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# Phase 1 Desk Study, Site Reconnaissance & Phase II Site Investigation Report

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at Land west of Elm Grove  
Road, Littlehampton, BN17  
6LT

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for BoKlok Housing Ltd

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Report Reference : LP2265

Report Date : 28<sup>th</sup> July 2020

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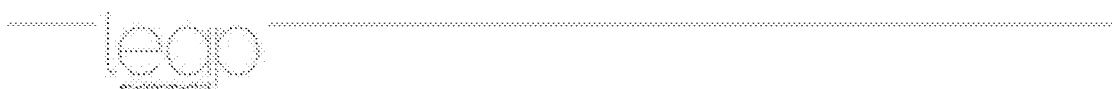
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## EXECUTIVE SUMMARY

The site comprises a rectangular plot of undeveloped land, which extends to about 2.56 hectares in size and is situated to the west of Elm Grove Road, Littlehampton. It is proposed to redevelop the site for a residential end use.

The site has a history of use as a primary and secondary school, which was demolished around 2013. The desk study has identified a number of potential sources of contamination associated with the site's former use, together several large stockpiles of material to the south and west of the site. It is not known if an environmental permit was obtained for the stockpiles. The site is not mapped in an area affected by radon gas.

The site is mapped as being underlain by River Terrace Deposits over Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation and Portsdown Chalk Formation (Undifferentiated). Ground conditions comprise made ground to around 0.5 m over River Terrace Deposits to depths between 2.35 to 4.10 m over Chalk to +6.0 m. Groundwater was encountered within the Chalk in one location (WS3 at 5.0 m below ground level).

The site is mapped by the Environment Agency as a zone 1 flood risk zone.

An allowable bearing capacity of 85 kPa is recommended for shallow foundations on the firm clays below about 1m, increasing to 125 kPa on the underlying sands, subject to confirmatory probing.

Suspended floor slabs are recommended.

Soil sulphates in the River Terrace Deposits fall within BRE design class DSI and the site conditions fall within the ACEC class AC-

The superficial deposits are not generally suitable for conventional soakaway drainage. Higher permeability may be achieved in the chalk, subject to confirmatory probing and testing to ensure that there is no risk of activating solution features.

A preliminary design CBR value of 2% is recommended.

A geo-environmental risk assessment has been carried out. Contamination testing of the soils and groundwater identified benzo(a)pyrene in shallow made ground at concentrations above generic assessment criteria for a residential land use with gardens. In addition, the southern stockpile recorded benzo(a)pyrene above GAC in one location.

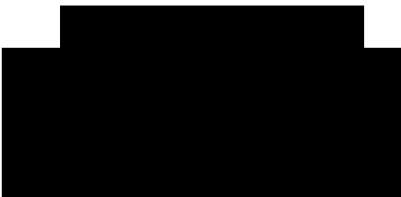
Recommendations are given for the remediation of contamination on the site. As a minimum, an allowance should be made for removal of made ground in garden and soft landscaped areas to 600 mm depth or to natural ground, whichever is shallowest. Allowance should also be

made for further investigations beneath the existing stockpile areas, which have not been able to be accessed.

2 No. land gas monitoring visits have been carried out and slightly elevated carbon dioxide was recorded, but not at concentrations requiring gas protection measures. Further gas monitoring is recommended due to the sensitivity of the proposed land use.

As with any redevelopment site, there is always the risk of hitherto undetected contamination, and further investigations should be carried out prior to redevelopment.

The shallow made ground soils on site will be expected to be classified as hazardous waste due to the high benzo(a)pyrene concentrations recorded. Further investigation, including research into the environmental permitting status and chemical testing of the stockpiles is recommended.

|                        |                                                                                                                                  |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Signed :</b>        | <br><b>Martin Weil BSc MA C.WEM CSci CEnv</b> |
| <b>Countersigned :</b> | <br><b>Richard Brinkworth BEng CEng MICE</b> |
| <b>Date :</b>          | <b>28 July 2020</b>                                                                                                              |
| <b>Revision:</b>       | <b>Issue 1</b>                                                                                                                   |

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## A INTRODUCTION

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### 1 Authority

Leap Environmental Ltd (hereafter referred to as **LEAP**) has been appointed by BoKlok Housing Ltd (the Client) to undertake a Phase I Desk Study, and Phase II intrusive Site Investigation of a site referred to as land west of Elm Grove Road, Littlehampton, BN17 6LT. The instruction was given in the BoKlok Housing Ltd order ref PO-0059/99998/3254 dated 20<sup>th</sup> June 2020.

### 2 Objective

**LEAP** understands that the site is currently owned by West Sussex County Council (WSSCC) and it is proposed to redevelop the site with a number of modular residential dwellings, at time of writing **LEAP** have not been provided with outline development plans for the site.

The proposed development is currently at a pre-purchase phase and has been assessed in accordance with BS EN 1997<sup>1</sup>, as being a Geotechnical Category 2 structure.

The objectives of this report are to:

- Provide information on the geotechnical and environmental quality of the ground present on the site;
- Assess the potential health and other environmental risks posed by the site to the proposed development and to other specifically identified receptors; and
- Assess the potential for offsite contamination to adversely affect the proposed development.

### 3 Previous Studies

We are not aware if the site has been the subject of previous investigations by others. However, following a search of the planning records for West Sussex County Council and Arun District Council two reports are available for the Littlehampton Academy immediately adjacent to the north of the site and one report for an access road immediately west of the site, namely:

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<sup>1</sup> BS EN 1997-1(2004)+A1:2013 Eurocode 7:Geotechnical Design: General Rules

- White Young Green 'Ground Condition Desk Top Assessment Report' Littlehampton Community School ref. A044291-3/AP/DTS/MAR08/VI dated March 2008
- Gifford 'Littlehampton Academy Contaminated Land Site Investigation Interpretative Report' ref. 16417/GE/R10 dated July 2010
- Gifford 'Littlehampton Academy Access Road Contaminated Land Site Investigation Interpretative Report' ref. 16417/GE/R11 dated July 2010

## 4 Scope of Works

This report describes a two stage process whereby the site is investigated and risks are assessed. The terms geotechnical and geoenvironmental are referred to throughout the report.

Geoenvironmental refers principally to the chemical nature of the ground and the degree of soil, water and/or land gas contamination and the impact that contamination may have on current or future development and also on the wider environment.

Geotechnical refers to all other aspects of the ground conditions and the impact they may have on the physical construction of existing or future development, principally foundations, slope stability, drainage, pavement and road design and groundwater control.

The investigation comprises two phases of work.

### 4.1 Phase 1 Scope

The first part of this report presents the results of a desk study and site reconnaissance. It provides a review of previous site investigation and remediation validation reports, where they have been made available by the Client or where LEAP has been able to locate that information from third party sources. The previous reports referred to are detailed above. The following publicly accessible sources of information<sup>2</sup> have also been reviewed:

- British Geological Society (BGS) 1:50,000 Series Geological Map Sheet 317 & 322 'Chichester and Bognor' Solid and Drift ed. dated 1996
- BGS 'Geology of Britain' online viewer accessed on 08/07/20
- BGS Borehole log ref. TQ00SW32 located ~350 m southeast of the site boundary, respectively.

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<sup>2</sup> The report contains British Geological Survey materials ©UKRI 2020 and public sector information licensed under the Open Government Licence v3.0.

- Envirocheck database report (245184381 dated 18<sup>th</sup> June 2020).
- Unexploded WWII aerial delivered bomb (UXB) regional risk maps produced by Zetica.
- Interrogation of Arun District Council planning records for the site (<https://www.arun.gov.uk/planning-building-control-site-searches>).
- Interrogation of West Sussex County Council planning records for the site (<https://www.westsussex.gov.uk/planning/find-a-planning-application/>)

A site reconnaissance was carried out as part of the site investigation works on 22 June 2020.

The desk study and site reconnaissance have been used to develop an initial conceptual site model for the site. The initial site conceptual model is used to identify geotechnical and geoenvironmental hazards and the qualitative degree of risk associated with them. In terms of the geoenvironmental assessment the conceptual site model is used to identify potential sources of contamination, potential receptors and pathways by which the two may be connected. These are known as possible contaminant linkages and it is these contaminant linkages that are key to contaminated land risk assessment.

The Phase I investigation is also referred to as a Preliminary Investigation<sup>3</sup>.

## 4.2 Intrusive Investigation Scope

The Phase II work comprises intrusive investigation, onsite monitoring and laboratory analysis. The results of this are used to validate and/or update the initial site conceptual model. This phase of site investigation comprised the following tasks:

- 5 No. 6m deep windowless boreholes drilled with a tracked rig;
- 12 No. 1-3m deep machine excavated trial pits;
- 1 No. BRE365 soakage test;
- In-situ geotechnical testing including Standard Penetrometer Tests in the boreholes and field vane tests in the trial pits;
- Geotechnical Laboratory Testing including Atterberg Limit Tests, and Sulphate Tests;
- Chemical Laboratory tests including 20 No. LEAP standard soil suite tests; and

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<sup>3</sup> BS 10175:2011+A2:2017 Investigation of Potentially Contaminated Sites – Code of Practice.

- Two soil samples were subject to Waste Acceptance Criteria (WAC) tests.

The intrusive works were completed by contractors who have been scrutinised and are on LEAP's approved contractor list. The windowless sampling and soakage testing were carried out by Oakland Site Investigation Limited. The machine excavated trial pits were carried out by BPH plant hire and supervised by LEAP.

Selected samples of soil were scheduled for laboratory testing for a wide range of potential contaminants including metals, non-metals, polycyclic aromatic hydrocarbons and asbestos screening. The laboratory testing has been carried out by The Environmental Laboratory Ltd at its laboratories in East Sussex.

Selected soil samples have been classified by laboratory analysis for geotechnical design purposes. The laboratory testing has been carried out by Geolabs Ltd at its laboratories in Watford.

The final stage in the geoenvironmental assessment comprises a quantitative risk assessment and revision of the preliminary Conceptual Site Model. Preliminary recommendations for remediation have been provided, based on various development assumptions which are detailed in the following section and in the text of this report. The risk assessment has been carried out in accordance with UK industry standards and in particular in accordance with CLR11<sup>4</sup> and BS10175:2011+A2:2017.

The final stage of the geotechnical assessment is the provision of preliminary soil parameters for use in geotechnical design, and broad recommendations for appropriate foundation options. It is intended that the Geotechnical Information section of this report will fulfil the general requirements of the Ground Investigation Report as set out in Section 6 of Eurocode7<sup>5</sup>.

## 5 Limitations

This report has been prepared by Leap Environmental Ltd on the basis of information received from a variety of sources which Leap Environmental Ltd believes to be accurate. Nevertheless, Leap Environmental Ltd cannot and does not guarantee the authenticity or reliability of the information it has obtained from others.

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<sup>4</sup> Environment Agency, 2004. Model Procedures for the management of land contamination. Contaminated Land Report 11.

<sup>5</sup> BS EN 1997 Eurocode 7- Geotechnical Design- Part 1:General rules (2004) Part 2: Ground Investigation and Testing (2007)

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Leap Environmental Ltd has used all reasonable skill, care and diligence in the design and execution of this report, taking into account the manpower and resources devoted to it in agreement with the Client. Although every reasonable effort has been made to obtain all relevant information, all potential contamination, environmental constraints or liabilities associated with the site may not necessarily have been revealed.

The conclusions reached in this report are necessarily restricted to those which can be determined from the information consulted and may be subject to amendment in the light of additional information becoming available. These conclusions may not be appropriate for alternative schemes.

This report is confidential to the Client, and Leap Environmental Ltd accepts no responsibility whatsoever to third parties to whom this report, or any part thereof, is made known, unless formally agreed by Leap Environmental Ltd beforehand. Any such party relies upon the report at their own risk.

Full details of the limitations are provided in Appendix A.

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## B PHASE I – DESK STUDY

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### 6 Environmental Setting

#### 6.1 Site Location and Description

The site is located to the west of Elm Grove Road, Littlehampton, BN17 6LT as shown in Figure 1. The site is approximately 2.56 hectares (Ha) in area.

The approximate National Grid Reference of the site is TQ033026. The site lies at an estimated elevation of 7.50 m Above Ordnance Datum (m AOD).

##### 6.1.1 General Description and Boundaries

The current site layout is shown in Figure 2, Appendix B. A walkover survey was carried out as part of the site investigation works on 22<sup>nd</sup> June 2020 and photographs are included within Appendix C.

The site comprises an approximately rectangular shaped plot of land located to the west of Elm Grove Road and to the south of the Littlehampton Academy. Site access was obtained via a locked double gate in the southeast corner. The southern and western perimeters are secured by a chain linked fence, The eastern perimeter by a wooden ‘overlap’ panel fence and the northern perimeter by a ~3 m high metal security fence. Two panels were missing from the most southerly section of the eastern perimeter fence.

A concrete surfaced access road is present along the full length of southern boundary. However, scrub vegetation, overhanging trees and brambles obscure parts of the road, notably where the road extends into the western quadrant, which was impassable at the time of the walkover. Immediately to the north of the access road was a line of semi-mature deciduous trees and scrub vegetation along its full length. A large stockpile of unknown material is present north of the road ~100 m long by ~25 m wide and ~2.0 m high. The stockpile is covered by scrub vegetation and high grass. Crushed concrete and brick rubble were visible in parts along the southern face of the stockpile. The western quadrant of the site is predominantly occupied by a large stockpile of unknown material that is also covered by grass and scrub vegetation. The approximate dimensions of the western stockpile are ~83 m long by ~55 m wide and ~3.50 m high in places. There are areas of dense scrub vegetation and semi-mature deciduous trees in land to the north and south of the stockpile.

There is an area of open land ~20 m wide west of the stockpile, which is only accessible by walking over the stockpile. Some fly-tipped waste (old pallets, wooden boards and a roll of wire) was noted close to the boundary fence in the northern part of this area. Along the western fence line there was an area of low lying ground ~350m<sup>2</sup> in area, possibly a former retention pond, but it was dry at the time of the walkover and the base and sides were covered with semi-mature trees, grass and scrub vegetation. The boundaries of the ‘pond’ were

secured by a wooden fence. An asphalt covered track was observed adjacent to the east of the western stockpile, aligned north to south and connects the southern access road to a small area of asphalt covered hardstanding in the northwest. Other areas of hardstanding (mix of asphalt and floor tiles) were visible through scrub vegetation in land adjacent to the east of the western stockpile. The remainder of the site is a largely level scrub covered open field, there is a slight downwards incline from west to east and south to north (excluding the stockpiles). Locally there are smaller mounds of grass covered brick and concrete rubble in the central section of the site, and low level demolition waste (brick, concrete, asphalt gravel) is visible at surface in many areas.

The site is bounded by the Littlehampton Academy to the north, a children's nursery to the east, with terraced residential properties beyond, an area of public open space (Rosemead Park) is located to the south of the site, additional residential properties are located to the southeast of the site. Fitzalan Road bounds the site to the west and beyond which are residential properties.

## 6.2 Geology

The geology of the site has been ascertained by reference to the 1:50,000 British Geological Survey sheet 317 & 322 Chichester and Bognor (1996), solid and drift edition, the BGS website ([www.bgs.ac.uk](http://www.bgs.ac.uk)) and the Envirocheck report. The site is mapped as being underlain by River Terrace Deposits over Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation and Portsdown Chalk Formation (Undifferentiated) (hereafter referred to as Upper Chalk).

### 6.2.1 Drift

These sedimentary deposits are fluvial in origin. They are detrital, ranging from coarse- to fine-grained and form beds and lenses of deposits reflecting the channels, floodplains and levees of a river or estuary (if in a coastal setting)

### Solid

These sedimentary rocks are shallow-marine in origin. They are biogenic and detrital, generally comprising carbonate material (coccoliths), forming distinctive beds of chalk.

### 6.2.2 BGS Boreholes

The online BGS Geoindex (<http://www.bgs.ac.uk/geoindex/>) has been reviewed for detailed local geological and hydrogeological information. 1 No. Boreholes has been identified within 400 m of the site. Borehole ref. TQ00SW32 located 350 m southeast of the site are summarised below:

**Table 1: Historical borehole records**

| Depth From (m)                                                               | Depth To (m) | Soil Type     | Description                                                                                    |
|------------------------------------------------------------------------------|--------------|---------------|------------------------------------------------------------------------------------------------|
| <b>TQ00SW32 ~350 m southeast of the site. Groundwater recorded at 7.50 m</b> |              |               |                                                                                                |
| GL                                                                           | 0.20         | TOPSOIL       | Not described                                                                                  |
| 0.20                                                                         | 7.50         | Not described | Light brown sandy clay with gravel seams                                                       |
| 7.50                                                                         | 9.50         | Not described | Putty chalk and some flints                                                                    |
| 9.50                                                                         | 15.00        | Not described | Soft chalk and flints                                                                          |
| 15.00                                                                        | 23.00        | Not described | Firm chalk flints with soft seams<br>A band of grey marly clay at 22-23                        |
| 23.00                                                                        | 52.00        | Not described | Chalk with soft seams or soft chalk stones and flints                                          |
| 52.00                                                                        | 76.00        | Not described | Chalk and marl with hard seams                                                                 |
| 76.00                                                                        | 180.00       | Not described | Layers of hard chalk and marl seams becoming hard mark with occasional soft seams after ~100 m |

### 6.2.3 Solution Features

The Envirocheck report records a very low potential for ground dissolution stability hazards for the site. However, we note that dissolution features (pipes and cavities) are not uncommon in the Chalk. A possible infilled natural cavity was identified by LEAP in land ~1.35km to the north of the site.

## 6.3 Hydrogeology

**Table 2: Hydrogeology**

|                           |                                                                                       |                     |
|---------------------------|---------------------------------------------------------------------------------------|---------------------|
| Superficial Deposit       | River Terrace Deposits                                                                | Secondary A Aquifer |
| Bedrock                   | Upper Chalk                                                                           | Principal Aquifer   |
| Groundwater vulnerability | Secondary Superficial Aquifer – Medium Vulnerability. Combined Vulnerability – Medium |                     |
| Source Protection Zone    | None recorded within 1000 m of the site                                               |                     |
| Licensed Abstractions     | Four within 1000 m of the site, but no longer active                                  |                     |

The hydrogeology of the site has been ascertained from the Envirocheck data report. The source of the data is reported to be the Environment Agency groundwater vulnerability mapping.

The Envirocheck data report records that the groundwater vulnerability from soluble rock risk is classified as 'significant risk – problems unlikely'.

The Envirocheck report lists four groundwater abstraction licences within 1000 m of the subject site. Four are located 885 m to the north of the site and is licensed for spray irrigation. The operator is listed as Firview Nursery, which is no longer present at the location and has been replaced with residential housing.

From groundwater monitoring on the Littlehampton Academy site to the north, a flow direction in the chalk aquifer has been estimated to be towards the southeast. The English Channel is located ~1.2km south of the site. Groundwater levels are anticipated to be ~5.0 to 6.0 m bgl (based on the levels recorded at the Littlehampton Academy site).

## 6.4 Hydrology

The Envirocheck report lists an un-named surface water feature on site. This is presumed to be the dry pond area noted during the site walkover. The closest OS Water Network Line is mapped approximately 830 m to the northeast of the site, this is possibly associated with the Black Ditch river. The River Arun is located approximately 895 m to the southwest at its closest extent.

The Envirocheck does not record any active discharge consents within 250 m of the site boundaries.

## 6.5 Flooding

The Envirocheck report records that the central northern and northwestern areas of the site are mapped as having a potential for 'groundwater flooding of property situated below ground level' and the remainder of the site recorded as 'limited potential for groundwater flooding to occur'.

According to the Environment Agency, the site is not located within a flood zone. Flood zones 2 and 3, associated with the River Arun, extend to within 195m southwest of the site boundary.

Parts of the site to the northeast, south and northwest are mapped<sup>6</sup> as being at risk of surface water flooding.

A flood risk assessment for the site has been completed by others in 2014<sup>7</sup> and to which reliance on the information has not been obtained. However, we note that the report states that: *'Neither the Environment Agency, Arun District Council, West Sussex County Council nor*

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<sup>6</sup> <https://flood-warning-information.service.gov.uk/long-term-flood-risk/map>

<sup>7</sup> Flood Risk Assessment for a residential development at Land South of the Littlehampton Academy, Littlehampton

*Southern Water, hold any record of the site having flooded. The site is not at risk from flooding from rivers, sea or overland flows. The highest flood risk to the site is from groundwater which historically has never emerged above ground in the vicinity of the site or from a failure of the onsite drainage system.'*

## 6.6 Designated Environmentally Sensitive Sites

A review of designated environmentally sensitive sites presented within the Envirocheck report has been carried out. The dataset makes reference to a number of sensitive sites including the following:

- Sites of Special Scientific Interest (SSSI);
- Records of National Nature Reserves (NNR);
- Areas of Special Conservation (SAC);
- Records of Special Protection Areas (SPA);
- Records of Ramsar Sites;
- Records of Local Nature Reserves;
- Ancient Woodland Records.

None of the above have been recorded within 1000m of the site. The site is not located within a nitrate vulnerable zone.

## 6.7 Ground Workings

A historical brickfield is shown ~ 500m north of the site on mapping dated 1932, by 1977 the brickfield is mapped as a camp site.

## 6.8 Mining, Extraction and Natural Cavities

The Envirocheck report indicates the site is not situated within an area affected by coal mining and no natural cavities are recorded within 1000m of the site boundary. However, as noted above we have identified a possible natural cavity in land ~1.35km to the north as part of works for others.

# 7 Site Usage

## 7.1 Current Land Use

The current site layout is shown in Figure 2, Appendix B.

The site is currently unoccupied scrub open land.

## 7.2 Evidence of Onsite Contamination

A walkover survey was carried out as part of the site investigation works on 22<sup>nd</sup> June 2020.

The following features were identified as possible sources of contamination:

- Two large stockpiles of unknown material, one is located along the southern boundary and the second is located within the western site boundary.
- Smaller mounds of grass covered crushed brick and concrete are noted in the central areas of the site.
- Fly-tipped waste along the southern access road into the site.
- Small areas of waste material (wooden pallets and metal wire) within the western site boundary.
- Evidence of demolition material (brick, concrete and asphalt gravel) at surface throughout.
- Possible remnant foundation structures in the southeast of the site.
- Possible remnant floor slabs in land adjacent to the western stockpile eastern face (where floor tiles were observed).

## 7.3 Neighbouring Land Use

The following features were identified as possible sources of contamination:

- To the west of the site a new north / south aligned link road is under construction. Possible accidental fuel spillages may be a potential off site risk.
- An electrical substation, secured by wooden fencing located ~10 m to the southeast of the site.

The Envirocheck report details one fuel station within 250m of the subject site. It is located approximately 224 m to the southeast of the site. It is unlikely to pose a risk of land or groundwater contamination, as the fuel station is located down hydraulic gradient of the site.

## 7.4 Site History

The contaminative and development history of the site has been ascertained with reference to the Ordnance Survey historical maps and aerial imagery.

In summary, the site comprised undeveloped land from the late 19<sup>th</sup> Century up until the mid-20<sup>th</sup> Century. From 1959 until ~2012 the site was occupied by primary and secondary school education facilities. From 2013 the site has been unoccupied.

### 7.4.1 Historical Map Evidence

The historical Ordnance Survey maps provided spanned the period from 1876 to present day at scales of 1:10,000, 1:2,500 and 1:1,250. The maps are included in full in Appendix D.

