Geo-Environmental

GROUND APPRAISAL REPORT

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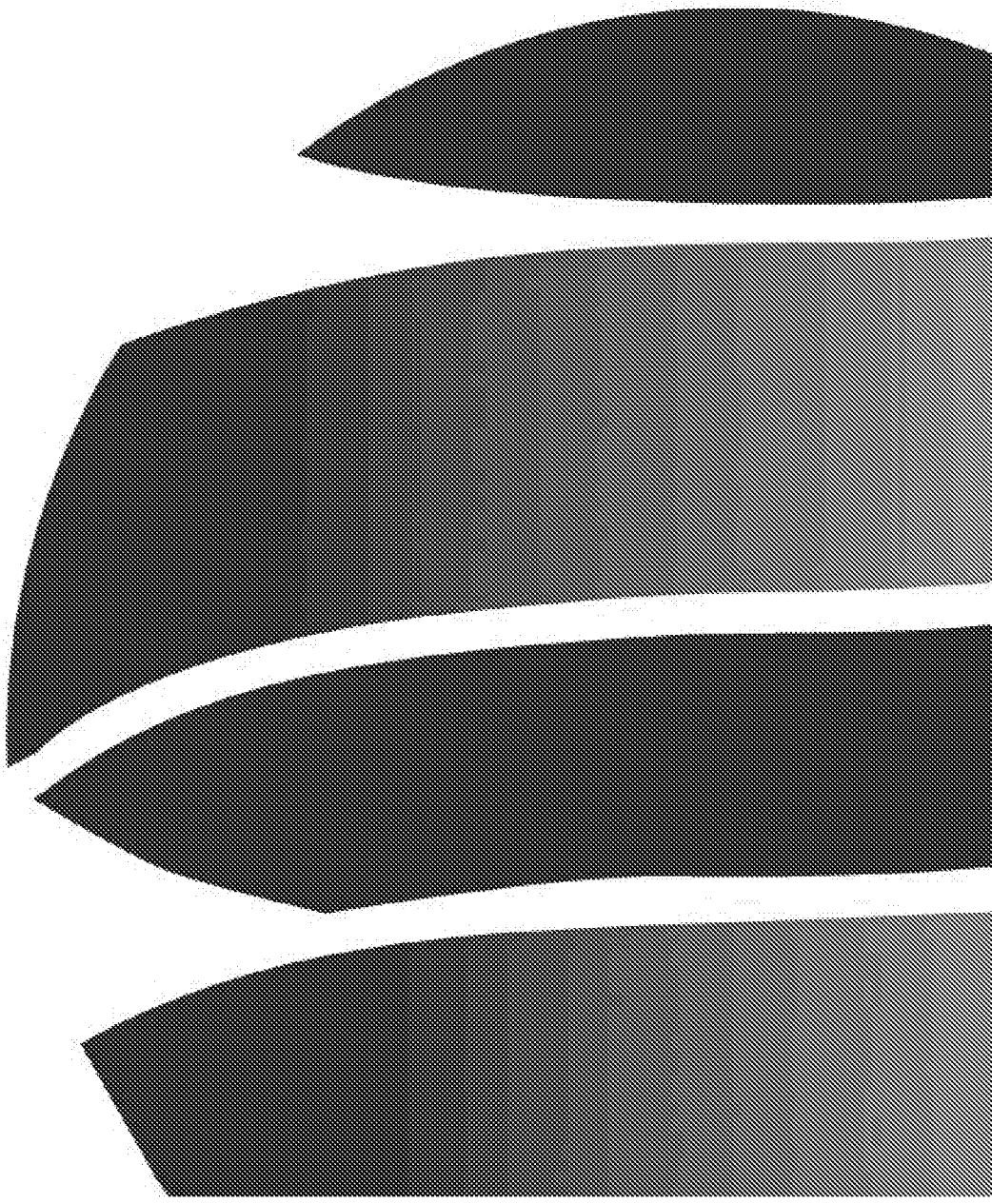
COFFEE DRIVE-THRU, WORTHING ROAD

LITTLEHAMPTON, WEST SUSSEX,

BN17 6LE

on behalf of

STORE PROPERTY INVESTMENTS LIMITED



ARUN DISTRICT COUNCIL LU/7/18/DOC

Report:	**GROUND APPRAISAL REPORT**
Site:	**COFFEE DRIVE-THRU, WORTHING ROAD, LITTLEHAMPTON, WEST SUSSEX, BN17 6LE**
Client:	**STORE PROPERTY INVESTMENTS LIMITED**
Date:	**27/11/17**
Reference:	**GE16347/GAR/v2/NOV17**
Version:	**2.0**
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AMENDMENT RECORD

Revision ref.	Date	Reasons for amendment	Author's initials
2.0	27/11/17	Discussion and clarification of borehole soakaway recommendations.	VB

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EXECUTIVE SUMMARY		
Site Details	Site Address	Coffee Drive-Thru, Worthing Road, Littlehampton, West Sussex, BN17 6LE
	National Grid Reference	NGR 503870, 103310
	Site Area	0.11Ha (approx.)
	Form of Development	Construction of a micro drive-through coffee shop with associated access, parking and infrastructure.
Encountered Conditions	Scope of works	The assessment incorporated a desk study to determine the site's setting to inform a preliminary risk assessment followed by 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 surface covering of Topsoil underlain by Made Ground (one location) overlying the River Terrace Deposits and White Chalk Subgroup.
	Groundwater	Groundwater was not encountered within any of the window sampler boreholes during the intrusive investigation or subsequent monitoring.
Geotechnical Considerations	Foundations	It is considered that conventional foundations should be appropriate for the proposed development. The natural strata beneath the site are considered to be of medium shrinkability and thus a minimum founding depth of 0.90m bgl is recommended. Foundations should extend through any Made Ground, disturbed/reworked ground or root zones to terminate within the River Terrace Deposits. A net allowable bearing capacity of 75kPa is recommended for the River Terrace Deposits. Total settlement should remain within tolerable limits for the bearing capacities stated. Allowance should be made for inclusion of reinforcement in foundations if they span the two strata.
	Floor Slabs	Suspended floor slabs are recommended throughout the development due to the depth of Made Ground encountered and the presence of shrinkable soils.
	Excavations	Shallow excavations are likely to remain relatively stable, where dry. Instability should be anticipated if/where water ingress occurs. Deep excavations are likely to require support. Under no circumstances should personnel be permitted to enter excavations during construction or maintenance.
	Pavements	A CBR value of 5% is recommended for the natural soils likely to be present at the subgrade formation depth. This should be reduced to 2% if Made Ground is present at the formation depth. The shallow soils are considered to be frost susceptible for which a minimum thickness of 450mm is required.

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	Drainage	Soakage testing was undertaken within one trial pit (TP01). The soakage testing was undertaken within the River Terrace Deposits which recorded negligible soakage. It is possible that the underlying chalk at depth would have a feasible infiltration rate, however further testing would be needed to ascertain this, and given that a deep borehole soakaway would open a significant pathway for potential contamination from the nearby petrol station and car wash, this is option is not recommended.
	Buried Concrete	Buried concrete for shallow foundations should be designed to Class DS1 (AC1s).
Environmental Considerations	Human Health	Laboratory chemical testing and statistical analysis has recorded no significantly elevated concentrations of the determinants tested in the context of the proposed commercial end use. Remedial measures in respect of soil contamination are not considered to be required.
	Groundwater	No evidence of mobile contamination was encountered within the soils. In the absence of any specific pollutant linkages, no risk mitigation measures are considered to be required.
	Radon Gas	No radon protection measures are required.
	Ground Gas	On the basis of the assessment undertaken to date, ground gas protection measures are not considered to be required. However, this may be revised based on the results of the remaining two monitoring visits.
	Built Environment	The results of the chemical testing indicate that barrier pipe may not be required for potable water supply pipes on site. However the water company should be contacted to confirm their requirements. In line with best practice trenches should be backfilled with clean, inert granular fill (shingle).
	Waste Disposal	WAC testing was carried out on one sample of Made Ground soils with these soils identified as inert. Further testing and guidance should be sought from the receiving landfill facility once soils for removal have been identified.

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 remaining two monitoring visits should be completed and this report updated accordingly.

This Executive Summary is intended to provide a brief summary of the main findings and conclusions of the investigation. For further information, reference should be made to the main report ref. GE16235-GAR-JUN17.

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1.0 Introduction

Geo-Environmental Services Limited was instructed by Store Property Investments, to undertake an investigation of the geotechnical and geo-environmental factors pertaining to the land at the proposed Coffee Drive-Thru, Worthing Road, Littlehampton, West Sussex, BN17 6LE herein referred to as 'the site'. The site's location is presented in Figure 1. It was understood that the site is proposed to be developed with a micro drive-through coffee shop with associated access, parking and infrastructure.

2.0 Desk Study

The findings of the Phase I desk study are presented in the following section. A copy of the historical maps and other information obtained as part of the desk study are presented in Appendix A. Comments made in the following section regarding possible ground conditions on the site are based purely on the desk study.

2.1 Site Features

Table 2.1 below summarises the pertinent site features.

Site Information	Description
National Grid Reference	503870, 103310
Site area	0.11Ha
Shape of site	Irregular
Topography	Central area flat and level gently sloping around boundary.
Signs of landslides	None
Signs of subsidence	No buildings on site
Topographic evidence of dissolution features	None
Current site use	Grassed verge
Structures on site	None
Any tanks	None known
Evidence of surface staining	No
Retaining walls	None
Trees	One tree stump, was evident near the centre of the site.
Surface of site	Grassed
Evidence of services	Drainage, manhole covers, gas stopcocks and BT services observed.
Evidence of filled ground or stockpiled materials	None
Any fly tipped materials	None
Evidence of ACMs	None
Vegetation die back	No
Evidence of a high water table	None
Boundaries	The site was bound by Worthing Road to the south, with a hotel, car park and fuel filling station to the north.
Neighbouring area	Mix of commercial and residential uses with a cemetary to the south.
Contaminative surrounding uses	Fuel filling station and cemetery

Table 2.1: Site Features

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2.2 Geology

British Geological Survey geological mapping indicated the geology of the site to comprise River Terrace Deposits with the White Chalk Subgroup at depth beneath.

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.

The White Chalk Subgroup is a soft white friable microporous limestone composed of coccolith biomicrites with a varying proportion of larger shell fragments. Flint characterises the White Chalk Subgroup, occurring as nodular courses, tabular beds and linings to fractures.

At various levels clay sized material occurs as marl seams and partings. Close to the surface the upper few metres are invariably discoloured brown, due to leaching from the overlying strata. The interface with any overlying stratum is invariably extremely irregular as a result of localised weathering and general solution. Weathering by frost action may extend to a depth of several metres.

Occasional erosional features, such as pipes, swallow holes and solution cavities, usually infilled with drift deposits, are found in the chalk, sometimes manifesting themselves at the surface as shallow circular depressions. Solution features may be reactivated by the concentrated ingress of water from leaking drains or soakaways. Reactivation may lead to surface collapse.

Within the Chalk outcrop on the south coast of England the traditional three-fold division into Lower, Middle and Upper Chalk is impractical for mapping purposes and only two divisions are mapped, these being the Grey Chalk Subgroup (formerly known as the Lower Chalk) and the White Chalk Subgroup (formerly the undivided Middle & Upper Chalk).

2.3 Hydrogeology

With reference to information provided by the Environment Agency, the superficial geology of the site was indicated to be classified as a Secondary 'A' Aquifer.

The underlying White Chalk Subgroup was indicated to be classified as a Principal Aquifer.

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.

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

In addition, the site was indicated to be outside of any source protection zone with regard to the protection of groundwater for potable supply.

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No discharge consents to groundwater were recorded within 250m of the subject site.

Eight groundwater aquifer abstractions were recorded within 500m of the site, detailed below;

Details	Direction	Distance
Operator: Ministry Of Agriculture; Fisheries & Food Location: Former Glasshouse Crops Abstraction: Garden Centre, Non Domestic Garden Or Horticulture	E	278
Operator: Ministry Of Agriculture Fisheries & Food Location: Former , Glasshouse Crops Research Inst Abstraction: Spray Irrigation	E	296
Operator: Yoder Toddington Ltd Location: Foxdale Nursery Toddington Lane (A) Abstraction: Agriculture: Horticultural Watering	N	407
Operator: D W P Dales & Co Location: Foxdale Nursery Toddington Lane (A) Abstraction: Agriculture: Horticultural Watering	N	407
Operator: Firview Nursery Location: Firview Nursery Toddington Lane Abstraction: Agriculture: Horticultural Watering	NW	459
Operator: Firview Nursery Location: Firview Nursery Toddington Lane Abstraction: Horticulture And Nurseries: Spray Irrigation - Direct	NW	459
Operator: Yoder Toddington Ltd Location: Firview Nursery Toddington Lane Abstraction: Horticulture And Nurseries: Spray Irrigation - Direct	NW	459
Operator: Yoder Toddington Ltd Location: Firview Nursery Toddington Lane Abstraction: Agriculture: Horticultural Watering	NW	459

Table 2.2: groundwater aquifer abstractions within 500m of the site

No prosecutions relating to controlled waters were identified within a 500m radius of the site.

2.4 Hydrology

The nearest surface feature (Drain) was identified 30m to the east of the site.

No Pollution Incidents to controlled waters were identified within a radius of 250m of the site.

The site was indicated to be located outside an area designated as being at risk from flooding from rivers or sea without defences or extreme flooding.

No licensed surface water abstractions were recorded within 250m of the site.

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The site was indicated by the BGS to be in an area identified as having the potential for groundwater flooding of below ground structures. Note, the mapping is a susceptibility set, it does not indicate hazard or risk, i.e. it does not provide any information on the depth to which groundwater flooding occurs or the likelihood of the occurrence of an event of a particular magnitude.

2.5 Radon

Based on data supplied by the British Geological Survey (BGS), the estimated probability of the property being above the Action Level for radon is: 0-1%, Lower probability area.

The site is not indicated to be in a Radon affected area, therefore radon protection measures are not required for new dwellings.

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, fuel station registers, points of interest – commercial services and points of interest – manufacturing and production.

No Contaminated Land Register entries were recorded within a 250m radius of the site.

No Integrated Pollution Controls or integrated Pollution Prevention and Controls were recorded within a 250m radius of the site.

One Local Authority Integrated Pollution Controls was recorded within a 250m radius of the site.

- Shell Eastfield, Local Authority Air Pollution Control, PG1/14 Petrol filling station – 28m NW

The desk study identified five Contemporary Trade Directory entries within 250m of the site;

Details	Direction	Distance
Name: Shell East Field Classification: Petrol Filling Stations Status: Active	W	28
Name: Shell Service Station Ltd Classification: Petrol Filling Stations - 24 Hour Status: Inactive	W	28
Name: Cosi Ltd Classification: Toiletries Status: Inactive	NW	130
Name: Sparkle Cleaners Classification: Cleaning Services - Domestic Status: Inactive	SE	201

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Name: Rassilon Replicas Classification: Tool Design, Manufacturers & Makers Status: Active	SE	205

Table 2.3: Contemporary Trade Directory entries within 250m of the site

The desk study identified one Fuel Station entry within 250m of the site.

- Shell Eastfield, petrol station, open – 28m NW.

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 2.4.

Contaminant	Estimated Concentration (mg/kg)
Arsenic	<15
Cadmium	<1.8
Chromium	60-90
Lead	<100
Nickel	15-30

Table 2.4: 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 commercial land use, i.e. the most conservative end use proposed.

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 Envirocheck recorded these sensitive land uses within 1km of the site;

- Nitrate Vulnerable Zones

2.9 Geotechnical Data

According to the Coal Authority, the site was located in an area that might not be affected by coal mining activities.

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 2.5.

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Hazard	Designation
Non-coal mining	Rare
Collapsible ground	LowHazard
Compressible ground	No Hazard
Ground dissolution	Very Low Hazard
Landslide	Very Low Hazard
Running sand	Low Hazard
Shrinking and Swelling clay	Low Hazard

Table 2.5: Summary of BGS Geological Hazards

No man-made mining or natural cavities were identified within 250m of the site.

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.

Two historic landfills were identified within a radius of 500m;

- 1950-1960, deposited waste included industrial and special waste, 305m NE
- 1960-1970, deposited waste included inert, commercial and household waste, 368m W.

One licensed waste management facility was recorded within a 500m radius of the site;

- Landfills taking non-biodegradable wastes (not construction), 411m N.

Two historic areas of potentially infilled land comprising unknown filled ground were identified within a radius of 500m the site;

- Unknown filled ground (pit, quarry etc.), 36m SE
- Unknown filled ground (pond, marsh, river, stream, dock etc.) 11m E

It should be noted that a cemetery was situated a short distance to the south.

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 2.6.

Date	On Site	Off Site
1876	The site made up part of a larger agricultural field which extended to the west, north and east. The southern boundary was formed by an unnamed road.	A chapel with associated large cemetery was located c.5m south of the site. The remaining surrounding land was made up of agricultural fields.
1879	No significant changes indicated.	The London, Brighton and south coast railway was located c.750m north.

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Date	On Site	Off Site
1898	No significant changes indicated.	c. Fifteen greenhouses forming the Worthing road nursery were locate c.110m to the southeast.
1899	No significant changes indicated.	No significant changes indicated.
1912	No significant changes indicated.	A brick field was shown c. 40m to the southeast.
1913	No significant changes indicated.	A brick field with associated kiln c. 500m west.
1932	No significant changes indicated.	The cemetery to the south had expanded in the south east.
1938	No significant changes indicated.	No significant changes indicated.
1947	(Historic Aerial Photography) No significant changes indicated.	(Historic Aerial Photography) Rustington had developed c. 1000m to the southeast, Littlehampton had developed c.750m to the southwest.
1959	No significant changes indicated.	A poultry farm was located c. 115m north, a large nursery c.150m northwest, residential development had occurred c. 100m southwest.
1962	No significant changes indicated.	An unspecified works was located c. 500m east.
1972	No significant changes indicated.	No significant changes indicated.
1973	No significant changes indicated.	Residential development was shown c. 30m to the southeast.
1974	No significant changes indicated.	No significant changes indicated.
1977	No significant changes indicated.	Glass house crops research station was located c. 500m west.
1979	No significant changes indicated.	No significant changes indicated.
1982	No significant changes indicated.	No significant changes indicated.
1991	The site was an area of open space within a newly developed filling station.	A petrol filling station had been developed adjacent to the site to the northwest, with a large unknown structure to the north.
1993	No significant changes indicated.	Three large warehouses were located c. 60m to the north of the site.
1994	No significant changes indicated.	Two small ponds had been created c. 100m to the northwest.
1996	No information available at this scale of mapping.	Limited information available at this scale of mapping.
1999	(Historic Aerial Photography) No significant changes indicated.	(Historic Aerial Photography) No significant changes indicated.
2000	No significant changes indicated.	No significant changes indicated.
2006	No significant changes indicated.	No significant changes indicated.
2017	No significant changes indicated.	No significant changes indicated.

Table 2.6: Summary of Historic Map extracts

Historic mapping has shown the site comprised part of a field network and has remained undeveloped until the intrusive investigation thus no specific potentially contaminative historical use has been identified, on site.

In the earliest mapping the surrounding land comprised primarily agricultural use, with a large cemetery to the immediate south.

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Nurseries were developed at several periods, throughout mapping to the south east, and northwest, with a poultry farm and warehouses to the north. From mapping of 1991 a petrol filling station was shown adjacent to the site to the northwest.

2.12 Asbestos

No buildings have been developed on site and therefore the risk of ACMs is considered to be very low.

2.13 Previous Ground Investigations

Geo-Environmental was not aware of any previous investigations that had been undertaken on the subject site. There were no BGS borehole records within the immediate vicinity of the site.

2.14 Potential Contamination

No potentially contaminative activities have been identified on the site. A cemetery to the south and a petrol filling station immediately to the north have been identified as having the potential for on-site migration of contaminants, including hydrocarbons. Whilst gross contamination is considered unlikely based on the information reviewed, it would be prudent to assume the presence of commonly occurring brownfield contaminants such as metals, inorganics, PAH compounds, TPH compounds, and asbestos. Testing would be recommended to verify the actual concentrations of these substances within the near surface soils.

2.15 Ground Gas Summary

The desk study has identified historic landfill sites over 300m away. However, infilled land was identified c. 11m east and adjacent to the site there was a petrol filling station, with associated tanks. As such, areas subject to backfilling with putrescible materials and any leaks and spills from the petrol station have the potential to present a source of ground gases including methane and carbon dioxide, with the potential for ground gas migration onto the subject site.

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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:

- Consideration of the volume change potential of potentially cohesive soils within the underlying soils and the affect this could have on foundations.
- The potential for shallow groundwater.
- Potential for deeper areas of Made Ground.
- The potential for shrinkable soils.
- Potential for solution features to be present within the White Chalk Subgroup.
- The viability of soakaways.

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.

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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 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.

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Source	Description	Contaminants
Shallow soils	The general quality of 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).
Historic infilled land and adjacent petrol station.	The site could be impacted by on-site migration of ground gases from off-site sources	Methane, carbon dioxide, depleted oxygen.
Historic cemetery	The site could be impacted by on-site migration of potentially mobile contaminants from off-site sources.	Methane, carbon dioxide, depleted oxygen.

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 houses and gardens.

Pathway	Description
Direct Contact	Ingestion of soil particles, ingestion and inhalation of soil derived dust (including tracked back dust), dermal contact.
Inhalation	Inhalation of 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	Occupants of the proposed development.	The proposed development is likely to include areas of managed communal soft landscaping.
Soft Landscaping	Possible areas of planting including lawns, shrubs, trees, etc.	Planting is anticipated in soft landscaping.
Built Environment	Buried concrete for foundations and plastics for potable water supply pipes may be laid in contact with contaminated soils.	Aggressive ground conditions and depths of Made Ground may be present beneath the site.
Adjacent Land Users	Sensitive land uses identified within the immediate vicinity.	Adjacent land comprises residential use to the south and commercial/industrial use to the north.

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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 within the superficial geology, overlying a Principal Aquifer. The site is not situated within an SPZ.
Surface Water	Controlled Waters within lakes, rivers, and ponds, etc., or coastal waters.	No surface water was identified on site. The nearest surface water body identified was located 30m to the east.

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	Likelihood	Severity	Risk and Justification
Contaminants of concern **(Made Ground and shallow Soils)**	End users	Direct contact	Unlikely	Minor	**Very Low** End users are unlikely to come into contact with soils via direct contact as the development will include managed communal soft landscaping. The consequence is likely to be minor.
	Soft Landscaping	Root Uptake	Likely	Mild	**Moderate to Low** Areas of soft landscaping are proposed. However, no evidence of harm to existing plant life was identified. The consequence is likely to be mild.
	Adjacent land users	Direct contact	Unlikely	Minor	**Very Low** Adjacent site users are unlikely to come into contact with soils. The consequence is likely to be minor.
	Water supply pipes	Direct contact	Likely	Mild	**Moderate to Low** Water supply pipes could come into contact with impacted or aggressive soils depending upon depth of installation and extent of soil impact. The consequence is likely to be mild.
	Buildings and infra- structure	Direct contact	Likely	Minor	**Low** Foundations and utilities will be placed within potentially aggressive soils. However the consequence is anticipated to be minor.
	Groundwater	Vertical migration	Low	Minor	**Low** The strata beneath the site are classified as a Secondary A Aquifer, overlying a Principal Aquifer and the site is not located in a SPZ. The consequence is likely to be minor.
Off-site sources (historic cemetery and petrol filling station)	End users	Groundwater flow	Unlikely	Minor	**Very Low** Shallow groundwater may be present although end users are unlikely to come into contact with impacted groundwater. The stratum beneath the site is classified as a

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Potential Source/media	Potential Receptors	Potential Pathways	Likelihood	Severity	Risk and Justification
					Secondary A Aquifer overlying a Principal Aquifer. The consequence is likely to be minor.
	Groundwater	Groundwater flow	Unlikely	Minor	**Very Low** The stratum beneath the site is classified as a Secondary A Aquifer. The consequence is likely to be minor.
Off-site sources of ground gases (historic infilled ground and petrol filling station)	End users	Inhalation	Likely	Medium	**Moderate** It is likely that future end users will come into contact with ground gases. The consequence is likely to be medium.
	Soft Landscaping	Root Uptake	Unlikely	Minor	**Very Low** Communal gardens and soft landscaping are proposed. The consequence is likely to be minor.
	Adjacent land users	n/a	n/a	n/a	Assessment of the impact on adjacent sites from ground gases arising from offsite sources does not form part of this assessment.
	Water supply pipes	n/a	n/a	n/a	There is no risk to water supply pipes from potential ground gases
	Buildings and infrastructure	n/a	n/a	n/a	There is no risk to buildings and infrastructure from potential ground gases
	Groundwater	n/a	n/a	n/a	There is no risk to groundwater from potential ground gases

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 'low' albeit with specific potential pollutant linkages being assigned a moderate to low, or moderate risk rating 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 redevelopment. 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, together with ground gas monitoring and an assessment of the site's ground gas climate.

3.4 Geotechnical Condition

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

- The possible presence of Made Ground (e.g. varying depth/or composition) on site, which is encountered may affect the foundation design and construction.
- The presence of trees on and around the site which may impact upon foundation design and construction where shrinkable soils are present.
- The presence of laterally and vertically variable strata and the impact these could have on construction.
- The suitability of shallow soils as bearing stratum for conventional foundations.
- The potential for solution features to be present in the Chalk, or loose/voided ground overlying any such features.

4.0 Investigation Strategy

The investigation strategy comprised providing general coverage of the site to assess ground and groundwater conditions and to support the geotechnical assessment. The investigation included:

- Construction of 4No. window sampler boreholes to depths of up to 4.0m bgl together with in-situ testing and sampling.
- Super heavy dynamic probing at 1No. location to inform the geotechnical assessment.
- Ground gas monitoring (spot monitoring) of wells installed within two selected window sample boreholes on six occasions over a six week period. Wherever possible, the monitoring would target periods of low or rapidly falling atmospheric pressure.
- Undertake in-situ DCP CBR tests in order to inform pavement design.
- The construction of 1No. trial pit (with soakage tests). The pit was excavated to a depth of 3.0m bgl, subject to encountered ground conditions.

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- Geotechnical laboratory testing to support the geotechnical assessment for foundations, ground floor construction, pavement and buried concrete design.
- Geochemical laboratory testing for a suite of commonly occurring brownfield contaminants.
- Targeted testing for hydrocarbons potentially associated with the adjacent fuel filling station.
- Waste Acceptance Criteria (WAC) testing on a selected sample considered representative of soils most likely to be removed from site for disposal as waste.
- Provision of a Ground Investigation Report detailing the findings of the desk study and preliminary risk assessment; the ground and groundwater conditions encountered; the results of in-situ and laboratory testing; a geotechnical assessment for foundations, drainage, pavement, basements/retaining walls and buried concrete; contamination assessment and recommendations for further action (if required). The report would be delivered in electronic format only.

5.0 Ground Conditions

The ground conditions encountered were consistent with those anticipated from the desk study, i.e. a mantle of Topsoil/Made Ground over River Terrace Deposits overlying Chalk of the White Chalk Subgroup. A summary of the encountered soil conditions is presented in Table 5.1.

Top (m bgl)	Base (m bgl)	Geology	Occurrence
0.00	0.05 – 0.35	TOPSOIL: Brown silt with occasional gravel of flint and concrete.	All
0.05	0.90	MADE GROUND: Topsoil with pockets of underlying clay.	WS03
0.05 – 0.90	1.80 – 4.00+	RIVER TERRACE DEPOSITS: Soft to firm orangish brown CLAY becoming sandy and gravelly with depth.	All
1.80->4.00	4.00+	WHITE CHALK SUBGROUP: Recovered as structureless CHALK composed of pale brown gravelly sandy SILT with occasional cobbles and clay layers. Gravel and cobbles are very weak and weak, low and medium density, off-white.	WS04

Table 5.1: Summary of Ground Conditions

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

6.0 Groundwater

Groundwater was not encountered within the window sampler boreholes constructed during the intrusive investigation works on site or the return monitoring visits.

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.

7.0 Ground Gases and Vapours

Return 'spot' ground gas monitoring was undertaken on three occasions during June 2017 as part of the investigation, within standpipes installed within window sampler boreholes WS01 and WS04. These locations were selected to provide coverage across the site.

The spot monitoring did not detect methane at concentrations above 0.0%, carbon dioxide was recorded at a maximum of 3.7% with oxygen in the range 16.9-19.5%. No borehole flows were detected within any wells during

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the monitoring. Atmospheric pressure was recorded between 1011 and 1014mb during the monitoring period.

VOCs were also recorded at the time of monitoring and were present in WS1 to a maximum concentration of 1.7ppm and WS04 to a concentration of 0.3ppm.

8.0 Obstructions

No artificial and natural obstructions were encountered on site during the intrusive works. Obstructions elsewhere on site should not be discounted.

9.0 Geotechnical Testing and Assessment

The results of geotechnical testing undertaken as part of the ground investigation are summarised in Table 9.1, with test results presented in Appendix C.

Parameter	River Terrace Deposits
Moisture Content (%)	8.7 – 26
Liquid Limit (%)	25 – 42
Plastic Limit (%)	13 – 20
Plasticity Index (%)	12 – 24
Modified Plasticity Index (%)	11 – 23
pH	7.80 – 8.08
Water soluble sulphate (g/l)	0.11 – 0.15

NOTE: Modified plasticity index is defined in NHBC Standards Chapter 4.2

Table 9.1: Summary of Geotechnical Laboratory Test Results

The Modified Plasticity Indices showed the more cohesive samples of the River Terrace Deposits to be of medium volume change potential as defined in NHBC guidance.

Four in-situ Dynamic Cone Penetrometer (DCP) tests were undertaken along the proposed route of the drive-through in order to determine California Bearing Ratio (CBR) values. Values at the likely formation level (450mm) ranged between 2% and 11% CBR.

10.0 Engineering Considerations

Subsequent to intrusive investigation of the site and receipt of the laboratory test results, the following geotechnical assessments have been made.

10.1 Foundations

Based on the ground and groundwater conditions encountered in the exploratory holes shallow foundations are considered suitable for the proposed development.

Although not strictly applicable to the form of development, it is recommended that the NHBC Standards, Chapter 4.2 be followed with respect to the design of foundations in shrinkable soils.

The results of the Atterberg Limit tests in conjunction with the field observations indicated that the soils of the River Terrace Deposits should be classified *'en-masse'* as being of medium volume change potential, as defined by NHBC Standards, Chapter 4.2. The underlying Chalk is considered to be non-shrinkable. Therefore a minimum founding depth of 0.90m bgl is recommended.

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Foundations should be taken below any Made Ground, root zones, disturbed ground or reworked ground and terminate in the River Terrace Deposits or Chalk.

Based on the ground conditions encountered, a net allowable bearing capacity of 75kPa is recommended for both the River Terrace Deposits. Total settlement should remain within tolerable limits for the recommended allowable bearing capacity.

It is recommended that foundation excavations be concreted or blinded as soon after excavation as possible. Where concreting could take place the following day it is recommended that excavations are not taken to full depth overnight and that the final 0.5m of cover is only removed immediately prior to concreting.

Whilst no evidence of dissolution features was noted on site, the groundworks contractor should be briefed on the risks and should any unforeseen ground conditions be encountered during foundation excavation, work should cease until such time as the excavations has been inspected by a suitably qualified geotechnical engineer.

10.2 Excavations

Shallow excavations within the River Terrace Deposits are likely to remain relatively stable. However, long and/or deep excavations in the River Terrace Deposits are likely to become unstable in the short to medium term, i.e. possibly during construction, and thus construction methodologies should avoid forming long and/or deep unsupported excavations.

In the event that excavations become unstable, the sides should either be shuttered or battered to a stable angle. Long deep excavations may require some support, particularly if they are to be left open for long periods.

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. Confined Spaces Regulations.

10.3 Floor Slabs

Given the presence of shrinkable soils and that Made Ground has been encountered to depths in excess of 600mm bgl, it is recommended that suspended floor slabs are used with an adequate void designed according to NHBC Standards. As a guide, initial modelling indicates a requirement for a sub-floor void height of at least 150mm.

10.4 Pavements

With reference to TRL LR1132 and assuming a 'thin' pavement construction (as defined in LR1132), an equilibrium suction index CBR of 5% is recommended for the natural soils which are anticipated to be present at the sub-grade formation depth (presumed c. 0.45-0.60m bgl) based on a low water table and poor to average construction conditions. If the sub-grade formation is to comprise Made Ground then a lower CBR value of 2% is recommended due to the potential material variability. These values should be used for preliminary design purposes. In the event that in-situ testing is undertaken on the exposed sub-grade formation immediately prior to construction, the lower CBR value (i.e. equilibrium CBR or site measured CBR) should be used to confirm final pavement thickness.

Due to the presence of Made Ground at shallow depth and in consideration of the composition of the River Terrace Deposits at shallow depth, the soils at formation depth should be considered to be frost susceptible for which a minimum pavement design of 450mm is recommended.

Any hard or soft spots in the formation level (such as the soft spot identified in the vicinity of DCP02) may induce reflective cracking in the pavement and allowance should be made for removing any slabs or other hard spots etc.

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that may be present.

10.5 Sulphates

The results of the sulphate content analysis indicate that buried concrete should be designed in accordance with DS-1 as defined within the BRE Special Digest 1, 2005. The pH analysis indicates that the ACEC Class corresponds to AC-1. It is recommended that the advice of this publication be taken for the design and specification of all sub-surface concrete.

10.6 Soakage Testing

Soakage testing in general accordance with BRE Digest 365 was undertaken within one trial pit. The result is summarised in Table 10.2.

Location	Test	Soil infiltration rate (m/s)
TP01	1	Negligible

Table 10.2: Summary of soakage test results

This test was undertaken in the clayey River Terrace Deposits. Chalk was only encountered at one location (WS04) and appears to be a highly irregular contact with the overlying River Terrace Deposits. Therefore, with the exception of the location of WS04 where the Chalk was proven the Chalk was at depths greater than 4m at all the other exploratory hole locations. The Chalk encountered beneath the River Terrace Deposits in WS04 was described as pale brown gravelly sandy SILT with occasional cobbles and clay layers. Based on experience of weathered Chalk locally, and given the fine grained silty nature of the weathered chalk it is highly unlikely to give suitable soil infiltration rates for shallow soakaways. A deep bored soakaway into the Chalk is not recommended due to the proximity of potential contaminant sources (petrol filling station and car wash within 28m) together with the environmental sensitivity of the Chalk (Principal Aquifer). The construction of a deep borehole soakaway would effectively create a significant potential pathway for contaminants. In additional a search of historic boreholes identified shallow groundwater in the area. This data was compared to topographic levels on site where ground water levels, when extrapolated are likely to be encountered at c.4.5m bgl. In combination with the depth the Chalk is likely to be encountered at, storage capacity for surface water drainage is likely to be low.

11.0 Environmental Risk Assessment

The desk study identified that the site had been not been previously developed. However, given the proximity to a petrol filling station, and cemetery soil samples were submitted for analysis of a suite of commonly occurring contaminants including metals, metalloids, inorganic compounds, speciated TPH, PAH and asbestos.

11.1 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 accordance with CLR11, 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.

A quantitative risk assessment has been undertaken by comparing the results of the laboratory chemical testing of shallow soils against Site Specific Assessment Criteria (SSAC) generated using the Contaminated Land Exposure Assessment (CLEA) model v1.06 published by the Environment Agency, or against the Category 4 Screening Levels (C4SLs) published by DEFRA. Although the C4SLs were released for Part 2A use, the associated policy companion

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document for the C4SLs indicated that they may also be used for planning. Although the C4SLs represent a marginally higher risk level than the SSACs (low risk rather than minimal risk) it is considered that the risk levels remain very low. Therefore, the final C4SLs are considered to be suitable to assess soils under the planning regime.

Statistical analysis of the samples within the dataset was undertaken in accordance with guidance contained in the CIEH/CL:AIRE report '*Comparing Soil Contamination Data with a Critical Concentration*' (May 2008). If the contamination status of the soils is considered in a planning context, the null hypothesis tested by the analysis is whether the true mean concentration is equal to or greater than the critical concentration for a given determinant, with the critical concentration being the relevant SSAC or GAC (the soil screening value) for that determinant in the context of the intended end use of the site. If the analysis shows that the true mean concentration is less than the critical concentration the null hypothesis can be rejected. The guidance recommends that for the null hypothesis to be rejected the analysis should show that there is a 95% (or higher) likelihood that the true mean concentration is below the critical concentration. Where this is the case the site is considered to be acceptable for the planned end use without any necessary remedial measures.
The assumptions made as part of the CLEA v1.06 calculations for a commercial end use are presented in Table 11.1. Copies of the CLEA calculations are enclosed in Appendix D.

	Assumptions			Comments
Land Use	Commercial			Commensurate with proposed development.
Receptor	Female (com)			A conservative assumption using the most sensitive possible receptor.
Receptor Age	16 to 60			Assumed working lifetime.
Building	Office (post 1970)			A conservative assumption of the building proposed.
Soil Type	Silt loam	pH 7.12	SOM 1.96%	Based on an average of the chemical laboratory results.
Exposure Pathways	Oral	Direct soil & dust ingestion		Default setting for land use.
	Dermal	Indoor & outdoor		Default setting for land use.
	Inhalation	Indoor & outdoor dust & vapour		Default setting for land use.
Occupancy	days/year	hours/day (indoors)	hour/day (outdoors)	Default settings for the critical receptor.
	170 - 230	8.3	0.7	

Table 11.1: Assumptions for SSAC Calculation (CLEA v1.06 Software)

The exploratory holes were located to provide general coverage as well as information at specific locations as identified from the planned development. Samples were selected to target areas of Made Ground and Topsoil as well as to provide coverage of the site. Analysis was undertaken on four soil samples collected from shallow depth from these exploratory holes, with an additional two samples run for TPH and PAH.

The results of the statistical analysis indicated that the null hypothesis could be rejected for all determinants tested. The results of the statistical analysis for these determinants are summarised in Table 11.2.

Determinant	SSAC (mg/kg)	Sample Mean (mg/kg)	Evidence Level (%)	General Pass/Fail
Arsenic	640	10.7	100	Pass
Barium	22076	63.1	100	Pass
Beryllium	378	0.625	100	Pass
Cadmium	410	0.25	100	Pass

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Determinant	SSAC (mg/kg)	Sample Mean (mg/kg)	Evidence Level (%)	General Pass/Fail
Chromium	30356	29	100	Pass
Lead	2330	27.88	100	Pass
Nickel	1787	18.98	100	Pass
Selenium	13023	0.5	100	Pass
Vanadium	3164	38.8	100	Pass
Zinc	665453	67.3	100	Pass
Benzo(a)pyrene	76	0.125	100	Pass

Table 11.2: Summary of Statistical Analysis from Topsoil/Made Ground

It should be noted that several outliers were also identified within the dataset, including for beryllium, copper and benzo (a) pyrene. All these outliers, were however, well below the SSAC.

In addition, the results of the targeted speciated TPH analysis were all returned as either below the laboratory detection limits or their respective SSAC values.
Four soil samples were submitted for asbestos screening. No asbestos fibres were detected.

Given that no contaminants of concern were identified above the respective guideline values for a proposed commercial land use have been identified within the Made Ground/ Topsoil, it is considered that no remedial measures to protect end users are required.

11.2 Soil Contamination vs. Adjacent land Users

Surrounding land uses mostly comprised residential properties and commercial land use analogous with the proposed redevelopment of the site. No concentrations of concern were identified in relation to human health (end users), and no significantly mobile contaminants have been identified.

However, it is recommended that dust suppression techniques, e.g. damping down exposed soils, are employed during the site preparation 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.

11.3 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 11.4, 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 11.4: Summary of Plant Phytotoxicity Assessment

The phytotoxicity assessment identified no exceedances for phytotoxic contaminants.

11.4 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 indicate that the results were above the specific thresholds and therefore barrier pipe may be necessary, however 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 it is recommended that clean, granular backfill is used in service runs and that marker tapes are used for all buried services.

11.5 Soil Contamination vs. Groundwater

The site is indicated to overlie a Secondary 'A' Aquifer within the superficial geology, overlying a Principal Aquifer. The site is not situated within an SPZ.

Given the absence of any significant concentrations of potentially mobile contamination identified as part of the chemical analysis it was considered unlikely that the site poses any significant risk to groundwater chemical quality. Therefore, no remedial measures are considered necessary in this respect.

11.6 Ground Gases & Vapours vs. End Users

The desk study identified potential risks to the site from potential on site migration of ground gases from an off-site area of historic infilling and from VOCs from an offsite petrol filling station. As such, two ground gas monitoring standpipes were installed within window sample boreholes (WS01 and WS04) across the site. Ground gas monitoring was undertaken to assess the potential risk posed to end users of the proposed development.

The standpipes were 'spot' monitored for methane, carbon dioxide, oxygen, volatile organic compounds (VOC) and borehole gas flow on three occasions during June 2017.

Recommendations on acceptable gas levels recorded in the ground beneath or adjacent to buildings are given in a variety of publications. For the purpose of this assessment, the results have been evaluated in terms of British Standard BS8485 entitled '*Code of practice for the characterisation and remediation from ground gas in affected developments*' (2015) and NHBC report 10627-R01(04) entitled '*Guidance on evaluation of development proposals where methane and carbon dioxide are present*' (2007).

Characteristic Gas Situation (CS)	Characteristic Hazardous Gas Flow (HGF) (CO2 or CH4) (l/hr)	Hazard Potential	NHBC Traffic Light	Additional Factors
1	<0.07l/hr	Very Low	Green	Typically methane <1% v/v and/or carbon dioxide <5% v/v. Otherwise consider increase to CS2.
2	<0.7l/hr	Low	Amber 1	Borehole air flow rate not to exceed 70l/h and carbon dioxide <8% v/v. Otherwise consider increase to

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				CS3/Amber 2.
3	<3.5l/hr	Moderate	Amber 2	Carbon dioxide not to exceed 30% v/v and methane <20% v/v.
4	<15l/hr	Moderate to High	Red	Quantitative risk assessment required to evaluate scope of protective measures.
5	<70l/hr	High		-
6	>70l/hr	Very High		-

Table 11.5: Characteristic Gas Situation by Site Characteristic Hazardous Gas Flow Rate

During the monitoring undertaken to date methane was recorded at concentrations of 0.0% v/v. Carbon dioxide was recorded at concentrations ranging between 2.0% v/v and 3.7% v/v whilst oxygen was present in the range of 16.9% v/v and 19.5% v/v. VOCs were recorded as ranging between 0.1ppm and 1.7ppm. No positive borehole flows were recorded above the instruments limit of detection (0.1l/hr) during the monitoring visits undertaken to date. Atmospheric pressures were recorded as ranging between 1011mb and 1014mb.

The Hazardous Gas Flows (HGF) for carbon dioxide and methane based on the data from the monitoring visit to date were 0.000l/hr and 0.004l/hr, respectively. These HGFs are representative of CS1/ Green Traffic Light.

Whilst VOCs were detected during the monitoring, the concentrations were considered to be very low and not indicative of a vapour hazard.

On the basis of the monitoring undertaken to date it is considered that ground gas protection measures are not warranted for the proposed development. However, this assessment may be revised on the basis of the remaining two monitoring visits.

11.7 Ground Gases & Vapours vs. Adjacent Land Users

Based on the gas monitoring to date, protection measures are not considered necessary to protect future end users of the proposed development from ground gases and nuisance vapours.

As such, it is considered that remedial works will not be required to protect adjacent land users from ground gases and vapours originating from the subject site.

12.0 Waste Disposal

One Waste Acceptance Criteria (WAC) test was carried out during investigation works. The results are summarised below in Table 12.1.

Location	Depth (m bgl)	Waste Criteria	Criteria limits exceeded
WS03	0.50	Inert Waste	-

Table 12.1 WAC analysis summary

Once materials for disposal have been identified, further WAC testing should be undertaken to confirm the classification of the soils for the purpose of disposal.

13.0 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.

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Should previously undiscovered conditions be encountered during construction by the ground workers, 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 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.

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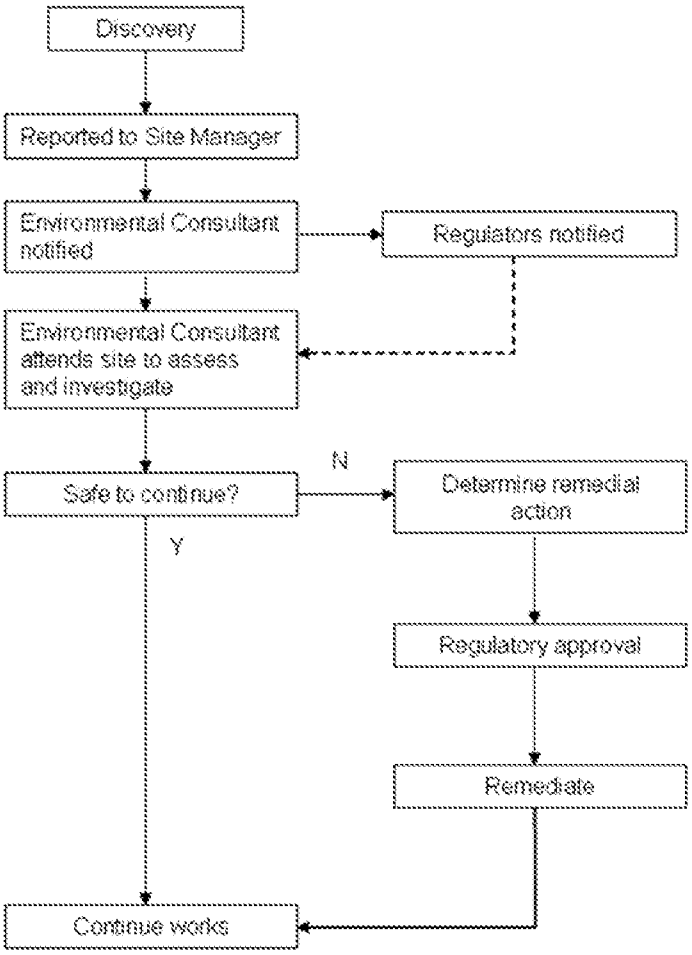


Chart 1 Discovery Strategy Process

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.

