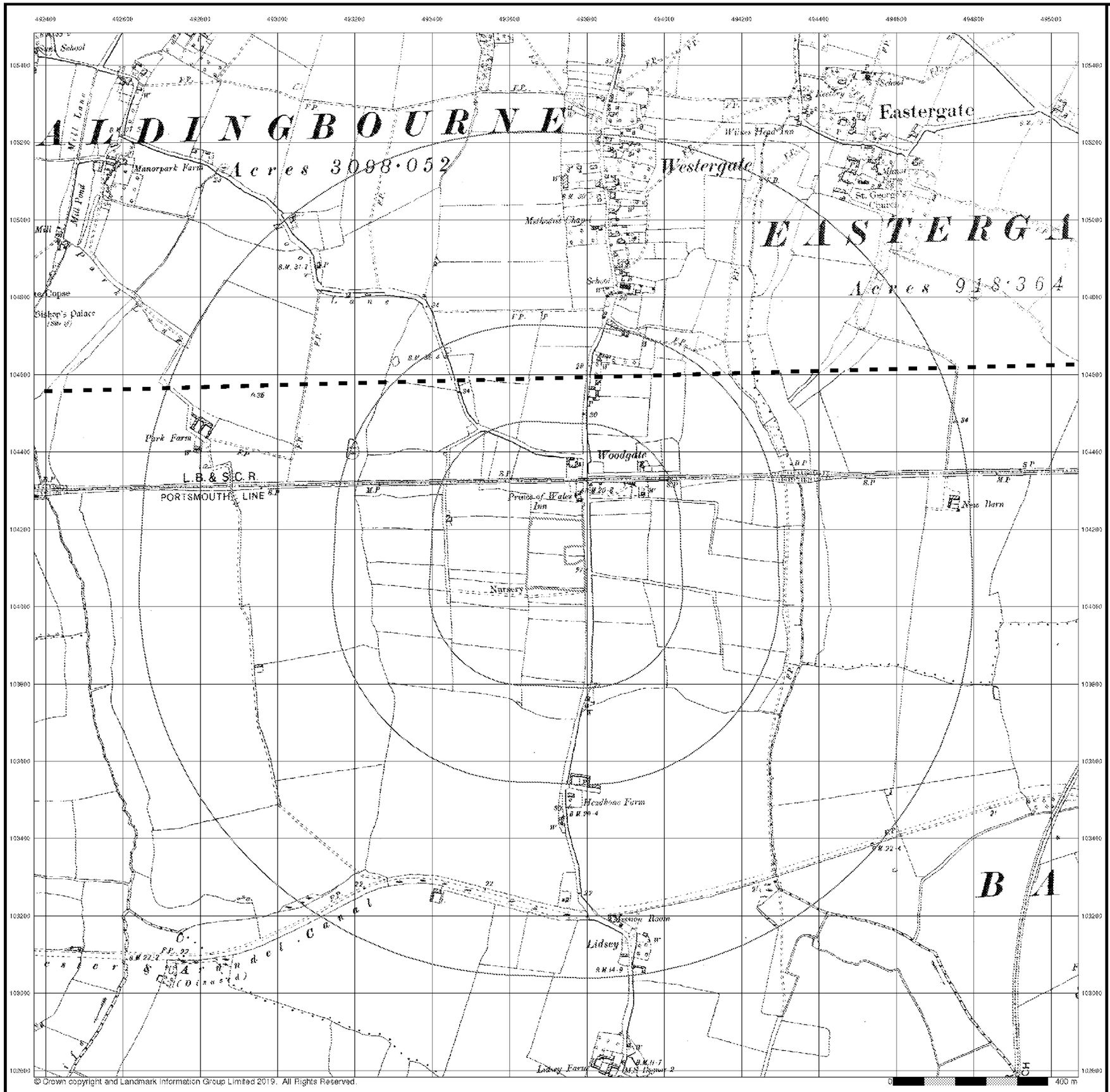
Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

Site Details

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Geo-Environmental
Sussex

Published 1899

Source map scale - 1:10,560

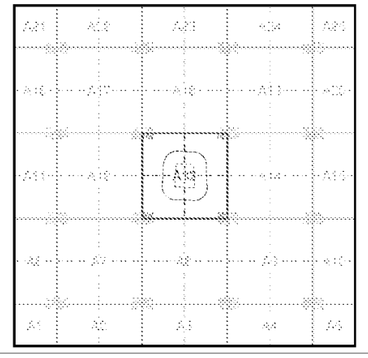
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some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

062NW
1899
1:10,560

062SW
1899
1:10,560

Historical Map - Slice A



N

Order Details

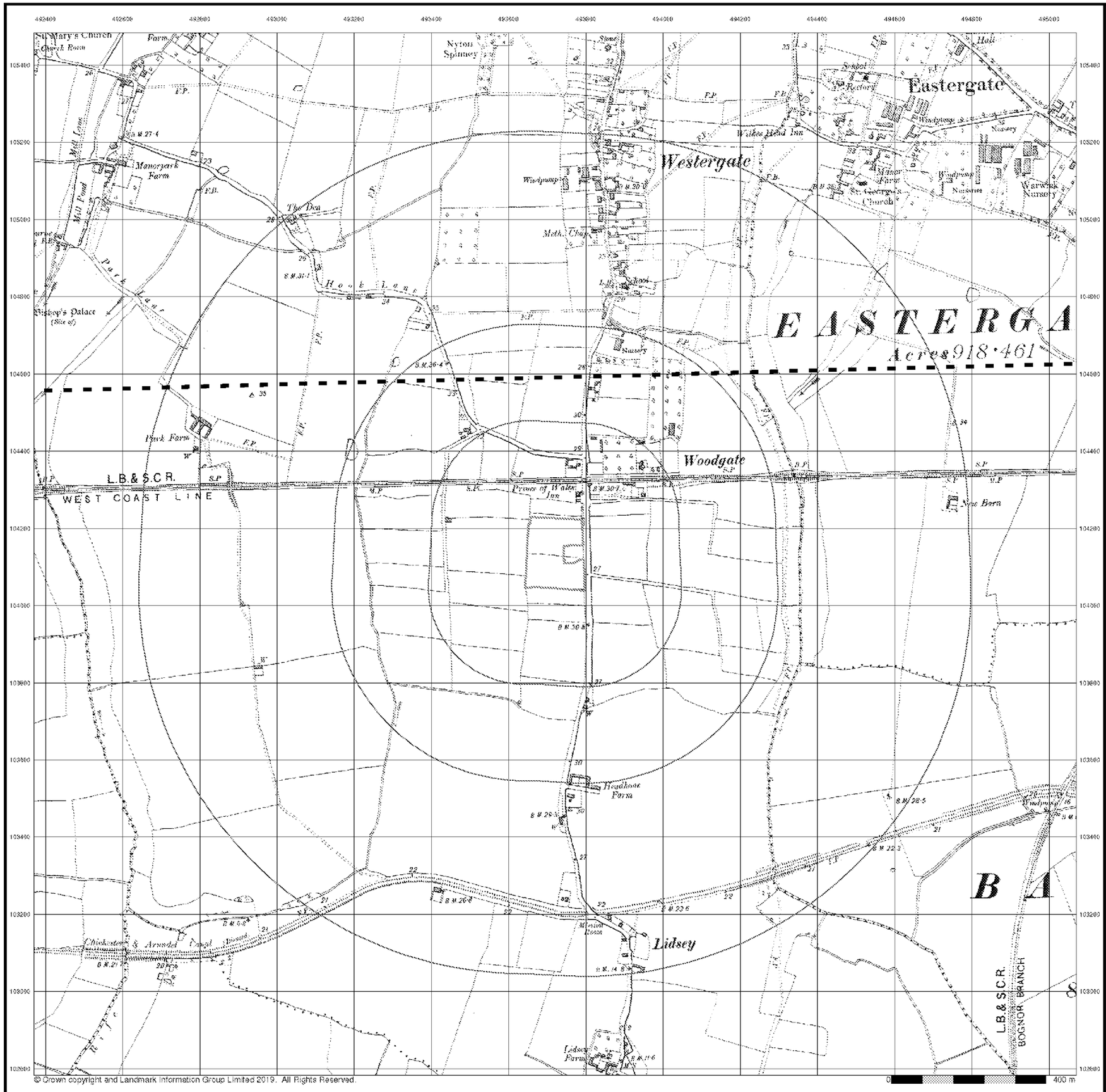
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Customer Ref:	GE18390
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Site Area (Ha):	2.44
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0 400 m

Geo-Environmental
Sussex

Published 1914

Source map scale - 1:10,560

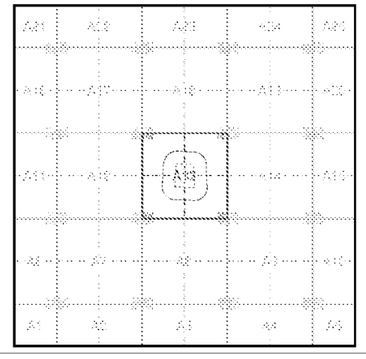
The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840`s. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some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

062NW
1914
1:10,560

062SW
1914
1:10,560

Historical Map - Slice A



N

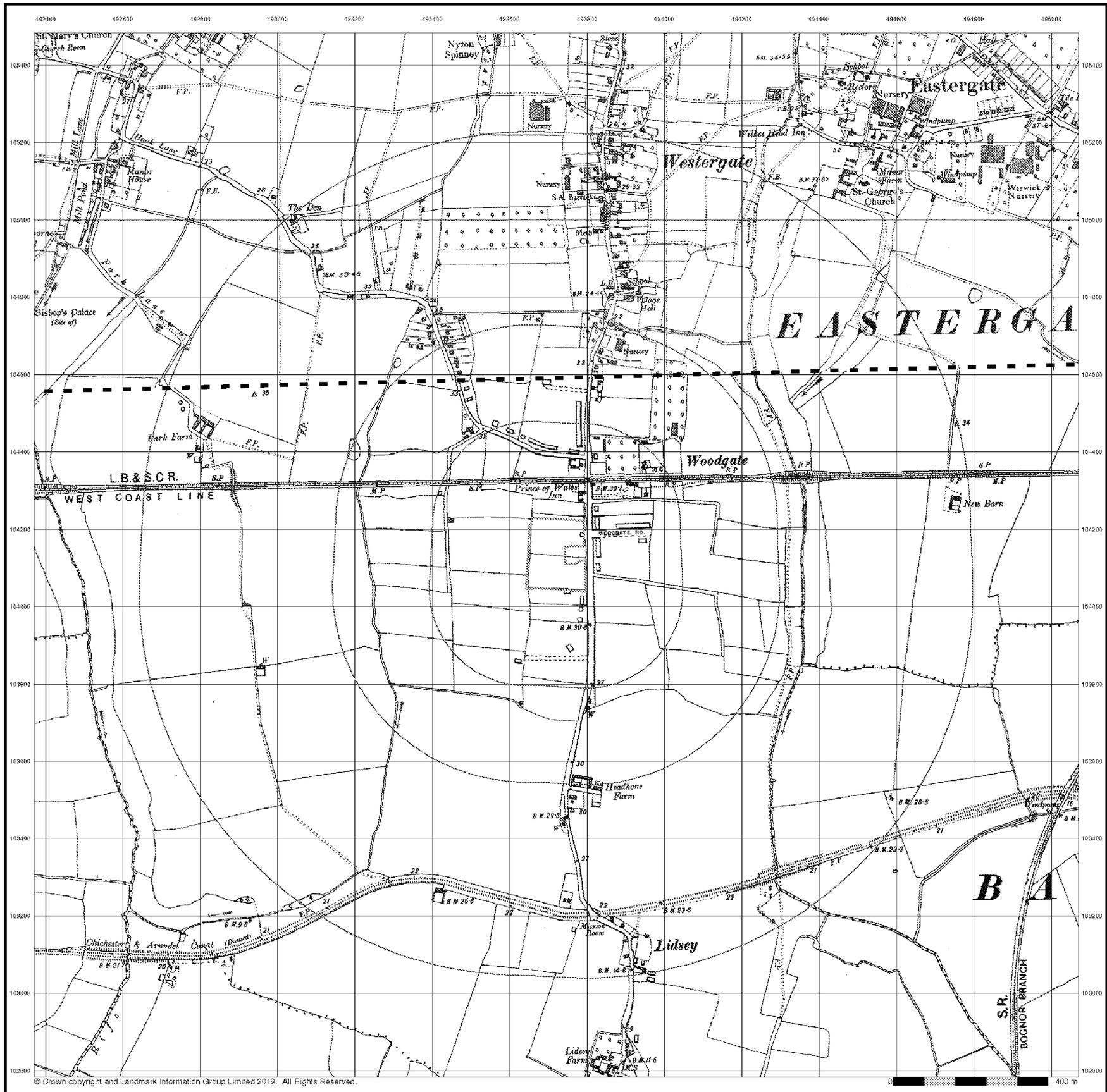
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Customer Ref:	GE18390
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Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

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Geo-Environmental

Sussex

Published 1938 - 1951

Source map scale - 1:10,560

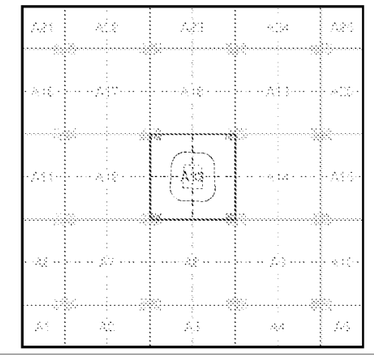
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Map Name(s) and Date(s)

062NW
1951
1:10,560

062SW
1938
1:10,560

Historical Map - Slice A



N

Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

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Geo-Environmental
Historical Aerial Photography
Published 1947 - 1949
Source map scale - 1:10,560

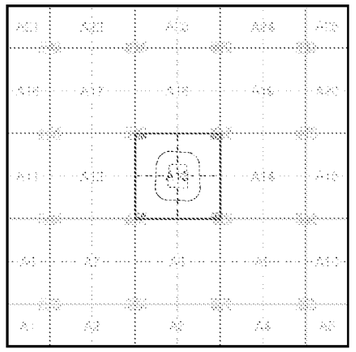
The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the 1950's meant that every photograph was re-checked for potentially unsafe information with security sites replaced by fake fields or clouds. The original editions were withdrawn and only later made available after a period of fifty years although due to the accuracy of the editing, without viewing both revisions it is not easy to spot the edits. Where available Landmark have included both revisions.

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Map Name(s) and Date(s)

SU90NW 1949 1:10,560	SU90NE 1947 1:10,560
SU90SW 1947 1:10,560	SU90SE 1947 1:10,560

Historical Aerial Photography - Slice A



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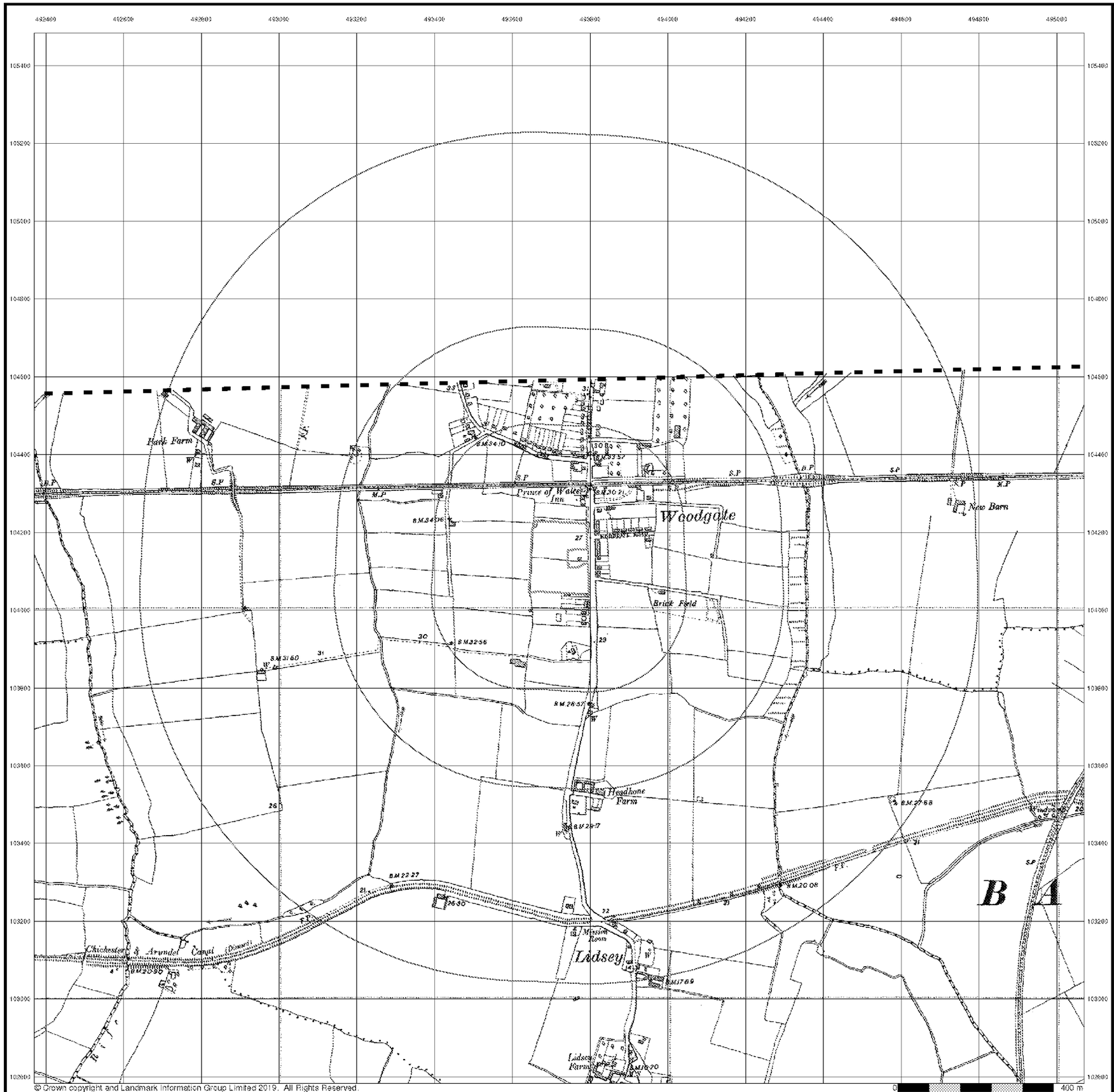
Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
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Geo-Environmental

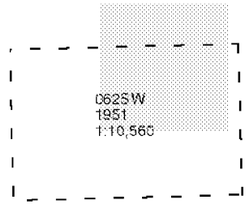
Sussex

Published 1951

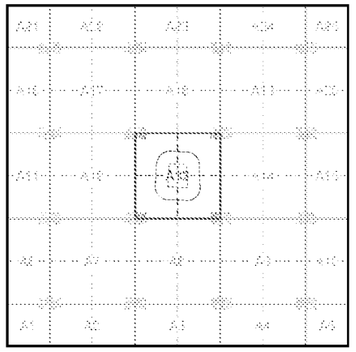
Source map scale - 1:10,560

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

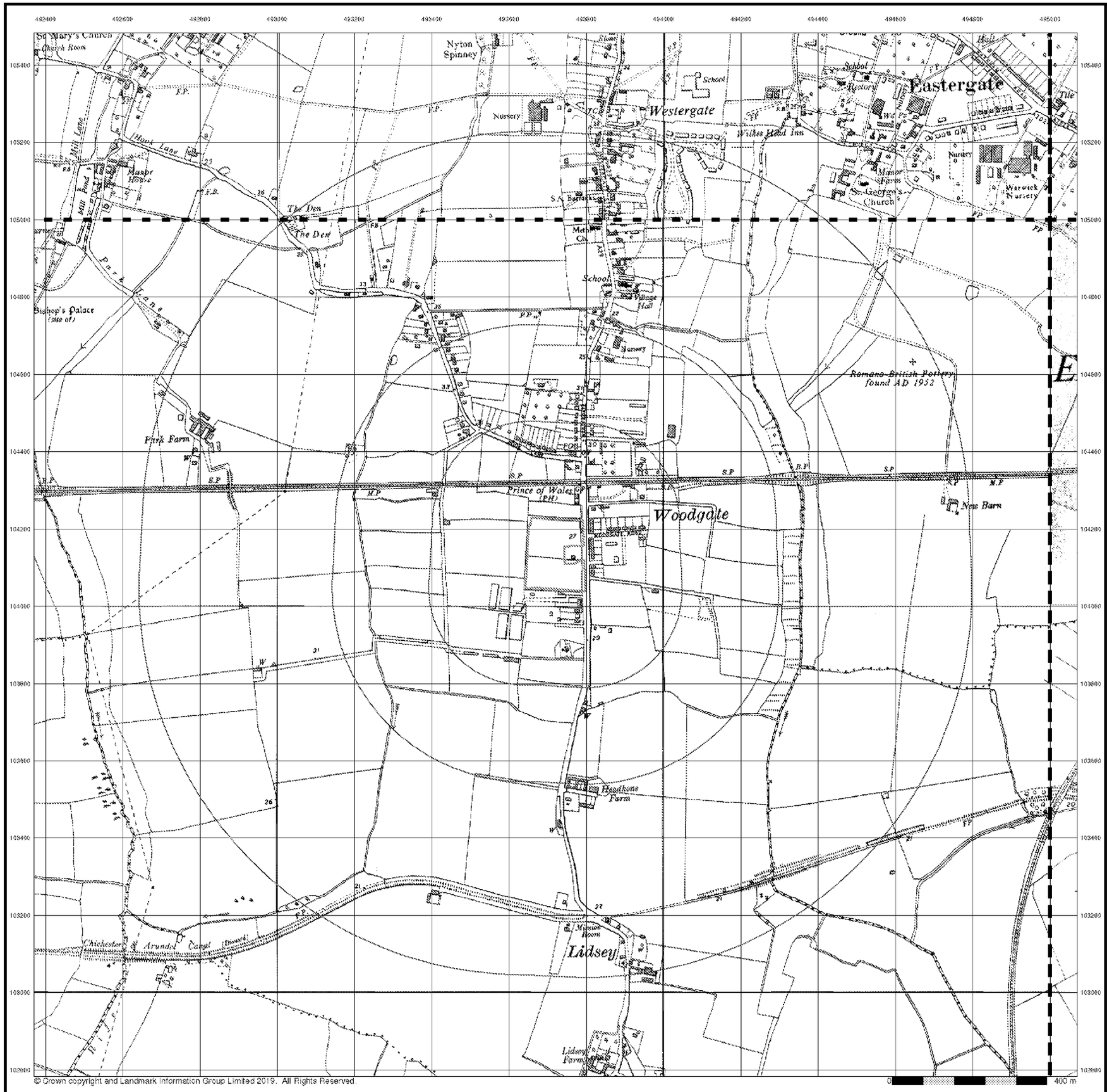
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Search Buffer (m):	1000

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Geo-Environmental

Ordnance Survey Plan

Published 1961 - 1962

Source map scale - 1:10,000

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Map Name(s) and Date(s)