**Table 3: Summary of Historical Map Evidence**

| Year                              | On site                                                                                                                                           | Surrounding area                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1876<br>1:2500<br>1879<br>1:10000 | Site boundaries cover three rectangular shaped fields.<br><br>Footpath aligned east to west along southern boundary                               | Open fields immediately adjacent on all boundaries.<br><br>~200 m south and ~180 m east of the site 'East Street' and residential properties are shown<br><br>~250 northeast of the site a nursery is mapped<br><br>~500 m southwest of the site Littlehampton town is mapped                                                                                                                                                                                                                                                                |
| 1898<br>1:2500<br>1899<br>1:10000 | No change                                                                                                                                         | Row of residential properties shown within 60 m to south east.<br><br>Allotment gardens ~ 200 m south<br><br>~520 m northwest of the site a brick works is mapped<br><br>~400 m southeast of the site a water works is mapped                                                                                                                                                                                                                                                                                                                |
| 1912<br>1:2500<br>1913<br>1:10000 | No change                                                                                                                                         | East Street extends to the south and new residential properties are shown along it.<br><br>Brick works extend to within 500 m northwest of the site<br><br>A brick field is mapped ~ 530 m north of the site                                                                                                                                                                                                                                                                                                                                 |
| 1932<br>1:2500<br>1:10000         | No change                                                                                                                                         | Elmgrove Road mapped immediately to the southeast of the site and extends eastwards.<br>Residential properties mapped adjacent to the eastern site boundaries, which extend to the north and east.<br><br>Further residential development ~120 m northeast of the site<br><br>Playing field mapped immediately south of the southeast corner.<br><br>Limited residential development in the allotment gardens ~200 m south<br><br>Northern brickfield extends to within ~500 m of the site.<br><br>Hospital mapped ~500 m south of the site. |
| 1958<br>1:2500                    | No change                                                                                                                                         | Further residential development the former allotment gardens and ~220 m to the southeast.<br><br>Rosemead and Dorset House Schools mapped ~120 m south of the site.                                                                                                                                                                                                                                                                                                                                                                          |
| 1959<br>1:2500                    | Littlehampton County Infants School and Littlehampton County Secondary School mapped across two-thirds of the site. The western third of the site | Playing fields mapped immediately north and south of the site. Structures associated with the school extend beyond the northern boundary.                                                                                                                                                                                                                                                                                                                                                                                                    |

|                                                 |                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                        |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1962<br>1:10000                                 | is unoccupied. A 'health centre' is mapped in the southeast corner.                                                                                                                                                                                                                                                      | Littlehampton County Secondary Boys' School mapped ~180 m north of the site.<br><br>~85 m west of the site further residential development.<br><br>Further significant residential development within 500 m to the northwest and northeast of the site |
| 1966-68<br>1:2500                               | No significant change                                                                                                                                                                                                                                                                                                    | Further residential development to the west and north west of the site.<br><br>Police station, ambulance station and county offices within 120 m southwest of the site.                                                                                |
| 1970<br>1:2500                                  | Elm Grove County Infants School mapped in the northwest of the site                                                                                                                                                                                                                                                      | Electrical substation mapped ~10 m southeast of the site.<br><br>Littlehampton County Secondary Boys' School renamed as The Littlehampton School (comprehensive mixed) and extends to within 100 m of the northeast of the site.                       |
| 1978<br>1:2500                                  | No significant change                                                                                                                                                                                                                                                                                                    | No significant change                                                                                                                                                                                                                                  |
| 1980<br>1:2500                                  | Bund shown in the western portion of the site                                                                                                                                                                                                                                                                            | Tennis courts mapped south of the site.<br><br>New road mapped ~ 200 m to southeast of the site.                                                                                                                                                       |
| 1994<br>1:2500                                  | No significant change                                                                                                                                                                                                                                                                                                    | No significant change                                                                                                                                                                                                                                  |
| 1995<br>1:2500                                  | No significant change                                                                                                                                                                                                                                                                                                    | Further residential development adjacent to the southeast corner of the site.                                                                                                                                                                          |
| 2000<br>1:10000                                 | No significant change                                                                                                                                                                                                                                                                                                    | No significant change                                                                                                                                                                                                                                  |
| September – December 2012<br><br>Aerial Imagery | County infants school no longer shown, assumed demolished. Pond / low-lying area in the west of the site is shown. This was previously an area of hardstanding, possibly in a cutting.<br><br>Eastern area of site demolition possibly underway. Excavators and stockpiles of material present in the north central area | The Littlehampton Academy to the immediate north of the site constructed. Two large sports pitches are shown north of the new academy building.                                                                                                        |
| June 2013<br><br>Aerial Imagery                 | All previous structures demolished, with the exception of a building in the southwest of the site and possible site cabins in the northwest of the site. A large stockpile of material is shown present in the western portion of the site                                                                               | No significant change                                                                                                                                                                                                                                  |

|                                 |                                                                                                                                                                                                                                                                                                                          |                       |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| April 2015<br>Aerial<br>Imagery | Grass covered stockpiles appear present on the southern site boundary. Land north of the stockpiles appear 'tracked' which may be evidence of surface soil removal. The structures in the southwest and northwest are no longer present. Several portacabin-like structures are present in the western half of the site. | No significant change |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|

Online searches<sup>8</sup> record that the 'buildings at Elm Grove were completed 1940 (apparently seeing use as a war hospital) before the local girls school moved in. In 1962 It was renamed Maud Allen Secondary modern. The Hill road buildings were opened on an adjacent site in 1959 and the local boys school moved in, by 1962 it had been renamed Andrew Cairns Secondary School.

Both schools merged to form Littlehampton Comprehensive School in 1972, following the decision in 1965 to abolish the eleven plus and grammar school / secondary modern system in favour of comprehensives.

A series of extensions and revisions to the existing buildings followed; The canteen at Elm Grove was converted into classrooms and workshops and the stage was bricked up. In 1991 a major arson attack resulted in the building of a new science block and a library. A number of prefabs and temporary classrooms were also added to cope with increased student numbers.' It is recorded that the school closed in the summer of 2012, asbestos strip out is inferred to have occurred ~October 2012.

#### 7.4.2 Environment Agency and Arun District Council

Both the Environment Agency and Arun District Council have been contacted with regards to contaminated land uses at the site in particular available information relating to the stockpiles. At time of writing no information from the Environment Agency has been made available to LEAP. Arun District Council report that they hold no information in relation to the stockpiles on site.

### 7.5 Unexploded Ordnance (UXO)

The risks from unexploded ordnance have been assessed in accordance with CIRIA guidance<sup>9</sup>. A non-UXO specialist preliminary screening assessment has been carried out. The risks have been assessed by considering firstly the likelihood of military activities on, or in the vicinity of the site as determined from the desk study and historical review. Secondly the risk of UXO

<sup>8</sup>[https://www.derelictplaces.co.uk/main/misc-sites/24025-littlehampton-comprehensive-school.html#.Xxb\\_ikBFxPY](https://www.derelictplaces.co.uk/main/misc-sites/24025-littlehampton-comprehensive-school.html#.Xxb_ikBFxPY)

<sup>9</sup> CIRIA C681 2009. Unexploded ordnance (UXO) - A guide for the construction industry

has been assessed by reference to the unexploded WWII aerial delivered bomb (UXB) regional risk maps produced by Zetica.

The Zetica risk maps indicate a moderate risk. Information supplied by Zetica reported that several high explosive bombs fell in close proximity to the site and WWII strategic targets were within 5km of the site boundaries. Hence the overall risk of UXO is rated as moderate.

## 7.6 Waste Planning and Landfill Records

### 7.6.1 Recorded Landfill Sites

There is one historical landfill listed within 500m of the subject site. According to the Envirocheck report the Cornfield Close Caravan Site Landfill is located 484 m to the north of site and received inert, commercial and household waste between December 1960 and 1970.

Arun District Council Planning Record includes a site investigation report for the landfill site undertaken by Norwest Holst Soil Engineering Ltd dated 1991.

The investigation comprised 20No. machine excavated trial pits to depths of 1.60 to 2.50 m bgl and the collection of soil samples for laboratory analysis. Shallow gas monitoring wells were installed within 10No. of the trial pit locations. Made ground was identified to depths of 1.60 m to 2.30 m bgl. Groundwater was recorded between 1.80 m to 2.20 m in three locations only. Domestic waste was identified in a number of the trial pit locations. Methane was detected at concentrations between 0.25% and 2.2% and carbon dioxide between 0.5% and 18%. Lead is noted as the predominant contaminant of concern in soil samples tested. Groundwater nor leachate laboratory analysis was undertaken.

### 7.6.2 Waste Transfer or Treatment Sites

There are no reported waste transfer or treatment sites within 250 m of the site.

## 7.7 Other Regulatory Records

The Envirocheck report records one Local Authority Pollution Prevention Control within 250 m of the site boundaries. It relates to a petrol filling station located 224 m to the southeast of the site.

A review of Arun District Council planning records provides information on a planning application (LU/55/15/OUT) for development of land south of the Littlehampton Academy (the Site) for residential development. The application was refused. Within the application are a number of relevant reports providing some detail on the demolition phases and the stockpiled materials, namely:

- A costs report prepared by Currie and Brown dated 26/11/14 for West Sussex County Council.

A summary of costs for the Elm Grove Road site includes asbestos removal and demolition works at a number of buildings, including Elm Grove County infants school, Elm Grove

Littlehampton Community College and a caretaker's house. We also note that the access road construction costs included for Japanese Knotweed Removal.

- A Planning Statement Report prepared by Henry Adams Planning Ltd dated February 2015 paragraph 1.8 states that:

*'Having previously been occupied by the buildings and facilities of Littlehampton Community College it is now bare and vacant following the demolition of all the buildings. There has been some spoil storage on site in association with the neighbouring playing fields.'*

On the basis of the two reports it is not clear as to the source of the stockpiled material on site.

## 7.8 Radon

According to the Envirocheck report database search, the site is not within a radon affected area (less than 1% of homes are above the action level for radon). Therefore, no special protective measures are required in the construction of buildings on this site, in respect of radon gas.

## 8 Previous Investigations

Two reports (undertaken by others) for the Littlehampton Academy immediately north of the site and one report for the access road immediate west of the site are available on the Arun District Council and West Sussex County Council Planning Portals, the findings of which are summarised below.

### 8.1.1 Ground Condition Desk Top Assessment Report by White Young Green Environmental for West Sussex County Council (issued March 2008) Ref: REPORT/A044291-3/AP/DTS/MAR08/V1

The Desk Study report covered the Littlehampton Academy to the north of the site. Pertinent information contained within the document details a heating oil storage tank located approximately 220 m to the north of the Elm Grove Road site. It is noted that the tank was removed in 2003, but pipework and soil beneath the tank were not. Other sources of contamination were listed as made ground containing asbestos, and ground gas. The tank and made ground containing asbestos were assigned a low/moderate risk rating and the ground gas a moderate risk rating.

### 8.1.2 Gifford 'Littlehampton Academy Contaminated Land Site Investigation Interpretative Report' ref. 16417/GE/R10 dated July 2010

The report details the findings of a site investigation to support the development of the Littlehampton Academy site to the immediate north of the Elm Grove Road site. It also

references a ground investigation by White Young Green (WYG) in 2008. The WYG report is not available for review, but is summarised within the main text of the Gifford Report.

Gifford record that the WYG investigation comprised seven cable percussive boreholes, focussing on land to the northwest of the former school site. The investigation proved 'brickearth' thicknesses to 4.0 to 6.0 m bgl comprising silty clay with thin laminations of silty fine sand, over Chalk to the full depth (20 m). One borehole was located in the vicinity of the former tank (BH6) and low concentrations of PAHs were recorded, but not in deeper soils. Petroleum hydrocarbons were not detected. Land gas monitoring was undertaken in two wells, but the results were not detailed by Gifford. It is reported that the overall risk of contamination was considered to be low by WYG.

Gifford designed a supplementary site investigation to confirm contaminated land conditions in the southern part of the site, as well as for geotechnical purposes.

The works comprised four boreholes (BH201 to BH204) to a maximum depth of 20m and four hand dug trial pits (HP201 to 204) to a maximum depth of 1.2m. Gas/groundwater monitoring wells were installed to 7m within the four boreholes. Soil and groundwater samples were taken and analysed for a site of contaminants including metals, PAHs, Petroleum hydrocarbons, and asbestos. In addition, soil gas and vapour monitoring was undertaken, and included measurements of oxygen, methane, carbon dioxide, gas flow, atmospheric pressure and temperature.

Brickearth deposits were recorded to depths between 4.00 m to 6.00 m over Chalk to the full depth (20 m). No visual or olfactory signs of contamination were recorded during the investigation. However, a Japanese knotweed stand (measuring approximately 5 x 5m) was encountered near the proposed access road.

The groundwater table was similar across the site, ranging from 0.67m to 1.99 m AoD. The groundwater flow direction was considered to be towards the south east.

None of the contaminants tested exceeded the GACs adopted by Gifford and asbestos was not detected. A groundwater sample was taken from BH201 and analysed for TPH and PAH and all results were reported below the limit of detection.

Land gas monitoring recorded a maximum concentration of 0.5% methane and 3.9% carbon dioxide with a maximum flow rate of 1.11/hr. An elevated VOC reading of 625 ppm was recorded in BH201 during the last monitoring round. A characteristic situation one (CSI) 'very low risk' was assigned to the site based on bulk gases. However, due to the elevated VOC readings further assessment was recommended to confirm the source. No made ground soils were described on the borehole log for BH201.

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### 8.1.3 Gifford 'Access Road at Littlehampton Academy Contaminated Land Site Investigation Interpretative Report' ref. 16417/GE/R11 dated July 2010

The works comprised four trial pits within the vicinity of the access road (TP201-204). Contaminants of interest included metals, PAHs, petroleum hydrocarbons, and asbestos.

Soil conditions encountered comprised of either made ground (to 0.6m) or topsoil (to 0.3m) over Brickearth Deposits to the full depth of investigation (3m).

Three soil samples in total were taken from the trial pits. None of the contaminants that were tested for exceeded the relevant GACs. Asbestos was not detected.

In conclusion, no significant sources of contamination were revealed within the soil. However, a suspected stand of Japanese knotweed was located in close proximity to the proposed access road. The report recommended that a Japanese knotweed specialist was appointed to assess the risks to the proposed development. General recommendations were also made with regards to testing and verifying imported soils before using them on site, and also reporting any unusual ground conditions encountered during works.

## C PRELIMINARY CONCEPTUAL SITE MODEL

### 9 Environmental Risk Assessment

#### 9.1 Conceptual Site Model (CSM)

A risk based approach is used to assess contaminated or potentially contaminated land within the UK. For a potential risk to exist, there must be a contaminant linkage in place, i.e. there must be a source of contamination, a potential receptor, and a pathway linking the two.

In order to quantify the magnitude of the risk, it is necessary to first calculate the potential exposure of the receptor as a result of all the individual active contaminant linkages affecting that receptor. Secondly it is necessary to ascertain “what is an acceptable exposure level for each of the identified receptors and contaminants?”. Various numerical models are available to aid in the assessment and these are discussed in more detail in section G below.

The purpose of the Conceptual Site Model, in this instance, is to identify all of the potential contaminant linkages by considering, in turn, the potential sources, receptors and pathways.

#### 9.2 Sources

##### 9.2.1 Onsite Sources

Based on a review of the available site information the following contaminants of concern are proposed:

**Table 4: Onsite sources of contamination**

| Source                                                                                                                                                              | Contaminants of Concern                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Stockpiles of unknown material present along the southern and western boundaries. Including smaller mounds of demolition material in the central areas of the site. | Heavy metals, petroleum hydrocarbons, polycyclic aromatic hydrocarbons, asbestos containing material, |
| Possible made ground across the site associated with former land use as primary and secondary schools, various phases of development and post demolition.           | Heavy metals, petroleum hydrocarbons, polycyclic aromatic hydrocarbons, asbestos containing material, |
| Coal tar binder within old 'macadam' surfaced roads/hardstand areas                                                                                                 | Polycyclic aromatic hydrocarbons                                                                      |
| Earth bund shown in the west of the site on historical maps dated 1980. Currently located beneath the Western Stockpile area                                        | Heavy metals, petroleum hydrocarbons, polycyclic aromatic hydrocarbons, asbestos containing material, |

Given the age of the school buildings and records found from internet searches asbestos containing material is likely to be present within existing stockpiles (should they be proven to be from demolition waste, although there is some indication that they relate to off-site playing fields) and made ground present on site.

Land underneath the western stockpile was shown to include an earth bund on historical maps dating from the 1980's. The chemical composition of the bund is unknown and could include construction and demolition waste and possibly asbestos.

### 9.2.2 Offsite Sources

The desk study has highlighted the following potential off site sources of contamination:

**Table 5: Offsite sources of contamination**

| Source                  | Distance from Site (m) | Contaminants of Concern   |
|-------------------------|------------------------|---------------------------|
| Electrical substation   | 10 m south east        | Polychlorinated biphenyls |
| Japanese knotweed stand | ~100 m southwest       |                           |

Although there is a landfill site approximately 484 m to the north of the site, landfill gases / leachate are not considered to pose a significant risk based on the previous investigations for the Littlehampton Academy site that did not record elevated concentrations of land gas or potential contaminants of concern in groundwater samples.

The Gifford report identified a Japanese knotweed stand associated with the access road for the Littlehampton Academy to the west of the site. Although no stands were noted during the site investigation parts of the site and land to the west were not accessible. At this stage it cannot be conclusively stated that the site or adjacent land has been not been impacted by knotweed.

## 9.3 Receptors

Potential receptors are those which may be impacted by any of the contaminants of concern identified above, and include the following:-

- Future residents
- Construction workers
- Groundwater – Secondary A Aquifer
- Material construction of buildings and infrastructure
- Neighbouring properties

Surface water receptors are excluded due to distance from site (+500 m). Ecological receptors are excluded, as the site is recently demolished / brownfield land in a primarily residential setting, as such unlikely to support sensitive ecological receptors.

#### 9.4 Pathways and Potential Contaminant Linkages

The development will include private gardens and public open space. All potential contaminant linkages involving resident humans and soil contaminants will be active i.e. direct ingestion of soil, ingestion of soil attached to plants as well as via plant uptake, inhalation of indoor and outdoor vapour and of dust tracked back into the house and finally ingestion of water carried by plastic water pipes through contaminated ground.

Ground workers are at risk as a result from all of the above, except for those involving edible plants.

The site is underlain by a Secondary A aquifer of medium leaching potential and the combined superficial and bedrock vulnerability is medium. Hence there is a potential pathway for leachate from soil contaminants and for mobile liquid contaminants to enter the groundwater. The water table is anticipated to be 2.0 to 3.0 m bgl.

#### 9.5 Qualitative Risk Assessment of Contaminant Linkages

Risk levels within the preliminary CSM are determined on a qualitative basis following review of the available desk-based information. The significance of particular contaminant linkages is dependant both upon the severity and likelihood of the risk. These two factors are summarised in the following tables.

The potential contaminant linkages are summarised in the table appended in Appendix E and given a qualitative risk classification in accordance with current guidance. The details of the risk assessment methodology are presented in Appendix E.

#### 9.6 Conclusions

No contaminant linkages are rated above moderate risk, as summary of those above low risk are listed below.

**Table 6 Contaminant Linkages QRA Summary**

| Source            | Potential Contaminants of Concern                                                                                                        | Comments                                                                                                                          |
|-------------------|------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
| Made ground soils | Non-volatile potential contaminants of concern i.e. metals, metalloids, TPH compounds with carbon bands >C12, PAHs excluding naphthalene | Moderate risk to construction workers and below ground infrastructure.<br><br>Moderate/low risk future land users and groundwater |

| Source              | Potential Contaminants of Concern                                                                                  | Comments                                                                |
|---------------------|--------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|
|                     | Asbestos containing material, loose fibres                                                                         | Moderate risk to future residential land users and construction workers |
|                     | Land gases                                                                                                         | Moderate/low risk to future land users and buildings                    |
| Stockpiled material | Metals and metalloids e.g arsenic, lead, copper, TPH, PAHs, VOCs, asbestos containing material, putrescible wastes | Moderate/low risk to construction workers                               |

The risk to future land users from potential contaminants of concern is considered to be moderate/low, as based on the historical land use the soil concentrations are not thought to be significant, but may pose a chronic health risk. A higher risk rating is posed to construction workers as they are considered more likely to be exposed to made ground soils during earthworks.

It is considered that post development the stockpiled materials will not remain on site, as such the highest risk is posed to the construction/groundworkers undertaking their removal.

## 10 Geotechnical Risk Assessment

### 10.1 Geotechnical Risk Register

The preliminary geotechnical risk register for the proposed development is summarised in the table in Appendix E. Details of the risk assessment methodology are presented in Appendix E.

### 10.2 Conclusions

The following potential geotechnical hazards have been identified as substantial risks:-

- Potentially contaminated material within the made ground and / or stockpiles associated with the demolition of the previous school.
- The potential for unexploded ordnance within the shallow soils on site.
- High groundwater levels may occur on site, particularly during winter months.

Additionally, the following geotechnical hazards have been classified as significant:

- Potential for the presence of deep made ground across some or all of the site.
- Clay soils may exhibit shrink-swell behaviour particularly in the vicinity of the trees along the site's southern boundary

- Potential solution features within the chalk at depth.
- Possible source of ground gas associated with deep made ground on site.

On the basis of the initial review and preliminary risk assessment, the site is given a Geotechnical Classification of **Geotechnical Category I** in accordance with EN1997-1 §2.1(14)-(21).

## D PHASE II - INTRUSIVE INVESTIGATION

### 11 Investigation Rationale

A total of 17 trial holes were excavated across the site. These included 12 No. machine excavated trial pits to a depth of between 0.70 to 3.0 m bgl and 5.0 No. windowless sampler boreholes to depths of between 0.30 and 6.0 m bgl.

The trial holes locations were specified by the Client to give general coverage. However, a number of positions were moved on the day (in agreement with the Client's representatives on site) due to access restrictions and to increase sampling density within the stockpiles in the south and west of the site for chemical characterisation.

Vehicle access was not available in land to the north, south and west of the western stockpile due to dense vegetation.

The investigation rationale for the trial holes is summarised below:

**Table 7 Rationale for Investigation Locations**

| Trial Hole/Test Location | Rationale                                                  | Proposed Depth (mbgl) | Notes                                                                                                                                                                                              |
|--------------------------|------------------------------------------------------------|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WS1                      | Client positioned WS1 centrally on the western stockpile.  | 6                     | Position relocated to the northeast of western stockpile, as access to the top of the stockpile was not possible for a window sampler rig.<br><br>WS1a-WS1c refused at ~0.30 m on a concrete slab. |
| WS2                      | Client positioned WS2 centrally on the southern stockpile. | 6                     | Position relocated to the north of southern stockpile, in approximate location of TP1/SA1 as access to the top of the stockpile was not possible for a window sampler rig.                         |
| WS3-WS4                  | As per Client's instruction                                | 6                     | WS3 moved slightly to west due to possible below ground services.<br><br>WS4 terminated at 5.0 m due to dense chalk on SPT                                                                         |
| WSS                      | Replacement for TP6                                        | 3                     | WSS was a replacement position for TP6, to allow greater time for JCB-3CX to target additional pits in the stockpile mounds                                                                        |
| TP1/SA1                  | Relocated to west of Client's positions                    | 3                     | Client's position not possible as uneven ground limited safe access for the water bowser.                                                                                                          |

|               |                                         |     |                                                                 |
|---------------|-----------------------------------------|-----|-----------------------------------------------------------------|
| TP2, TP3, TP5 | Approximately as per Client's positions | 3   |                                                                 |
| TP4, TP6-TP10 | Agreed on site with Client              | 2   | Increased number of trial pits to target the southern stockpile |
| TP11-TP12     | Agreed on site with Client              | 2.5 | Increased number of trial pits to target the western stockpile  |

We note that the ground beneath the existing stockpiles in the south of the site and to the west of the site was not investigated due to access limitations and known below ground services in western areas of the site. The geotechnical and chemical composition of soils below the stockpiles are not known at this stage.

## 12 Site Work

### 12.1 Date and Weather Conditions

The intrusive investigations were undertaken in a single phase on 22<sup>nd</sup> June 2020. The investigations were undertaken during a period of dry sunny hot weather. Historical weather records showed that average temperatures were above seasonal averages and rainfall only 40% of historical average for April 2020 and May 2020 showed a similar pattern, with higher than average temperatures and lower rainfall records.

### 12.2 Site Work Methods

#### 12.2.1 Borehole Drilling

Boreholes were drilled using a windowless sampler rig. The boreholes were excavated at 100 mm diameter, reducing to 80 mm with depth.

The Windowless sampling rig consists of a tracked barrow with a sampling unit mounted on the top. When in the required position, the mast was raised to a height allowing a mechanised drop weight to fall repeatedly onto an anvil, and drive attached sample tubes or probe rods into the ground to produce reasonably intact continuous samples which were then extracted using the integrated hydraulic ram.

To reduce any tendency of the tubes to stick in the ground, a succession of smaller diameters may be used to obtain full depth. Excavated soils were placed aside for inspection and sampling.

On completion the trial hole was backfilled with excavated material, placed in reverse order, and the surface reinstated unless where monitoring well installations were required.

### 12.2.2 Trial Pitting

Trial pits were dug by a backhoe excavator. The trial pits had a target depth of 3 m bgl and were typically 0.5 m wide by 2.0 m long. Spoil was placed on plastic sheeting to prevent cross-contamination and was replaced in reverse order. Trial pits were left mounded to allow for future settlement.

### 12.2.3 Soil Logging and Sampling

Soil samples were recovered from the boreholes and trial pits for field screening, logging and sampling.