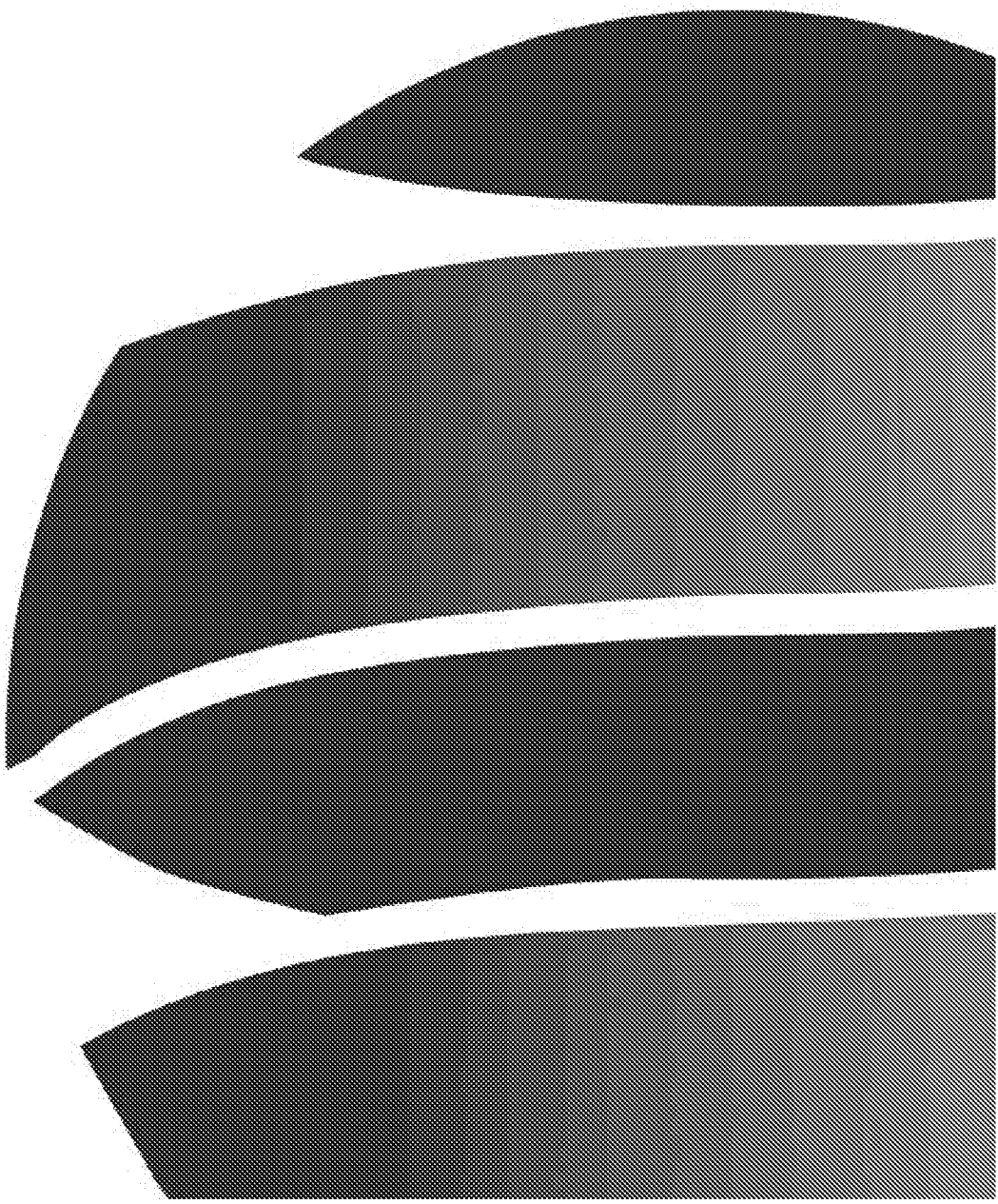
Geo-Environmental Service Limited takes no responsibility for conditions that either have not been revealed in the available records, or that occurs between or under points of physical investigation. Whilst every effort has been made to interpret the conditions, such information is only indicative and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

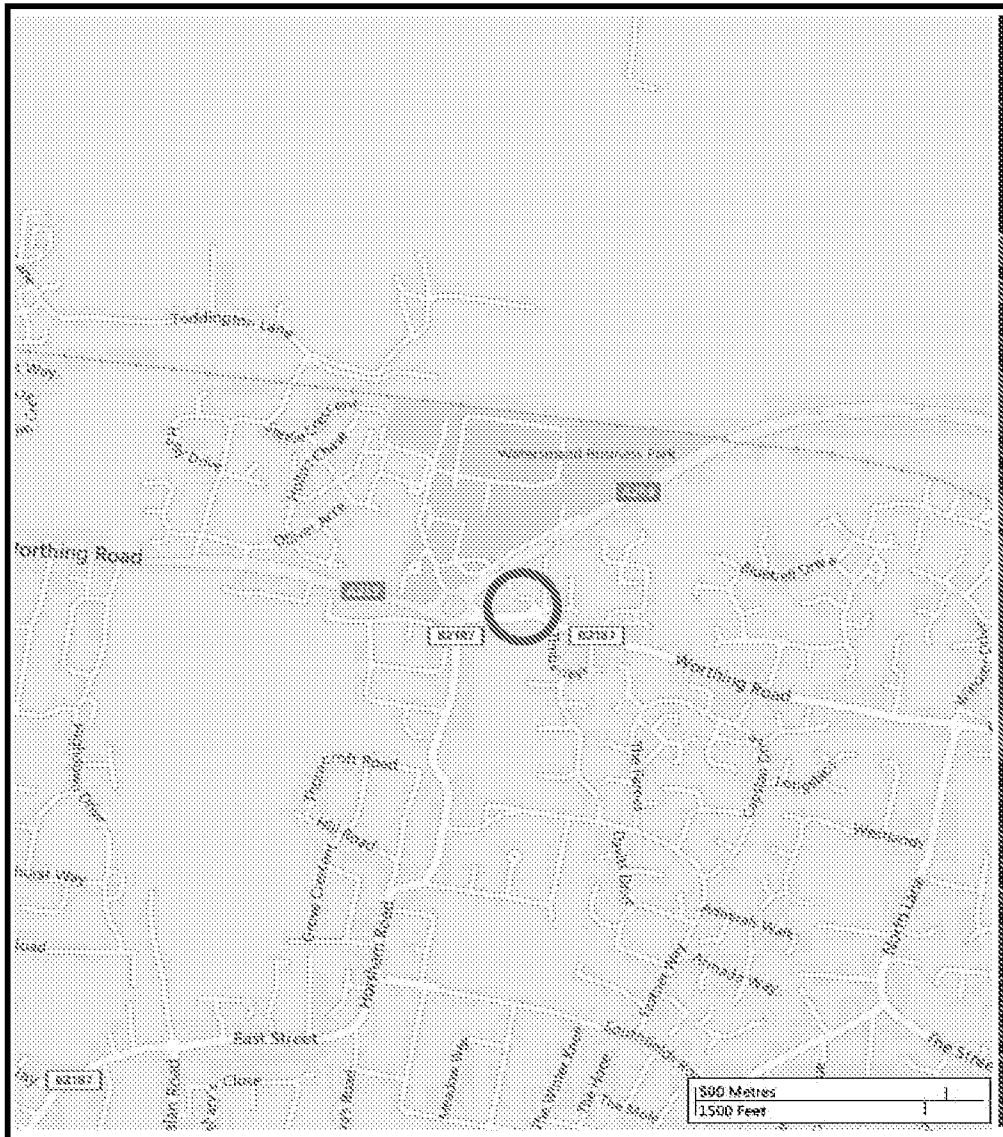
It should be noted that in particular the concentrations and levels of mobile liquid and gaseous materials are likely to vary with time. The results obtained may therefore only be representative of the conditions at the time of sampling. Such reservations have been indicated in the text where such conditions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

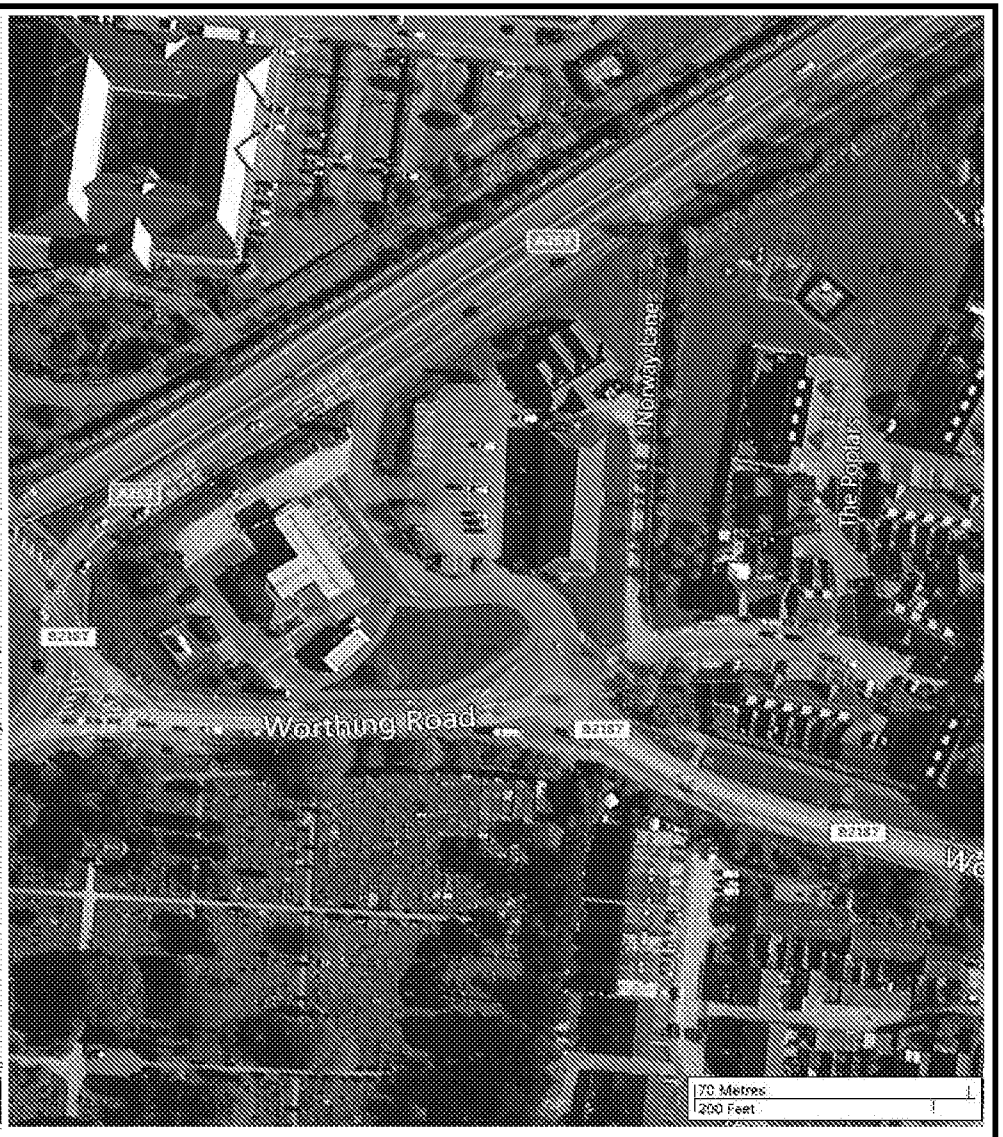
Geo-Environmental Services Limited does not indemnify any third parties such as the vendor against any dispute or claim arising from any finding or result of this investigation or any claim or dispute arising as a result of any decisions made thereof.

FIGURE 1
Site Location Plan



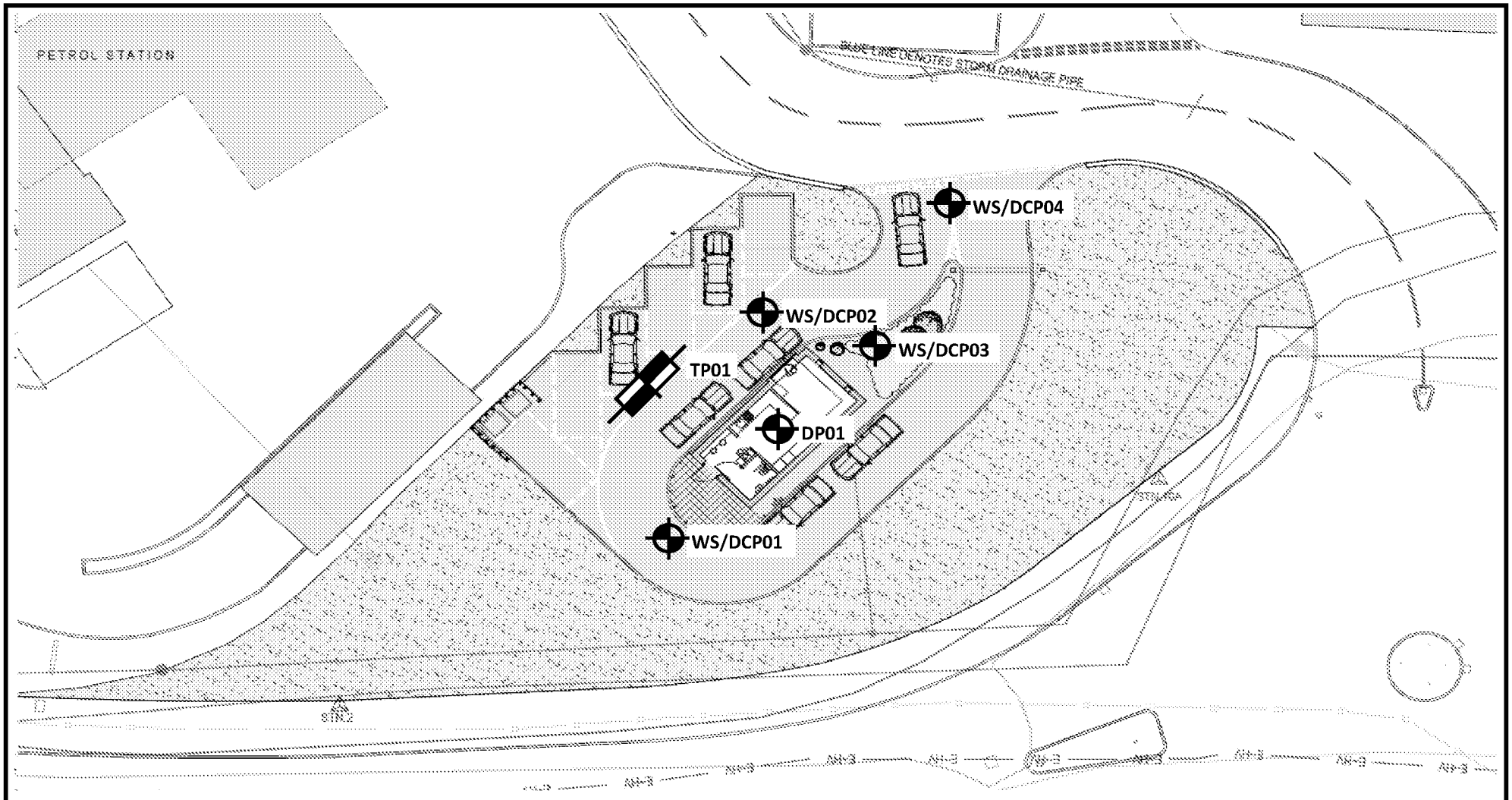
ARUN DISTRICT COUNCIL LU/7/18/DOC





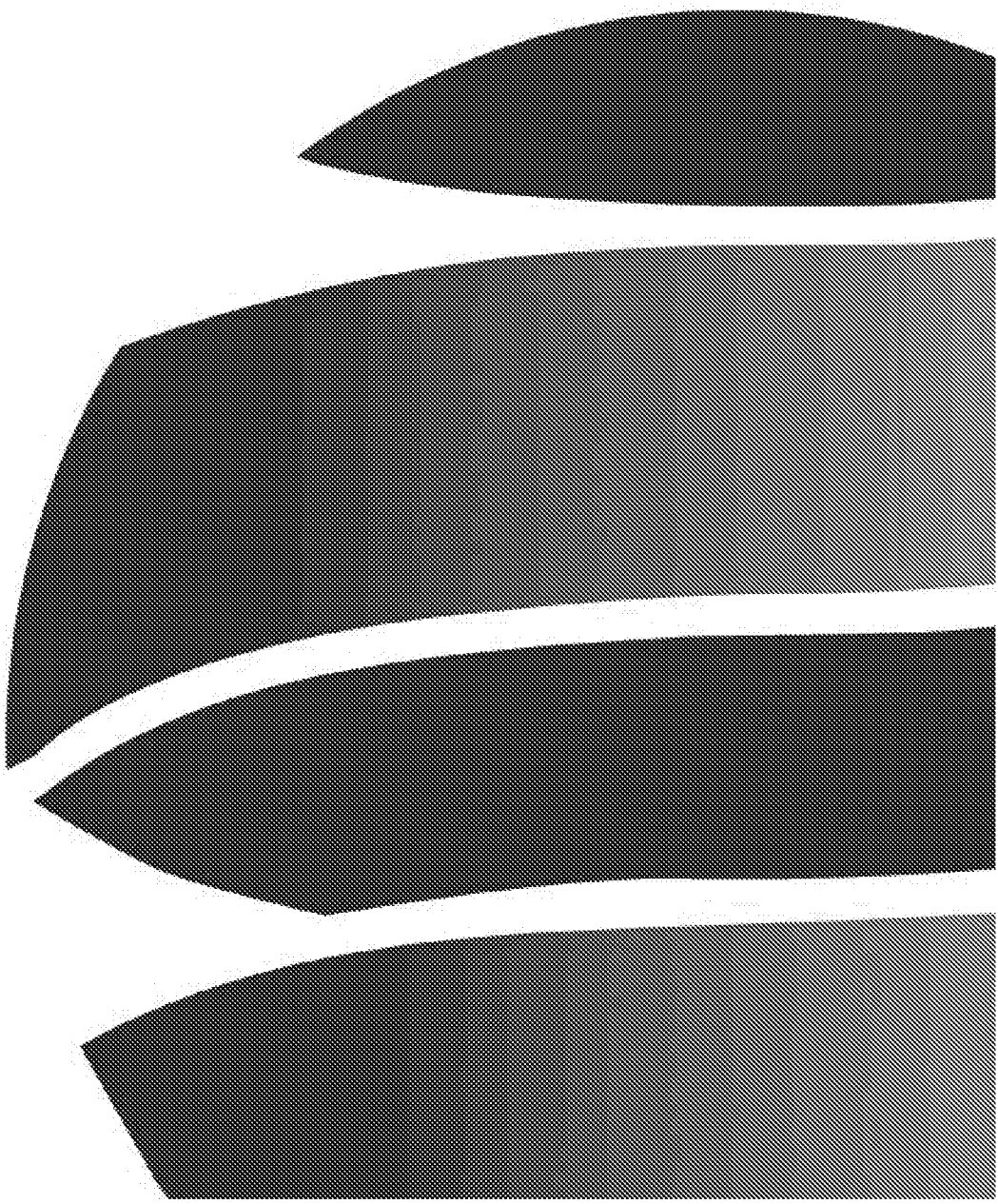
Project:	Coffee Drive-Thru, Littlehampton, BN17 6LE			**Title**	Site Location Plan
Client:	Store Property Investments			**Geo-Environmental Services Ltd** **Unit 7 Danworth Farm, Cuckfield Road** **Hurstpierpoint, West Sussex BN6 9GL** **+44(0)1273 832972 www.gesl.net**	Geo-Environmental
Ref No:	GE16347	**Revision:**	0		
Drawn:	EN	**Date:**	May		
Figure:	1	**Scale:**	Not To Scale		

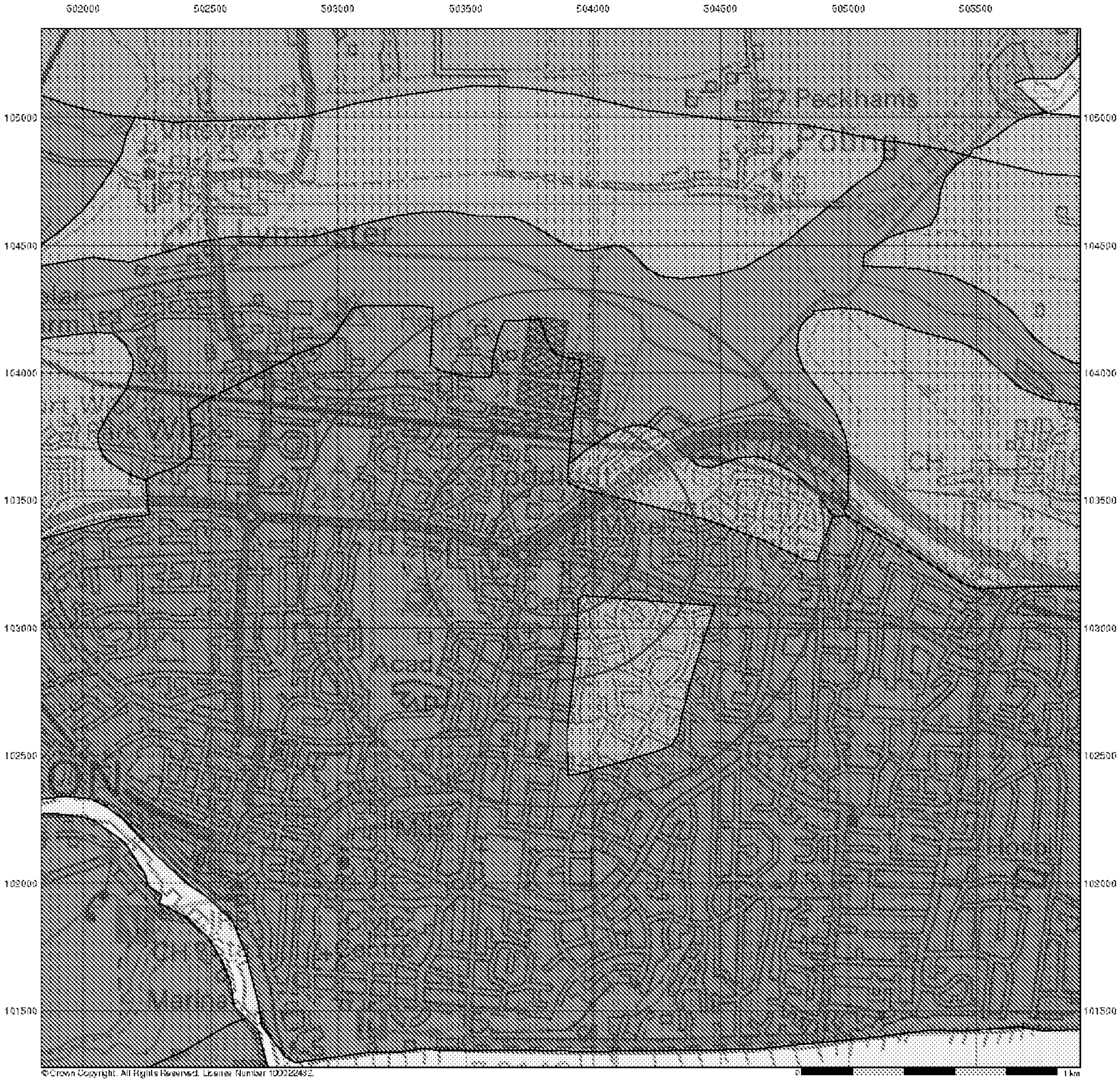
ARUN DISTRICT COUNCIL LU/7/18/DOC



Project:	Coffee Drive-Thru, Littlehampton, BN17 6LE			**Title**	Exploratory Hole Location Plan Over Proposed Layout
Client:	Store Property Investments			**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:	GE16347	**Revision:**	0		
Drawn:	EN	**Date:**	May 2017		
Figure:	2	**Scale:**	Not To Scale		

APPENDIX A
Desk Study Information





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Geo-Environmental Groundwater Vulnerability

General

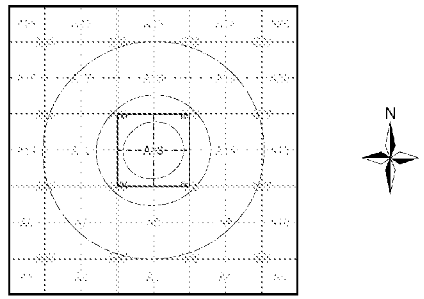
Specified Site | Specified Buffer(s) | Bearing Reference Point

Slice | Map ID

Agency and Hydrological

Geological Classes	Soil Classes
Major Aquifer (Highly Permeable)	High (H) 1, 2, 3, U
	Intermediate (I) 1, 2
	Low
Minor Aquifer (Variably Permeable)	High (H) 1, 2, 3, U
	Intermediate (I) 1, 2
	Low
Non Aquifer (Negligibly Permeable)	
Water or Sea	
Drift Deposit	

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 127564474_1_1
Customer Ref: GE16347
National Grid Reference: 503870, 103310
Slice: A
Site Area (Ha): 0.11
Search Buffer (m): 1000

Site Details

Shell UK Ltd, Service Station, Worthing Road, Wick, LITTLEHAMPTON, BN17 6LE

Landmark INFORMATION GROUP

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



Geo-Environmental
Bedrock Aquifer Designation

General

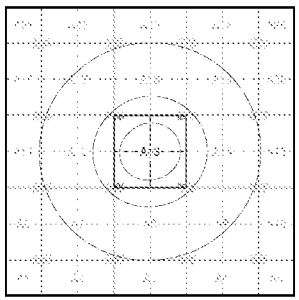
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

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



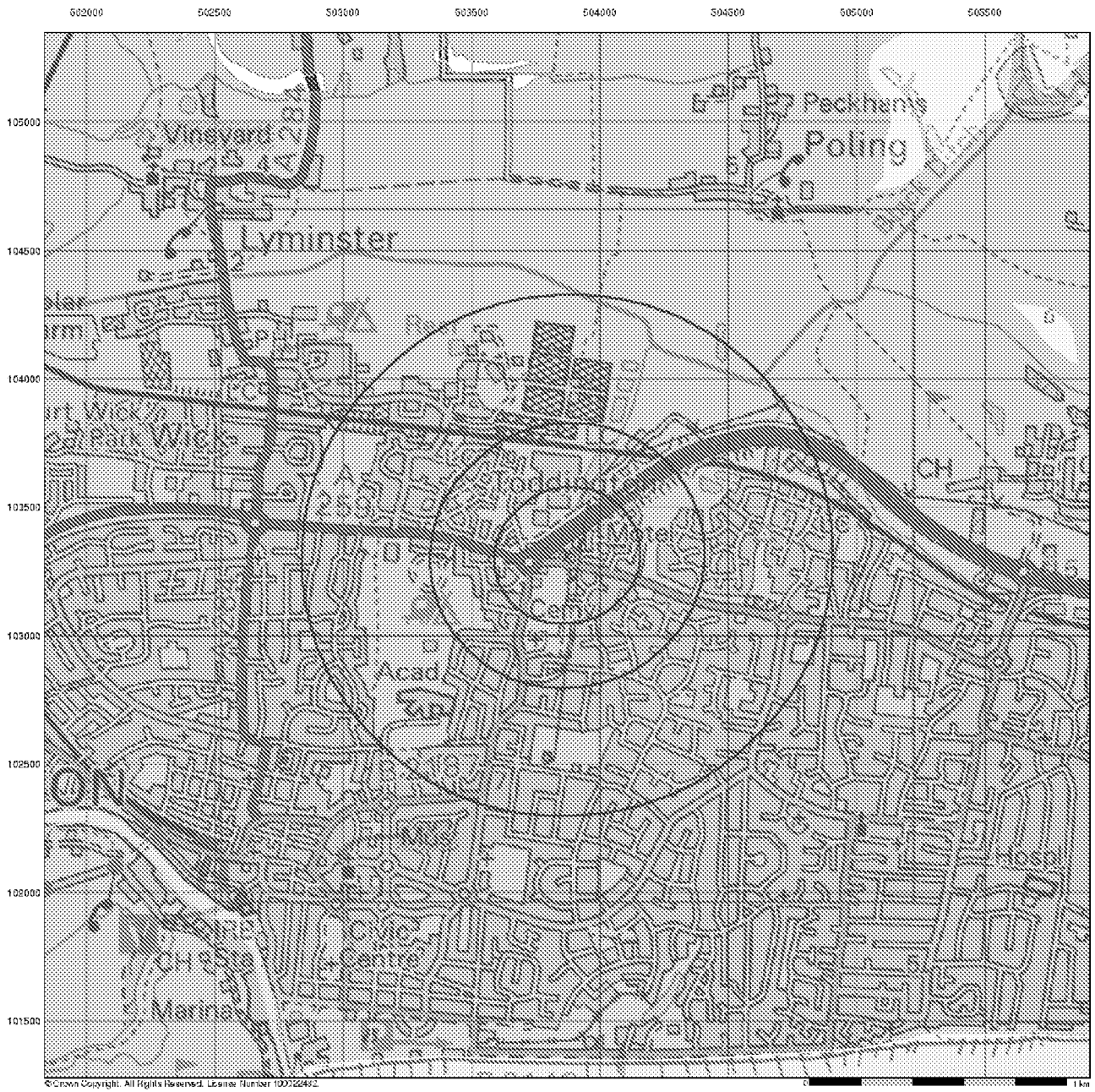
Order Details

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Customer Ref:	GE16347
National Grid Reference:	503870, 103310
Slice:	A
Site Area (Ha):	0.11
Search Buffer (m):	1000

Site Details

Shell UK Ltd, Service Station, Worthing Road, Wick, LITTLEHAMPTON, BN17 6LE

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



Geo-Environmental
Superficial Aquifer Designation

General

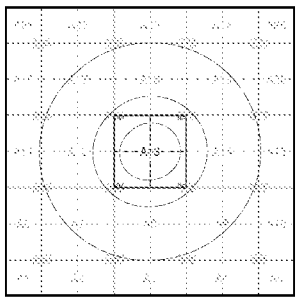
Specified Site | Specified Buffer(s) | Bearing Reference Point | Slice | Map ID

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:	127564474_1_1
Customer Ref:	GE16347
National Grid Reference:	503870, 103310
Slice:	A
Site Area (Ha):	0.11
Search Buffer (m):	1000

Site Details

Shell UK Ltd, Service Station, Worthing Road, Wick, LITTLEHAMPTON, BN17 6LE

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



Geo-Environmental
Source Protection Zones

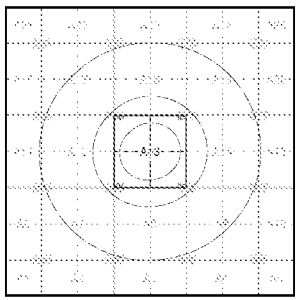
General

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)
- Source Protection Zone Borehole

Site Sensitivity Context Map - Slice A



N

Order Details

Order Number:	127564474_1_1
Customer Ref:	GE16347
National Grid Reference:	503870, 103310
Slice:	A
Site Area (Ha):	0.11
Search Buffer (m):	1000

Site Details

Shell UK Ltd, Service Station, Worthing Road, Wick, LITTLEHAMPTON, BN17 6LE

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



Geo-Environmental Sensitive Land Uses

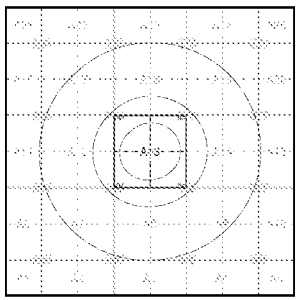
General

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



N

Order Details

Order Number:	127564474_1_1
Customer Ref:	GE16347
National Grid Reference:	503870, 103310
Slice:	A
Site Area (Ha):	0.11
Search Buffer (m):	1000

Site Details

Shell UK Ltd, Service Station, Worthing Road, Wick, LITTLEHAMPTON, BN17 6LE

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



Geo-Environmental

BGS Flood GFS Data

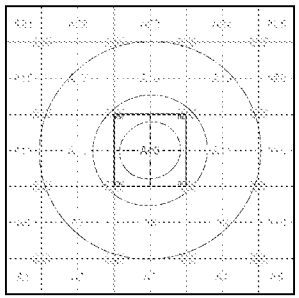
General

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

Order Number:	127564474_1_1
Customer Ref:	GE16347
National Grid Reference:	503870, 103310
Slice:	A
Site Area (Ha):	0.11
Search Buffer (m):	1000

Site Details

Shell UK Ltd, Service Station, Worthing Road, Wick, LITTLEHAMPTON, BN17 6LE

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

Geo-Environmental

Envirocheck® Report:

Datasheet

Order Details:

Order Number:
127564474_1_1

Customer Reference:
GE16347

National Grid Reference:
503870, 103310

Slice:
A

Site Area (Ha):
0.11

Search Buffer (m):
1000

Site Details:

Shell UK Ltd, Service Station
Worthing Road
Wick
LITTLEHAMPTON
BN17 6LE

Client Details:

MR J Tingley
Geo Environmental Services Ltd
Unit 7 Danworth Farm
Cuckfield Road
Hurstpierpoint
West Sussex
BN6 9GL

Contents

Report Section	Page Number
Summary	-
Agency & Hydrological	1
Waste	25
Hazardous Substances	-
Geological	28
Industrial Land Use	30
Sensitive Land Use	43
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Data Suppliers	49
Useful Contacts	50

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 the attached 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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Report Version v53.0

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	1	17
Prosecutions Relating to Controlled Waters			n/a	n/a	n/a
Enforcement and Prohibition Notices					
Integrated Pollution Controls					
Integrated Pollution Prevention And Control					
Local Authority Integrated Pollution Prevention And Control					
Local Authority Pollution Prevention and Controls	pg 6		1		2
Local Authority Pollution Prevention and Control Enforcements					
Nearest Surface Water Feature	pg 6		Yes		
Pollution Incidents to Controlled Waters	pg 6				1
Prosecutions Relating to Authorised Processes					
Registered Radioactive Substances	pg 7			1	
River Quality	pg 7				1
River Quality Biology Sampling Points					
River Quality Chemistry Sampling Points					
Substantiated Pollution Incident Register					
Water Abstractions	pg 7			10	2 (*28)
Water Industry Act Referrals					
Groundwater Vulnerability	pg 17	Yes	n/a	n/a	n/a
Drift Deposits			n/a	n/a	n/a
Bedrock Aquifer Designations	pg 17	Yes	n/a	n/a	n/a
Superficial Aquifer Designations	pg 17	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
OS Water Network Lines	pg 17		3	3	52

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Waste					
BGS Recorded Landfill Sites					
Historical Landfill Sites	pg 25			2	
Integrated Pollution Control Registered Waste Sites					
Licensed Waste Management Facilities (Landfill Boundaries)	pg 25			1	
Licensed Waste Management Facilities (Locations)	pg 25				1
Local Authority Landfill Coverage	pg 25	2	n/a	n/a	n/a
Local Authority Recorded Landfill Sites	pg 25				1
Potentially Infilled Land (Non-Water)	pg 26		1	1	5
Potentially Infilled Land (Water)	pg 26		1		8
Registered Landfill Sites	pg 27			1	
Registered Waste Transfer Sites					
Registered Waste Treatment or Disposal Sites					
Hazardous Substances					
Control of Major Accident Hazards Sites (COMAH)					
Explosive Sites					
Notification of Installations Handling Hazardous Substances (NIHHS)					
Planning Hazardous Substance Consents					
Planning Hazardous Substance Enforcements					

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 28	Yes	n/a	n/a	n/a
BGS Estimated Soil Chemistry	pg 28	Yes			Yes
BGS Recorded Mineral Sites	pg 28				3
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	pg 29		Yes	n/a	n/a
Potential for Collapsible Ground Stability Hazards	pg 29	Yes	Yes	n/a	n/a
Potential for Compressible Ground Stability Hazards				n/a	n/a
Potential for Ground Dissolution Stability Hazards	pg 29	Yes		n/a	n/a
Potential for Landslide Ground Stability Hazards	pg 29	Yes		n/a	n/a
Potential for Running Sand Ground Stability Hazards	pg 29	Yes	Yes	n/a	n/a
Potential for Shrinking or Swelling Clay Ground Stability Hazards	pg 29	Yes		n/a	n/a
Radon Potential - Radon Affected Areas			n/a	n/a	n/a
Radon Potential - Radon Protection Measures			n/a	n/a	n/a
Industrial Land Use					
Contemporary Trade Directory Entries	pg 30		5	9	51
Fuel Station Entries	pg 35		1		2
Points of Interest - Commercial Services	pg 36		3	3	19
Points of Interest - Education and Health					
Points of Interest - Manufacturing and Production	pg 38			3	7
Points of Interest - Public Infrastructure	pg 39		7	2	7
Points of Interest - Recreational and Environmental	pg 40		1	7	21
Gas Pipelines					
Underground Electrical Cables					

Data Type	Page Number	On Site	0 to 250m	251 to 500m	501 to 1000m (*up to 2000m)
Sensitive Land Use					
Ancient Woodland					
Areas of Adopted Green Belt					
Areas of Unadopted Green Belt					
Areas of Outstanding Natural Beauty					
Environmentally Sensitive Areas					
Forest Parks					
Local Nature Reserves					
Marine Nature Reserves					
National Nature Reserves					
National Parks					
Nitrate Sensitive Areas					
Nitrate Vulnerable Zones	pg 43		1		
Ramsar Sites					
Sites of Special Scientific Interest					
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 (NW)	0	1	503872 103312
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13SE (S)	38	1	503872 103250
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding to Occur at Surface	A13NE (N)	171	1	503872 103500
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SW (W)	288	1	503550 103300
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	299	1	504100 103550
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13SE (S)	299	1	503872 103000
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (N)	321	1	503872 103650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A13NE (NE)	370	1	504150 103600
	BGS Groundwater Flooding Susceptibility Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level	A13NE (NE)	408	1	504150 103650
	BGS Groundwater Flooding Susceptibility Flooding Type: Limited Potential for Groundwater Flooding to Occur	A14NW (NE)	475	1	504250 103650
1	**Discharge Consents** Operator: West Sussex County Council Property Type: WAREHOUSING + SUPPORT ACTIVITIES FOR TRANSPORTATION Location: A259 Rustington By-Pass, Western Roundabout, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: P01566 Permit Version: 1 Effective Date: 17th May 1988 Issued Date: 17th May 1988 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	A13NE (N)	177	2	503940 103500
2	**Discharge Consents** Operator: Firview Nursery Property Type: Mixed Farming Location: Firview Nursery, Toddington Lane, Littlehampton, West Sussex, Bn17 7qp Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: App/So/74su Permit Version: 1 Effective Date: 1st April 1999 Issued Date: 1st April 1999 Revocation Date: 1st April 1999 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	A12NE (NW)	393	2	503520 103530

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
3	**Discharge Consents** Operator: Horticulture Reasearch Internat. Property Type: Undefined Or Other Location: Worthing Road, Littlehampton, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: P02755 Permit Version: 1 Effective Date: 12th March 1990 Issued Date: 12th March 1990 Revocation Date: 20th March 1996 Discharge Type: Trade Effluent Discharge Environment: Into Land Receiving Water: Into Land **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A14NW (E)	536	2	504420 103470
4	**Discharge Consents** Operator: Arun Valley Mushrooms Ltd Property Type: Mixed Farming Location: Foxdale Horses, Toddington Lane, Littlehampton, West Sussex, Bn17 6jx Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: App/So/65su Permit Version: 1 Effective Date: 1st April 1999 Issued Date: 1st April 1999 Revocation Date: 21st April 2004 Discharge Type: Trade Discharge - Process Water Discharge Environment: Into Land Receiving Water: Into Land **Status: Revoked (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	548	2	503510 103740
5	**Discharge Consents** Operator: West Sussex County Council Property Type: EDUCATION/NURSERY/SCHOOL/COLLEGE/UNI/TRAINING VENUE Location: Littlehampton Comm. School, Hill Road, Littlehampton, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P04113 Permit Version: 1 Effective Date: 24th February 1992 Issued Date: 24th February 1992 Revocation Date: 31st March 1995 Discharge Type: Discharge Of Other Matter-Surface Water Discharge Environment: Freshwater Stream/River Receiving Water: Freshwater River **Status: Post National Rivers Authority Legislation where issue date > 31/08/1989** Positional Accuracy: Located by supplier to within 100m	A7NE (SW)	593	2	503400 102900
6	**Discharge Consents** Operator: Southern Water Services Ltd Property Type: Not Given Location: Bancroft Road Storm Overflow, EAST GRINSTEAD, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: PP38/45/K9 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 1st April 1991 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge-Treated Effluent Discharge Environment: Freshwater Stream/River Receiving Water: Not Supplied **Status: Not Supplied** Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	657	2	504330 103825

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
6	**Discharge Consents** Operator: Southern Water Services Ltd Property Type: Not Given Location: EAST GRINSTEAD , West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: PP38/45/K9 Permit Version: Not Supplied Effective Date: Not Supplied Issued Date: 1st April 1991 Revocation Date: Not Supplied Discharge Type: Sewage Effluent Discharge-Storm Effluent Discharge Environment: Freshwater Stream/River Receiving Water: Not Supplied **Status: Not Supplied** Positional Accuracy: Located by supplier to within 100m	A19SW (NE)	661	2	504330 103830
7	**Discharge Consents** Operator: H.Whitaker Esq. Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: Hollyacre, Toddington Lane, Littlehampton West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P00690 Permit Version: 2 Effective Date: 21st December 2012 Issued Date: 21st December 2012 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Into Land Receiving Water: Into Land **Status: Varied under EPR 2010** Positional Accuracy: Located by supplier to within 10m	A17SE (NW)	736	2	503350 103850
7	**Discharge Consents** Operator: H.Whitaker Esq. Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE) Location: Hollyacre, Toddington Lane, LITTLEHAMPTON , West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: P00690 Permit Version: 1 Effective Date: 29th October 1986 Issued Date: 29th October 1986 Revocation Date: 20th December 2012 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company Discharge Environment: Into Land Receiving Water: Into Land **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 100m	A17SE (NW)	736	2	503350 103850
8	**Discharge Consents** Operator: Glasshouse Crops Research Inst Property Type: Undefined Or Other Location: Land North Of Glasshouse Crops, Rustington, LITTLEHAMPTON , West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S01676 Permit Version: 1 Effective Date: 28th December 1967 Issued Date: 28th December 1967 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	A14NE (NE)	766	2	504610 103620

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
9	**Discharge Consents** Operator: Van Heyningen Brothers Ltd. Property Type: Undefined Or Other Location: Land Adjacent To Toddington Lane, Wick, Littlehampton, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: N01509 Permit Version: 1 Effective Date: 1st December 1980 Issued Date: 1st December 1980 Revocation Date: 31st March 1997 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company 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	A18NW (N)	797	2	503580 104070
10	**Discharge Consents** Operator: Southern Water Services Limited. + Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: Columbine Way Rustington Wps Columbine Way, Rustington, Littlehampton, West Sussex, Bn16 3tx Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P07351 Permit Version: 2 Effective Date: 29th September 2011 Issued Date: 29th September 2011 Revocation Date: Not Supplied Discharge Type: Sewage Discharges - Pumping Station - Water Company Discharge Environment: Freshwater Stream/River Receiving Water: Trib Of Rustington Stream **Status: Pre National Rivers Authority Legislation where issue date < 01/09/1989** Positional Accuracy: Located by supplier to within 10m	A14NE (E)	821	2	504670 103620
10	**Discharge Consents** Operator: Southern Water Services Limited. + Property Type: PUMPING STATION ON SEWERAGE NETWORK (WATER COMPANY) Location: Columbine Way Rustington Wps Columbine Way, Rustington, Littlehampton, West Sussex, Bn16 3tx Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: P07351 Permit Version: 1 Effective Date: 11th April 2000 Issued Date: 11th April 2000 Revocation Date: 28th September 2011 Discharge Type: Non Water Company (Private) Sewage 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	A14NE (E)	821	2	504670 103620
11	**Discharge Consents** Operator: Fargro Ltd. Property Type: Undefined Or Other Location: Factory Sewage Treatment Plant, Land Off Toddington Lane, , Littlehampton, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S02215 Permit Version: 1 Effective Date: 2nd October 1973 Issued Date: 2nd October 1973 Revocation Date: Not Supplied Discharge Type: Non Water Company (Private) Sewage 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	A18NW (N)	867	2	503540 104130

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
12	**Discharge Consents** Operator: Fargro Ltd. Property Type: Undefined Or Other Location: Factory Sewage Treatment Plant, Land Off Toddington Lane, , Littlehampton, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: S02215 Permit Version: 1 Effective Date: 2nd October 1973 Issued Date: 2nd October 1973 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	A18NW (N)	916	2	503590 104200
13	**Discharge Consents** Operator: West Sussex County Council Property Type: WAREHOUSING + SUPPORT ACTIVITIES FOR TRANSPORTATION Location: New By-Pass, Rustington, West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: P02333 Permit Version: 1 Effective Date: 12th June 1989 Issued Date: 12th June 1989 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	A19SE (NE)	918	2	504700 103780
14	**Discharge Consents** Operator: Fargro Ltd. Property Type: Undefined Or Other Location: Land North Of Cold Store, & Packing House, Toddington Lane Wick, Littlehampton West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: N02018 Permit Version: 1 Effective Date: 25th April 1979 Issued Date: 25th April 1979 Revocation Date: 1st July 1991 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 10m	A18NW (N)	951	2	503540 104220
15	**Discharge Consents** Operator: Farmers & Growers Industries Ltd Property Type: Undefined Or Other Location: Fargro Limited, Toddington Lane, Wick, LITTLEHAMPTON , West Sussex Authority: Environment Agency, Southern Region Catchment Area: Not Given Reference: N02694 Permit Version: 1 Effective Date: 7th August 1981 Issued Date: 7th August 1981 Revocation Date: 31st March 1997 Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company 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	A18NW (N)	984	2	503620 104280

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
16	**Discharge Consents** Operator: Kirin Agribio Trading As Yoder Property Type: Mixed Farming Location: Yoder Toddington, Toddington Lane, Littlehampton, West Sussex, Bn17 7pl Authority: Environment Agency, Southern Region Catchment Area: Not Supplied Reference: App/So/55su 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	A17SW (NW)	985	2	503090 103940
17	**Prosecutions Relating to Controlled Waters** Location: Black Ditch, Rustington Prosecution Text: Causing sewage to enter a watercourse Prosecution Act: Wra91 S85 Hearing Date: 11th June 2010 Verdict: Guilty Fine: 5000 Cost: 1414 Positional Accuracy: Manually positioned within the geographical locality	A19SE (NE)	993	2	504781 103789
18	**Local Authority Pollution Prevention and Controls** Name: Shell Eastfield Location: Worthing Road, Rustington, LITTLEHAMPTON, West Sussex, BN17 6LE Authority: Arun District Council, Environmental Health Department Permit Reference: 1941 Dated: 14th September 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Permitted** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	28	3	503836 103328
19	**Local Authority Pollution Prevention and Controls** Name: Yeomans Honda Location: Thorncroft Garage, Horsham Road, LITTLEHAMPTON, West Sussex, BN17 6DP Authority: Arun District Council, Environmental Health Department Permit Reference: 1915 Dated: 29th May 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Authorisation revokedRevoked** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	568	3	503756 102738
20	**Local Authority Pollution Prevention and Controls** Name: Cuff Miller & Co Ltd Location: Horsham Road, LITTLEHAMPTON, West Sussex, BN17 6BX Authority: Arun District Council, Environmental Health Department Permit Reference: 1946 Dated: 29th October 1998 Process Type: Local Authority Air Pollution Control Description: PG1/14 Petrol filling station **Status: Permitted** Positional Accuracy: Automatically positioned to the address	A8SW (S)	867	3	503627 102459
	Nearest Surface Water Feature	A13NE (E)	30	-	503934 103329
21	**Pollution Incidents to Controlled Waters** Property Type: Metal industry Location: Zuider Zee Nursery Authority: Environment Agency, Southern Region Pollutant: Oils - Kerosene Fuel Oil Note: Up To 1000 Gallons Of Heating Oil Leaked From Tank Incident Date: 18th June 1998 Incident Reference: 2712 Catchment Area: Not Given Receiving Water: Not Given Cause of Incident: Poor Operational Practice Incident Severity: Category 2 - Significant Incident Positional Accuracy: Located by supplier to within 100m	A18SE (NE)	513	2	504100 103800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
22	**Registered Radioactive Substances** Name: Horticulture Research International Location: Worthing Road, LITTLEHAMPTON, West Sussex, BN17 6LP Authority: Environment Agency, Southern Region Permit Reference: AH5094 Dated: 31st March 1991 Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7) Description: Authorisation under RSA **Status: Authorisation either revoked or cancelledCancelled** Positional Accuracy: Located by supplier to within 100m	A13NW (W)	264	2	503583 103370
	River Quality Name: Black Ditch GQA Grade: River Quality D Reach: Tidal R. Arun - Clapham Stw Estimated Distance (km): 8.2 Flow Rate: Flow less than 0.31 cumecs Flow Type: River Year: 2000	A19NW (NE)	943	2	504271 104194
23	**Water Abstractions** Operator: Ministry Of Agriculture; Fisheries & Food Licence Number: 414028 Permit Version: Not Supplied Location: Former Glasshouse Crops Research Inst, LITTLEHAMPTON Authority: Environment Agency, Southern Region Abstraction: Garden Centre, Non Domestic Garden Or Horticulture Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 136 Yearly Rate (m3): 5682 Details: H5 Chalk; Licence Status: Revoked; Lapsed Or Cancelled Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Unknown	A13SE (E)	278	2	504180 103280
23	**Water Abstractions** Operator: Ministry Of Agriculture Fisheries & Food Licence Number: 414028 Permit Version: Not Supplied Location: Former , Glasshouse Crops Research Inst, LITTLEHAMPTON Authority: Environment Agency, Southern Region Abstraction: Spray Irrigation Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 0 Yearly Rate (m3): 0 Details: H5 Chalk; Licence Status: Revoked; Lapsed Or Cancelled Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Unknown	A13SE (E)	296	2	504200 103295
24	**Water Abstractions** Operator: Store Property Investments Licence Number: 414034 Permit Version: Not Supplied Location: Black Ditch, Church Farm, BODYSHOP SITE Authority: Environment Agency, Southern Region Abstraction: Impounding Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 0 Yearly Rate (m3): 0 Details: Tributary Of Arun Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Unknown	A13NE (N)	318	2	504000 103630

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
25	**Water Abstractions** Operator: Yoder Toddington Ltd Licence Number: 10/41/414031 Permit Version: 101 Location: Foxdale Nursery Toddington Lane (A) Authority: Environment Agency, Southern Region Abstraction: Agriculture: Horticultural Watering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: See Licence Map Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st November 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18SW (N)	407	2	503760 103720
25	**Water Abstractions** Operator: D W P Dales & Co Licence Number: 10/41/414031 Permit Version: 100 Location: Foxdale Nursery Toddington Lane (A) Authority: Environment Agency, Southern Region Abstraction: Agriculture: Horticultural Watering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: See Licence Map Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 1st August 1968 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18SW (N)	407	2	503760 103720
26	**Water Abstractions** Operator: Firview Nursery Licence Number: 414025A Permit Version: Not Supplied Location: Firview Nursery, Toddington Lane, LITTLEHAMPTON Authority: Environment Agency, Southern Region Abstraction: Agriculture (General) Abstraction Type: Not Supplied Source: Pond or Lake Daily Rate (m3): 68 Yearly Rate (m3): 511 Details: Additional Purpose: Spray Irrigation 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	A12NE (NW)	452	2	503465 103555
26	**Water Abstractions** Operator: Yoder Toddington Ltd Licence Number: 10/41/414025 Permit Version: 101 Location: Firview Nursery Toddington Lane Authority: Environment Agency, Southern Region Abstraction: Agriculture: Horticultural Watering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: See Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th October 2003 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A12NE (NW)	459	2	503460 103560