SU90NW 1961 1:10,560	SU90NE 1961 1:10,560
SU90SW 1961 1:10,560	SU90SE 1962 1:10,560

Historical Map - Slice A

Order Details

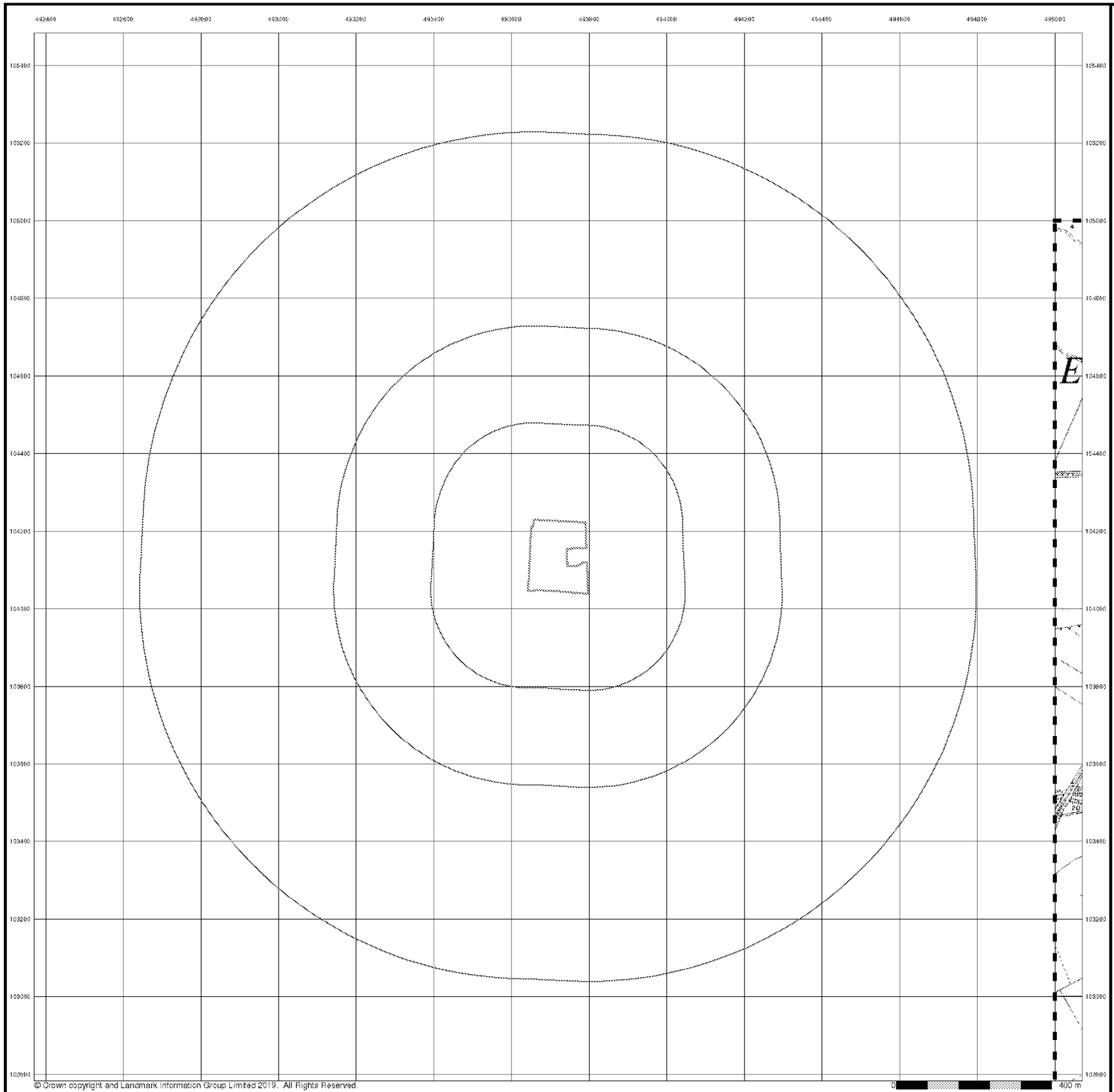
Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

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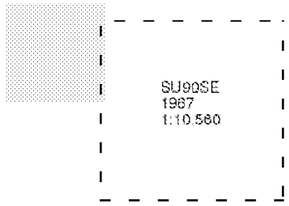


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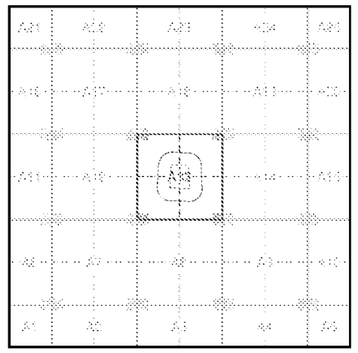
Geo-Environmental
Ordnance Survey Plan
Published 1967
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

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Geo-Environmental

Ordnance Survey Plan

Published 1970 - 1979

Source map scale - 1:10,000

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

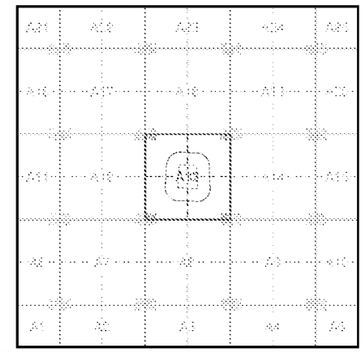
Map Name(s) and Date(s)

SU90NW 1970 1:10,560

SU90NE 1979 1:10,000

SU90SW 1979 1:10,000

Historical Map - Slice A



Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
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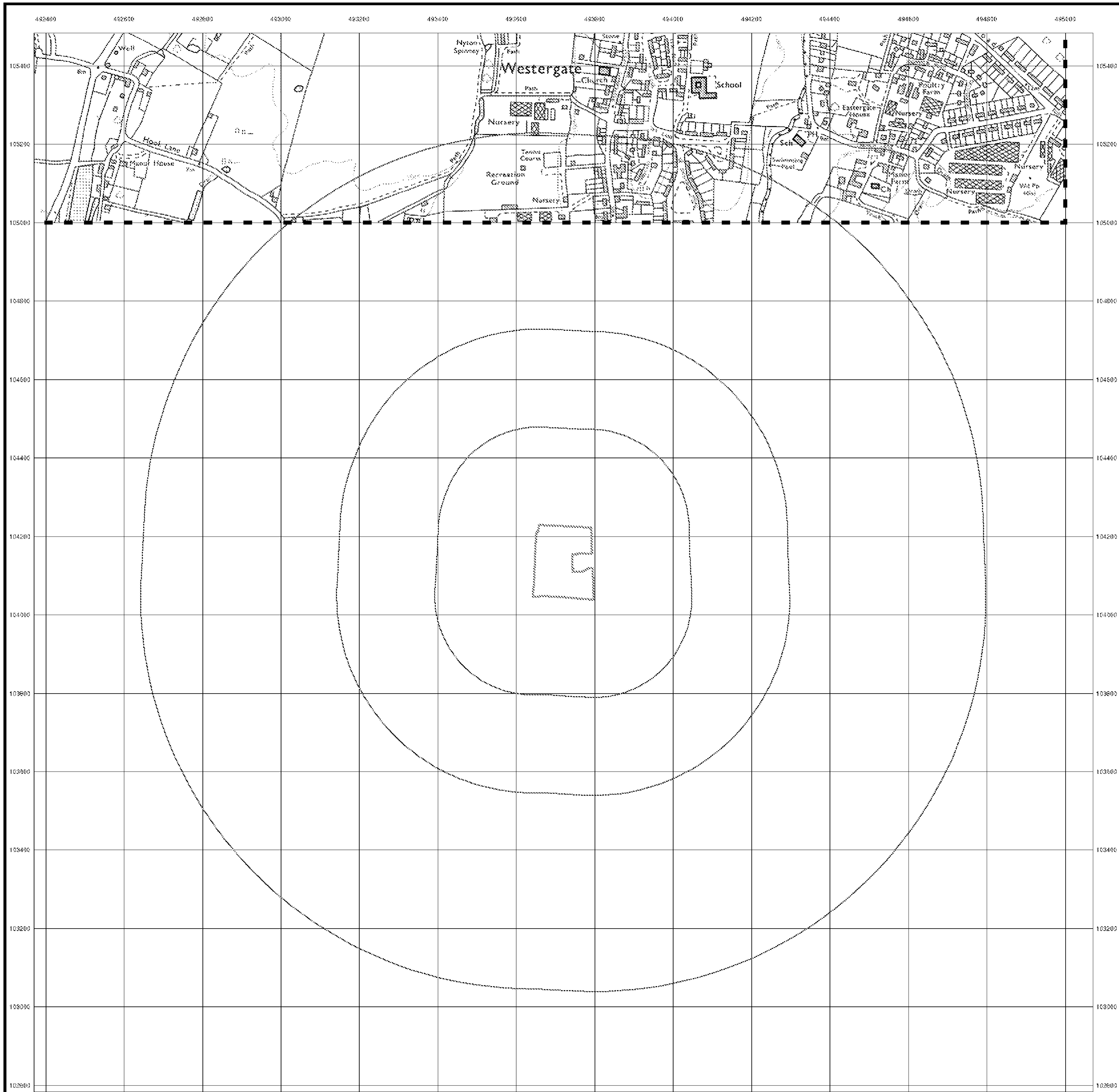
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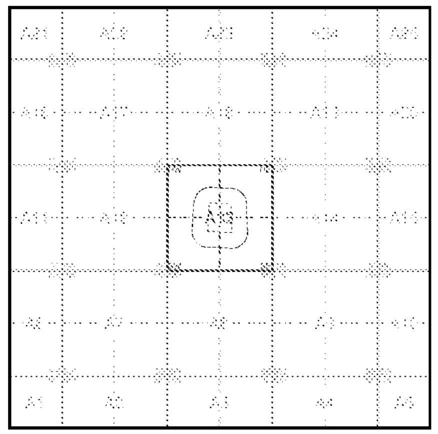
Geo-Environmental
Ordnance Survey Plan
Published 1979
Source map scale - 1:10,000

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

Map Name(s) and Date(s)

SU90NW
1979
1:10,000

Historical Map - Slice A



Order Details

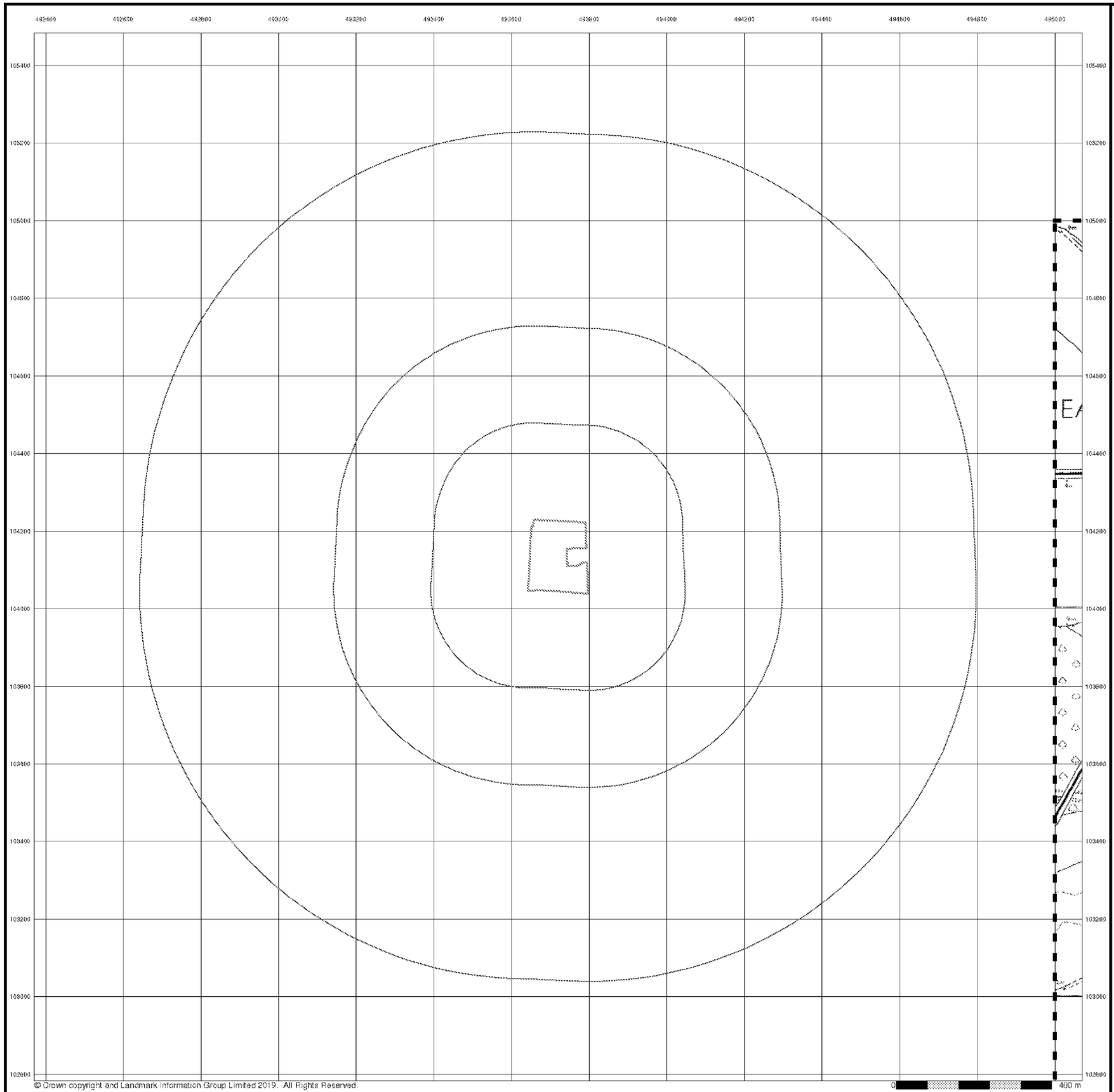
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Site Area (Ha): 2.44
Search Buffer (m): 1000

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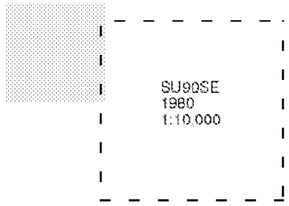


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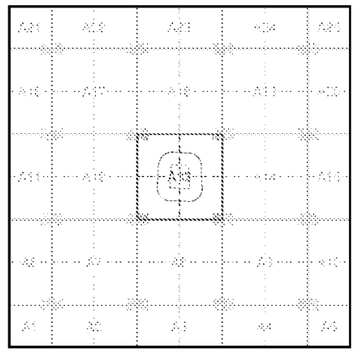
Geo-Environmental
Ordnance Survey Plan
Published 1980
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

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0 400 m

Geo-Environmental

Ordnance Survey Plan

Published 1992 - 1993

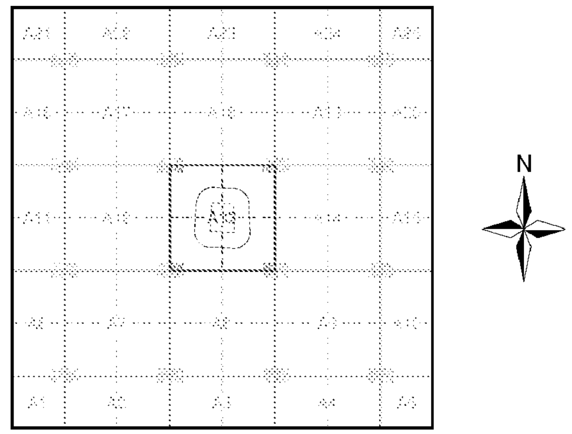
Source map scale - 1:10,000

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

Map Name(s) and Date(s)

	SU90NE 1992 1:10,000
SU90SW 1993 1:10,000	SU90SE 1992 1:10,000

Historical Map - Slice A



Order Details

Order Number: 214178583_1_1
Customer Ref: GE18390
National Grid Reference: 493720, 104130
Slice: A
Site Area (Ha): 2.44
Search Buffer (m): 1000

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Geo-Environmental

10k Raster Mapping

Published 2000

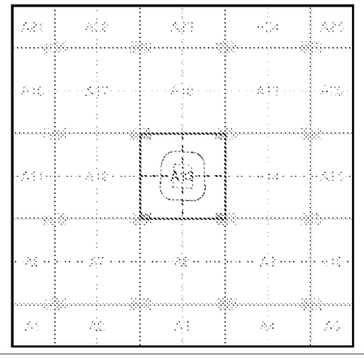
Source map scale - 1:10,000

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

Map Name(s) and Date(s)

SU90NW 2000 1:10,000	SU90NE 2000 1:10,000
SU90SW 2000 1:10,000	SU90SE 2000 1:10,000

Historical Map - Slice A



Order Details

Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

Site Details

Lidsey Road, Woodgate, CHICHESTER, PO20 3SU

Landmark INFORMATION GROUP

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



Geo-Environmental

10k Raster Mapping

Published 2006

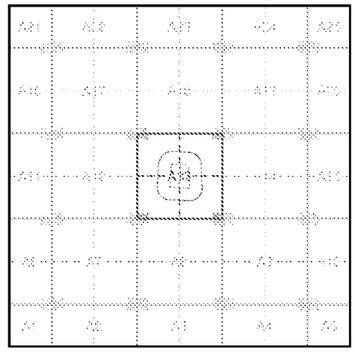
Source map scale - 1:10,000

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

Map Name(s) and Date(s)

SU90NW 2006 1:10,000	SU90NE 2006 1:10,000
SU90SW 2006 1:10,000	SU90SE 2006 1:10,000

Historical Map - Slice A



Order Details

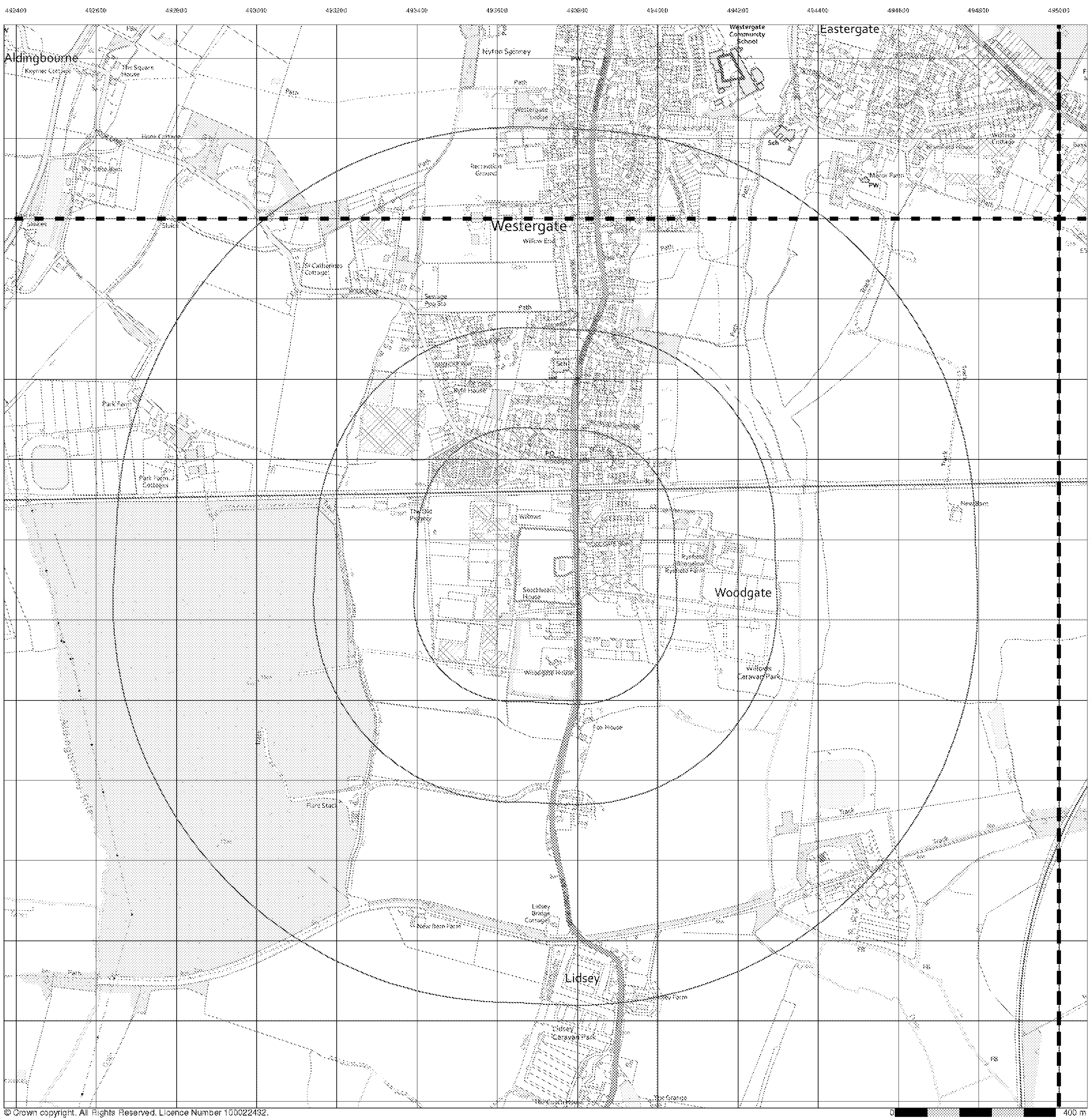
Order Number:	214178583_1_1
Customer Ref:	GE18390
National Grid Reference:	493720, 104130
Slice:	A
Site Area (Ha):	2.44
Search Buffer (m):	1000

Site Details

Lidsey Road, Woodgate, CHICHESTER, PO20 3SU

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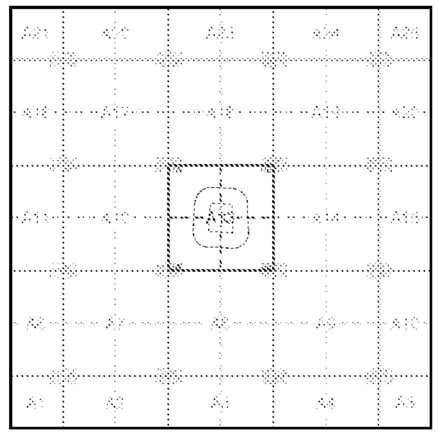
Geo-Environmental
VectorMap Local
Published 2019
Source map scale - 1:10,000

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)

SU90NW 2019 Variable	SU90NE 2019 Variable
SU90SW 2019 Variable	SU90SE 2019 Variable

Historical Map - Slice A



N

Order Details

Order Number: 214178583_1_1
Customer Ref: GE18390
National Grid Reference: 493720, 104130
Slice: A
Site Area (Ha): 2.44
Search Buffer (m): 1000

Site Details

Lidsey Road, Woodgate, CHICHESTER, PO20 3SU

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APPENDIX B

Exploratory Hole Logs & DCP Results

Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL
Geo-Environmental www.gesl.net

Trial Pit Log

TrialPit No: TP1
Sheet 1 of 1

Project Name: Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords: 493775.63 - 104050.83 Level: 9.00	Date 19/08/2019
Location: Woodgate, West Sussex		Dimensions (m):	Scale 1:25
Client: Thakeham Client Limited		Depth 3.00	Logged GE

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES					Dark grey silty sand with ash, brick and concrete. MADE GROUND
				0.25	8.75		Very stiff brown and orange brown mottled silty sandy CLAY. RIVER TERRACE DEPOSITS
	0.50	D					
	0.50	PP	PP=4.5kg/cm2	0.60	8.40		Firm brown very sandy silty CLAY. RIVER TERRACE DEPOSITS
	1.00	D					
	1.00	PP	PP=2.5kg/cm2				
				1.30	7.70		Orange brown and grey mottled very sandy silty CLAY with abundant fine flint gravel. RIVER TERRACE DEPOSITS
	1.50	D					
	1.50	PP	PP=2kg/cm2				
▼				1.80	7.20		Orange brown silty fine to medium SAND. RIVER TERRACE DEPOSITS
	2.00	D					
	2.50	D					
				3.00	6.00		End of Pit at 3.00m

1 2 3 4 5

Water Strikes	
Depth Strike	Rose to (mbgl)
1.85	0.00

Remarks: Groundwater encountered at 1.85m bgl, backfilled with arisings.

Stability

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Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Trial Pit Log**	TrialPit No TP2 Sheet 1 of 1

Project Name: Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords: 493774.62 - 104078.16 Level: 8.99	Date 19/08/2019
Location: Woodgate, West Sussex		Dimensions (m): Depth 2.00	Scale 1:25
Client: Thakeham Client Limited			Logged GE

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.10	ES					Dark grey silty sand with ash, brick and concrete. MADE GROUND
				0.25	8.74		
	0.50	D					Very stiff brown and orange brown mottled silty sandy CLAY. RIVER TERRACE DEPOSITS
	0.50	PP	PP=5kg/cm2	0.60	8.39		
	1.00	D					Firm brown very sandy silty CLAY. RIVER TERRACE DEPOSITS
	1.00	PP	PP=2kg/cm2				
				1.30	7.69		
	1.50	D					Orange brown and grey mottled very sandy silty CLAY with abundant fine chert gravel. RIVER TERRACE DEPOSITS
	1.50	PP	PP=2.5kg/cm2				
▼				1.80	7.19		Orange brown silty fine to medium SAND. RIVER TERRACE DEPOSITS
	2.00	D		2.00	6.99		End of Pit at 2.00m

1 2 3 4 5

Water Strikes	
Depth Strike	Rose to (mbgl)
1.90	0.00

Remarks Groundwater encountered at 1.90m bgl, backfilled with arisings.