Boreholes were logged in general accordance with the requirements of BS 5930:<sup>10</sup> and BS EN ISO 14688<sup>11</sup>. Borehole logs are presented in Appendix F.

Visual and olfactory evidence of contamination was noted if encountered. These observations were used to aid scheduling of samples for chemical laboratory analyses, and are included on the borehole logs in Appendix F and summarised in Section 13.1.2.

Samples were collected with a clean sampling trowel or by hand (using dedicated nitrile gloves for each sampling location). Samples were placed into laboratory supplied sampling containers, specific to the type of analyses required.

All sample containers were sealed and labelled with a unique location identity, depth and date of sampling.

### 12.2.4 Monitoring Well Installation

3 No. monitoring wells were installed during this investigation. The monitoring wells were constructed of 50 mm diameter HDPE pipe. The response zone was typically targeted to intercept the groundwater surface and was surrounded by washed filter gravel. The plain zone was surrounded with bentonite to provide a seal. The monitoring wells were finished with bungs with gas taps and raised steel covers. Monitoring well installations are shown on the borehole logs and summarised in the following table.

**Table 8: Borehole installation details**

| Borehole | Type<br>G-gas<br>W-water V-<br>vapour | Plain Well Screen<br>(mbgl) and ID<br>(mm) | Slotted Well<br>Screen (mbgl) | Bentonite Seal<br>(mbgl) | Comments |
|----------|---------------------------------------|--------------------------------------------|-------------------------------|--------------------------|----------|
| WS2      | G & W                                 | GL-1.0                                     | 1.0-3.0                       | GL-1.0                   |          |

<sup>10</sup> BS5930:2015+A1:2020 Code of Practice for Ground Investigation

<sup>11</sup> BS EN ISO 14688 Parts 1-2 (2018) Geotechnical Investigation and Testing. Identification and classification of soil

| Borehole | Type<br>G-gas<br>W-water V-<br>vapour | Plain Well Screen<br>(mbgl) and ID<br>(mm) | Slotted Well<br>Screen (mbgl) | Bentonite Seal<br>(mbgl) | Comments                                                                             |
|----------|---------------------------------------|--------------------------------------------|-------------------------------|--------------------------|--------------------------------------------------------------------------------------|
| WS3      | G & W                                 | GL-1.0                                     | 1.0-6.0                       | GL-1.0                   | Slotted standpipe<br>extended to 6.0 m<br>depth as water<br>strike noted at 5.0<br>m |
| WS4      | G & W                                 | GL-1.0                                     | 1.0-3.0                       | GL-1.0                   |                                                                                      |

## 12.3 Field Tests

### 12.3.1 Standard Penetration Tests

Standard penetration tests were undertaken in the boreholes at 1.0 m centres in granular soils in accordance with BS EN ISO 22476-3;2005. Uncorrected blow counts, 'N values', are recorded on the borehole logs in Appendix F.

### 12.3.2 BRE365 Soakage Tests

1 No. soakage tests have been carried out in trial pits TPI in general accordance with BRE Digest 365<sup>12</sup>. However, given the time restrictions, it was only possible to fill and test the location once.

## 12.4 Ground Gas and Groundwater Monitoring

### 12.4.1 Groundwater level monitoring

2 No. rounds of groundwater level monitoring were undertaken during this investigation. The visits were completed on 30<sup>th</sup> June 2020 and 17<sup>th</sup> July 2020. Groundwater monitoring wells were inspected for the presence of water using an electronic dipmeter. The results of the field monitoring are provided in Appendix G.

### 12.4.2 Land gas monitoring

2 No. rounds of ground gas monitoring were undertaken during this investigation. The visits were completed on 30<sup>th</sup> June 2020 and 8<sup>th</sup> July 2020. The wells were monitored for methane, carbon dioxide, oxygen, hydrogen sulphide and carbon monoxide using a GFM 436 portable gas analyser. The results of the field monitoring are provided in Appendix G.

<sup>12</sup> Building Research Establishment DG365 Digest Soakaway Design (2016)

## 12.5 Laboratory Analysis

### 12.5.1 Chemical Soil Analysis

Selected samples of soil have been subjected to laboratory testing. Sampling techniques and storage have been undertaken as per BS 10175:2011+A2:2017 Code of Practice for Investigation of Potentially Contaminated Sites. The laboratory testing has been carried out by The Environmental Laboratory Ltd at its laboratories in East Sussex. Where available, the tests procedures are UKAS and MCERTS accredited.

The following analyses were completed on selected samples:-

- LEAP standard Soil suite (metals, speciated PAHs, asbestos)
- WAC tests

The full laboratory test results are presented in Appendix H

### 12.5.2 Geotechnical Laboratory Testing

Selected samples of the soils have been classified by laboratory analysis for geotechnical design purposes. The laboratory testing has been carried out by Geolabs Ltd at its laboratories in Watford, in accordance with BS1377<sup>13</sup> and BS EN ISO17892<sup>14</sup>. The sampling technique, type, storage and transport and the number of laboratory tests have been undertaken where possible in accordance with BS EN 1997-2:2007 and BS EN ISO 22475<sup>15</sup>.

The full laboratory test results are presented in Appendix I.

The following laboratory tests have been undertaken:-

**Table 9 Geotechnical Laboratory Testing**

| Test                            | Number of tests               |                               |
|---------------------------------|-------------------------------|-------------------------------|
|                                 | River Terrace Deposits – Clay | River Terrace Deposits – Sand |
| Moisture content                | 7                             |                               |
| Atterberg Limit Test            | 7                             |                               |
| Particle Size Distribution Test |                               | 4                             |
| Sulphate Determination          | 2                             | 1                             |
| pH                              | 2                             | 1                             |

<sup>13</sup> BS1377 Parts 1-9:1990 Methods of test for Soils for Civil Engineering Purposes

<sup>14</sup> BS EN ISO 17892 Parts 1-12 Geotechnical Investigation and Testing. Laboratory testing of soil

<sup>15</sup> BS EN ISO 22475 Parts1-3 Geotechnical Investigation and Testing. Sampling methods and groundwater measurements

## 13 Ground Conditions

The ground conditions are described in detail in the logs attached in Appendix F. In summary the soil conditions were as follows:

**Table 10: Summary of soils encountered**

| Depth From (m) | Depth To (m) | Soil Type                                | Description                                                                                                                                                                                                                                                                                                                                                                   |
|----------------|--------------|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0.0            | 0.30 / 0.40  | <b>TOPSOIL</b>                           | Light brown to light orangish brown locally reworked slightly gravelly silty clayey TOPSOIL Gravel is fine to sized rounded flint and occasional brick, chalk, mortar and concrete.                                                                                                                                                                                           |
| 0.0            | 0.25 / 0.50  | <b>MADE GROUND (non-stockpile areas)</b> | Light brown to orangish brown sandy gravelly clayey MADE GROUND. Gravels of brick, concrete, asphalt, sub angular to sub rounded flint. Wire noted in TP1. Black ashy gravelly fill noted in TP2, possible remnant blacktop surface.<br><b>TP1-TP3, TP5, WS1A-C, WS2-WS5</b>                                                                                                  |
| 0.0            | 0.75->2.0    | <b>MADE GROUND (Stockpile areas)</b>     | Grass over light brown to brown sandy clayey slightly gravelly MADE GROUND. Gravels of rounded to sub rounded, sub angular flint, chalk coarse brick and concrete, occasional whole brick.<br>TP6 refused on a concrete obstruction at 0.70 m. A length of electrical cable in TP8 at 0.50 m. A layer of rotted wood chippings in TP10 at 0.70-0.75 m<br><b>TP4, TP6-TP12</b> |
| 0.75/1.60      | 1.50/2.50    | <b>MADE GROUND (Stockpile areas)</b>     | Soft dark brown greyish to dark grey slightly gravelly clay MADE GROUND. Slight organic odour (peat or burnt organics). Gravels of rounded to sub-rounded flint. Occasional fine to medium brick gravel. Rare woven plastic membrane or plastic netting, plastic tile fragment and rubber seals noted.<br><b>TP10-TP12</b>                                                    |
| 0.25/0.5       | 1.1/3.0      | <b>CLAY</b>                              | Stiff to firm brown becoming orangish brown CLAY and pale brown becoming orange brown gravelly sandy CLAY occasionally mottled orange. Gravel is fine to coarse sub angular to sub rounded flint. Sand is fine to medium grained.                                                                                                                                             |
| 1.1/1.8        | 2.35/4.10    | <b>SAND</b>                              | Medium dense orange brown to orange or yellowish orange slightly clayey gravelly SAND. Sand is fine to coarse grained. Gravel is fine to coarse sub rounded to sub angular flint.                                                                                                                                                                                             |
| 2.4/2.7        | 4.10/>6.0    | <b>CHALK</b>                             | Soft off white mottled pale orange gravelly SILT or silty GRAVEL (structureless CHALK HEAD)<br><b>WS2-WS5</b>                                                                                                                                                                                                                                                                 |

|           |      |              |                                                                                                                                                                          |
|-----------|------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4.10/5.00 | >6.0 | <b>CHALK</b> | Off white low density CHALK recovered as silty chalk gravel. Gravel is fine to coarse low to medium density chalk and occasional coarse flint.<br><br><b>WS3 and WS4</b> |
|-----------|------|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

It is noted that large portions to the west of the site and along the site's southern boundary were inaccessible due to the presence of the stockpiles. Therefore, the ground conditions outlined above correspond to the central, northern, and eastern portions of the site.

### 13.1.1 Groundwater

Groundwater strikes were recorded in the following trial holes:-

**Table 11: Groundwater Strikes**

| Trial Hole | Date of water strike | Depth to Groundwater strike (mbGL) | Comments |
|------------|----------------------|------------------------------------|----------|
| WS3        | 22/06/20             | 5.00                               |          |

Groundwater monitoring results are summarised as follows:-

**Table 12: Groundwater Monitoring Results**

| Monitoring well | Depth to groundwater (mbgl) |             |
|-----------------|-----------------------------|-------------|
|                 | 30/06/20                    | 17/07/20    |
| WS2             | DRY (to 3m)                 | DRY (to 3m) |
| WS3             | 5.26                        | 5.40        |
| WS4             | DRY (to 3m)                 | DRY (to 3m) |

It should be noted that groundwater monitoring was undertaken during a period of prolonged dry weather.

### 13.1.2 Visual and Olfactory Evidence of Contamination

Visual (non-aqueous phase liquids, highly discoloured soils) and olfactory (strong hydrocarbon odours etc) signs of land contamination were not noted. However, in near surface soils asphalt gravels were observed in many of the locations. In TPI1 and TPI2 from 1.20 m and 1.60 m depths respectively a burn organic odour and a slight organic odour were noted respectively.

## E GEOTECHNICAL INFORMATION

### 14 Strata Encountered

#### 14.1 Made Ground

The site is underlain by made ground to ~0.5 m, generally comprising reworked superficial deposits and gravels of brick, concrete and asphalt.

Made ground or fill is by nature highly variable in both composition and bearing capacity, and can be subject to large differential settlements when loaded. It is therefore generally unsuitable for use as a bearing stratum. In addition, made ground may contain contaminated and/or putrescible material. It can therefore be a potential source of contamination and landfill gas.

#### 14.2 Clay

The topsoil made ground was underlain by firm to stiff clays to 1.1 to 3.0 m. The results of the geotechnical laboratory testing are summarised below.

**Table 13: Summary of Geotechnical Test Results for Clay**

| Test                   | Range          |
|------------------------|----------------|
| SPT 'N value'          | 8 - 28         |
| Moisture Content (%)   | 12.7 – 19.8    |
| Liquid Limit (%)       | 24 – 40        |
| Plastic Limit (%)      | 14 - 20        |
| Plasticity Index (%)   | 10 - 21        |
| Sulphate Content (g/l) | <0.010 – 0.024 |
| pH                     | 6.5 – 7.1      |

The clays are classified as low to intermediate plasticity based on the results of Atterberg limit testing. An A-line plot outlining the plasticity testing results is summarised in Figure 4 Appendix B.

#### 14.3 Sands

The clays were underlain by silty sand to 2.35 to 4.10 m. The results of the geotechnical laboratory testing are summarised in Table 14 and Table 15 below.

**Table 14: Summary of Particle Size Distribution tests for Sand/Gravel**

| Excavation | Depth      | Silt & Clay (%) | Sand (%) | Gravel (%) | Cobbles (%) |
|------------|------------|-----------------|----------|------------|-------------|
| TP1        | 1.5        | 22              | 69       | 9          | 0           |
| TP5        | 2.5        | 39              | 57       | 4          | 0           |
| WS4        | 2.0 – 2.60 | 35              | 56       | 9          | 0           |
| WS5        | 1.5        | 13              | 75       | 12         | 0           |

The results of PSD testing undertaken on the sands on site indicate they comprise clayey occasional silty sands with occasional to rare flint gravel.

**Table 15: Summary of Geotechnical Test Results for Sand/Gravel**

| Test                   | Range  |
|------------------------|--------|
| SPT 'N value'          | 6 - 37 |
| Sulphate Content (g/l) | <0.010 |
| pH                     | 7.7    |

The results of Standard Penetration testing indicate that sands range from loose to dense. However, it is noted that loose sands were encountered within WS3 and WS5 only. Furthermore SPT “N” values in both WS3 and WS5 decreased in proximity to chalk rock head. This may be indicative of poorly consolidated soils overlaying or infilling a solution feature.

## 14.4 Chalk

The sands were underlain by chalk to depth.

Classification of the chalk to CIRIA C574<sup>16</sup> was not possible due to the disturbed nature of the samples recovered from the windowless sampler boreholes. However, Standard Penetration Tests undertaken in the chalk returned SPT blow counts ranging from N=11 to N=51, indicating structureless and intact chalk. The chalk recovered was not suitable for saturated moisture content testing however field observation indicated it was low density chalk. SPT blow counts generally increased with depth within the chalk.

<sup>16</sup> CIRIA C574 Engineering in Chalk (2002)

**Table 16: Summary of SPT results within the chalk**

| Test          | Range   |
|---------------|---------|
| SPT 'N value' | 11 - 52 |

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## F GEOTECHNICAL APPRAISAL

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The foregoing geotechnical appraisal does not constitute a Geotechnical Design Report in accordance with BSEN1997. The following recommendations are for preliminary design purposes only.

For the detailed design, the short-term and long-term design situations must be considered. Where relevant, the following limit states should be considered:-

- Loss of equilibrium of the structure or the ground, considered as a rigid body, in which the strengths of structural material and the ground are significant in providing resistance (EQU)
- Internal failure or excessive deformation of the structure or structural elements in which the strength of structural materials is significant in providing resistance (STR)
- Failure or excessive deformation of the ground, in which the strength of soil or rock is significant in providing resistance (GEO)
- Loss of equilibrium of the structure or the ground due to uplift by water pressure or other vertical actions (UPL)
- Hydraulic heave, internal erosion and piping in the ground caused by hydraulic gradients (HYD)

The following factors should also be considered.

- Overall stability and ground movements
- Nature and size of the proposed construction including the design life
- Conditions with regards to the surroundings (e.g. neighbouring structures, traffic, utilities, vegetation, contamination etc.)
- Ground and groundwater conditions
- Influence of the environment.

### 15 Swelling and Shrinkage

Based on the laboratory test results in Section E, an overall classification of NHBC **MEDIUM** Volume Change Potential (VCP) is recommended for the clay soils.

Foundations will therefore require deepening in accordance with NHBC Chapter 4.2 where clay soils are encountered near trees. A minimum foundation depth of 0.9m is required for MEDIUM VCP soils. Actual foundation depths should be calculated based on the mature height of the tree, however, the existing height is relevant for trees which are to be removed. It is noted that trees are only present along the site's southern and eastern boundaries and as such extensive deepening of foundations over the majority of the site is not anticipated. Deepening may be terminated where the sands are encountered at depth.

## 16 Sulphates

Two samples of the clays and one sample of the sands were tested for sulphate content and pH. In accordance with the BRE<sup>17</sup> methodology and the number of samples tested the site has been classified on the highest measured sulphate content.

Based on the results detailed in Section E and the above, both the clays and sands are classified by the BRE as sulphate design class DS-I, and, assuming a mobile groundwater table, the ACEC class is AC-I.

## 17 Groundwater

Groundwater was encountered within only one excavation during the investigation at a depth of 5.0m bgl. However, it is noted that the investigation was undertaken in the summer months during a period of unusually dry weather.

The groundwater monitoring results are given in Section D. On the basis of the monitoring undertaken groundwater at about 5m below ground level should be anticipated. It is again of note that monitoring was undertaken during a particularly dry period. Furthermore, portions of the site are mapped as being at a potential risk of groundwater flooding and as such groundwater level on site may be significantly higher during winter months.

Long term groundwater monitoring was beyond the scope of works and would be expected to be required to confirm the depth of the unsaturated zone if soakaways are to be utilised on site.

## 18 Soakage Potential

### 18.1 Test Results

One soakage tests was undertaken on site in accordance with BRE365<sup>18</sup>. Given the time restrictions, and the low permeability of the soils, it was only possible to fill and test the pit once. The results are attached in Appendix J and are summarised below:

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<sup>17</sup> Building Research Establishment Special Digest I: 2005. Concrete in aggressive ground. Part I: Assessing the aggressive chemical environment.

<sup>18</sup> Building Research Establishment DG365: 2016. Digest Soakaway Design

**Table 17: Summary of soakage tests**

| Test Location | Soakage Rate |                       | Comments                                                                                                                      |
|---------------|--------------|-----------------------|-------------------------------------------------------------------------------------------------------------------------------|
|               | (m/s)        | l/m <sup>2</sup> /min |                                                                                                                               |
| TPI           | 3.88E-06     | 0.233                 | Water level did not fall by the required 75% of maximum water depth and as such the results are not compliant with BRE DG365. |

The soakage testing undertaken on site returned a relatively poor soakage rate of 3.88E-06 m/s (0.233 l/m<sup>2</sup>/min).

## 18.2 Recommendations

Based on the above results, shallow soils on site are not considered suitable for conventional soakaways. Improved soakage rates may be achieved if soakaways were deepened into the underlying chalk, encountered below 2.4m to 4.1m across the site however, further full scale soakage testing would be required to confirm this.

The site is not situated within a groundwater Source Protection Zone however, the site is situated above the chalk principal aquifer. It is therefore recommended that discussion is undertaken with the Environment Agency regarding soakaway discharge into the chalk. Generally, an unsaturated zone is required between the discharge zone and the groundwater. According to the current Environment Agency Positions Statements (GP3<sup>[1]</sup>) it is considered likely that soakaways will not be acceptable where direct discharge to groundwater will occur or where surface water run-off from areas where potentially contaminated run-off may occur (e.g. car parking and access roads). Discharges of surface water to ground may be permitted by the Environment Agency, where an unsaturated zone is present (allowing for seasonal variability) and will need to form part of an appropriately designed drainage scheme in accordance with The SUDS Manual CIRIA C753<sup>19</sup>.

Continued groundwater monitoring over the winter months may be required to ascertain the depth of unsaturated zone during periods where groundwater levels will be highest.

<sup>[1]</sup> Environment Agency, The Environment Agency's Approach to Groundwater Protection (GP3): 2017

<sup>19</sup> CIRIA C753 The SuDS Manual (2015)

Direct discharge of clean, uncontaminated roof water to groundwater may be permitted, provided that the discharge is via separate, sealed downpipes.

Furthermore, CIRIA C574 outlines that where soakaways are to be extended into chalk of a low density or where density is unknown then they must be situated at least 10m from the nearest building foundation. CIRIA also highlights that for sites where solution features are known to be prevalent then soakaways must be situated 20m from any building foundations. As such confirmatory probing and testing at proposed soakaway locations would be advised.

## 19 Bearing Capacity and Foundations

### 19.1 Shallow Foundations

All loads should be transferred beneath any topsoil, made ground, loose, soft, low strength, desiccated or disturbed soils and transferred onto the firm clays at depth. For low rise housing, based on local experience and BS8103<sup>20</sup> Table 8, an allowable bearing capacity of 85kPa is recommended for shallow foundations on the firm clays below about 1m. However, foundations will require deepening in the clay soils near trees to NHBC MEDIUM VCP precautions. A higher allowable bearing capacity of 125kPa can be adopted in the competent underlying sands and gravels, subject to confirmatory probing, see below.

Where foundations are stepped or span different soil types, allowance should be made for nominal reinforcement.

Excavation undertaken on the eastern side of the site encountered loose sands at depth which may be indicative of a solution feature. Additionally, LEAP is aware that potential solution features have been encountered in the vicinity of the site.

Foundation trenches should be inspected to ensure competent soils are encountered at founding level, and probing of the foundations is recommended to locate any soft areas (SPT N value should be >10 blow counts/300mm). Should localised loose soils due to solution features be found to be present, then foundations may be designed to bridge over them in accordance with CIRIA C574.

### 19.2 Floor Slabs

With reference to NHBC Standard 5.2, suspended floor slabs are recommended:-

- Where the depth of fill exceeds 600mm

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BS8103-1:2011 Structural design of low-rise buildings. Code of practice for stability, site investigations, foundations, precast concrete floors and ground floor slabs for housing

- Where foundations are deepened below 1.5m in accordance with NHBC Standards Chapter 4.2
- Where desiccated soils are encountered
- Where vibratory ground improvement techniques have been used
- Where foundations have been piled.

Suspended floor slabs are therefore recommended on site.

The site has been assessed as potentially at risk from land gas. On the basis of the gas monitoring to date, in accordance with BS8485, the site has been characterised as CSI very low risk and no protection measures are required. However, this was based on two monitoring rounds during high atmospheric pressure conditions and not representative of a worst case scenario.

## 20 Roads

CBR testing was beyond the scope of works. However, as a preliminary guide, IAN 73 06<sup>21</sup> and LR1132<sup>22</sup> indicate an estimated CBR value of 3% – 7% for sandy silty clays with a plasticity ranging from 10% – 20%. Road Note 29 indicates that poorly draining cohesive soils can be considered non-frost susceptible when the plasticity index is greater than 20%. Therefore unless frost testing indicates otherwise allowance should also be made for a frost susceptible subgrade.

Laboratory or dynamic probe CBR testing would be required to confirm the CBR of the shallow soils on site, but at this stage a value of 2% is recommended for preliminary design.

## 21 Excavations

Excavations in made ground and loose superficial soils are likely to be unstable and subject to collapse. Close lateral support will be required in all excavations where man entry is required.

Excavations in the sandy clays should be stable in the short term. However, groundwater seepages may occur along the more granular horizons. Excavations will therefore be unstable in the long term and should be backfilled as soon as possible. Given the potential for groundwater flooding on site it would be preferable not to undertake groundworks during

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<sup>21</sup> Interim Advice Note 73/06 Rev I Design guidance for road pavement foundations (Draft HD25) (2009)

<sup>22</sup> TRRL Laboratory Report 1132 The structural design of bituminous roads. Powell, Potter Mayhew and Nunn (1984)

the winter months. If excavations are likely to be excavated or remain open during winter months allowance should be made for light pumping.

Appropriate Health and Safety precautions must be adhered to where man entry into excavations is required. Even stiff clay soils at shallow depth can collapse, particularly following wet weather. Alternative foundation methods may need to be adopted where trench footings cannot be safely or satisfactorily constructed.

## 22 Filling

The preliminary recommendations contained within this report assume that ground levels are to remain at a similar level across the site for the proposed development, and that no significant changes in level are proposed. In the event that ground levels are to be raised, this may induce significant settlement, particularly across the areas of deep made ground or solution features, which could adversely affect foundation design, drainage etc. Where significant changes in ground levels are proposed then further investigation will be required to assess the impact of such earthworks on the above recommendations.

It is noted that the geotechnical quality of the stockpiled soils would be expected to preclude them from re-use on site, at least without significant amelioration and removal of unsuitable materials, and appropriate environmental permitting.

## 23 Settlement

Based on the allowable bearing capacity given in Section 19, settlements should be within typical tolerable limits for the low rise development proposed.

If soft clays are encountered at formation level or below, significant settlement should be anticipated and serviceable limit state analyses will be required.

At this stage it is assumed that ground levels will remain at the current level for the proposed development. If significant level raises are proposed, this may induce significant settlement in the natural soils and detailed settlement analyses will be required.

Where foundations are stepped or span different soil types, differential settlement should be anticipated and allowance should be made for nominal reinforcement.

## 24 Heave and Uplift

In accordance with NHBC Standards Chapter 4.2, precautions against heave should be used where foundations are within the influence of trees and the resulting foundation depth is greater than 1.5m. Compressible material must be provided against the inside faces of all external wall foundations greater than 1.5m in depth. For pier and beam foundations, additional voids are required below ring beams.