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
26	**Water Abstractions** Operator: Yoder Toddington Ltd Licence Number: 10/41/414025 Permit Version: 101 Location: Firview Nursery Toddington Lane Authority: Environment Agency, Southern Region Abstraction: Horticulture And Nurseries: 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: See Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 17th October 2003 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A12NE (NW)	459	2	503460 103560
26	**Water Abstractions** Operator: Firview Nursery Licence Number: 10/41/414025 Permit Version: 100 Location: Firview Nursery Toddington Lane Authority: Environment Agency, Southern Region Abstraction: Horticulture And Nurseries: 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: See Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 23rd March 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A12NE (NW)	459	2	503460 103560
26	**Water Abstractions** Operator: Firview Nursery Licence Number: 10/41/414025 Permit Version: 100 Location: Firview Nursery Toddington Lane Authority: Environment Agency, Southern Region Abstraction: Agriculture: Horticultural Watering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: See Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 23rd March 1966 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A12NE (NW)	459	2	503460 103560
27	**Water Abstractions** Operator: Yoder Toddington Ltd Licence Number: 10/41/414019 Permit Version: 101 Location: Foxdale Nursery Toddington Lane Authority: Environment Agency, Southern Region Abstraction: Agriculture: Horticultural Watering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: See Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st November 2004 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A18SW (NW)	512	2	503580 103750

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
27	**Water Abstractions** Operator: D W P Dales & Co Licence Number: 10/41/414019 Permit Version: 100 Location: Foxdale Nursery Toddington Lane Authority: Environment Agency, Southern Region Abstraction: Agriculture: Horticultural Watering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: See Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 19th July 1967 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A18SW (NW)	512	2	503580 103750
	Water Abstractions Operator: Kirin Agribo Toddington Ltd Licence Number: 24/067 Permit Version: 1 Location: Borehole At Point 'A' At Kirin Agribo Toddington Nurseries 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: Not Supplied Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 16th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A17NW (NW)	1103	2	503090 104110
	Water Abstractions Operator: J A Longhurst Ltd Licence Number: 414020 Permit Version: Not Supplied Location: Black Ditch , Church Farm, LYMINSTER Authority: Environment Agency, Southern Region Abstraction: Spray Irrigation Abstraction Type: Not Supplied Source: Surface Daily Rate (m3): 655 Yearly Rate (m3): 9090 Details: Tributary Of Arun 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	A22SE (NW)	1237	2	503350 104450
	Water Abstractions Operator: Mr K Langmead Licence Number: 10/41/414014 Permit Version: 101 Location: Black Ditch At Manor Farm 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: See Licence Map Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 1st April 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A22SE (NW)	1291	2	503250 104460

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Mr K Langmead Licence Number: 10/41/414014 Permit Version: 100 Location: Black Ditch At Manor Farm 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: See Licence Map Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 2nd April 1987 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A22SE (NW)	1291	2	503250 104460
	Water Abstractions Operator: Farfield Plants Limited Licence Number: 10/41/411012 Permit Version: 102 Location: Borehole At Sandfield Nurseries Authority: Environment Agency, Southern Region Abstraction: Horticulture And Nurseries: 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: See Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 13th November 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16SE (NW)	1438	2	502560 103960
	Water Abstractions Operator: Sandfield Plant Ltd Licence Number: 10/41/411012 Permit Version: 101 Location: Borehole At Sandfield Nurseries Authority: Environment Agency, Southern Region Abstraction: Horticulture And Nurseries: 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: See Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st November 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16SE (NW)	1438	2	502560 103960
	Water Abstractions Operator: Mr K Langmead Licence Number: 10/41/414013 Permit Version: 100 Location: Manor Farm Poling 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): Not Supplied Yearly Rate (m3): Not Supplied Details: Land & Buildings At Manor Farm, Poling Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 2nd April 1987 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A24NE (NE)	1537	2	504630 104680

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: G F Molica Esq Licence Number: 24/065 Permit Version: 100 Location: Torri House Authority: Environment Agency, Southern Region Abstraction: Agriculture: Horticultural Watering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: See Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A16NW (NW)	1680	2	502320 104020
	Water Abstractions Operator: A F Molica Esq Licence Number: 24/064 Permit Version: 100 Location: Marina House Authority: Environment Agency, Southern Region Abstraction: Agriculture: Horticultural Watering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: See Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st April 2008 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A16NW (NW)	1698	2	502320 104060
	Water Abstractions Operator: Mr G Molica-Franco Licence Number: 24/062 Permit Version: 103 Location: Sandfield Nursery 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: See Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 16th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16NW (NW)	1774	2	502240 104070
	Water Abstractions Operator: Farfield Plants Limited Licence Number: 24/062 Permit Version: 102 Location: Sandfield Nursery 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: See Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 13th November 2006 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A16NW (NW)	1774	2	502240 104070

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Sandfield Plant Ltd Licence Number: 24/062 Permit Version: 101 Location: Sandfield Nursery 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: See Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 1st November 1999 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A16NW (NW)	1774	2	502240 104070
	Water Abstractions Operator: The Norman Nurseries Ltd Licence Number: 411011 Permit Version: Not Supplied Location: Norman Nurseries, Courtwick Lane, LITTLEHAMPTON Authority: Environment Agency, Southern Region Abstraction: Garden Centre, Non Domestic Garden Or Horticulture Abstraction Type: Not Supplied Source: Groundwater Daily Rate (m3): 55 Yearly Rate (m3): 9092 Details: H5 Chalk Authorised Start: Not Supplied Authorised End: Not Supplied Permit Start Date: Not Supplied Permit End Date: Not Supplied Positional Accuracy: Unknown	(W)	1782	2	502090 103645
	Water Abstractions Operator: Keith Langmead Ltd Licence Number: 24/068 Permit Version: 1 Location: Side Channel Of The Black Ditch At Manor Farm Poling 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	A25SW (NE)	1783	2	505160 104590
	Water Abstractions Operator: Mr K Langmead Licence Number: 24/068/R01 Permit Version: 1 Location: Side Channel Of The Black Ditch At Manor Farm Poling 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	A25SW (NE)	1790	2	505164 104596

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Keith Langmead Ltd Licence Number: 24/068 Permit Version: 1 Location: Side Channel Of The Black Ditch At Manor Farm Poling 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	A25SW (NE)	1790	2	505164 104596
	Water Abstractions Operator: Yoder Toddington Ltd Licence Number: 10/41/411004 Permit Version: 101 Location: Normans Nurseries Courtwick Lane Authority: Environment Agency, Southern Region Abstraction: Horticulture and Nurseries: Animal Watering & General Use (Non Agricultural) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: See Licence Map Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 6th October 2003 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(W)	1794	2	502080 103660
	Water Abstractions Operator: The Normans Nurseries Ltd Licence Number: 10/41/411004 Permit Version: 100 Location: Normans Nurseries Courtwick Lane Authority: Environment Agency, Southern Region Abstraction: Horticulture and Nurseries: Animal Watering & General Use (Non Agricultural) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: See Licence Map Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 14th July 1993 Permit End Date: Not Supplied Positional Accuracy: Unknown	(W)	1794	2	502080 103660
	Water Abstractions Operator: Mr K Langmead Licence Number: 10/41/411101 Permit Version: 100 Location: Ex-Radar Site At Poling 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): Not Supplied Yearly Rate (m3): Not Supplied Details: Land And Buildings At Manor Farm, Poling And Calcetto Farm, Lyminster Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 2nd April 1987 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	(N)	1869	2	504270 105160

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: P Perella Licence Number: 24/059 Permit Version: 100 Location: Glenvilla Lyminster Authority: Environment Agency, Southern Region Abstraction: Agriculture: Horticultural Watering Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: See Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 21st May 1992 Permit End Date: Not Supplied Positional Accuracy: Unknown	(NW)	1882	2	502180 104190
	Water Abstractions Operator: Rustington Golf Centre Ltd Licence Number: 10/41/414021 Permit Version: 101 Location: Black Ditch At Ham Manor Farm Rustington Authority: Environment Agency, Southern Region Abstraction: Golf Courses: Spray Irrigation - Storage 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 November Authorised End: 31 March Permit Start Date: 8th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(NE)	1922	2	505620 104190
	Water Abstractions Operator: Rustington Golf Centre Ltd Licence Number: 10/41/414021 Permit Version: 101 Location: Black Ditch At Ham Manor Farm Rustington Authority: Environment Agency, Southern Region Abstraction: Golf Courses: 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: See Licence Map. Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 8th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(NE)	1922	2	505620 104190
	Water Abstractions Operator: Rustington Golf Centre Ltd Licence Number: 10/41/414021 Permit Version: 100 Location: Black Ditch At Ham Manor Farm Rustington Authority: Environment Agency, Southern Region Abstraction: Golf Courses: 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: See Licence Map. Authorised Start: 01 April Authorised End: 31 October Permit Start Date: 4th July 1996 Permit End Date: 31st December 2001 Positional Accuracy: Located by supplier to within 10m	(NE)	1922	2	505620 104190

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Rustington Golf Centre Ltd Licence Number: 10/41/414021 Permit Version: 100 Location: Black Ditch At Ham Manor Farm Rustington Authority: Environment Agency, Southern Region Abstraction: Golf Courses: 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): 1500 Yearly Rate (m3): 2500 Details: See Licence Map. Authorised Start: 01 November Authorised End: 31 March Permit Start Date: 4th July 1996 Permit End Date: 31st December 2001 Positional Accuracy: Unknown	(NE)	1922	2	505620 104190
	Water Abstractions Operator: F W Longhurst & Son Ltd Licence Number: 24/066 Permit Version: 100 Location: Old Place 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): Not Supplied Yearly Rate (m3): Not Supplied Details: See Licence Map Authorised Start: 01 January Authorised End: 31 December Permit Start Date: 16th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 100m	A25SE (NE)	1931	2	505370 104580
	Water Abstractions Operator: F W Longhurst & Son Ltd Licence Number: 24/066 Permit Version: 100 Location: Old Place Farm 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: See Licence Map Authorised Start: 01 March Authorised End: 31 October Permit Start Date: 16th June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	A25SE (NE)	1931	2	505370 104580
	Water Abstractions Operator: Southern Water Services Ltd Licence Number: 10/41/310009 Permit Version: 100 Location: Aquadom Station Road Rustington Borehole 2 Authority: Environment Agency, Southern Region Abstraction: Private Water Undertaking: General Use (Medium Loss) Abstraction Type: Water may be abstracted from a single point Source: Groundwater Daily Rate (m3): Not Supplied Yearly Rate (m3): Not Supplied Details: See Licence Map Authorised Start: 01 April Authorised End: 31 March Permit Start Date: 8th June 2009 Permit End Date: Not Supplied Positional Accuracy: Unknown	(SE)	1932	2	505630 102450

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Water Abstractions Operator: Southern Water Services Ltd Licence Number: 10/41/310009 Permit Version: 100 Location: Aquadom Station Road Rustington Borehole 1 Authority: Environment Agency, Southern Region Abstraction: Public Water Supply: Potable Water Supply - Direct Abstraction Type: Water may be abstracted from a single point Source: Groundwater 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 June 2009 Permit End Date: Not Supplied Positional Accuracy: Located by supplier to within 10m	(SE)	1932	2	505630 102450
	Groundwater Vulnerability Soil Classification: Soils of High Leaching Potential (U) - Soil information for restored mineral workings and urban areas is based on fewer observations than elsewhere. A worst case vulnerability classification (H) assumed, until proved otherwise Map Sheet: Sheet 45 West Sussex and Surrey Scale: 1:100,000	A13SE (NW)	0	2	503872 103312
	Drift Deposits None				
	Bedrock Aquifer Designations Aquifer Designation: Principal Aquifer	A13SE (NW)	0	1	503872 103312
	Superficial Aquifer Designations Aquifer Designation: Secondary Aquifer - A	A13SE (NW)	0	1	503872 103312
	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				
28	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 103.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A13NE (E)	30	4	503934 103329
29	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 123.2 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A13NE (NE)	111	4	503938 103432
30	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 198.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A13NE (N)	233	4	503961 103553

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
31	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 21.0 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18SE (NE)	413	4	504063 103707
32	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 1.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18SE (NE)	434	4	504071 103726
33	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 99.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18SE (NE)	436	4	504072 103728
34	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 4.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18SE (NE)	535	4	504110 103820
35	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 112.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18SE (NE)	535	4	504110 103820
36	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 77.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18SW (NW)	573	4	503584 103824
37	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 62.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18SW (NW)	578	4	503572 103823
38	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18SE (NE)	646	4	504168 103915
39	**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: Rother and Arun Primacy: 1	A18SE (NE)	647	4	504160 103920

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
40	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 38.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18SE (N)	651	4	504126 103938
41	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 148.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18SE (NE)	658	4	504164 103931
42	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 312.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SW (NE)	676	4	504309 103866
43	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 241.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SW (NE)	700	4	504390 103828
44	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 107.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A14SE (E)	722	4	504626 103278
45	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 96.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A14NE (E)	742	4	504645 103383
46	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 95.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A14NE (E)	770	4	504659 103478
47	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 193.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SW (NE)	777	4	504516 103802
48	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 92.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18NE (NE)	803	4	504197 104073

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
49	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 34.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A14NE (E)	810	4	504675 103571
50	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 207.6 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SE (NE)	813	4	504563 103799
51	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 3.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A14NE (E)	825	4	504680 103606
52	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 181.3 Watercourse Level: Not Supplied Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A14NE (E)	827	4	504680 103609
53	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 93.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19NW (NE)	832	4	504348 104029
54	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 219.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A17NE (NW)	861	4	503502 104107
55	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 236.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Black Ditch Catchment Name: Rother and Arun Primacy: 1	A19NW (NE)	872	4	504243 104129
56	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 164.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Black Ditch Catchment Name: Rother and Arun Primacy: 1	A19NW (NE)	872	4	504243 104129
57	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 75.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SE (NE)	881	4	504625 103830

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
58	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 70.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18NE (N)	893	4	504084 104202
59	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 50.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Black Ditch Catchment Name: Rother and Arun Primacy: 1	A19NW (NE)	903	4	504400 104079
60	**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: Rother and Arun Primacy: 1	A19NW (NE)	915	4	504446 104061
61	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 55.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Black Ditch Catchment Name: Rother and Arun Primacy: 1	A19NW (NE)	915	4	504446 104061
62	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 6.9 Watercourse Level: Underground Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19NW (NE)	917	4	504447 104064
63	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 85.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18NE (N)	921	4	503957 104247
64	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 35.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SE (NE)	923	4	504701 103789
65	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 171.5 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19NW (NE)	924	4	504448 104071
66	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 76.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18NW (N)	925	4	503547 104194

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
67	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 2.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Black Ditch Catchment Name: Rother and Arun Primacy: 1	A19NW (NE)	933	4	504499 104043
68	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 176.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19NW (NE)	933	4	504499 104043
69	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 158.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Black Ditch Catchment Name: Rother and Arun Primacy: 1	A19NW (NE)	934	4	504501 104042
70	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 20.8 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18NW (N)	937	4	503780 104261
71	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 116.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SE (NE)	940	4	504701 103822
72	**OS Water Network Lines** Watercourse Form: Lake Watercourse Length: 190.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19NW (NE)	942	4	504476 104073
73	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 114.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18NW (N)	943	4	503822 104270
74	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 39.3 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18NW (N)	947	4	503761 104269
75	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 9.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18NE (N)	964	4	504096 104271

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
76	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 138.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18NW (N)	971	4	503727 104289
77	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 61.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18NW (N)	971	4	503727 104289
78	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 90.9 Watercourse Level: On ground surface Permanent: True Watercourse Name: Black Ditch Catchment Name: Rother and Arun Primacy: 1	A18NE (N)	974	4	504097 104281
79	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 114.2 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19NW (N)	975	4	504236 104243
80	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 65.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18NW (N)	983	4	503617 104278
81	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 40.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Black Ditch Catchment Name: Rother and Arun Primacy: 1	A18NE (N)	991	4	504012 104313
82	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 162.7 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18NE (N)	991	4	504012 104313
83	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 30.1 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A18NW (N)	995	4	503552 104271
84	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 13.4 Watercourse Level: On ground surface Permanent: True Watercourse Name: Not Supplied Catchment Name: Rother and Arun Primacy: 1	A19SE (NE)	996	4	504647 103987

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
85	**OS Water Network Lines** Watercourse Form: Inland river Watercourse Length: 69.0 Watercourse Level: On ground surface Permanent: True Watercourse Name: Black Ditch Catchment Name: Rother and Arun Primacy: 1	A19SE (NE)	996	4	504647 103987

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
86	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Littlehampton, Sussex Name: Norway Farm Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD19944 First Input Date: 31st December 1950 Last Input Date: 31st December 1960 Specified Waste Type: Deposited Waste included Industrial and Special Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 3800/8085 BGS Ref: Not Supplied Other Ref: WD27/179	A13NE (NE)	305	2	504081 103574
87	**Historical Landfill Sites** Licence Holder: Not Supplied Location: Worthing Road, Littlehampton, Sussex Name: Cornfield Close Caravan Site Operator Location: Not Supplied Boundary Accuracy: As Supplied Provider Reference: EAHLD19985 First Input Date: 31st December 1960 Last Input Date: 31st December 1970 Specified Waste Type: Deposited Waste included Inert, Commercial and Household Waste EA Waste Ref: 0 Regis Ref: Not Supplied WRC Ref: 3800/8118 BGS Ref: Not Supplied Other Ref: WD27/153	A12NE (W)	368	2	503474 103355
88	**Licensed Waste Management Facilities (Landfill Boundaries)** Name: Tulley'S Nurseries Licence Number: 19665 Location: Tulley's Nurseries, Toddington Lane, Wick, Littlehampton, West Sussex, BN17 7PW Licence Holder: K C Tulley Nurseries Ltd Authority: Environment Agency - South East Region, Solent & South Downs Area Site Category: Landfills Taking Non-biodegradeable Wastes (Not Construction) Max Input Rate: Not Supplied **Licence Status: Closure** Issued: 10th November 1993 Positional Accuracy: Positioned by the supplier Boundary Accuracy: As Supplied	A18SE (N)	411	2	503933 103738
89	**Licensed Waste Management Facilities (Locations)** Licence Number: 19665 Location: Tulley's Nurseries, Toddington Lane, Wick, Littlehampton, West Sussex, BN17 7PW Operator Name: K C Tulley Nurseries Ltd Operator Location: Not Supplied Authority: Environment Agency - South East Region, Solent & South Downs Area Site Category: Landfills Taking Non-biodegradeable Wastes (Not Construction) **Licence Status: Closed** Issued: 10th November 1993 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	A17SE (NW)	665	2	503400 103800
	Local Authority Landfill Coverage Name: Arun District Council - Has no landfill data to supply		0	5	503872 103312
	Local Authority Landfill Coverage Name: West Sussex County Council - Has supplied landfill data		0	6	503872 103312
90	**Local Authority Recorded Landfill Sites** Location: Worthing Road, Land Adjoining Cornfield Close, Littlehampton Reference: JU/310/91 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	A12SE (W)	547	6	503300 103200

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
91	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A13SE (SE)	36	-	503920 103285
92	**Potentially Infilled Land (Non-Water)** Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A12NE (W)	396	-	503444 103342
93	**Potentially Infilled Land (Non-Water)** Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A12NW (W)	759	-	503081 103354
94	**Potentially Infilled Land (Non-Water)** Bearing Ref: SE Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A9NE (SE)	789	-	504565 102887
95	**Potentially Infilled Land (Non-Water)** Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A12NW (W)	874	-	502964 103329
96	**Potentially Infilled Land (Non-Water)** Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A12NW (W)	928	-	502918 103420
97	**Potentially Infilled Land (Non-Water)** Bearing Ref: W Use: Unknown Filled Ground (Pit, quarry etc) Date of Mapping: 1993	A12NW (W)	962	-	502930 103618
98	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A13SE (E)	11	-	503915 103307
99	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A12NE (NW)	580	-	503338 103593
100	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1913	A12NE (NW)	595	-	503335 103618
101	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A18SE (N)	644	-	504070 103949
102	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A17SE (NW)	671	-	503417 103822
103	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1879	A19SW (NE)	689	-	504414 103787
104	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1913	A19SW (NE)	692	-	504361 103844
105	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A18NE (N)	726	-	504068 104034
106	**Potentially Infilled Land (Water)** Use: Unknown Filled Ground (Pond, marsh, river, stream, dock etc) Date of Mapping: 1962	A19SW (NE)	730	-	504516 103722

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	Registered Landfill Sites				
107	Licence Holder: K C Tulley Nurseries Ltd Licence Reference: WSX/L1/0080 Site Location: Tulleys Nurseries, Toddington Lane, LITTLEHAMPTON, West Sussex, BN17 7PW Licence Easting: 504000 Licence Northing: 103800 Operator Location: 1 Tulley Cottages, Toddington Lane, LITTLEHAMPTON, West Sussex, BN17 7PW Authority: Environment Agency - Southern Region, Sussex Area Site Category: Landfill Max Input Rate: Very Small (Less than 10,000 tonnes per year) Waste Source Restrictions: Some restriction on source of waste Status: Site Closed Dated: 10th November 1993 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: Bricks, Concrete, Concrete Max.Total Deposit In Licence Stone, Chalk, Clay, Soils Prohibited Waste: Grass Cuttings High-Dens/Hard/Bonded/Cement Asbestos Paper Veg.Matter Waste Ex Sites Poll.Matl Maybe Present Waste From Skips/Demountables Waste Greater Poll.Pot'L Than Topsoil Wood	A18SE (N)	483	2	504000 103800

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS 1:625,000 Solid Geology Description: White Chalk Subgroup	A13SE (NW)	0	1	503872 103312
	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 (NW)	0	1	503872 103312
	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	A18NE (N)	682	1	504015 104000
	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	A18NW (NW)	737	1	503569 104000
108	**BGS Recorded Mineral Sites** Site Name: Toddington Brickfield Location: , Littlehampton, West Sussex Source: British Geological Survey, National Geoscience Information Service Reference: 16125 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Quaternary Geology: River Terrace Deposits Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A12SE (W)	517	1	503325 103230
109	**BGS Recorded Mineral Sites** Site Name: North Lane Brickfield Location: , Rustington, Littlehampton, West Sussex Source: British Geological Survey, National Geoscience Information Service Reference: 16124 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Quaternary Geology: River Terrace Deposits Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A9NE (SE)	817	1	504590 102875
110	**BGS Recorded Mineral Sites** Site Name: Worthing Road Brickfield Location: , Wick, Littlehampton, West Sussex Source: British Geological Survey, National Geoscience Information Service Reference: 16127 Type: Opencast **Status: Ceased** Operator: Not Supplied Operator Location: Not Supplied Periodic Type: Quaternary Geology: River Terrace Deposits Commodity: Common Clay and Shale Positional Accuracy: Located by supplier to within 10m	A12SW (W)	828	1	503010 103300

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
	BGS Measured Urban Soil Chemistry No data available				
	BGS Urban Soil Chemistry Averages No data available				
	Coal Mining Affected Areas In an area that might not be affected by coal mining				
	Non Coal Mining Areas of Great Britain Risk: Rare Source: British Geological Survey, National Geoscience Information Service	A13SE (S)	38	1	503872 103250
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	503872 103312
	Potential for Collapsible Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	166	1	503947 103487
	Potential for Compressible Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	503872 103312
	Potential for Ground Dissolution Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	503872 103312
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13SW (S)	132	1	503841 103168
	Potential for Ground Dissolution Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NW (W)	176	1	503674 103364
	Potential for Landslide Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	503872 103312
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	503872 103312
	Potential for Running Sand Ground Stability Hazards Hazard Potential: Very Low Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	166	1	503947 103487
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: Low Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	503872 103312
	Potential for Shrinking or Swelling Clay Ground Stability Hazards Hazard Potential: No Hazard Source: British Geological Survey, National Geoscience Information Service	A13NE (NE)	166	1	503947 103487
	Radon Potential - Radon Affected Areas Affected Area: The property is in a Lower probability radon area (less than 1% of homes are estimated to be at or above the Action Level). Source: British Geological Survey, National Geoscience Information Service	A13SE (NW)	0	1	503872 103312
	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 (NW)	0	1	503872 103312

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
111	**Contemporary Trade Directory Entries** Name: Shell East Field Location: Service Station, Worthing Road, Wick, Littlehampton, West Sussex, BN17 6LE Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	28	-	503836 103328
111	**Contemporary Trade Directory Entries** Name: Shell Service Station Ltd Location: Service Station, Worthing Road, Wick, Littlehampton, West Sussex, BN17 6LE Classification: Petrol Filling Stations - 24 Hour **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	28	-	503836 103328
112	**Contemporary Trade Directory Entries** Name: Cosi Ltd Location: Watersmead Business Park, Littlehampton, West Sussex, BN17 6LS Classification: Toiletries **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	130	-	503799 103437
113	**Contemporary Trade Directory Entries** Name: Sparkle Cleaners Location: 118, Timberleys, Littlehampton, West Sussex, BN17 6QF Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	201	-	504034 103164
114	**Contemporary Trade Directory Entries** Name: Rassilon Replicas Location: 90, Timberleys, Littlehampton, BN17 6QE Classification: Tool Design, Manufacturers & Makers **Status: Active** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	205	-	503985 103124
115	**Contemporary Trade Directory Entries** Name: Stuart Lyons Location: Windross, Worthing Road, Wick, Littlehampton, West Sussex, BN17 6LY Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (W)	271	-	503578 103376
116	**Contemporary Trade Directory Entries** Name: Oven Solutions Location: 40, The Faroes, Littlehampton, West Sussex, BN17 6SB Classification: Oven cleaning **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13SE (SE)	305	-	504148 103136
117	**Contemporary Trade Directory Entries** Name: Baxi Air Management Ltd Location: 15, Timberleys, Littlehampton, West Sussex, BN17 6QA Classification: Ventilators & Ventilation Systems **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NE (S)	375	-	503959 102935
118	**Contemporary Trade Directory Entries** Name: Express Transport Location: 45, Olliver Acre, Wick, Littlehampton, West Sussex, BN17 6FD Classification: Road Haulage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	377	-	503552 103546
119	**Contemporary Trade Directory Entries** Name: Oven Miracle Cleaning Co Location: 11, Gratwicke Drive, Wick, Littlehampton, West Sussex, BN17 6GU Classification: Oven cleaning **Status: Active** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	390	-	503581 103593
119	**Contemporary Trade Directory Entries** Name: Ironing R Us Location: 11, Gratwicke Drive, Wick, Littlehampton, BN17 6GU Classification: Ironing & Home Laundry Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	390	-	503581 103593

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
120	**Contemporary Trade Directory Entries** Name: Businesscards2you.Co.Uk Location: 15, Bluebell Drive, LITTLEHAMPTON, West Sussex, BN17 6UL Classification: Printers **Status: Active** Positional Accuracy: Automatically positioned to the address	A14SW (E)	433	-	504331 103237
121	**Contemporary Trade Directory Entries** Name: Domestic Bliss Location: 44, Capstan Drive, LITTLEHAMPTON, West Sussex, BN17 6RW Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	446	-	504289 103092
121	**Contemporary Trade Directory Entries** Name: Housekeepers Of Rustington Location: 6, Pebble Walk, Littlehampton, West Sussex, BN17 6TE Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	453	-	504310 103117
122	**Contemporary Trade Directory Entries** Name: Total Packaging Supplies Location: Tulley Nurseries,Toddington La, Wick, Littlehampton, West Sussex, BN17 7PW Classification: Packaging & Wrapping Equipment & Supplies **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (NW)	513	-	503660 103796
123	**Contemporary Trade Directory Entries** Name: Andy Hooper Location: 10, Buttermere Way, Littlehampton, West Sussex, BN17 6SX Classification: Outboard Motors - Sales & Service **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	526	-	504341 103026
123	**Contemporary Trade Directory Entries** Name: D D P Location: 12, Buttermere Way, Littlehampton, West Sussex, BN17 6SX Classification: Scaffolding & Work Platforms **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	530	-	504340 103017
123	**Contemporary Trade Directory Entries** Name: 1st Call Commercial Cleaning Location: 27, Buttermere Way, Littlehampton, West Sussex, BN17 6SX Classification: Cleaning Services - Commercial **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SW (SE)	537	-	504334 102996
124	**Contemporary Trade Directory Entries** Name: Woodside Country Furniture Location: Tulleys Nursery,Toddington Lane, Wick, Nr Arundel, Littlehampton, West Sussex, BN17 7PW Classification: Furniture Manufacturers - Home & Office **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A18SW (N)	528	-	503701 103828
125	**Contemporary Trade Directory Entries** Name: N B Recovery Location: 7, Bellscroft Close, Littlehampton, West Sussex, BN17 6EA Classification: Car Breakdown & Recovery Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8NW (S)	549	-	503786 102753
125	**Contemporary Trade Directory Entries** Name: Yeomans Honda Location: Horsham Road, Littlehampton, West Sussex, BN17 6DN Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	567	-	503757 102739
125	**Contemporary Trade Directory Entries** Name: Yeomans Location: 52-54 Horsham rd, Littlehampton, West Sussex, BN17 6DN Classification: Car Dealers **Status: Active** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	568	-	503756 102738

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
126	**Contemporary Trade Directory Entries** Name: The Service Centre Location: 6, The Saltings, Littlehampton, West Sussex, BN17 6RR Classification: Domestic Appliances - Servicing, Repairs & Parts **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NW (SE)	566	-	504283 102898
127	**Contemporary Trade Directory Entries** Name: Temple Spa Location: Toddington La, Wick, Littlehampton, West Sussex, BN17 6JX Classification: Cosmetic Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned within the geographical locality	A17SE (NW)	636	-	503338 103693
128	**Contemporary Trade Directory Entries** Name: C M D Recovery Location: 77, Horsham Road, Littlehampton, West Sussex, BN17 6DB Classification: Breakdown and Recovery **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8NW (S)	651	-	503620 102686
129	**Contemporary Trade Directory Entries** Name: Ultimate Location: 1, Harebell Close, Littlehampton, West Sussex, BN17 6WE Classification: Road Haulage Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	660	-	504558 103225
130	**Contemporary Trade Directory Entries** Name: Chauffer Services Ltd Location: 7, Toddington Park, Wick, Littlehampton, West Sussex, BN17 6JZ Classification: Car Engine Tuning & Diagnostic Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NW (W)	684	-	503166 103427
131	**Contemporary Trade Directory Entries** Name: Ask La Concierge Location: 15, Columbine Way, Littlehampton, West Sussex, BN17 6UX Classification: Cleaning Services - Domestic **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	687	-	504580 103450
132	**Contemporary Trade Directory Entries** Name: R J B Haulage Location: Five Stones, Toddington Lane, Wick, Littlehampton, BN17 7PP Classification: Sand, Gravel & Other Aggregates **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	703	-	503502 103927
132	**Contemporary Trade Directory Entries** Name: P S Autotechnik Ltd Location: Five Stones, Toddington Lane, Wick, Littlehampton, West Sussex, BN17 7PP Classification: Car Customisation & Conversion Specialists **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	703	-	503502 103927
132	**Contemporary Trade Directory Entries** Name: Pro Design Scooter Engineering Location: Unit 4, Five Stone Nurseries, Toddington Lane, Wick, Littlehampton, BN17 7PP Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	703	-	503502 103927
132	**Contemporary Trade Directory Entries** Name: Total Paintworks Location: Five Stones, Toddington Lane, Wick, Littlehampton, West Sussex, BN17 7PP Classification: Car Paint & Lacquer Manufacturers & Suppliers **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	703	-	503502 103927
133	**Contemporary Trade Directory Entries** Name: Pensa Engineering Services Location: 35, Columbine Way, Littlehampton, West Sussex, BN17 6UX Classification: Air Conditioning & Refrigeration Contractors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	703	-	504568 103554

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
134	**Contemporary Trade Directory Entries** Name: Walsh Pest Control Location: 47, Carvel Way, Littlehampton, West Sussex, BN17 6RJ Classification: Pest & Vermin Control **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	736	-	504108 102602
134	**Contemporary Trade Directory Entries** Name: Jeff King Location: 34, Beacon Way, Littlehampton, West Sussex, BN17 6QS Classification: Washing Machines - Servicing & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	771	-	504149 102579
135	**Contemporary Trade Directory Entries** Name: Outback Trailers Location: Hollyacre, Toddington Lane, Wick, Littlehampton, West Sussex, BN17 7PP Classification: Trailers & Towing Equipment **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	737	-	503347 103848
135	**Contemporary Trade Directory Entries** Name: Sussex Scaffolding Location: Hollyacre, Toddington Lane, Wick, Littlehampton, BN17 7PP Classification: Scaffolding & Work Platforms **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17SE (NW)	746	-	503348 103862
136	**Contemporary Trade Directory Entries** Name: Maxicause Ltd Location: 21, Toddington Park, Wick, Littlehampton, BN17 6JZ Classification: Heat Exchangers **Status: Active** Positional Accuracy: Automatically positioned to the address	A12NW (W)	752	-	503130 103554
137	**Contemporary Trade Directory Entries** Name: Superior Location: Holly Dr, Wick, Littlehampton, West Sussex, BN17 6LB Classification: Window Frame Manufacturers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A17SW (NW)	762	-	503180 103684
137	**Contemporary Trade Directory Entries** Name: House Of Tees Location: 23, Holly Drive, Wick, LITTLEHAMPTON, West Sussex, BN17 6LB Classification: T-Shirts **Status: Active** Positional Accuracy: Automatically positioned to the address	A17SW (NW)	793	-	503170 103728
138	**Contemporary Trade Directory Entries** Name: Mr Housework Location: 34, Falkland Avenue, Littlehampton, West Sussex, BN17 6AB Classification: Cleaning Services - Domestic **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	768	-	503695 102545
139	**Contemporary Trade Directory Entries** Name: Bennett Autos Location: Unit G, Five Stone Nurseries, Toddington Lane, Wick, Littlehampton, BN17 7PP Classification: Garage Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	792	-	503495 104025
139	**Contemporary Trade Directory Entries** Name: C S Developments Ltd Location: Unit 2, Toddington Lane, Wick, Littlehampton, West Sussex, BN17 7PP Classification: Concrete Contractors **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A17NE (NW)	801	-	503457 104014
140	**Contemporary Trade Directory Entries** Name: United Carpet Cleaning Masters Location: 31c Horsham Rd, Littlehampton, West Sussex, BN17 6BZ Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Manually positioned to the address or location	A8SW (S)	802	-	503592 102536

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
140	**Contemporary Trade Directory Entries** Name: Arun Mouldings Location: 3, Southfields Road, Littlehampton, West Sussex, BN17 6AF Classification: Glass Fibre Moulding, Materials & Manufacturers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	803	-	503635 102523
140	**Contemporary Trade Directory Entries** Name: Arun Mouldings Location: 3, Southfields Road, Littlehampton, West Sussex, BN17 6AF Classification: Glass Fibre Manufacturers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	803	-	503635 102523
141	**Contemporary Trade Directory Entries** Name: Apex Gutter Clearing Location: 27, Southfields Road, Littlehampton, West Sussex, BN17 6PA Classification: Commercial Cleaning Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SE (S)	829	-	504002 102482
141	**Contemporary Trade Directory Entries** Name: Apex Gutter & Window Cleaning Location: 27, Southfields Road, Littlehampton, West Sussex, BN17 6PA Classification: Commercial Cleaning Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SE (S)	829	-	504002 102482
142	**Contemporary Trade Directory Entries** Name: Carroll Media Ltd Location: 10, Southfields Road, Littlehampton, West Sussex, BN17 6AE Classification: Photo & Digital Imaging Bureaus **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	842	-	503719 102466
143	**Contemporary Trade Directory Entries** Name: R S Vehicle Inspections Location: 1, Amberley Close, Wick, Littlehampton, West Sussex, BN17 6HN Classification: Vehicle Inspection Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	850	-	503053 102972
144	**Contemporary Trade Directory Entries** Name: Cuff Miller Forces Cars Location: Horsham Road, Littlehampton, BN17 6BX Classification: Car Dealers **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A8SW (S)	866	-	503627 102460
144	**Contemporary Trade Directory Entries** Name: Esso Location: Horsham Road, Littlehampton, West Sussex, BN17 6BX Classification: Petrol Filling Stations **Status: Active** Positional Accuracy: Manually positioned within the geographical locality	A8SW (S)	866	-	503627 102460
144	**Contemporary Trade Directory Entries** Name: Cuff Miller Location: Horsham Road, LITTLEHAMPTON, West Sussex, BN17 6BX Classification: Car Dealers **Status: Active** Positional Accuracy: Automatically positioned to the address	A8SW (S)	866	-	503627 102460
145	**Contemporary Trade Directory Entries** Name: Uk 24-7 Repair & Recovery Location: 4, Ensign Way, Littlehampton, West Sussex, BN17 6RQ Classification: Breakdown and Recovery **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	870	-	504379 102587
146	**Contemporary Trade Directory Entries** Name: R T Spencer Services Location: 64, Highdown Drive, Littlehampton, West Sussex, BN17 6HH Classification: Firefighting Equipment **Status: Active** Positional Accuracy: Automatically positioned to the address	A7NW (SW)	881	-	503091 102832
147	**Contemporary Trade Directory Entries** Name: Arun Pumpcrete Location: 55, North Lane, Rustington, Littlehampton, West Sussex, BN16 3PP Classification: Concrete Contractors **Status: Active** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	900	-	504698 102895

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
148	**Contemporary Trade Directory Entries** Name: Robins Location: 96, North Lane, Rustington, Littlehampton, West Sussex, BN16 3PW Classification: Waste Disposal Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14SE (E)	916	-	504778 103041
149	**Contemporary Trade Directory Entries** Name: Bluelight Distributions Location: 8, Lansdowne Road, Wick, Littlehampton, West Sussex, BN17 6JQ Classification: Distribution Services **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12NW (W)	922	-	502919 103385
150	**Contemporary Trade Directory Entries** Name: Mr Clearance Location: 27, Wendy Ridge, Rustington, Littlehampton, West Sussex, BN16 3PJ Classification: Waste Disposal Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	926	-	504511 102618
151	**Contemporary Trade Directory Entries** Name: Top Clean Location: 82, North Lane, Rustington, Littlehampton, West Sussex, BN16 3PW Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9NE (SE)	934	-	504760 102942
152	**Contemporary Trade Directory Entries** Name: Pensa Engineering Services Location: 23, Windward Close, Littlehampton, West Sussex, BN17 6QX Classification: Refrigerators & Freezers - Servicing & Repairs **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	938	-	504256 102442
152	**Contemporary Trade Directory Entries** Name: C M D Recovery Location: 39, Windward Close, Littlehampton, West Sussex, BN17 6QX Classification: Car Breakdown & Recovery Services **Status: Active** Positional Accuracy: Automatically positioned to the address	A9SW (SE)	957	-	504299 102440
153	**Contemporary Trade Directory Entries** Name: Oscar Pet & Farm Foods Location: 7, Hamilton Close, Rustington, Littlehampton, West Sussex, BN16 3TN Classification: Pet Foods & Animal Feeds **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A14NE (E)	956	-	504835 103543
154	**Contemporary Trade Directory Entries** Name: Frank Clarke Location: Worthing Rd, Wick, Littlehampton, West Sussex, BN17 6JR Classification: Cabinet Makers **Status: Inactive** Positional Accuracy: Manually positioned to the road within the address or location	A12NW (W)	980	-	502865 103418
155	**Contemporary Trade Directory Entries** Name: Austins Location: 68, Lansdowne Road, Wick, Littlehampton, West Sussex, BN17 6JG Classification: Carpet, Curtain & Upholstery Cleaners **Status: Inactive** Positional Accuracy: Automatically positioned to the address	A12SW (W)	988	-	502869 103105
156	**Fuel Station Entries** Name: Shell Eastfield Location: Service Station, Worthing Road, Wick, Littlehampton, West Sussex, BN17 6LE Brand: SHELL Premises Type: Petrol Station **Status: Open** Positional Accuracy: Automatically positioned to the address	A13NW (NW)	28	-	503836 103328
157	**Fuel Station Entries** Name: Yeomans Garage Location: 52-54, Horsham Road, LITTLEHAMPTON, West Sussex, BN17 6DN Brand: Obsolete Premises Type: Not Applicable **Status: Obsolete** Positional Accuracy: Manually positioned to the address or location	A8NW (S)	568	-	503756 102738

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
158	**Fuel Station Entries** Name: Cuff Miller Location: Horsham Road, Southfields Road, Littlehampton, West Sussex, BN17 6BX Brand: Esso Premises Type: Petrol Station **Status: Open** Positional Accuracy: Automatically positioned to the address	A8SW (S)	867	-	503627 102459
159	**Points of Interest - Commercial Services** Name: Shell Eastfield Location: Service Station, Worthing Road, Wick, Littlehampton, BN17 6LE Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A13NW (NW)	28	7	503835 103328
159	**Points of Interest - Commercial Services** Name: Car Wash Location: Service Station, Worthing Road, Wick, Littlehampton, BN17 6LE Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A13NW (NW)	28	7	503836 103328
160	**Points of Interest - Commercial Services** Name: Hammonds (Commercials) Ltd Location: Worthing Road, Wick, Littlehampton, BN17 6LY Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A13NW (W)	234	7	503621 103386
160	**Points of Interest - Commercial Services** Name: Stuart Lyons Location: Windross, Worthing Road, Wick, Littlehampton, BN17 6LY Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13NW (W)	271	7	503578 103376
161	**Points of Interest - Commercial Services** Name: Express Transport Location: 45 Olliver Acre, Wick, Littlehampton, BN17 6FD Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A13NW (NW)	377	7	503552 103545
162	**Points of Interest - Commercial Services** Name: Auto Hot Wash UK Ltd Location: 16 The Faroes, Littlehampton, BN17 6SB Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8NE (SE)	425	7	504140 102962
163	**Points of Interest - Commercial Services** Name: Rainbow Car Detailing Ltd Location: 14 Larkspur Close, Littlehampton, BN17 6WB Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A14NW (E)	521	7	504426 103334
164	**Points of Interest - Commercial Services** Name: G R Autos Mobile Classics Location: 1 Townsend Crescent, Littlehampton, BN17 6DH Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A8NW (SW)	529	7	503549 102857
165	**Points of Interest - Commercial Services** Name: Time 2 Shine Valeting Location: 12 Cornfield Close, Wick, Littlehampton, BN17 6HY Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A12NE (W)	531	7	503312 103371
166	**Points of Interest - Commercial Services** Name: Bernard Grevett Haulage Location: 11 Hill Road, Littlehampton, BN17 6DE Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A8NW (SW)	584	7	503587 102772
167	**Points of Interest - Commercial Services** Name: Ultimate Location: 1 Harebell Close, Littlehampton, BN17 6WE Category: Transport, Storage and Delivery Class Code: Distribution and Haulage Positional Accuracy: Positioned to address or location	A14SE (E)	660	7	504558 103225

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
168	**Points of Interest - Commercial Services** Name: South East Vehicle Valeting Location: Five Stones, Toddington Lane, Wick, Littlehampton, BN17 7PP Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A17SE (NW)	702	7	503502 103926
168	**Points of Interest - Commercial Services** Name: A A G Location: Five Stones, Toddington Lane, Wick, Littlehampton, BN17 7PP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SE (NW)	702	7	503502 103926
168	**Points of Interest - Commercial Services** Name: Total Paintworks Location: Five Stones, Toddington Lane, Wick, Littlehampton, BN17 7PP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SE (NW)	702	7	503502 103926
168	**Points of Interest - Commercial Services** Name: Bennett Autos Location: Five Stones, Toddington Lane, Wick, Littlehampton, BN17 7PP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SE (NW)	703	7	503502 103927
168	**Points of Interest - Commercial Services** Name: P S Autotechnik Ltd Location: Five Stones, Toddington Lane, Wick, Littlehampton, BN17 7PP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SE (NW)	703	7	503502 103927
169	**Points of Interest - Commercial Services** Name: Walsh Pest Control Location: 47 Carvel Way, Littlehampton, BN17 6RJ Category: Contract Services Class Code: Pest and Vermin Control Positional Accuracy: Positioned to address or location	A8SE (S)	736	7	504107 102601
170	**Points of Interest - Commercial Services** Name: Arun Autogas Ltd Location: Hollyacre Plants, Toddington Lane, Wick, Littlehampton, BN17 7PP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17SE (NW)	737	7	503347 103848
171	**Points of Interest - Commercial Services** Name: Forecourt Cleaners Location: 34 Horsham Road, Littlehampton, BN17 6DA Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A8SW (S)	746	7	503633 102582
172	**Points of Interest - Commercial Services** Name: Pro Design Scooter Engineering Location: Unit 4 Five Stone Nurseries, Toddington Lane, Wick, Littlehampton, BN17 7PP Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A17NE (NW)	822	7	503475 104048
173	**Points of Interest - Commercial Services** Name: Rs Vehicle Location: 1 Amberley Close, Wick, Littlehampton, BN17 6HN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NW (SW)	850	7	503053 102972
173	**Points of Interest - Commercial Services** Name: R S Vehicle Inspections Location: 1 Amberley Close, Wick, Littlehampton, BN17 6HN Category: Repair and Servicing Class Code: Vehicle Repair, Testing and Servicing Positional Accuracy: Positioned to address or location	A7NW (SW)	851	7	503053 102971
174	**Points of Interest - Commercial Services** Name: Door to Door Location: 63 Hide Gardens, Rustington, Littlehampton, BN16 3NP Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A9NE (SE)	862	7	504642 102874

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
174	**Points of Interest - Commercial Services** Name: Door-To-Door Motor Services Location: 63 Hide Gardens, Rustington, Littlehampton, BN16 3NP Category: Personal, Consumer and other Services Class Code: Vehicle Cleaning Services Positional Accuracy: Positioned to address or location	A9NE (SE)	862	7	504642 102874
175	**Points of Interest - Commercial Services** Name: C M D Recovery Location: 39 Windward Close, Littlehampton, BN17 6QX Category: Recycling Services Class Code: Scrap Metal Merchants Positional Accuracy: Positioned to address or location	A9SW (SE)	957	7	504299 102440
176	**Points of Interest - Manufacturing and Production** Name: Tank Location: BN17 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A13NW (NW)	261	7	503613 103432
177	**Points of Interest - Manufacturing and Production** Name: Tank Location: BN17 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18SW (N)	422	7	503752 103733
178	**Points of Interest - Manufacturing and Production** Name: Tank Location: BN17 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18SW (NW)	471	7	503538 103662
179	**Points of Interest - Manufacturing and Production** Name: Tanks Location: BN17 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18SW (N)	541	7	503712 103845
179	**Points of Interest - Manufacturing and Production** Name: Tank Location: BN17 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18SW (N)	554	7	503696 103854
180	**Points of Interest - Manufacturing and Production** Name: Tank Location: BN17 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A18SE (N)	604	7	503921 103932
180	**Points of Interest - Manufacturing and Production** Name: Tank Location: BN17 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A18SE (N)	610	7	503919 103938
180	**Points of Interest - Manufacturing and Production** Name: Tanks Location: BN17 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A18SE (N)	612	7	503925 103940
180	**Points of Interest - Manufacturing and Production** Name: Tank Location: BN17 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to address or location	A18SE (N)	616	7	503920 103944
181	**Points of Interest - Manufacturing and Production** Name: Tank Location: BN17 Category: Industrial Features Class Code: Tanks (Generic) Positional Accuracy: Positioned to an adjacent address or location	A7NE (SW)	679	7	503309 102873

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
182	**Points of Interest - Public Infrastructure** Name: Shell (UK) Ltd Location: Service Station, Worthing Road, Wick, Littlehampton, BN17 6LE Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A13NW (NW)	28	7	503836 103328
182	**Points of Interest - Public Infrastructure** Name: Shell East Field Location: Service Station, Worthing Road, Wick, Littlehampton, BN17 6LE Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A13NW (NW)	28	7	503835 103328
182	**Points of Interest - Public Infrastructure** Name: Shell Service Station Ltd Location: Service Station, Worthing Road, Wick, Littlehampton, BN17 6LE Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A13NW (NW)	28	7	503836 103328
182	**Points of Interest - Public Infrastructure** Name: Shell East Field Location: Service Station, Worthing Road, Wick, Littlehampton, BN17 6LE Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A13NW (NW)	28	7	503836 103328
182	**Points of Interest - Public Infrastructure** Name: Shell Eastfield Location: Service Station, Worthing Road, Wick, Littlehampton, BN17 6LE Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A13NW (NW)	28	7	503836 103328
183	**Points of Interest - Public Infrastructure** Name: Cemetery Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A13SW (S)	118	7	503834 103182
183	**Points of Interest - Public Infrastructure** Name: Cemetery Location: BN17 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A13SW (S)	118	7	503834 103182
184	**Points of Interest - Public Infrastructure** Name: Cemetery Location: Not Supplied Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A13SW (S)	330	7	503749 102982
184	**Points of Interest - Public Infrastructure** Name: Cemetery Location: BN17 Category: Infrastructure and Facilities Class Code: Cemeteries and Crematoria Positional Accuracy: Positioned to an adjacent address or location	A13SW (S)	332	7	503743 102981
185	**Points of Interest - Public Infrastructure** Name: Cuff Miller & Co Ltd Location: Horsham Road, Littlehampton, BN17 6BX Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A8SW (S)	866	7	503627 102460
185	**Points of Interest - Public Infrastructure** Name: Cuff Miller & Co Location: Horsham Road, Littlehampton, BN17 6BX Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A8SW (S)	866	7	503627 102460
185	**Points of Interest - Public Infrastructure** Name: Esso Location: Horsham Road, Littlehampton, BN17 6BX Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A8SW (S)	867	7	503627 102459