Stability

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Unit 7, Danworth Farm Hurstpierpoint BN6 9GL Geo-Environmental www.gesl.net	Trial Pit Log	TrialPit No TP3 Sheet 1 of 1
Project Name: Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords: 493698.54 - 104096.26 Level: 9.23	Date 19/08/2019
Location: Woodgate, West Sussex	Dimensions (m): Depth 2.20	Scale 1:25
Client: Thakeham Client Limited		Logged GE

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.10	ES		0.15	9.08		Grass overlying dark brown silty sand with rootlets. TOPSOIL
	0.50 0.50	D PP	PP=5kg/cm2				Very stiff possibly desiccated very sandy silty CLAY. RIVER TERRACE DEPOSITS
				0.70	8.53		
	1.00 1.00	D PP	PP=2.5kg/cm2				Firm to stiff orange brown and grey mottled sandy silty CLAY with occasional fine to coarse sub-angular chert gravel. RIVER TERRACE DEPOSITS
	1.50 1.50	D PP	PP=2.5kg/cm2				
				1.90	7.33		
	2.00	D					Orange brown silty fine to medium SAND. RIVER TERRACE DEPOSITS
				2.20	7.03		End of Pit at 2.20m

1
2
3
4
5

Water Strikes	
Depth Strike	Rose to (mbgl)

Remarks Groundwater not encountered, backfilled with arisings.

Stability

AGS

Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL
Geo-Environmental www.gesl.net

Trial Pit Log

TrialPit No: TP4
Sheet 1 of 1

Project Name: Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords: 493701.48 - 104146.65 Level: 9.21	Date 19/08/2019
Location: Woodgate, West Sussex		Dimensions (m): Depth 2.70	Scale 1:25
Client: Thakeham Client Limited			Logged GE

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.15	9.06		Grass overlying dark brown silty sand with rootlets. TOPSOIL
	0.50	D					Firm to stiff orange brown very sandy CLAY with occasional fine to medium chert gravel. RIVER TERRACE DEPOSITS
	1.00	D		0.70	8.51		
	1.00	PP	PP=2.5kg/cm2				Firm to stiff orange brown and grey mottled sandy silty CLAY with occasional fine to coarse sub-angular chert gravel. RIVER TERRACE DEPOSITS
	1.50	D					
	1.50	PP	PP=2kg/cm2	1.70	7.50		
▼	2.00	D					Orange brown silty fine to medium SAND. RIVER TERRACE DEPOSITS
	2.50	D		2.70	6.50		End of Pit at 2.70m

1 2 3 4 5

Water Strikes: Depth Strike	Rose to (mbgl)
1.90	0.00

Remarks: Groundwater encountered at 1.90m bgl, backfilled with arisings.

Stability

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Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Trial Pit Log**	TrialPit No TP5 Sheet 1 of 1

Project Name: Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords: 493660.94 - 104174.25 Level: 9.09	Date 19/08/2019
Location: Woodgate, West Sussex		Dimensions (m): Depth 2.00	Scale 1:25
Client: Thakeham Client Limited			Logged GE

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.10	ES		0.20	8.89		Grass overlying dark brown silty sand with rootlets. TOPSOIL
	0.50 0.50	D PP	PP=5kg/cm2				Stiff orange brown mottled sandy silty CLAY. RIVER TERRACE DEPOSITS
	1.00 1.00	D PP	PP=2.5kg/cm2	0.70	8.39		Firm to stiff orange brown and grey mottled slightly sandy silty CLAY. RIVER TERRACE DEPOSITS
	1.50 1.50	D PP	PP=2.5kg/cm2	1.40 1.60	7.69 7.49		Firm orange brown and grey mottled CLAY with fine to medium sub-angular chert gravel. RIVER TERRACE DEPOSITS
▽	2.00	D		2.00	7.09		Orange brown very silty damp fine to medium SAND. RIVER TERRACE DEPOSITS End of Pit at 2.00m

Water Strikes	
Depth Strike	Rose to (mbgl)
1.90	1.95

Remarks: Groundwater encountered at 1.90m bgl, standing at 1.95m bgl after sixty minutes. Backfilled with arisings.

Stability

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Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL
Geo-Environmental www.gesl.net

Trial Pit Log

TrialPit No: TP6
Sheet 1 of 1

Project Name: Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords: 493749.45 - 104169.18 Level: 8.65	Date 19/08/2019
Location: Woodgate, West Sussex		Dimensions (m):	Scale 1:25
Client: Thakeham Client Limited		Depth 2.10	Logged GE

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.15	8.50		Grass overlying dark brown silty sand with rootlets and occasional chalk and shingle. TOPSOIL
	0.50	PP	PP=3.6kg/cm2				Firm to stiff orange brown silty sandy CLAY with abundant fine chert gravel, becoming fine to medium between 1.3m and 1.4m. RIVER TERRACE DEPOSITS
	1.00	PP	PP=2.25kg/cm2				
				1.40	7.25		Orange brown silty fine to medium SAND. RIVER TERRACE DEPOSITS
▼				2.10	6.55		End of Pit at 2.10m

1 2 3 4 5

Water Strikes

Depth Strike	Rose to (mbgl)
2.00	0.00

Remarks: Groundwater encountered at 2.0m bgl, backfilled with arisings.

Stability

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS1** Sheet 1 of 1

Project Name:	Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords: 493760E - 104218N	Hole Type WLS
Location:	Woodgate, West Sussex		Level: 8.42	Scale 1:25
Client:	Thakeham Client Limited		Dates: 19/08/2019	Logged By AP

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES		0.20	8.22		Grass overlying dark brown silty sand with rootlets TOPSOIL
		0.50	D					Brown and grey mottled slightly sandy very clayey SILT with occasional rootlets and rare fine to coarse sub angular chert gravel RIVER TERRACE DEPOSITS
		0.50	ES					
		1.00	D		0.85	7.57		Soft orange brown and grey mottled silty CLAY with occasional fine to coarse sub angular chert gravel RIVER TERRACE DEPOSITS
		1.00	PP	0.8kg/cm2	1.00	7.42		Orange brown mottled medium SAND RIVER TERRACE DEPOSITS
		1.50	D					
		2.00	D					
		2.50	D		2.50	5.92		Brown medium to coarse SAND with occasional fine to medium sub angular chert gravel RIVER TERRACE DEPOSITS
		3.00	D					
		3.50	D		3.50	4.92		Stiff grey silty CLAY LONDON CLAY
		3.50	PP	2.5kg/cm2				*...Collapsed to 3.5m on completion*
		4.00	D		4.00	4.42		End of Borehole at 4.00m
		4.00	PP	2.5kg/cm2				

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to
		1.90	1.23		

Remarks

Groundwater encountered at 1.90m bgl, standing at 1.23m after twenty minutes. Standpipe installed to 3.50m bgl.

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS2** Sheet 1 of 1

Project Name:	Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords: 493724E - 104053N	Hole Type WLS
Location:	Woodgate, West Sussex		Level: 9.25	Scale 1:25
Client:	Thakeham Client Limited		Dates: 19/08/2019	Logged By AP

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.30	8.95		Grass overlying brown silty sand with rootlets TOPSOIL
		0.50 0.50	D ES		0.55	8.70		Light brown sandy SILT RIVER TERRACE DEPOSITS
		1.00 1.00	D PP	2.0kg/cm2				Stiff orange brown and grey mottled sandy silty CLAY RIVER TERRACE DEPOSITS
		1.50 1.50	D PP	1.0kg/cm2	1.30	7.95		Firm brown sandy CLAY with abundant fine to coarse sub angular chert gravel RIVER TERRACE DEPOSITS
		2.00	D		1.95	7.30		Brown SAND RIVER TERRACE DEPOSITS
		2.50	D					*...Collapsed to 2.5m on completion*
		3.00	D					
		3.50	D					
		4.00	D		4.00	5.25		End of Borehole at 4.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to
		3.00	1.20		

Remarks

Groundwater encountered at 3.00m bgl, standing at 1.20m bgl after twenty mintues. Standpipe installed to 3.70m bgl.

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS3** Sheet 1 of 1

Project Name:	Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords: 493666E - 104053N	Hole Type WLS
Location:	Woodgate, West Sussex		Level: 9.29	Scale 1:25
Client:	Thakeham Client Limited		Dates: 19/08/2019	Logged By AP

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.25	9.04		Grass overlying brown sandy silt TOPSOIL
		0.50	D					Stiff orange brown and grey mottled sandy CLAY with rootlets RIVER TERRACE DEPOSITS
		0.50	ES					
		0.50	PP	3.0kg/cm2				
		1.00	D					
		1.00	PP	1.5kg/cm2				
		1.50	D					
		1.50	PP	2.0kg/cm2				
					1.80	7.49		Brown SAND RIVER TERRACE DEPOSITS
		2.00	D					
		2.50	D					*...Collapsed to 2.5m on completion*
		3.00	D					
		3.50	D					
		4.00	D		4.00	5.29		End of Borehole at 4.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to
		3.00	2.50		

Remarks

Groundwater encountered at 3.00m bgl, standing at 2.50m bgl after twenty minutes. Standpipe installed to 2.50m bgl.

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS4** Sheet 1 of 1

Project Name:	Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords:	493661E - 104149N	Hole Type WLS
Location:	Woodgate, West Sussex		Level:	9.37	Scale 1:25
Client:	Thakeham Client Limited		Dates:	19/08/2019	Logged By AP

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.25	9.12		Grass overlying brown sandy silt with rootlets TOPSOIL
		0.50	D					Brown clayey sandy silt with rootlets RIVER TERRACE DEPOSITS
		0.50	ES					
		1.00	D		0.70	8.67		Very stiff becoming stiff orange brown and grey mottled slightly sandy silty CLAY RIVER TERRACE DEPOSITS
		1.00	PP	4.5kg/cm2				
		1.50	D					
		1.50	PP	2.7kg/cm2				
		2.00	D		1.80	7.57		Orange brown mottled SAND RIVER TERRACE DEPOSITS
		2.50	D					*...collapsed to 2.50m on completion*
		3.00	D					
		3.50	D					
		4.00	D		3.90 4.00	5.47 5.37		Orange brown sand with occasional fine to coarse chert gravel RIVER TERRACE DEPOSITS End of Borehole at 4.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to
		3.00	2.50		

Remarks

Groundwater encountered at 3.00m bgl, standing at 2.50m bgl after twenty minutes. Backfilled with arisings.

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS5** Sheet 1 of 1

Project Name:	Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords:	493711E - 104105N	Hole Type WLS
Location:	Woodgate, West Sussex		Level:	9.17	Scale 1:25
Client:	Thakeham Client Limited		Dates:	19/08/2019	Logged By AP

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.25	8.92		Brown sandy silt with rootlets TOPSOIL
		0.50 0.50	D ES		0.50	8.67		Brown slightly clayey sandy SILT RIVER TERRACE DEPOSITS
		1.00 1.00	D PP	3.0kg/cm2				Very stiff orange brown mottled slightly silty sandy CLAY RIVER TERRACE DEPOSITS
		1.50 1.50	D PP	2.5kg/cm2	1.20	7.97		Stiff brown sandy silty CLAY with rare chert gravel RIVER TERRACE DEPOSITS
		2.00	D		1.70	7.47		Orange brown SAND RIVER TERRACE DEPOSITS
		2.50	D					...Collapsed to 2.3m on completion
		3.00	D					
		3.50	D					
		4.00	D		4.00	5.17		End of Borehole at 4.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to
		3.00	2.30		

Remarks

Groundwater encountered at 3.00m bgl, standing at 2.30m bgl after twenty minutes. Backfilled with arisings.

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS6** Sheet 1 of 1

Project Name:	Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords: 493662E - 104219N	Hole Type WLS
Location:	Woodgate, West Sussex		Level: 9.16	Scale 1:25
Client:	Thakeham Client Limited		Dates: 19/08/2019	Logged By AP

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES		0.25	8.91		Grass overlying brown silty sand with rootlets and rare flint gravel TOPSOIL
		0.50 0.50 0.50	D ES PP	2.5kg/cm2				Stiff becoming firm orange brown mottled silty sandy CLAY with rare rootlets RIVER TERRACE DEPOSITS
		1.00 1.00	D PP	1.0kg/cm2	1.10	8.06		Firm brown silty CLAY with frequent to abundant fine to medium sub angular chert gravel RIVER TERRACE DEPOSITS
		1.50	D		1.50	7.66		Brown medium SAND RIVER TERRACE DEPOSITS
		2.00	D					
		2.50	D					
		3.00	D					
		3.50	D					*...Collapsed to 3.5m on completion*
					3.80	5.36		Brown SAND with frequent fine to coarse sub-angular chert gravel RIVER TERRACE DEPOSITS
		4.00	D		4.00	5.16		End of Borehole at 4.00m

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to
		2.00	1.70		

Remarks

Groundwater encountered at 2.00m bgl, standing at 1.70m bgl after twenty minutes. Standpipe installed to 3.50m bgl.

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS7** Sheet 1 of 1

Project Name:	Land Off Lidsey Road, Woodgate	Project No. GE18390	Co-ords: 493772E - 104149N	Hole Type WLS
Location:	Woodgate, West Sussex		Level: 8.86	Scale 1:25
Client:	Thakeham Client Limited		Dates: 19/08/2019	Logged By AP

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES					Dark brown reworked sandy silt MADE GROUND
		0.50	D		0.40	8.46		
		0.50	ES		0.45	8.41		Reworked chalk MADE GROUND Very stiff becoming stiff brown possibly desiccated sandy CLAY with fine roots and rootlets RIVER TERRACE DEPOSITS
		1.00	D					
		1.00	PP	4.5kg/cm2				
		1.50	D		1.50	7.36		Brown SAND RIVER TERRACE DEPOSITS
		1.50	PP	2.5kg/cm2				
	▼	2.00	D					*...Collapsed to 2m on completion*
		2.50	D					
		3.00	D		2.92	5.94		Brown SAND with occasional fine to coarse sub angular chert gravel RIVER TERRACE DEPOSITS
		3.50	D		3.50	5.36		Stiff grey silty CLAY LONDON CLAY
		3.50	PP	1.8kg/cm2				
		4.00	D		4.00	4.86		End of Borehole at 4.00m
		4.00	PP	2.0kg/cm2				

Casing		Water Strikes (mbgl)		Chiselling (mbgl)	
Diameter	Depth (m)	Depth Strike	Rose to	Depth from	Depth to
		2.00	2.00		

Remarks

Groundwater encountered at 2.00m bgl, standing at 2.00m bgl after twenty minutes. Backfilled with arisings.

AGS

Penetration Data Report

Project Name: DCP 1

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	110	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted

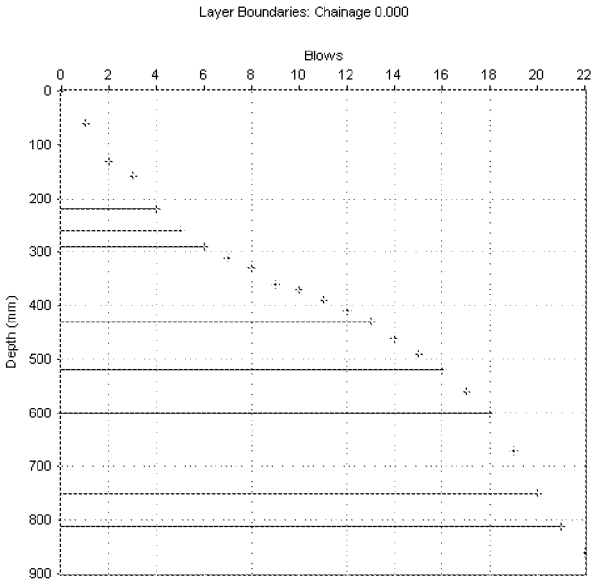
No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)
1	0	0	110	0.00					
2	1	1	170	60.00					
3	1	2	240	70.00					
4	1	3	270	30.00					
5	1	4	330	60.00					
6	1	5	370	40.00					
7	1	6	400	30.00					
8	1	7	420	20.00					
9	1	8	440	20.00					
10	1	9	470	30.00					
11	1	10	480	10.00					
12	1	11	500	20.00					
13	1	12	520	20.00					
14	1	13	540	20.00					
15	1	14	570	30.00					
16	1	15	600	30.00					
17	1	16	630	30.00					
18	1	17	670	40.00					
19	1	18	710	40.00					
20	1	19	780	70.00					
21	1	20	860	80.00					
22	1	21	920	60.00					
23	1	22	970	50.00					

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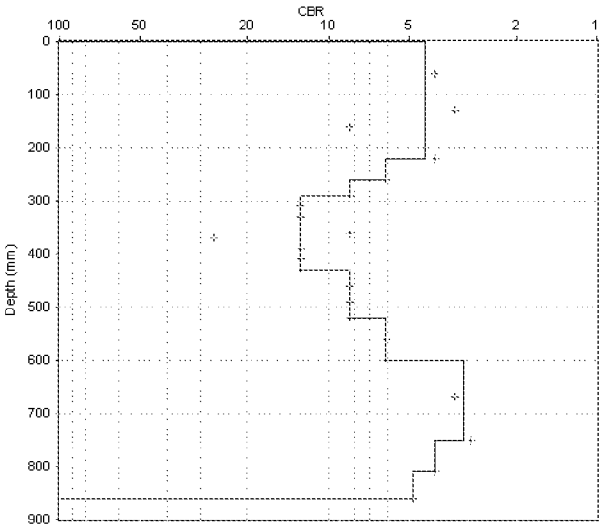
DCP Layer Strength Analysis Report

Project Name: DCP 1

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	110	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)
1	55.00	4	220	220
2	40.00	6	40	260
3	30.00	8	30	290
4	20.00	13	140	430
5	30.00	8	90	520
6	40.00	6	80	600
7	75.00	3	150	750
8	60.00	4	60	810
9	50.00	5	50	860

CBR Relationship:

TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

ARUN DISTRICT COUNCIL AL/28/22/DOC

Penetration Data Report

Project Name: DCP 2

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	75	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted

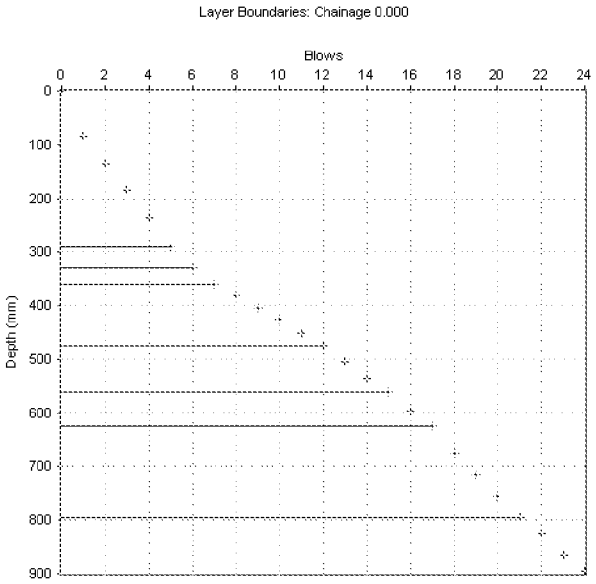
No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)
1	0	0	75	0.00					
2	1	1	160	85.00					
3	1	2	210	50.00					
4	1	3	260	50.00					
5	1	4	310	50.00					
6	1	5	365	55.00					
7	1	6	405	40.00					
8	1	7	435	30.00					
9	1	8	455	20.00					
10	1	9	480	25.00					
11	1	10	500	20.00					
12	1	11	525	25.00					
13	1	12	550	25.00					
14	1	13	580	30.00					
15	1	14	610	30.00					
16	1	15	635	25.00					
17	1	16	670	35.00					
18	1	17	700	30.00					
19	1	18	750	50.00					
20	1	19	790	40.00					
21	1	20	830	40.00					
22	1	21	870	40.00					
23	1	22	900	30.00					
24	1	23	940	40.00					
25	1	24	970	30.00					

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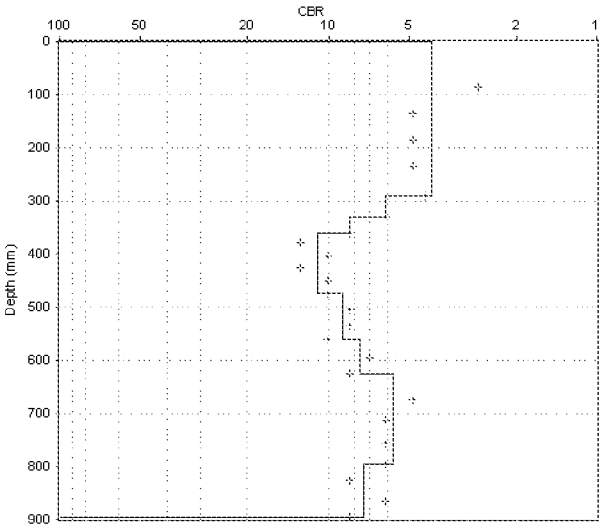
DCP Layer Strength Analysis Report

Project Name: DCP 2

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	75	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)
1	58.00	4	290	290
2	40.00	6	40	330
3	30.00	8	30	360
4	23.00	11	115	475
5	28.33	9	85	560
6	32.50	8	65	625
7	42.50	6	170	795
8	33.33	7	100	895

CBR Relationship:

TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

ARUN DISTRICT COUNCIL AL/28/22/DOC

Penetration Data Report

Project Name: DCP 3

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	100	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted

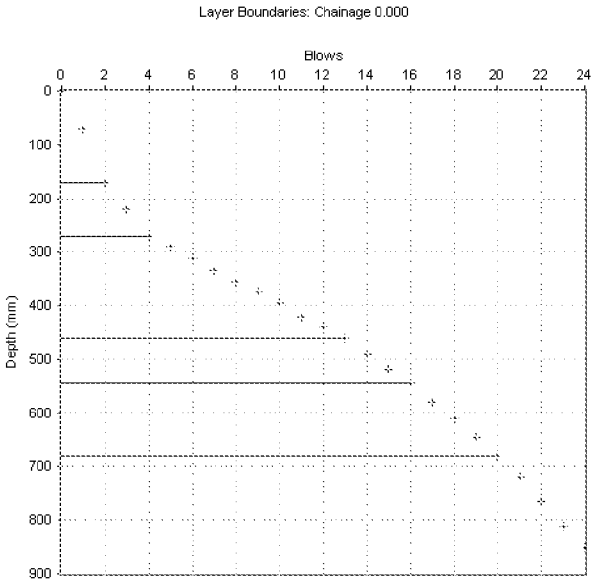
No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)
1	0	0	100	0.00					
2	1	1	170	70.00					
3	1	2	270	100.00					
4	1	3	320	50.00					
5	1	4	370	50.00					
6	1	5	390	20.00					
7	1	6	410	20.00					
8	1	7	435	25.00					
9	1	8	455	20.00					
10	1	9	475	20.00					
11	1	10	495	20.00					
12	1	11	520	25.00					
13	1	12	540	20.00					
14	1	13	560	20.00					
15	1	14	590	30.00					
16	1	15	620	30.00					
17	1	16	645	25.00					
18	1	17	680	35.00					
19	1	18	710	30.00					
20	1	19	745	35.00					
21	1	20	780	35.00					
22	1	21	820	40.00					
23	1	22	865	45.00					
24	1	23	910	45.00					
25	1	24	950	40.00					

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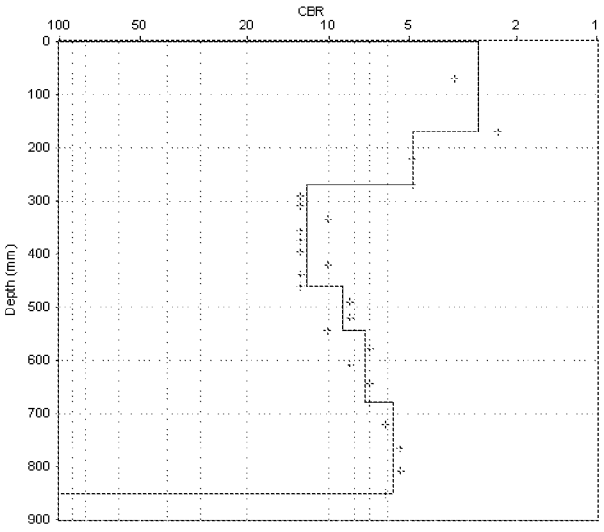
DCP Layer Strength Analysis Report

Project Name: DCP 3

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	100	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)
1	85.00	3	170	170
2	50.00	5	100	270
3	21.11	12	190	460
4	28.33	9	85	545
5	33.75	7	135	680
6	42.50	6	170	850

CBR Relationship:

TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

ARUN DISTRICT COUNCIL AL/28/22/DOC

Penetration Data Report

Project Name: DCP 4

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	105	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)
1	0	0	105	0.00	26	1	25	640	10.00
2	1	1	210	105.00	27	1	26	650	10.00
3	1	2	260	50.00	28	1	27	660	10.00
4	1	3	300	40.00	29	1	28	680	20.00
5	1	4	340	40.00	30	1	29	690	10.00
6	1	5	360	20.00	31	1	30	700	10.00
7	1	6	385	25.00	32	1	31	710	10.00
8	1	7	400	15.00	33	1	32	720	10.00
9	1	8	420	20.00	34	1	33	730	10.00
10	1	9	440	20.00	35	1	34	740	10.00
11	1	10	455	15.00	36	1	35	750	10.00
12	1	11	470	15.00	37	1	36	770	20.00
13	1	12	490	20.00	38	1	37	780	10.00
14	1	13	505	15.00	39	1	38	800	20.00
15	1	14	520	15.00	40	1	39	820	20.00
16	1	15	530	10.00	41	1	40	840	20.00
17	1	16	540	10.00	42	1	41	860	20.00
18	1	17	550	10.00	43	1	42	875	15.00
19	1	18	560	10.00	44	1	43	920	45.00
20	1	19	580	20.00	45	1	44	950	30.00
21	1	20	590	10.00	46	1	45	975	25.00
22	1	21	600	10.00					
23	1	22	610	10.00					
24	1	23	620	10.00					
25	1	24	630	10.00					

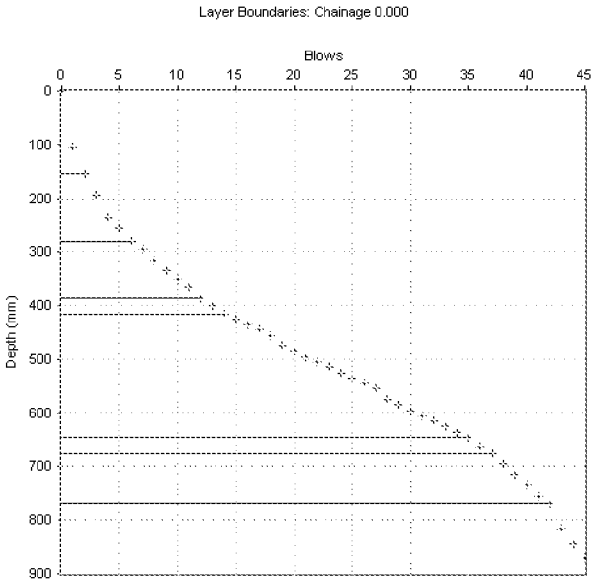
ARUN DISTRICT COUNCIL AL/28/22/DOC

UK DCP V3.1

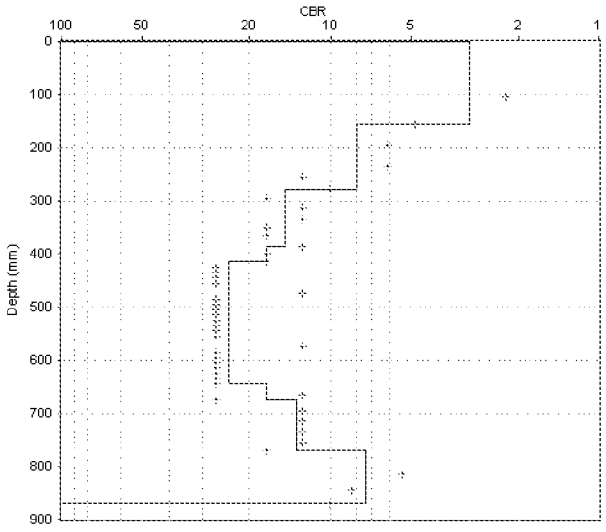
DCP Layer Strength Analysis Report

Project Name: DCP 4

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	105	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)
1	77.50	3	155	155
2	31.25	8	125	280
3	17.50	15	105	385
4	15.00	17	30	415
5	10.95	24	230	645
6	15.00	17	30	675
7	19.00	13	95	770
8	33.33	7	100	870

CBR Relationship:

TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

ARUN DISTRICT COUNCIL AL/28/22/DOC

Penetration Data Report

Project Name: DCP 5

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	85	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted

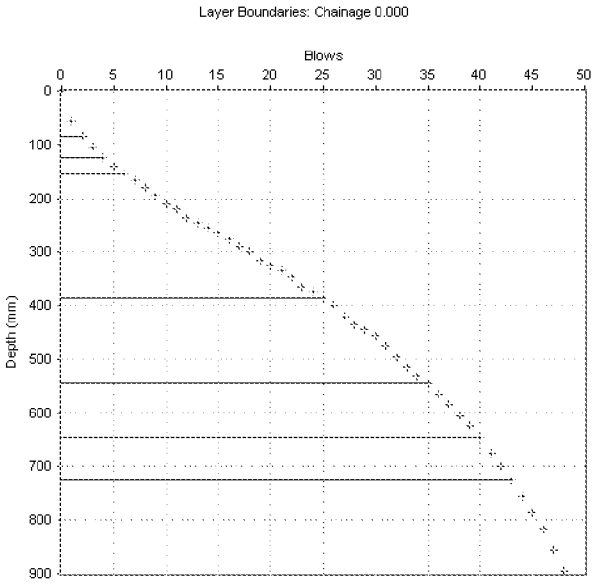
No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)
1	0	0	85	0.00	26	1	25	470	10.00
2	1	1	140	55.00	27	1	26	485	15.00
3	1	2	170	30.00	28	1	27	505	20.00
4	1	3	190	20.00	29	1	28	520	15.00
5	1	4	210	20.00	30	1	29	530	10.00
6	1	5	225	15.00	31	1	30	540	10.00
7	1	6	240	15.00	32	1	31	560	20.00
8	1	7	250	10.00	33	1	32	580	20.00
9	1	8	265	15.00	34	1	33	600	20.00
10	1	9	280	15.00	35	1	34	615	15.00
11	1	10	295	15.00	36	1	35	630	15.00
12	1	11	305	10.00	37	1	36	650	20.00
13	1	12	320	15.00	38	1	37	670	20.00
14	1	13	330	10.00	39	1	38	690	20.00
15	1	14	340	10.00	40	1	39	710	20.00
16	1	15	350	10.00	41	1	40	730	20.00
17	1	16	360	10.00	42	1	41	760	30.00
18	1	17	375	15.00	43	1	42	785	25.00
19	1	18	385	10.00	44	1	43	810	25.00
20	1	19	400	15.00	45	1	44	840	30.00
21	1	20	410	10.00	46	1	45	870	30.00
22	1	21	420	10.00	47	1	46	900	30.00
23	1	22	430	10.00	48	1	47	940	40.00
24	1	23	450	20.00	49	1	48	980	40.00
25	1	24	460	10.00					

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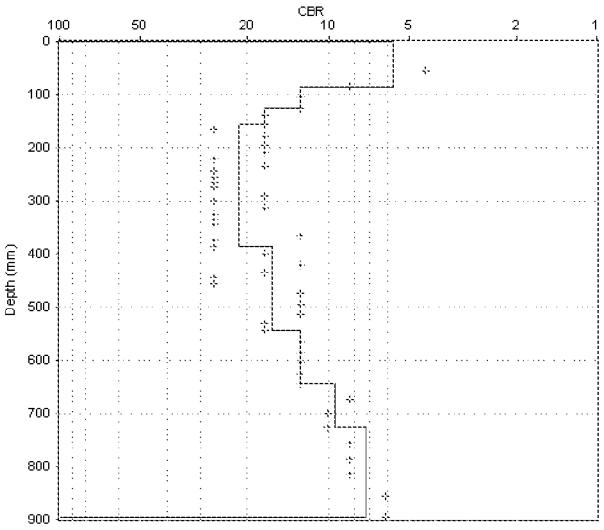
DCP Layer Strength Analysis Report

Project Name: DCP 5

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	85	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)
1	42.50	6	85	85
2	20.00	13	40	125
3	15.00	17	30	155
4	12.11	22	230	385
5	16.00	16	160	545
6	20.00	13	100	645
7	26.67	9	80	725
8	34.00	7	170	895

CBR Relationship:

TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

ARUN DISTRICT COUNCIL AL/28/22/DOC

Penetration Data Report

Project Name: DCP 6

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	80	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted

No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)	No.	Blows	Cumulative Blows	Penetration Depth (mm)	Penetration Rate (mm/blow)
1	0	0	80	0.00	26	1	43	530	10.00
2	10	10	90	1.00	27	1	44	540	10.00
3	10	20	100	1.00	28	1	45	555	15.00
4	1	21	110	10.00	29	1	46	575	20.00
5	1	22	125	15.00	30	1	47	600	25.00
6	1	23	145	20.00	31	1	48	625	25.00
7	1	24	165	20.00	32	1	49	655	30.00
8	1	25	185	20.00	33	1	50	675	20.00
9	1	26	195	10.00	34	1	51	695	20.00
10	1	27	210	15.00	35	1	52	720	25.00
11	1	28	230	20.00	36	1	53	750	30.00
12	1	29	250	20.00	37	1	54	775	25.00
13	1	30	270	20.00	38	1	55	810	35.00
14	1	31	295	25.00	39	1	56	840	30.00
15	1	32	315	20.00	40	1	57	870	30.00
16	1	33	335	20.00	41	1	58	900	30.00
17	1	34	355	20.00	42	1	59	935	35.00
18	1	35	375	20.00	43	1	60	965	30.00
19	1	36	395	20.00					
20	1	37	410	15.00					
21	1	38	430	20.00					
22	1	39	450	20.00					
23	1	40	480	30.00					
24	1	41	500	20.00					
25	1	42	520	20.00					

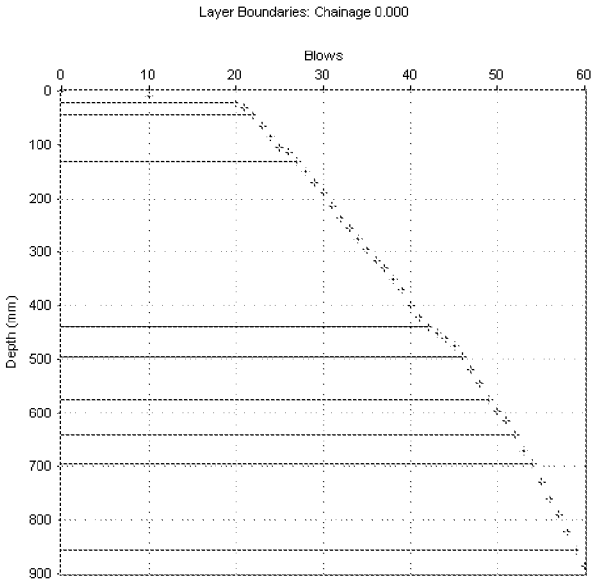
ARUN DISTRICT COUNCIL AL/28/22/DOC

UK DCP V3.1

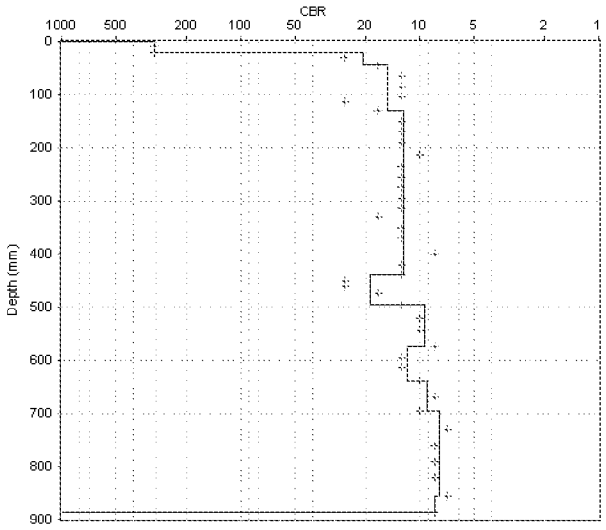
DCP Layer Strength Analysis Report

Project Name: DCP 6

Chainage (km):	0.000	Surface Type:	Unpaved
Direction:		Thickness (mm):	0
Location/Offset:	Lay-by / other	Base Type:	
Cone Angle:	60 degrees	Thickness (mm):	
Zero Error (mm):	80	Surface Moisture:	Dry
Test Date:	01/10/2019	Moisture adjustment factor:	Not adjusted



Layer Boundaries Chart



CBR Chart

Layer Properties

No.	Penetration Rate (mm/blow)	CBR (%)	Thickness (mm)	Depth to layer bottom (mm)
1	1.00	302	20	20
2	12.50	21	25	45
3	17.00	15	85	130
4	20.67	12	310	440
5	13.75	19	55	495
6	26.67	9	80	575
7	21.67	12	65	640
8	27.50	9	55	695
9	32.00	8	160	855
10	30.00	8	30	885

CBR Relationship:

TRL equation: $\log_{10}(CBR) = 2.48 - 1.057 \times \log_{10}(Strength)$

Report produced by .....

ARUN DISTRICT COUNCIL AL/28/22/DOC

APPENDIX C

Groundwater/Ground Gas Monitoring Assessment

Project: Lidsey Road, Woodgate
Ref: GE18390
Client: Thakeham Client Limited

Geo-Environmental

Location	Date	Time (sec)	CH_4 (%)	CO_2 (%)	O_2 (%)	Flow (l/hr)	VOC (ppm)	Pressure (mb)	GWL (m bgl)	GSV/Qhgs		Characteristic Situation		CS1 Limiting Value Check			NHBC			
												BS8485 & C665					CH_4		CO_2	
										CH_4	CO_2	CH_4	CO_2	Flow	CH_4	CO_2	GSV	Conc.	GSV	Conc.
WS1	29/08/19	0	0.0	0.0	20.9	0.0	0.0	1018	1.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	29/08/19	10	0.0	0.9	20.5	0.0	0.0	1018	1.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	29/08/19	20	0.0	1.4	20.0	0.0	0.0	1018	1.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	29/08/19	30	0.0	1.5	19.9	0.0	0.0	1018	1.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	29/08/19	60	0.0	1.7	19.6	0.0	0.0	1018	1.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	29/08/19	90	0.0	1.7	19.7	0.0	0.0	1018	1.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	29/08/19	120	0.0	1.7	19.7	0.0	0.0	1018	1.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	29/08/19	180	0.0	1.7	19.7	0.0	0.0	1018	1.30	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	29/08/19	0	0.0	0.0	20.9	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	29/08/19	10	0.0	0.9	20.4	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	29/08/19	20	0.0	1.3	20.0	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	29/08/19	30	0.0	1.6	19.8	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	29/08/19	60	0.0	1.7	19.8	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	29/08/19	90	0.0	1.7	19.8	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	29/08/19	120	0.0	1.7	19.8	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	29/08/19	180	0.0	1.7	19.8	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	29/08/19	0	0.0	0.0	20.9	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	29/08/19	10	0.0	0.5	20.3	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	29/08/19	20	0.0	0.5	20.2	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	29/08/19	30	0.0	0.6	20.1	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	29/08/19	60	0.0	0.6	20.1	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	29/08/19	90	0.0	0.6	20.1	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	29/08/19	120	0.0	0.6	20.1	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	29/08/19	180	0.0	0.6	20.1	0.0	0.1	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	29/08/19	0	0.0	0.0	20.9	0.0	0.0	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	29/08/19	10	0.0	0.6	20.7	0.0	0.0	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	29/08/19	20	0.0	0.7	20.3	0.0	0.0	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	29/08/19	30	0.0	0.8	20.2	0.0	0.0	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	29/08/19	60	0.0	0.8	20.2	0.0	0.0	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	29/08/19	90	0.0	0.8	20.2	0.0	0.0	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	29/08/19	120	0.0	0.8	20.2	0.0	0.0	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	29/08/19	180	0.0	0.8	20.2	0.0	0.0	1018	Dry	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/10/19	0	0.0	0.0	20.9	0.0	0.0	996	0.91	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/10/19	10	0.0	1.8	15.6	0.0	0.0	996	0.91	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/10/19	20	0.0	1.9	12.8	0.0	0.0	996	0.91	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/10/19	30	0.0	2.1	12.6	0.0	0.0	996	0.91	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/10/19	60	0.0	2.2	13.7	0.0	0.0	996	0.91	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/10/19	90	0.0	2.2	14.0	0.0	0.0	996	0.91	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/10/19	120	0.0	2.4	15.1	0.0	0.0	996	0.91	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS1	01/10/19	180	0.0	2.4	15.1	0.0	0.0	996	0.91	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	01/10/19	0	0.0	0.0	20.9	0.0	0.0	996	1.75	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	01/10/19	10	0.0	1.9	19.9	0.0	0.0	996	1.75	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	01/10/19	20	0.0	2.0	19.7	0.0	0.0	996	1.75	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	01/10/19	30	0.0	2.0	18.6	0.0	0.0	996	1.75	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	01/10/19	60	0.0	2.0	18.6	0.0	0.0	996	1.75	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN

ARUN DISTRICT COUNCIL AL/28/22/DOC

Project: Lidsey Road, Woodgate
Ref: GE18390
Client: Thakeham Client Limited

Geo-Environmental

Location	Date	Time (sec)	CH_4 (%)	CO_2 (%)	O_2 (%)	Flow (l/hr)	VOC (ppm)	Pressure (mb)	GWL (m bgl)	GSV/Qhgs		Characteristic Situation		CS1 Limiting Value Check			NHBC			
										CH_4	CO_2	BS8485 & C665		Flow	CH_4	CO_2	CH_4		CO_2	
												CH_4	CO_2				GSV	Conc.	GSV	Conc.
WS2	01/10/19	90	0.0	2.0	18.6	0.0	0.0	996	1.75	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	01/10/19	120	0.0	2.0	18.6	0.0	0.0	996	1.75	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS2	01/10/19	180	0.0	2.0	18.6	0.0	0.0	996	1.75	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/10/19	0	0.0	0.0	20.9	0.0	0.2	997	1.70	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/10/19	10	0.0	0.9	18.5	0.0	0.2	997	1.70	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/10/19	20	0.0	0.9	18.2	0.0	0.2	997	1.70	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/10/19	30	0.0	0.9	18.2	0.0	0.2	997	1.70	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/10/19	60	0.0	0.9	18.2	0.0	0.2	997	1.70	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/10/19	90	0.0	0.9	18.2	0.0	0.2	997	1.70	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/10/19	120	0.0	0.9	18.2	0.0	0.2	997	1.70	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS3	01/10/19	180	0.0	0.9	18.4	0.0	0.2	997	1.70	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01.10/19	0	0.0	0.0	20.9	0.0	0.1	996	1.22	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01.10/19	10	0.0	0.5	19.6	0.0	0.1	996	1.22	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01.10/19	20	0.0	0.6	19.2	0.0	0.1	996	1.22	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01.10/19	30	0.0	0.6	19.2	0.0	0.1	996	1.22	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01.10/19	60	0.0	0.6	19.0	0.0	0.1	996	1.22	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01.10/19	90	0.0	0.6	19.0	0.0	0.1	996	1.22	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01.10/19	120	0.0	0.6	19.1	0.0	0.1	996	1.22	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS6	01.10/19	180	0.0	0.6	19.0	0.0	0.1	996	1.22	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN

APPENDIX D

Geotechnical Laboratory Results

Unit A2
Windmill Road
Ponswood Industrial Estate
St Leonards on Sea
East Sussex
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2683

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number:	19-24791
Issue:	1
Date of Issue:	13/09/2019
Contact:	James Phaure
Customer Details:	K4 Soils Laboratory Ltd Unit 8 Watford HertfordshireWD18 9RU
Quotation No:	Q16-00568
Order No:	Not Supplied
Customer Reference:	27060
Date Received:	11/09/2019
Date Approved:	13/09/2019
Details:	Land Off Lidsey Road, Woodgate
Approved by:	[redacted]

John Wilson, Quality Manager

Any comments, opinions or interpretations expressed herein are outside the scope of UKAS accreditation (Accreditation Number 2683

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ARUN DISTRICT COUNCIL AL/28/22/DOC

ELAB

Sample Summary

Report No.: 19-24791, issue number 1

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
183673	TP1 3 1.00	Not Provided	11/09/2019	Silty loam	a
183674	TP3 3 1.00	Not Provided	11/09/2019	Silty loam	a
183675	TP4 5 2.00	Not Provided	11/09/2019	Sand	a
183676	TP5 4 1.50	Not Provided	11/09/2019	Sandy loam	a
183677	TP6 1 1.00	Not Provided	11/09/2019	Silty loam	a
183678	WS1 5 1.50	Not Provided	11/09/2019	Loamy sand	a
183679	WS2 5 1.50	Not Provided	11/09/2019	Silty loam	a

Results Summary

Report No.: 19-24791, issue number 1

				ELAB Reference	183673	183674	183675	183676	183677
				Customer Reference	3	3	5	4	1
				Sample ID					
				Sample Type	DISTURBED	DISTURBED	DISTURBED	DISTURBED	DISTURBED
				Sample Location	TP1	TP3	TP4	TP5	TP6
				Sample Depth (m)	1.00	1.00	2.00	1.50	1.00
				Sampling Date	Not Provided	Not Provided	Not Provided	Not Provided	Not Provided
Determinand	**Codes**	**Units**	**LOD**						
Soil sample preparation parameters									
Moisture Content	N	%	0.1		18.0	19.3	21.6	18.1	21.0
Stones Content	N	%	0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Material removed	N	%	0.1		< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Description of Inert material removed	N		0		None	None	None	None	None
Anions									
Water Soluble Chloride	M	mg/kg	40		< 40	< 40	< 40	< 40	< 40
Water Soluble Nitrate	M	mg/kg	40		< 40	< 40	< 40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02		< 0.02	< 0.02	< 0.02	< 0.02	< 0.02
Water Soluble Sulphate	M	mg/kg	40		< 40	< 40	< 40	< 40	< 40
Inorganics									
Ammonia as NH4	N	mg/kg	0.1		3.0	3.1	3.1	1.5	1.6
Total Sulphur	N	%	0.01		0.01	0.01	0.01	0.01	0.01
Acid Soluble Sulphate (SO4)	U	%	0.02		0.04	0.04	0.03	0.03	0.04
Miscellaneous									
pH	M	pH units	0.1		8.3	8.1	5.9	6.8	7.1

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 19-24791, issue number 1

ELAB Reference	183678	183679
Customer Reference	5	5
Sample ID		
Sample Type	DISTURBED	DISTURBED
Sample Location	WS1	WS2
Sample Depth (m)	1.50	1.50
Sampling Date	Not Provided	Not Provided

Determinand	Codes	Units	LOD		
Soil sample preparation parameters					
Moisture Content	N	%	0.1	21.8	14.4
Stones Content	N	%	0.1	< 0.1	46.4
Material removed	N	%	0.1	< 0.1	46.4
Description of Inert material removed	N		0	None	Stones
Anions					
Water Soluble Chloride	M	mg/kg	40	< 40	< 40
Water Soluble Nitrate	M	mg/kg	40	< 40	< 40
Water Soluble Sulphate	M	g/l	0.02	< 0.02	< 0.02
Water Soluble Sulphate	M	mg/kg	40	< 40	< 40
Inorganics					
Ammonia as NH4	N	mg/kg	0.1	1.6	1.5
Total Sulphur	N	%	0.01	< 0.01	0.01
Acid Soluble Sulphate (SO4)	U	%	0.02	0.03	0.04
Miscellaneous					
pH	M	pH units	0.1	8.1	8.1

Tests marked N are not UKAS accredited.

Method Summary

Report No.: 19-24791, issue number 1

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Ammonia in soil	N	As submitted sample	12/09/2019		
pH	M	Air dried sample	12/09/2019	113	Electromeric
Acid Soluble Sulphate	U	Air dried sample	13/09/2019	115	Ion Chromatography
Water soluble anions	M	Air dried sample	12/09/2019	172	Ion Chromatography
Total organic carbon/Total sulphur	N	Air dried sample	12/09/2019	216	IR

Tests marked N are not UKAS accredited

Report Information

Report No.: 19-24791, issue number 1

Key

U	hold UKAS accreditation
M	hold MCERTS and UKAS accreditation
N	do not currently hold UKAS accreditation
^	MCERTS accreditation not applicable for sample matrix
*	UKAS accreditation not applicable for sample matrix
S	Subcontracted to approved laboratory UKAS Accredited for the test
SM	Subcontracted to approved laboratory MCERTS/UKAS Accredited for the test
NS	Subcontracted to approved laboratory. UKAS accreditation is not applicable.
I/S	Insufficient Sample
U/S	Unsuitable sample
n/t	Not tested
<	means "less than"
>	means "greater than"

Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed.
ELAB are unable to provide an interpretation or opinion on the content of this report.
The results relate only to the sample received.
PCB congener results may include any coeluting PCBs
Uncertainty of measurement for the determinands tested are available upon request
Unless otherwise stated, sample information has been provided by the client

Deviation Codes

a	No date of sampling supplied
b	No time of sampling supplied (Waters Only)
c	Sample not received in appropriate containers
d	Sample not received in cooled condition
e	The container has been incorrectly filled
f	Sample age exceeds stability time (sampling to receipt)
g	Sample age exceeds stability time (sampling to analysis)

Where a sample has a deviation code, the applicable test result may be invalid.