Heave may also occur where shrinkable soils are unloaded, in say, below the stockpiles. To avoid uplift pressures, voids or buffer zones should be left beneath floor slabs. As a preliminary guide, allowance should be made for a 300mm void for highly shrinkable clays, reducing for lower plasticity soils. This should be confirmed at the detailed design stage.

## 25 Solution Features

LEAP is aware that a potential solution feature has been identified ~1.3 km north of the site. Furthermore, the sands encountered within WS3 and WS5 recorded reducing N values in proximity to the chalk which may be indicative of poorly consolidated materials overlying or infilling a solution feature. This report provides recommendations for precautions for the design of foundations.

The potential for swallow holes to occur on site cannot be discounted or designed against and the reputational (and possibly financial) impact of any such occurrence should not be underestimated. It is essential that **all efforts to minimise surface water migration into loose soils are adhered to**. In particular, the design of water supply and sewer pipes should take into account the potential for relatively large settlements to occur where ground levels are raised and be designed accordingly. Where possible, ground level raises should be avoided.

## 26 Recommendations for Further Investigation

During the investigation access to the southern and western portions of the site were limited due to the presence of the stockpiles. As such no information regarding the ground conditions or the geotechnical quality of the ground has been obtained for these areas of the site.

The soakage testing undertaken on site recorded poor soakage rates within the superficial sands and clays. Improved soakage rates may be achieved by extending soakaways into the underlying chalk. However, discussions with the environment agency would be required regarding soakaways extending into the chalk principal aquifer and may require a proven unsaturated zone between the soakaway discharge and the groundwater table. CIRIA also outlines that where the density of the chalk on site is unknown soakaways must be situated at least 10m from building foundations so probing and testing at proposed soakaway locations is advised.

WS3 and WS5 situated on the far eastern side of the site recorded SPT “N” values within the sands indicative of loose materials. This may represent poorly consolidated soils overlying or infilling a solution feature. From local experience LEAP is aware that potential solution features have been identified in the local area.

Based on the above information the following additional investigation is recommended:

- Investigation beneath the stockpiles following their removal from site;
- Additional investigation in the eastern portion of the site to assess the extent of the loose sands and the density of the underlying chalk;
- Further soakage testing extended into the chalk at depth;
- Further groundwater level monitoring undertaken during the winter to assess the maximum groundwater level.

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## G GEO-ENVIRONMENTAL APPRAISAL

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### 27 Conceptual Site Model

The preliminary conceptual site model has identified a number of potential contaminant linkages.

On-site sources of contamination likely to impact the site include heavy metal, PAH and asbestos within made ground demolition works and possible historical bund below the western stockpile. The existing stockpiles are not considered to pose a significant risk to future land users, as it is assumed that they will be required to be removed from site during construction works.

These sources are considered to pose a low / moderate to moderate risk to human receptors and a low / moderate risk to controlled waters.

An off-site potential electrical substation has been identified to the southeast of the site, which has the potential to cause contaminant migration onto site. The risk to human receptors from this off site sources is considered to be low.

### 28 Testing Strategy

#### 28.1 Soil Sampling

The ground investigation was part of a pre-purchase due diligence assessment. The trial hole locations were client specified with a strategy to provide a non-targeted sampling strategy to identify ground conditions. The stockpiles were targeted with a slightly higher sampling density, as these were considered to be higher risk with respect to land contamination than elsewhere.

Samples have been tested for the presence of the identified contaminants of concern (heavy metals, PAH compounds and asbestos). No visual or olfactory signs of petroleum hydrocarbon contamination were noted during the intrusive works.

Selected samples have been tested for waste classification purposes.

#### 28.2 Groundwater monitoring

Monitoring wells have been located to allow determination of the groundwater regime beneath the site, including groundwater flow direction and/or groundwater quality.

Groundwater levels have been monitored on 2 No. occasions using a dip meter.

## 28.3 Land gas monitoring

The initial land gas investigation strategy has been designed generally to provide a preliminary evaluation of the land gas risk at the site and only a limited number of monitoring visits were allowed within the scope of investigation.

The placement of gas monitoring wells has been considered to provide a general coverage, based on a preliminary non-targeted investigation of ground gas risks at the site.

At the end of the monitoring period an assessment of the sufficiency of data will be undertaken with reference to Annex F of BS8576:2013. Further monitoring may be required.

## 29 Assessment Criteria

### 29.1 Human Health Assessment Criteria

The generic quantitative risk assessment (GQRA) for human health compares the analytical results from the current investigation to Generic Assessment Criteria (GAC). These were selected using the following rationale and assumptions.

Defra and the EA have published a limited number of Soil Guideline Values (SGVs)<sup>23</sup> that represent minimal chronic risk to human health. CL:AIRE has published a limited number of Category Four Screening Levels (C4SLs)<sup>24</sup> which represent a low but still strongly precautionary level of chronic risk to human health. Both the SGVs and C4SLs have been derived for a Soil Organic Matter (SOM) content of 6%, which is not always representative of the low SOM that are encountered within Made Ground on brownfield sites.

LQM responded to the demand for a more comprehensive set of screening values for a wider range of SOM and produced Suitable for Use Levels (S4ULs)<sup>25</sup> which are a hybrid of SGVs and C4SLs. The S4ULs have been endorsed by the Chartered Institute of Environmental Health (CIEH).

LEAP uses C4SLs where they are available as generic assessment criteria to quantitatively assess the potential chronic risks to human health. Where C4SLs are not available, the S4ULs are used. It is noted that S4ULs are not equivalent to C4SLs in all their exposure assumptions but are generally more conservative in their assumptions. For benzene and benzo(a)pyrene,

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<sup>23</sup> Environment Agency Science Report SC050021 series.

<sup>24</sup> CL:AIRE Final Project Report. SPI010 – Development of Category 4 Screening Levels for assessment of land affected by contamination. CL:AIRE, December 2013

<sup>25</sup> The LQM/CIEH S4ULs for Human Health Risk Assessment, Nathaniel P et al, 2015. Copyright Land Quality Management Ltd, reproduced with permission: Publication Number S4UL3509

LEAP has calculated equivalent C4SLs for 1% and 2.5% SOM. This does not affect the inorganic contaminants.

In accordance with current Public Health England (PHE) guidance<sup>26</sup>, the assessment of PAHs has been carried out using a surrogate marker approach, whereby the assessment of risk from benzo(a)pyrene also captures potential risks from other carcinogenic PAHs that may be present. The alternative S4ULs for PAHs using the Toxic Equivalent Factor (TEF) approach have not been used because this approach is likely to under predict the true carcinogenicity of PAHs and is not advocated by PHE. The threshold PAHs have been assessed similarly, by using naphthalene as a marker compound due to its high volatility relative to other PAHs.

Total chromium has been assessed against the S4UL for trivalent chromium.

Theoretical soil saturations have not been considered in the evaluation of organic compounds and as such, some of the S4ULs for the less sensitive exposure scenarios are lower than their more sensitive equivalents.

Sets of GACs have been generated for SOMs of 1%, 2.5% and 6%. In this case, TOC in the Made Ground samples collected from non-stockpiled areas ranged from 0.28 to 3.8%. Using the conversion of  $SOM = TOC \times 1.72$ , this equates to a SOM range of 1.1 to 6.6%. In stockpiled areas the SOM values ranged from 1.5 to 4.5%. For the initial assessment 1% SOM was considered to be appropriate to maintain conservatism.

For some contaminants of concern, direct contact will be the dominant pathway for exposure. In order to support with development options, human exposure to all unsaturated soils, irrespective of depth, was assumed possible for the purpose of this assessment. This will maximise the information available to the design team on the suitability of all unsaturated material and can support with their materials management options.

Potential risks to human health from soil gases are assessed in Section 32.3.

#### 29.1.1 Statistical Assessment

In assessing soil test results and comparing them to any threshold or screening value, an assessment must first be made as to how accurately the test results reflect the true mean of the contaminant level within the ground. In this assessment for each parameter the test data have been subjected to statistical assessment based on the methodology set out in *CIEH report 2008: Guidance on comparing Soil Contamination Data with a Critical Concentration*. The Upper Confidence Level or U<sub>95</sub> value is thereby calculated as being the level at which we would be 95% confident that the true mean is less than this value. For the purposes of this assessment,

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<sup>26</sup> HPA Contaminated Land Information Sheet. Risk Assessment Approaches for Polycyclic Aromatic Hydrocarbons (PAHs). Public Health England, 2017.

a conservative approach has been adopted in the statistics. All non-detect values have been treated as being equal to half the limit of detection.

It should be noted that for the purposes of these assessments, no statistical outliers have been excluded.

## 29.2 Land Gas Assessment Criteria

An initial assessment has been made using the method outlined in BS8485:2015. Gas concentrations and borehole flow rate are combined to provide Gas Screening Values for both Carbon Dioxide and Methane. In this assessment the highest concentrations have been combined with the highest flow rates to provide a conservative Tier 1 assessment.

A Gas Screening Value is assigned to the site in conjunction with the conceptual site model and typical gassing levels associated with the identified source to characterise the gassing regime. Appropriate design protection measures are recommended in line with BS8485:2015.

## 30 Analytical Test Results – Soils

### 30.1 Metals and Non Metals

The soil samples have been subdivided into two populations representing the stockpiled areas (western and southern stockpiles) and the non-stockpiled areas. Full screening tables are provided in Appendix K.

The test results for each population are summarised below:

**Table 18: Summary of soil contamination test results within Stockpiled Areas**

| Determinant          | Arithmetic Mean (mg/kg) | Max. concentration (mg/kg) | Number of samples | Tier 1 Generic Assessment Criteria Residential with private gardens (mg/kg) | Samples which exceed GAC (including outliers) |
|----------------------|-------------------------|----------------------------|-------------------|-----------------------------------------------------------------------------|-----------------------------------------------|
| Arsenic              | 10.5                    | 12.6                       | 9                 | 37                                                                          | 0                                             |
| Cadmium              | <0.5                    | <0.5                       | 9                 | 22                                                                          | 0                                             |
| Hexavalent Chromium  | <0.8                    | <0.8                       | 9                 | 21                                                                          | 0                                             |
| Copper               | 23                      | 25.7                       | 9                 | 2,400                                                                       | 0                                             |
| Lead                 | 53                      | 79.4                       | 9                 | 200                                                                         | 0                                             |
| Mercury <sup>1</sup> | <0.5                    | <0.5                       | 9                 | 40 <sup>1</sup>                                                             | 0                                             |

|        |      |      |   |       |   |
|--------|------|------|---|-------|---|
| Nickel | 17.4 | 21.3 | 9 | 130   | 0 |
| Zinc   | 81.2 | 119  | 9 | 3,700 | 0 |

Notes to table

1. Assessment criterion based on inorganic mercury

**Table 19: Summary of soil contamination test results within Non-Stockpiled Areas**

| Determinant          | Arithmetic Mean (mg/kg) | Max. concentration (mg/kg) | Number of samples | Tier 1 Generic Assessment Criteria Residential with private gardens (mg/kg) | Samples which exceed GAC (including outliers) |
|----------------------|-------------------------|----------------------------|-------------------|-----------------------------------------------------------------------------|-----------------------------------------------|
| Arsenic              | 11.4                    | 13.3                       | 9                 | 37                                                                          | 0                                             |
| Cadmium              | <0.5                    | 0.6                        | 9                 | 22                                                                          | 0                                             |
| Hexavalent Chromium  | <0.8                    | 0.8                        | 9                 | 21                                                                          | 0                                             |
| Copper               | 22.1                    | 27.6                       | 9                 | 2,400                                                                       | 0                                             |
| Lead                 | 49.9                    | 100                        | 9                 | 200                                                                         | 0                                             |
| Mercury <sup>1</sup> | 0.5                     | 0.5                        | 9                 | 40 <sup>1</sup>                                                             | 0                                             |
| Nickel               | 19.9                    | 23.9                       | 9                 | 130                                                                         | 0                                             |
| Zinc                 | 126.5                   | 287                        | 9                 | 3,700                                                                       | 0                                             |

Notes to table

1. Assessment criterion based on inorganic mercury

No metals or non-metals were detected above soil screening criteria in the soil samples tested.

### 30.2 Polycyclic Aromatic Hydrocarbons (PAHs)

PAHs are widespread within made ground and the urban environment generally. They are one of the most common contaminants in made ground and the one that most commonly drives remediation. Benzo(a)Pyrene is a particular problem, being very commonly found in association with tarmac, clinker and any burnt products and also being highly toxic to human health.

The results are summarised as follows:

**Table 20: Summary of BaP and Naphthalene in Stockpile Samples (assuming a 1% SOM)**

| Determinant                 | Arithmetic Mean (mg/kg) | Max concentration (mg/kg) | Number of samples | UCL U <sub>95</sub> (mg/kg) | Evidence Level (%) | Tier1 Generic Assessment Criteria <sup>1</sup> (mg/kg) Residential with plant uptake 1% SOM | Samples that exceed GAC (including outliers) |
|-----------------------------|-------------------------|---------------------------|-------------------|-----------------------------|--------------------|---------------------------------------------------------------------------------------------|----------------------------------------------|
| Benzo(a)pyrene <sup>1</sup> | 3.3                     | 27.0                      | 9                 | 16.2                        | 25%                | 5.0                                                                                         | TP9 at 1.50 m                                |
| Naphthalene <sup>2</sup>    | 0.1                     | 0.3                       | 9                 | n.c.                        | n.c.               | 2.3                                                                                         | 0                                            |

**Notes to table**

1. As a surrogate marker for genotoxic PAH
2. As a marker compound for threshold PAH
3. n.c.= not calculated

In the stockpile samples tested only one soil sample recorded benzo(a)pyrene at concentrations above the soil screening criteria, namely TP9 at 1.50 m. Clinker was described as present by the laboratory in this soil sample. The upper confidence limit at 16.2 mg/kg is above the screening criteria of 5 mg/kg, although the standard deviation is 8.9 mg/kg. An increased number of soil samples tested will provide a more accurate evaluation of the UCL of the mean.

TP9 was collected from the southern stockpile area. The western stockpile area did not record potential contaminants of concern at concentrations above screening criteria, although only three samples were tested from the western stockpile.

**Table 21: Summary of BaP and Naphthalene in Non-Stockpile Samples (assuming a 1% SOM)**

| Determinant                 | Arithmetic Mean (mg/kg) | Max concentration (mg/kg) | Number of samples | UCL Us (mg/kg) | Evidence Level (%) | Tier1 Generic Assessment Criteria <sup>1</sup> (mg/kg) Residential with plant uptake 1% SOM | Samples that exceed GAC (including outliers)                                                                        |
|-----------------------------|-------------------------|---------------------------|-------------------|----------------|--------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| Benzo(a)pyrene <sup>1</sup> | 22.1                    | 77.8                      | 11                | 59.9           | 0%                 | 5.0                                                                                         | TP1 at 0.20 m<br>TP2 at 0.15 m<br>TP3 at 0.20 m<br>TP5 at 0.30 m<br>WS2 at 0.20 m<br>WS4 at 0.10 m<br>WSS at 0.20 m |
| Naphthalene <sup>2</sup>    | 0.3                     | 1.1                       | 11                | n.c.           | n.c.               | 2.3                                                                                         | 0                                                                                                                   |

Notes to table

1. As a surrogate marker for genotoxic PAH
2. As a marker compound for threshold PAH
3. n.c.= not calculated

In the non-stockpile samples tested seven made ground soil samples recorded benzo(a)pyrene at concentrations above the soil screening criteria. Clinker, tar and asphalt gravels were described on exploratory hole logs and on the laboratory test certificates in these samples. Three samples collected from the River Terrace Deposits did not record elevated concentrations of benzo(a)pyrene.

The upper confidence limit at 59.9 mg/kg is above the screening criteria of 5 mg/kg, although the standard deviation is 28.8 mg/kg. An increased number of soil samples tested will provide a more accurate evaluation of the UCL of the mean.

### 30.3 Asbestos

All of the soil samples tested were screened for the presence of asbestos containing materials and/or loose asbestos fibres. Asbestos was not detected in any of the soil samples.

## 31 Land Gas Monitoring Results

The gas monitoring results are summarised in Table 22 below:

**Table 22: Summary of land gas monitoring results**

| Monitoring<br>Visit Date /<br>BH Ref | Maximum Recorded Concentration* |                        |           |                       |                        |                                 |                                  |
|--------------------------------------|---------------------------------|------------------------|-----------|-----------------------|------------------------|---------------------------------|----------------------------------|
|                                      | CO <sub>2</sub><br>(%)          | CH <sub>4</sub><br>(%) | CO<br>(%) | O <sub>2</sub><br>(%) | Flow<br>rate<br>(l/hr) | Atmospheric<br>Pressure<br>(mB) | Was response<br>zone<br>flooded? |
| Visit 1: 30 <sup>th</sup> June 2020  |                                 |                        |           |                       |                        |                                 |                                  |
| WS2                                  | 3.20                            | 0.10                   | 0.0       | 17.50                 | 0.0                    | 1009                            | No                               |
| WS3                                  | 4.30                            | 0.20                   | 0.0       | 16.40                 | 0.0                    | 1009                            | No                               |
| WS4                                  | 2.20                            | 0.10                   | 0.0       | 19.30                 | 0.0                    | 1009                            | No                               |
| Visit 2: 8 <sup>th</sup> July 2020   |                                 |                        |           |                       |                        |                                 |                                  |
| WS2                                  | 4.20                            | 0.20                   | 0.0       | 16.30                 | 0.0                    | 1016                            | No                               |
| WS3                                  | 4.40                            | 0.20                   | 0.0       | 19.90                 | 0.0                    | 1016                            | No                               |
| WS4                                  | 2.10                            | 0.20                   | 0.0       | 18.80                 | 0.0                    | 1016                            | No                               |

Notes to table

\* With the exception of Oxygen which is recorded as minimum

The two rounds of land gas monitoring recorded slightly elevated concentrations of carbon dioxide in all monitoring wells, but without any corresponding gas flow rates. Methane and carbon monoxide were not at elevated concentrations. A slightly reduced oxygen concentration was recorded in WS2 and WS3 during the first monitoring round and only in WS2 during the second monitoring round.

All monitoring rounds were completed during high or rising atmospheric pressure conditions, as such may not be representative of 'worst' case conditions.

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## 32 Risk Assessment

### 32.1 Human Health

The works carried out to date have indicated that the in the 'non-stockpile' areas made ground soils beneath the site are impacted with the PAH compound benzo(a)pyrene.

Whilst the assessment has not found any other significant contamination, access into some areas, namely beneath the existing stockpiles, has not been possible and there remains the possibility that as yet unidentified contamination may be present.

The benzo(a)pyrene contamination identified poses a risk to human health, where present in critical areas such as gardens or areas of soft landscaping. Contamination may impact human health through the direct ingestion, inhalation, skin contact and/or plant uptake pathways that would be present in a residential setting. The contaminated ground is considered to pose an unacceptable risk if it is to be retained in the near surface of garden/outdoor soft landscaped areas where direct human contact is feasible.

The contamination may pose a risk to incoming water via permeation into supply lines. The use of barrier pipes may be required by the water supplier.

Some remediation to mitigate risk to human health from benzo(a)pyrene impacted made ground soils is likely to be required and it is recommended that a remediation strategy for the site is prepared following further investigations. At this stage allowance for a minimum of 600mm clean cover in proposed gardens or to natural ground (whichever is shallowest) should be made, together with an additional allowance for further excavation of localised areas of deeper contaminated soils.

The stockpiled material recorded one sample with a concentration of benzo(a)pyrene above screening criteria. This suggests that there may be localised contamination within the stockpiles. However, we note that the stockpile investigations were limited as access was restricted across the majority of the southern stockpile and samples were mainly collected from the northern face, and only one exploratory hole was possible from the top of the stockpile. In the western stockpile only two trial pits were excavated into the material. Regardless of the chemical quality, it is anticipated that the geotechnical quality of the stockpiled soils would render them unsuitable for retention on site, at least without significant amelioration and removal of unsuitable soils – see waste section.

### 32.2 Controlled Waters

#### 32.2.1 Groundwater

The site is located above a secondary aquifer (River Terrace Deposits) and the Principal Aquifer, the Chalk. The site is not situated within a potable water supply Source Protection Zone. The nearest source protection zone is located ~2.1 km to the east of the site.

Specific groundwater laboratory testing has not been carried out as part of this investigation.

Concentrations of potential contaminants of concern recorded in on site soils are generally low (with the exception of benzo(a)pyrene) and mean average concentrations in soil samples tested by LEAP are analogous to normal background concentrations in the UK i.e., with the exception of benzo(a)pyrene, are unlikely to pose an additional burden to the aquifers than average UK soils.

**Table 23: Normal background concentrations vs mean average concentrations**

| PCoC           | Normal background concentrations (mg/kg) | Mean average concentration (mg/kg) |                     |
|----------------|------------------------------------------|------------------------------------|---------------------|
|                |                                          | Stockpile areas                    | Non-Stockpile areas |
| Arsenic        | 32                                       | 10.5                               | 11.4                |
| Cadmium        | 1                                        | 0.5                                | 0.5                 |
| Copper         | 62                                       | 23                                 | 21.1                |
| Mercury        | 0.5                                      | 0.5                                | 0.5                 |
| Nickel         | 42                                       | 17.4                               | 19.9                |
| Lead           | 180                                      | 53.0                               | 46.9                |
| Benzo(a)pyrene | 0.5                                      | 3.3                                | 22.1                |

Benzo(a)pyrene is not anticipated to pose a significant issue to the underlying aquifer post development on the basis that made ground soils (containing benzo(a)pyrene) are not suitable in soft landscaped and private garden areas and will require removal; the near surface River Terrace Deposits contain a high clay content with only a moderate conductivity rate, as such will retard contaminant migration to the underlying Chalk Aquifer; and permeable areas will be reduced following construction of new roads and buildings.

### 32.3 Land Gases

Adopting the methods described in sections 28.3 and 29.2, and assuming a gas flow rate of say 0.1l/hr, then Gas Screening Values would be calculated for both methane and carbon dioxide for the site as follows:

**Table 24: Calculated Gas Screening Values**

|                     | Carbon Dioxide | Methane |
|---------------------|----------------|---------|
|                     | l/hr           | l/hr    |
| Gas Screening Value | 0.0044         | 0.0002  |

In calculating these gas screening values a maximum flow rate of 0.11/hr has been assumed (the detection limit of the equipment used by LEAP).

Adopting the modified Card and Wilson classification system as set out in BS8485:2015 then the gas regime would be classified as CSI very low risk.

Although no putrescible or landfill material have been identified in site soils outside of the stockpiled areas only to ground gas monitoring rounds were undertaken during high atmospheric pressure conditions.

Further land gas monitoring is recommended given the sensitivity of the land use and the slightly raised concentrations of carbon dioxide in WS2 and WS3.

### 33 Waste Disposal

Testing of the stockpiles located along the southern and western sides of the site has been carried out by LEAP. However, on the basis that no permit information has been supplied to date for the import of the material, all stockpiles are classified as waste. The waste should be disposed of at a licensed facility or recovered under an appropriate environmental permit. If the waste is left on site the site owner may be liable to being taxed at the higher rate of landfill tax and fined to the same amount. LEAP has contacted Arun District Council and they hold no records for the stockpiles. The Environment Agency has not responded to our request for information at time of writing.

At this stage, and based on a limited amount of soil testing a non-hazardous classification can be assumed for the stockpiled waste, with the exception of soil around TP9, where the benzo(a)pyrene concentration may be indicative of coal tar, which is a hazardous waste. Preliminary hazardous waste classification results are provided in Appendix L.

Two soil samples collected from the stockpiles were tested for waste assessment classification (WAC) purposes, namely TP11 at 0.5 m and TP11 at 2.5 m. These samples were preliminary classified as non-hazardous, based on the total soil tests, and meet the threshold criteria for inert waste.

WAC testing was not undertaken on sample TP9 at 1.5 m, but the total PAH concentration exceeds the threshold criteria for inert waste. As a minimum, the soils around TP9 would be classified as non-hazardous and possibly hazardous subject to further testing to determine whether coal tar is present.

With respect to the shallow made ground soils in non-stockpile areas, which in places recorded benzo(a)pyrene above 50 mg/kg, these soils are assumed to be above the threshold for coal tar (0.1%) and would be classified as hazardous waste if disposed of offsite. Soils with benzo(a)pyrene concentrations within the >25 to 50 mg/kg range could be

hazardous and further classification testing may be required. A WAC test is required for hazardous wastes.