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
185	**Points of Interest - Public Infrastructure** Name: Cuff Miller Location: Horsham Road, Southfields Road, Littlehampton, BN17 6BX Category: Road And Rail Class Code: Petrol and Fuel Stations Positional Accuracy: Positioned to address or location	A8SW (S)	867	7	503627 102459
186	**Points of Interest - Public Infrastructure** Name: Robins Location: 96 North Lane, Rustington, Littlehampton, BN16 3PW Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A14SE (E)	916	7	504778 103041
187	**Points of Interest - Public Infrastructure** Name: Mr Clearance Location: 27 Wendy Ridge, Rustington, Littlehampton, BN16 3PJ Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A9SW (SE)	926	7	504511 102618
187	**Points of Interest - Public Infrastructure** Name: Mr Clearance Location: 27 Wendy Ridge, Rustington, Littlehampton, BN16 3PJ Category: Infrastructure and Facilities Class Code: Waste Storage, Processing and Disposal Positional Accuracy: Positioned to address or location	A9SW (SE)	926	7	504510 102618
188	**Points of Interest - Recreational and Environmental** Name: Playground Location: Watersmead Drive, BN17 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A13NE (E)	147	7	504050 103345
189	**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	A13NE (E)	276	7	504180 103346
189	**Points of Interest - Recreational and Environmental** Name: Playground Location: Watersmead Drive, BN17 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A13NE (E)	276	7	504180 103347
189	**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	A13NE (E)	306	7	504193 103423
189	**Points of Interest - Recreational and Environmental** Name: Playground Location: Watersmead Drive, BN17 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A13NE (E)	308	7	504195 103425
190	**Points of Interest - Recreational and Environmental** Name: Playground Location: Gratwicke Drive, BN17 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A13NW (NW)	361	7	503647 103611
191	**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	A14SW (E)	403	7	504305 103265
191	**Points of Interest - Recreational and Environmental** Name: Playground Location: Foxglove Way, BN17 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A14SW (E)	405	7	504306 103264

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
192	**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	A14NW (E)	546	7	504444 103408
192	**Points of Interest - Recreational and Environmental** Name: Playground Location: Bluebell Drive, BN17 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A14NW (E)	547	7	504445 103407
193	**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	A14NW (NE)	558	7	504417 103542
193	**Points of Interest - Recreational and Environmental** Name: Playground Location: Camelia Close, BN17 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A14NW (NE)	559	7	504414 103553
194	**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	A14NW (E)	614	7	504519 103316
194	**Points of Interest - Recreational and Environmental** Name: Playground Location: Bluebell Drive, BN17 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A14NW (E)	614	7	504519 103316
194	**Points of Interest - Recreational and Environmental** Name: Play Area Location: Not Supplied Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14SW (E)	629	7	504528 103232
194	**Points of Interest - Recreational and Environmental** Name: Play Area Location: Bluebell Drive, BN17 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14SW (E)	629	7	504528 103232
195	**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	A14NE (E)	692	7	504591 103415
195	**Points of Interest - Recreational and Environmental** Name: Playground Location: Columbine Way, BN17 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14NE (E)	692	7	504591 103414
196	**Points of Interest - Recreational and Environmental** Name: Playground Location: Southfields Road, BN17 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A8SW (S)	802	7	503815 102498
196	**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	A8SW (S)	811	7	503814 102489

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
197	**Points of Interest - Recreational and Environmental** Name: Playground Location: Barwick Close, BN16 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14NE (E)	882	7	504772 103485
198	**Points of Interest - Recreational and Environmental** Name: Playground Location: Wendy Ridge, BN16 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A9NE (SE)	900	7	504576 102720
198	**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	A9NE (SE)	901	7	504575 102718
199	**Points of Interest - Recreational and Environmental** Name: Playground Location: Nr Rosemead, BN17 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A7SE (SW)	919	7	503309 102548
200	**Points of Interest - Recreational and Environmental** Name: Playground Location: Worthing Road, BN17 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A12NW (W)	933	7	502921 103473
200	**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	A12NW (W)	934	7	502922 103481
201	**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	A7NW (SW)	968	7	503016 102788
201	**Points of Interest - Recreational and Environmental** Name: Playground Location: Madehurst Way, BN17 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to address or location	A7NW (SW)	987	7	502993 102789
202	**Points of Interest - Recreational and Environmental** Name: Playground Location: Wilton Close, BN16 Category: Recreational Class Code: Playgrounds Positional Accuracy: Positioned to an adjacent address or location	A14NE (E)	979	7	504882 103391

Map ID	Details	Quadrant Reference (Compass Direction)	Estimated Distance From Site	Contact	NGR
203	**Nitrate Vulnerable Zones** Name: Not Supplied Description: Groundwater Source: Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	A13NW (N)	19	9	503870 103347

Agency & Hydrological	Version	Update Cycle
Contaminated Land Register Entries and Notices		
Arun District Council - Environmental Health Department	July 2013	Annual Rolling Update
Worthing Borough Council - Environmental Health Department	March 2014	Annual Rolling Update
Discharge Consents		
Environment Agency - Southern Region	April 2017	Quarterly
Enforcement and Prohibition Notices		
Environment Agency - Southern Region	March 2013	As notified
Integrated Pollution Controls		
Environment Agency - Southern Region	October 2008	Not Applicable
Integrated Pollution Prevention And Control		
Environment Agency - South East Region - Solent & South Downs Area	April 2017	Quarterly
Environment Agency - Southern Region	April 2017	Quarterly
Local Authority Integrated Pollution Prevention And Control		
Arun District Council - Environmental Health Department	December 2014	Annual Rolling Update
Worthing Borough Council - Environmental Health Department	March 2013	Annual Rolling Update
Local Authority Pollution Prevention and Controls		
Arun District Council - Environmental Health Department	December 2014	Annual Rolling Update
Worthing Borough Council - Environmental Health Department	November 2014	Annual Rolling Update
Local Authority Pollution Prevention and Control Enforcements		
Arun District Council - Environmental Health Department	December 2014	Annual Rolling Update
Worthing Borough Council - Environmental Health Department	November 2014	Annual Rolling Update
Nearest Surface Water Feature		
Ordnance Survey	March 2017	
Pollution Incidents to Controlled Waters		
Environment Agency - Southern Region	December 1999	Not Applicable
Prosecutions Relating to Authorised Processes		
Environment Agency - Southern Region	March 2013	As notified
Prosecutions Relating to Controlled Waters		
Environment Agency - Southern Region	March 2013	As notified
Registered Radioactive Substances		
Environment Agency - Southern Region	January 2015	
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 2017	Quarterly
Environment Agency - Southern Region - Solent and South Downs	April 2017	Quarterly
Environment Agency - Southern Region - Sussex Area	April 2017	Quarterly
Water Abstractions		
Environment Agency - Southern Region	October 2016	Quarterly
Water Industry Act Referrals		
Environment Agency - Southern Region	April 2017	Quarterly
Groundwater Vulnerability		
Environment Agency - Head Office	April 2015	Not Applicable
Drift Deposits		
Environment Agency - Head Office	January 1999	Not Applicable
Bedrock Aquifer Designations		
British Geological Survey - National Geoscience Information Service	August 2015	As notified

Agency & Hydrological	Version	Update Cycle
Superficial Aquifer Designations British Geological Survey - National Geoscience Information Service	August 2015	As notified
Source Protection Zones Environment Agency - Head Office	April 2017	Quarterly
Extreme Flooding from Rivers or Sea without Defences Environment Agency - Head Office	May 2017	Quarterly
Flooding from Rivers or Sea without Defences Environment Agency - Head Office	May 2017	Quarterly
Areas Benefiting from Flood Defences Environment Agency - Head Office	May 2017	Quarterly
Flood Water Storage Areas Environment Agency - Head Office	May 2017	Quarterly
Flood Defences Environment Agency - Head Office	May 2017	Quarterly
OS Water Network Lines Ordnance Survey	April 2017	6 Weekly
Surface Water 1 in 30 year Flood Extent Environment Agency - Head Office	October 2013	As notified
Surface Water 1 in 100 year Flood Extent Environment Agency - Head Office	October 2013	As notified
Surface Water 1 in 1000 year Flood Extent Environment Agency - Head Office	October 2013	As notified
Surface Water Suitability Environment Agency - Head Office	October 2013	As notified
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	May 2017	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	May 2017	Quarterly
Environment Agency - Southern Region - Solent and South Downs	May 2017	Quarterly
Environment Agency - Southern Region - Sussex Area	May 2017	Quarterly
Licensed Waste Management Facilities (Locations)		
Environment Agency - South East Region - Solent & South Downs Area	October 2016	Quarterly
Environment Agency - Southern Region - Solent and South Downs	October 2016	Quarterly
Environment Agency - Southern Region - Sussex Area	October 2016	Quarterly
Local Authority Landfill Coverage		
Arun District Council - Technical Support Unit	May 2000	Not Applicable
West Sussex County Council - Environment & Development	May 2000	Not Applicable
Worthing Borough Council - Planning Department	May 2000	Not Applicable
Local Authority Recorded Landfill Sites		
Arun District Council - Technical Support Unit	May 2000	Not Applicable
West Sussex County Council - Environment & Development	May 2000	Not Applicable
Worthing Borough Council - Planning Department	May 2000	Not Applicable
Potentially Infilled Land (Non-Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Potentially Infilled Land (Water)		
Landmark Information Group Limited	December 1999	Not Applicable
Registered Landfill Sites		
Environment Agency - Southern Region - Sussex Area	March 2003	Not Applicable
Registered Waste Transfer Sites		
Environment Agency - Southern Region - Sussex Area	March 2003	Not Applicable
Registered Waste Treatment or Disposal Sites		
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	March 2017	Bi-Annually
Explosive Sites		
Health and Safety Executive	March 2017	Bi-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	Annual Rolling Update
Worthing Borough Council - Planning Department	February 2016	Annual Rolling Update
West Sussex County Council - Environment & Development	October 2006	Annual Rolling Update
Planning Hazardous Substance Consents		
Arun District Council - Technical Support Unit	February 2016	Annual Rolling Update
Worthing Borough Council - Planning Department	February 2016	Annual Rolling Update
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	As notified
BGS Recorded Mineral Sites British Geological Survey - National Geoscience Information Service	April 2017	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	As notified
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	June 2015	Annually
Potential for Compressible Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Ground Dissolution Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Landslide Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Running Sand Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Potential for Shrinking or Swelling Clay Ground Stability Hazards British Geological Survey - National Geoscience Information Service	June 2015	Annually
Radon Potential - Radon Affected Areas British Geological Survey - National Geoscience Information Service	July 2011	As notified
Radon Potential - Radon Protection Measures British Geological Survey - National Geoscience Information Service	July 2011	As notified
Industrial Land Use	**Version**	**Update Cycle**
Contemporary Trade Directory Entries Thomson Directories	March 2017	Quarterly
Fuel Station Entries Catalist Ltd - Experian	February 2017	Quarterly
Gas Pipelines National Grid	July 2014	Quarterly
Points of Interest - Commercial Services PointX	December 2016	Quarterly
Points of Interest - Education and Health PointX	December 2016	Quarterly
Points of Interest - Manufacturing and Production PointX	December 2016	Quarterly
Points of Interest - Public Infrastructure PointX	December 2016	Quarterly
Points of Interest - Recreational and Environmental PointX	December 2016	Quarterly
Underground Electrical Cables National Grid	December 2015	Bi-Annually

Sensitive Land Use	Version	Update Cycle
Ancient Woodland Natural England	May 2017	Bi-Annually
Areas of Outstanding Natural Beauty Natural England	January 2017	Bi-Annually
Environmentally Sensitive Areas Natural England	January 2017	Annually
Forest Parks Forestry Commission	April 1997	Not Applicable
Local Nature Reserves Natural England	January 2017	Bi-Annually
Marine Nature Reserves Natural England	January 2017	Bi-Annually
National Nature Reserves Natural England	January 2017	Bi-Annually
National Parks Natural England	February 2017	Bi-Annually
Nitrate Vulnerable Zones Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)	October 2015	Annually
Ramsar Sites Natural England	January 2017	Bi-Annually
Sites of Special Scientific Interest Natural England	January 2017	Bi-Annually
Special Areas of Conservation Natural England	January 2017	Bi-Annually
Special Protection Areas Natural England	January 2017	Bi-Annually
World Heritage Sites English Heritage - National Monument Record Centre	May 2017	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, Kingsley Dunham Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG	
2	**Environment Agency - National Customer Contact Centre (NCCC)** PO Box 544, Templeborough, Rotherham, S60 1BY	
3	**Arun District Council - Environmental Health Department** Civic Centre, Maltravers Road, Littlehampton, Sussex, BN17 5LF	
4	**Ordnance Survey** Adanac Drive, Southampton, Hampshire, SO16 0AS	
5	**Arun District Council - Technical Support Unit** Civic Centre, Maltravers Road, Littlehampton, Sussex, BN17 5LF	
6	**West Sussex County Council - Environment & Development** County Hall, Tower hall, Chichester, West Sussex, PO19 1RH	
7	**PointX** 7 Abbey Court, Eagle Way, Sowton, Exeter, Devon, EX2 7HY	
8	**Natural England** County Hall, Spetchley Road, Worcester, WR5 2NP	
9	**Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA)** Government Buildings, Otley Road, Lawnswood, Leeds, West Yorkshire, LS16 5QT	
10	**Environment Agency - Head Office** Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD	
-	**Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards** Chilton, Didcot, Oxfordshire, OX11 0RQ	
-	**Landmark Information Group Limited** Imperium, Imperial Way, Reading, Berkshire, RG2 0TD	

Please note that the Environment Agency / Natural Resources Wales / SEPA have a charging policy in pla

Geology 1:50,000 Maps Legends

Artificial Ground and Landslip

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	MGR	Made Ground (Undivided)	Artificial Deposit	Holocene - Holocene

Superficial Geology

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	ALV	Alluvium	Clay, Silt, Sand and Gravel	Flandrian - Flandrian
	RTDU	River Terrace Deposits (Undifferentiated)	Sand, Silt and Clay	Quaternary - Quaternary
	RBD1	Raised Beach Deposits, 1	Sand and Gravel	Quaternary - Quaternary
	RMD	Raised Marine Deposits	Clay, Silt, Sand and Gravel	Quaternary - Quaternary
	HEAD	Head	Clay, Silt, Sand and Gravel	Quaternary - Quaternary
	STOB	Storm Beach Deposits	Gravel	Quaternary - Quaternary
	BTFU	Beach and Tidal Flat Deposits (Undifferentiated)	Clay, Silt, Sand and Gravel	Quaternary - Quaternary
	BSA	Blown Sand	Sand	Quaternary - Quaternary

Bedrock and Faults

Map Colour	Lex Code	Rock Name	Rock Type	Min and Max Age
	LC	London Clay Formation	Clay, Silt and Sand	Eocene - Eocene
	LMBE	Lambeth Group	Clay, Silt and Sand	Paleocene - Paleocene
	SECK	Seaford Chalk Formation	Chalk	Santonian - Coniacian
	LPCK	Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation and Portsdown Chalk Formation (Undifferentiated)	Chalk	Campanian - Turonian
	NPCH	New Pit Chalk Formation	Chalk	Turonian - Turonian

Geo-Environmental

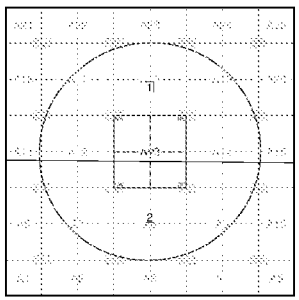
Geology 1:50,000 Maps

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



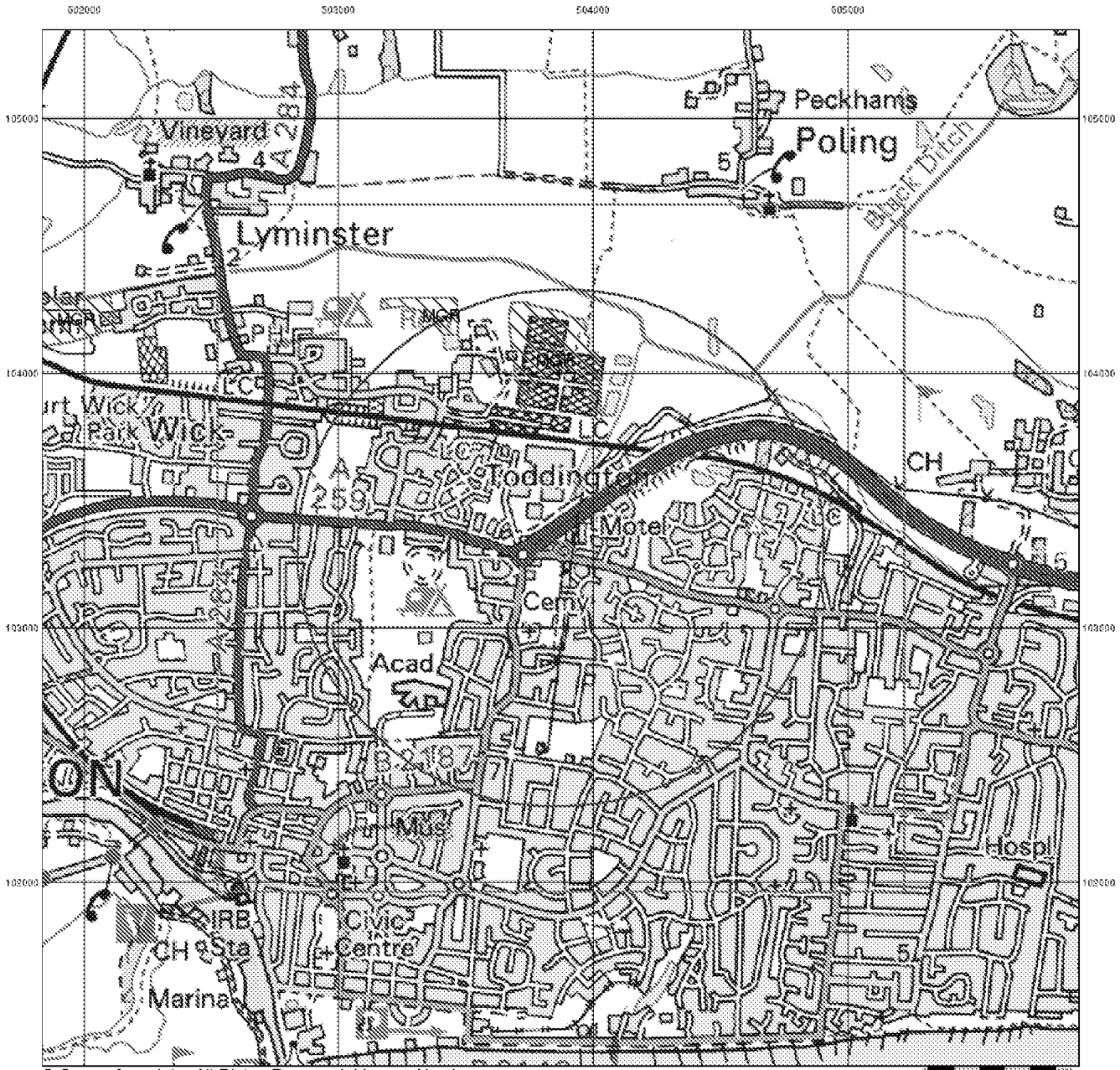
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Order Number:	127564474_1_1
Customer Reference:	GE16347
National Grid Reference:	503870, 103310
Slice:	A
Site Area (Ha):	0.11
Search Buffer (m):	1000

Site Details:

Shell UK Ltd, Service Station, Worthing Road, Wick, LITTLEHAMPTON, BN17 6LE

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Geo-Environmental

Artificial Ground and Landslip

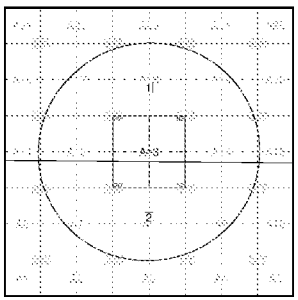
Artificial ground is a term used by BGS for those areas where the ground surface has been significantly modified by human activity. Information about previously developed ground is especially important, as it is often associated with potentially contaminated material, unpredictable engineering conditions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



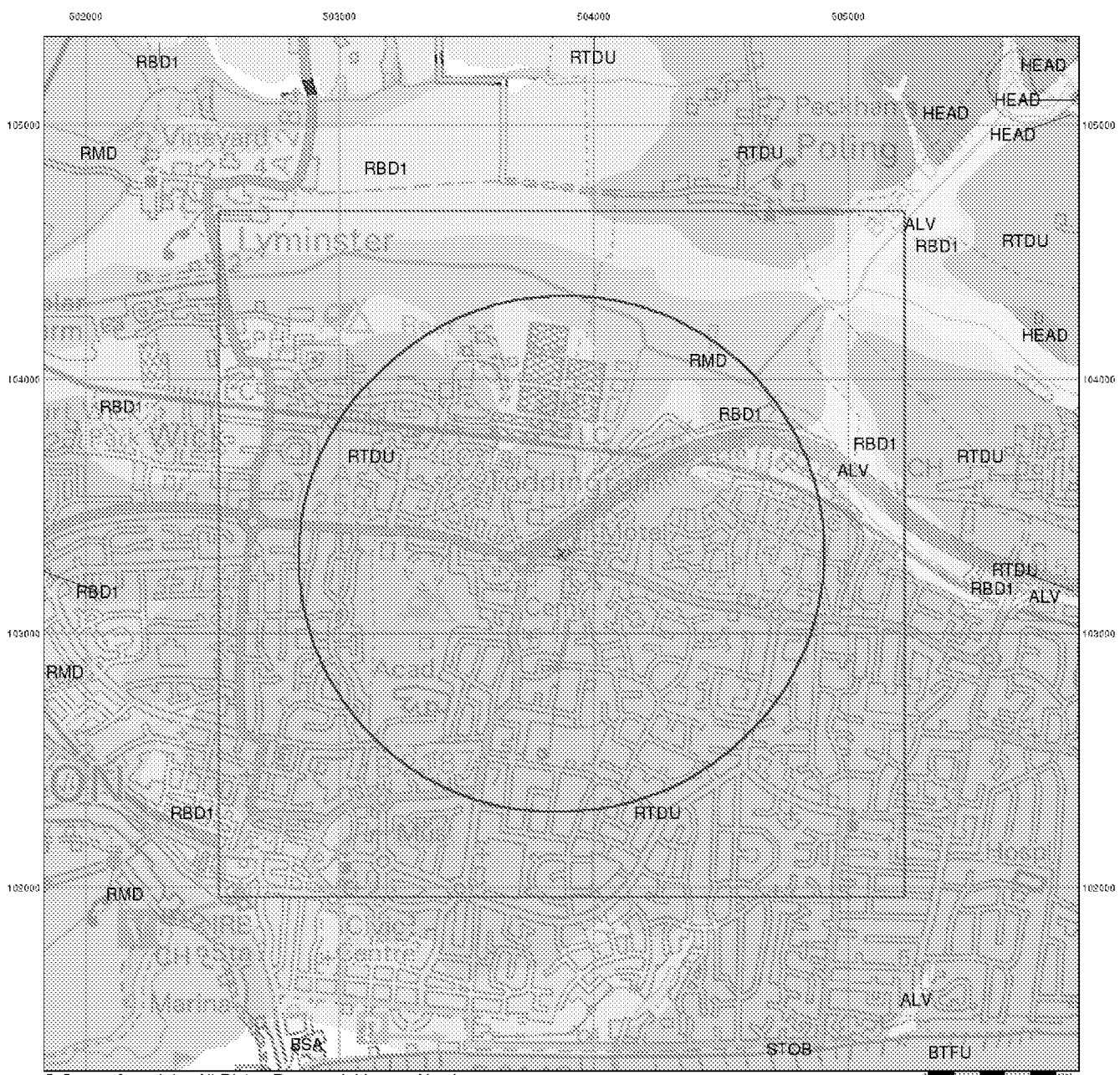
Order Details:

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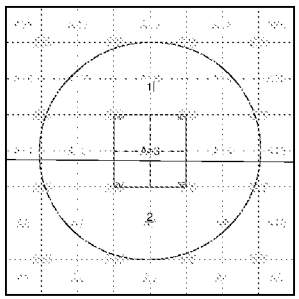
Superficial Geology

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

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

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

Superficial Geology Map - Slice A



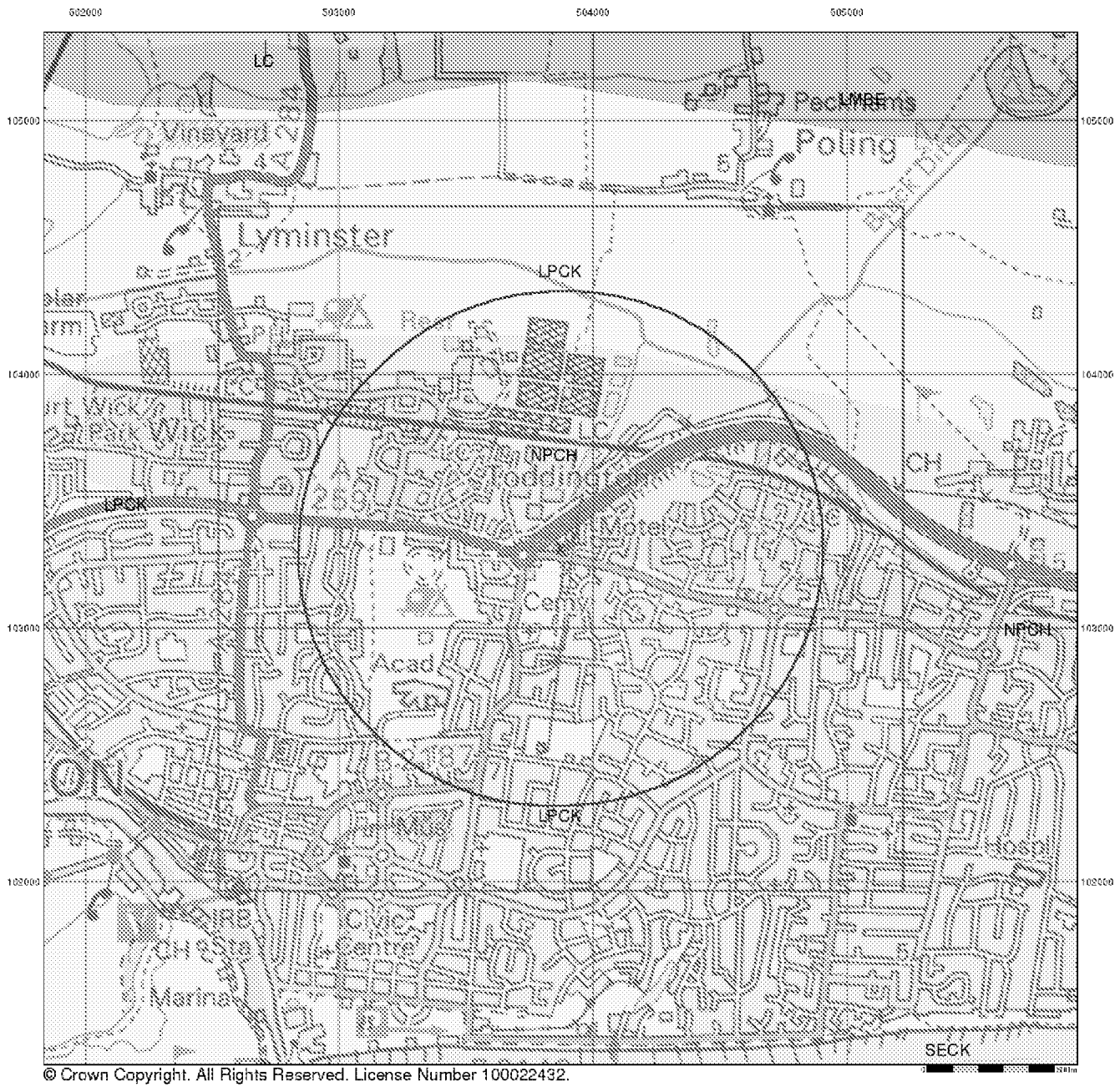
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Geo-Environmental

Bedrock and Faults

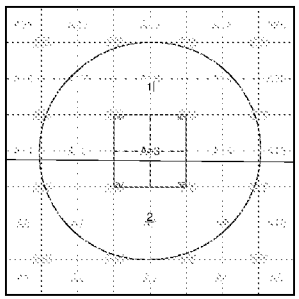
Bedrock geology is a term used for the main mass of rocks forming the Earth and are present everywhere, whether exposed at the surface in outcrops or concealed beneath superficial deposits or water.

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



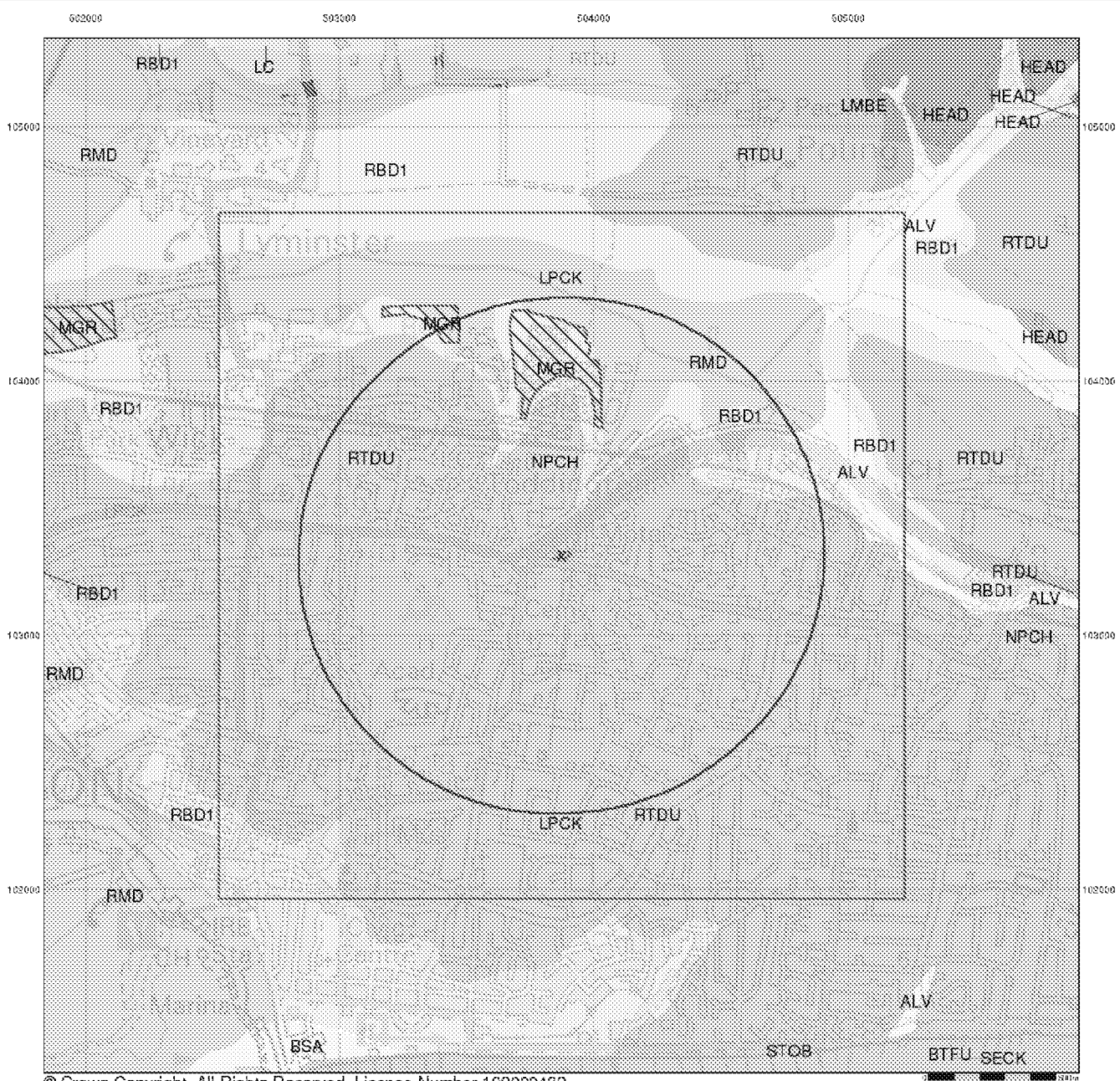
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Geo-Environmental

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.

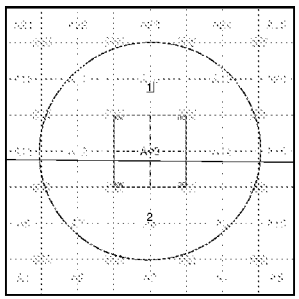
Additional Information

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



Order Details:

Order Number:	127564474_1_1
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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

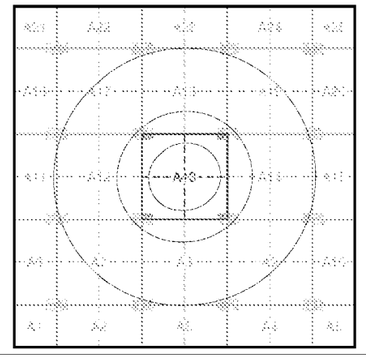
1:10,000 Raster Mapping

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)
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	1879	2
Sussex	1:10,560	1899	3
Sussex	1:10,560	1913	4
Sussex	1:10,560	1913	5
Sussex	1:10,560	1932	6
Sussex	1:10,560	1938 - 1943	7
Historical Aerial Photography	1:10,560	1947	8
Ordnance Survey Plan	1:10,000	1962	9
Ordnance Survey Plan	1:10,000	1962	10
Ordnance Survey Plan	1:10,000	1976 - 1977	11
Ordnance Survey Plan	1:10,000	1982	12
Ordnance Survey Plan	1:10,000	1993	13
10K Raster Mapping	1:10,000	2000	14
10K Raster Mapping	1:10,000	2006	15
VectorMap Local	1:10,000	2017	16

Historical Map - Slice A



Order Details

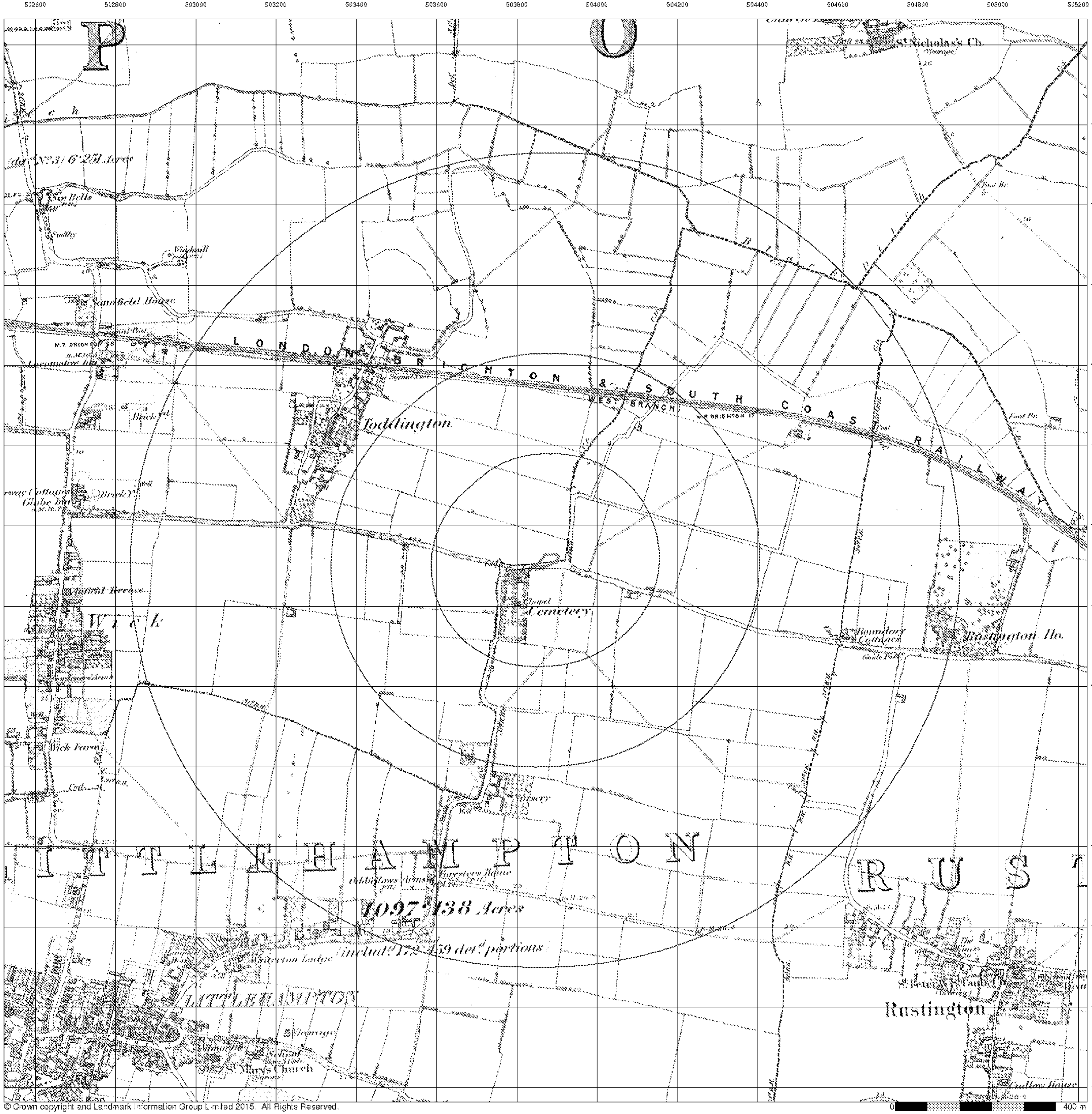
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Customer Ref: GE16347
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Slice: A
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Search Buffer (m): 1000

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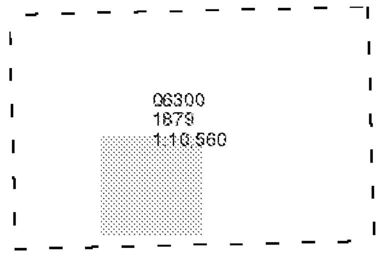
Geo-Environmental Sussex

Published 1879

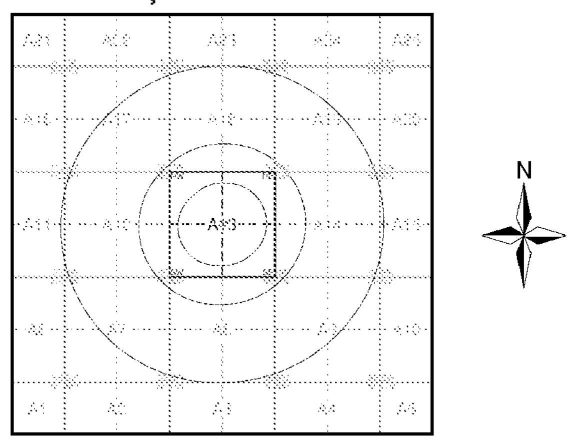
Source map scale - 1:10,560

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



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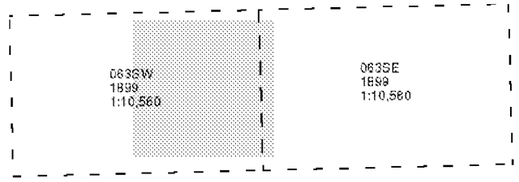


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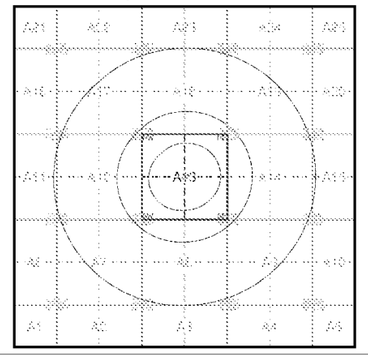
Geo-Environmental
Sussex
Published 1899
Source map scale - 1:10,560

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)



Historical Map - Slice A



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Geo-Environmental

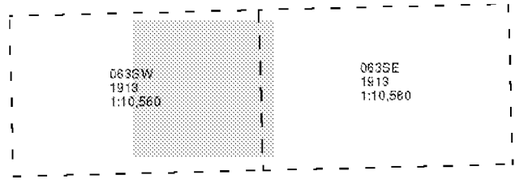
Sussex

Published 1913

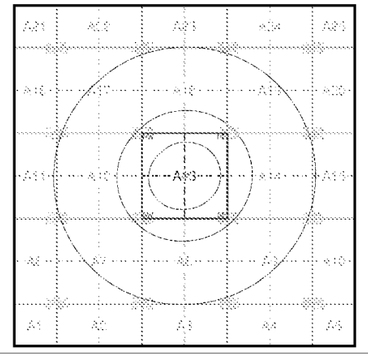
Source map scale - 1:10,560

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



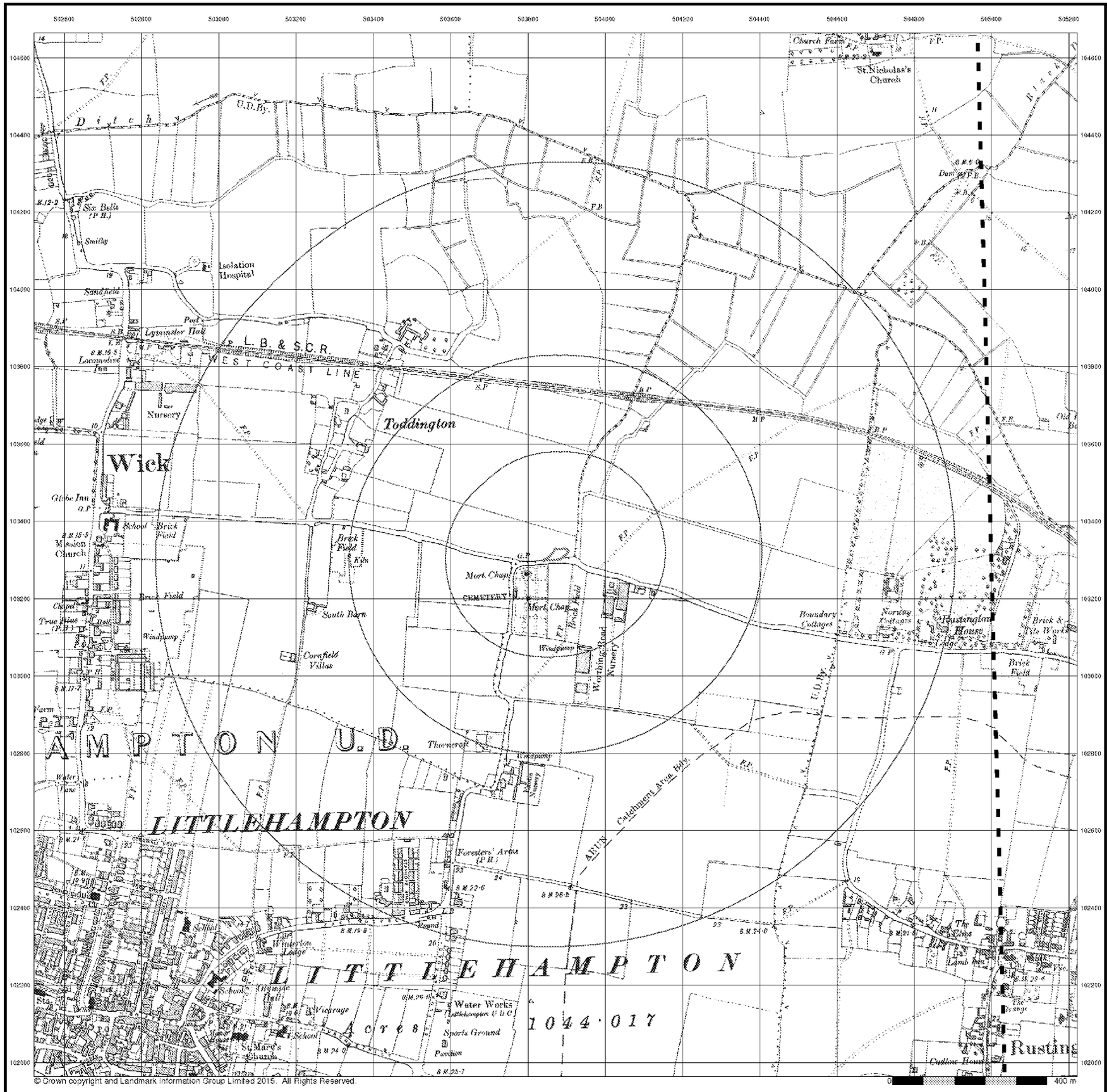
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Customer Ref:	GE16347
National Grid Reference:	503870, 103310
Slice:	A
Site Area (Ha):	0.11
Search Buffer (m):	1000

Site Details

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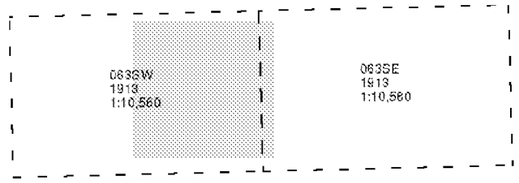


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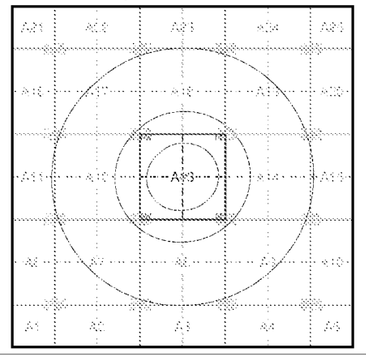
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Sussex
Published 1913
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Geo-Environmental

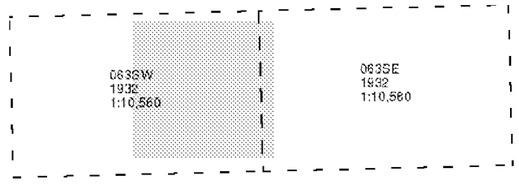
Sussex

Published 1932

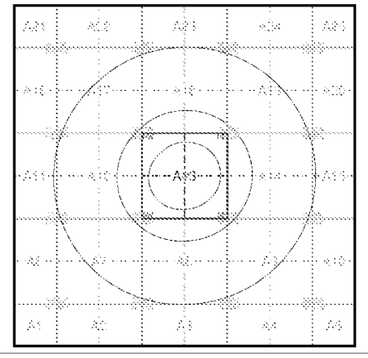
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Map Name(s) and Date(s)



Historical Map - Slice A



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Geo-Environmental

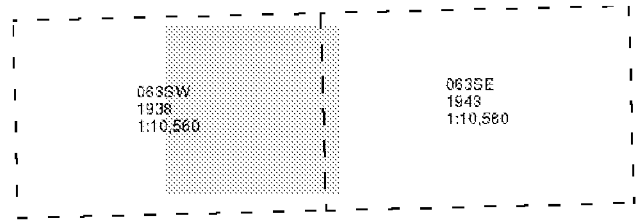
Sussex

Published 1938 - 1943

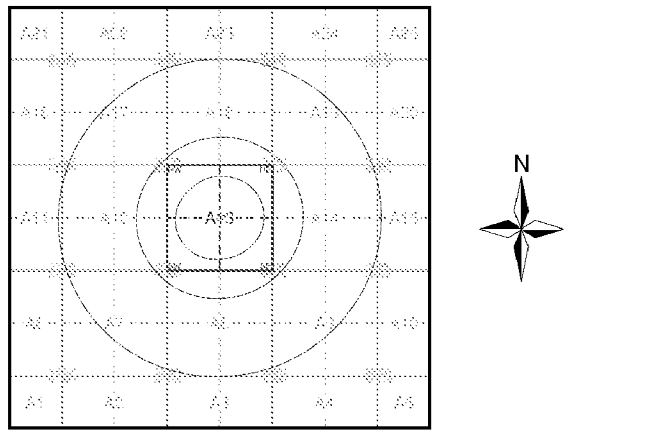
Source map scale - 1:10,560

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Historical Map - Slice A



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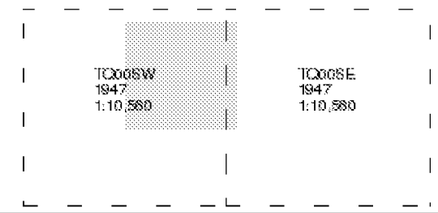


Geo-Environmental
Historical Aerial Photography
Published 1947
Source map scale - 1:10,560

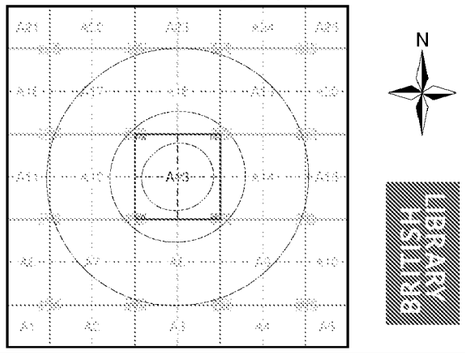
The Historical Aerial Photos were produced by the Ordnance Survey at a scale of 1:1,250 and 1:10,560 from Air Force photography. They were produced between 1944 and 1951 as an interim measure, pending preparation of conventional mapping, due to post war resource shortages. New security measures in the 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)



Historical Aerial Photography - Slice A



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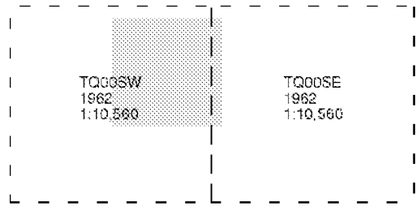
Ordnance Survey Plan