Sample Retention and Disposal

All soil samples will be retained for a period of one month
All water samples will be retained for 7 days following the date of the test report
Charges may apply to extended sample storage

Summary of Natural Moisture Content, Liquid Limit and Plastic Limit Results

Job No.	Project Name	Programme	
27060	Land Off Lidsey Road, Woodgate	Samples received	29/08/2019
		Schedule received	06/09/2019
Project No.	Client	Project started	30/08/2019
GE18390	GESL	Testing Started	06/09/2019

Hole No.	Sample				Soil Description	NMC	Passing 425µm	LL	PL	PI	Remarks
	Ref	Top m	Base m	Type		%	%	%	%	%	
TP1	3	1.00	-	D	Orangish brown slightly gravelly slightly sandy silty CLAY with traces of rootlets (gravel is fmc and sub-angular)	15	90	42	18	24	
TP2	4	1.50	-	D	Greyish brown slightly sandy gravelly silty CLAY (gravel is fmc and sub-angular to sub-rounded)	20	63	38	18	20	Sample washed to obtain test fraction
TP3	2	0.50	-	D	Light brown fine sandy very silty CLAY with frequent roots and rootlets	12					
TP3	3	1.00	-	D	Greyish brown slightly mottled orangish brown slightly sandy silty CLAY	20	100	40	18	22	
TP3	4	1.50	-	D	Greyish brown mottled orangish brown slightly sandy slightly gravelly silty CLAY (gravel is fm and sub-angular)	16					
TP4	3	1.00	-	D	Orangish brown sandy silty CLAY with traces of rootlets and rare fine gravel	19	98	42	18	24	
TP5	4	1.50	-	D	Light grey mottled orange slightly gravelly silty sandy CLAY (gravel is fm and sub-angular)	18	79	32	16	16	
WS2	4	1.00	-	D	Brown and orangish brown mottled slightly gravelly slightly fine sandy silty CLAY with occasional black flecks (gravel is fm and sub-angular)	20	96	40	18	22	
WS2	5	1.50	-	D	Orangish brown sandy gravelly silty CLAY (gravel is fmc and sub-angular)	13	56	38	19	19	Sample washed to obtain test fraction
WS3	4	1.00	-	D	Brown and orange mottled slightly gravelly sandy silty CLAY with occasional black flecks (gravel is fmc and sub-angular)	19	75	38	16	22	
WS4	3	0.50	-	D	Light brown fine sandy very silty CLAY with occasional roots and rootlets	12					
WS4	4	1.00	-	D	Brown, orange and light grey mottled slightly gravelly slightly sandy silty CLAY (gravel is fmc and angular to sub-angular)	17	89	44	16	28	

Test Methods: BS1377: Part 2: 1990:
Natural Moisture Content : clause 3.2
Atterberg Limits: clause 4.3 and 5.0

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU

Tel: 01923 711 288
Email: James@k4soils.com

Checked and Approved
Initials J.P
Date: 23/09/2019

UKAS TESTING
2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R1(b)

Summary of Natural Moisture Content, Liquid Limit and Plastic Limit Results

Job No.	Project Name	Programme	
27060	Land Off Lidsey Road, Woodgate	Samples received	29/08/2019
		Schedule received	06/09/2019
Project No.	Client	Project started	30/08/2019
GE18390	GESL	Testing Started	06/09/2019

Hole No.	Sample				Soil Description	NMC	Passing 425µm	LL	PL	PI	Remarks
	Ref	Top m	Base m	Type		%	%	%	%	%	
WS4	5	1.50	-	D	Orangish brown mottled bluish grey slightly gravelly sandy silty CLAY with traces of rootlets (gravel is fm and sub-angular)	13					
WS5	3	0.50	-	D	Light brown fine sandy very silty CLAY with occasional rootlets	14					
WS5	4	1.00	-	D	Brown and orange mottled slightly gravelly fine sandy silty CLAY with occasional black flecks (gravel is fine and sub-angular)	20	95	39	18	21	
WS5	5	1.50	-	D	Grey sandy gravelly silty CLAY (gravel is fmc and sub-angular to sub-rounded)	14					
WS7	3	0.50	-	D	Light brown fine sandy very silty CLAY with traces of roots and rootlets	10					
WS7	4	1.00	-	D	Brown and orange mottled slightly gravelly slightly sandy silty CLAY with occasional black flecks and traces of rootlets (gravel is fine and sub-angular)	16	98	50	19	31	
WS7	5	1.50	-	D	Brown and orange mottled slightly gravelly slightly sandy silty CLAY with occasional roots and rootlets (gravel is fm and sub-angular)	17					
TP6	1	1.00	-	D	Brown and orange mottled slightly mottled slightly gravelly fine sandy silty CLAY (gravel is fm and sub-angular)	21	96	39	19	20	

Test Methods: BS1377: Part 2: 1990:
Natural Moisture Content : clause 3.2
Atterberg Limits: clause 4.3 and 5.0

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU

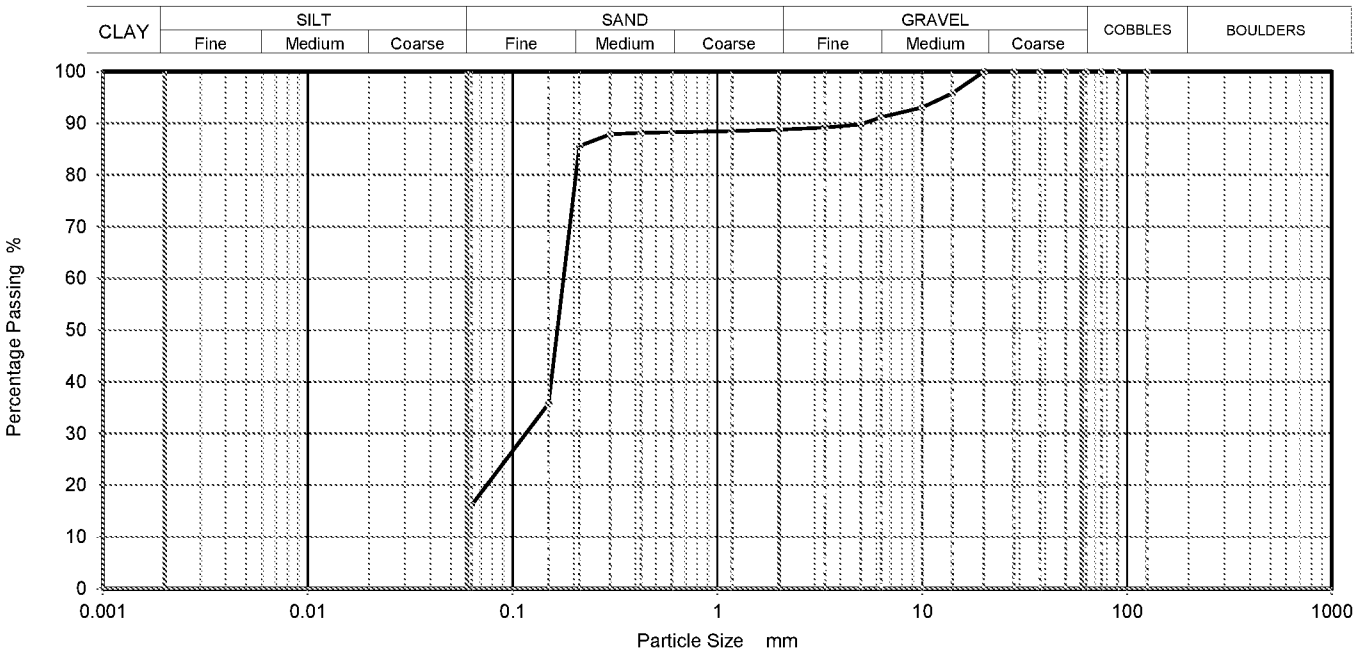
Tel: 01923 711 288
Email: James@k4soils.com

Checked and Approved
Initials J.P
Date: 23/09/2019

2519 Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr) MSF-5-R1(b)

PARTICLE SIZE DISTRIBUTION

Site Name	Land Off Lidsey Road, Woodgate			Job Ref	27060
				Borehole/Pit No.	TP4
Project No.	GE18390	Client	GESL	Sample No.	5
				Depth Top	2.00 m
Soil Description	Light brown gravelly SAND with occasional lumps of sandy clay (gravel is fm and sub-angular to sub-rounded)			Depth Base	- m
				Sample Type	D
				Samples received	29/08/2019
				Schedules received	22/08/2019
Test Method	BS1377:Part 2: 1990, clause 9.0			Project started	30/08/2019
				Date tested	09/09/2019



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	96		
10	93		
6.3	91		
5	90		
3.35	89		
2	89		
1.18	89		
0.6	88		
0.425	88		
0.3	88		
0.212	86		
0.15	36		
0.063	16		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	11.2
Sand	72.7
Fines <0.063mm	16.1

Grading Analysis		
D100	mm	
D60	mm	0.177
D30	mm	0.116
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

K4 Soils Laboratory

Unit 8, Olds Close, Watford, Herts, WD18 9RU

Email: james@k4soils.com

Tel: 01923 711288

Checked and Approved

Initials: J.P

Date: 12/09/2019

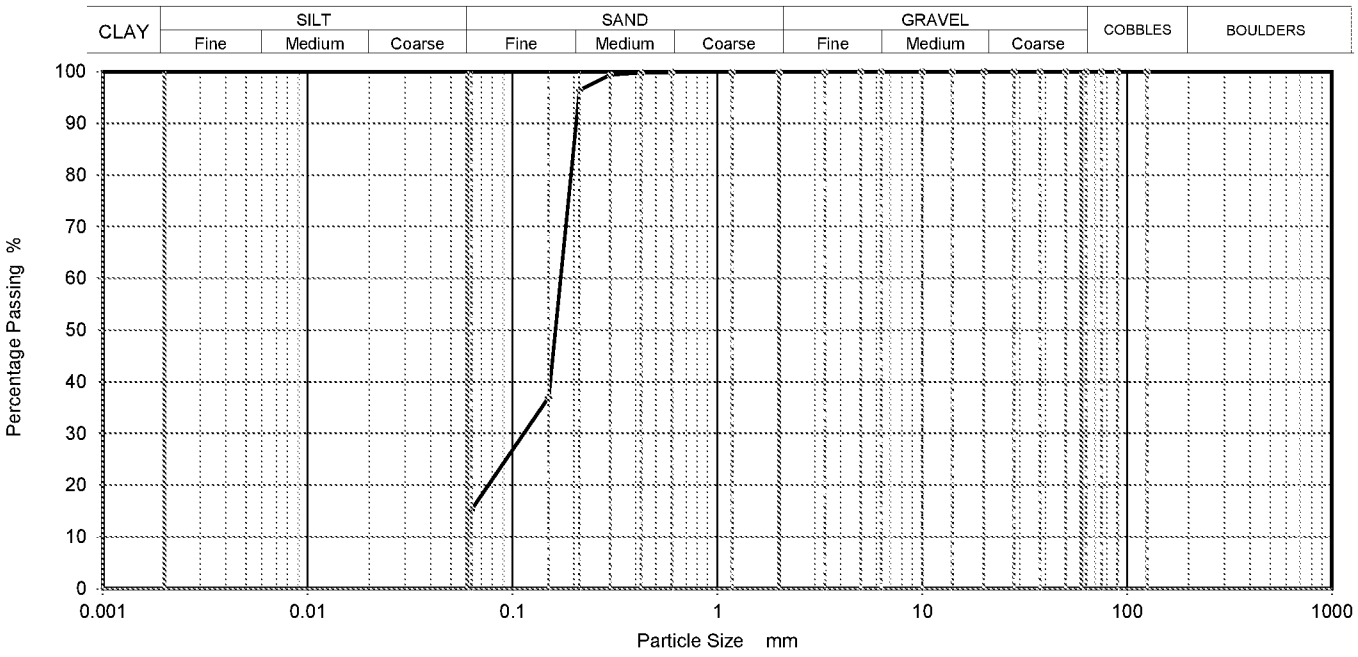
UKAS TESTING 2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R3

PARTICLE SIZE DISTRIBUTION

Site Name	Land Off Lidsey Road, Woodgate			Job Ref	27060
				Borehole/Pit No.	WS1
Project No.	GE18390	Client	GESL	Sample No.	5
				Depth Top	1.50 m
Soil Description	Light brown silty SAND			Depth Base	- m
				Sample Type	D
				Samples received	29/08/2019
				Schedules received	22/08/2019
Test Method	BS1377:Part 2: 1990, clause 9.0			Project started	30/08/2019
				Date tested	09/09/2019



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	100		
0.425	100		
0.3	99		
0.212	96		
0.15	37		
0.063	15		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	0.1
Sand	84.6
Fines <0.063mm	15.3

Grading Analysis		
D100	mm	
D60	mm	0.172
D30	mm	0.113
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

K4 Soils Laboratory

Unit 8, Olds Close, Watford, Herts, WD18 9RU

Email: james@k4soils.com

Tel: 01923 711288

Checked and Approved

Initials: J.P

Date: 12/09/2019

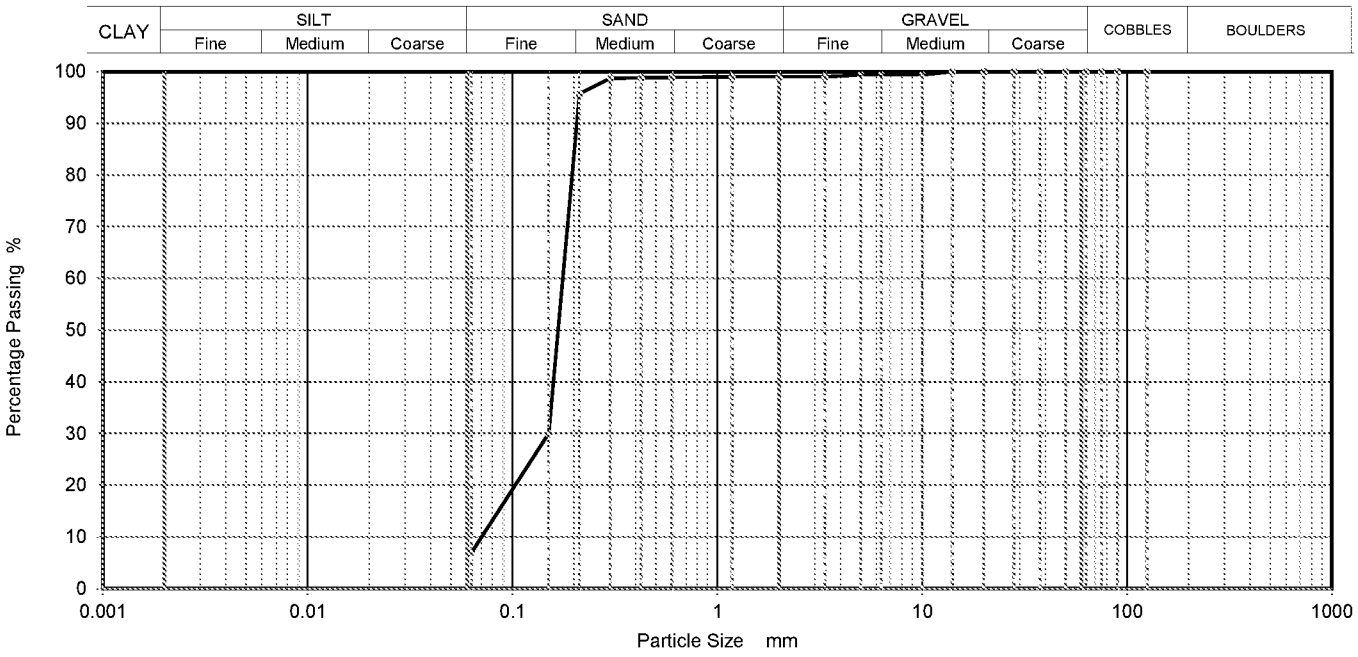
UKAS TESTING 2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R3

PARTICLE SIZE DISTRIBUTION

Site Name	Land Off Lidsey Road, Woodgate			Job Ref	27060
				Borehole/Pit No.	WS3
Project No.	GE18390	Client	GESL	Sample No.	6
				Depth Top	2.00 m
Soil Description	Light brown silty SAND with rare fm sub-angular gravel			Depth Base	- m
				Sample Type	D
				Samples received	29/08/2019
				Schedules received	22/08/2019
Test Method	BS1377:Part 2: 1990, clause 9.0			Project started	30/08/2019
				Date tested	09/09/2019



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	99		
3.35	99		
2	99		
1.18	99		
0.6	99		
0.425	99		
0.3	99		
0.212	96		
0.15	30		
0.063	7		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	1.0
Sand	91.9
Fines <0.063mm	7.0

Grading Analysis		
D100	mm	
D60	mm	0.176
D30	mm	0.15
D10	mm	0.0705
Uniformity Coefficient		2.5
Curvature Coefficient		1.8

Remarks

Preparation and testing in accordance with BS1377 unless noted below

K4 Soils Laboratory

Unit 8, Olds Close, Watford, Herts, WD18 9RU

Email: james@k4soils.com

Tel: 01923 711288

Checked and Approved

Initials: J.P

Date: 12/09/2019

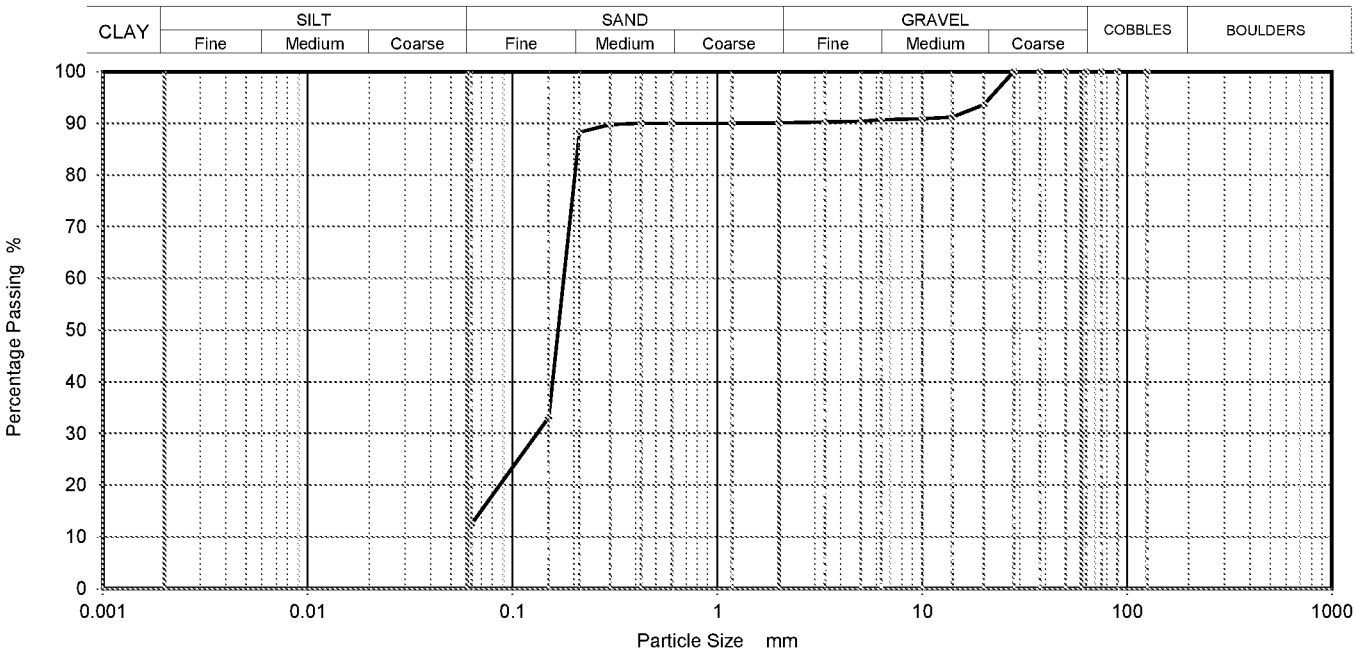
UKAS TESTING 2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R3

PARTICLE SIZE DISTRIBUTION

Site Name	Land Off Lidsey Road, Woodgate			Job Ref	27060
				Borehole/Pit No.	WS5
Project No.	GE18390	Client	GESL	Sample No.	6
				Depth Top	2.00 m
Soil Description	Light brown gravelly silty SAND (gravel is fmc and sub-angular)			Depth Base	- m
				Sample Type	D
				Samples received	29/08/2019
				Schedules received	22/08/2019
Test Method	BS1377:Part 2: 1990, clause 9.0			Project started	30/08/2019
				Date tested	09/09/2019



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	94		
14	91		
10	91		
6.3	91		
5	90		
3.35	90		
2	90		
1.18	90		
0.6	90		
0.425	90		
0.3	90		
0.212	88		
0.15	33		
0.063	13		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	9.9
Sand	77.6
Fines <0.063mm	12.5

Grading Analysis		
D100	mm	
D60	mm	0.178
D30	mm	0.132
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

K4 Soils Laboratory

Unit 8, Olds Close, Watford, Herts, WD18 9RU

Email: james@k4soils.com

Tel: 01923 711288

Checked and Approved

Initials: J.P

Date: 12/09/2019

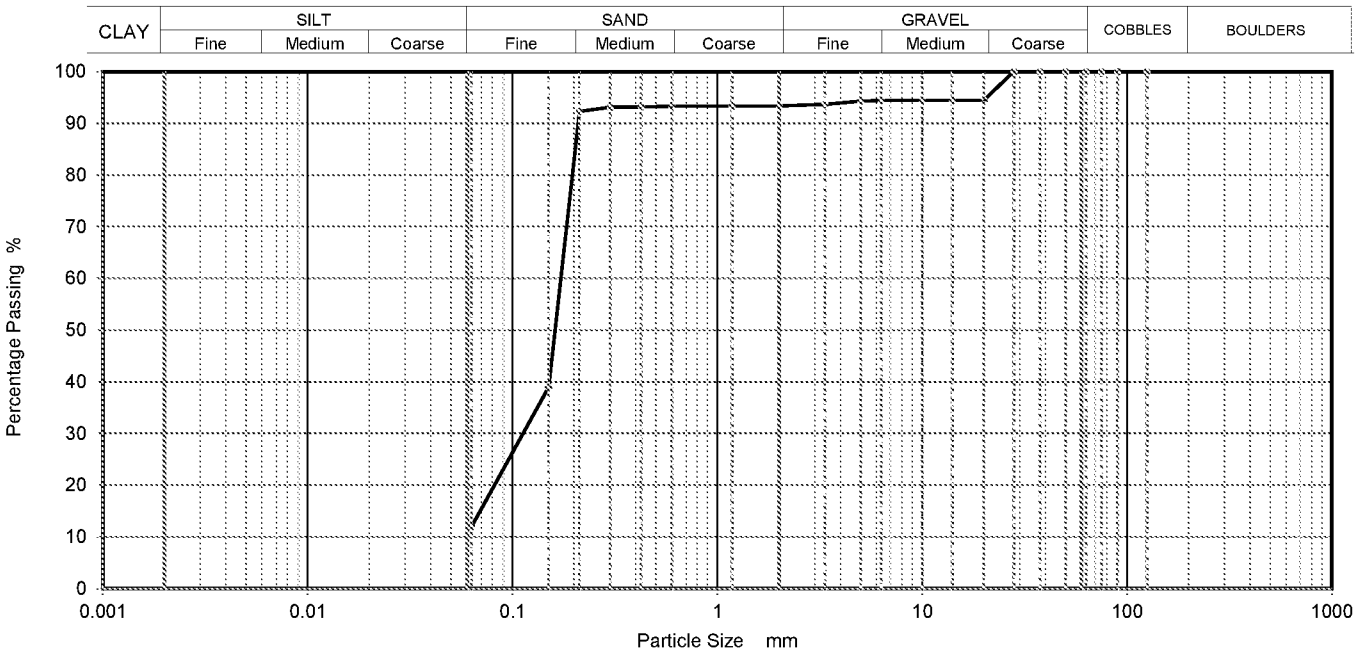
UKAS TESTING 2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R3

PARTICLE SIZE DISTRIBUTION

Site Name	Land Off Lidsey Road, Woodgate			Job Ref	27060
				Borehole/Pit No.	WS6
Project No.	GE18390	Client	GESL	Sample No.	5
				Depth Top	1.50 m
Soil Description	Orangish brown gravelly silty SAND (gravel is fmc and sub-angular to sub-rounded)			Depth Base	- m
				Sample Type	D
				Samples received	29/08/2019
				Schedules received	22/08/2019
Test Method	BS1377:Part 2: 1990, clause 9.0			Project started	30/08/2019
				Date tested	09/09/2019