Where soils are to be disposed off-site, it is the duty of the waste producer to ensure that all waste is disposed of appropriately and that any that is sent to landfill is sent to an appropriately licensed one. All waste sent to landfill must be classified and must be pre-treated. There are various forms of pre-treatment that are acceptable. In this case it could include “reduction in volume”, which could be achieved by segregating the Made Ground and re-using part of it on site.

Where made ground soil is to be re-used on site then it is recommended that this is carried out under the CL:AIRE Definition of Waste Industry Code of Practice (DoWCoP) for re-use of soils<sup>27</sup>. The made ground soils containing high concentrations of benzo(a)pyrene are not suitable for use in garden or soft landscaped areas.

Further testing and inspection of soils will be required to confirm waste classification of material leaving the site.

It is strongly advised that detailed discussions be held with remediation/groundworks contractors and that receiving landfill sites are identified in advance of commencing any waste removal.

## 34 Recommendations for Remediation

Based on the findings of the site investigation the shallow made ground soils are not suitable for the proposed land use as residential with private gardens. At this stage allowance for a minimum of 600mm clean cover in proposed gardens or to natural ground (whichever is shallowest) should be made, together with an additional allowance for further excavation of localised areas of deeper contaminated soils.

Access into some areas of the site was restricted due to dense vegetation and the stockpiles of waste material. It is recommended that once the stockpiles are removed further intrusive investigation is undertaken beneath their footprints.

Based on the results of the gas risk assessment, the gas regime has been classified as CSI or very low risk in accordance with BS8485, but this is based on a limited number of land gas visits. Further monitoring is recommended to confirm this characteristic situation.

Further investigation of the stockpiles is recommended, not only to confirm the chemical characteristics of the material, but to ascertain whether an environmental permit exists for their storage on site.

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<sup>27</sup> The Definition of Waste: Development Industry Code of Practice. Version 2 2011. CL:AIRE

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**Following the additional investigation a remediation strategy to mitigate risks to the proposed development from identified contamination should be prepared.**

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## APPENDIX A – Limitations

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|                    |
|--------------------|
| <b>Limitations</b> |
|--------------------|

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## LIMITATIONS

This report is confidential to the Client, and Leap Environmental Ltd accepts no responsibility whatsoever to third parties to whom this report, or any part thereof, is made known, unless formally agreed by Leap Environmental Ltd beforehand. Any such party relies upon the report at their own risk. Unless explicitly agreed otherwise in writing, this report has been prepared under LEAP's standard terms and conditions, as included in the quotation for this works.

This report has been prepared by Leap Environmental Ltd on the basis of information received from a variety of sources which Leap Environmental Ltd believes to be accurate. Nevertheless, Leap Environmental Ltd cannot and does not guarantee the authenticity or reliability of the information it has obtained from others.

Leap Environmental Ltd has used all reasonable skill, care and diligence in the design and execution of this report, taking into account the manpower and resources devoted to it in agreement with the Client. Although every reasonable effort has been made to obtain all relevant information, all potential contamination, environmental constraints or liabilities associated with the site may not necessarily have been revealed. LEAP cannot be held responsible for any disclosures or changes in regulation that are provided post production of this report, and will not automatically update the report.

The conclusions reached in this report are necessarily restricted to those which can be determined from the information consulted, and may be subject to amendment in the light of additional information becoming available. These conclusions may not be appropriate for alternative schemes.

The extent of the exploratory holes, laboratory testing and monitoring undertaken may have been restricted due to a number of factors including accessibility, the presence of buried or overhead services, current development and site usage, timescales or clients specification. The exploratory holes only assess a small proportion of the site area with respect to the site as a whole, and as such may only provide an overall assessment of ground conditions on site. The presence of hotspots of undisclosed contamination or exceptional and unforeseen ground conditions cannot be discounted.

Eurocode 7 gives guidance on the type of sampling, sample quality, number and spacing of intrusive investigations, and number of laboratory tests required. It is intended that the Geotechnical Information section of this report will fulfil the general requirements of the Ground Investigation Report as set out in section 6 of Eurocode7<sup>28</sup>, although this is subject to the restrictions imposed on the investigation as listed above. For geotechnical design, Eurocode 7 requires the Geotechnical Design Report to address both the geotechnical and

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<sup>28</sup> BS EN 1997 Eurocode 7- Geotechnical Design - Part 1: General Rules (2004) and Part 2: Ground Investigation and Testing (2007)

structural aspects of the geotechnical design for both the limit and serviceability states. The Geotechnical Appraisal section of this report will not meet the requirements of a Geotechnical Design Report (GDR), and should therefore be used for preliminary guidance only.

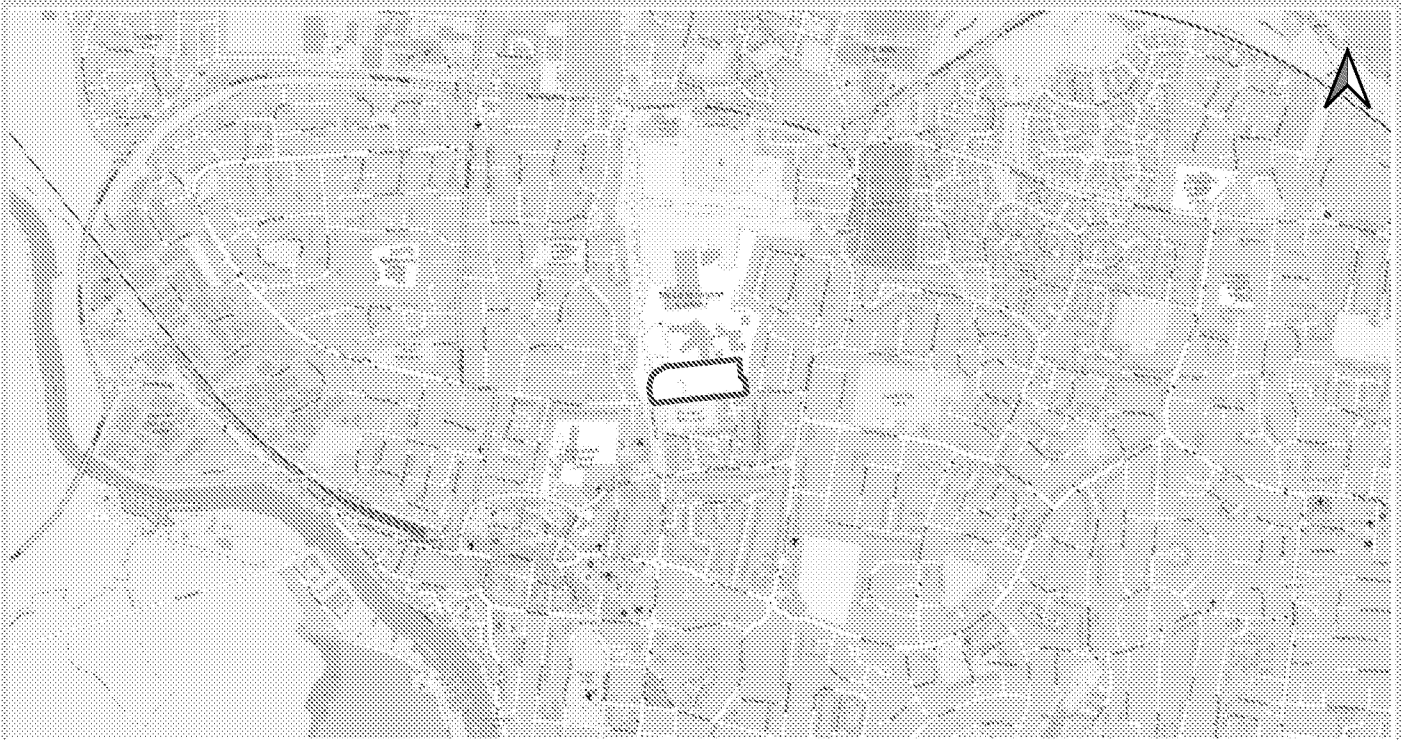
The presence of asbestos may be noted during the site walkover survey, intrusive investigations and/or from the results of contamination testing. However, this report does not constitute an asbestos survey. On this basis, the presence of asbestos on site cannot be discounted and a full asbestos survey should be undertaken.

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## APPENDIX B – Figures

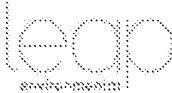
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|                |
|----------------|
| <b>Figures</b> |
|----------------|

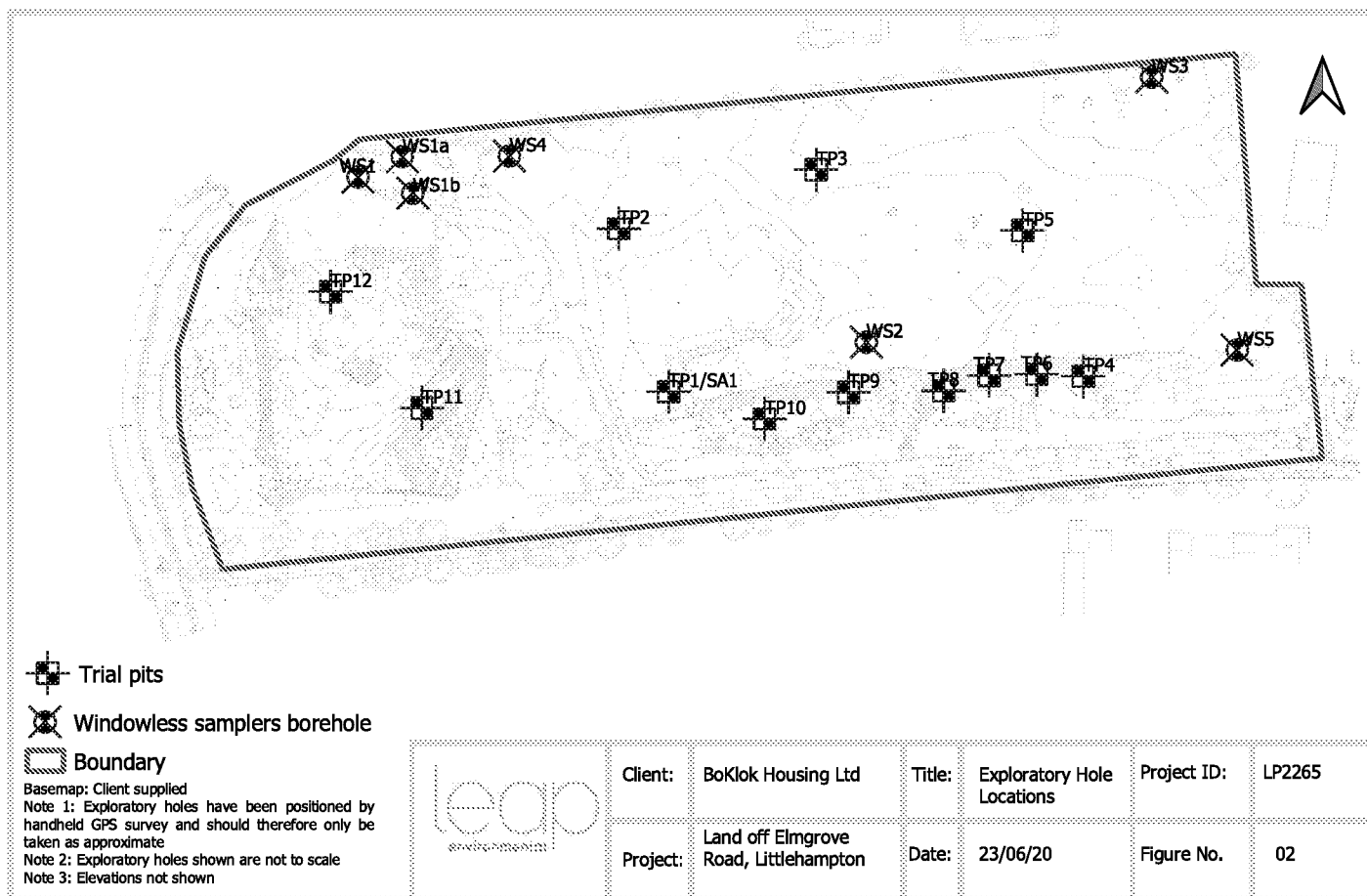


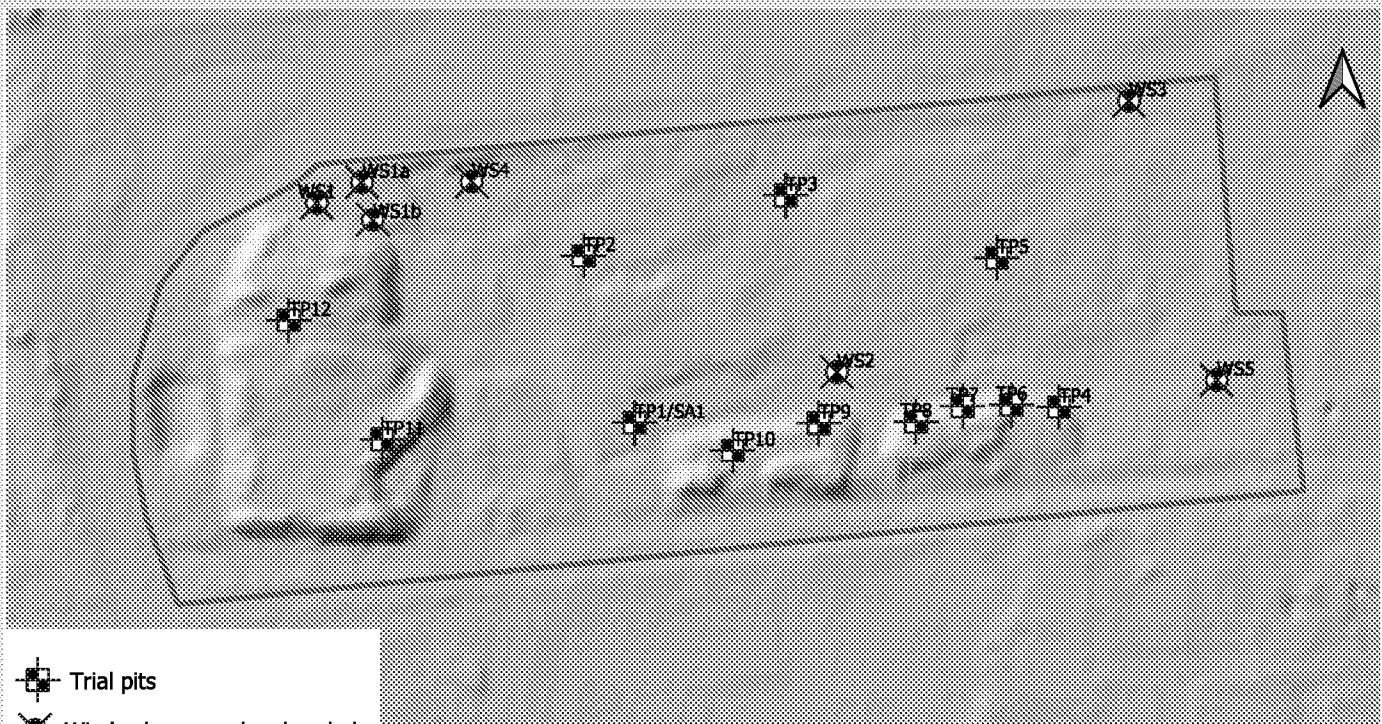
Basemap: © OpenStreetMapcontributors

 Site boundary



|          |                                       |        |                    |             |        |
|----------|---------------------------------------|--------|--------------------|-------------|--------|
| Client:  |                                       | Title: | Site Location Plan | Project ID: | LP2265 |
| Project: | Land off Elmgrove Road, Littlehampton | Date:  | 12/06/20           | Figure No.  | 01     |





Trial pits



Windowless samplers borehole



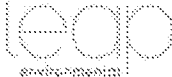
Boundary

Basemap: Client supplied

Note 1: Exploratory holes have been positioned by handheld GPS survey and should therefore only be taken as approximate

Note 2: Exploratory holes shown are not to scale

Note 3: Elevations not shown



Client: BoKlok Housing Ltd

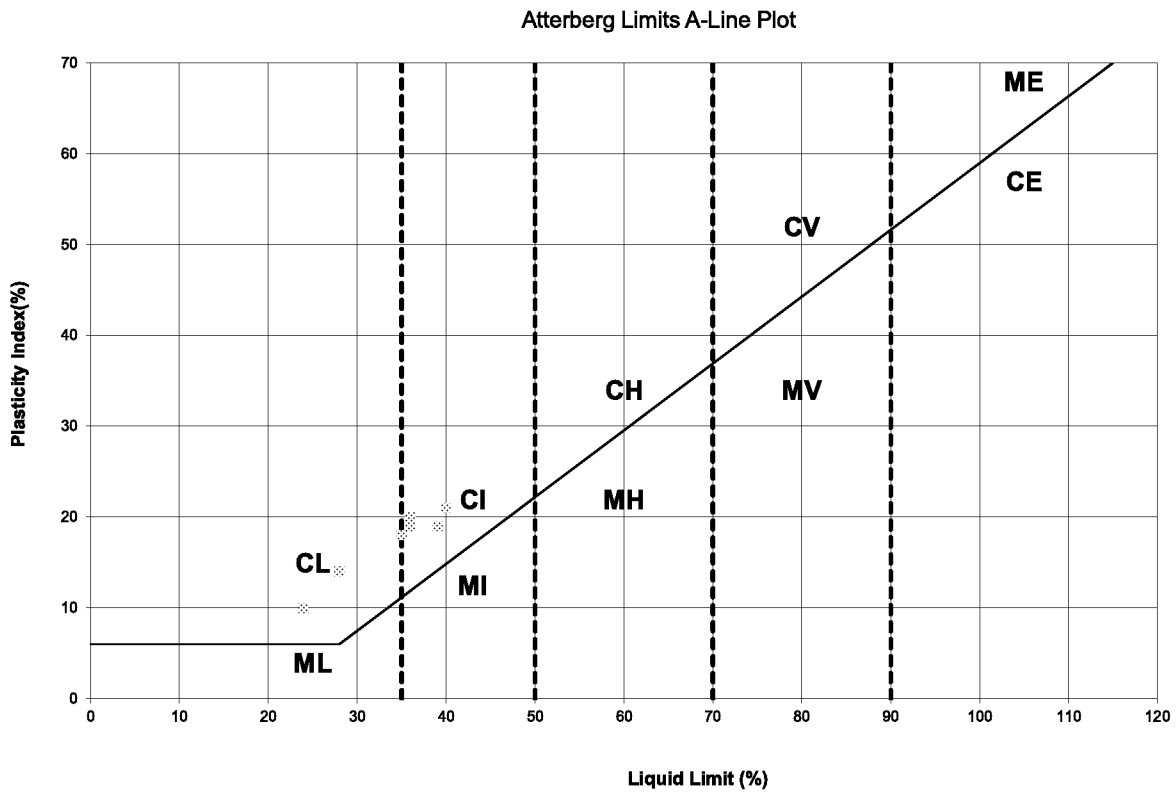
Title: LIDAR Overlay

Project ID: LP2265

Project: Land off Elmgrove Road, Littlehampton

Date: 23/06/20

Figure No. 03



LEAP Environmental

LP2265 Elm Grove Road

Figure 4  
Atterberg Limits A-Line Plot

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## APPENDIX C – Site Photographs