Published 1962

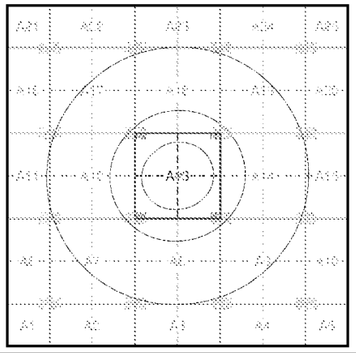
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Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

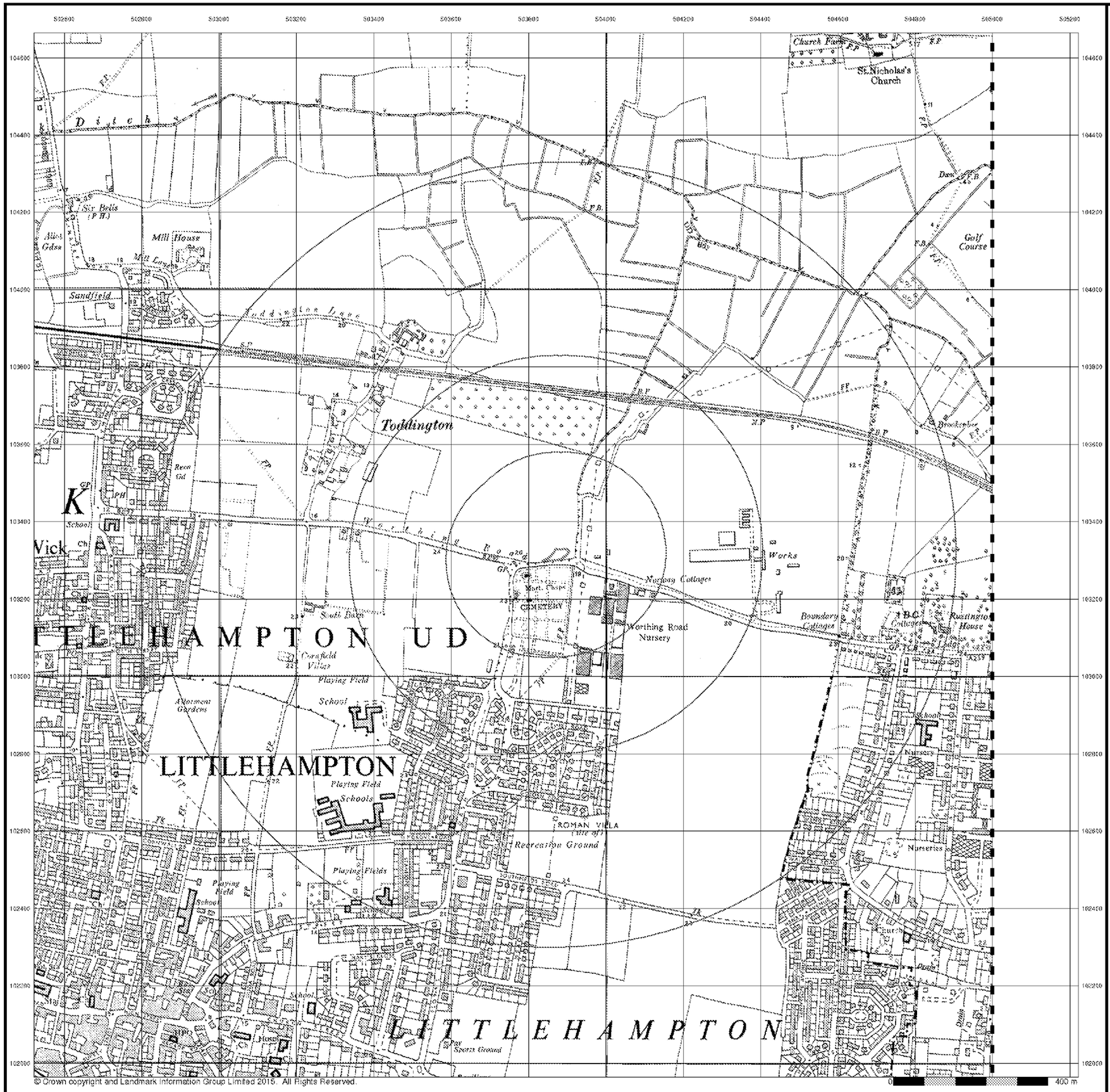
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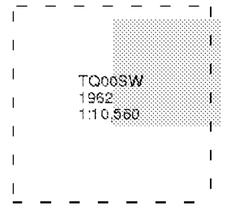


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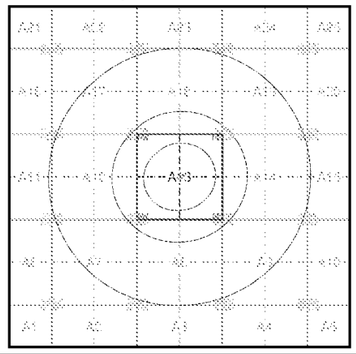
Geo-Environmental
Ordnance Survey Plan
Published 1962
Source map scale - 1:10,000

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Map Name(s) and Date(s)



Historical Map - Slice A



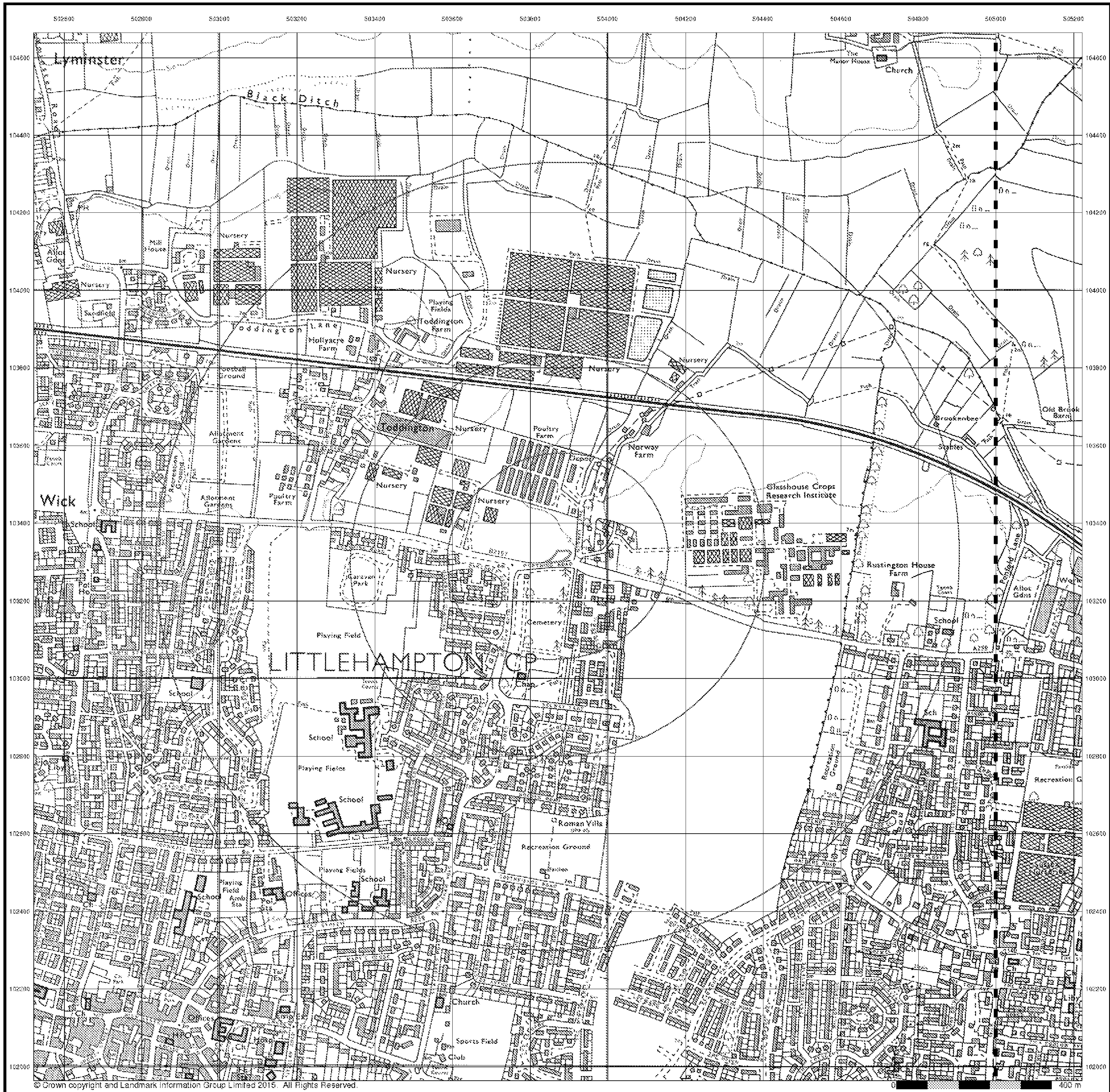
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Geo-Environmental

Ordnance Survey Plan

Published 1976 - 1977

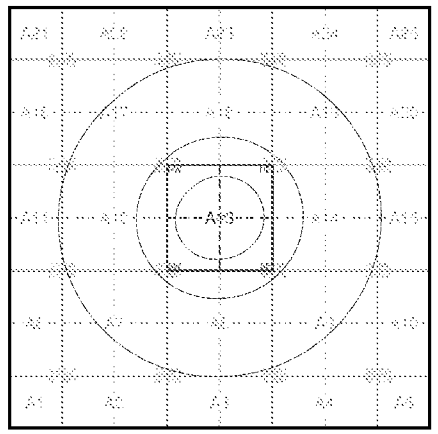
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Map Name(s) and Date(s)

TQ00SW 1977 1:10,000	TQ00SE 1976 1:10,000

Historical Map - Slice A



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Order Details

Order Number: 127564474_1_1
Customer Ref: GE16347
National Grid Reference: 503870, 103310
Slice: A
Site Area (Ha): 0.11
Search Buffer (m): 1000

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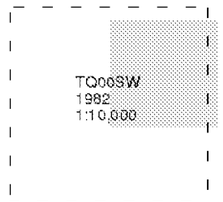


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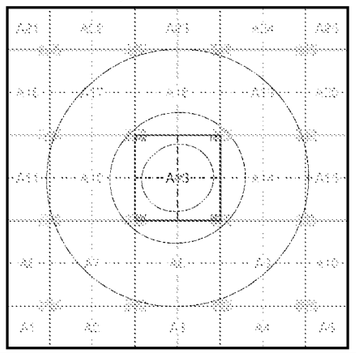
Geo-Environmental
Ordnance Survey Plan
Published 1982
Source map scale - 1:10,000

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Map Name(s) and Date(s)



Historical Map - Slice A



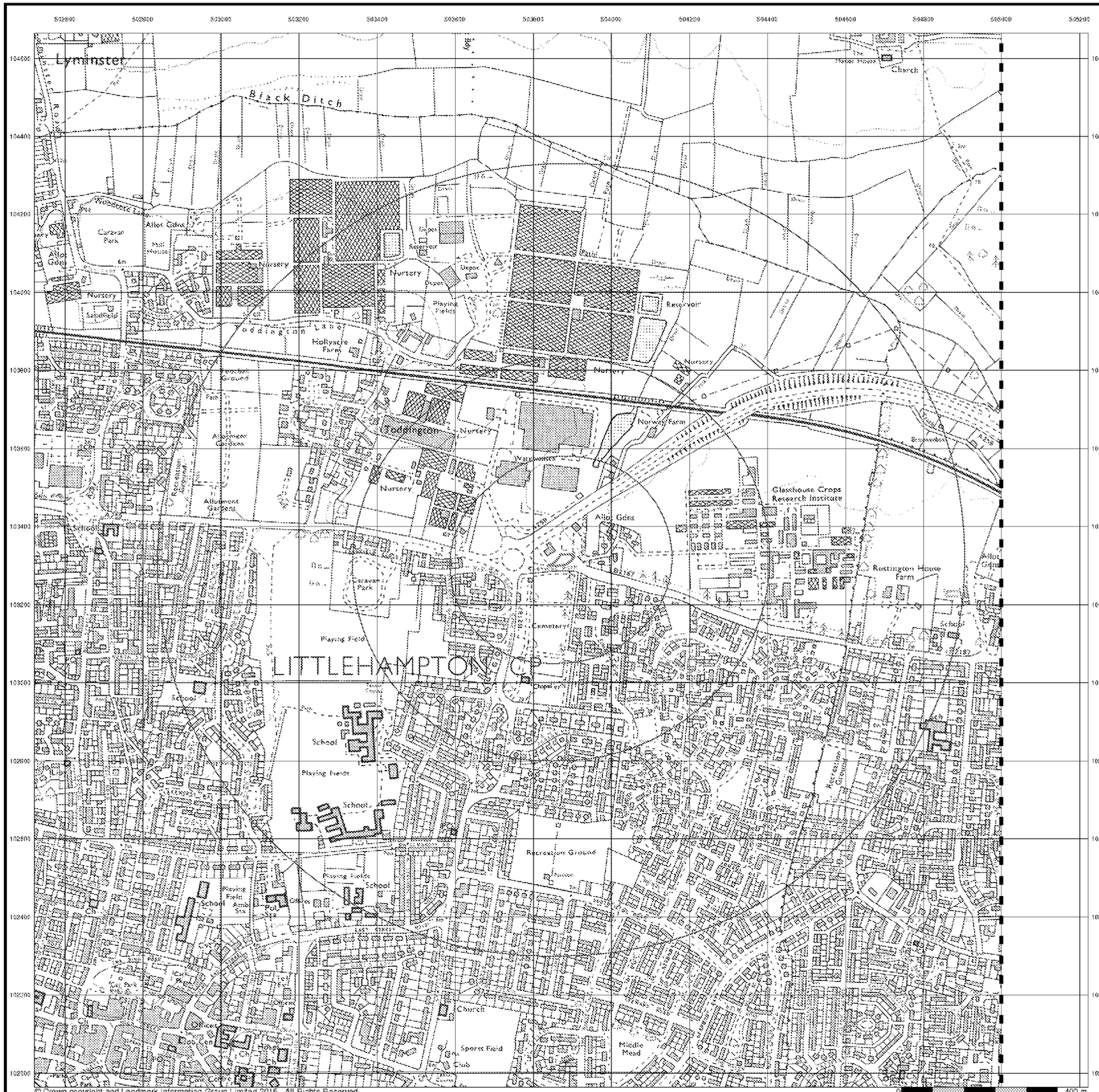
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Geo-Environmental

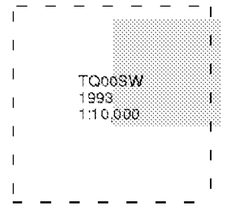
Ordnance Survey Plan

Published 1993

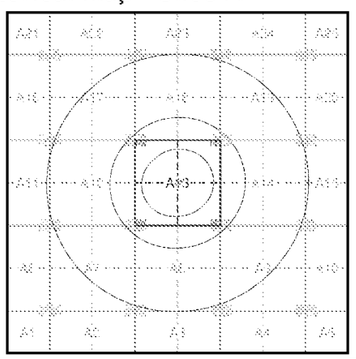
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Map Name(s) and Date(s)



Historical Map - Slice A



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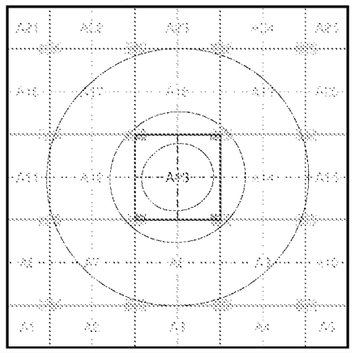
Geo-Environmental
10k Raster Mapping
Published 2000
Source map scale - 1:10,000

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)

TQ003SW 2000 1:10,000	TQ00SE 2000 1:10,000

Historical Map - Slice A



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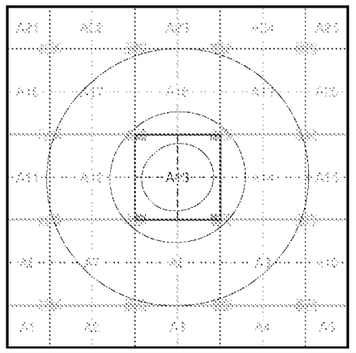
Geo-Environmental
10k Raster Mapping
Published 2006
Source map scale - 1:10,000

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Map Name(s) and Date(s)

TQ003SW 2006 1:10,000	TQ00SE 2006 1:10,000

Historical Map - Slice A



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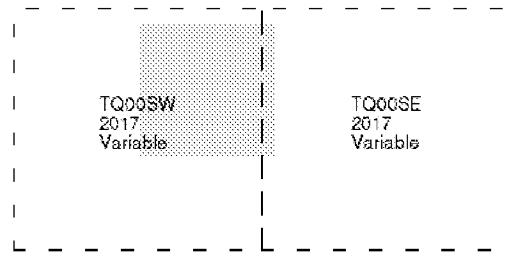
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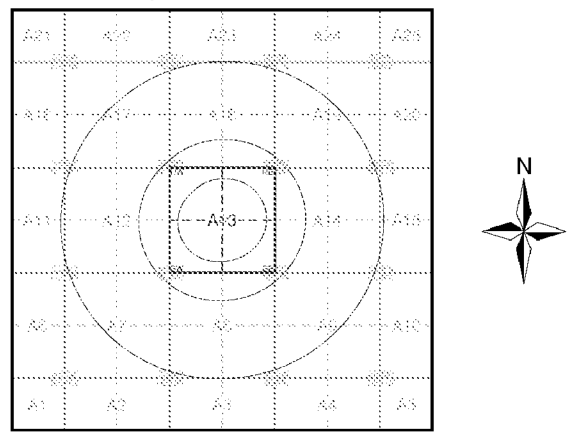
Geo-Environmental
VectorMap Local
Published 2017
Source map scale - 1:10,000

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

Map Name(s) and Date(s)



Historical Map - Slice A



Order Details

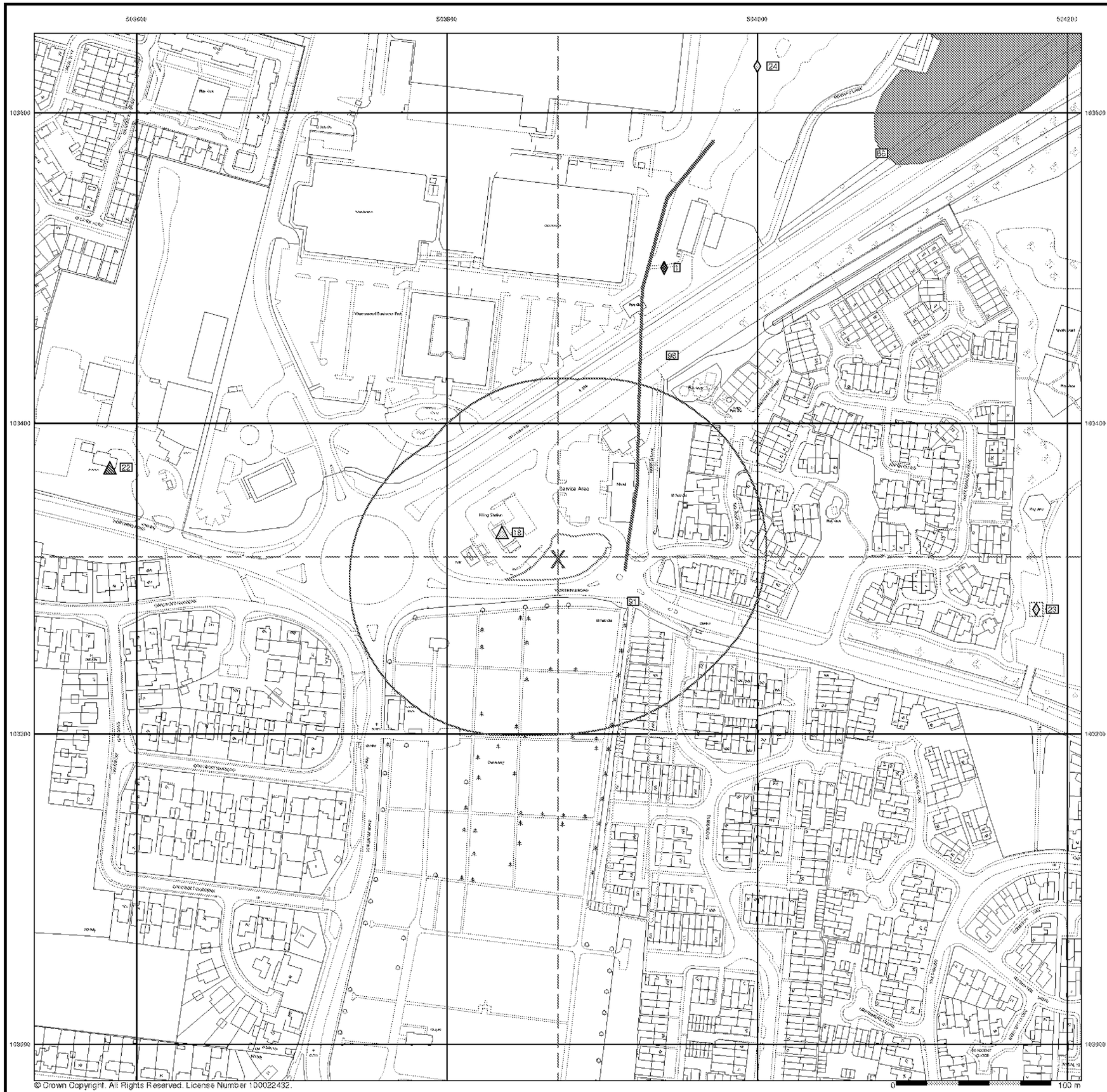
Order Number: 127564474_1_1
Customer Ref: GE16347
National Grid Reference: 503870, 103310
Slice: A
Site Area (Ha): 0.11
Search Buffer (m): 1000

Site Details

Shell UK Ltd, Service Station, Worthing Road, Wick, LITTLEHAMPTON, BN17 6LE

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
- 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

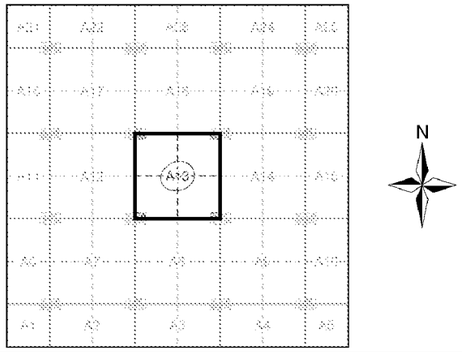
Geological

- 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:	127564474_1_1
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Plot Buffer (m):	100

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- Map ID
- Several of Type at Location

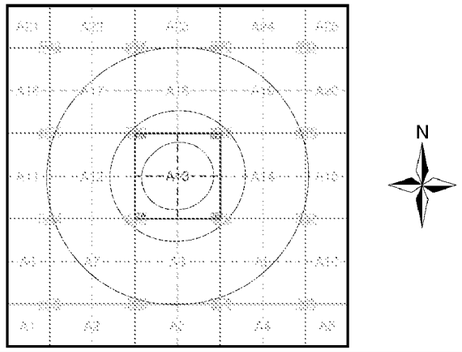
Agency and Hydrological
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- Contaminated Land Register Entry or Notice
- Discharge Consent
- Enforcement or Prohibition Notice
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- Integrated Pollution Prevention Control
- Local Authority Integrated Pollution Prevention and Control
- Local Authority Pollution Prevention and Control
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- Registered Waste Transfer Site (Location)
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Site Sensitivity Map - Slice A



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Geo-Environmental
Industrial Land Use Map

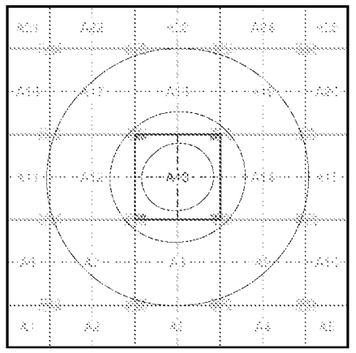
General

- 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



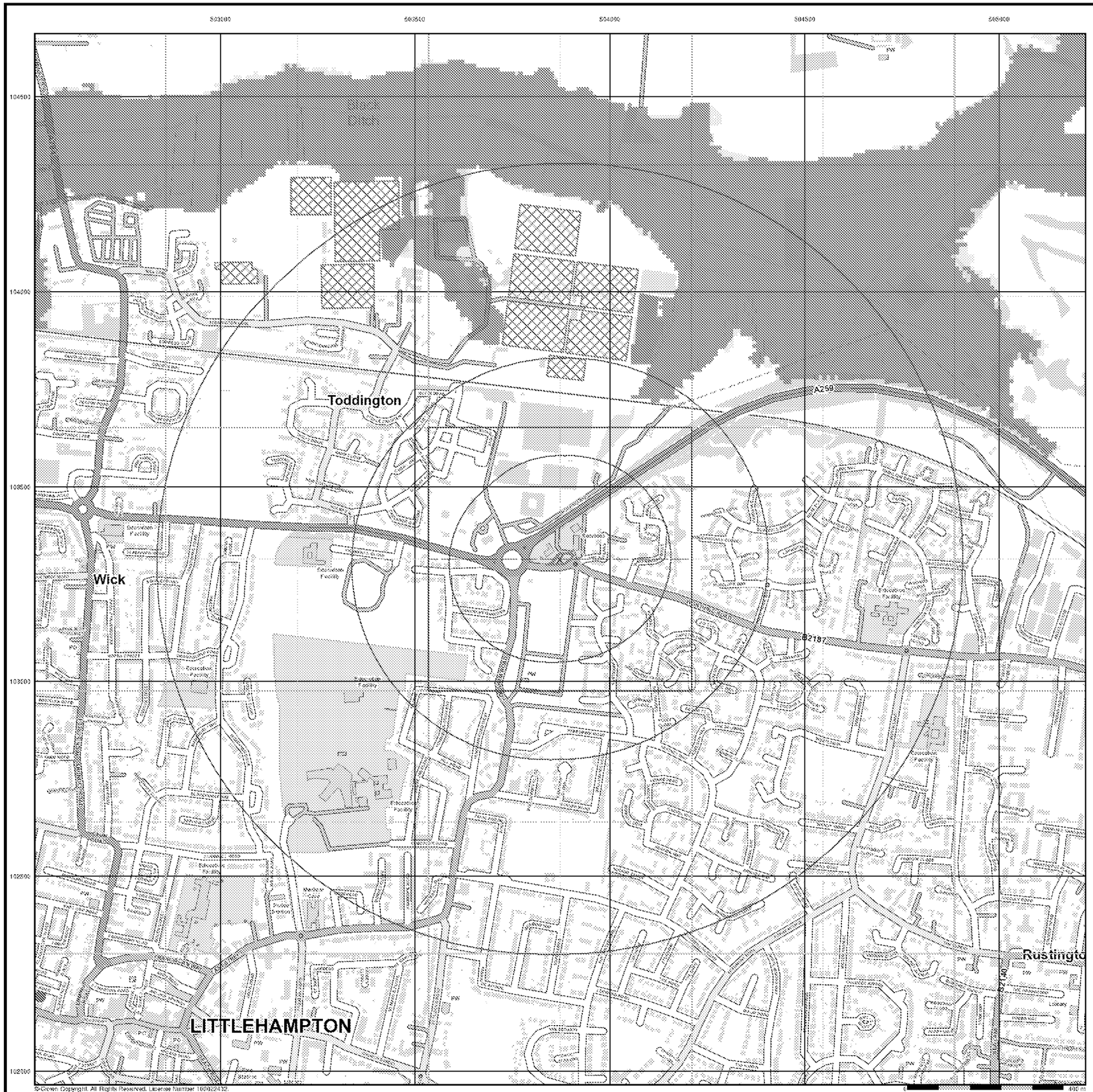
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Geo-Environmental

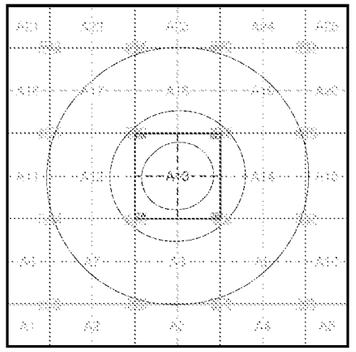
General

- 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



Order Details

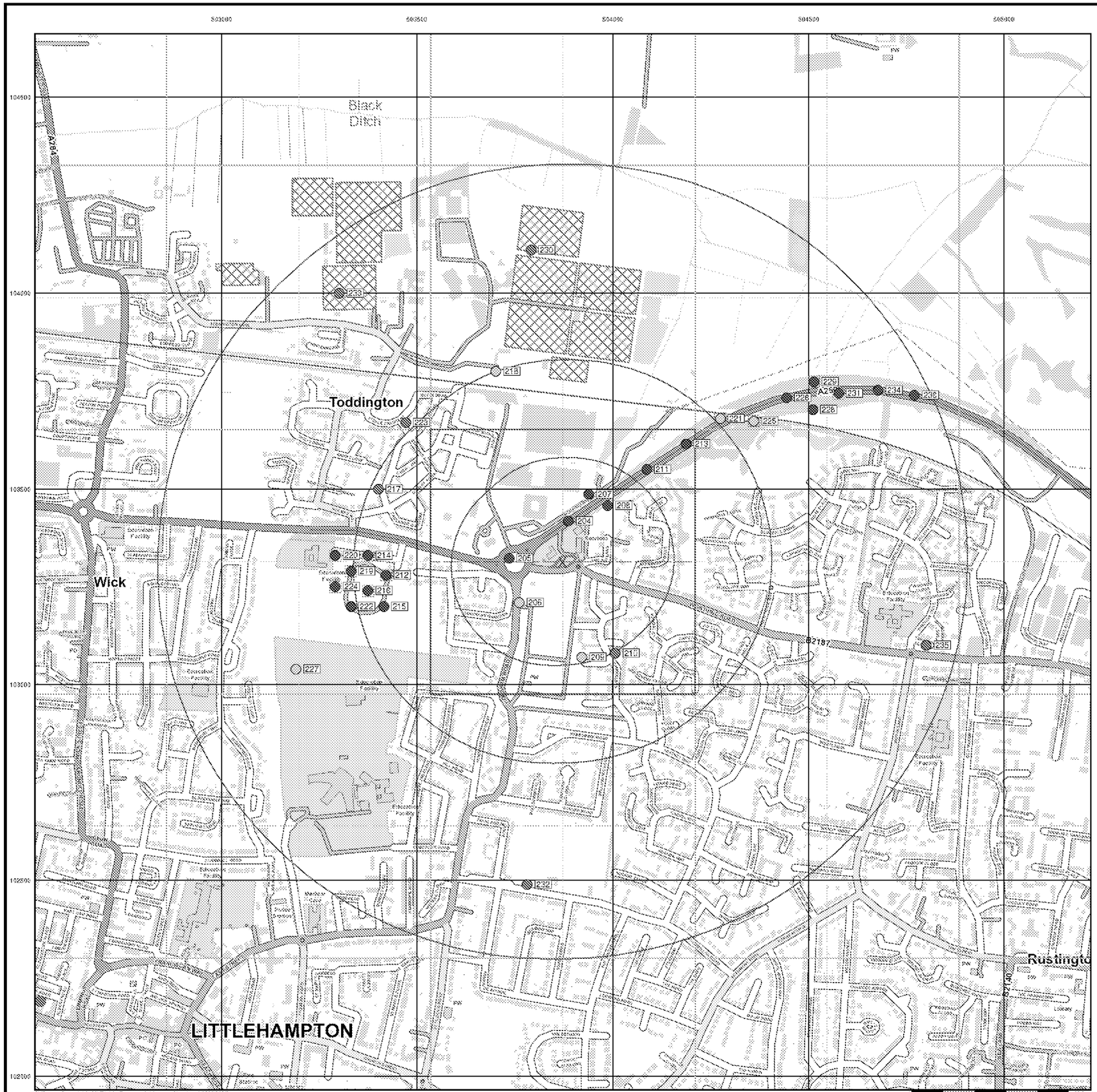
Order Number:	127564474_1_1
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- Bearing Reference Point
- Map ID
- Several of Type at Location

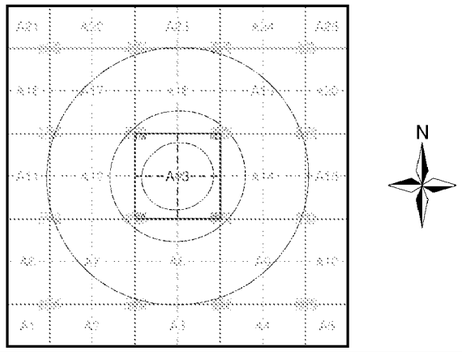
Agency and Hydrological (Boreholes)

- 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

Order Number:	127564474_1_1
Customer Ref:	GE16347
National Grid Reference:	503870, 103310
Slice:	A
Site Area (Ha):	0.11
Search Buffer (m):	1000

Site Details

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Geo-Environmental

General

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

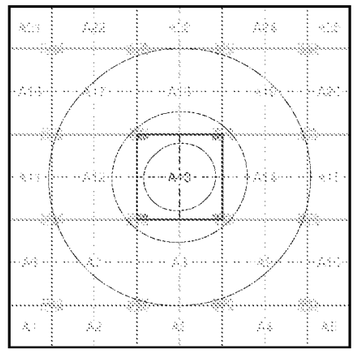
OS Water Network Data

- 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



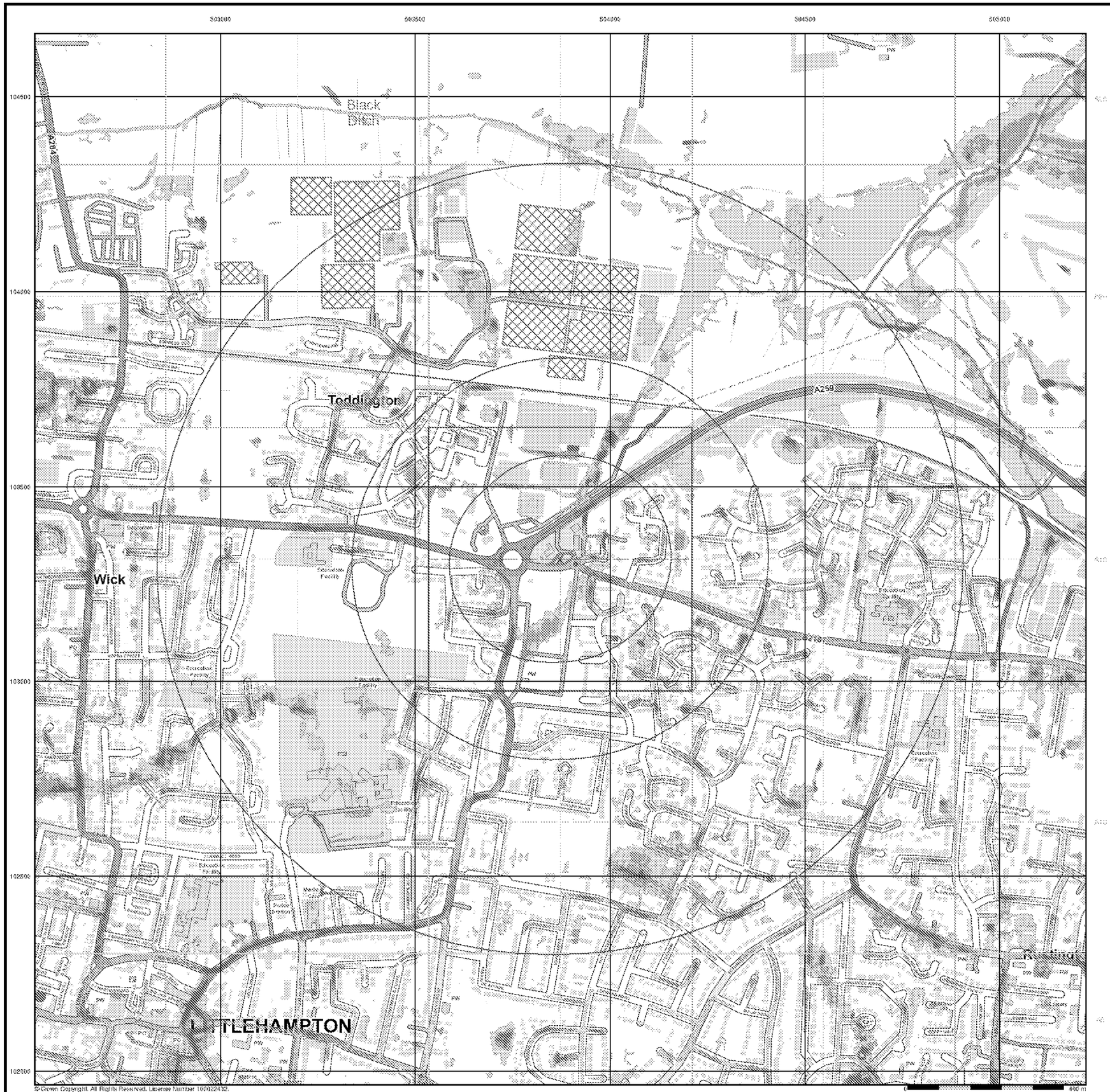
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Geo-Environmental

General

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Risk of Flooding from Surface Water

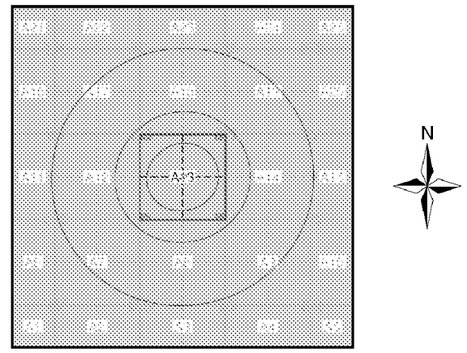
- High - 30 Year Return
- Medium - 100 Year Return
- Low - 1000 Year Return

Suitability

See the suitability map below

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

EA/NRW Suitability Map - Slice A



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Geo-Environmental

General

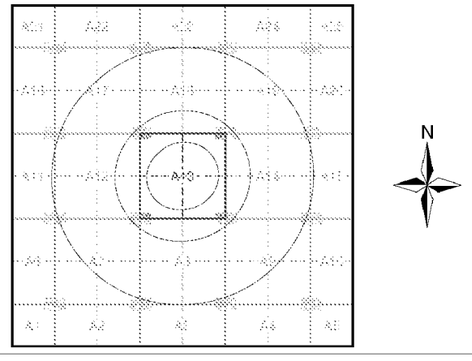
Specified Site | Specified Buffer(s) | Bearing Reference Point

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



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Order Details:	127564474_1_1
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ARUN DISTRICT COUNCIL LU/7/18/DOC



Geo-Environmental

General

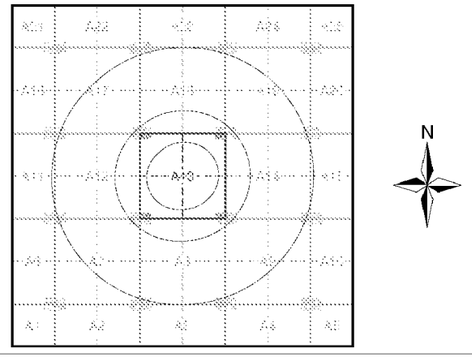
Specified Site | Specified Buffer(s) | Bearing Reference Point

Estimated Soil Chemistry Cadmium

Cadmium Concentrations mg/kg

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

Estimated Soil Chemistry Cadmium - Slice A



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Geo-Environmental

General

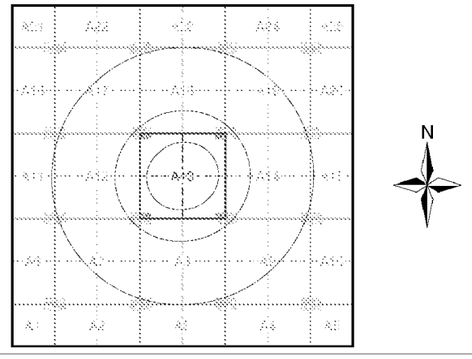
Specified Site | Specified Buffer(s) | Bearing Reference Point

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



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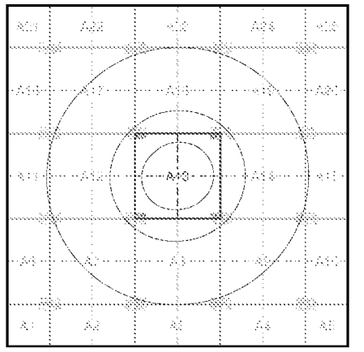
Specified Site | Specified Buffer(s) | Bearing Reference Point

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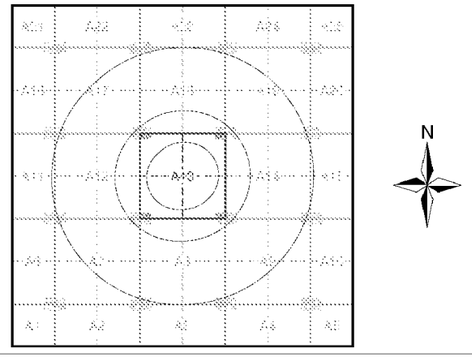
Specified Site | Specified Buffer(s) | Bearing Reference Point

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



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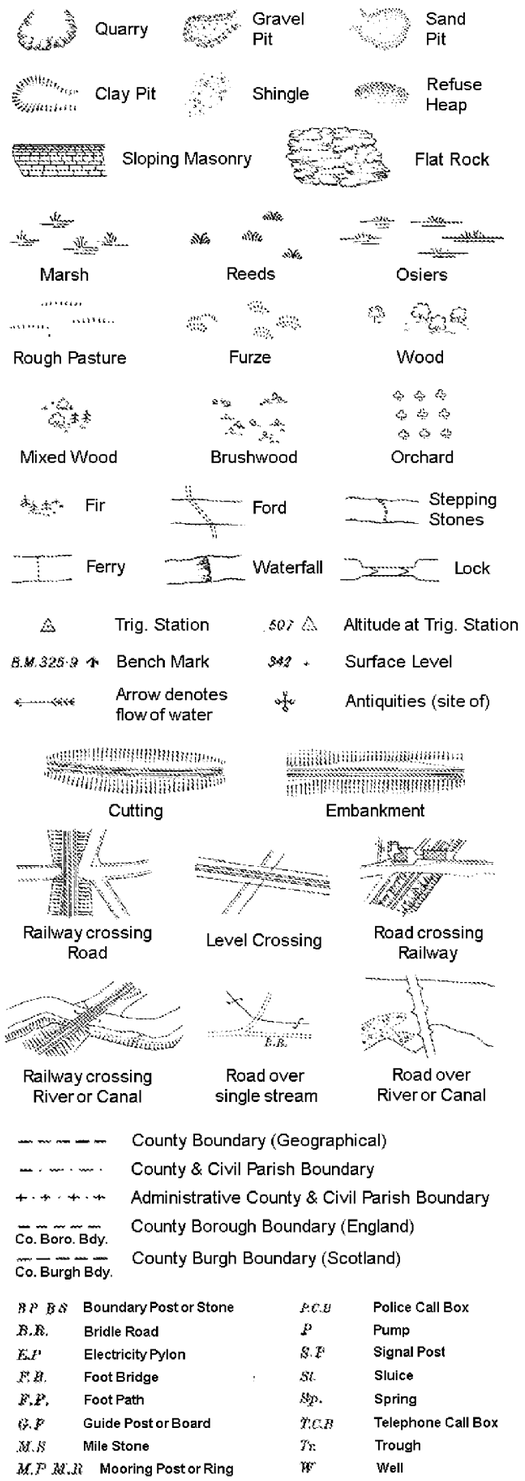
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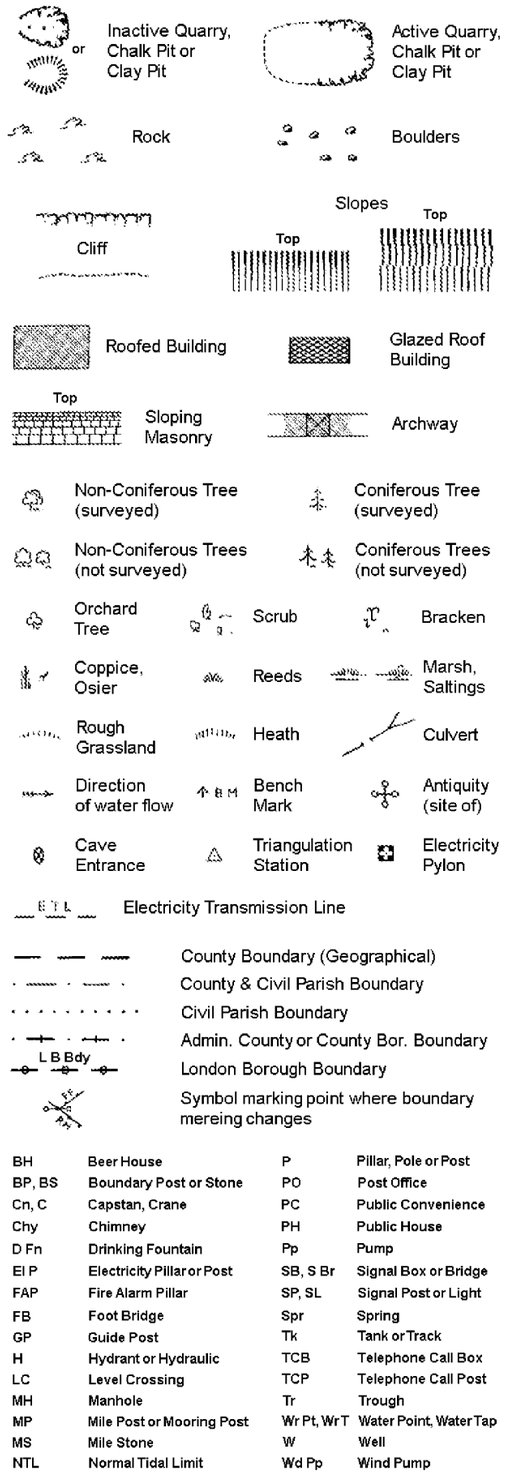
Historical Mapping Legends

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



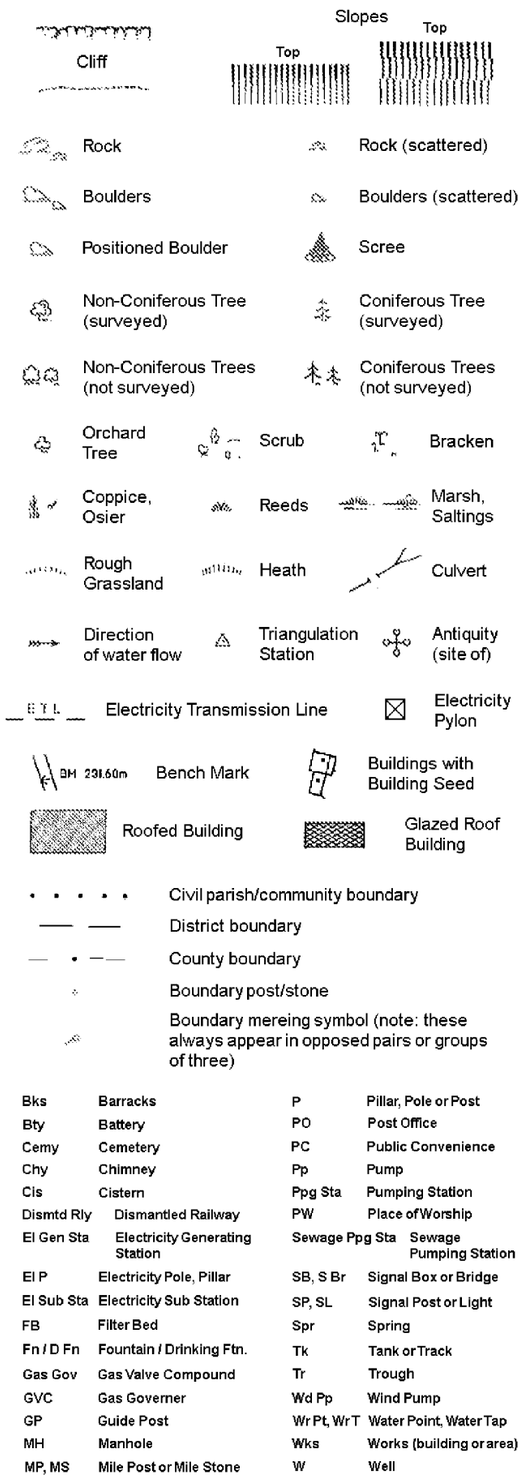
B.P. B.S.	Boundary Post or Stone	P.C.B.	Police Call Box
B.R.	Bridle Road	P.	Pump
E.P.	Electricity Pylon	S.P.	Signal Post
F.B.	Foot Bridge	Sl.	Sluice
F.P.	Foot Path	Sp.	Spring
G.P.	Guide Post or Board	T.C.B.	Telephone Call Box
M.S.	Mile Stone	Tr.	Trough
M.P. M.R.	Mooring Post or Ring	W.	Well