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100		
90	100		
75	100		
63	100		
50	100		
37.5	100		
28	100		
20	95		
14	95		
10	95		
6.3	94		
5	94		
3.35	94		
2	93		
1.18	93		
0.6	93		
0.425	93		
0.3	93		
0.212	92		
0.15	39		
0.063	12		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	6.6
Sand	81.5
Fines <0.063mm	12.0

Grading Analysis		
D100	mm	
D60	mm	0.172
D30	mm	0.112
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

K4 Soils Laboratory

Unit 8, Olds Close, Watford, Herts, WD18 9RU

Email: james@k4soils.com

Tel: 01923 711288

Checked and Approved

Initials: J.P

Date: 12/09/2019

UKAS TESTING 2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R3

California Bearing Ratio (CBR)

Job Ref	27060				
Borehole/Pit No.	TP DCP1				
Site Name	Land Off Lidsey Road, Woodgate			Sample No.	1
Project No.	GE18390	Client	GESL	Depth Top	0.50 m
Soil Description	Light brown slightly sandy silty CLAY with frequent rootlets, rare fm sub-angular flint gravel and fm chalk fragments			Depth Base	- m
				Sample Type	B
				Samples received	29/08/2019
				Schedules received	22/08/2019
Test Method	BS1377 : Part 4 : 1990, clause 7			Project Started	30/08/2019
				Date Tested	12/09/2019

Specimen Preparation

Condition: REMOULDED

Details: Recompacted with specified standard effort using 2.5kg rammer

Material retained on 20mm sieve removed: 0.0 %

Initial Specimen details

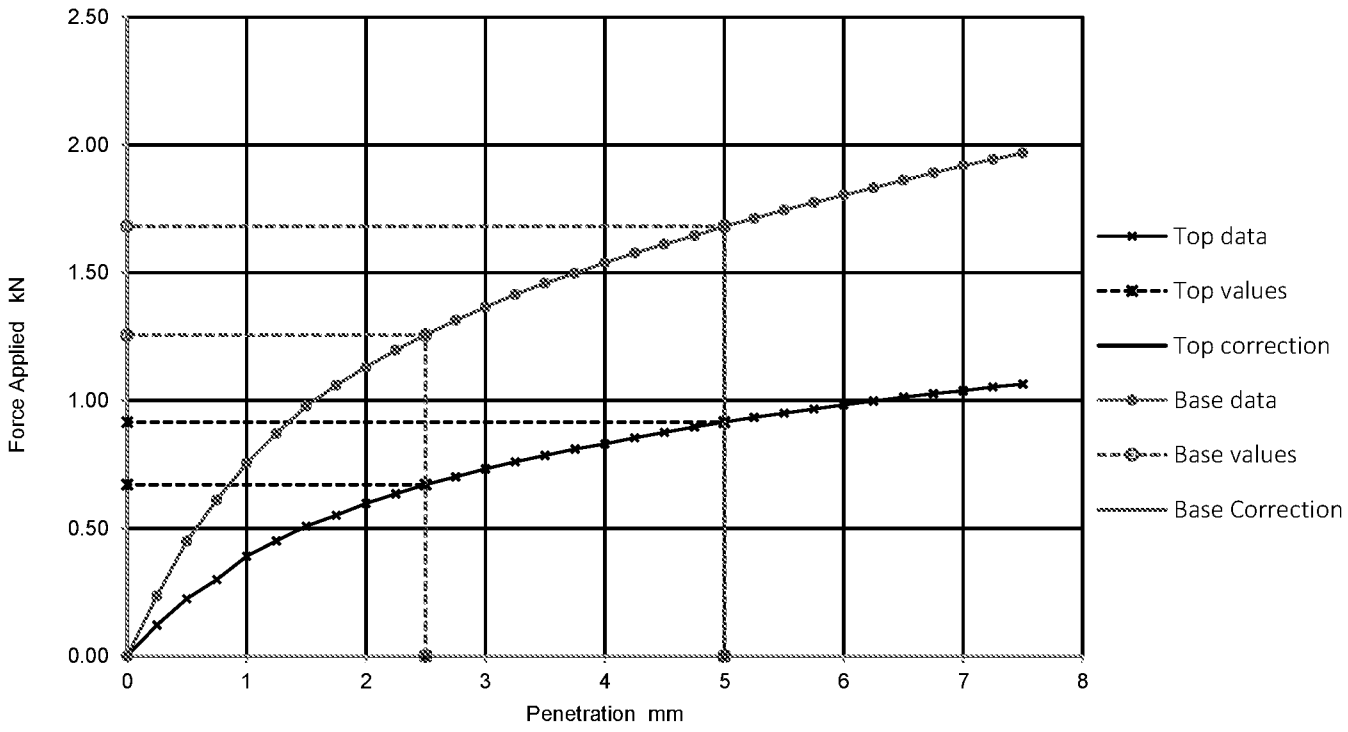
Bulk density	1.93	Mg/m3
Dry density	1.66	Mg/m3
Moisture content	17	%

Soaking details

Period of soaking	5	days
Time to surface	5	days
Amount of swell recorded	1.22	mm

Surcharge applied	6	kg
	4	kPa

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	Average	Moisture Content %
TOP	No	5.1	4.6	5.1	N/A	23
BASE	No	9.5	8.4	9.5		21

Remarks

1

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU

Tel: 01923 711 288
Email: James@k4soils.com

Checked and Approved

Initials: J.P

Date: 23/09/2019

UKAS TESTING 2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R16

California Bearing Ratio (CBR)

Job Ref	27060				
Borehole/Pit No.	TP DCP4				
Site Name	Land Off Lidsey Road, Woodgate			Sample No.	1
Project No.	GE18390	Client	GESL	Depth Top	0.50 m
Soil Description	Light brown slightly sandy silty CLAY with occasional rootlets			Depth Base	- m
				Sample Type	B
				Samples received	29/08/2019
				Schedules received	22/08/2019
Test Method	BS1377 : Part 4 : 1990, clause 7			Project Started	30/08/2019
				Date Tested	10/09/2019

Specimen Preparation

Condition: REMOULDED

Details: Recompacted with specified standard effort using 2.5kg rammer

Material retained on 20mm sieve removed: 0.0 %

Initial Specimen details

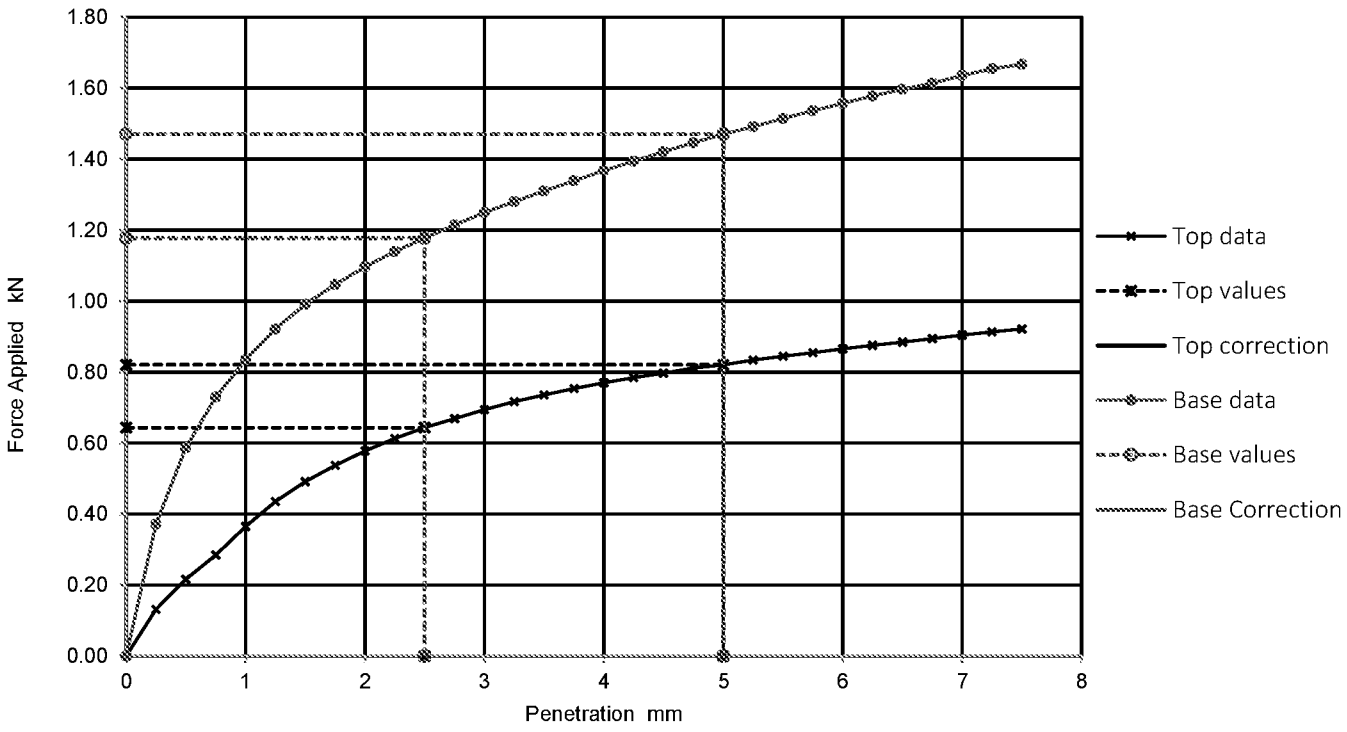
Bulk density	1.90	Mg/m3
Dry density	1.60	Mg/m3
Moisture content	19	%

Soaking details

Period of soaking	5	days
Time to surface	5	days
Amount of swell recorded	1.20	mm

Surcharge applied	6	kg
	4	kPa

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	Average	Moisture Content %
TOP	No	4.9	4.1	4.9	N/A	23
BASE	No	8.9	7.4	8.9		23

Remarks

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU

Tel: 01923 711 288
Email: James@k4soils.com

Checked and Approved

Initials: J.P

Date: 23/09/2019

UKAS TESTING 2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R16

ARUN DISTRICT COUNCIL AL/28/22/DOC

California Bearing Ratio (CBR)

Job Ref	27060				
Borehole/Pit No.	TP DCP6				
Site Name	Land Off Lidsey Road, Woodgate			Sample No.	1
Project No.	GE18390	Client	GESL	Depth Top	0.50 m
Soil Description	Brown mottled bluish grey slightly gravelly silty CLAY (gravel is fmc and angular to rounded)			Depth Base	- m
				Sample Type	B
				Samples received	29/08/2019
				Schedules received	22/08/2019
Test Method	BS1377 : Part 4 : 1990, clause 7			Project Started	30/08/2019
				Date Tested	12/09/2019

Specimen Preparation

Condition: REMOULDED

Details: Recompacted with specified standard effort using 2.5kg rammer

Material retained on 20mm sieve removed: 1.6 %

Initial Specimen details:

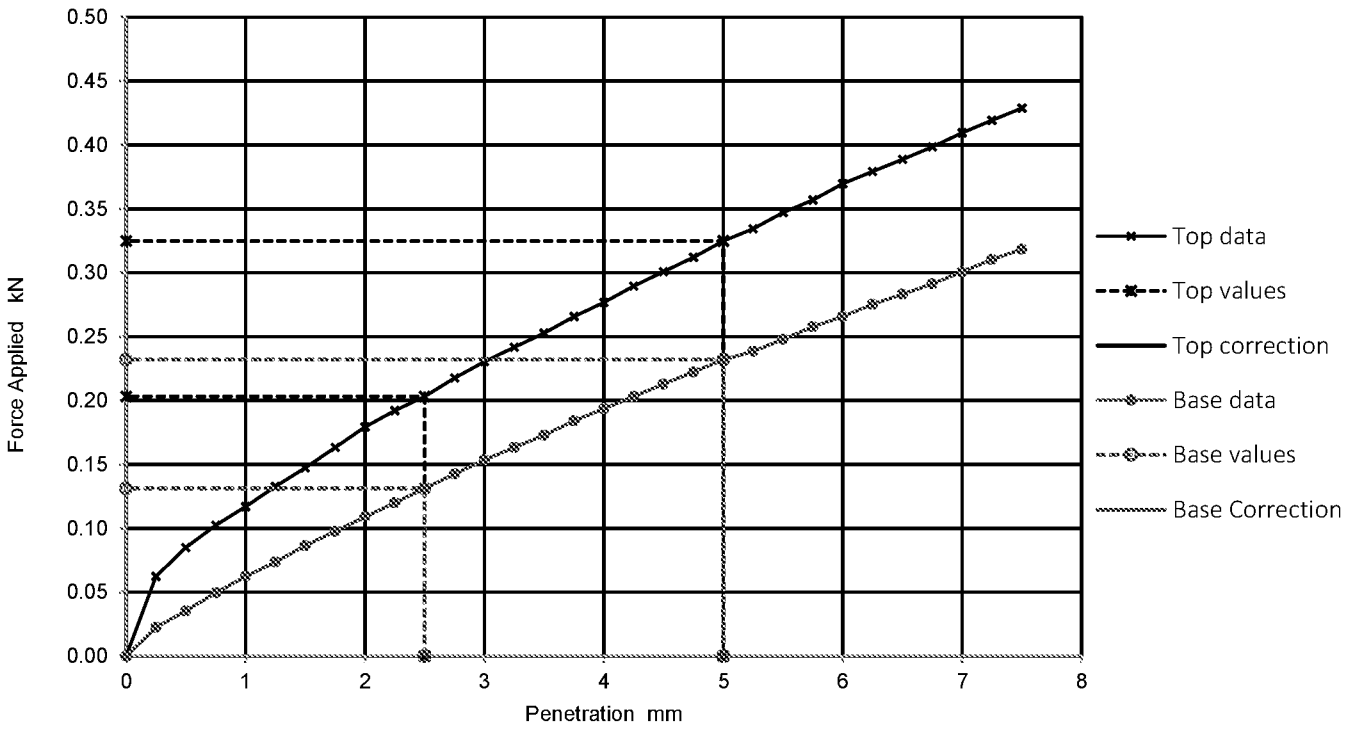
Bulk density	2.00	Mg/m3
Dry density	1.65	Mg/m3
Moisture content	21	%

Soaking details:

Period of soaking	5	days
Time to surface	5	days
Amount of swell recorded	0.00	mm

Surcharge applied	6	kg
	4	kPa

Force v Penetration Plots



Results

	Curve correction applied	CBR Values, % 2.5mm	5mm	Highest	Average	Moisture Content %
TOP	No	1.5	1.6	1.6	N/A	23
BASE	No	1.0	1.2	1.2		23

Remarks

Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
Watford Herts WD18 9RU

Tel: 01923 711 288
Email: James@k4soils.com

Checked and Approved

Initials: J.P

Date: 23/09/2019

UKAS TESTING 2519

Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

MSF-5-R16

ARUN DISTRICT COUNCIL AL/28/22/DOC

APPENDIX E

Geochemical Laboratory Results

Anthony Potter
Geo-Environmental Services Ltd
Unit 7, Danworth Farm
Cuckfield Road
Hurstpierpoint
West Sussex
BN6 9GL

[redacted]

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 19-55773

Project / Site name:	Lidsey Road, Woodgate	Samples received on:	21/08/2019
Your job number:	GE18390	Samples instructed on:	21/08/2019
Your order number:		Analysis completed by:	29/08/2019
Report Issue Number:	1	Report issued on:	29/08/2019
Samples Analysed:	8 soil samples		

Signed: K.Lewicka

Katarzyna Lewicka
Head of Reporting Section
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

This certificate should not be reproduced, except in full, without the express permission of the laboratory.
The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 19-55773

Project / Site name: Lidsey Road, Woodgate

Lab Sample Number				1297239	1297240	1297241	1297242	1297243
Sample Reference				TP1	TP2	WS1	WS2	WS3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.10	0.10	0.50	0.20
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	35	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	N/A	NONE	3.5	5.2	13	7.8	12
Total mass of sample received	kg	0.001	NONE	1.3	1.4	0.88	1.1	1.0
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	8.5	9.8	6.0	6.8	5.6
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1	< 1	< 1
Total Sulphate as SO_4	mg/kg	50	MCERTS	520	1400	550	260	460
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	150	540	58	37	120
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.074	0.27	0.029	0.018	0.058
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	73.8	270	29.2	18.4	58.0
Sulphide	mg/kg	1	MCERTS	3.8	4.7	< 1.0	< 1.0	< 1.0
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	30	170	30	4.1	8.3
Elemental Sulphur	mg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0
Total Organic Carbon (TOC)	%	0.1	MCERTS	3.7	3.6	2.3	0.3	1.1
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	0.68	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	7.1	2.7	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	23	1.5	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	27	1.6	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	180	20	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	58	5.9	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	280	69	0.32	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	270	67	0.31	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	140	50	0.19	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	89	37	0.19	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	140	83	0.30	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	54	21	0.08	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	120	64	0.21	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	63	35	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	16	11	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	68	39	< 0.05	< 0.05	< 0.05
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	1520	510	1.60	< 0.80	< 0.80

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The results included within the report are representative of the samples submitted for analysis.

Analytical Report Number: 19-55773

Project / Site name: Lidsey Road, Woodgate

Lab Sample Number				1297239	1297240	1297241	1297242	1297243
Sample Reference				TP1	TP2	WS1	WS2	WS3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.10	0.10	0.50	0.20
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	4.1	12	8.2	4.5	6.2
Barium (aqua regia extractable)	mg/kg	1	MCERTS	54	290	80	57	60
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.68	2.4	0.70	0.51	0.66
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	0.9	0.4	< 0.2	0.3
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.3	0.4	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0	< 4.0	< 4.0
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	19	54	24	19	21
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	36	11	7.6	9.4
Lead (aqua regia extractable)	mg/kg	1	MCERTS	18	66	32	9.2	19
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	16	11	15	9.8	13
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	18	42	35	25	28
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	29	110	62	33	45
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	77	6.5	< 1.0	< 1.0	< 1.0
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	260	20	< 2.0	< 2.0	< 2.0
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	210	32	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	280	160	< 8.0	< 8.0	< 8.0
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	820	220	< 10	< 10	< 10
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	24	4.9	< 1.0	< 1.0	< 1.0
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	360	14	< 2.0	< 2.0	< 2.0
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	2900	270	< 10	< 10	< 10
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	6400	1200	16	< 10	< 10
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	9600	1400	17	< 10	< 10

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Analytical Report Number: 19-55773

Project / Site name: Lidsey Road, Woodgate

Lab Sample Number				1297239	1297240	1297241	1297242	1297243
Sample Reference				TP1	TP2	WS1	WS2	WS3
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.10	0.10	0.10	0.50	0.20
Date Sampled				Deviating	Deviating	Deviating	Deviating	Deviating
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Organochlorine Pesticides (OCP)								
Aldrin	ug/kg	10	NONE	-	-	< 10	-	< 10
BHC-alpha (benzene hexachloride)	ug/kg	10	NONE	-	-	< 10	-	< 10
BHC-beta	ug/kg	10	NONE	-	-	< 10	-	< 10
BHC-delta	ug/kg	10	NONE	-	-	< 10	-	< 10
BHC-gamma (Lindane, gamma HCH)	ug/kg	10	NONE	-	-	< 10	-	< 10
Chlordane-cis	ug/kg	10	NONE	-	-	< 10	-	< 10
Chlordane-trans	ug/kg	10	NONE	-	-	< 10	-	< 10
Chlorothalonil	ug/kg	10	NONE	-	-	< 10	-	< 10
DDD-o,p'	ug/kg	1	NONE	-	-	< 1.0	-	< 1.0
DDD-p,p'	ug/kg	1	NONE	-	-	< 1.0	-	< 1.0
DDE-o, p'	ug/kg	1	NONE	-	-	< 1.0	-	< 1.0
DDE-p,p'	ug/kg	1	NONE	-	-	< 1.0	-	< 1.0
DDT-o,p'	ug/kg	1	NONE	-	-	< 1.0	-	< 1.0
DDT-p,p'	ug/kg	1	NONE	-	-	< 1.0	-	< 1.0
Dichlorobenzonitrile, 2,6-	ug/kg	10	NONE	-	-	< 10	-	< 10
Dieldrin	ug/kg	10	NONE	-	-	< 10	-	< 10
Endosulfan I (alpha isomer)	ug/kg	10	NONE	-	-	< 10	-	< 10
Endosulfan II (beta isomer)	ug/kg	10	NONE	-	-	< 10	-	< 10
Endosulfan sulfate	ug/kg	10	NONE	-	-	< 10	-	< 10
Endrin	ug/kg	10	NONE	-	-	< 10	-	< 10
Endrin aldehyde	ug/kg	10	NONE	-	-	< 10	-	< 10
Endrin ketone	ug/kg	10	NONE	-	-	< 10	-	< 10
Heptachlor	ug/kg	10	NONE	-	-	< 10	-	< 10
Heptachlor exo-epoxide	ug/kg	10	NONE	-	-	< 10	-	< 10
Hexachlorobenzene	ug/kg	10	NONE	-	-	< 10	-	< 10
Hexachlorobutadiene	ug/kg	10	NONE	-	-	< 10	-	< 10
Isodrin	ug/kg	10	NONE	-	-	< 10	-	< 10
Methoxychlor, p,p'-	ug/kg	10	NONE	-	-	< 10	-	< 10
Pentachlorobenzene	ug/kg	10	NONE	-	-	< 10	-	< 10
Tecnazene	ug/kg	10	NONE	-	-	< 10	-	< 10
Tetrachlorobenzene, 1,2,4,5-	ug/kg	10	NONE	-	-	< 10	-	< 10
Trichlorobenzene, 1,2,3-	ug/kg	10	NONE	-	-	< 10	-	< 10
Trichlorobenzene, 1,3,5-	ug/kg	10	NONE	-	-	< 10	-	< 10
Trifluralin	ug/kg	10	NONE	-	-	< 10	-	< 10

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Analytical Report Number: 19-55773

Project / Site name: Lidsey Road, Woodgate

Lab Sample Number				1297244	1297245	1297246		
Sample Reference				WS4	WS7	WS6		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.20	0.20	0.20		
Date Sampled				Deviating	Deviating	Deviating		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1		
Moisture Content	%	N/A	NONE	15	7.4	11		
Total mass of sample received	kg	0.001	NONE	1.4	1.0	1.3		
Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected		
General Inorganics								
pH - Automated	pH Units	N/A	MCERTS	5.4	7.3	6.5		
Total Cyanide	mg/kg	1	MCERTS	< 1	< 1	< 1		
Total Sulphate as SO_4	mg/kg	50	MCERTS	550	520	610		
Water Soluble Sulphate as SO_4 16hr extraction (2:1)	mg/kg	2.5	MCERTS	56	39	130		
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.028	0.020	0.063		
Water Soluble SO4 16hr extraction (2:1 Leachate Equivalent)	mg/l	1.25	MCERTS	28.1	19.7	63.1		
Sulphide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Water Soluble Chloride (2:1)	mg/kg	1	MCERTS	13	3.0	7.6		
Elemental Sulphur	mg/kg	5	MCERTS	< 5.0	< 5.0	< 5.0		
Total Organic Carbon (TOC)	%	0.1	MCERTS	1.4	1.6	1.3		
Total Phenols								
Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Speciated PAHs								
Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	0.18	< 0.05		
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.60	< 0.05		
Pyrene	mg/kg	0.05	MCERTS	< 0.05	0.52	< 0.05		
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	0.50	< 0.05		
Chrysene	mg/kg	0.05	MCERTS	< 0.05	0.39	< 0.05		
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.66	< 0.05		
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	0.22	< 0.05		
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.42	< 0.05		
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	0.25	< 0.05		
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05		
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	0.35	< 0.05		
Total PAH								
Speciated Total EPA-16 PAHs	mg/kg	0.8	MCERTS	< 0.80	4.09	< 0.80		

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Analytical Report Number: 19-55773