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### Site Photographs



Plate 1: Facing East, demolition waste at surface

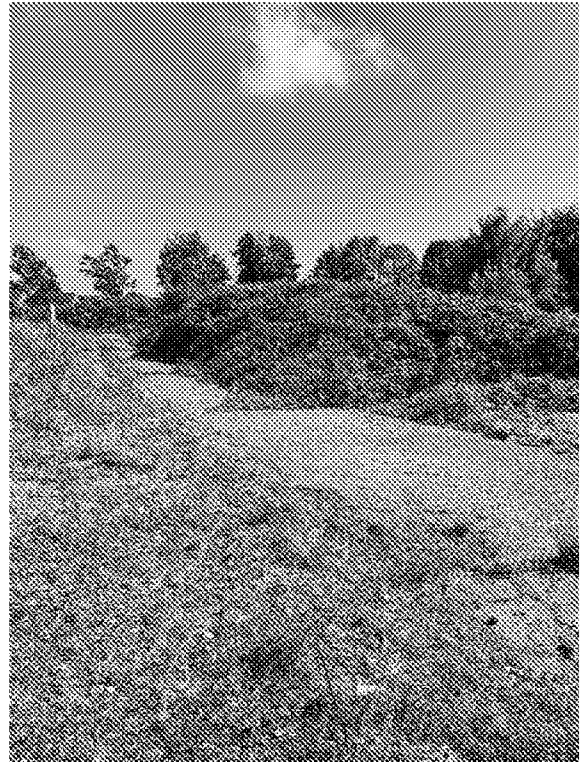


Plate 2: Eastern edge of stockpile facing south



Plate 3: Western stockpile facing northwest



Plate 4: On western stockpile facing north east

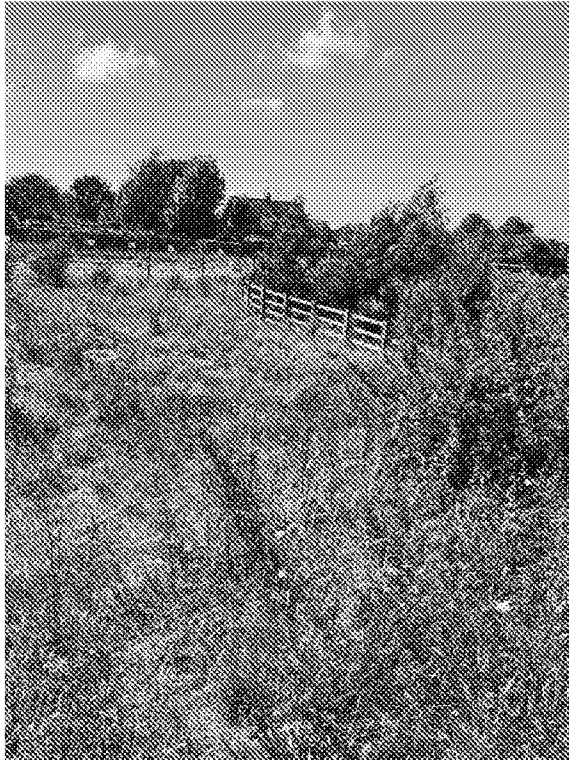


Plate 5: On western stockpile facing west

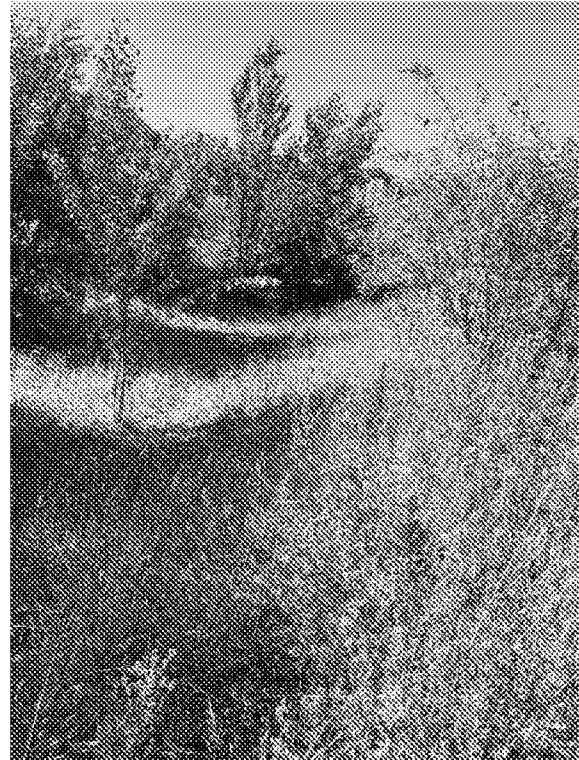


Plate 6: Dry retention pond area facing north

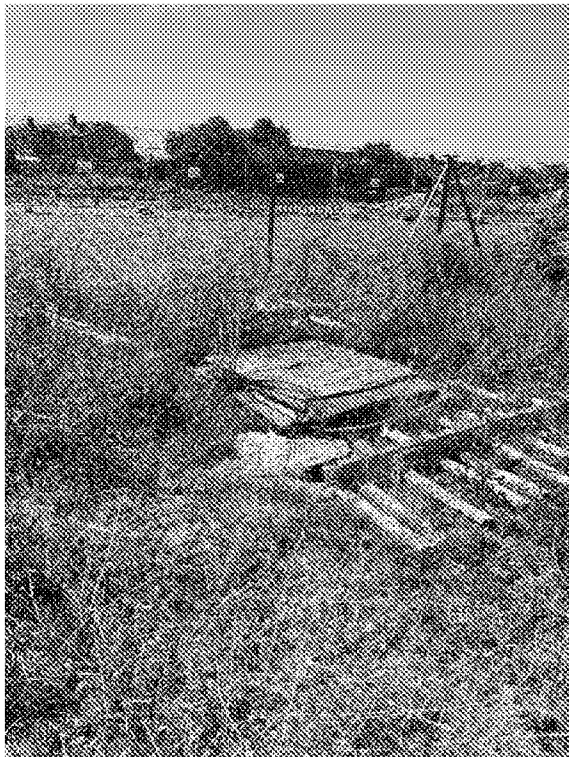


Plate 7: waste material adjacent to western boundary



Plate 8: Floor slab, adjacent to eastern face of western stockpile



Plate 9: Hardstand area northeast of western stockpile



Plate 10: Southern access road facing west



Plate 11: Southern access road facing east



Plate 12: Waste material along southern access road



Plate 13: TP1

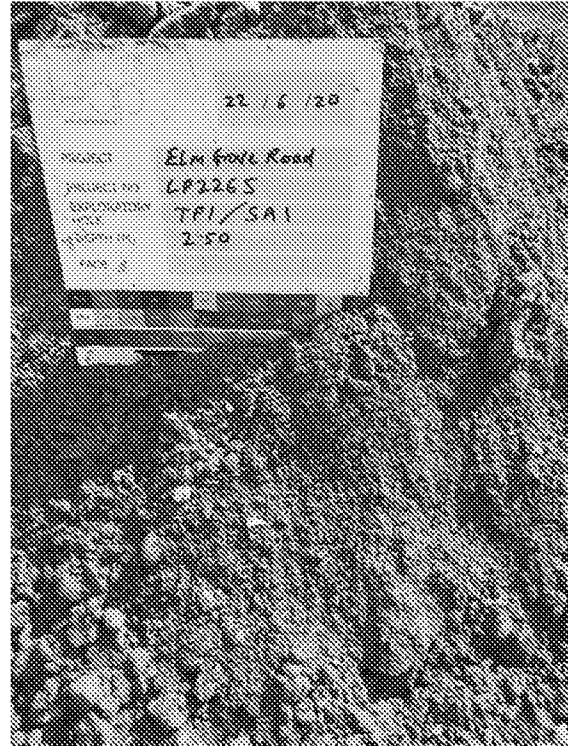


Plate 14: TP1



Plate 15: TP2

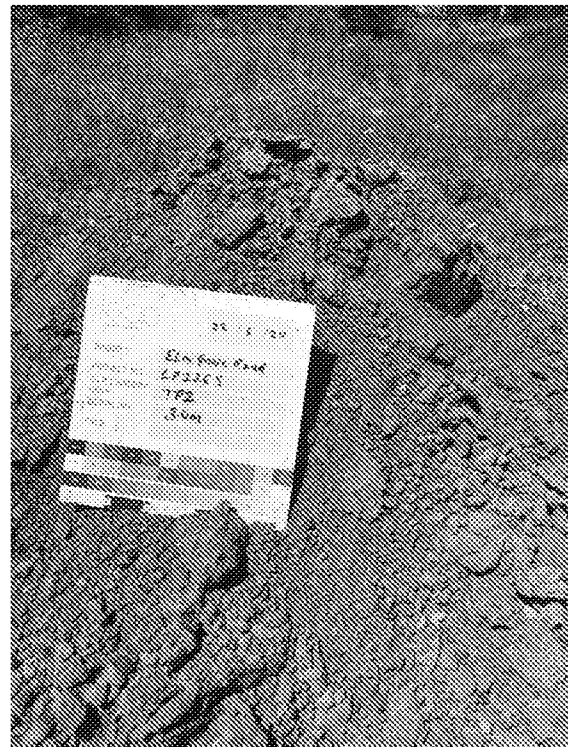


Plate 16: TP2



Plate 17: TP3

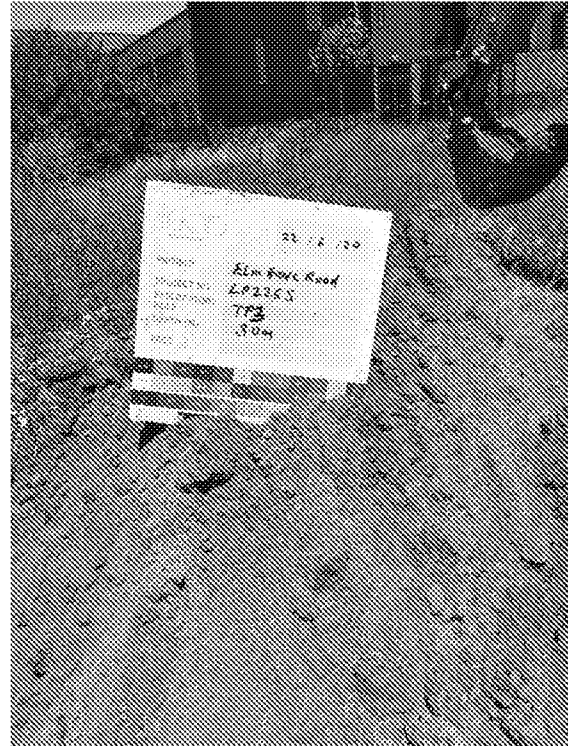


Plate 18: TP3



Plate 19: TP5



Plate 20: TP5



Plate 21: TP4

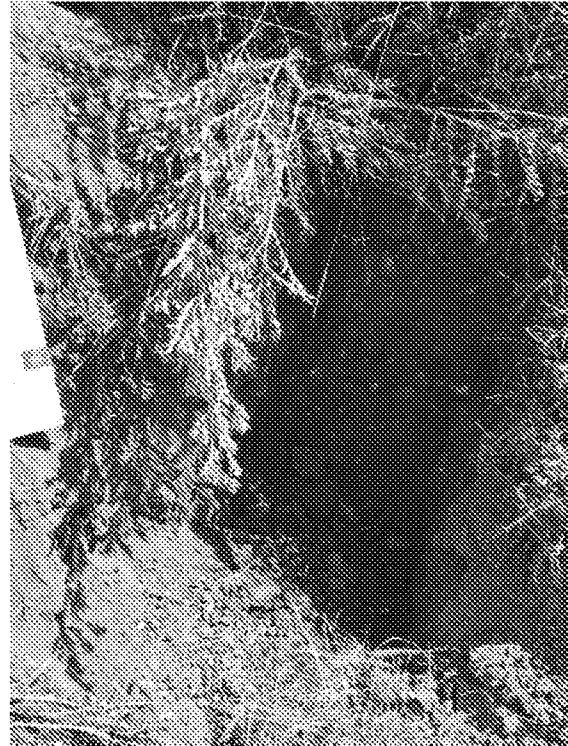


Plate 22: TP6

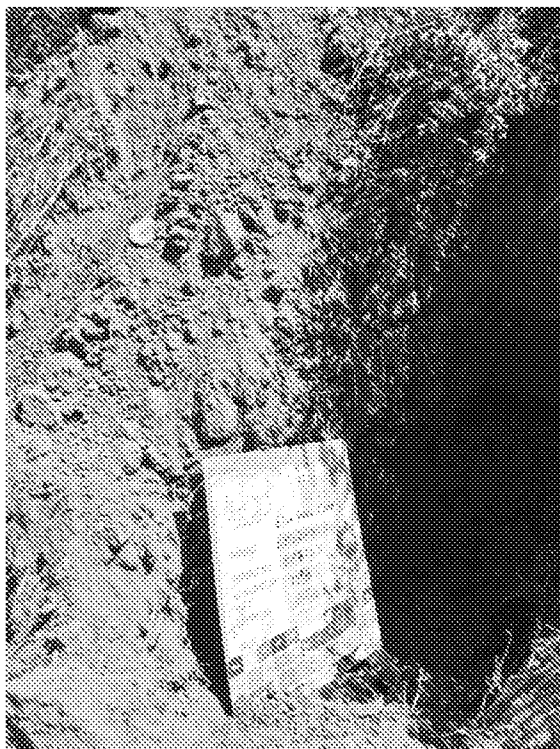


Plate 23: TP7



Plate 24: TP8

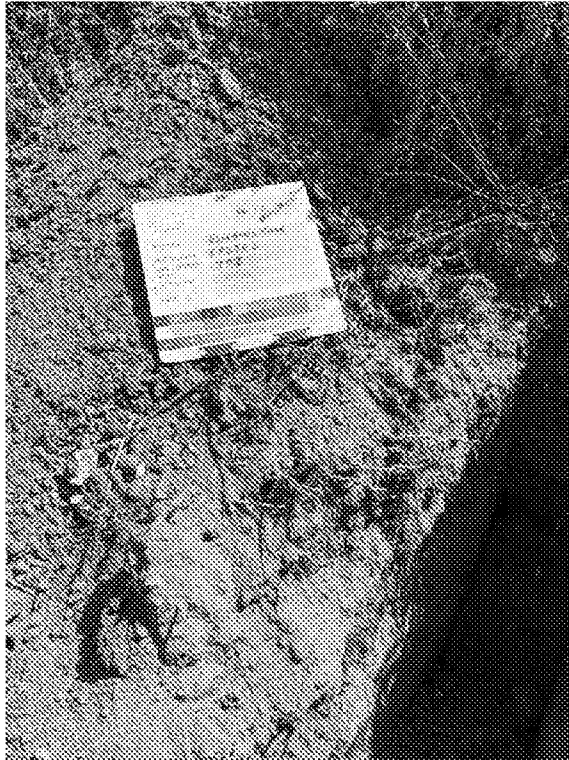


Plate 25: TP9



Plate 26: TP10



Plate 27: TP11

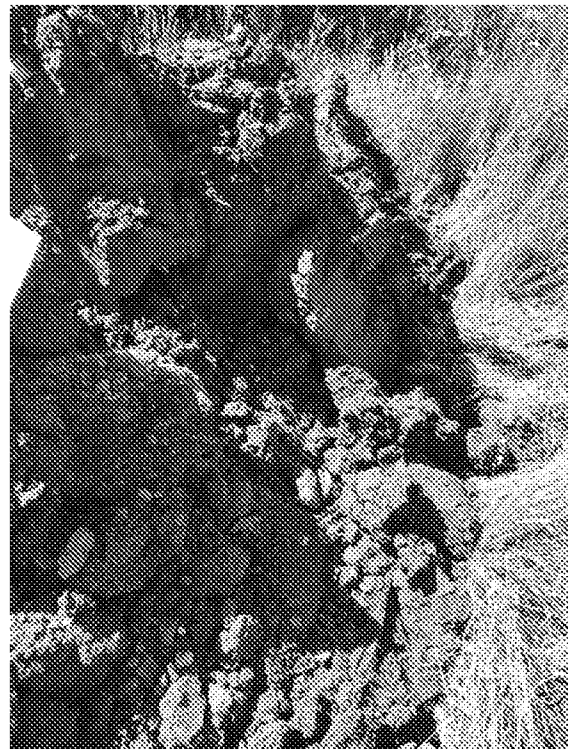


Plate 28: TP11

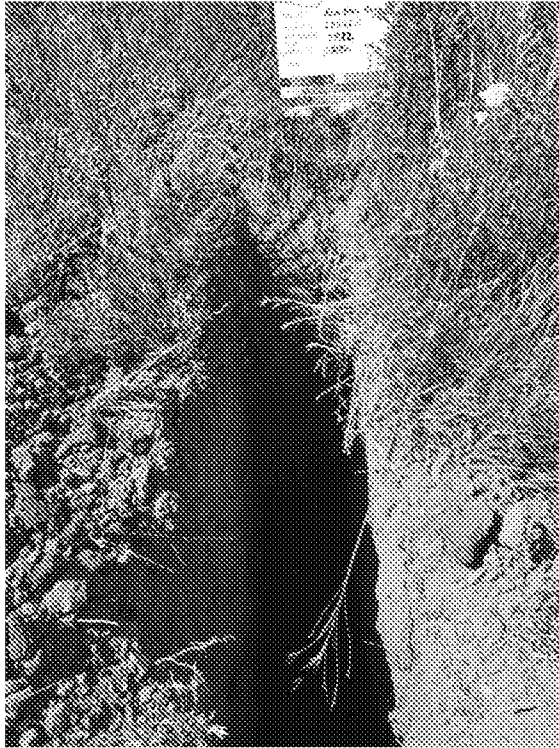


Plate 29: TP12

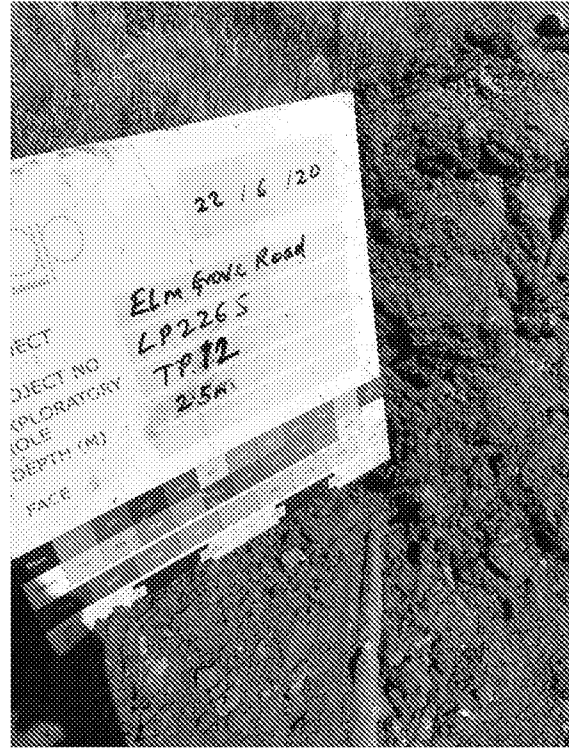


Plate 30: TP12

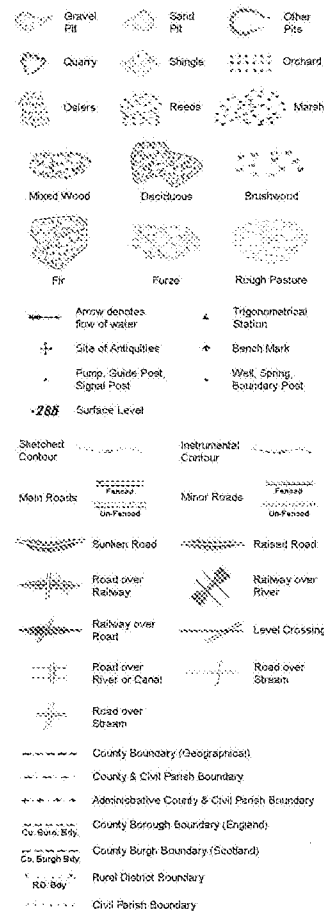
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## APPENDIX D – Historic Maps and Environmental Database Searches

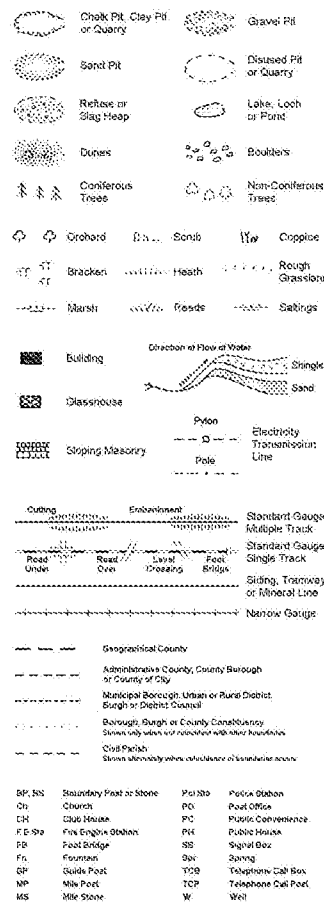
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|                                                                     |
|---------------------------------------------------------------------|
| <p><b>Historic Maps and Environmental<br/>Database Searches</b></p> |
|---------------------------------------------------------------------|

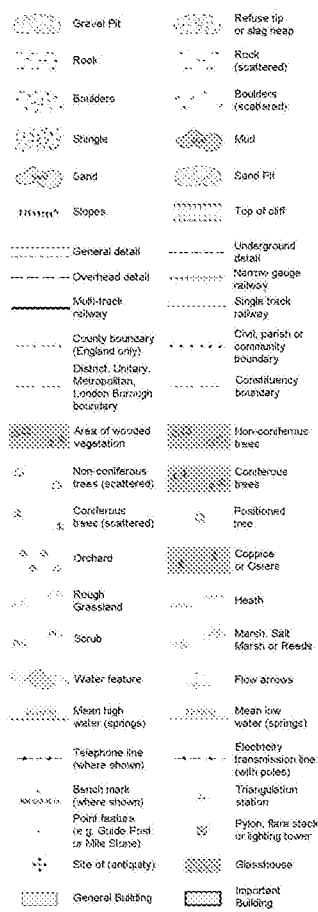
## Ordnance Survey County Series 1:10,560



Ordnance Survey Plan 1:10,000



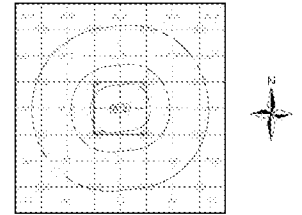
၁:၅၀,၀၀၀ ကိုင်ဆောင်မှု အခွန်



Historical Mapping & Photography included:

| Sheet/Type            | Surf     | Date | Pg |
|-----------------------|----------|------|----|
| Sumac                 | 11-0-90  | 1979 | 2  |
| Sumac                 | 11-0-90  | 1989 | 3  |
| Sumac                 | 11-0-90  | 1913 | 4  |
| Sumac                 | 11-0-90  | 1913 | 5  |
| Sumac                 | 11-0-90  | 1932 | 6  |
| Sumac                 | 11-0-90  | 1938 | 7  |
| Ordinance Survey Plan | 11-0-90  | 1962 | 8  |
| Ordinance Survey Plan | 11-0-90  | 1962 | 9  |
| Ordinance Survey Plan | 11-0-90  | 1977 | 10 |
| Ordinance Survey Plan | 11-0-90  | 1982 | 11 |
| 10K Raster Mapping    | 11-0-90  | 2000 | 13 |
| Street View           | Variable |      | 14 |

## Historical Maps - Slide A



### Order Details

Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 1000

### Site Details

Land off Elmgrove Road, LITTLEHAMPTON, BN17 6FE





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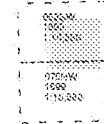
Sussex

Published 1899

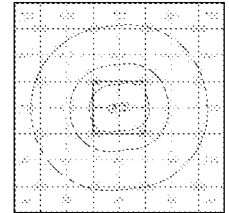
Source map scale - 1:10,560

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 1858, 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 unaltered - with all military camps and other strategic sites removed. These maps were initially overlaid with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

## Map Name(s) and Date(s)



## Historical Map - Slice A



## Order Details

Order Number: 245184381\_1.1  
 Customer Ref: LP2265  
 National Grid Reference: 503310, 102610  
 Slice: A  
 Site Area (Ha): 2.56  
 Search Buffer (m): 1000

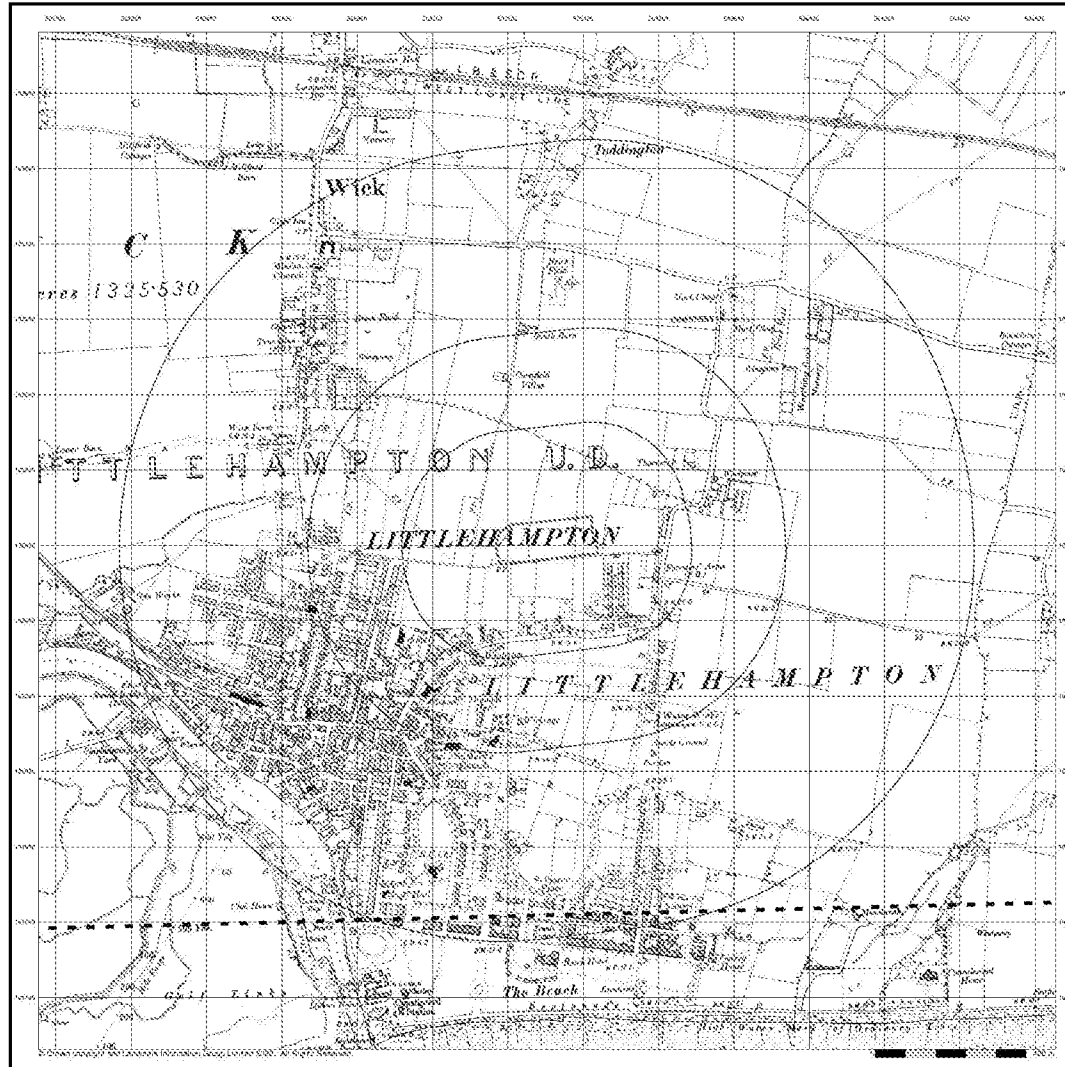
## Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE

**Landmark**  
 LANDMARK INFORMATION GROUP

Tel: 01245 5191000  
 Fax: 01245 5191001  
 Web: www.envirocheck.co.uk

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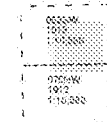
Sussex

Published 1913

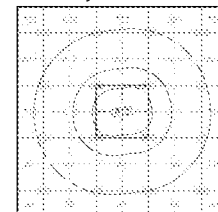
Source map scale - 1:10,560

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 Central 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 unaltered - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