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



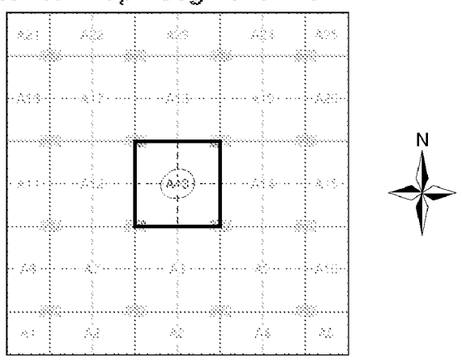
Bks	Barracks	P	Pillar, Pole or Post
Bty	Battery	PO	Post Office
Cemy	Cemetery	PC	Public Convenience
Chy	Chimney	Pp	Pump
Cis	Cistern	Ppg Sta	Pumping Station
Dismtd Rly	Dismantled Railway	PW	Place of Worship
El Gen Sta	Electricity Generating Station	Sewage Ppg Sta	Sewage Pumping Station
El P	Electricity 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

ARUN DISTRICT COUNCIL LU/7/18/DOC

Geo-Environmental
Historical Mapping & Photography included:

Mapping Type	Scale	Date	Pg
Sussex	1:2,500	1876	2
Sussex	1:2,500	1897 - 1898	3
Sussex	1:2,500	1911 - 1912	4
Sussex	1:2,500	1932	5
Ordnance Survey Plan	1:1,250	1958 - 1970	6
Ordnance Survey Plan	1:2,500	1959 - 1973	7
Ordnance Survey Plan	1:2,500	1970	8
Ordnance Survey Plan	1:1,250	1973 - 1979	9
Supply of Unpublished Survey Information	1:1,250	1973 - 1974	10
Supply of Unpublished Survey Information	1:1,250	1974	11
Additional SIMs	1:1,250	1977 - 1991	12
Additional SIMs	1:1,250	1980 - 1991	13
Additional SIMs	1:1,250	1982 - 1992	14
Additional SIMs	1:1,250	1984 - 1991	15
Additional SIMs	1:1,250	1986	16
Ordnance Survey Plan	1:1,250	1989	17
Additional SIMs	1:1,250	1990	18
Large-Scale National Grid Data	1:1,250	1994	19
Large-Scale National Grid Data	1:1,250	1996	20
Historical Aerial Photography	1:2,500	1999	21

Historical Map - Segment A13



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Site Details

Shell UK Ltd, Service Station, Worthing Road, Wick, LITTLEHAMPTON, BN17 6LE

503600 503800 504000 504200

103600 103400 103200 103000

423 421 20 21 22 25 433 434 23 24 441 479 480 155 154 157 156 158 159 160 161

Chapel

CEMETERY

Old Guide Post

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0 100 m

Geo-Environmental
Sussex

Published 1876

Source map scale - 1:2,500

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Map Name(s) and Date(s)

063_10
1875
1:2,500

063_14
1875
1:2,500

Historical Map - Segment A13

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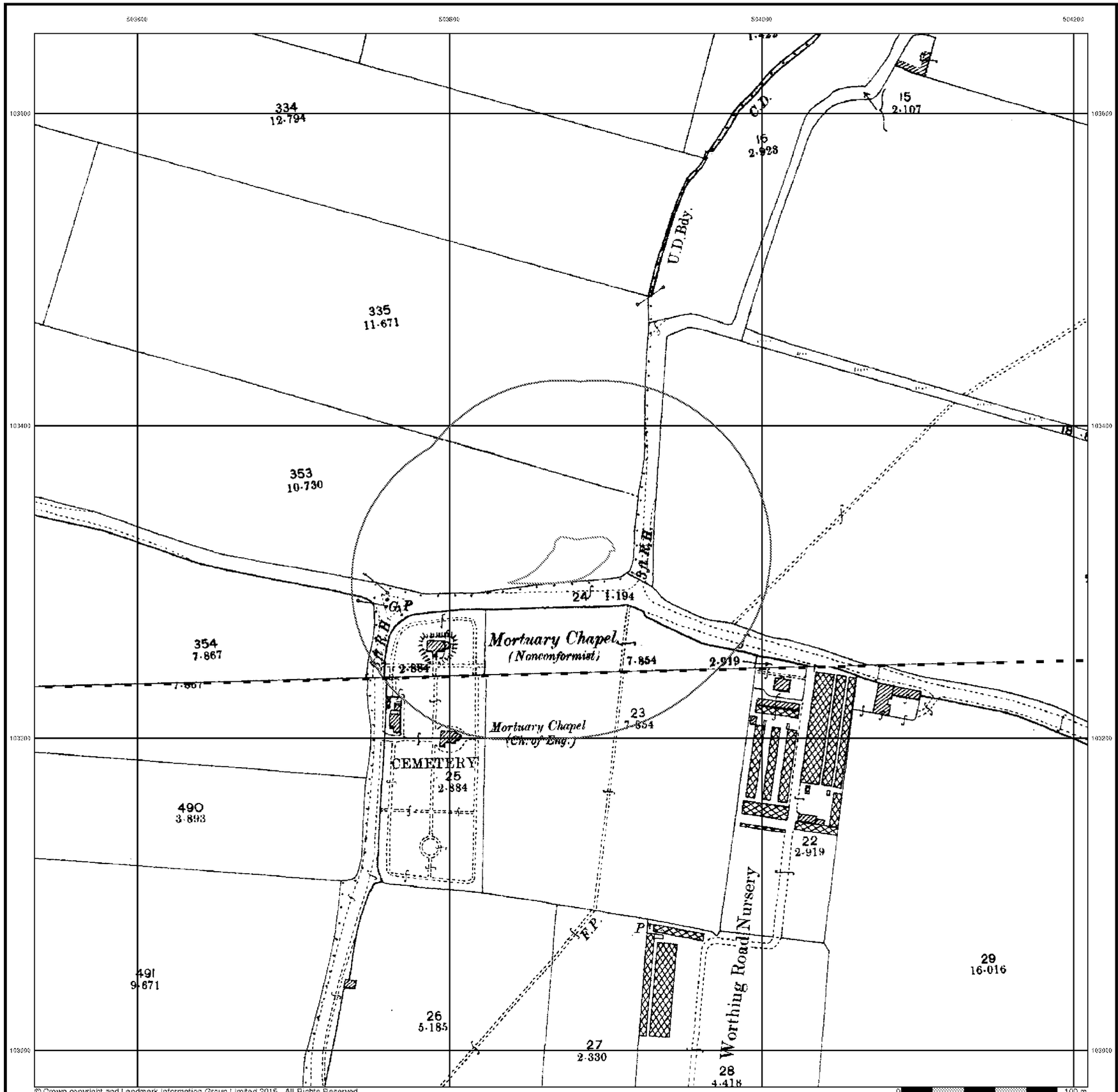
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Site Area (Ha):	0.11
Search Buffer (m):	100

Site Details

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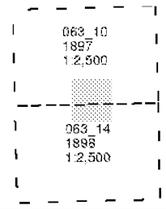
Geo-Environmental
Sussex

Published 1897 - 1898

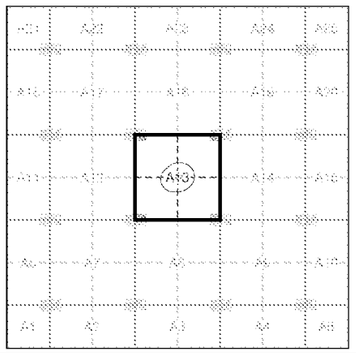
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The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1896 it covered the whole of what were considered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

Map Name(s) and Date(s)



Historical Map - Segment A13



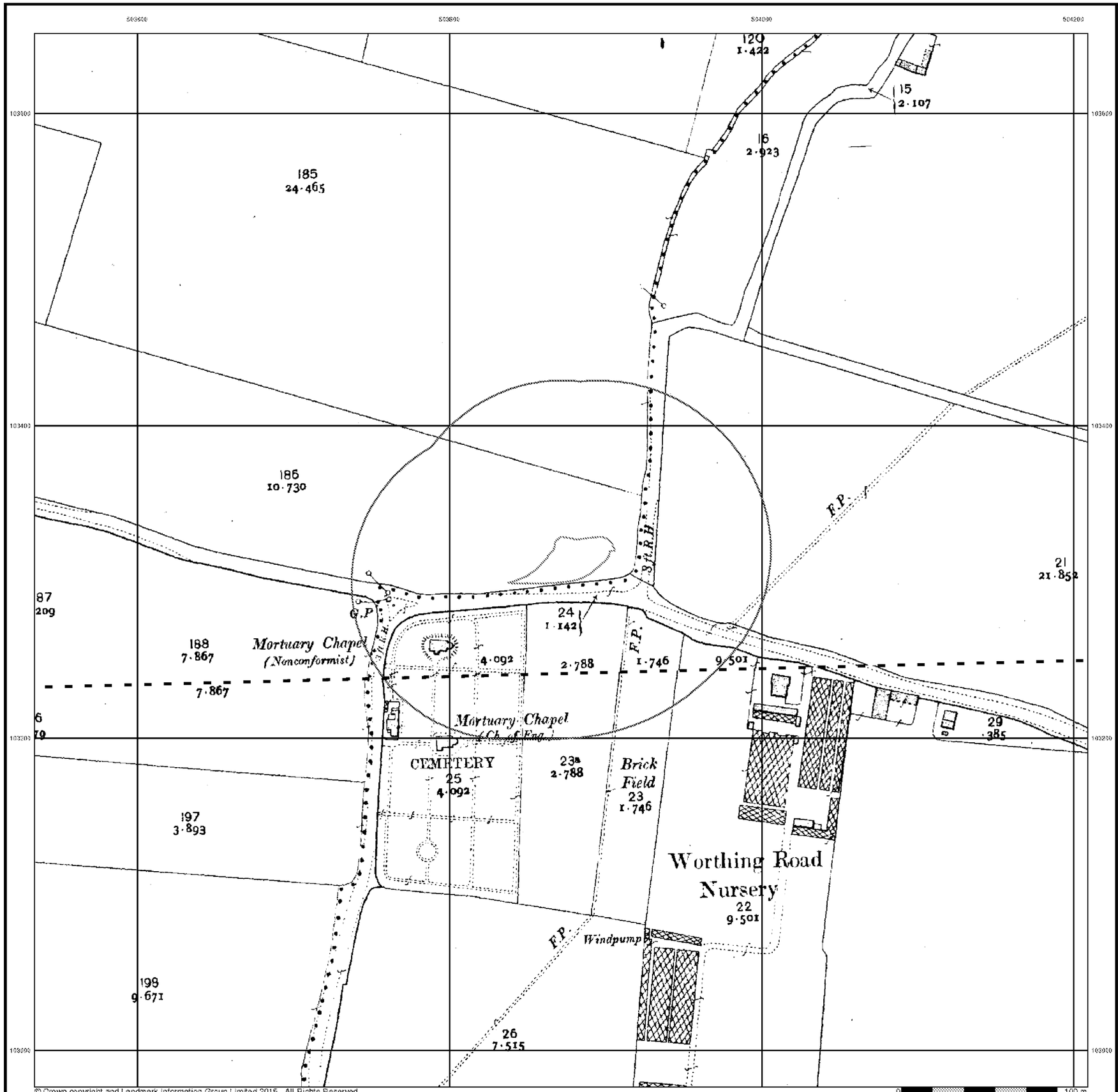
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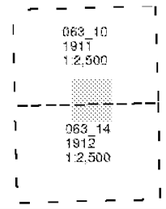


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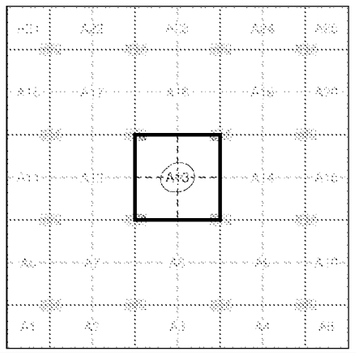
Geo-Environmental
Sussex
Published 1911 - 1912
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



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ARUN DISTRICT COUNCIL LU/7/18/DOC



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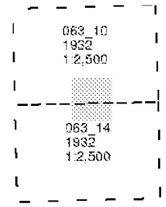
Geo-Environmental
Sussex

Published 1932

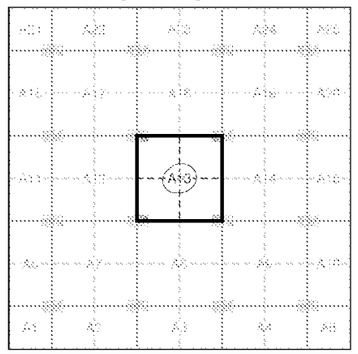
Source map scale - 1:2,500

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.

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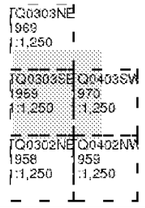


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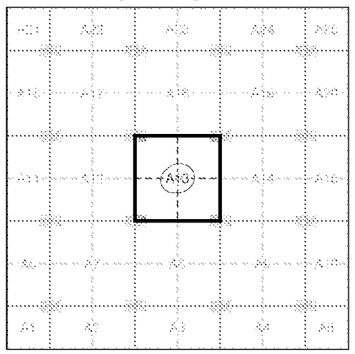
Geo-Environmental
Ordnance Survey Plan
Published 1958 - 1970
Source map scale - 1:1,250

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

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Historical Map - Segment A13



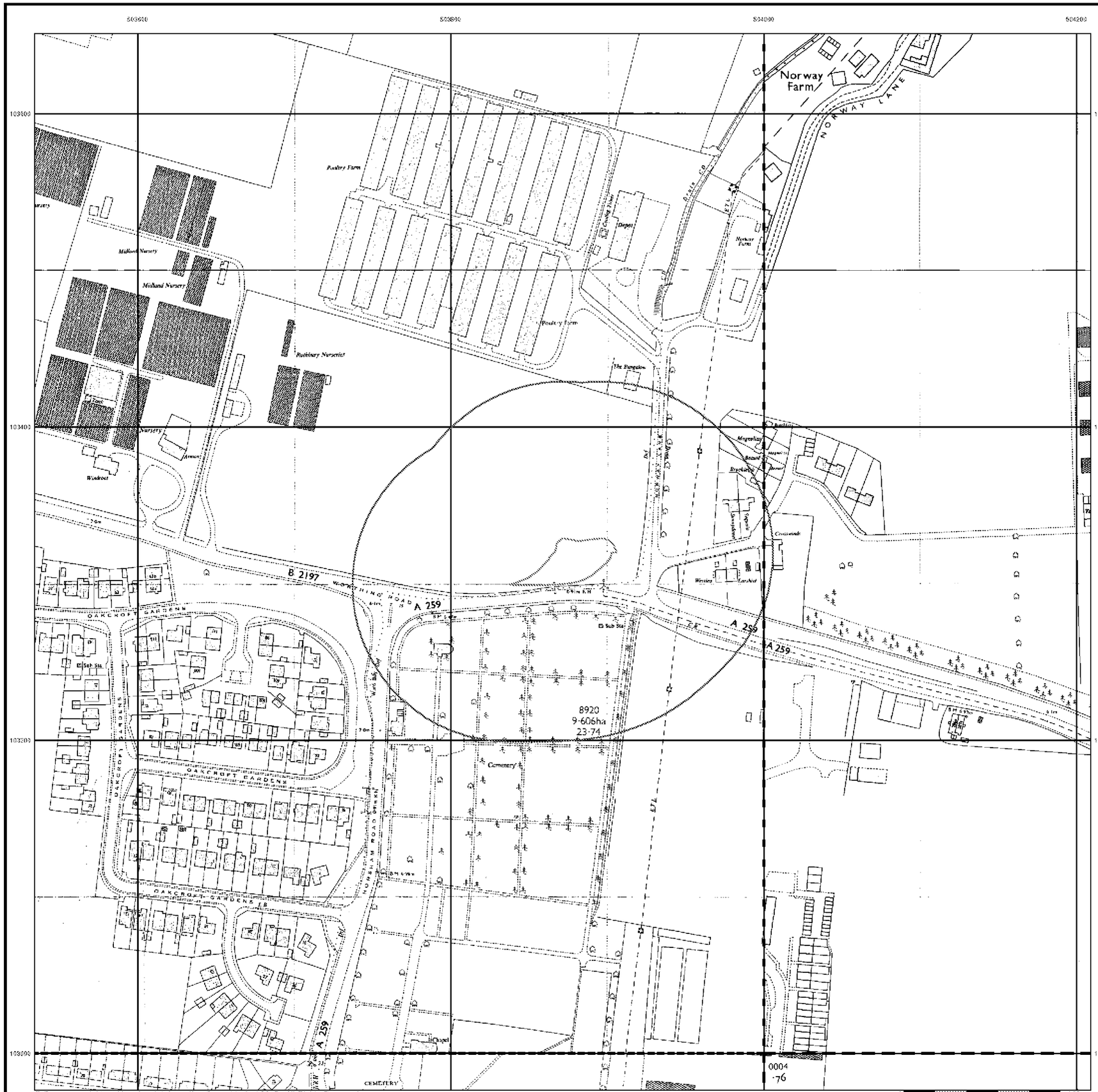
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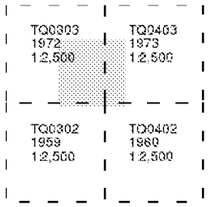


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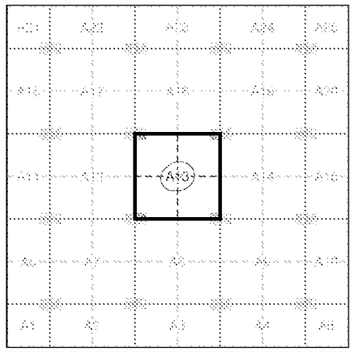
Geo-Environmental
Ordnance Survey Plan
Published 1959 - 1973
Source map scale - 1:2,500

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Map Name(s) and Date(s)



Historical Map - Segment A13



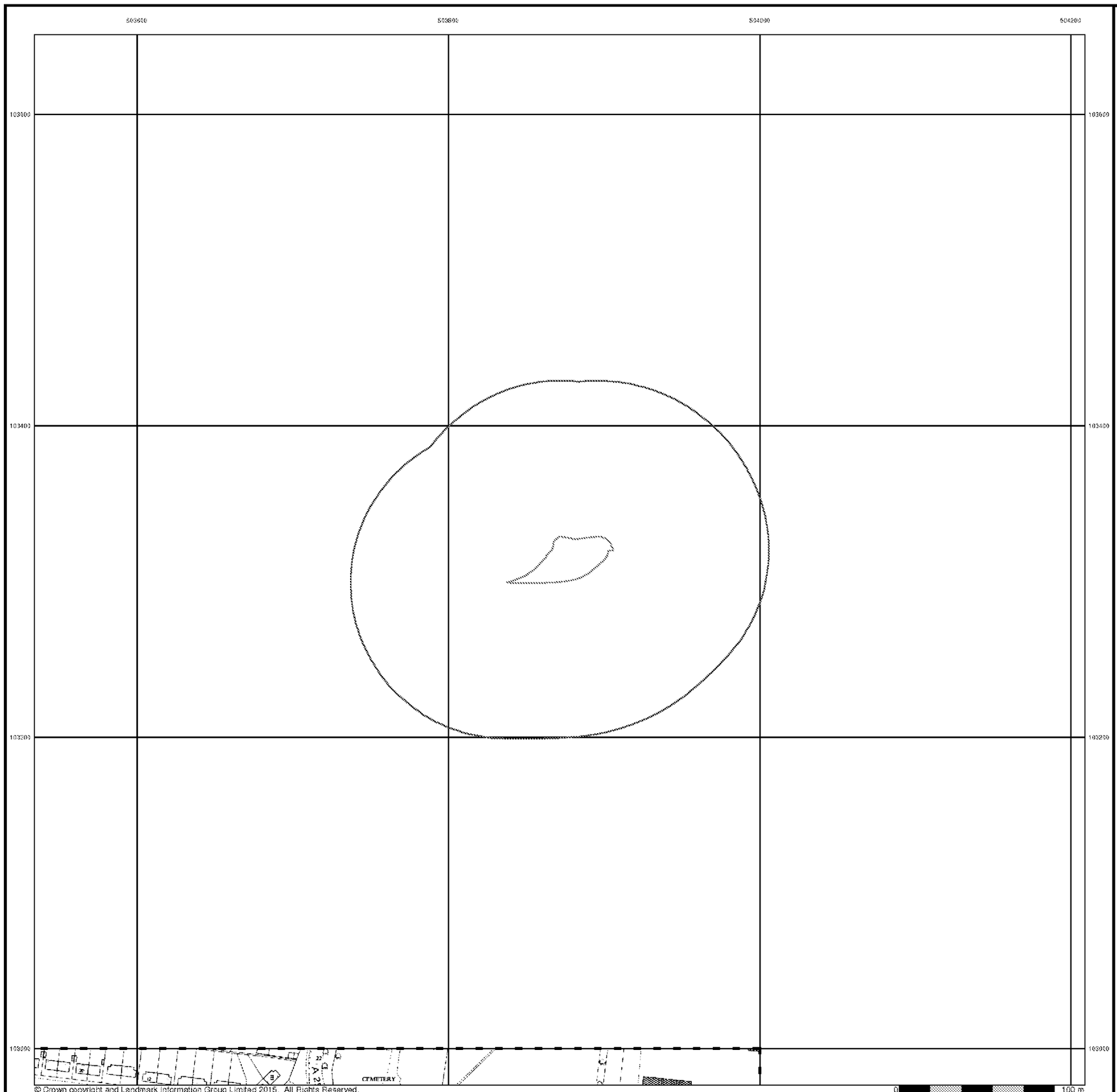
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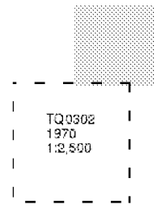
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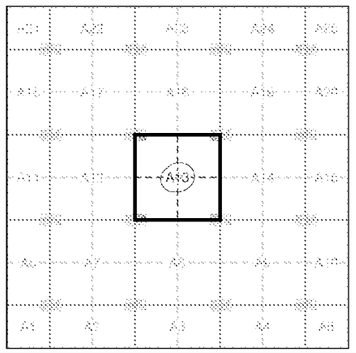
Geo-Environmental
Ordnance Survey Plan
Published 1970
Source map scale - 1:2,500

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

Map Name(s) and Date(s)



Historical Map - Segment A13



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Site Area (Ha):	0.11
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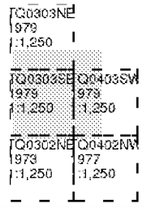


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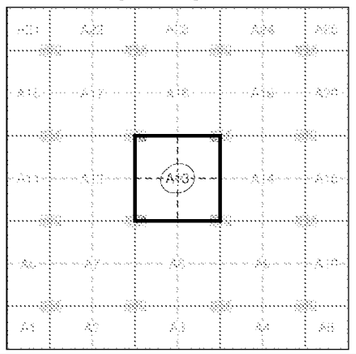
Geo-Environmental
Ordnance Survey Plan
Published 1973 - 1979
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



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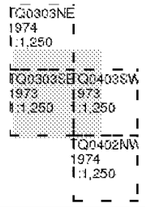
Geo-Environmental
Supply of Unpublished Survey Information

Published 1973 - 1974

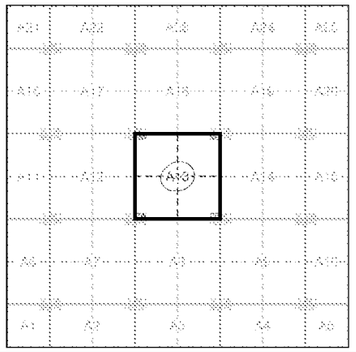
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



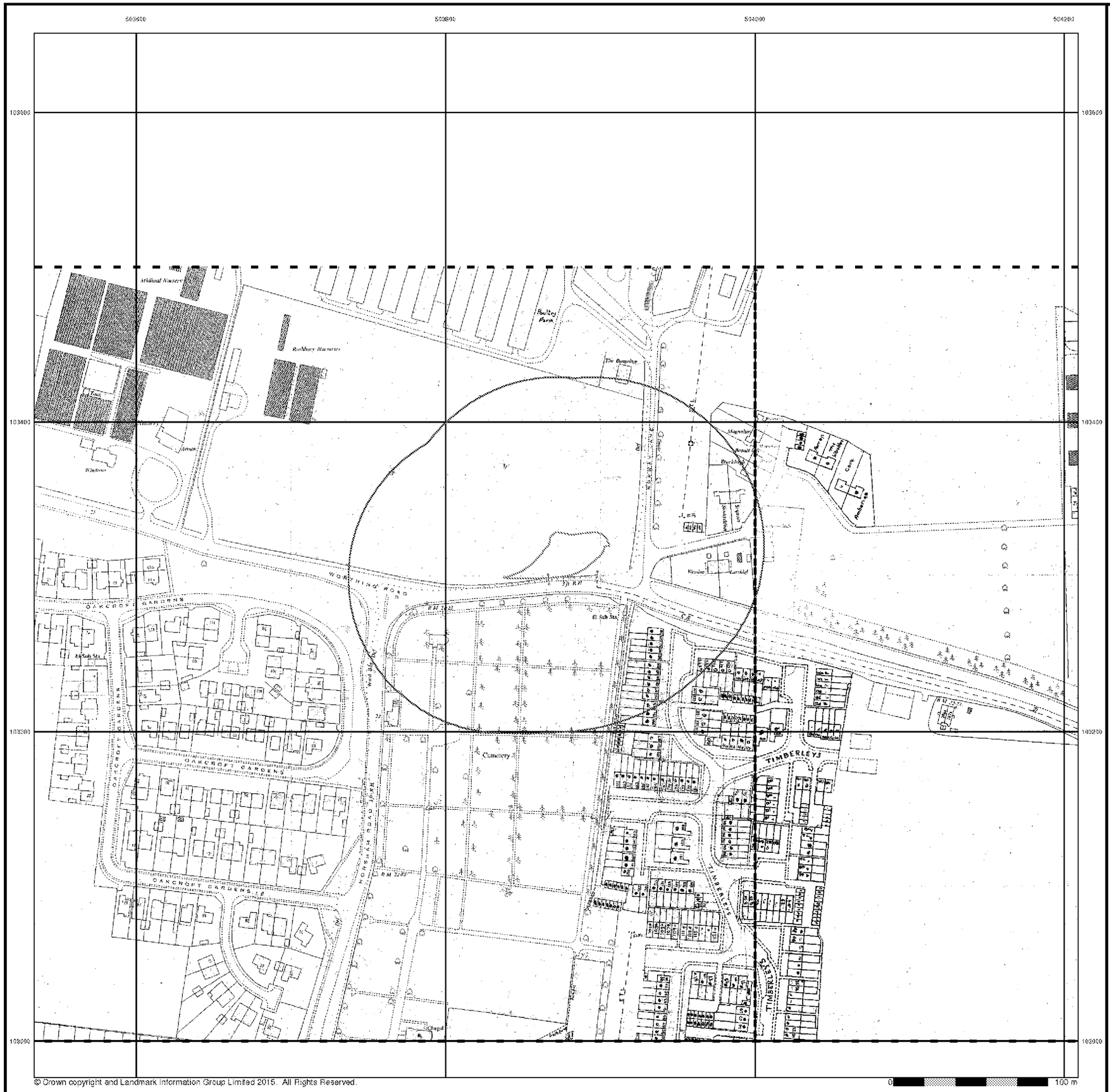
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Geo-Environmental

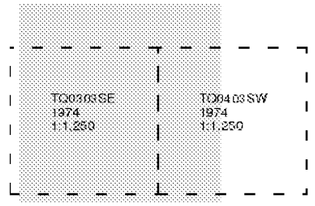
Supply of Unpublished Survey Information

Published 1974

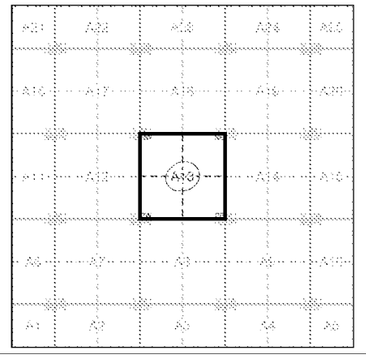
Source map scale - 1:1,250

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Map Name(s) and Date(s)



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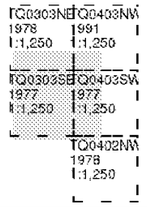
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0 100 m

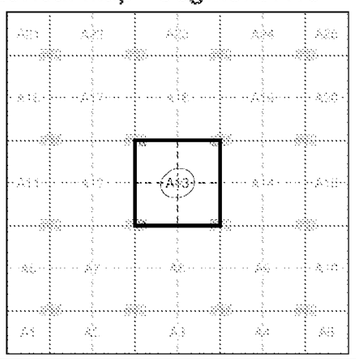
Geo-Environmental
Additional SIMs
Published 1977 - 1991
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



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103600 103400 103200 103000

Midland Nursery

Nursery Farm

Warehouse

Allotment Gardens

WORTHING ROAD

Cemetery

DANCROFT GARDENS

DANCROFT WAY

TIMBERLEYS

ARDINGLY ROAD

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0 100 m

Geo-Environmental
Additional SIMs
Published 1980 - 1991
Source map scale - 1:1,250

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

Map Name(s) and Date(s)

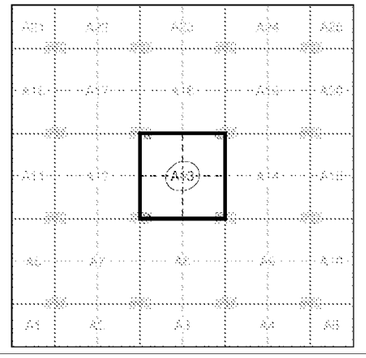
TQ0303NE
1990
1:1,250

TQ0303SE
1991
1:1,250

TQ0403SW
1986
1:1,250

TQ0402NW
1980
1:1,250

Historical Map - Segment A13



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103600 103400 103200 103000

Warehouse

Warehouse

Hillside Nursery

Norway Pine

Greenwich

KENDAL CLOSE

TYNDALE

THIRLMERE

COWSTON WAY

ULLSWATER DRIVE

DERWENT CLOSE

THE PARADES

GRASMERE CLOSE

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0 100 m

Geo-Environmental
Additional SIMs
Published 1982 - 1992
Source map scale - 1:1,250

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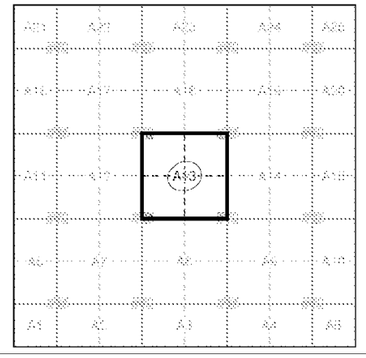
Map Name(s) and Date(s)

TQ0303NE
1992
1:1,250

TQ0403SW
1990
1:1,250

TQ0402NW
1982
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Historical Map - Segment A13



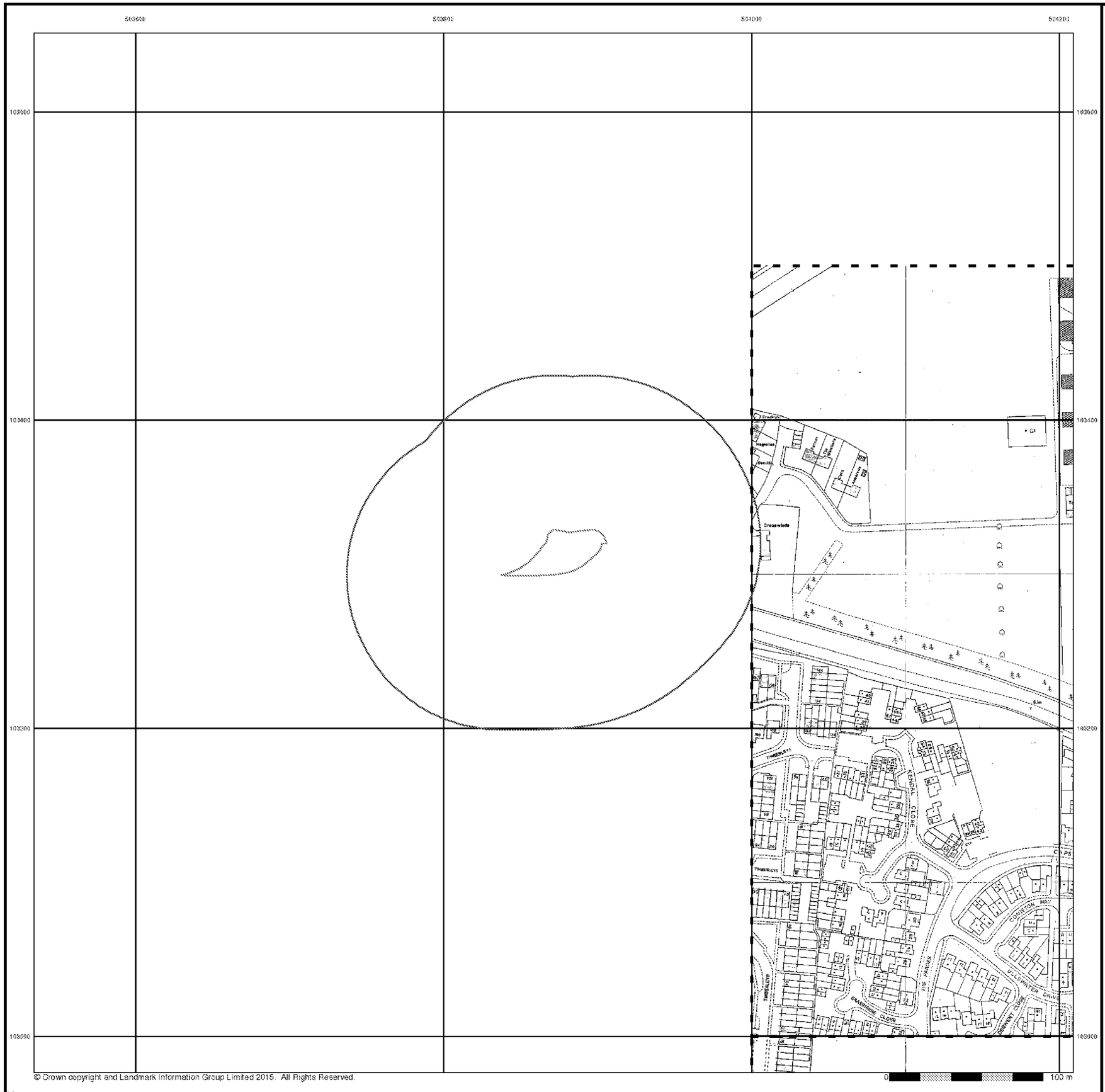
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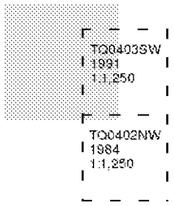


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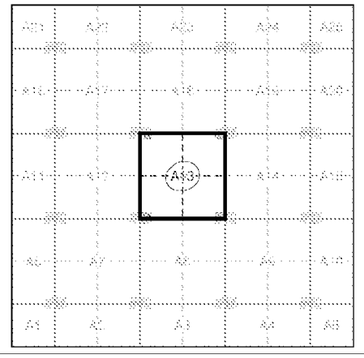
Geo-Environmental
Additional SIMs
Published 1984 - 1991
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

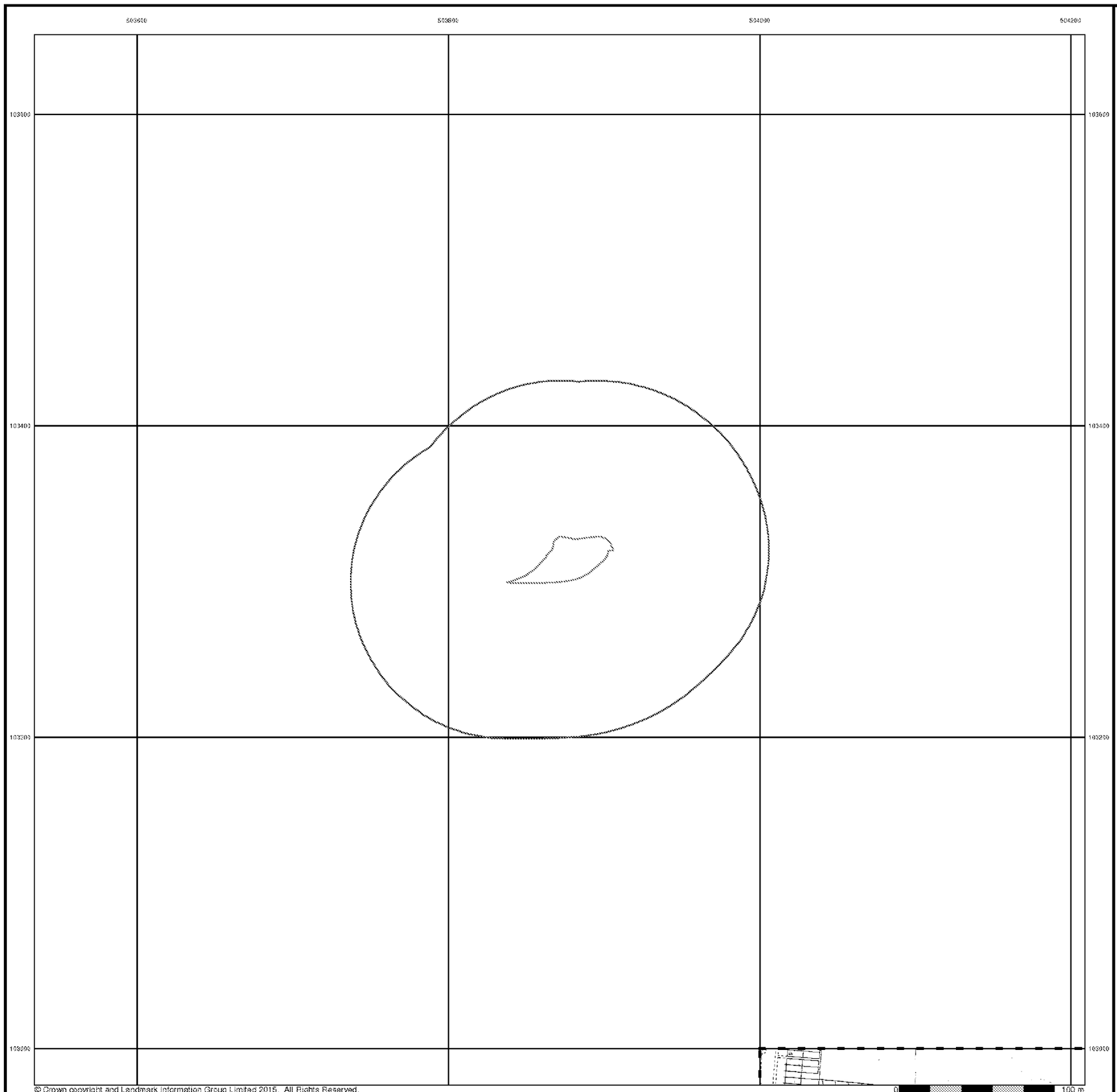
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Customer Ref:	GE16347
National Grid Reference:	503870, 103310
Slice:	A
Site Area (Ha):	0.11
Search Buffer (m):	100

Site Details

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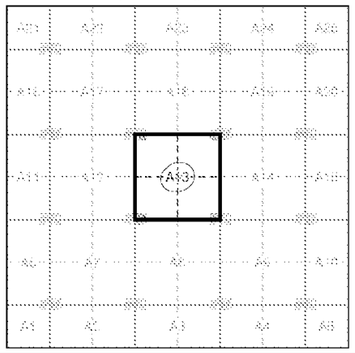
Geo-Environmental
Additional SIMs
Published 1986
Source map scale - 1:1,250

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

Map Name(s) and Date(s)

TQ0402NW
1986
1:1,250

Historical Map - Segment A13



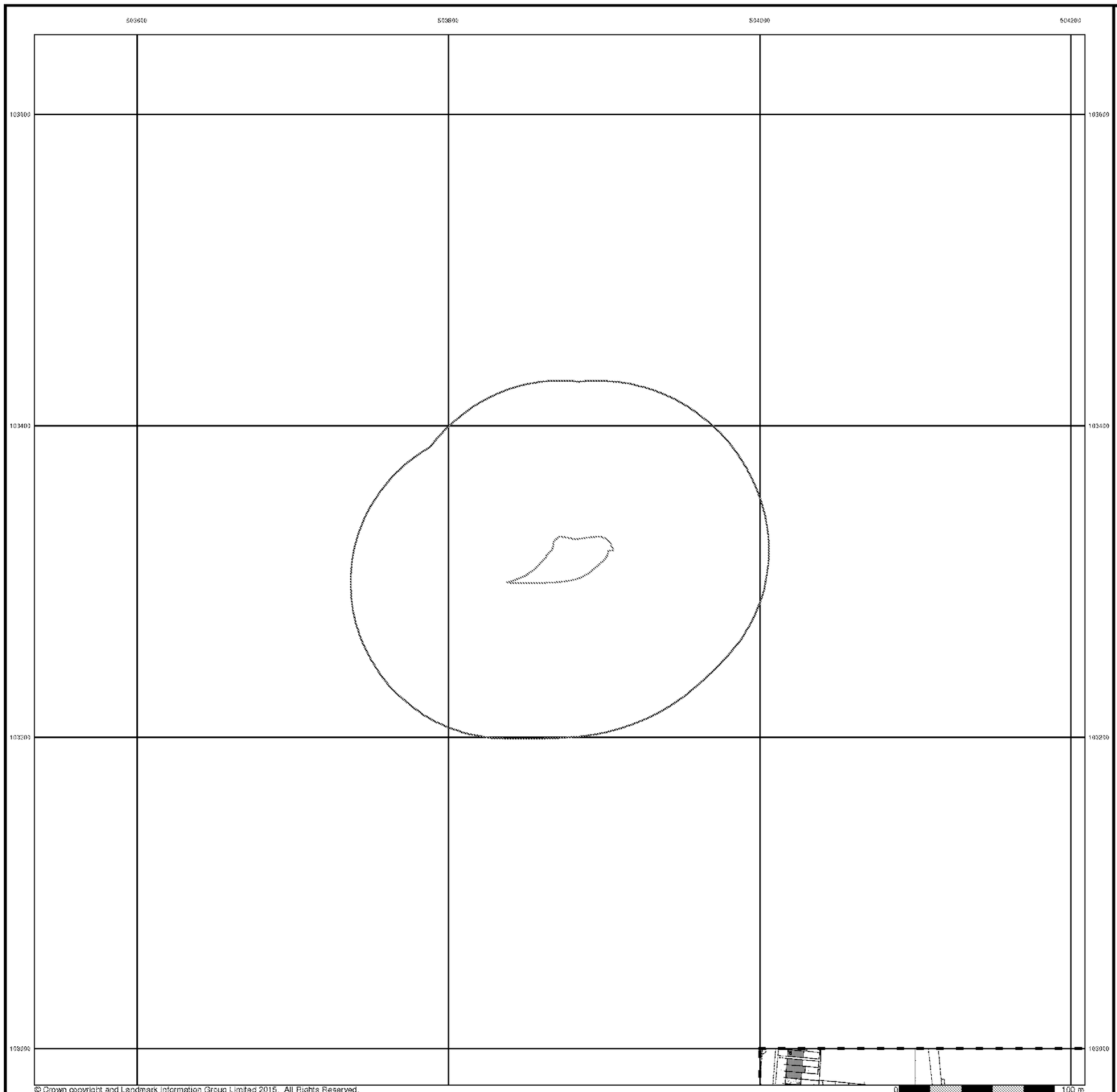
Order Details

Order Number:	127564474_1_1
Customer Ref:	GE16347
National Grid Reference:	503870, 103310
Slice:	A
Site Area (Ha):	0.11
Search Buffer (m):	100

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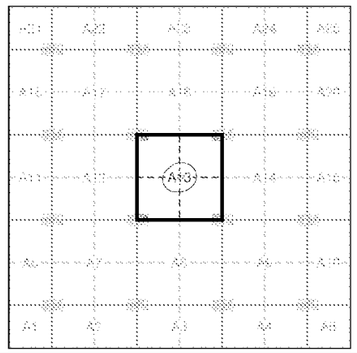
Geo-Environmental
Ordnance Survey Plan
Published 1989
Source map scale - 1:1,250

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

Map Name(s) and Date(s)

TQ0402NW
1989
1:1,250

Historical Map - Segment A13



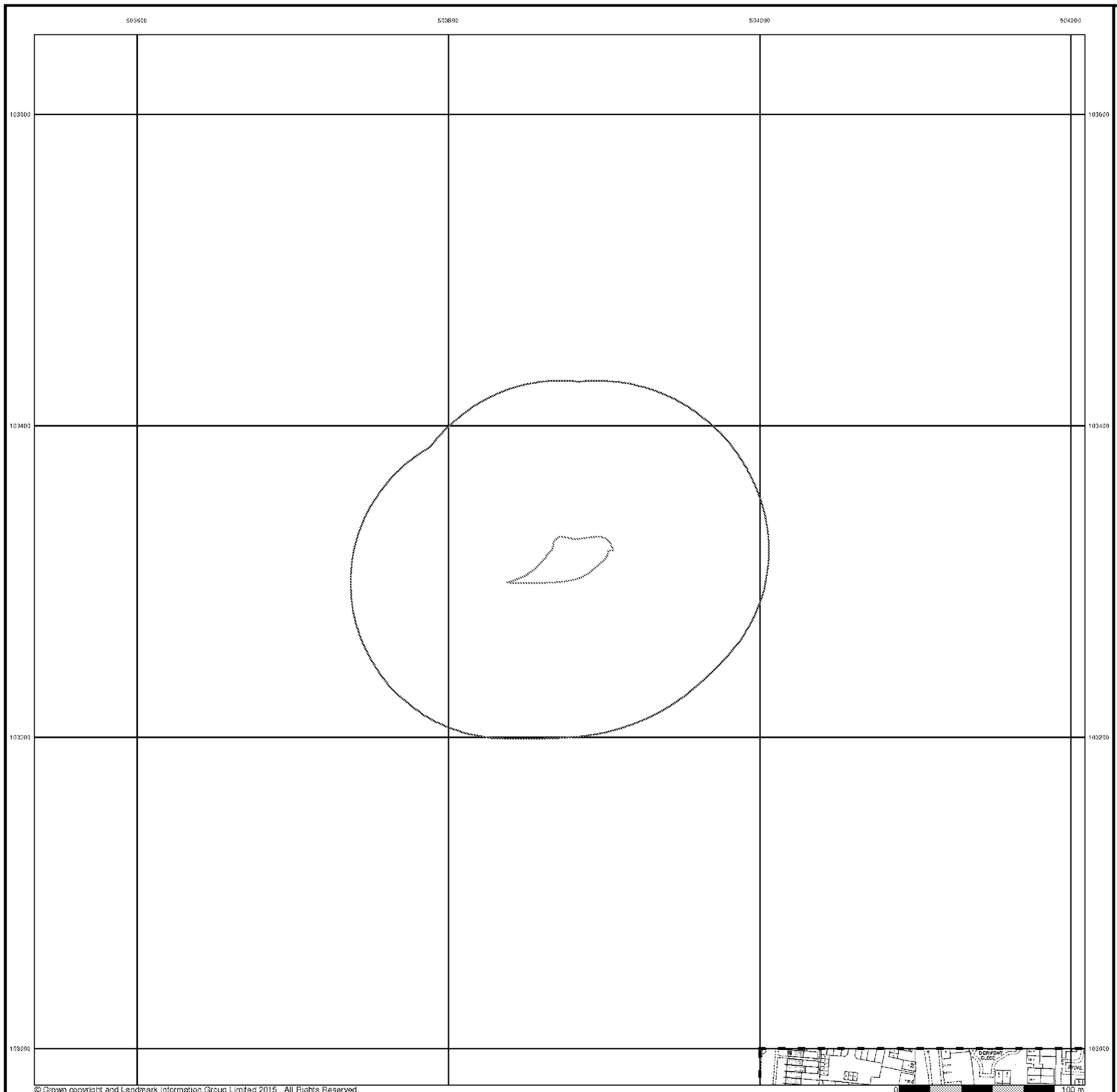
Order Details

Order Number:	127564474_1_1
Customer Ref:	GE16347
National Grid Reference:	503870, 103310
Slice:	A
Site Area (Ha):	0.11
Search Buffer (m):	100

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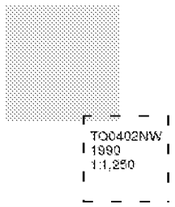


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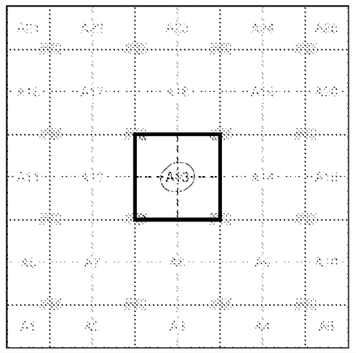
Geo-Environmental
Additional SIMs
Published 1990
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	127564474_1_1
Customer Ref:	GE16347
National Grid Reference:	503870, 103310
Slice:	A
Site Area (Ha):	0.11
Search Buffer (m):	100