Project / Site name: Lidsey Road, Woodgate

Lab Sample Number				1297244	1297245	1297246		
Sample Reference				WS4	WS7	WS6		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.20	0.20	0.20		
Date Sampled				Deviating	Deviating	Deviating		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Heavy Metals / Metalloids								
Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	5.7	10	7.4		
Barium (aqua regia extractable)	mg/kg	1	MCERTS	67	130	73		
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.67	1.1	0.72		
Boron (water soluble)	mg/kg	0.2	MCERTS	< 0.2	0.5	0.3		
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	0.3	< 0.2		
Chromium (hexavalent)	mg/kg	4	MCERTS	< 4.0	< 4.0	< 4.0		
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	21	24	23		
Copper (aqua regia extractable)	mg/kg	1	MCERTS	11	24	11		
Lead (aqua regia extractable)	mg/kg	1	MCERTS	22	69	28		
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3		
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	11	16	14		
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	29	32	31		
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	43	99	40		
Monoaromatics & Oxygenates								
Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
MTBE (Methyl Tertiary Butyl Ether)	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
Petroleum Hydrocarbons								
TPH-CWG - Aliphatic >EC5 - EC6	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC6 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aliphatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aliphatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aliphatic >EC16 - EC21	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0		
TPH-CWG - Aliphatic >EC21 - EC35	mg/kg	8	MCERTS	< 8.0	< 8.0	< 8.0		
TPH-CWG - Aliphatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aromatic >EC5 - EC7	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC7 - EC8	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC8 - EC10	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001		
TPH-CWG - Aromatic >EC10 - EC12	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0		
TPH-CWG - Aromatic >EC12 - EC16	mg/kg	2	MCERTS	< 2.0	< 2.0	< 2.0		
TPH-CWG - Aromatic >EC16 - EC21	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aromatic >EC21 - EC35	mg/kg	10	MCERTS	< 10	< 10	< 10		
TPH-CWG - Aromatic (EC5 - EC35)	mg/kg	10	MCERTS	< 10	< 10	< 10		

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Analytical Report Number: 19-55773

Project / Site name: Lidsey Road, Woodgate

Lab Sample Number				1297244	1297245	1297246		
Sample Reference				WS4	WS7	WS6		
Sample Number				None Supplied	None Supplied	None Supplied		
Depth (m)				0.20	0.20	0.20		
Date Sampled				Deviating	Deviating	Deviating		
Time Taken				None Supplied	None Supplied	None Supplied		
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Organochlorine Pesticides (OCP)								
Aldrin	ug/kg	10	NONE	< 10	-	< 10		
BHC-alpha (benzene hexachloride)	ug/kg	10	NONE	< 10	-	< 10		
BHC-beta	ug/kg	10	NONE	< 10	-	< 10		
BHC-delta	ug/kg	10	NONE	< 10	-	< 10		
BHC-gamma (Lindane, gamma HCH)	ug/kg	10	NONE	< 10	-	< 10		
Chlordane-cis	ug/kg	10	NONE	< 10	-	< 10		
Chlordane-trans	ug/kg	10	NONE	< 10	-	< 10		
Chlorothalonil	ug/kg	10	NONE	< 10	-	< 10		
DDD-o,p'	ug/kg	1	NONE	< 1.0	-	< 1.0		
DDD-p,p'	ug/kg	1	NONE	< 1.0	-	< 1.0		
DDE-o, p'	ug/kg	1	NONE	< 1.0	-	< 1.0		
DDE-p,p'	ug/kg	1	NONE	< 1.0	-	< 1.0		
DDT-o,p'	ug/kg	1	NONE	< 1.0	-	< 1.0		
DDT-p,p'	ug/kg	1	NONE	< 1.0	-	< 1.0		
Dichlorobenzonitrile, 2,6-	ug/kg	10	NONE	< 10	-	< 10		
Dieldrin	ug/kg	10	NONE	< 10	-	< 10		
Endosulfan I (alpha isomer)	ug/kg	10	NONE	< 10	-	< 10		
Endosulfan II (beta isomer)	ug/kg	10	NONE	< 10	-	< 10		
Endosulfan sulfate	ug/kg	10	NONE	< 10	-	< 10		
Endrin	ug/kg	10	NONE	< 10	-	< 10		
Endrin aldehyde	ug/kg	10	NONE	< 10	-	< 10		
Endrin ketone	ug/kg	10	NONE	< 10	-	< 10		
Heptachlor	ug/kg	10	NONE	< 10	-	< 10		
Heptachlor exo-epoxide	ug/kg	10	NONE	< 10	-	< 10		
Hexachlorobenzene	ug/kg	10	NONE	< 10	-	< 10		
Hexachlorobutadiene	ug/kg	10	NONE	< 10	-	< 10		
Isodrin	ug/kg	10	NONE	< 10	-	< 10		
Methoxychlor, p,p'-	ug/kg	10	NONE	< 10	-	< 10		
Pentachlorobenzene	ug/kg	10	NONE	< 10	-	< 10		
Tecnazene	ug/kg	10	NONE	< 10	-	< 10		
Tetrachlorobenzene, 1,2,4,5-	ug/kg	10	NONE	< 10	-	< 10		
Trichlorobenzene, 1,2,3-	ug/kg	10	NONE	< 10	-	< 10		
Trichlorobenzene, 1,3,5-	ug/kg	10	NONE	< 10	-	< 10		
Trifluralin	ug/kg	10	NONE	< 10	-	< 10		

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Analytical Report Number : 19-55773

Project / Site name: Lidsey Road, Woodgate

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1297239	TP1	None Supplied	0.10	Brown gravelly sand with vegetation and stones.
1297240	TP2	None Supplied	0.10	Grey sand with gravel and vegetation.
1297241	WS1	None Supplied	0.10	Light grey loam and clay with gravel and vegetation.
1297242	WS2	None Supplied	0.50	Brown sand with vegetation.
1297243	WS3	None Supplied	0.20	Brown sand with vegetation.
1297244	WS4	None Supplied	0.20	Brown sand with vegetation.
1297245	WS7	None Supplied	0.20	Grey sand with vegetation.
1297246	WS6	None Supplied	0.20	Grey sandy clay with vegetation.

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Analytical Report Number : 19-55773

Project / Site name: Lidsey Road, Woodgate

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
BTEX and MTBE in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Chloride, water soluble, in soil	Determination of Chloride colorimetrically by discrete analyser.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests. 2:1 extraction.	L082-PL	D	MCERTS
Elemental sulphur in soil	Determination of elemental sulphur in soil by extraction in acetonitrile followed by HPLC.	In-house method based on Secondsite Property Holdings Guidance for Assessing and Managing Potential	L021-PL	D	MCERTS
Hexavalent chromium in soil	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Organochlorine Pesticides in soil by GC MS/MS	Detemination of Pesticides in soil by GC MS/MS	Organochlorine Pesticides in soil by GC MS/MS	L055B-PL	D	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L099-PL	D	MCERTS
Speciated EPA-16 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270	L064-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests, 2:1 water:soil extraction, analysis by ICP-OES.	L038-PL	D	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests""	L009-PL	D	MCERTS

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Analytical Report Number : 19-55773

Project / Site name: Lidsey Road, Woodgate

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total sulphate (as SO4 in soil)	Determination of total sulphate in soil by extraction with 10% HCl followed by ICP-OES.	In-house method based on BS1377 Part 3, 1990, Chemical and Electrochemical Tests	L038-PL	D	MCERTS
TPHCWG (Soil)	Determination of hexane extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L088/76-PL	W	MCERTS

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Sample Deviation Report

Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref	Test Deviation code
TP1		S	19-55773	1297239	a			
TP2		S	19-55773	1297240	a			
WS1		S	19-55773	1297241	a			
WS2		S	19-55773	1297242	a			
WS3		S	19-55773	1297243	a			
WS4		S	19-55773	1297244	a			
WS6		S	19-55773	1297246	a			
WS7		S	19-55773	1297245	a			

Key: a - No sampling date b - Incorrect container
c - Holding time d - Headspace e - Temperature

TEST CERTIFICATE

Specification for Topsoil

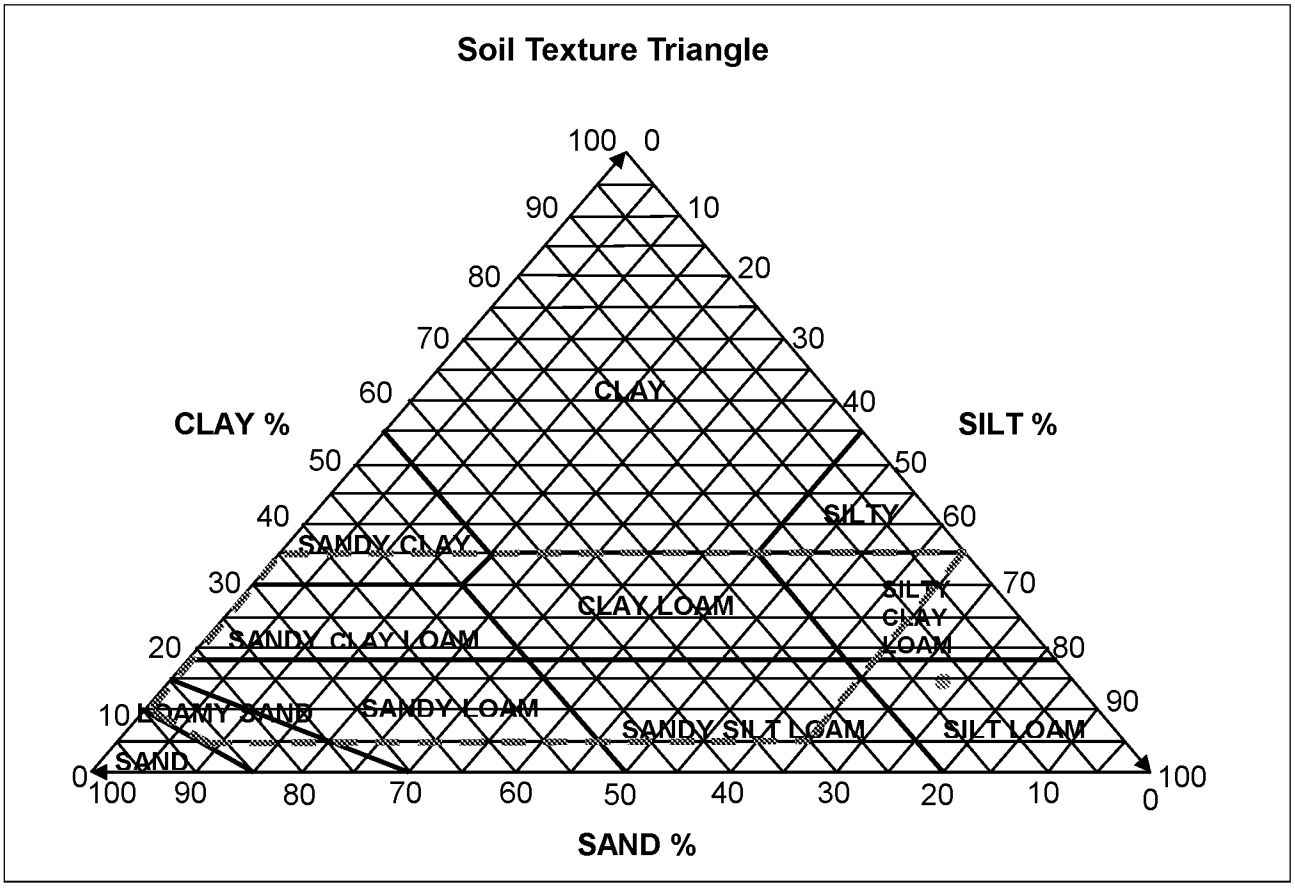
i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

Tested in Accordance with: BS 3882: 2015

Client:	Geo-Environmental Services Ltd	Client Reference:	GE18390
Client Address:	Unit 7, Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL	Job Number:	19-55777
		Date Sampled:	Not Given
		Date Received:	21/08/2019
Contact:	Anthony Potter	Date Tested:	23/08/2019
Site Name:	Lidsey Road, Woodgate	Sampled By:	Not Given
Site Address:	Not Given		

Test Results:

Laboratory Reference:	1297286	Depth Top [m]:	0.10
Hole No.:	TP3	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	SILT LOAM		



Sample Proportion	% dry mass
Sand	12.9
Silt	71.5
Clay	15.6

Remarks:

Approved: Dariusz Piotrowski
PL Geotechnical Laboratory Manager
Date Reported: 02/09/2019

Signed: Darren Berrill
Geotechnical General Manager
for and on behalf of i2 Analytical Ltd GF 286.3

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[illegible], ul. Pionierow 39, 41-711 Ruda Slaska, Poland."

"All assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request."

TEST CERTIFICATE

Specification for Topsoil

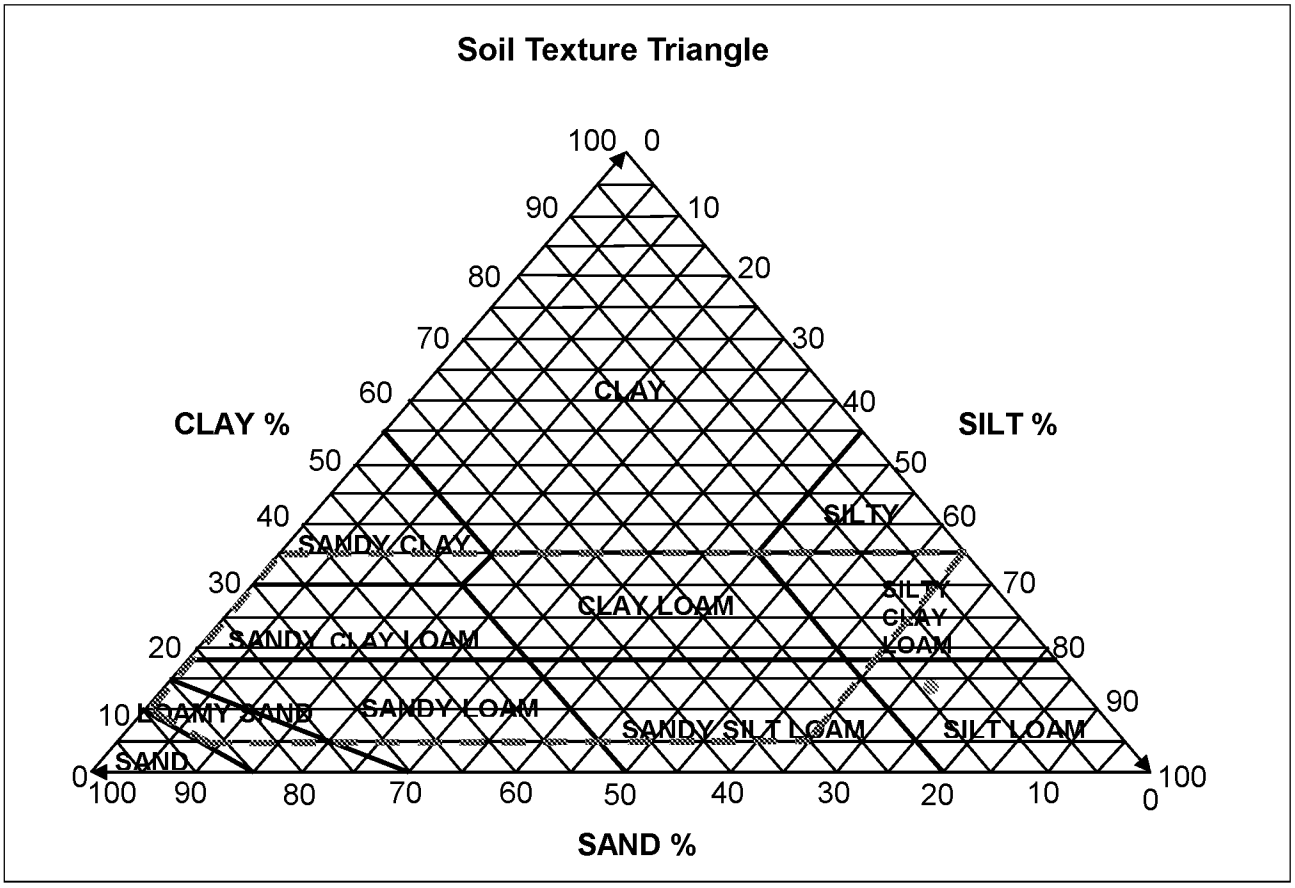
i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

Tested in Accordance with: BS 3882: 2015

Client:	Geo-Environmental Services Ltd	Client Reference:	GE18390
Client Address:	Unit 7, Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL	Job Number:	19-55777
		Date Sampled:	Not Given
		Date Received:	21/08/2019
Contact:	Anthony Potter	Date Tested:	23/08/2019
Site Name:	Lidsey Road, Woodgate	Sampled By:	Not Given
Site Address:	Not Given		

Test Results:

Laboratory Reference:	1297287	Depth Top [m]:	0.10
Hole No.:	TP4	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	SILT LOAM		



Sample Proportion	% dry mass
Sand	14.4
Silt	70.8
Clay	14.8

Remarks:

Approved: Dariusz Piotrowski
PL Geotechnical Laboratory Manager
Date Reported: 02/09/2019

Signed: Darren Berrill
Geotechnical General Manager
for and on behalf of i2 Analytical Ltd GF 286.3

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TEST CERTIFICATE

Specification for Topsoil

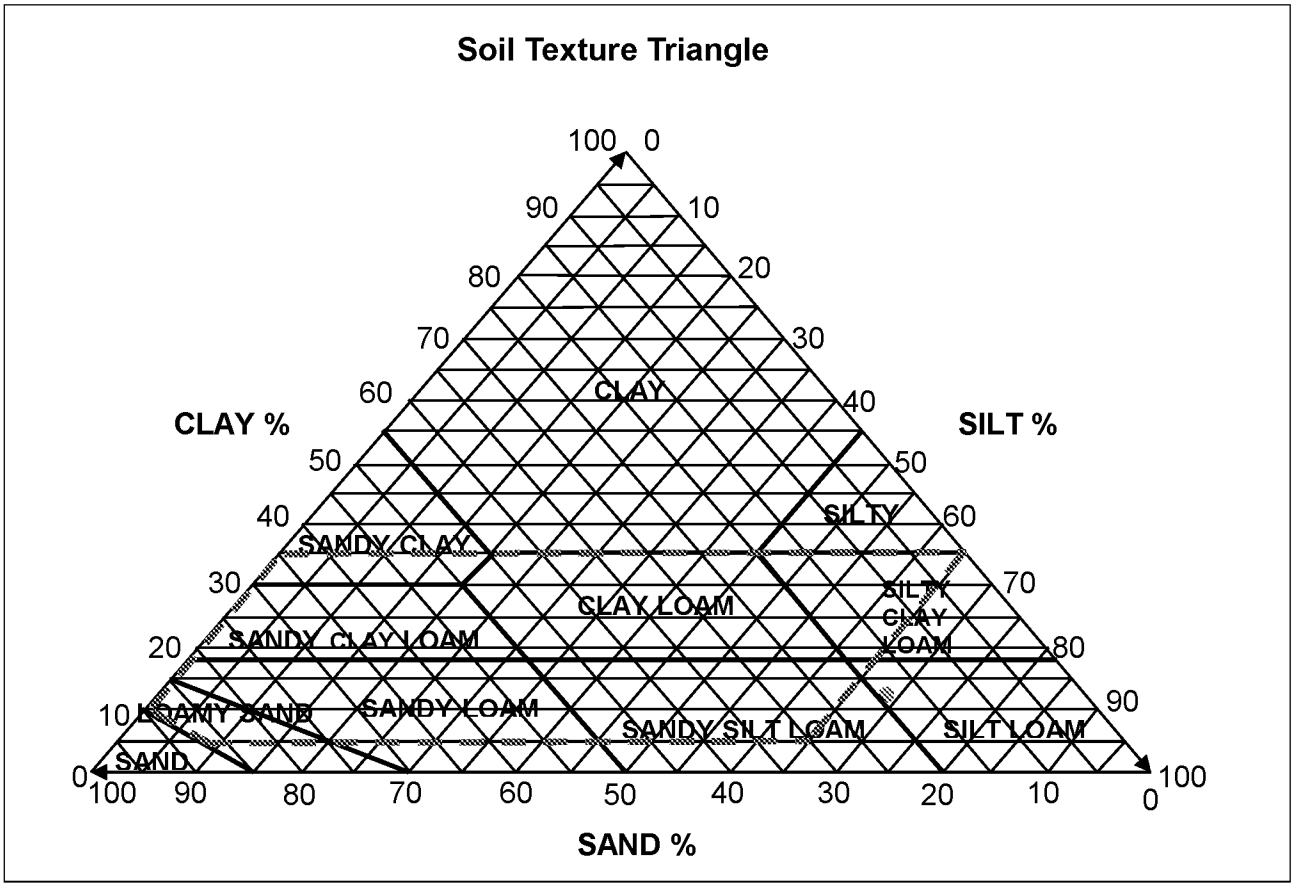
i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

Tested in Accordance with: BS 3882: 2015

Client:	Geo-Environmental Services Ltd	Client Reference:	GE18390
Client Address:	Unit 7, Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL	Job Number:	19-55777
		Date Sampled:	Not Given
		Date Received:	21/08/2019
Contact:	Anthony Potter	Date Tested:	23/08/2019
Site Name:	Lidsey Road, Woodgate	Sampled By:	Not Given
Site Address:	Not Given		

Test Results:

Laboratory Reference:	1297288	Depth Top [m]:	0.10
Hole No.:	TP5	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	SILT LOAM		



Sample Proportion	% dry mass
Sand	19.3
Silt	67.2
Clay	13.5

Remarks:

Approved: Dariusz Piotrowski
PL Geotechnical Laboratory Manager
Date Reported: 02/09/2019

Signed: Darren Berrill
Geotechnical General Manager
for and on behalf of i2 Analytical Ltd **GF 286.3**

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i2 Analytical Ltd, Unit 1, Unit 2 Woodshots Meadow, Croxley Green Business Park, Watford, Herts, WD18 8YS, United Kingdom. i2 Analytical Limited, ul. Pionierow 39, 41-711 Ruda Slaska, Poland."

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TEST CERTIFICATE

Specification for Topsoil

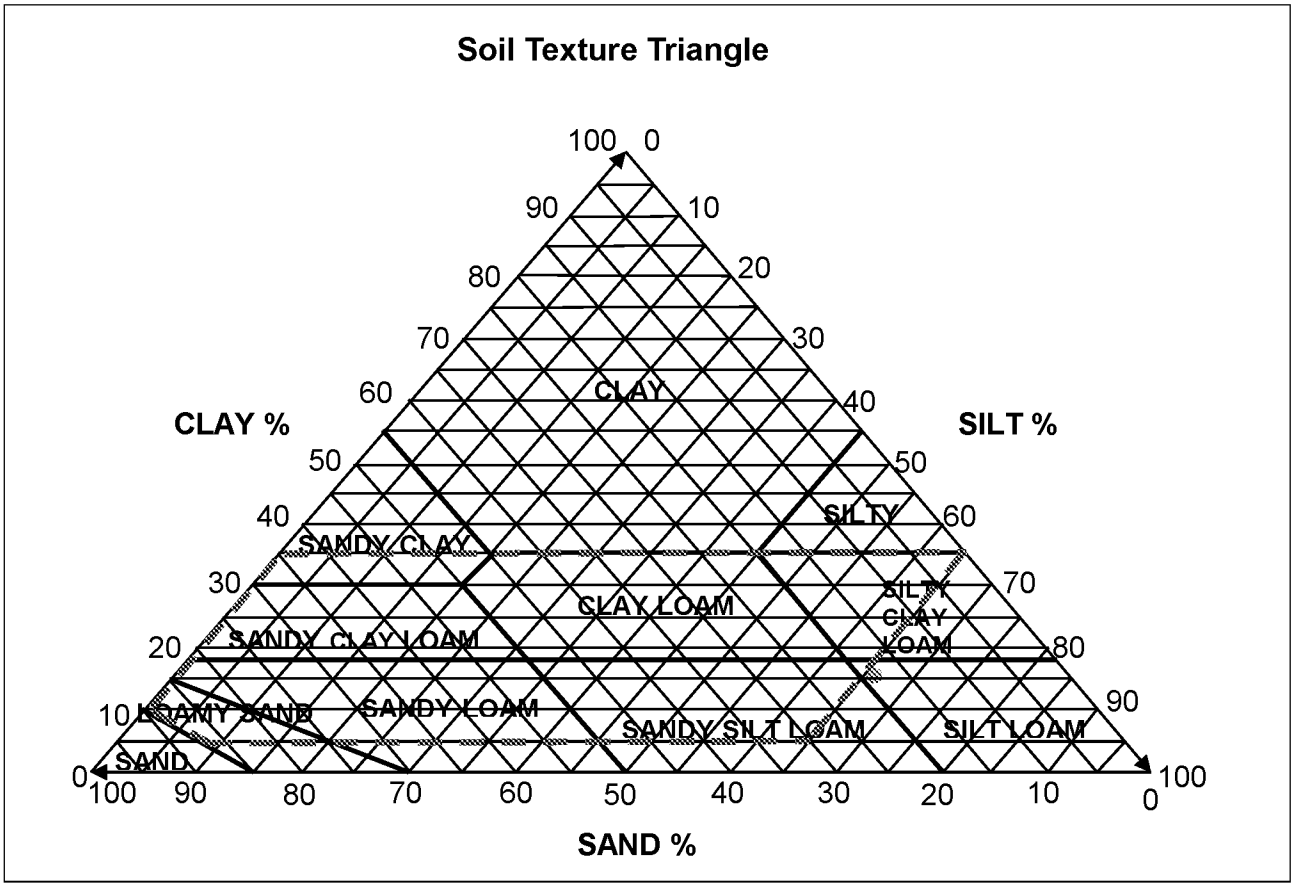
i2 Analytical Ltd
7 Woodshots Meadow
Croxley Green Business Park
Watford Herts WD18 8YS

Tested in Accordance with: BS 3882: 2015

Client:	Geo-Environmental Services Ltd	Client Reference:	GE18390
Client Address:	Unit 7, Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL	Job Number:	19-55777
		Date Sampled:	Not Given
		Date Received:	21/08/2019
Contact:	Anthony Potter	Date Tested:	23/08/2019
Site Name:	Lidsey Road, Woodgate	Sampled By:	Not Given
Site Address:	Not Given		

Test Results:

Laboratory Reference:	1297289	Depth Top [m]:	0.15
Hole No.:	TP6	Depth Base [m]:	Not Given
Sample Reference:	Not Given	Sample Type:	D
Sample Description:	SILT LOAM		



Sample Proportion	% dry mass
Sand	18.9
Silt	64.5
Clay	16.6

Remarks:

Approved: Dariusz Piotrowski
PL Geotechnical Laboratory Manager
Date Reported: 02/09/2019

Signed: Darren Berrill
Geotechnical General Manager
for and on behalf of i2 Analytical Ltd **GF 286.3**

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i2 Analytical Ltd, Unit 1, Unit 2 Industrial Park, ul. Pionierow 39, 41-711 Ruda Slaska, Poland."