## Map Name(s) and Date(s)



## Historical Map - Slice A



## Order Details

Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 1000

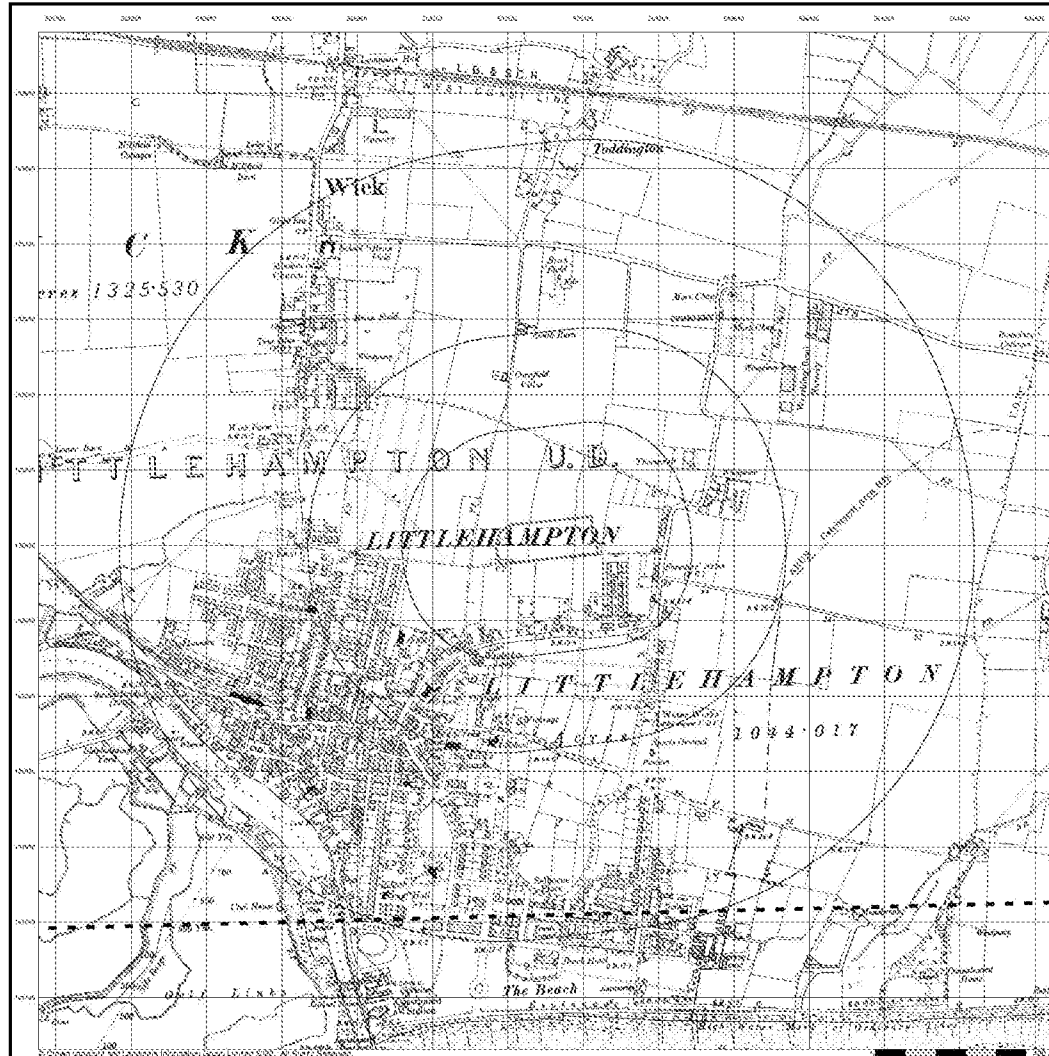
## Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE

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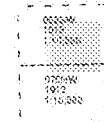
Sussex

Published 1913

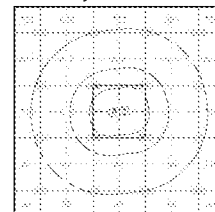
Source map scale - 1:10,560

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 Central 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 unaltered - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

## Map Name(s) and Date(s)



## Historical Map - Slice A



## Order Details

Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 1000

## Site Details

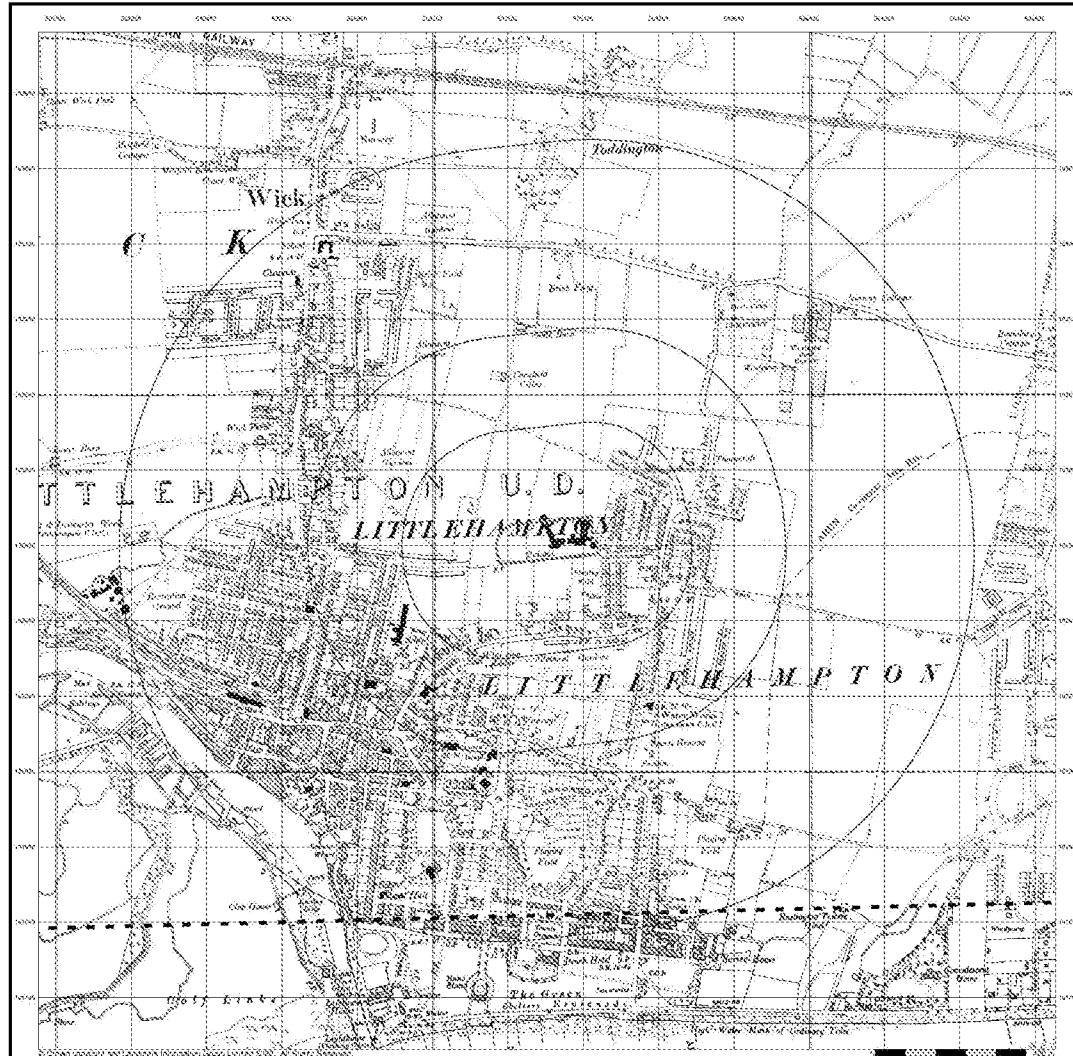
Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE

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Tel: 01323 5191000  
Fax: 01323 5191001  
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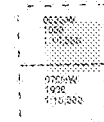
Sussex

Published 1938

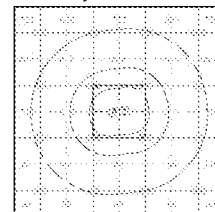
Source map scale - 1:10,560

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,560 maps. The published date given therefore is often some years later than the surveyed date. Before 1938, all OS maps were based on the Central 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 unaltered - with all military camps and other strategic sites removed. These maps were initially overlaid with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

## Map Name(s) and Date(s)



## Historical Map - Slice A



## Order Details

Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 1000

## Site Details

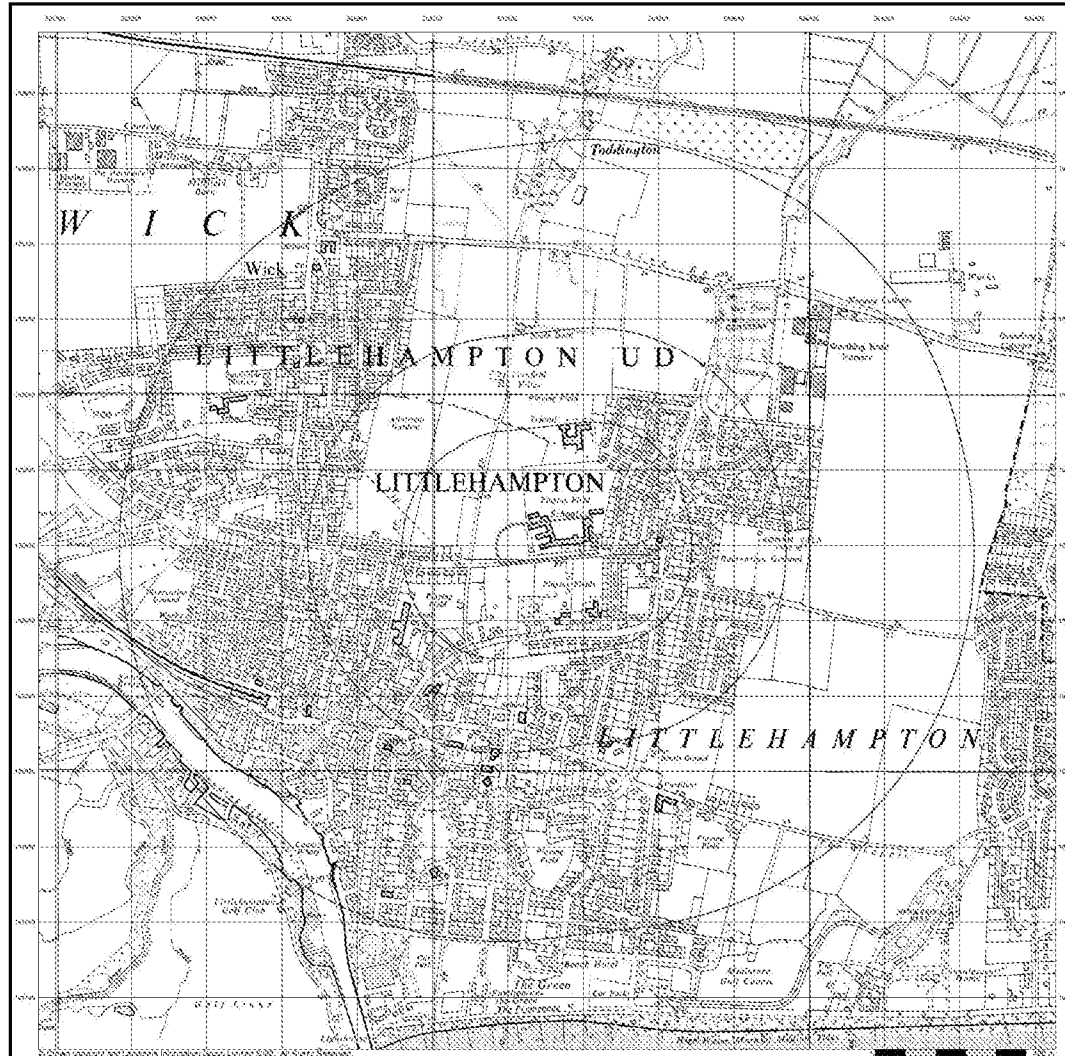
Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE

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Fax: 01323 5191001  
Web: www.envirocheck.co.uk

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## Ordnance Survey Plan

Published 1962

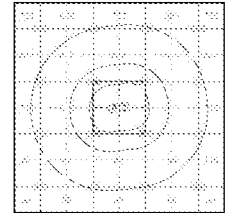
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,000 maps. The published date given therefore is often some years later than the surveyed date. Before 1958, all OS maps were based on the Central 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 1:10,000 mapping from a number of sources. The maps appear unaltered - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

### Map Name(s) and Date(s)



### Historical Map - Slice A

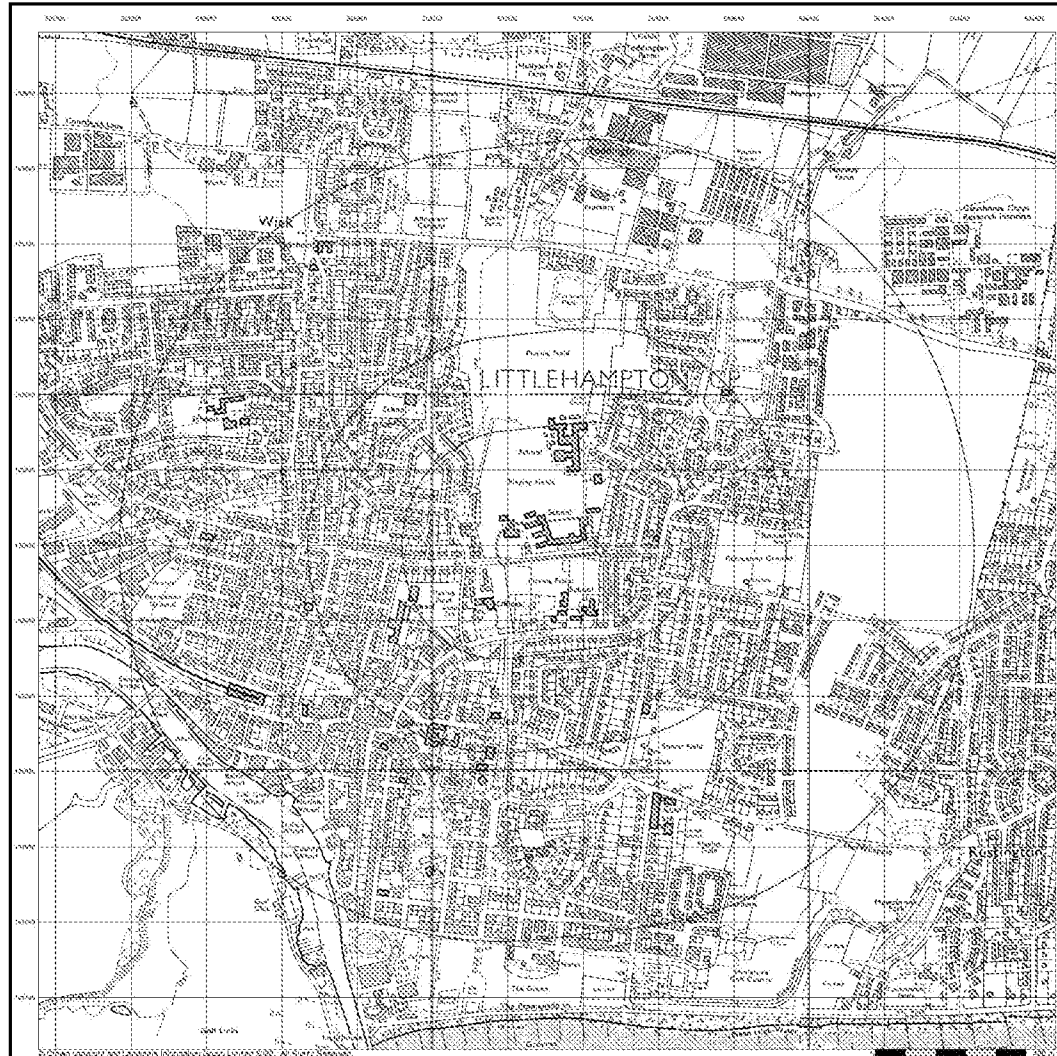


### Order Details

Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 1000

### Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE



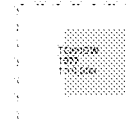
## Ordnance Survey Plan

Published 1977

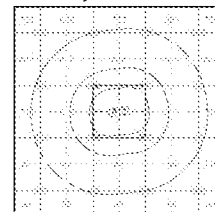
Source map scale - 1:10,000

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

### Map Name(s) and Date(s)



### Historical Map - Slice A



### Order Details

Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 1000

### Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE



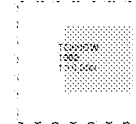
## Ordnance Survey Plan

Published 1982

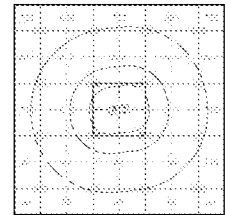
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1940's. In 1954 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,000 maps. The published date given therefore is often some years later than the surveyed date. Before 1958, all OS maps were based on the Central 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 1:10,000 mapping from a number of sources. The maps appear unaltered - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

### Map Name(s) and Date(s)



### Historical Map - Slice A



### Order Details

Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 1000

### Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE



## Ordnance Survey Plan

Published 1993

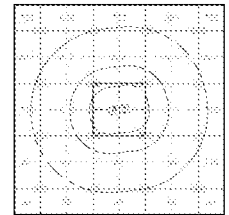
Source map scale - 1:10,000

The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas; these maps were used to update the 1:10,000 maps. The published date given therefore is often some years later than the surveyed date. Before 1958, all OS maps were based on the Central 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 1:10,000 mapping from a number of sources. The maps appear unaltered - with all military camps and other strategic sites removed. These maps were initially overprinted with the National Grid. In 1970, the first 1:10,000 maps were produced using the Transverse Mercator Projection. The revision process continued until recently, with new editions appearing every 10 years or so for urban areas.

### Map Name(s) and Date(s)



### Historical Map - Slice A

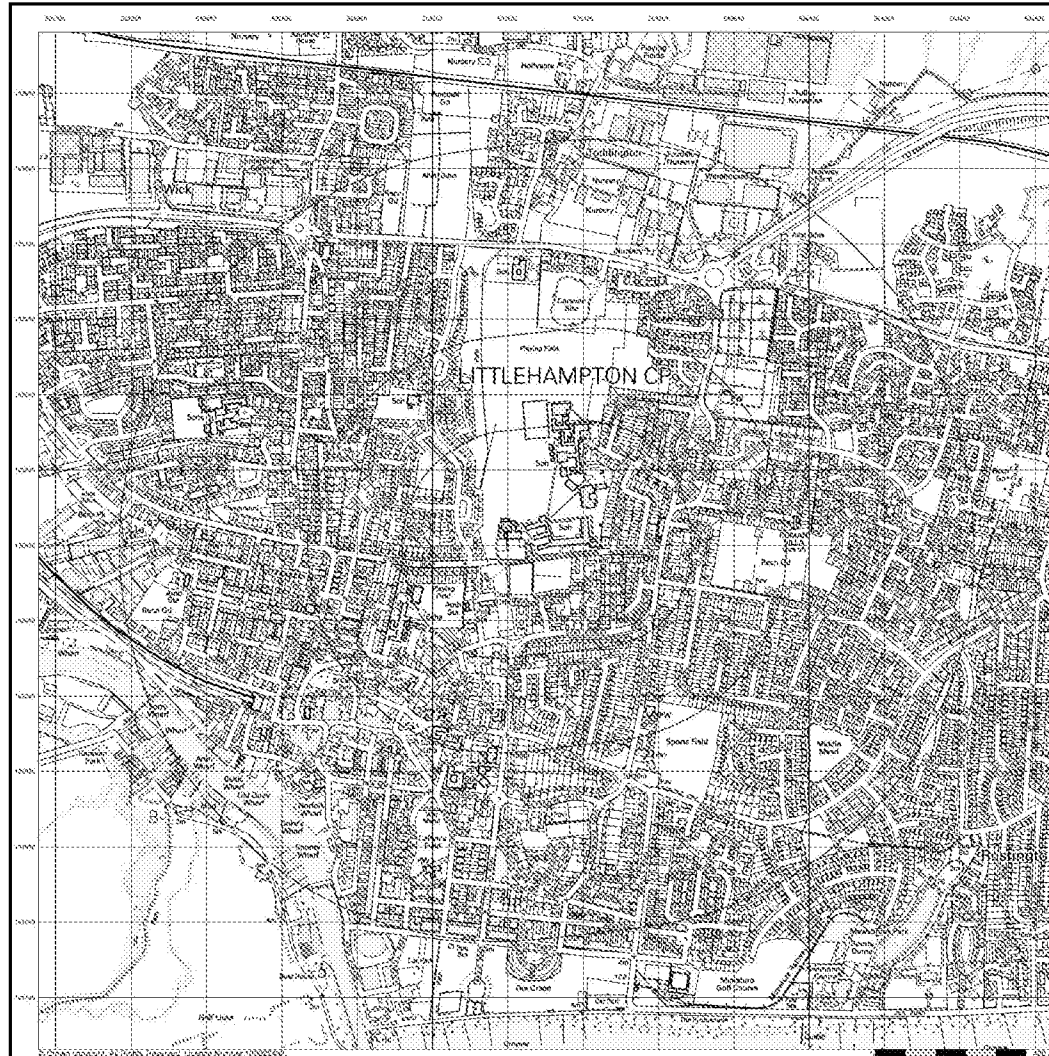


### Order Details

Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 1000

### Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE



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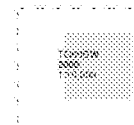
## 10k Raster Mapping

Published 2000

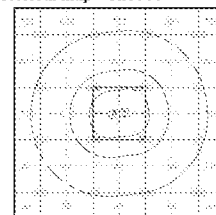
Source map scale - 1:10,000

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

### Map Name(s) and Date(s)



### Historical Map - Slice A



### Order Details

Order Number: 245194381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 1000

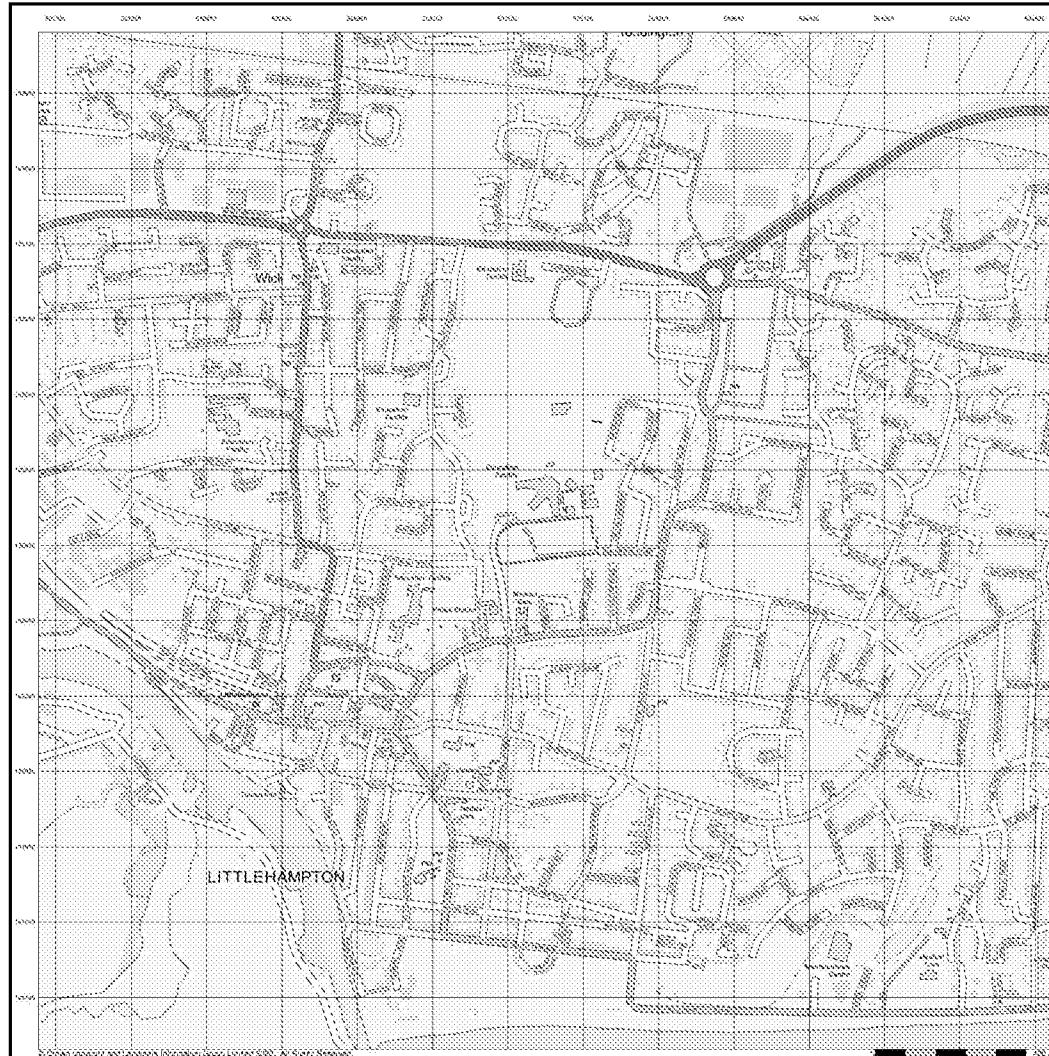
### Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE

**Landmark**  
LANDMARK INFORMATION GROUP<sup>®</sup>

Tel: 0245 519 1000  
Fax: 0564 504 0001  
Web: [www.envirocheck.co.uk](http://www.envirocheck.co.uk)

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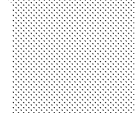
## Street View

Published 2020

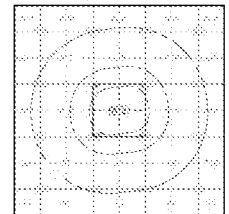
Source map scale - 1:10,000

Street View is a street-level map for the whole of Great Britain produced by the Ordnance Survey. These maps are provided at a nominal scale of 1:10,000