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Geo-Environmental

Large-Scale National Grid Data

Published 1994

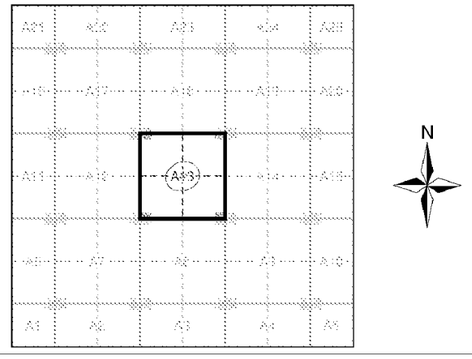
Source map scale - 1:1,250

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

Map Name(s) and Date(s)

TQ0303NE 1994 1:1,250	TQ0403NW 1994 1:1,250
TQ0303SE 1994 1:1,250	TQ0403SW 1994 1:1,250
TQ0302NE 1994 1:1,250	TQ0402NW 1994 1:1,250

Historical Map - Segment A13



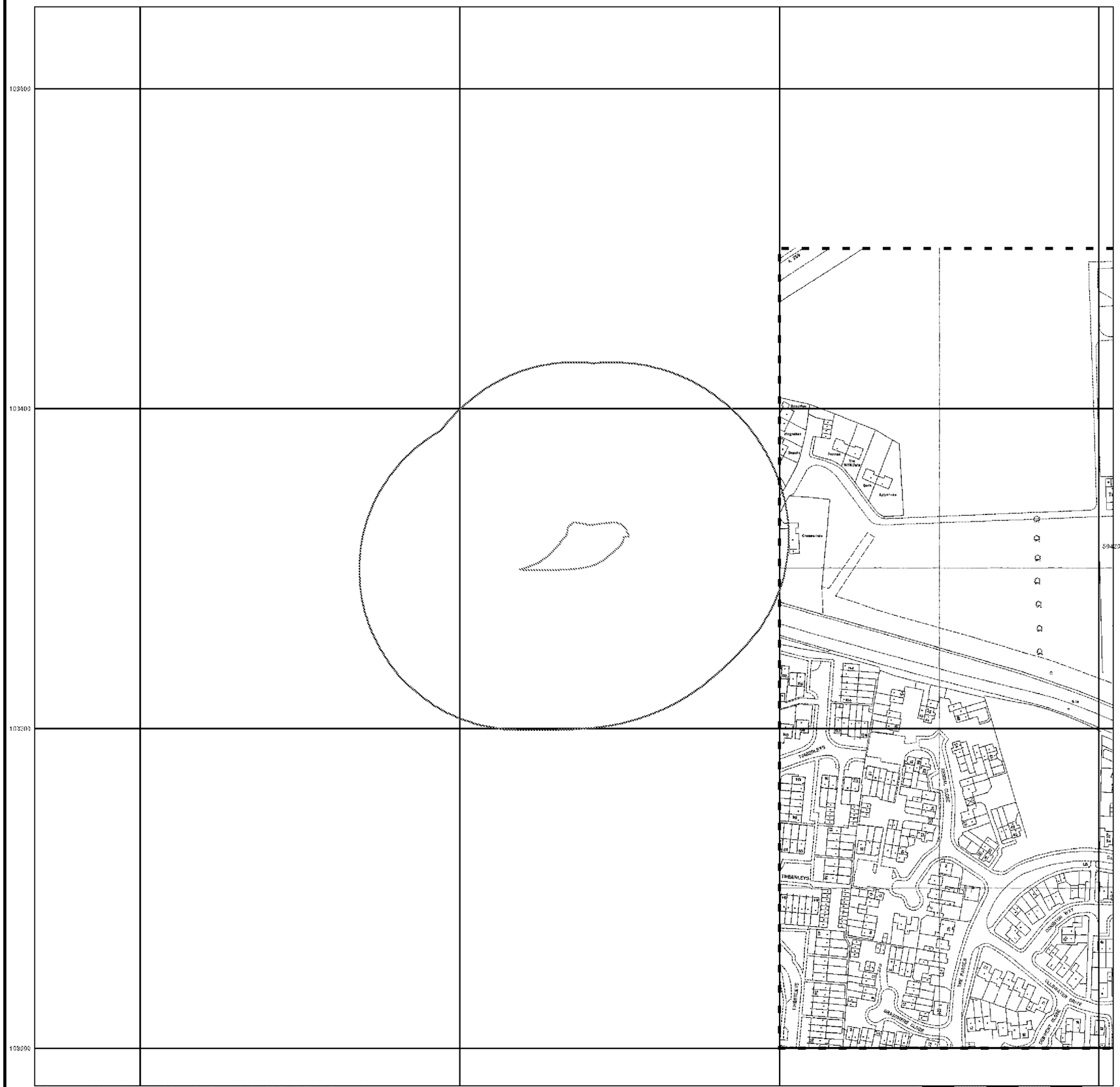
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Customer Ref:	GE16347
National Grid Reference:	503870, 103310
Slice:	A
Site Area (Ha):	0.11
Search Buffer (m):	100

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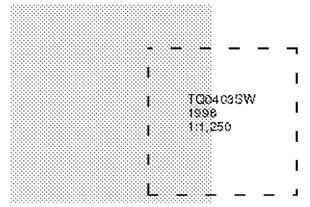


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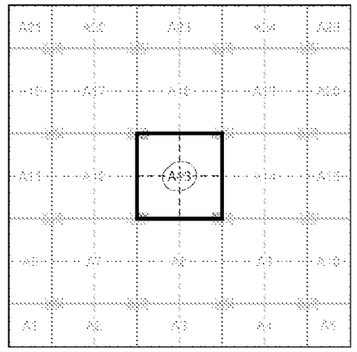
Geo-Environmental
Large-Scale National Grid Data
Published 1996
Source map scale - 1:1,250

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

Map Name(s) and Date(s)



Historical Map - Segment A13



Order Details

Order Number:	127564474_1_1
Customer Ref:	GE16347
National Grid Reference:	503870, 103310
Slice:	A
Site Area (Ha):	0.11
Search Buffer (m):	100

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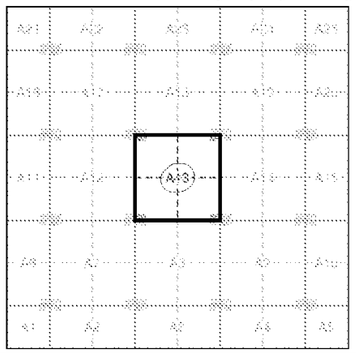


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Geo-Environmental
Historical Aerial Photography
Published 1999

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



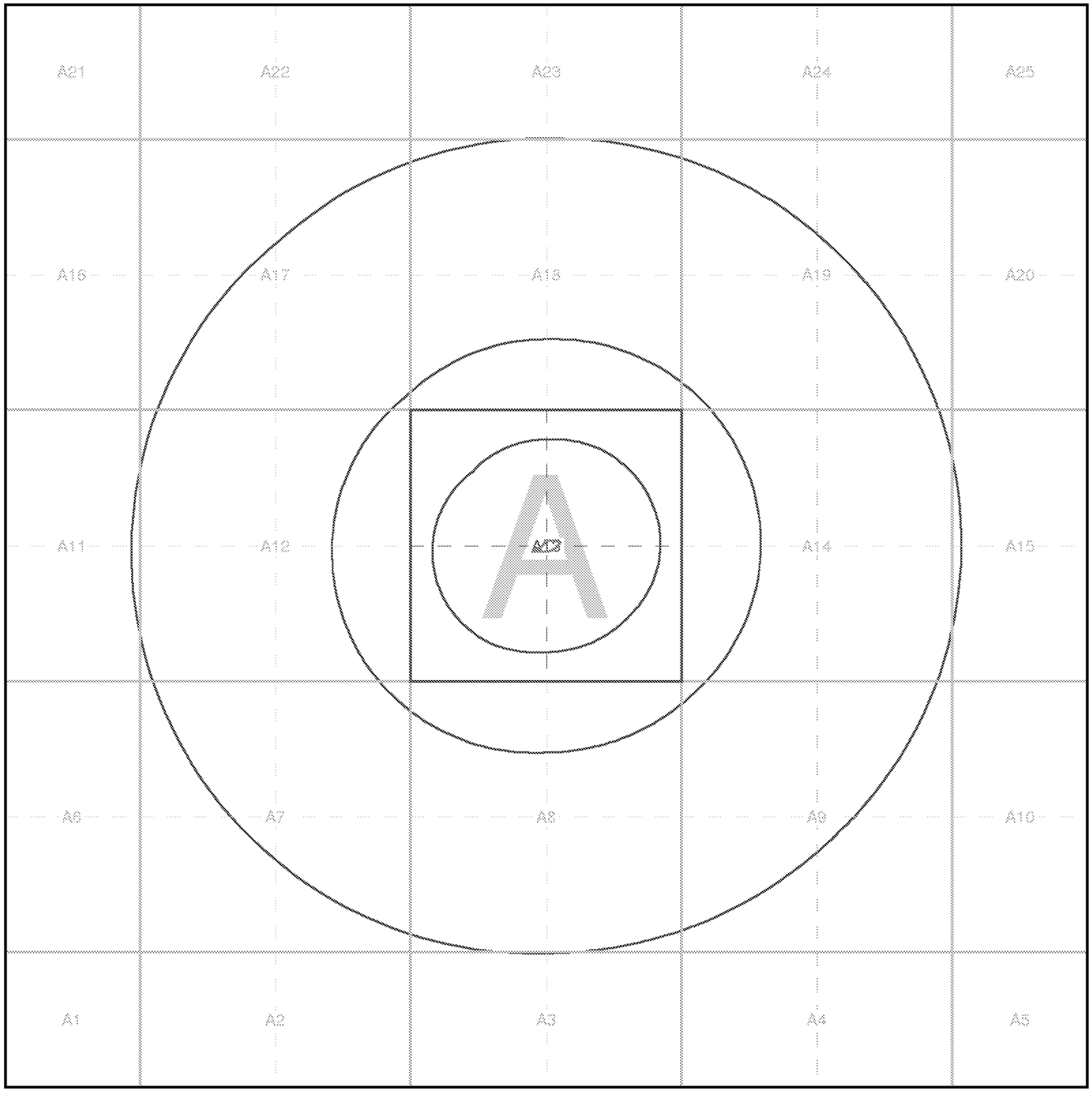
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National Grid Reference:	503870, 103310
Slice:	A
Site Area (Ha):	0.11
Search Buffer (m):	100

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Geo-Environmental
Index Map

For ease of identification, your site and buffer have been split into Slices, Segments and Quadrants. These are illustrated on the Index Map opposite and explained further below.

Slice
Each slice represents a 1:10,000 plot area (2.7km x 2.7km) for your site and buffer. A large site and buffer may be made up of several slices (represented by a red outline), that are referenced by letters of the alphabet, starting from the bottom left corner of the slice "grid". This grid does not relate to National Grid lines but is designed to give best fit over the site and buffer.

Segment
A segment represents a 1:2,500 plot area. Segments that have plot files associated with them are shown in dark green, others in light blue. These are numbered from the bottom left hand corner within each slice.

Quadrant
A quadrant is a quarter of a segment. These are labelled as NW, NE, SW, SE and are referenced in the datasheet to allow features to be quickly located on plots. Therefore a feature that has a quadrant reference of A7NW will be in Slice A, Segment 7 and the NW Quadrant.

A selection of organisations who provide data within this report:

Map data

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

Environment Agency

NATURAL ENGLAND

Envirocheck reports are compiled from 136 different sources of data.

Client Details
MR J Tingley, Geo Environmental Services Ltd, Unit 7 Danworth Farm, Cuckfield Road, Hurstpierpoint, West Sussex, BN6 9GL

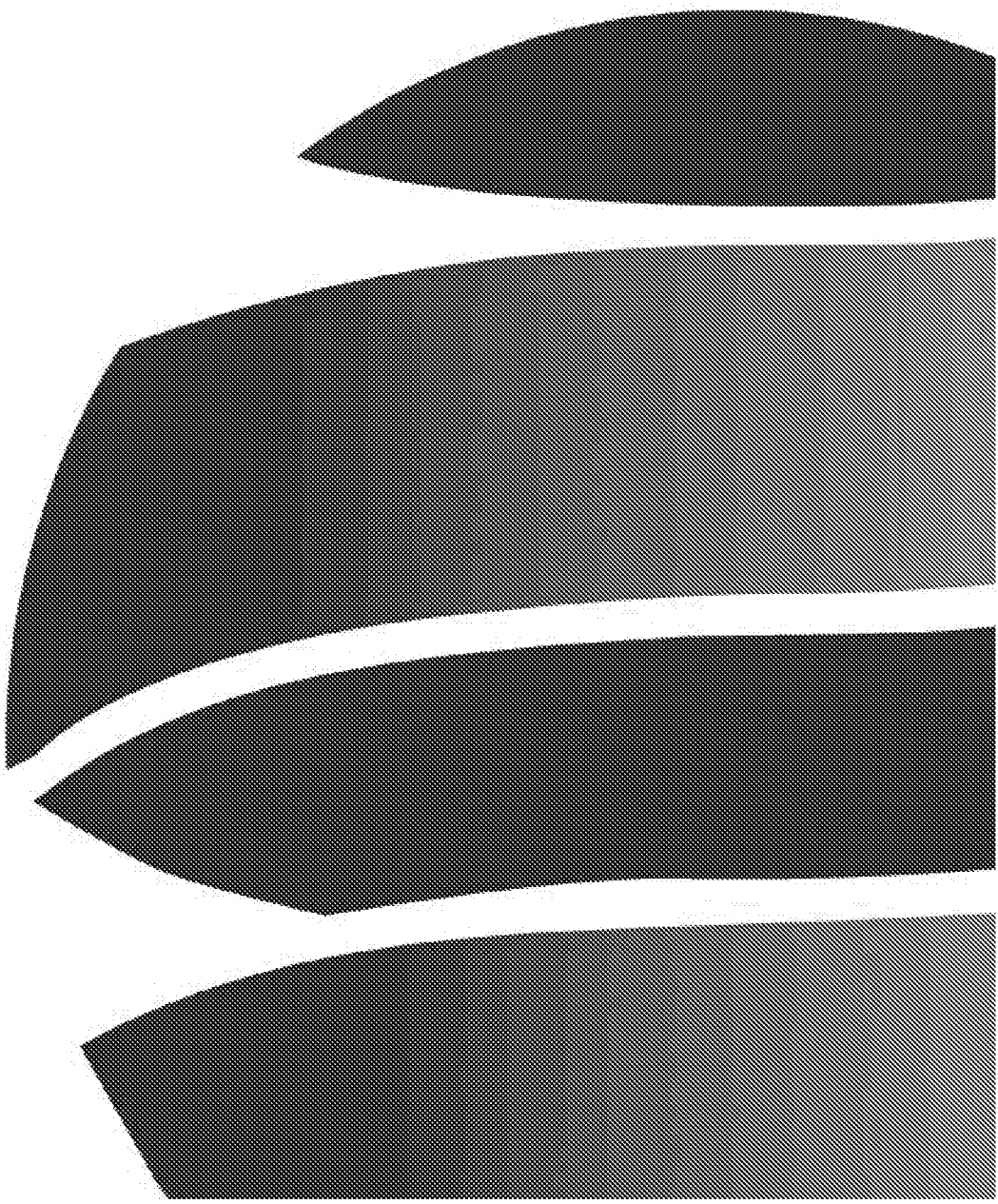
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Site Area (Ha):	0.11
Search Buffer (m):	1000

Site Details
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APPENDIX B
Exploratory Hole Logs



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

Trial Pit Log

TrialPit No
TP01
Sheet 1 of 1

Project Name: Coffee Drive-Thru, Rustington	Project No. GE16347	Co-ords: 503871.61 - 103315.17 Level:	Date 26/05/2017
Location: Littlehampton		Dimensions (m): 140.00 × 0.60 Depth 3.10	Scale 1:25
Client: Store Property Investments Ltd			Logged V. Bennett

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.05			Brown Silt. TOPSOIL
							Soft to firm orangish brown CLAY. RIVER TERRACE DEPOSITS
				1.20			Soft to firm orangish brown gravelly CLAY. Gravel subangular flint. RIVER TERRACE DEPOSITS
				2.80			Firm to stiff orangish brown slightly clayey gravelly SAND. Gravel subangular flint. RIVER TERRACE DEPOSITS
				3.10			End of Pit at 3.10m

1
2
3
4
5

Water Strikes
Depth Strike | Rose to (mbgl)

Remarks

Stability

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS01** Sheet 1 of 1

Project Name:	Coffee Drive-Thru, Rustington	Project No. GE16347	Co-ords: 503872E - 103308N	Hole Type WLS
Location:	Littlehampton		Level:	Scale 1:25
Client:	Store Property Investments Ltd		Dates: 26/05/2017	Logged By V. Bennett

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES		0.15			Brown silt with many rootlets and occassional subangular gravel. TOPSOIL
		0.20	ES					Soft to firm orangish brown CLAY. RIVER TERRACE DEPOSITS
		0.50	D					
		0.50	ES					
		1.00	D					
		1.50	D					
		2.00	D					
		2.50	D					
		3.00	D		3.00			Firm to stiff orangish brown slightly sandy CLAY. RIVER TERRACE DEPOSITS *Roots (1mm) to 3m bgl.*
		3.50	D					
		4.00	D		4.00			End of Borehole at 4.00m

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

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS02** Sheet 1 of 1
Project Name:	Coffee Drive-Thru, Rustington	Project No. GE16347	Co-ords: 503880E - 103320N	Hole Type WLS
Location:	Littlehampton		Level:	Scale 1:25
Client:	Store Property Investments Ltd		Dates: 26/05/2017	Logged By V. Bennett

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES		0.16			Brown silt with many rootlets and occasional subangular gravel. TOPSOIL
		0.30	ES					Soft to firm orangish brown CLAY. RIVER TERRACE DEPOSITS
		0.50	D					
		1.00	D					
		1.50	D		1.50			Soft to firm orangish brown slightly sandy CLAY. Occasional subrounded flint coarse gravel. RIVER TERRACE DEPOSITS
		2.00	D					
		2.50	D					
		3.00	D					
		4.00	D		4.00			End of Borehole at 4.00m

1 2 3 4 5

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

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS03** Sheet 1 of 1
Project Name:	Coffee Drive-Thru, Rustington	Project No. GE16347	Co-ords: 503888E - 103315N Hole Type WLS
Location:	Littlehampton		Level: Scale 1:25
Client:	Store Property Investments Ltd		Dates: 26/05/2017 Logged By V. Bennett

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.05			Brown silt with many rootlets and occassional subangular gravel. TOPSOIL Brown mottled orangish brown silt with pockets of clay. MADE GROUND
		0.20	ES					
		0.50	D					
		0.50	ES					
					0.90			Soft to firm orangish brown CLAY. RIVER TERRACE DEPOSITS
		1.00	D					
		1.50	D					
		2.00	D					
		2.50	D					
		3.00	D					
					3.90			Firm to stiff orangish brown slightly sandy CLAY. RIVER TERRACE DEPOSITS
		4.00	D		4.00			End of Borehole at 4.00m

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

AGS

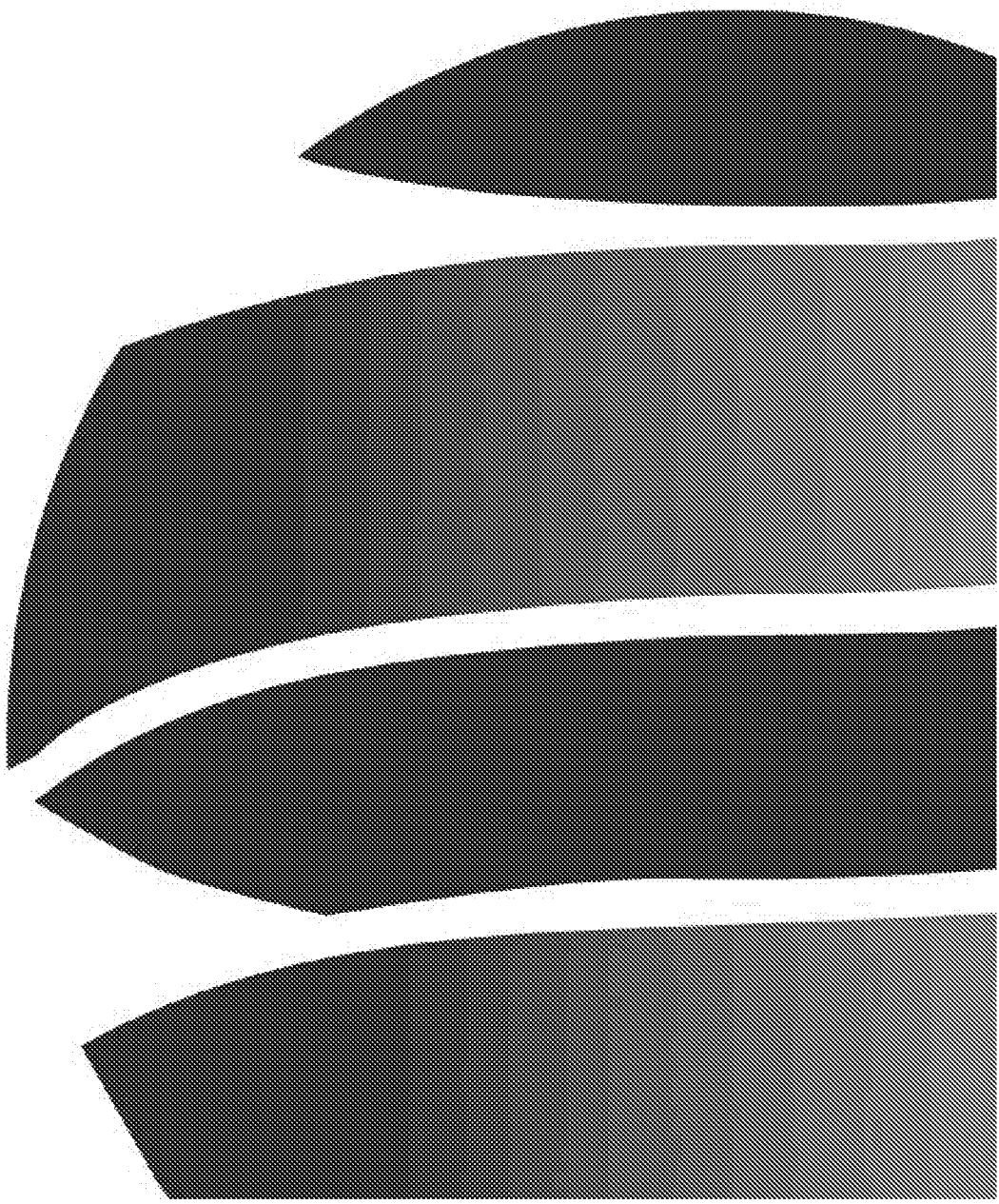
Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS04** Sheet 1 of 1
Project Name:	Coffee Drive-Thru, Rustington	Project No. GE16347	Co-ords: 503888E - 103326N	Hole Type WLS
Location:	Littlehampton		Level:	Scale 1:25
Client:	Store Property Investments Ltd		Dates: 26/05/2017	Logged By V. Bennett

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.20	ES					Brown gravelly silt. Gravel is subangular flint and concrete. TOPSOIL
		0.40	ES		0.35			Soft to firm orangish brown CLAY. RIVER TERRACE DEPOSITS
		0.50	D					
		1.00	D					
		1.50	D					
					1.60			Reddish brown medium SAND. RIVER TERRACE DEPOSITS
					1.80			Recovered as structureless CHALK composed of pale brown gravelly sandy SILT with occasional cobbles and clay layers. Gravel and cobbles are very weak and weak, low and medium density, off-white. WHITE CHALK SUBGROUP
		2.00	D					
		2.50	D					
								Pale brown CLAY.
		3.00	D					
		3.50	D					*Pale brown CLAY.*
		4.00	D		4.00			End of Borehole at 4.00m

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

AGS

APPENDIX C
Geotechnical Laboratory Results



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

Job No.	Project Name	Programme	
22887	Coffee Drive Thru	Samples received	31/05/2017
		Schedule received	02/06/2017
Project No.	Client	Project started	05/06/2017
GE16347	GESL	Testing Started	21/06/2017

Hole No.	Sample				Soil Description	NMC	Passing 425µm	LL	PL	PI	Remarks
	Ref	Top	Base	Type		%	%	%	%	%	
WS01	-	0.50	-	D	Brown slightly gravelly silty sandy CLAY with occasional rootlets (gravel is fine and angular)	16	98	38	20	18	
WS01	-	3.00	-	D	Orangish brown slightly gravelly fine sandy silty CLAY (gravel is fm and angular)	26	93	37	18	19	
WS02	-	1.00	-	D	Brown mottled orangish brown fine sandy silty CLAY with occasional black flecks	22	100	42	20	22	
WS03	-	0.50	-	D	Brown slightly gravelly silty sandy CLAY with frequent fine rootlets (gravel is fmc and sub-angular to angular)	14	90	36	19	17	
WS03	-	2.00	-	D	Brown and orangish brown slightly gravelly silty sandy CLAY (gravel is fine and angular)	14	92	25	13	12	
WS03	-	4.00	-	D	Orangish brown slightly gravelly silty sandy CLAY (gravel is fm and angular to sub-angular)	8.7	95	39	15	24	
WS04	-	1.00	-	D	Brown mottled orangish brown slightly gravelly fine sandy silty CLAY with occasional black flecks (gravel is fm and sub-angular to angular)	18	97	41	18	23	

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

[redacted]

Checked and Approved
Initials J.P
Date: 22/06/2017

UKAS TESTING
2519

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

MSF-5-R1(b)

Sulphate Content (Gravimetric Method) for 2:1 Soil: Water Extract and pH Value - Summary of Results

Tested in accordance with BS1377 : Part 3 : 1990, clause 5.3 and clause 9

Job No.	Project Name	Programme	
22887	Coffee Drive Thru	Samples received	31/05/2017
		Schedule received	02/06/2017
Project No.	Client	Project started	05/06/2017
GE16347	GESL	Testing Started	09/06/2017

Hole No.	Sample				Soil description	Dry Mass passing 2mm	SO3 Content	SO4 Content	pH	Remarks
	Ref	Top	Base	Type		%	g/l	g/l		
WS01	-	1.00	-	D	Orangish brown sandy silty CLAY	100	0.11	0.14	8.08	
WS02	-	0.50	-	D	Brown silty very clayey SAND with occasional roots and rootlets	100	0.12	0.15	7.80	
WS03	-	1.00	-	D	Brown sandy silty CLAY	100	0.09	0.11	7.80	
WS04	-	2.50	-	D	Yellowish brown slightly fine sandy silty CLAY with pockets of putty chalk and occasional fm intact chalk fragments	82	0.12	0.14	8.00	

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Watford Herts WD18 9RU

[redacted]

Approved Signatories [illegible]

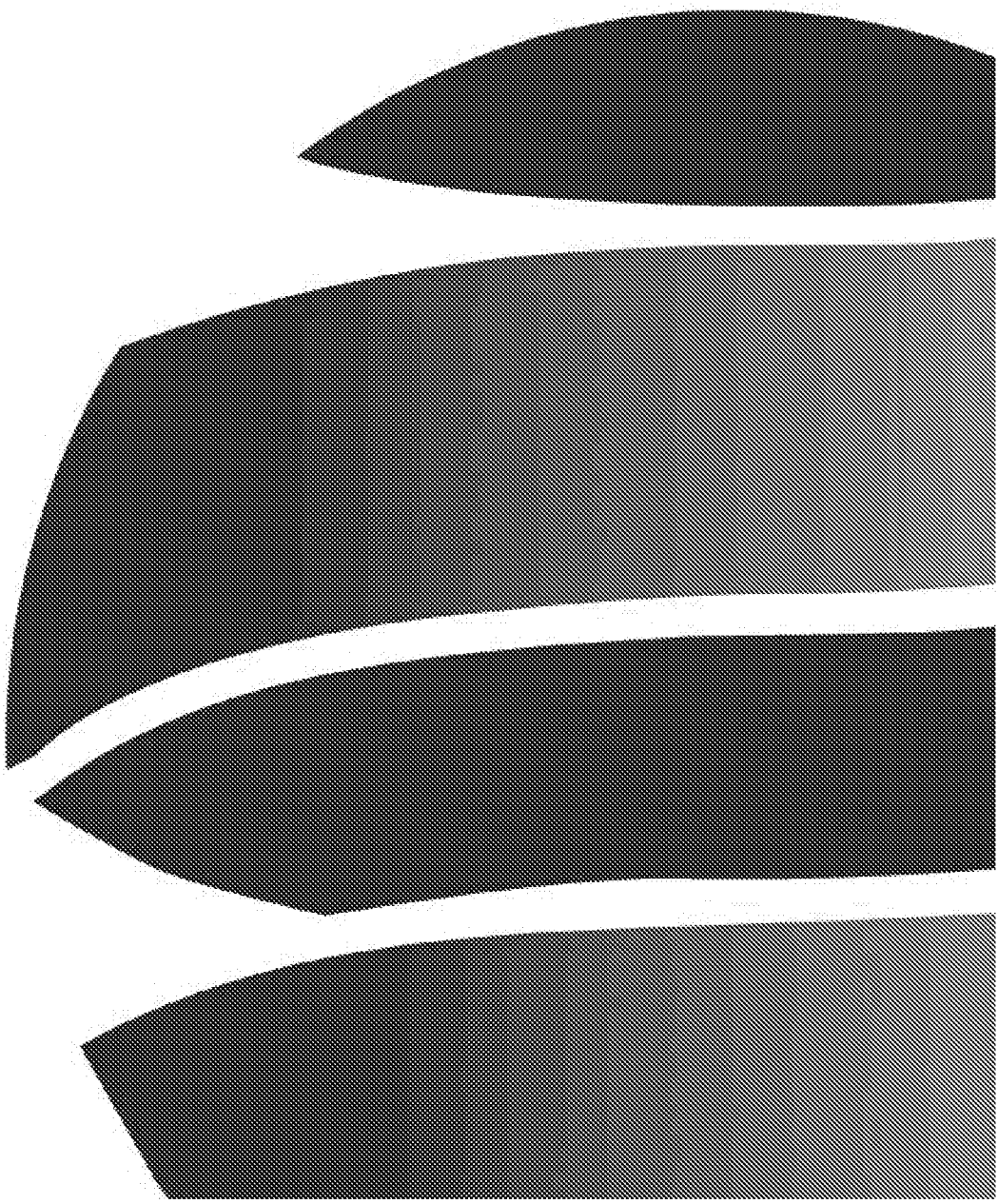
Checked and Approved

Initials J.P

Date: 22/06/2017

MSF-5-R29

APPENDIX D
Geochemical Laboratory Results & Statistical Assessment



Unit A2
Windmill Road
Ponswood Industrial Estate
St Leonards on Sea
East Sussex
TN38 9BY
[redacted]

UKAS TESTING 2683

THE ENVIRONMENTAL LABORATORY LTD

Analytical Report Number: 17-12408

Issue: 1

Date of Issue: 08/06/2017

Contact: Veronica Bennett

Customer Details: GESL
Unit 7
Danworth Farm
Hurstpierpoint
West SussexBN6 9GI

Quotation No: Q14-00021

Order No: 1970

Customer Reference: GE16347

Date Received: 01/06/2017

Date Approved: 08/06/2017

Details: Coffee Drive-Thru

Approved by: [redacted]

John Wilson, Operations Manager

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

ELAB

Sample Summary

Report No.: 17-12408

Elab No.	Client's Ref.	Date Sampled	Date Scheduled	Description	Deviations
101906	WS01 0.10	26/05/2017	02/06/2017		
101907	WS01 0.50	26/05/2017	02/06/2017	Silty loam	
101908	WS02 0.10	26/05/2017	02/06/2017	Silty loam	
101909	WS03 0.20	26/05/2017	02/06/2017	Silty loam	
101910	WS04 0.20	26/05/2017	02/06/2017	Silty loam	
101911	WS04 0.40	26/05/2017	02/06/2017	Silty loam	
101912	WS03 0.50	26/05/2017	02/06/2017	Silty loam	
101913	WS01 0.20	26/05/2017	02/06/2017	Silty loam	
101914	WS02 0.30	26/05/2017	02/06/2017		

ELAB

UKAS TESTING 2683

MCERTS

Results Summary

Report No.: 17-12408

ELAB Reference				101907	101908	101909	101910	101911	101912
Customer Reference									
Sample ID									
Sample Type				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location				WS01	WS02	WS03	WS04	WS04	WS03
Sample Depth (m)				0.50	0.10	0.20	0.20	0.40	0.50
Sampling Date				26/05/2017	26/05/2017	26/05/2017	26/05/2017	26/05/2017	26/05/2017
Determinand	**Codes**	**Units**	**LOD**						
Metals									
Arsenic	M	mg/kg	1	n/t	9.8	11.4	11.4	n/t	n/t
Barium	U	mg/kg	10	n/t	59.1	67.0	69.3	n/t	n/t
Beryllium	U	mg/kg	1	n/t	< 1.0	1.0	< 1.0	n/t	n/t
Cadmium	M	mg/kg	0.5	n/t	< 0.5	< 0.5	< 0.5	n/t	n/t
Chromium	M	mg/kg	5	n/t	25.9	33.7	32.4	n/t	n/t
Copper	M	mg/kg	5	n/t	19.5	19.7	21.1	n/t	n/t
Lead	M	mg/kg	5	n/t	32.9	20.1	28.1	n/t	n/t
Mercury	M	mg/kg	0.5	n/t	< 0.5	< 0.5	< 0.5	n/t	n/t
Nickel	M	mg/kg	5	n/t	16.4	23.1	19.7	n/t	n/t
Selenium	M	mg/kg	1	n/t	< 1.0	< 1.0	< 1.0	n/t	n/t
Vanadium	M	mg/kg	5	n/t	35.2	45.0	41.2	n/t	n/t
Zinc	M	mg/kg	5	n/t	68.6	61.4	76.0	n/t	n/t
Anions									
Water Soluble Chloride	M	mg/kg	40	n/t	< 40	< 40	< 40	n/t	n/t
Water Soluble Sulphate	M	g/l	0.02	n/t	0.03	0.03	0.03	n/t	n/t
Inorganics									
Elemental Sulphur	N	mg/kg	20	n/t	< 20	< 20	< 20	n/t	n/t
Hexavalent Chromium	N	mg/kg	0.8	n/t	< 0.8	< 0.8	< 0.8	n/t	n/t
Total Sulphide	N	mg/kg	2	n/t	< 2	< 2	< 2	n/t	n/t
Total Cyanide	M	mg/kg	1	n/t	< 1.0	< 1.0	< 1.0	n/t	n/t
Acid Soluble Sulphate (SO4)	U	%	0.02	n/t	0.08	0.06	0.07	n/t	n/t
Water Soluble Boron	N	mg/kg	0.5	n/t	0.8	0.6	0.5	n/t	n/t
Miscellaneous									
Acid Neutralisation Capacity	N	mol/kg	0.1	n/t	n/t	n/t	n/t	n/t	< 0.1
Loss On Ignition (450°C)	M	%	0.01	n/t	n/t	n/t	n/t	n/t	2.50
pH	M	pH units	0.1	n/t	6.4	6.8	7.4	n/t	7.3
Total Organic Carbon	N	%	0.01	n/t	1.5	0.97	1.1	n/t	0.92
Phenols									
Total Phenols	N	mg/kg	6	n/t	< 6	< 6	< 6	n/t	n/t
Polyaromatic hydrocarbons									
Naphthalene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t
Acenaphthylene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t
Acenaphthene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t
Fluorene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t
Phenanthrene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t
Anthracene	M	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	n/t
Fluoranthene	M	mg/kg	0.1	< 0.1	0.4	< 0.1	0.2	< 0.1	n/t
Pyrene	M	mg/kg	0.1	0.1	0.5	0.1	0.3	< 0.1	n/t
Benzo(a)anthracene	M	mg/kg	0.1	< 0.1	0.2	< 0.1	0.1	< 0.1	n/t
Chrysene	M	mg/kg	0.1	< 0.1	0.3	< 0.1	0.2	< 0.1	n/t
Benzo (b) fluoranthene	M	mg/kg	0.1	< 0.1	0.7	< 0.1	0.2	< 0.1	n/t
Benzo(k)fluoranthene	M	mg/kg	0.1	< 0.1	0.4	< 0.1	0.2	< 0.1	n/t
Benzo (a) pyrene	M	mg/kg	0.1	< 0.1	0.2	< 0.1	0.1	< 0.1	n/t
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	< 0.1	0.3	< 0.1	0.3	< 0.1	n/t
Dibenzo(a,h)anthracene	M	mg/kg	0.1	< 0.1	0.1	< 0.1	0.1	< 0.1	n/t
Benzo[g,h,i]perylene	M	mg/kg	0.1	< 0.1	0.3	< 0.1	0.2	< 0.1	n/t
Total PAH(16)	M	mg/kg	0.4	< 0.4	3.5	< 0.4	2.0	< 0.4	n/t
Total PAH (Including Coronene)	N	mg/kg	2	n/t	n/t	n/t	n/t	n/t	2

Tests marked N are not UKAS accredited.

The Environmental Laboratory Ltd. Reg. No. 3882193

Results Summary

Report No.: 17-12408

ELAB Reference				101907	101908	101909	101910	101911	101912
Customer Reference									
Sample ID									
Sample Type				SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sample Location				WS01	WS02	WS03	WS04	WS04	WS03
Sample Depth (m)				0.50	0.10	0.20	0.20	0.40	0.50
Sampling Date				26/05/2017	26/05/2017	26/05/2017	26/05/2017	26/05/2017	26/05/2017
Determinand	**Codes**	**Units**	**LOD**						
BTEX									
Benzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	n/t
Toluene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	n/t
Ethylbenzene	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	n/t
Xylenes	M	ug/kg	10	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0	n/t
MTBE	N	ug/kg	10	< 10.0	n/t	n/t	n/t	< 10.0	n/t
Total BTEX	M	mg/kg	0.01	n/t	n/t	n/t	n/t	n/t	< 0.01
TPH CWG									
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	n/t
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	n/t
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	n/t
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	n/t
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	n/t
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	n/t
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	n/t
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	n/t
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	n/t
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01	n/t
>C8-C10 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	n/t
>C10-C12 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	n/t
>C12-C16 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	n/t
>C16-C21 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	n/t
>C21-C35 Aromatic	N	mg/kg	1	< 1.0	2.1	< 1.0	1.9	< 1.0	n/t
>C35-C40 Aromatic	N	mg/kg	1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	n/t
Total (>C5-C40) Ali/Aro	N	mg/kg	1	< 1.0	2.1	< 1.0	1.9	< 1.0	n/t
Total Petroleum Hydrocarbons									
Mineral Oil	U	mg/kg	5	n/t	n/t	n/t	n/t	n/t	14
PCB (ICES 7 congeners)									
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t	n/t	n/t	n/t	n/t	< 0.03

Tests marked N are not UKAS accredited.

The Environmental Laboratory Ltd. Reg. No. 3882193

ELAB

UKAS TESTING 2683

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Results Summary

Report No.: 17-12408

ELAB Reference	101913
Customer Reference	
Sample ID	
Sample Type	SOIL
Sample Location	WS01
Sample Depth (m)	0.20
Sampling Date	26/05/2017

Determinand	Codes	Units	LOD	
Metals				
Arsenic	M	mg/kg	1	10.2
Barium	U	mg/kg	10	56.9
Beryllium	U	mg/kg	1	< 1.0
Cadmium	M	mg/kg	0.5	< 0.5
Chromium	M	mg/kg	5	24.1
Copper	M	mg/kg	5	19.3
Lead	M	mg/kg	5	30.4
Mercury	M	mg/kg	0.5	< 0.5
Nickel	M	mg/kg	5	16.7
Selenium	M	mg/kg	1	< 1.0
Vanadium	M	mg/kg	5	33.8
Zinc	M	mg/kg	5	63.3
Anions				
Water Soluble Chloride	M	mg/kg	40	< 40
Water Soluble Sulphate	M	g/l	0.02	0.03
Inorganics				
Elemental Sulphur	N	mg/kg	20	< 20
Hexavalent Chromium	N	mg/kg	0.8	< 0.8
Total Sulphide	N	mg/kg	2	< 2
Total Cyanide	M	mg/kg	1	< 1.0
Acid Soluble Sulphate (SO4)	U	%	0.02	0.07
Water Soluble Boron	N	mg/kg	0.5	0.7
Miscellaneous				
Acid Neutralisation Capacity	N	mol/kg	0.1	n/t
Loss On Ignition (450°C)	M	%	0.01	n/t
pH	M	pH units	0.1	7.7
Total Organic Carbon	N	%	0.01	1.2
Phenols				
Total Phenols	N	mg/kg	6	< 6
Polyaromatic hydrocarbons				
Naphthalene	M	mg/kg	0.1	< 0.1
Acenaphthylene	M	mg/kg	0.1	< 0.1
Acenaphthene	M	mg/kg	0.1	< 0.1
Fluorene	M	mg/kg	0.1	< 0.1
Phenanthrene	M	mg/kg	0.1	< 0.1
Anthracene	M	mg/kg	0.1	< 0.1
Fluoranthene	M	mg/kg	0.1	0.5
Pyrene	M	mg/kg	0.1	0.6
Benzo(a)anthracene	M	mg/kg	0.1	0.3
Chrysene	M	mg/kg	0.1	0.3
Benzo (b) fluoranthene	M	mg/kg	0.1	0.5
Benzo(k)fluoranthene	M	mg/kg	0.1	0.5
Benzo (a) pyrene	M	mg/kg	0.1	0.3
Indeno (1,2,3-cd) pyrene	M	mg/kg	0.1	0.3
Dibenzo(a,h)anthracene	M	mg/kg	0.1	0.1
Benzo[g,h,i]perylene	M	mg/kg	0.1	0.4
Total PAH(16)	M	mg/kg	0.4	3.7
Total PAH (Including Coronene)	N	mg/kg	2	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 17-12408

ELAB Reference	101913
Customer Reference	
Sample ID	
Sample Type	SOIL
Sample Location	WS01
Sample Depth (m)	0.20
Sampling Date	26/05/2017

Determinand	Codes	Units	LOD	
BTEX				
Benzene	M	ug/kg	10	< 10.0
Toluene	M	ug/kg	10	< 10.0
Ethylbenzene	M	ug/kg	10	< 10.0
Xylenes	M	ug/kg	10	< 10.0
MTBE	N	ug/kg	10	n/t
Total BTEX	M	mg/kg	0.01	n/t
TPH CWG				
>C5-C6 Aliphatic	N	mg/kg	0.01	< 0.01
>C6-C8 Aliphatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aliphatic	N	mg/kg	1	< 1.0
>C10-C12 Aliphatic	N	mg/kg	1	< 1.0
>C12-C16 Aliphatic	N	mg/kg	1	< 1.0
>C16-C21 Aliphatic	N	mg/kg	1	< 1.0
>C21-C35 Aliphatic	N	mg/kg	1	< 1.0
>C35-C40 Aliphatic	N	mg/kg	1	< 1.0
>C5-C7 Aromatic	N	mg/kg	0.01	< 0.01
>C7-C8 Aromatic	N	mg/kg	0.01	< 0.01
>C8-C10 Aromatic	N	mg/kg	1	< 1.0
>C10-C12 Aromatic	N	mg/kg	1	< 1.0
>C12-C16 Aromatic	N	mg/kg	1	< 1.0
>C16-C21 Aromatic	N	mg/kg	1	< 1.0
>C21-C35 Aromatic	N	mg/kg	1	3.4
>C35-C40 Aromatic	N	mg/kg	1	< 1.0
Total (>C5-C40) Ali/Aro	N	mg/kg	1	3.4
Total Petroleum Hydrocarbons				
Mineral Oil	U	mg/kg	5	n/t
PCB (ICES 7 congeners)				
PCB (Total of 7 Congeners)	M	mg/kg	0.03	n/t

Tests marked N are not UKAS accredited.

Results Summary

Report No.: 17-12408

WAC Analysis

Elab Ref:	101912					Landfill Waste Acceptance Criteria Limits		
Sample Date:	26/05/2017					Inert Waste Landfill	Stable Non-reactive Hazardous waste in non-hazardous Landfill	Hazardous Waste Landfill
Sample ID:	WS03							
Depth (m)	0.5							
Site:	Coffee Drive-Thru							
Determinand		**Code**	**Units**					
Total Organic Carbon		N	%		0.92	3	5	6
Loss on Ignition		M	%		2.5	--	--	10
Total BTEX		M	mg/kg		< 0.01	6	--	--
Total PCBs (7 congeners)		M	mg/kg		< 0.03	1	--	--
TPH Total WAC		M	mg/kg		14	500	--	--
Total (of 17) PAHs		N	mg/kg		2.0	100	--	--
pH		M			7.3	--	>6	--
Acid Neutralisation Capacity		N	mol/kg		< 0.1	--	To evaluate	To evaluate
Eluate Analysis			**10:1**		**10:1**	**Limit values for compliance leaching test using BS EN 12457-2 at L/S 10 l/kg**		
			mg/l		**mg/kg**			
Arsenic		N	< 0.005		< 0.05	0.5	2	25
Barium		N	< 0.005		< 0.05	20	100	300
Cadmium		N	< 0.001		< 0.01	0.04	1	5
Chromium		N	< 0.005		< 0.05	0.5	10	70
Copper		N	0.007		0.07	2	50	100
Mercury		N	< 0.005		< 0.01	0.01	0.2	2
Molybdenum		N	< 0.005		< 0.05	0.5	10	30
Nickel		N	< 0.001		< 0.05	0.4	10	40
Lead		N	< 0.001		< 0.05	0.5	10	50
Antimony		N	< 0.005		< 0.05	0.06	0.7	5
Selenium		N	< 0.005		< 0.05	0.1	0.5	7
Zinc		N	< 0.005		< 0.05	4	50	200
Chloride		N	< 5		< 50	800	15000	25000
Fluoride		N	< 5		< 10	10	150	500
Sulphate		N	3		30.80	1000	20000	50000
Total Dissolved Solids		N	120		1200.00	4000	60000	100000
Phenol Index		N	< 0.01		< 0.10	1	-	-
Dissolved Organic Carbon		N	13.600		136.00	500	800	1000
Leach Test Information								
pH		N	7.9					
Conductivity (uS/cm)		N	107					
Dry mass of test portion (g)			101.000					
Dry Matter (%)			90					
Moisture (%)			11					
Eluent Volume (ml)			958					

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

ELAB
UKAS TESTING
2683

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Results Summary

Report No.: 17-12408

Asbestos Results

Analytical result only applies to the sample as submitted by the client. Any comments, opinions or interpretations (marked #) in this report are outside UKAS accreditation (Accreditation No2683). They are subjective comments only which must be verified by the client.