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Anthony Potter
Geo-Environmental Services Ltd
Unit 7, Danworth Farm
Cuckfield Road
Hurstpierpoint
West Sussex
BN6 9GL

[redacted]

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 19-55777

Project / Site name:	Lidsey Road, Woodgate	**Samples received on:**	21/08/2019
Your job number:	GE18390	**Samples instructed on:**	21/08/2019
Your order number:		**Analysis completed by:**	02/09/2019
Report Issue Number:	1	**Report issued on:**	02/09/2019
Samples Analysed:	4 soil samples		

Signed: [redacted]

Karolina Marek
Technical Reviewer (Reporting Team)
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils	- 4 weeks from reporting
leachates	- 2 weeks from reporting
waters	- 2 weeks from reporting
asbestos	- 6 months from reporting

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Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement. Application of uncertainty of measurement would provide a range within which the true result lies. An estimate of measurement uncertainty can be provided on request.

ARUN DISTRICT COUNCIL AL/28/22/DOC
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Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Certificate of Analysis

BS 3882:2015 Specification For Topsoil

	Fail BS 3882		client	
Report No:	**19-55777**		**Geo-Environmental Services Ltd**	
Location	Lidsey Road, Woodgate			
Lab Reference (Sample Number)	1297286		01273 832972	
Sampling Date	Deviating			
Sample ID	TP3			
Depth (m)	**0.10**		**Compliant with range (Y/N)**	

		unit	Result	Multi-P	Acid	Calc	Low-F	Low-F(a)	Low-F(c)
Soil texture	<2mm fraction	%w/w	SILT LOAM	N	N	N	N	N	N
Maximum coarse fragment content:	>2mm	%w/w	2.60	Y	Y	Y	Y	Y	Y
	>20mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
	>50mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
Mass loss on ignition		%	3.50						
	Clay 5-20%		Y	Y	Y	Y	Y	Y	Y
	Clay 20-35%		-	-	-	-	-	-	-
Soil pH:		pH	7.90	Y	N	Y	Y	N	Y
Carbonate:		%w/w	3.30	-	-	Y	-	-	Y
Available plant nutrients	Nitrogen	%w/w	0.04	N	N	N	-	-	-
	Extractable Phosphate (as P)	mg/l	8.20	N	N	N	Y	Y	Y
	Extractable Potassium	mg/l	75.10	N	N	N	-	-	-
	Extractable Magnesium	mg/l	120.00	Y	Y	Y	-	-	-
Carbon: Nitrogen Ratio:		:1	47.00	N	N	N	N	N	N
Conductivity		us/cm	1700.00	Y	-	-	-	-	-
Phytotoxic contaminants:	** Total Zinc	mg/kg	38.00	Y	Y	Y	Y	Y	Y
	** Total Copper	mg/kg	15.00	Y	Y	Y	Y	Y	Y
	** Total Nickel	mg/kg	15.00	Y	Y	Y	Y	Y	Y
Visible contaminants:	>2mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
	Plastics	%w/w	0.00	Y	Y	Y	Y	Y	Y
	Sharps	no. in 1 kg	0.00	Y	Y	Y	Y	Y	Y
Compliancy:				Fail	Fail	Fail	Fail	Fail	Fail

Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and I2 cannot be held responsible for any discrepencies with current legislation

** = MCERTS accrediited

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7 Woodshots Meadow
Croxley Green Business Park
Watford, WD18 8YS

Telephone: 01923 225404
Fax: 01923 237404
email:reception@i2analytical.com

Certificate of Analysis

BS 3882:2015 Specification For Topsoil

	Pass BS 3882 for Low fertility;		client	
Report No:	**19-55777**		**Geo-Environmental Services Ltd**	
Location	Lidsey Road, Woodgate			
Lab Reference (Sample Number)	1297287		01273 832972	
Sampling Date	Deviating			
Sample ID	TP4			
Depth (m)	**0.10**			

		unit	Result	Compliant with range (Y/N)					
				Multi-P	Acid	Calc	Low-F	Low-F(a)	Low-F(c)
Soil texture	<2mm fraction	%w/w	SILT LOAM						
Maximum coarse fragment content:	>2mm	%w/w	7.70	Y	Y	Y	Y	Y	Y
	>20mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
	>50mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
Mass loss on ignition		%	5.20						
	Clay 5-20%		Y	Y	Y	Y	Y	Y	Y
	Clay 20-35%		-	-	-	-	-	-	-
Soil pH:		pH	6.90	Y	N	N	Y	N	N
Carbonate:		%w/w	23.00	-	-	Y	-	-	Y
Available plant nutrients	Nitrogen	%w/w	0.20	Y	Y	Y	-	-	-
	Extractable Phosphate (as P)	mg/l	6.70	N	N	N	Y	Y	Y
	Extractable Potassium	mg/l	205.00	Y	Y	Y	-	-	-
	Extractable Magnesium	mg/l	200.00	Y	Y	Y	-	-	-
Carbon: Nitrogen Ratio:		:1	15.00	Y	Y	Y	Y	Y	Y
Conductivity		us/cm	1600.00	Y	-	-	-	-	-
Phytotoxic contaminants:	** Total Zinc	mg/kg	40.00	Y	Y	Y	Y	Y	Y
	** Total Copper	mg/kg	15.00	Y	Y	Y	Y	Y	Y
	** Total Nickel	mg/kg	12.00	Y	Y	Y	Y	Y	Y
Visible contaminants:	>2mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
	Plastics	%w/w	0.00	Y	Y	Y	Y	Y	Y
	Sharps	no. in 1 kg	0.00	Y	Y	Y	Y	Y	Y
Compliancy:				Fail	Fail	Fail	Pass	Fail	Fail

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Watford, WD18 8YS

Telephone: 01923 225404
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email:reception@i2analytical.com

Certificate of Analysis

BS 3882:2015 Specification For Topsoil

	Fail BS 3882		client	
Report No:	**19-55777**		**Geo-Environmental Services Ltd**	
Location	Lidsey Road, Woodgate			
Lab Reference (Sample Number)	1297288		01273 832972	
Sampling Date	Deviating			
Sample ID	TP5			
Depth (m)	**0.10**		**Compliant with range (Y/N)**	

		unit	Result	Multi-P	Acid	Calc	Low-F	Low-F(a)	Low-F(c)
Soil texture	<2mm fraction	%w/w	SILT LOAM	N	N	N	N	N	N
Maximum coarse fragment content:	>2mm	%w/w	1.60	Y	Y	Y	Y	Y	Y
	>20mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
	>50mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
Mass loss on ignition		%	5.50						
	Clay 5-20%		Y	Y	Y	Y	Y	Y	Y
	Clay 20-35%		-	-	-	-	-	-	-
Soil pH:		pH	6.10	Y	N	N	Y	N	N
Carbonate:		%w/w	3.90	-	-	Y	-	-	Y
Available plant nutrients	Nitrogen	%w/w	0.14	N	N	N	-	-	-
	Extractable Phosphate (as P)	mg/l	5.20	N	N	N	Y	Y	Y
	Extractable Potassium	mg/l	119.00	N	N	N	-	-	-
	Extractable Magnesium	mg/l	180.00	Y	Y	Y	-	-	-
Carbon: Nitrogen Ratio:		:1	23.00	N	N	N	Y	Y	N
Conductivity		us/cm	1600.00	Y	-	-	-	-	-
Phytotoxic contaminants:	** Total Zinc	mg/kg	39.00	Y	Y	Y	Y	Y	Y
	** Total Copper	mg/kg	14.00	Y	Y	Y	Y	Y	Y
	** Total Nickel	mg/kg	16.00	Y	Y	Y	Y	Y	Y
Visible contaminants:	>2mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
	Plastics	%w/w	0.00	Y	Y	Y	Y	Y	Y
	Sharps	no. in 1 kg	0.00	Y	Y	Y	Y	Y	Y
Compliancy:				Fail	Fail	Fail	Fail	Fail	Fail

Results are expressed on a dry weight basis, after correction for moisture content where applicable
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Telephone: 01923 225404
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email:reception@i2analytical.com

Certificate of Analysis

BS 3882:2015 Specification For Topsoil

	Fail BS 3882		client	
Report No:	**19-55777**		**Geo-Environmental Services Ltd**	
Location	Lidsey Road, Woodgate			
Lab Reference (Sample Number)	1297289		01273 832972	
Sampling Date	Deviating			
Sample ID	TP6			
Depth (m)	**0.15**		**Compliant with range (Y/N)**	

		unit	Result	Multi-P	Acid	Calc	Low-F	Low-F(a)	Low-F(c)
Soil texture	<2mm fraction	%w/w	SILT LOAM	N	N	N	N	N	N
Maximum coarse fragment content:	>2mm	%w/w	0.70	Y	Y	Y	Y	Y	Y
	>20mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
	>50mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
Mass loss on ignition		%	4.00						
	Clay 5-20%		Y	Y	Y	Y	Y	Y	Y
	Clay 20-35%		-	-	-	-	-	-	-
Soil pH:		pH	6.50	Y	N	N	Y	N	N
Carbonate:		%w/w	3.90	-	-	Y	-	-	Y
Available plant nutrients	Nitrogen	%w/w	0.09	N	N	N	-	-	-
	Extractable Phosphate (as P)	mg/l	5.70	N	N	N	Y	Y	Y
	Extractable Potassium	mg/l	76.40	N	N	N	-	-	-
	Extractable Magnesium	mg/l	150.00	Y	Y	Y	-	-	-
Carbon: Nitrogen Ratio:		:1	27.00	N	N	N	Y	Y	N
Conductivity		us/cm	1700.00	Y	-	-	-	-	-
Phytotoxic contaminants:	** Total Zinc	mg/kg	33.00	Y	Y	Y	Y	Y	Y
	** Total Copper	mg/kg	14.00	Y	Y	Y	Y	Y	Y
	** Total Nickel	mg/kg	15.00	Y	Y	Y	Y	Y	Y
Visible contaminants:	>2mm	%w/w	0.00	Y	Y	Y	Y	Y	Y
	Plastics	%w/w	0.00	Y	Y	Y	Y	Y	Y
	Sharps	no. in 1 kg	0.00	Y	Y	Y	Y	Y	Y
Compliancy:				Fail	Fail	Fail	Fail	Fail	Fail

Results are expressed on a dry weight basis, after correction for moisture content where applicable
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ARUN DISTRICT COUNCIL AL/28/22/DOC

Analytical Report Number : 19-55777

Project / Site name: Lidsey Road, Woodgate

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
1297286	TP3	None Supplied	0.10	Brown sandy loam with vegetation.
1297287	TP4	None Supplied	0.10	Brown sandy loam with vegetation.
1297288	TP5	None Supplied	0.10	Brown sandy loam with vegetation.
1297289	TP6	None Supplied	0.15	Brown sandy loam with vegetation.

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Analytical Report Number : 19-55777

Project / Site name: Lidsey Road, Woodgate

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Carbon to Nitrogen Ratio (Topsoil - BS3882:2015)	Carbon to Nitrogen ratio (:1) calculated using Loss on Ignition.	BS3882:2015	L01TS2015	W	NONE
Carbonate (Topsoil - BS3882)	Determination of Carbonate as per BS 3882:2015.	BS3882:2015	L034-PL	D	NONE
Coarse Fragment and Contaminant Analysis	Determination of >2mm contaminants	BS3882:2007 & BS8601:2013 & PAS 100:2005	L01TS	D	NONE
Conductivity (BS3882/BS8601)	Determination of the conductivity of soil in accordance with BS 3882:2007 methodology	BS3882:2007 & BS8601:2013	L099-PL	D	NONE
Extractable/Available Metals (BS3882/BS8601)	Determiation of the extractable metals in soil, in accordance with BS3882:2007 methodology.	BS3882:2007 & BS8601:2013	L038-PL	D	NONE
Geotechnical Testing in Soil	See attached geotechnical report	See attached geotechnical report		W	NONE
Kjeldahl nitrogen in soil	Determination of total nitrogen using the Kjeldahl-digestion method and colorimetric determination.	In house method based on BS 7755-3.7:1995 &	L087-PL	D	NONE
Mass loss on ignition (Topsoil - BS3882)	Determination of Loss on Ignition as per BS 3882:2015.	BS3882:2015	L047-PL	D	NONE
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically.	In-house method based on BS1377 Part 2, 1990, Chemical and Electrochemical Tests	L019-UK/PL	W	NONE
Nitrogen (TKN)	Determination of total nitrogen by Kjeldahl method.	BS3882:2007	L087-PL	D	NONE
pH (BS3882/BS8601)	Determination of the pH of soil in accordance with BS 3882:2007 methodology	BS3882:2007 & BS8601:2013	L099-PL	D	NONE
Phosphorus as PO4 (BS3882/BS8601)	Determiation of the extractable phosphorus in soil, in accordance with BS3882:2007 methodology.	BS3882:2015 & BS8601:2013	L082-PL	D	NONE
Sodium (exchangeable %)	Determination of exchangeable sodium (%) by calculation, in accordance with BS3882:2007 methodology.	BS3882:2007	L028-PL	D	NONE
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Textural Classification (BS3882/BS8601)	Determination of the textural classifcation of soil following BS3882:2007 methodology.	BS3882:2007 & BS8601:2013	L01TS	D	NONE
Textural Classification Diagram	Textural classification Diagram	BS3882:2015		D	NONE

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Analytical Report Number : 19-55777

Project / Site name: Lidsey Road, Woodgate

Water matrix abbreviations: Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Water (PrW)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Topsoil	See attached report.	BS 3882: 2015	PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.
For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.
Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

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Sample Deviation Report

Sample ID	Other_ID	Sample Type	Job	Sample Number	Sample Deviation Code	test_name	test_ref	Test Deviation code
TP3		S	19-55777	1297286	a			
TP4		S	19-55777	1297287	a			
TP5		S	19-55777	1297288	a			
TP6		S	19-55777	1297289	a			

Key: a - No sampling date b - Incorrect container
c - Holding time d - Headspace e - Temperature

ARUN DISTRICT COUNCIL AL/28/22/DOC

ATKINS CatWasteSoil

Classification Assessment Tool of Soil Wastes - Hazard Summary Sheet

Site Name	Lidsey Road, Woodgate
Location	Woodgate, West Sussex
Site ID	Woodgate
Job Number	GE18390
Date	10/2/2019
User Name	anthony.potter@gesl.net
Company Name	Geo-Environmental Services Limited

Hole ID	Sample Depth	Hazardous Waste Y/N	HP1	HP2	HP3	HP4	HP5	HP6	HP7	HP8	HP9
TP1	0.1	Y	No	No	No	No	No	No	Yes	No	No
TP2	0.1	Y	No	No	No	No	No	No	Yes	No	No
WS1	0.1	N	No	No	No	No	No	No	No	No	No
WS2	0.5	N	No	No	No	No	No	No	No	No	No
WS3	0.2	N	No	No	No	No	No	No	No	No	No
WS4	0.2	N	No	No	No	No	No	No	No	No	No
WS7	0.2	N	No	No	No	No	No	No	No	No	No
WS6	0.2	N	No	No	No	No	No	No	No	No	No

ARUN DISTRICT COUNCIL AL/28/22/DOC

ATKINS CatWasteSoil

Site Name	Lidsey Road, Woodgate
Location	Woodgate, West Sussex
Site ID	Woodgate
Job Number	GE18390
Date	10/2/2019
User Name	anthony.potter@gesl.net
Company Name	Geo-Environmental Services Limited

Hole ID	Sample Depth	Hazardous Waste Y/N	HP10	HP11	HP12	HP13	HP14	HP15	HP16
TP1	0.1	Y	No	Yes	No	No	No	No	No
TP2	0.1	Y	No	Yes	No	No	No	No	No
WS1	0.1	N	No	No	No	No	No	No	No
WS2	0.5	N	No	No	No	No	No	No	No
WS3	0.2	N	No	No	No	No	No	No	No
WS4	0.2	N	No	No	No	No	No	No	No
WS7	0.2	N	No	No	No	No	No	No	No
WS6	0.2	N	No	No	No	No	No	No	No

APPENDIX F

Window Sampler & Trial Pit Photographs

Geo-Environmental

Name	Lindsey Road, Woodgate
ID	GE18390
Client	Thakeham Client
Engineer	
Anthony Potter	anthony.potter@gesl.net
Location	Woodgate, West Sussex
Date	19/08/2019
Geo-Environmental's Project Manager	
Anthony Potter	anthony.potter@gesl.net

Hole

Hole ID	WS1

Photo of Window Sampler Soil

(1 record)

Window Sampler Photo	*Description*
	Ws1

Hole ID	WS6

Photo of Window Sampler Soil

(1 record)

Window Sampler Photo	*Description*

	Ws6

Hole ID WS4

Photo of Window Sampler Soil

(1 record)

Window Sampler Photo	*Description*
	Ws4

Hole ID WS5

Photo of Window Sampler Soil

(1 record)

Window Sampler Photo	*Description*

	Ws5

Hole ID WS2

Photo of Window Sampler Soil

(1 record)

Window Sampler Photo	*Description*
	Ws2

Hole ID WS3

Photo of Window Sampler Soil

(1 record)

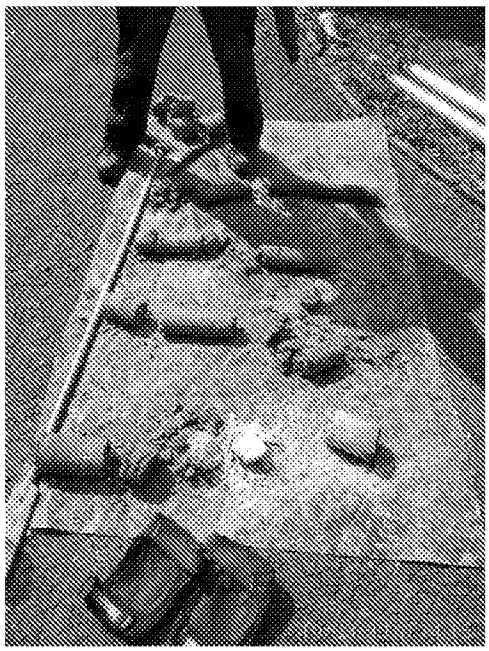
Window Sampler Photo	*Description*

	Ws3

Hole ID WS7

Photo of Window Sampler Soil

(1 record)

Window Sampler Photo	*Description*
	Ws7

Hole ID TP1

Photo of Pit



Photo of Reinstated Position

No data

Hole ID TP2

Photo of Pit



Photo of Reinstated Position

No data

Hole ID TP3

Photo of Pit

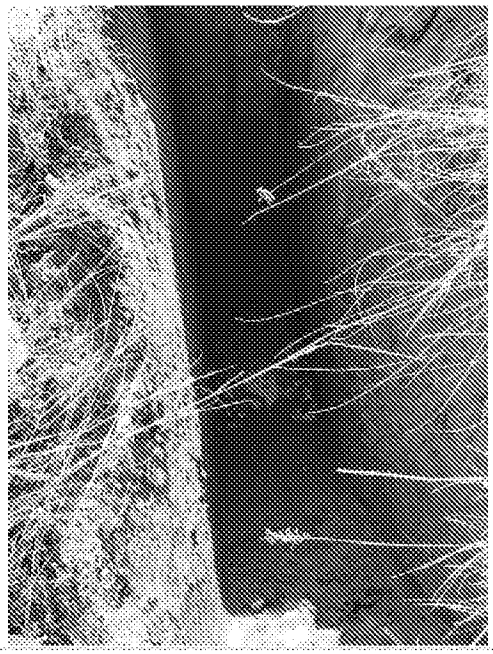


Photo of Spoil



Photo of Reinstated Position

No data

Hole ID TP4

Photo of Pit

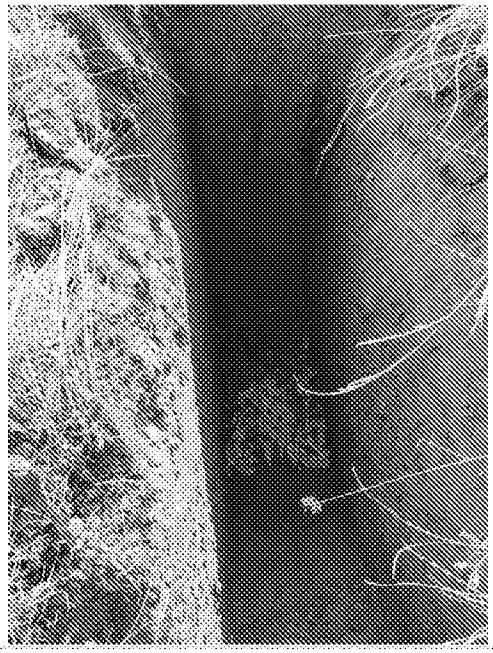


Photo of Spoil

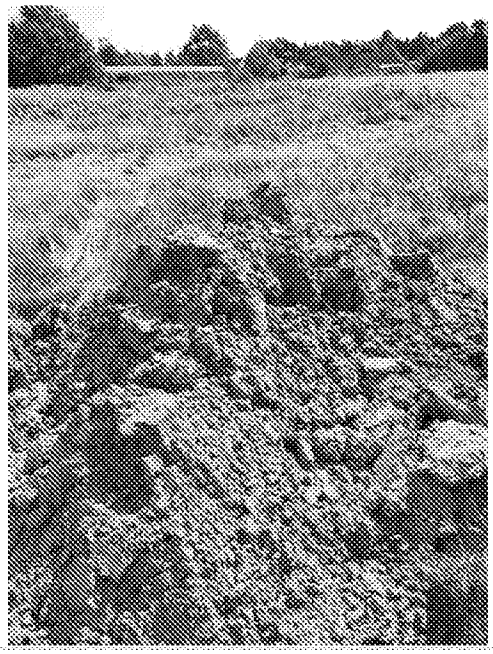


Photo of Reinstated Position

No data

Hole ID TP5

Photo of Pit

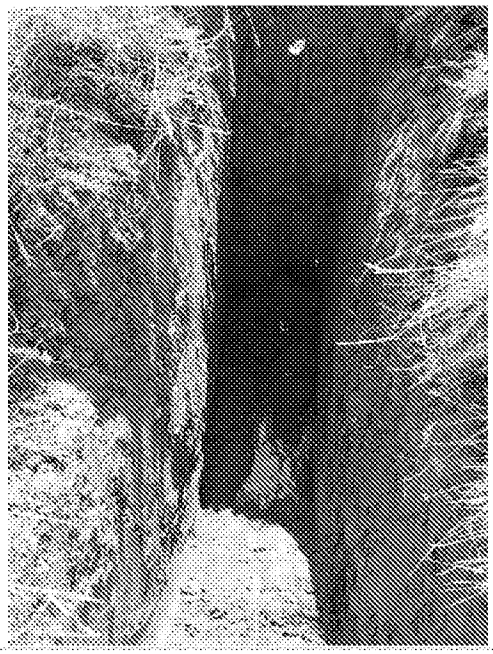


Photo of Reinstated Position

No data

Hole ID TP5

Photo of Pit



Photo of Spoil



Photo of Reinstated Position

No data