Elab No	Depth (m)	Clients Reference	Description of Sample Matrix #	Asbestos Identification	Gravimetric Analysis Total (%)	Gravimetric Analysis by ACM Type (%)	Free Fibre Analysis (%)	Total Asbestos (%)
101908	0.10	WS02	Brown soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
101909	0.20	WS03	Brown soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
101910	0.20	WS04	Brown soil, stones	No asbestos detected	n/t	n/t	n/t	n/t
101913	0.20	WS01	Brown soil, stones, roots, chalk	No asbestos detected	n/t	n/t	n/t	n/t

Method Summary

Report No.: 17-12408

Parameter	Codes	Analysis Undertaken On	Date Tested	Method Number	Technique
Soil					
Sulphide	N	As submitted sample	05/06/2017	109	Colorimetry
Hexavalent chromium	N	As submitted sample	05/06/2017	110	Colorimetry
Acid Soluble Sulphate	U	Air dried sample	07/06/2017	115	Ion Chromatography
Aqua regia extractable metals	M	Air dried sample	06/06/2017	118	ICPMS
Phenols in solids	N	As submitted sample	05/06/2017	121	HPLC
Elemental Sulphur	N	Air dried sample	06/06/2017	122	HPLC
PAH (GC-FID)	M	As submitted sample	05/06/2017	133	GC-FID
Water soluble anions	M	Air dried sample	06/06/2017	172	Ion Chromatography
Water soluble boron	N	Air dried sample	06/06/2017	202	Colorimetry
Total cyanide	M	As submitted sample	05/06/2017	204	Colorimetry
Aliphatic hydrocarbons in soil	N	As submitted sample	05/06/2017	214	GC-FID
Aliphatic/Aromatic hydrocarbons in soil	N	As submitted sample	06/06/2017	214	GC-FID
Aromatic hydrocarbons in soil	N	As submitted sample	05/06/2017	214	GC-FID
Low range Aliphatic hydrocarbons soil	N	As submitted sample	06/06/2017	214	GC-MS
Low range Aromatic hydrocarbons soil	N	As submitted sample	06/06/2017	214	GC-MS
Asbestos identification	U	As submitted sample	05/06/2017	PMAN	Microscopy
Leachate					
Arsenic*	N		07/06/2017	101	ICPMS
Cadmium*	N		07/06/2017	101	ICPMS
Chromium*	N		07/06/2017	101	ICPMS
Lead*	N		07/06/2017	101	ICPMS
Nickel*	N		07/06/2017	101	ICPMS
Copper*	N		07/06/2017	101	ICPMS
Zinc*	N		07/06/2017	101	ICPMS
Mercury*	N		07/06/2017	101	ICPMS
Selenium*	N		07/06/2017	101	ICPMS
Antimony	N		07/06/2017	101	ICPMS
Barium*	N		07/06/2017	101	ICPMS
Molybdenum*	N		07/06/2017	101	ICPMS
pH Value*	N		07/06/2017	113	Electrometric
Electrical Conductivity*	N		07/06/2017	136	Probe
Dissolved Organic Carbon	N		07/06/2017	102	TOC analyser
Chloride*	N		07/06/2017	131	Ion Chromatography
Fluoride*	N		07/06/2017	131	Ion Chromatography
Sulphate*	N		07/06/2017	131	Ion Chromatography
Total Dissolved Solids	N		07/06/2017	144	Gravimetric
Phenol index	N		07/06/2017	121	HPLC
WAC Solids analysis	N				
pH Value**	M	Air dried sample	06/06/2017	113	Electrometric
Total Organic Carbon	N	Air dried sample	07/06/2017	210	IR
Loss on Ignition**	M	Air dried sample	07/06/2017	129	Gravimetric
Acid Neutralization Capacity to pH 7	N	Air dried sample	06/06/2017	NEN 737	Electrometric
Total BTEX**	M	As submitted sample	06/06/2017	181	GCMS
Mineral Oil**	U	As submitted sample	05/06/2017	117	GCFID
Total PCBs (7 congeners)	M	Air dried sample	06/06/2017	120	GCMS
Total PAH (17)**	N	As submitted sample	06/06/2017	133	GCFID

Tests marked N are not UKAS accredited

Report Information

Report No.: 17-12408

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
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)
Comments or interpretations are beyond the scope of UKAS accreditation
The results relate only to the items tested
PCB congener results may include any coeluting PCBs
Uncertainty of measurement for the determinands tested are available upon request

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

ARUN DISTRICT COUNCIL LU/7/18/DOC

CLEA Software Version 1.06

Report generated 13-Jun-17

Report title

Created by Geo-Environmental

Environment Agency

RESULTS

ARUN DISTRICT COUNCIL LU/7/18/DOC

Environment Agency

		Assessment Criterion (mg kg^{-1})			Ratio of ADE to HCV			Saturation Limit (mg kg^{-1})	50% rule?	
		oral	inhalation	combined	oral	inhalation	combined		Oral	Inhal
1	Arsenic	6.35E+02	6.95E+02	NR	1.00	0.91	NR	NR	No	No
2	Cadmium	3.99E+02	3.87E+02	2.30E+02	0.41	0.59	1.00	NR	Yes	No
3	Chromium III	3.31E+05	3.34E+04	3.04E+04	0.09	0.91	1.00	NR	No	No
4	Mercury, inorganic	4.41E+03	2.09E+04	3.64E+03	0.83	0.17	1.00	NR	No	No
5	Nickel	2.22E+04	1.79E+03	NR	0.07	1.00	NR	NR	No	No
6	Copper	1.78E+05	9.60E+04	7.17E+04	0.25	0.75	1.00	NR	Yes	No
7	Zinc	6.67E+05	2.09E+08	6.65E+05	1.00	0.00	1.00	NR	Yes	No
8	Selenium	1.30E+04	NR	NR	1.00	NR	NR	NR	No	No
9	Chromium VI	2.01E+03	NR	NR	1.00	NR	NR	NR	No	No
10	Barium	2.21E+04	NR	NR	1.00	NR	NR	NR	Yes	No
11	Beryllium	3.97E+03	4.17E+02	3.78E+02	0.09	0.91	1.00	NR	No	No
12	Vanadium	5.94E+03	6.76E+03	3.16E+03	0.53	0.47	1.00	NR	No	No
13	Phenol	1.54E+06	3.74E+04	3.65E+04	0.02	0.98	1.00	7.43E+04 (vap)	No	No
14	Acenaphthylene	1.10E+05	1.06E+06	9.95E+04	0.91	0.09	1.00	1.68E+02 (sol)	No	No
15	Acenaphthene	1.10E+05	1.14E+06	1.00E+05	0.91	0.09	1.00	1.11E+02 (sol)	No	No
16	Flourene	7.31E+04	1.31E+06	6.93E+04	0.95	0.05	1.00	6.03E+01 (sol)	No	No
17	Phenanthrene	2.28E+04	1.28E+06	2.24E+04	0.98	0.02	1.00	7.04E+01 (sol)	No	No
18	Anthracene	5.49E+05	2.76E+07	5.38E+05	0.98	0.02	1.00	2.29E+00 (vap)	No	No
19	Flouranthene	2.29E+04	2.97E+06	2.27E+04	0.99	0.01	1.00	3.71E+01 (vap)	No	No
20	Pyrene	5.49E+04	7.06E+06	5.44E+04	0.99	0.01	1.00	4.31E+00 (vap)	No	No

Environment Agency

		Assessment Criterion (mg kg^{-1})			Ratio of ADE to HCV			Saturation Limit (mg kg^{-1})	50% rule?	
		oral	inhalation	combined	oral	inhalation	combined		Oral	Inhal
21	Benz(a)anthracene	2.52E+02	1.50E+02	9.42E+01	0.37	0.63	1.00	3.35E+00 (sol)	No	No
22	Chrysene	3.66E+02	2.23E+02	1.39E+02	0.38	0.62	1.00	8.62E-01 (vap)	No	No
23	Benzo(b)flouranthene	2.60E+02	1.64E+02	1.00E+02	0.39	0.61	1.00	2.38E+00 (sol)	No	No
24	Benzo(k)flouranthene	3.66E+02	2.31E+02	1.42E+02	0.39	0.61	1.00	1.35E+00 (sol)	No	No
25	Benzo(a)pyrene	3.66E+01	2.30E+01	1.41E+01	0.39	0.61	1.00	1.78E+00 (vap)	No	No
26	Indeno(123-cd)pyrene	1.57E+02	9.77E+01	6.03E+01	0.38	0.62	1.00	1.20E-01 (vap)	No	No
27	Dibenz(ah)anthracene	3.29E+01	2.09E+01	1.28E+01	0.39	0.61	1.00	7.70E-03 (vap)	No	No
28	Benzo(ghi)perylene	1.66E+03	1.08E+03	6.54E+02	0.39	0.61	1.00	3.02E-02 (vap)	No	No
29										
30										

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Environment Agency

		Soil Distribution				Media Concentrations													
		Sorbed	Dissolved	Vapour	Total	Soil	Soil gas	Indoor Dust	Outdoor dust at 0.8m	Outdoor dust at 1.6m	Indoor Vapour	Outdoor vapour at 0.8m	Outdoor vapour at 1.6m	Green vegetables	Root vegetables	Tuber vegetables	Herbaceous fruit	Shrub fruit	Tree fruit
		%	%	%	%	mg kg^{-1}	mg m^{-3}	mg kg^{-1}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW
1	Arsenic	99.9	0.1	0.0	100.0	6.35E+02	NR	3.18E+02	7.63E-06	4.32E-06	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA
2	Cadmium	99.6	0.4	0.0	100.0	2.30E+02	NR	1.15E+02	2.77E-06	1.57E-06	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA
3	Chromium III	100.0	0.0	0.0	100.0	3.04E+04	NR	1.52E+04	3.65E-04	2.07E-04	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA
4	Mercury, inorganic	99.9	0.1	0.0	100.0	3.64E+03	NR	1.82E+03	4.38E-05	2.48E-05	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA
5	Nickel	99.9	0.1	0.0	100.0	1.79E+03	NR	8.94E+02	2.15E-05	1.22E-05	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA
6	Copper	99.6	0.4	0.0	100.0	7.17E+04	NR	3.59E+04	8.62E-04	4.89E-04	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA
7	Zinc	98.9	1.1	0.0	100.0	6.65E+05	NR	3.33E+05	8.00E-03	4.53E-03	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA
8	Selenium	99.2	0.8	0.0	100.0	1.30E+04	NR	6.51E+03	1.56E-04	8.87E-05	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA
9	Chromium VI	97.8	2.2	0.0	100.0	2.01E+03	NR	1.00E+03	2.41E-05	1.37E-05	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA
10	Barium	#####	#DIV/0!	0.0	#DIV/0!	2.21E+04	NR	1.10E+04	2.65E-04	1.50E-04	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA
11	Beryllium	100.0	0.0	0.0	100.0	3.78E+02	NR	1.89E+02	4.55E-06	2.58E-06	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA
12	Vanadium	96.8	3.2	0.0	100.0	3.16E+03	NR	1.58E+03	3.80E-05	2.15E-05	0.00E+00	0.00E+00	0.00E+00	NA	NA	NA	NA	NA	NA
13	Phenol	70.1	29.9	0.0	100.0	3.65E+04	2.26E+02	1.82E+04	4.38E-04	2.48E-04	1.55E-02	1.54E-01	8.70E-02	NA	NA	NA	NA	NA	NA
14	Acenaphthylene	98.1	1.9	0.0	100.0	9.95E+04	2.68E+03	4.97E+04	1.20E-03	6.77E-04	1.12E-01	9.90E-02	5.61E-02	NA	NA	NA	NA	NA	NA
15	Acenaphthene	98.5	1.5	0.0	100.0	1.00E+05	2.81E+03	5.00E+04	1.20E-03	6.82E-04	1.05E-01	8.88E-02	5.03E-02	NA	NA	NA	NA	NA	NA
16	Flourene	98.8	1.2	0.0	100.0	6.93E+04	8.80E+02	3.46E+04	8.32E-04	4.72E-04	3.98E-02	5.25E-02	2.98E-02	NA	NA	NA	NA	NA	NA
17	Phenanthrene	99.4	0.6	0.0	100.0	2.24E+04	5.10E+01	1.12E+04	2.69E-04	1.53E-04	2.93E-03	1.16E-02	6.58E-03	NA	NA	NA	NA	NA	NA
18	Anthracene	99.4	0.6	0.0	100.0	5.38E+05	1.51E+03	2.69E+05	6.47E-03	3.66E-03	8.36E-02	2.78E-01	1.57E-01	NA	NA	NA	NA	NA	NA
19	Flouranthene	99.8	0.2	0.0	100.0	2.27E+04	6.88E+00	1.13E+04	2.73E-04	1.54E-04	4.34E-04	6.24E-03	3.53E-03	NA	NA	NA	NA	NA	NA
20	Pyrene	99.8	0.2	0.0	100.0	5.44E+04	1.66E+01	2.72E+04	6.54E-04	3.71E-04	1.06E-03	1.59E-02	9.02E-03	NA	NA	NA	NA	NA	NA

		Soil Distribution				Media Concentrations													
		Sorbed	Dissolved	Vapour	Total	Soil	Soil gas	Indoor Dust	Outdoor dust at 0.8m	Outdoor dust at 1.6m	Indoor Vapour	Outdoor vapour at 0.8m	Outdoor vapour at 1.6m	Green vegetables	Root vegetables	Tuber vegetables	Herbaceous fruit	Shrub fruit	Tree fruit
		%	%	%	%	mg kg^{-1}	mg m^{-3}	mg kg^{-1}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg m^{-3}	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW	mg kg^{-1} FW
21	Benz(a)anthracene	100.0	0.0	0.0	100.0	9.42E+01	3.37E-03	4.71E+01	1.13E-06	6.42E-07	2.22E-07	1.20E-05	6.81E-06	NA	NA	NA	NA	NA	NA
22	Chrysene	99.9	0.1	0.0	100.0	1.39E+02	7.05E-04	6.93E+01	1.67E-06	9.44E-07	4.88E-08	2.09E-05	1.18E-05	NA	NA	NA	NA	NA	NA
23	Benzo(b)flouranthene	100.0	0.0	0.0	100.0	1.00E+02	1.73E-04	5.02E+01	1.21E-06	6.83E-07	1.23E-08	1.07E-05	6.08E-06	NA	NA	NA	NA	NA	NA
24	Benzo(k)flouranthene	100.0	0.0	0.0	100.0	1.42E+02	1.47E-04	7.08E+01	1.70E-06	9.65E-07	1.07E-08	1.27E-05	7.22E-06	NA	NA	NA	NA	NA	NA
25	Benzo(a)pyrene	100.0	0.0	0.0	100.0	1.41E+01	1.70E-05	7.07E+00	1.70E-07	9.63E-08	1.24E-09	1.37E-06	7.77E-07	NA	NA	NA	NA	NA	NA
26	Indeno(123-cd)pyrene	100.0	0.0	0.0	100.0	6.03E+01	1.25E-04	3.01E+01	7.24E-07	4.10E-07	8.88E-09	6.95E-06	3.94E-06	NA	NA	NA	NA	NA	NA
27	Dibenz(ah)anthracene	100.0	0.0	0.0	100.0	1.28E+01	3.26E-05	6.40E+00	1.54E-07	8.71E-08	2.23E-09	9.94E-07	5.63E-07	NA	NA	NA	NA	NA	NA
28	Benzo(ghl)perylene	100.0	0.0	0.0	100.0	6.54E+02	3.95E-04	3.27E+02	7.86E-06	4.46E-06	2.74E-08	3.47E-05	1.97E-05	NA	NA	NA	NA	NA	NA
29																			
30																			

ARUN DISTRICT COUNCIL LU/7/18/DOC

Environment Agency

		Average Daily Exposure (mg kg^{-1} bw day^{-1})							Distribution by Pathway (%)							
		Direct soil ingestion	Consumption of homegrown produce and attached soil	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour	Background (oral)	Background (inhalation)	Direct soil ingestion	Consumption of homegrown produce and attached soil	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour (indoor)	Inhalation of vapour (outdoor)	Background (oral)	Background (inhalation)
1	Arsenic	2.86E-04	0.00E+00	1.42E-05	1.83E-06	0.00E+00	0.00E+00	0.00E+00	94.70	0.00	4.69	0.61	0.00	0.00	0.00	0.00
2	Cadmium	1.04E-04	0.00E+00	1.71E-07	6.63E-07	0.00E+00	1.91E-04	2.86E-07	49.69	0.00	0.08	0.32	0.00	0.00	49.77	0.14
3	Chromium III	1.37E-02	0.00E+00	0.00E+00	8.73E-05	0.00E+00	8.60E-04	3.86E-06	93.49	0.00	0.00	0.60	0.00	0.00	5.88	0.03
4	Mercury, inorganic	1.64E-03	0.00E+00	0.00E+00	1.05E-05	0.00E+00	1.43E-05	0.00E+00	98.51	0.00	0.00	0.63	0.00	0.00	0.86	0.00
5	Nickel	8.05E-04	0.00E+00	6.64E-06	5.14E-06	0.00E+00	1.86E-03	8.57E-07	49.10	0.00	0.41	0.31	0.00	0.00	49.82	0.05
6	Copper	3.23E-02	0.00E+00	0.00E+00	2.06E-04	0.00E+00	1.00E-01	9.71E-06	49.83	0.00	0.00	0.32	0.00	0.00	49.83	0.01
7	Zinc	3.00E-01	0.00E+00	0.00E+00	1.91E-03	0.00E+00	3.86E-01	3.43E-05	49.84	0.00	0.00	0.32	0.00	0.00	49.84	0.01
8	Selenium	5.86E-03	0.00E+00	0.00E+00	3.75E-05	0.00E+00	5.00E-04	8.57E-07	91.59	0.00	0.00	0.59	0.00	0.00	7.83	0.00
9	Chromium VI	9.04E-04	0.00E+00	0.00E+00	5.78E-06	0.00E+00	9.57E-05	0.00E+00	90.43	0.00	0.00	0.00	0.00	0.00	9.57	0.00
10	Barium	9.94E-03	0.00E+00	0.00E+00	6.35E-05	0.00E+00	1.21E-02	1.43E-02	49.68	0.00	0.00	0.32	0.00	0.00	50.00	0.00
11	Beryllium	1.70E-04	0.00E+00	0.00E+00	1.09E-06	0.00E+00	2.14E-04	0.00E+00	49.84	0.00	0.00	0.32	0.00	0.00	49.84	0.00
12	Vanadium	1.42E-03	0.00E+00	0.00E+00	9.10E-06	0.00E+00	3.29E-04	9.14E-06	80.42	0.00	0.00	0.51	0.00	0.00	18.55	0.51
13	Phenol	1.64E-02	0.00E+00	8.14E-03	1.05E-04	9.64E-04	5.00E-03	5.71E-04	52.64	0.00	26.08	0.34	2.29	0.80	16.03	1.83
14	Acenaphthylene	4.48E-02	0.00E+00	9.61E-03	2.86E-04	5.34E-03	2.00E-06	1.57E-07	74.61	0.00	16.02	0.48	8.62	0.27	0.00	0.00
15	Acenaphthene	4.50E-02	0.00E+00	9.67E-03	2.88E-04	4.98E-03	1.40E-05	3.57E-07	75.08	0.00	16.12	0.48	8.06	0.24	0.02	0.00
16	Flourene	3.12E-02	0.00E+00	6.69E-03	1.99E-04	1.92E-03	8.43E-06	1.37E-06	77.94	0.00	16.73	0.50	4.59	0.21	0.02	0.00
17	Phenanthrene	1.01E-02	0.00E+00	2.17E-03	6.45E-05	1.54E-04	2.20E-05	7.40E-06	80.69	0.00	17.32	0.52	1.08	0.15	0.18	0.06
18	Anthracene	2.42E-01	0.00E+00	5.20E-02	1.55E-03	4.31E-03	1.14E-06	5.86E-07	80.72	0.00	17.33	0.52	1.28	0.15	0.00	0.00
19	Flouranthene	1.02E-02	0.00E+00	2.19E-03	6.52E-05	3.02E-05	5.00E-06	1.20E-06	81.66	0.00	17.53	0.52	0.16	0.08	0.04	0.01
20	Pyrene	2.45E-02	0.00E+00	5.26E-03	1.57E-04	7.47E-05	5.00E-06	9.29E-07	81.67	0.00	17.54	0.52	0.16	0.09	0.02	0.00

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		Average Daily Exposure (mg kg^{-1} bw day^{-1})							Distribution by Pathway (%)							
		Direct soil ingestion	Consumption of homegrown produce and attached soil	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour	Background (oral)	Background (inhalation)	Direct soil ingestion	Consumption of homegrown produce	Dermal contact with soil and dust	Inhalation of dust	Inhalation of vapour (indoor)	Inhalation of vapour (outdoor)	Background (oral)	Background (inhalation)
21	Benz(a)anthracene	4.24E-05	0.00E+00	9.10E-06	2.71E-07	2.98E-08	8.57E-07	1.57E-07	81.85	0.00	17.57	0.52	0.02	0.04	0.00	0.00
22	Chrysene	6.24E-05	0.00E+00	1.34E-05	3.99E-07	3.62E-08	1.57E-06	2.43E-07	81.86	0.00	17.57	0.52	0.00	0.04	0.00	0.00
23	Benzo(b)flouranthene	4.52E-05	0.00E+00	9.70E-06	2.89E-07	1.80E-08	1.57E-06	1.86E-07	81.87	0.00	17.58	0.52	0.00	0.03	0.00	0.00
24	Benzo(k)flouranthene	6.38E-05	0.00E+00	1.37E-05	4.08E-07	2.12E-08	1.29E-06	1.00E-07	81.87	0.00	17.58	0.52	0.00	0.03	0.00	0.00
25	Benzo(a)pyrene	6.36E-06	0.00E+00	1.37E-06	4.07E-08	2.29E-09	1.57E-06	8.57E-08	81.87	0.00	17.58	0.52	0.00	0.03	0.00	0.00
26	Indeno(123-cd)pyrene	2.71E-05	0.00E+00	5.82E-06	1.73E-07	1.17E-08	1.43E-06	1.29E-07	81.87	0.00	17.58	0.52	0.00	0.03	0.00	0.00
27	Dibenz(ah)anthracene	5.76E-06	0.00E+00	1.24E-06	3.68E-08	1.72E-09	5.71E-07	4.71E-07	81.87	0.00	17.58	0.52	0.00	0.02	0.00	0.00
28	Benzo(ghl)perylene	2.95E-04	0.00E+00	6.32E-05	1.88E-06	5.78E-08	8.57E-07	1.43E-07	81.88	0.00	17.58	0.52	0.00	0.02	0.00	0.00
29																
30																

CLEA Software Version 1.06 Report generated 13-Jun-17

		Oral Health Criteria Value		Inhalation Health Criteria Value		Oral Mean Daily Intake	Inhalation Mean Daily Intake	Air-water partition coefficient	Coefficient of Diffusion in Air	Coefficient of Diffusion in Water			Dermal Absorption Fraction	Soil-to-dust transport factor	Sub-surface soil to indoor air correction factor	Relative bioavailability via soil ingestion	Relative bioavailability via dust inhalation
			(µg kg^{-1} BW day^{-1})		(µg kg^{-1} BW day^{-1})	(µg day^{-1})	(µg day^{-1})	(K_{aw}) (cm^3 cm^{-3})	(m^2 s^{-1})	(m^2 s^{-1})	log K_{oc} (cm^3 g^{-1})	log K_{ow} (dimensionless)	(dimensionless)	(g g^{-1} DW)	correction factor (dimensionless)	(unitless)	(unitless)
1	Arsenic	ID	0.3	ID	0.002	NR	NR	NR	NR	NR	NR	NR	0.03	0.5	1	1	1
2	Cadmium	TDI	0.36	TDI	0.0014	13.4	0.02	NR	NR	NR	NR	NR	0.001	0.5	1	1	1
3	Chromium III	TDI	150	TDI	0.1	60.2	0.27	NR	NR	NR	NR	NR	0	0.5	1	1	1
4	Mercury, inorganic	TDI	2	TDI	0.06	1	0	NR	NR	NR	NR	NR	0	0.5	1	1	1
5	Nickel	TDI	12	TDI	0.006	130	0.06	NR	NR	NR	NR	NR	0.005	0.5	1	1	1
6	Copper	TDI	160	TDI	0.286	7000	0.68	NR	NR	NR	NR	NR	0	0.5	1	1	1
7	Zinc	TDI	600	TDI	600	27000	2.4	NR	NR	NR	NR	NR	0	0.5	1	1	1
8	Selenium	TDI	6.4	NR	0	35	0.06	NR	NR	NR	NR	NR	0	0.5	1	1	1
9	Chromium VI	TDI	1	NR	0	6.7	NR	NR	NR	NR	NR	NR	0	0.5	1	1	1
10	Barium	TDI	20	NR	0	847	1000	NR	NR	NR	NR	NR	0	0.5	1	1	1
11	Beryllium	TDI	2	ID	0.0012	15	NR	NR	NR	NR	NR	NR	0	0.5	1	1	1
12	Vanadium	TDI	3	TDI	0.0286	23	0.64	NR	NR	NR	NR	NR	0	0.5	1	1	1
13	Phenol	TDI	700	TDI	10	350	40	8.35E-06	7.90E-06	6.36E-10	1.92	1.48	0.3	0.5	1	1	1
14	Acenaphthylene	TDI	60	TDI	60	0.14	0.011	5.68E-04	5.97E-06	4.82E-10	3.26	3.91	0.13	0.5	1	1	1
15	Acenaphthene	TDI	60	TDI	60	0.98	0.025	7.59E-04	5.85E-06	4.70E-10	3.37	4.03	0.13	0.5	1	1	1
16	Flourene	TDI	40	TDI	40	0.59	0.096	4.12E-04	5.58E-06	4.47E-10	3.45	4.13	0.13	0.5	1	1	1
17	Phenanthrene	TDI	12.5	TDI	12.5	1.54	0.518	1.43E-04	5.34E-06	4.32E-10	3.74	4.5	0.13	0.5	1	1	1
18	Anthracene	TDI	300	TDI	300	0.08	0.041	1.81E-04	5.36E-06	4.36E-10	3.75	4.5	0.13	0.5	1	1	1
19	Flouranthene	TDI	12.5	TDI	12.5	0.35	0.084	6.29E-05	5.01E-06	4.11E-10	4.26	5.13	0.13	0.5	1	1	1
20	Pyrene	TDI	30	TDI	30	0.35	0.065	5.64E-05	5.01E-06	4.15E-10	4.21	5.08	0.13	0.5	1	1	1

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			Oral Health Criteria Value (µg kg^{-1} BW day^{-1})		Inhalation Health Criteria Value (µg kg^{-1} BW day^{-1})	Oral Mean Daily Intake (µg day^{-1})	Inhalation Mean Daily Intake (µg day^{-1})	Air-water partition coefficient (K_{aw}) (cm^3 cm^{-3})	Coefficient of Diffusion in Air (m^2 s^{-1})	Coefficient of Diffusion in Water (m^2 s^{-1})	log K_{oc} (cm^3 g^{-1})	log K_{ow} (dimensionless)	Dermal Absorption Fraction (dimensionless)	Soil-to-dust transport factor (g g^{-1} DW)	Sub-surface soil to indoor air correction factor (dimensionless)	Relative bioavailability via soil ingestion (unitless)	Relative bioavailability via dust inhalation (unitless)
21	Benz(a)anthracene	ID	0.138	ID	0.00048	0.06	0.011	3.16E-05	4.60E-06	3.80E-10	4.89	5.91	0.13	0.5	1	1	1
22	Chrysene	ID	0.2	ID	0.0007	0.11	0.017	3.18E-06	4.57E-06	3.77E-10	4.74	5.73	0.13	0.5	1	1	1
23	Benzo(b)flouranthene	ID	0.142	ID	0.0005	0.11	0.013	2.05E-06	4.36E-06	3.62E-10	5.02	6.08	0.13	0.5	1	1	1
24	Benzo(k)flouranthene	ID	0.2	ID	0.0007	0.09	0.007	1.74E-06	4.36E-06	3.62E-10	5.17	6.26	0.13	0.5	1	1	1
25	Benzo(a)pyrene	ID	0.02	ID	0.00007	0.11	0.006	1.76E-06	4.38E-06	3.67E-10	5.11	6.18	0.13	0.5	1	1	1
26	Indeno(123-cd)pyrene	ID	0.086	ID	0.0003	0.1	0.009	2.05E-06	4.17E-06	3.51E-10	4.94	5.97	0.13	0.5	1	1	1
27	Dibenz(ah)anthracene	ID	0.018	ID	0.000063	0.04	0.033	5.40E-06	4.08E-06	3.40E-10	5.27	6.38	0.13	0.5	1	1	1
28	Benzo(ghi)perylene	ID	0.909	ID	0.0032	0.06	0.01	2.86E-06	4.22E-06	3.56E-10	5.62	6.81	0.13	0.5	1	1	1
29																	
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		Soil-to-water partition coefficient ($cm^3\ g^{-1}$)	Vapour pressure (Pa)	Water solubility ($mg\ L^{-1}$)	Soil-to-plant concentration factor for green vegetables ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for root vegetables ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for tuber vegetables ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for herbaceous fruit ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for shrub fruit ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)	Soil-to-plant concentration factor for tree fruit ($mg\ g^{-1}$ plant DW or FW basis over $mg\ g^{-1}$ DW soil)
1	Arsenic	5.00E+02	NR	1.25E+06	0.00043 fw	0.0004 fw	0.00023 fw	0.00033 fw	0.0002 fw	0.0011 fw
2	Cadmium	1.00E+02	NR	1.62E+06	0.052 fw	0.029 fw	0.031 fw	0.016 fw	0.0031 fw	0.0014 fw
3	Chromium III	4.80E+03	NR	5.85E+05	0.00003 dw	0.00003 dw	0.00003 dw	0.00003 dw	0.00003 dw	0.00003 dw
4	Mercury, inorganic	5.00E+02	NR	7.40E+04	0.0038 fw	0.0069 fw	0.0043 fw	0.001 fw	0.0011 fw	0.001 fw
5	Nickel	5.00E+02	NR	2.50E+06	0.0038 fw	0.0043 fw	0.0019 fw	0.0025 fw	0.0025 fw	0.0034 fw
6	Copper	1.00E+02	NR	1.38E+06	0.0206 dw	0.0206 dw	0.0206 dw	0.0233 dw	0.0206 dw	0.0206 dw
7	Zinc	3.80E+01	NR	4.32E+06	0.054 dw	0.054 dw	0.054 dw	0.143 dw	0.054 dw	0.054 dw
8	Selenium	5.00E+01	NR	2.17E+06	0.0108 fw	0.00364 fw	0.00083 fw	0.00271 fw	0.003 fw	0.003 fw
9	Chromium VI	1.80E+01	NR	2.30E+06	0.0002 dw	0.0001 dw	0.0001 dw	0.09 dw	0.0003 dw	0.09 dw
10	Barium	0.00E+00	NR	8.00E+05	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
11	Beryllium	1.70E+03	NR	1.66E+06	0.007 dw	0.0012 dw	0.0012 dw	0.0012 dw	0.0012 dw	0.0012 dw
12	Vanadium	1.26E+01	NR	2.11E+05	0.13 dw	0.13 dw	0.013 dw	0.013 dw	0.013 dw	0.013 dw
13	Phenol	9.46E-01	1.15E+01	8.41E+04	model	model	model	0.00E+00	0.00E+00	model
14	Acenaphthylene	2.07E+01	7.08E-02	7.95E+00	model	model	model	model	model	model
15	Acenaphthene	2.66E+01	7.37E-02	4.11E+00	model	model	model	model	model	model
16	Flourene	3.20E+01	1.56E-02	1.86E+00	model	model	model	model	model	model
17	Phenanthrene	6.25E+01	2.82E-03	1.12E+00	model	model	model	model	model	model
18	Anthracene	6.39E+01	8.49E-05	5.60E-02	model	model	model	model	model	model
19	Flouranthene	2.07E+02	1.31E-04	2.30E-01	model	model	model	model	model	model
20	Pyrene	1.84E+02	1.53E-05	1.30E-01	model	model	model	model	model	model

Environment Agency

		Soil-to-water partition coefficient ($cm^3 g^{-1}$)	Vapour pressure (Pa)	Water solubility ($mg L^{-1}$)	Soil-to-plant concentration factor for green vegetables ($mg g^{-1}$ plant DW or FW basis over $mg g^{-1}$ DW soil)	Soil-to-plant concentration factor for root vegetables ($mg g^{-1}$ plant DW or FW basis over $mg g^{-1}$ DW soil)	Soil-to-plant concentration factor for tuber vegetables ($mg g^{-1}$ plant DW or FW basis over $mg g^{-1}$ DW soil)	Soil-to-plant concentration factor for herbaceous fruit ($mg g^{-1}$ plant DW or FW basis over $mg g^{-1}$ DW soil)	Soil-to-plant concentration factor for shrub fruit ($mg g^{-1}$ plant DW or FW basis over $mg g^{-1}$ DW soil)	Soil-to-plant concentration factor for tree fruit ($mg g^{-1}$ plant DW or FW basis over $mg g^{-1}$ DW soil)
21	Benz(a)anthracene	8.82E+02	1.24E-06	3.80E-03	model	model	model	model	0.00E+00	model
22	Chrysene	6.25E+02	4.52E-08	2.00E-03	model	model	model	model	0.00E+00	model
23	Benzo(b)flouranthene	1.19E+03	6.34E-08	2.00E-03	model	model	model	model	0.00E+00	model
24	Benzo(k)flouranthene	1.68E+03	1.64E-08	8.00E-04	model	model	model	model	0.00E+00	model
25	Benzo(a)pyrene	1.46E+03	2.00E-08	3.80E-03	model	model	model	model	0.00E+00	model
26	Indeno(123-cd)pyrene	9.90E+02	2.12E-09	2.00E-04	model	model	model	model	0.00E+00	model
27	Dibenz(ah)anthracene	2.12E+03	1.66E-10	6.00E-04	model	model	model	model	0.00E+00	model
28	Benzo(ghi)perylene	4.74E+03	1.55E-10	2.60E-04	model	model	model	model	model	model
29										
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ARUN DISTRICT COUNCIL LU/7/18/DOC

CLEA Software Version 1.06

Report generated 13-06-17

Report title

Created by Geo-Environmental

Environment Agency

BASIC SETTINGS

Land Use Commercial

Building Office (post 1970)
Receptor Female (com) Start age class 17 End age class 17 Exposure Duration 49 years
Soil Silt loam

Exposure Pathways

Direct soil and dust ingestion	✓	Dermal contact with indoor dust	✓	Inhalation of indoor dust	✓
Consumption of homegrown produce	✖	Dermal contact with soil	✓	Inhalation of soil dust	✓
Soil attached to homegrown produce	✖			Inhalation of indoor vapour	✓
				Inhalation of outdoor vapour	✓

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Land Use Commercial

Age Class	Exposure Frequencies (days yr^{-1})						Occupation Periods (hr day^{-1})		Soil to skin adherence factors (mg cm^2)		Direct soil ingestion rate (g day^{-1})
	Direct soil ingestion	Consumption of homegrown produce	Dermal contact with indoor dust	Dermal contact with soil	Inhalation of dust and vapour, indoor	Inhalation of dust and vapour, outdoor	Indoors	Outdoors	Indoor	Outdoor	
1	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
2	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
3	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
4	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
5	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
6	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
7	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
8	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
9	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
10	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
11	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
12	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
13	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
14	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
15	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
16	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00
17	230	0	230	170	230	170	8.3	0.7	0.14	0.14	0.05
18	0	0	0	0	0	0	0.0	0.0	0.00	0.00	0.00

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Receptor Female (com)

Age Class	Body weight (kg)	Body height (m)	Inhalation rate (m^3 day^{-1})	Max exposed skin factor: Indoor (m^2 m^{-2})	Max exposed skin factor: Outdoor (m^2 m^{-2})	Total skin area (m^2)	Consumption rates (g FW kg^{-1} BW day^{-1}): Green vegetables	Root vegetables	Tuber vegetables	Herbaceous fruit	Shrub fruit	Tree fruit
1	5.60	0.7	8.5	0.00	0.00	3.43E-01	7.12	10.69	16.03	1.83	2.23	3.82
2	9.80	0.8	13.3	0.00	0.00	4.84E-01	6.85	3.30	5.46	3.96	0.54	11.96
3	12.70	0.9	12.7	0.00	0.00	5.82E-01	6.85	3.30	5.46	3.96	0.54	11.96
4	15.10	0.9	12.2	0.00	0.00	6.36E-01	6.85	3.30	5.46	3.96	0.54	11.96
5	16.90	1.0	12.2	0.00	0.00	7.04E-01	3.74	1.77	3.38	1.85	0.16	4.26
6	19.70	1.1	12.2	0.00	0.00	7.94E-01	3.74	1.77	3.38	1.85	0.16	4.26
7	22.10	1.2	12.4	0.00	0.00	8.73E-01	3.74	1.77	3.38	1.85	0.16	4.26
8	25.30	1.2	12.4	0.00	0.00	9.36E-01	3.74	1.77	3.38	1.85	0.16	4.26
9	27.50	1.3	12.4	0.00	0.00	1.01E+00	3.74	1.77	3.38	1.85	0.16	4.26
10	31.40	1.3	12.4	0.00	0.00	1.08E+00	3.74	1.77	3.38	1.85	0.16	4.26
11	35.70	1.4	12.4	0.00	0.00	1.19E+00	3.74	1.77	3.38	1.85	0.16	4.26
12	41.30	1.4	13.4	0.00	0.00	1.29E+00	3.74	1.77	3.38	1.85	0.16	4.26
13	47.20	1.5	13.4	0.00	0.00	1.42E+00	3.74	1.77	3.38	1.85	0.16	4.26
14	51.20	1.6	13.4	0.00	0.00	1.52E+00	3.74	1.77	3.38	1.85	0.16	4.26
15	56.70	1.6	13.4	0.00	0.00	1.60E+00	3.74	1.77	3.38	1.85	0.16	4.26
16	59.00	1.6	13.4	0.00	0.00	1.63E+00	3.74	1.77	3.38	1.85	0.16	4.26
17	70.00	1.6	14.8	0.08	0.08	1.78E+00	2.94	1.40	1.79	1.61	0.22	2.97
18	70.90	1.6	12.0	0.00	0.00	1.80E+00	2.94	1.40	1.79	1.61	0.22	2.97

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Building Office (post 1970)

Soil Silt loam

Building footprint (m^2)	6.10E+02
Living space air exchange rate (hr^{-1})	1.00E+00
Living space height (above ground, m)	1.28E+01
Living space height (below ground, m)	0.00E+00
Pressure difference (soil to enclosed space, Pa)	5.10E+00
Foundation thickness (m)	1.50E-01
Floor crack area (cm^2)	1.98E+03
Dust loading factor (µg m^{-3})	1.00E+02

Porosity, Total (cm^3 cm^{-3})	5.80E-01
Porosity, Air-Filled (cm^3 cm^{-3})	1.40E-01
Porosity, Water-Filled (cm^3 cm^{-3})	4.40E-01
Residual soil water content (cm^3 cm^{-3})	1.80E-01
Saturated hydraulic conductivity (cm s^{-1})	1.58E-03
van Genuchten shape parameter *m* (dimensionless)	3.08E-01
Bulk density (g cm^{-3})	1.09E+00
Threshold value of wind speed at 10m (m s^{-1})	7.20E+00
Empirical function (F_x) for dust model (dimensionless)	1.22E+00
Ambient soil temperature (K)	2.83E+02
Soil pH	7.12E+00
Soil Organic Matter content (%)	1.96E+00
Fraction of organic carbon (g g^{-1})	1.14E-02
Effective total fluid saturation (unitless)	6.50E-01
Intrinsic soil permeability (cm^2)	2.11E-08
Relative soil air permeability (unitless)	4.97E-01
Effective air permeability (cm^2)	1.05E-08

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Soil - Vapour Model

Depth to top of source (no building) (cm)	0
Depth to top of source (beneath building) (cm)	65
Default soil gas ingress rate?	Yes
Soil gas ingress rate ($cm^3\ s^{-1}$)	1.50E+02
Building ventilation rate ($cm^3\ s^{-1}$)	2.17E+06
Averaging time surface emissions (yr)	49
Finite vapour source model?	No
Thickness of contaminated layer (cm)	200

Air Dispersion Model

Mean annual windspeed at 10m ($m\ s^{-1}$)	5.00
Air dispersion factor at height of 0.8m *	68.00
Air dispersion factor at height of 1.6m *	120.00
Fraction of site cover ($m^2\ m^{-2}$)	0.8

* Air dispersion factor in $g\ m^{-2}\ s^{-1}$ per $kg\ m^{-3}$

Soil - Plant Model

	Dry weight conversion factor	Homegrown fraction		Soil loading factor	Preparation correction factor
		Average	High		
	$g\ DW\ g^{-1}\ FW$	dimensionless		$g\ g^{-1}\ DW$	dimensionless
Green vegetables	0.096	0.05	0.33	1.00E-03	2.00E-01
Root vegetables	0.103	0.06	0.40	1.00E-03	1.00E+00
Tuber vegetables	0.210	0.02	0.13	1.00E-03	1.00E+00
Herbaceous fruit	0.058	0.06	0.40	1.00E-03	6.00E-01
Shrub fruit	0.166	0.09	0.60	1.00E-03	6.00E-01
Tree fruit	0.157	0.04	0.27	1.00E-03	6.00E-01

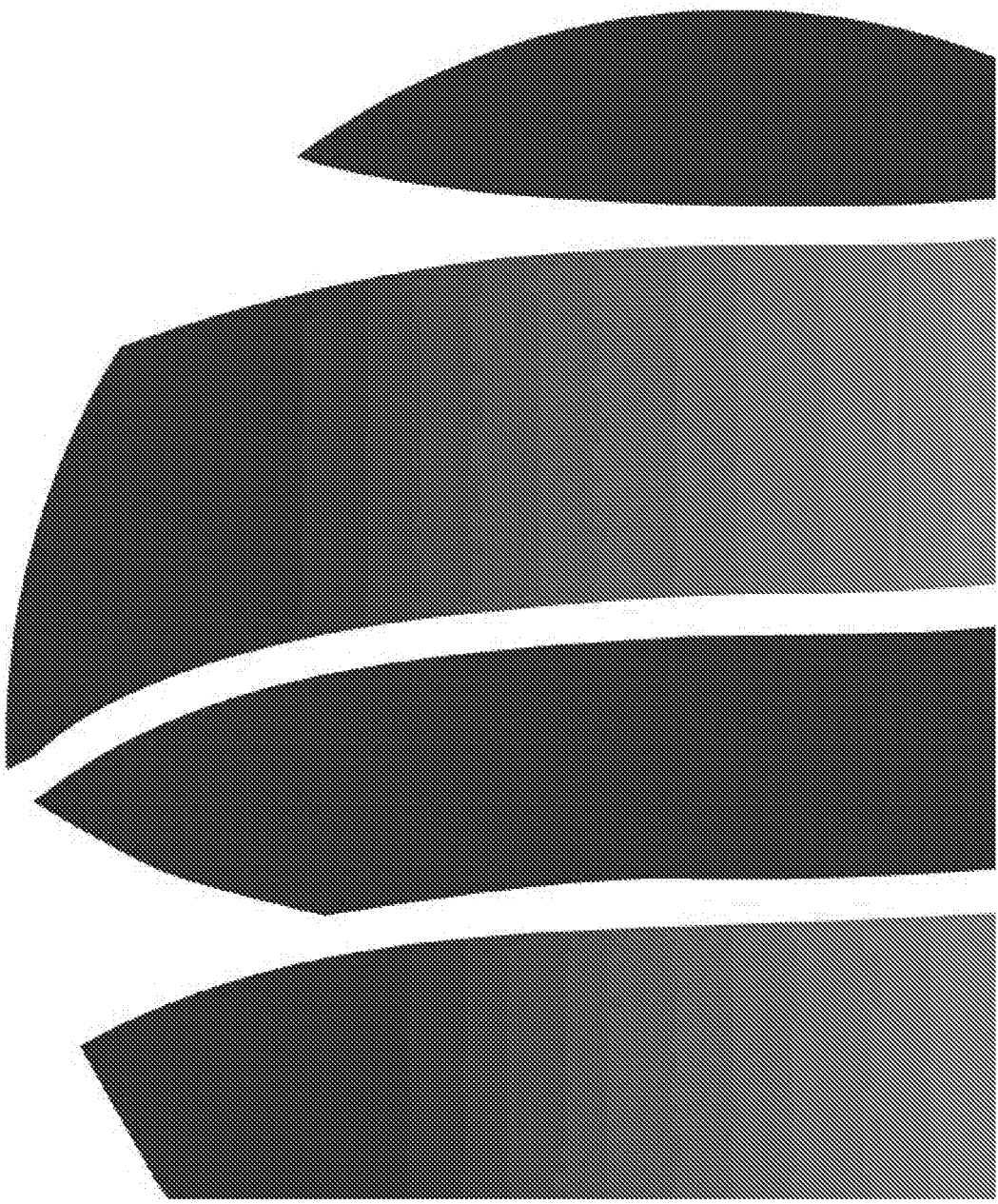
Gardener type None

Brianchard ref:
Project no:
Site ref:
Data description:
Contaminant(s):
Test scenario: Planning
Date: 0 January 1900
User details:

	Arsenic (mg/kg)	Barium (mg/kg)	Beryllium (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Copper (mg/kg)	Lead (mg/kg)	Mercury (mg/kg)	Nickel (mg/kg)	Selenium (mg/kg)	Vanadium (mg/kg)	Zinc (mg/kg)	Water Soluble Boron (mg/kg)	Benzo (a) pyrene (mg/kg)
C4SL (Soil Guideline Value) [1]	640	22076	378	410	30356	71742	2330	3641	1787	13023	3164	665453	190000	76
Result														
No. detected data	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Outlier present?	No	No	Yes	No	No	Yes	No	No	No	No	No	No	No	Yes
Number of outliers temporarily removed	0													
Number censored by other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sample size, n	4	4	4	4	4	4	4	4	4	4	4	4	4	4
Sample mean, x	10.7	63.075	0.625	0.25	29.025	19.9	27.675	0.25	18.975	0.5	36.8	67.325	0.65	0.125
Standard deviation, s	0.82462113	6.00243006	0.25	0	4.73524023	0.81649658	5.54158521	0	3.12769883	0	5.23322718	6.53675506	0.12909944	0.11902381
Number of non-detects	0	0	3	4	0	0	0	4	0	4	0	0	0	2
Estimation method for	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit	Half detection limit
Data normal	Normal	Normal	Non-normal	Single value	Normal	Normal	Normal	Single value	Normal	Single value	Normal	Normal	Normal	Normal
Outlier test applied	Auto: One sample t	Auto: One sample t	Auto: Chebyshev	Auto: Chebyshev	Auto: One sample t	Auto: One sample t	Auto: One sample t	Auto: Chebyshev	Auto: One sample t	Auto: Chebyshev	Auto: One sample t	Auto: One sample t	Auto: One sample t	Auto: One sample t

Test scenario	Planning: is true mean lower than critical concentration (e.g. C4SL)?				Exceedance limit (as a %)		95%	Use Normal distribution to test for outliers						
2 sided: k, or 1 sided: k1	-1526.276888	-7334.671047	-3019	N/A	-12609.05447	-175682.5483	-830.8543176	N/A	-1130.559616	N/A	-1194.368177	-203582.8693	-2943457.273	-1274.955017
Upper confidence limit	11.6703166	70.1379497	1.16986237	0.25	34.5968706	20.8607566	34.395682	0.25	22.655306	0.5	44.9578427	75.0166802	0.80190896	0.26505314
Evidence level	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Exceedance test	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level	evidence level
Result	μ < Cc	μ < Cc	μ < Cc	μ < Cc	μ < Cc	μ < Cc	μ < Cc	μ < Cc	μ < Cc	μ < Cc	μ < Cc	μ < Cc	μ < Cc	μ < Cc

APPENDIX E
Ground Gas Data and Assessment



Project: Coffee Drive-Thru, Littlehampton
Ref: GE16347
Client: Store Property Investments Ltd

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					CH_4		CO_2	
												CH_4	CO_2	Flow	CH_4	CO_2	GSV	Conc.	GSV	Conc.
WS01	07/06/17	10	0.0	2.1	19.0	-0.2	0.1	1011	DRY	0.000	-0.004	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	07/06/17	20	0.0	2.6	18.1	-0.2	0.10	1011	DRY	0.000	-0.005	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	07/06/17	30	0.0	2.7	18.0	-0.2	0.10	1011	DRY	0.000	-0.005	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	07/06/17	60	0.0	2.7	18.0	-0.2	0.10	1011	DRY	0.000	-0.005	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	07/06/17	120	0.0	2.6	18.1	-0.2	0.10	1011	DRY	0.000	-0.005	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	07/06/17	10	0.0	2.3	18.7	0.0	0.2	1011	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	07/06/17	20	0.0	3.1	17.4	0.0	0.20	1011	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	07/06/17	30	0.0	3.2	17.3	0.0	0.20	1011	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	07/06/17	60	0.0	3.3	17.2	0.0	0.20	1011	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	07/06/17	120	0.0	3.3	17.3	0.0	0.20	1011	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	14/06/17	10	0.0	2.0	19.3	0.0	1.7	1014	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	14/06/17	20	0.0	2.6	18.5	0.0	1.70	1014	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	14/06/17	30	0.0	2.6	18.4	0.0	1.70	1014	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	14/06/17	60	0.0	2.7	18.3	0.0	1.70	1014	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	14/06/17	120	0.0	2.6	18.4	0.0	1.70	1014	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	14/06/17	10	0.0	2.6	18.2	0.0	0.1	1014	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	14/06/17	20	0.0	3.5	17.2	0.0	0.10	1014	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	14/06/17	30	0.0	3.5	17.0	0.0	0.10	1014	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	14/06/17	60	0.0	3.6	16.9	0.0	0.10	1014	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	14/06/17	120	0.0	3.7	17.0	0.0	0.10	1014	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	21/06/17	10	0.0	2.0	19.5	0.0	1.3	1012	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	21/06/17	20	0.0	2.5	18.7	0.0	1.30	1012	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	21/06/17	30	0.0	2.6	18.6	0.0	1.30	1012	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	21/06/17	60	0.0	2.7	18.5	0.0	1.30	1012	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	21/06/17	120	0.0	2.6	18.6	0.0	1.30	1012	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	21/06/17	10	0.0	2.7	18.9	0.0	0.3	1012	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	21/06/17	20	0.0	3.5	18.1	0.0	0.30	1012	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	21/06/17	30	0.0	3.6	17.9	0.0	0.30	1012	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	21/06/17	60	0.0	3.7	17.8	0.0	0.30	1012	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	21/06/17	120	0.0	3.7	17.9	0.0	0.30	1012	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	28/06/17	10	0.0	2.5	19.2	0.0	0.1	994	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	28/06/17	20	0.0	3.4	18.4	0.0	0.10	994	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	28/06/17	30	0.0	3.5	18.3	0.0	0.10	994	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	28/06/17	60	0.0	3.5	18.2	0.0	0.10	994	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS04	28/06/17	120	0.0	3.4	18.2	0.0	0.10	994	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	28/06/17	10	0.0	1.8	19.7	0.0	0.6	995	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	28/06/17	20	0.0	2.4	18.9	0.0	0.60	995	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	28/06/17	30	0.0	2.4	18.8	0.0	0.60	995	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	28/06/17	60	0.0	2.5	18.6	0.0	0.60	995	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN
WS01	28/06/17	120	0.0	2.4	18.7	0.0	0.60	995	DRY	0.000	0.000	CS1	CS1	NO	NO	NO	GREEN	GREEN	GREEN	GREEN