## Map Name(s) and Date(s)



## Street View Map - Slice A



## Order Details

Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 1000

## Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE

**Landmark**  
LANDMARK INFORMATION GROUP<sup>®</sup>

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Fax: 01474 814101  
Web: www.envirocheck.co.uk

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# Historical Mapping Legends

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

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

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

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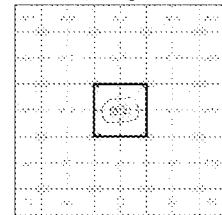
# Envirocheck

LANDMARK INFORMATION GROUP

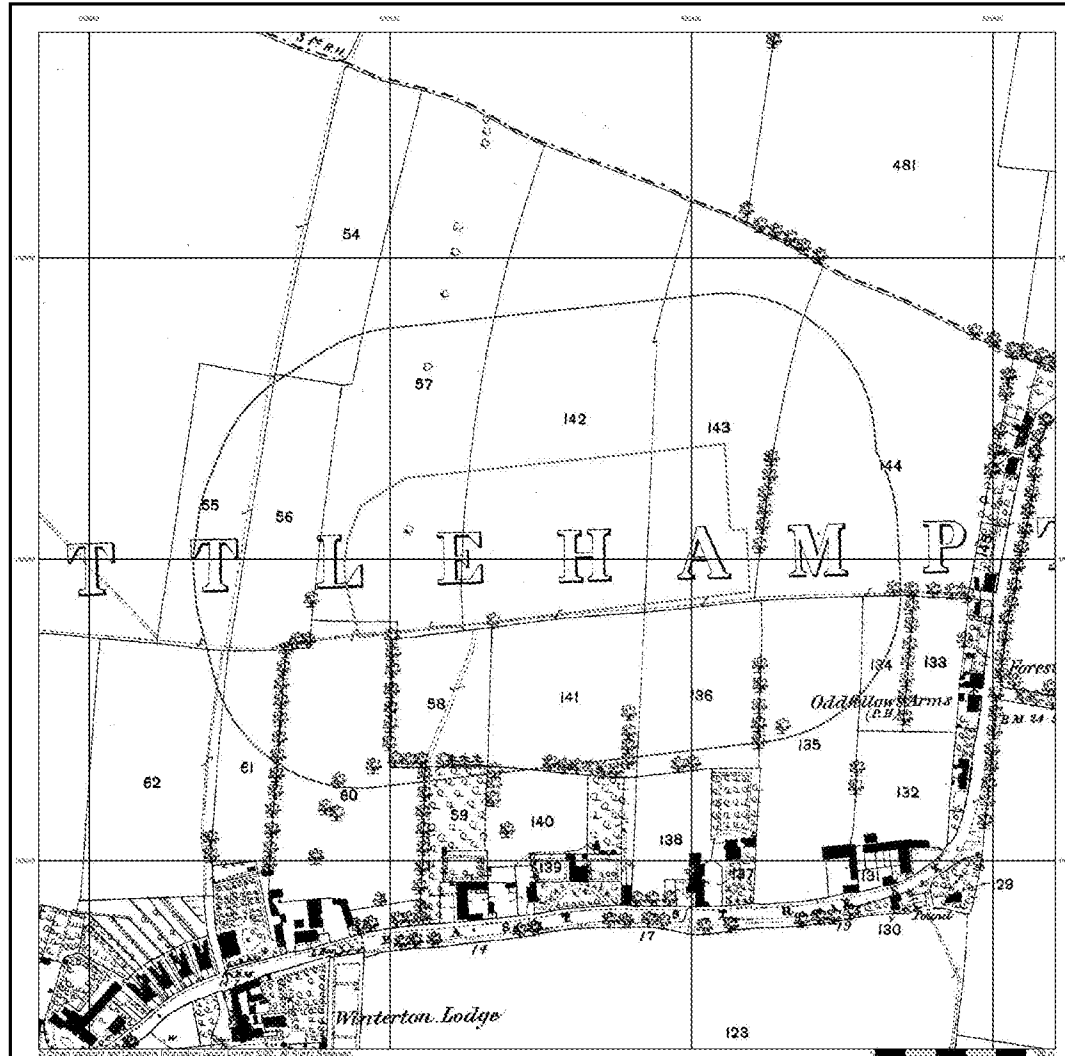
## Historical Mapping & Photography included:

| Mapping Type                   | Scale   | Date        | Pg |
|--------------------------------|---------|-------------|----|
| Sussex                         | 1:2,500 | 1876        | 2  |
| Sussex                         | 1:2,500 | 1898        | 3  |
| Sussex                         | 1:2,500 | 1912        | 4  |
| Sussex                         | 1:2,500 | 1932        | 5  |
| Ordnance Survey Plan           | 1:2,500 | 1958        | 6  |
| Ordnance Survey Plan           | 1:2,500 | 1959        | 7  |
| Ordnance Survey Plan           | 1:2,500 | 1965 - 1973 | 8  |
| Additional SIMs                | 1:2,500 | 1966 - 1978 | 9  |
| Ordnance Survey Plan           | 1:2,500 | 1970        | 10 |
| Ordnance Survey Plan           | 1:2,500 | 1975 - 1980 | 11 |
| Ordnance Survey Plan           | 1:2,500 | 1980 - 1987 | 12 |
| Additional SIMs                | 1:2,500 | 1984 - 1988 | 13 |
| Additional SIMs                | 1:2,500 | 1987        | 14 |
| Large-Scale National Grid Data | 1:2,500 | 1994        | 15 |
| Large-Scale National Grid Data | 1:2,500 | 1995        | 16 |

## Historical Map - Segment A13



|                                                         |                |
|---------------------------------------------------------|----------------|
| <b>Order Details</b>                                    | 245184381_1_1  |
| <b>Order Number:</b>                                    | LP2265         |
| <b>Customer Ref:</b>                                    |                |
| <b>National Grid Reference:</b>                         | 503310, 102610 |
| <b>Site:</b>                                            | A              |
| <b>Site Area (Ha):</b>                                  | 2.56           |
| <b>Search Buffer (m):</b>                               | 100            |
| <b>Site Details</b>                                     |                |
| <b>Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE</b> |                |

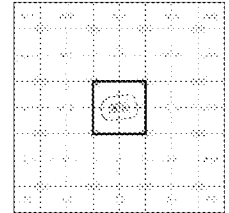


The historical maps shown were reproduced from maps predominantly held at the scale adopted for England, Wales and Scotland in the 1840's. In 1854 the 1:2,500 scale was adopted for mapping urban areas and by 1886 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

## Map Name(s) and Date(s)



## Historical Map - Segment A13



## Order Details

Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Site: A  
Site Area (Ha): 2.56  
Search Buffer (m): 100

## Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE

Sussex

Published 1898

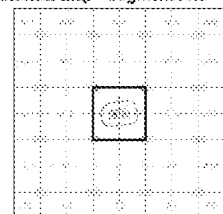
Source map scale - 1:2,500

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 1898 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

## Map Name(s) and Date(s)



## Historical Map - Segment A13

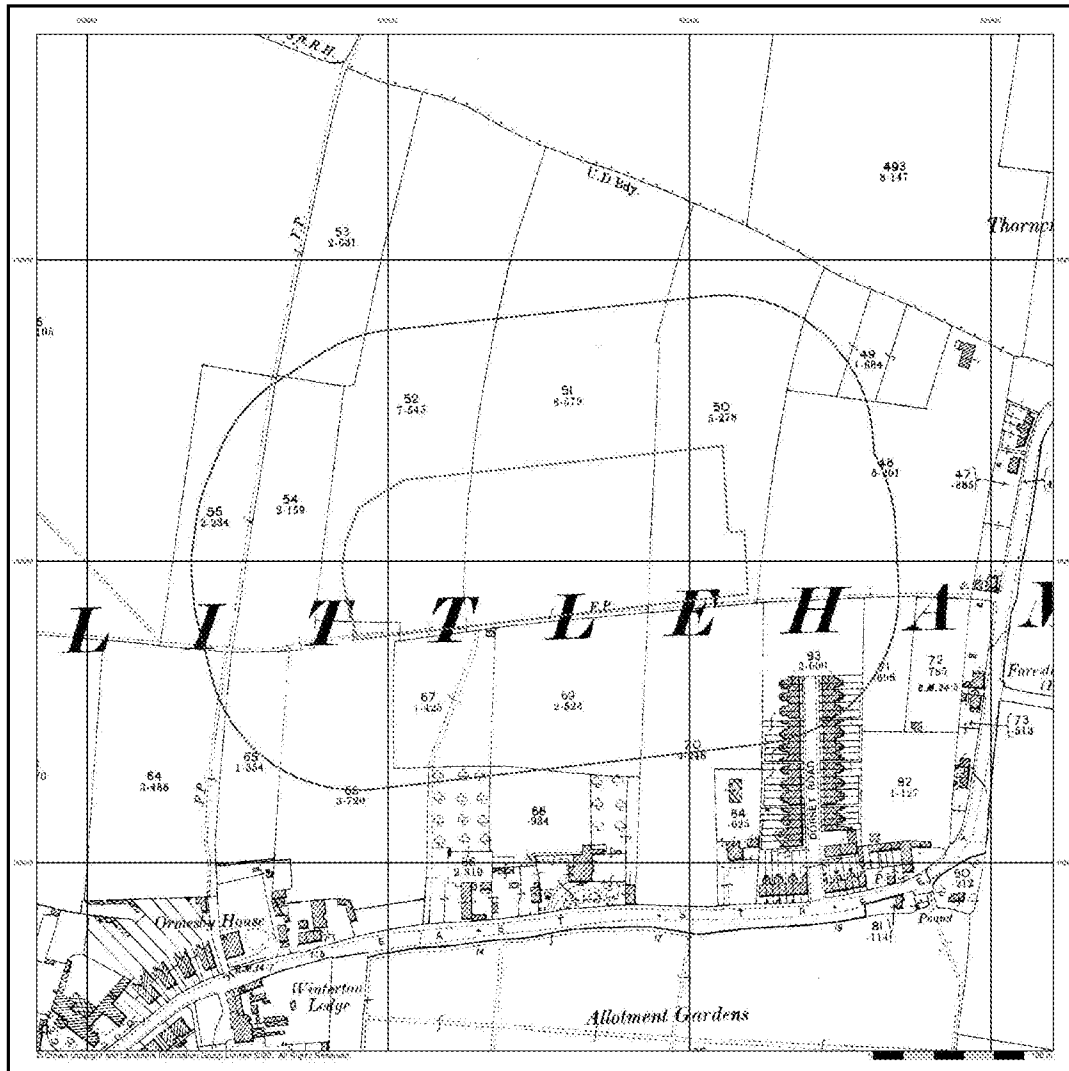


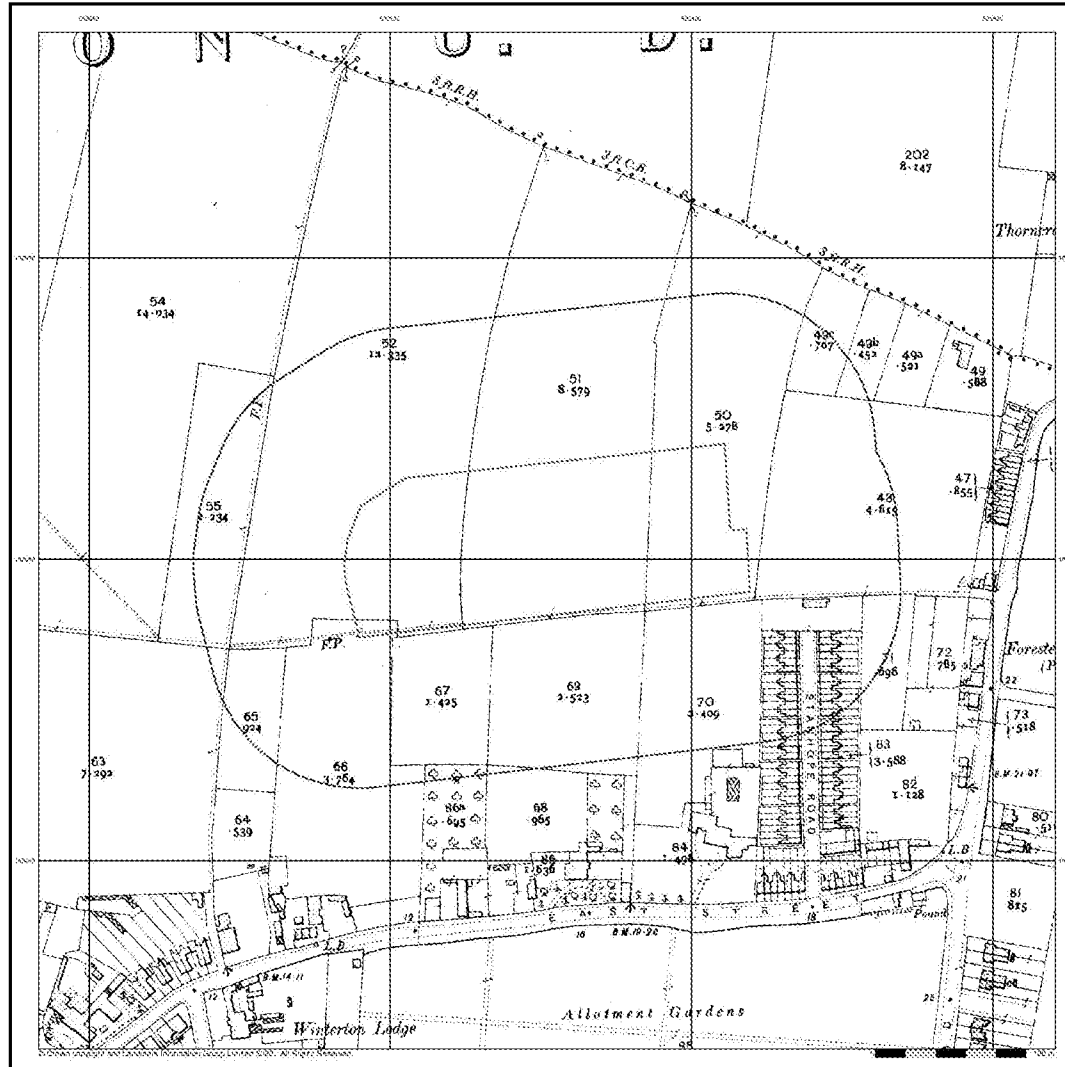
## Order Details

Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 100

## Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE





# Envirocheck

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Sussex

Published 1912

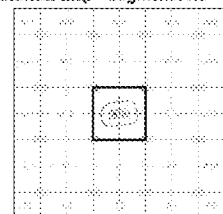
Source map scale - 1:2,500

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 1886 it covered the whole of what was considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

## Map Name(s) and Date(s)



## Historical Map - Segment A13



## Order Details

Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Site: A  
Site Area (Ha): 2.56  
Search Buffer (m): 100

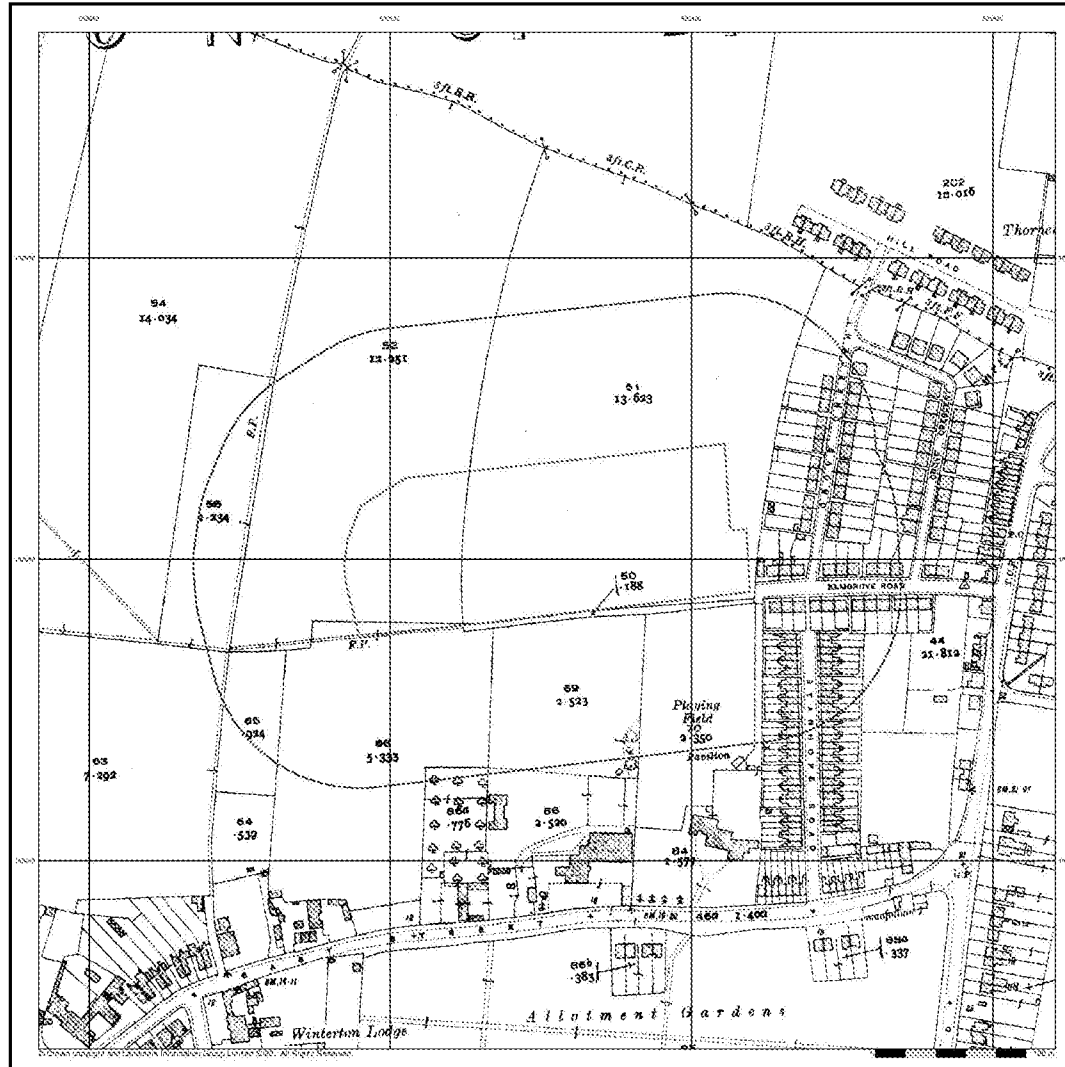
## Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE

Landmark  
LANDMARK INFORMATION GROUP

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Fax: 01243 814101  
Web: www.envirocheck.co.uk

A Landmark Information Group Service v50.0 18-Jun-2020 Page 4 of 16



# Envirocheck<sup>®</sup>

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Sussex

Published 1932

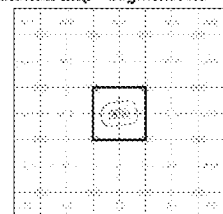
Source map scale - 1:2,500

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 1886 it covered the whole of what were considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

## Map Name(s) and Date(s)



## Historical Map - Segment A13



## Order Details

Order Number: 245184381\_1\_1  
 Customer Ref: LP2265  
 National Grid Reference: 503310, 102610  
 Slice: A  
 Site Area (Ha): 2.56  
 Search Buffer (m): 100

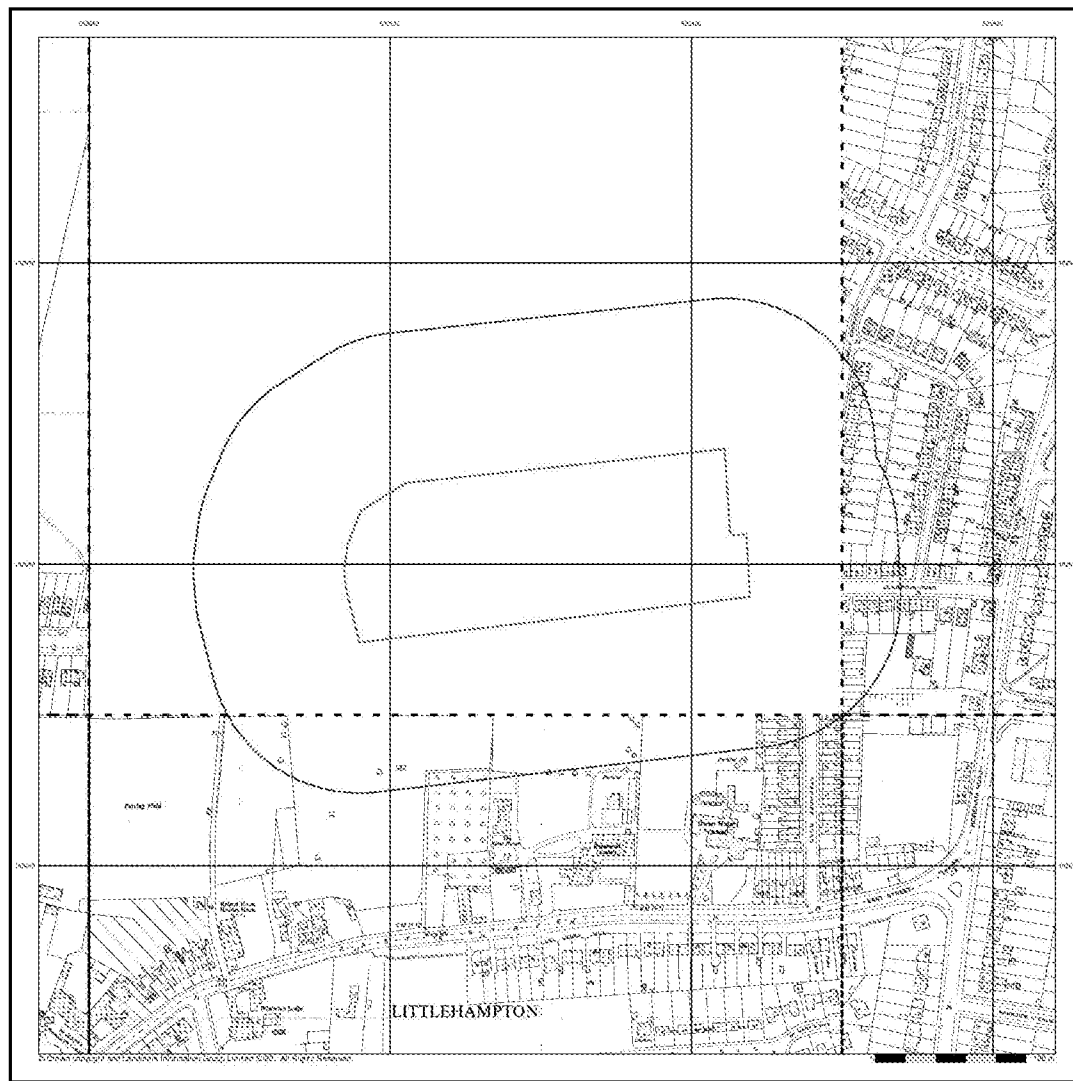
## Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE

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 Fax: 01323 5191001  
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# Envirocheck<sup>®</sup>

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## Ordnance Survey Plan

Published 1958

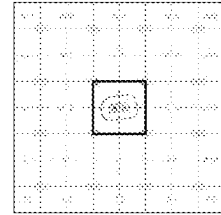
Source map scale - 1:1,250

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 1898 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)

|            |            |            |
|------------|------------|------------|
| T000000000 | T000000000 | T000000000 |
| 1:1,250    | 1:1,250    | 1:1,250    |
| T000000000 | T000000000 | T000000000 |
| 1:1,250    | 1:1,250    | 1:1,250    |

## Historical Map - Segment A13



## Order Details

Order Number: 245184381\_1\_1  
 Customer Ref: LP2265  
 National Grid Reference: 503310, 102610  
 Slice: A  
 Site Area (Ha): 2.56  
 Search Buffer (m): 100

## Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE

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 Fax: 01243 814101  
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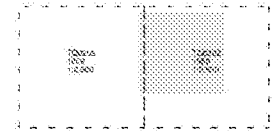
## Ordnance Survey Plan

Published 1959

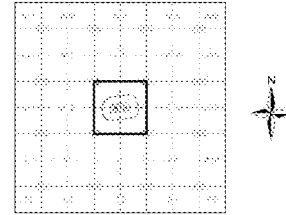
Source map scale - 1:2,500

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 1886 it covered the whole of what was considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

### Map Name(s) and Date(s)



### Historical Map - Segment A13

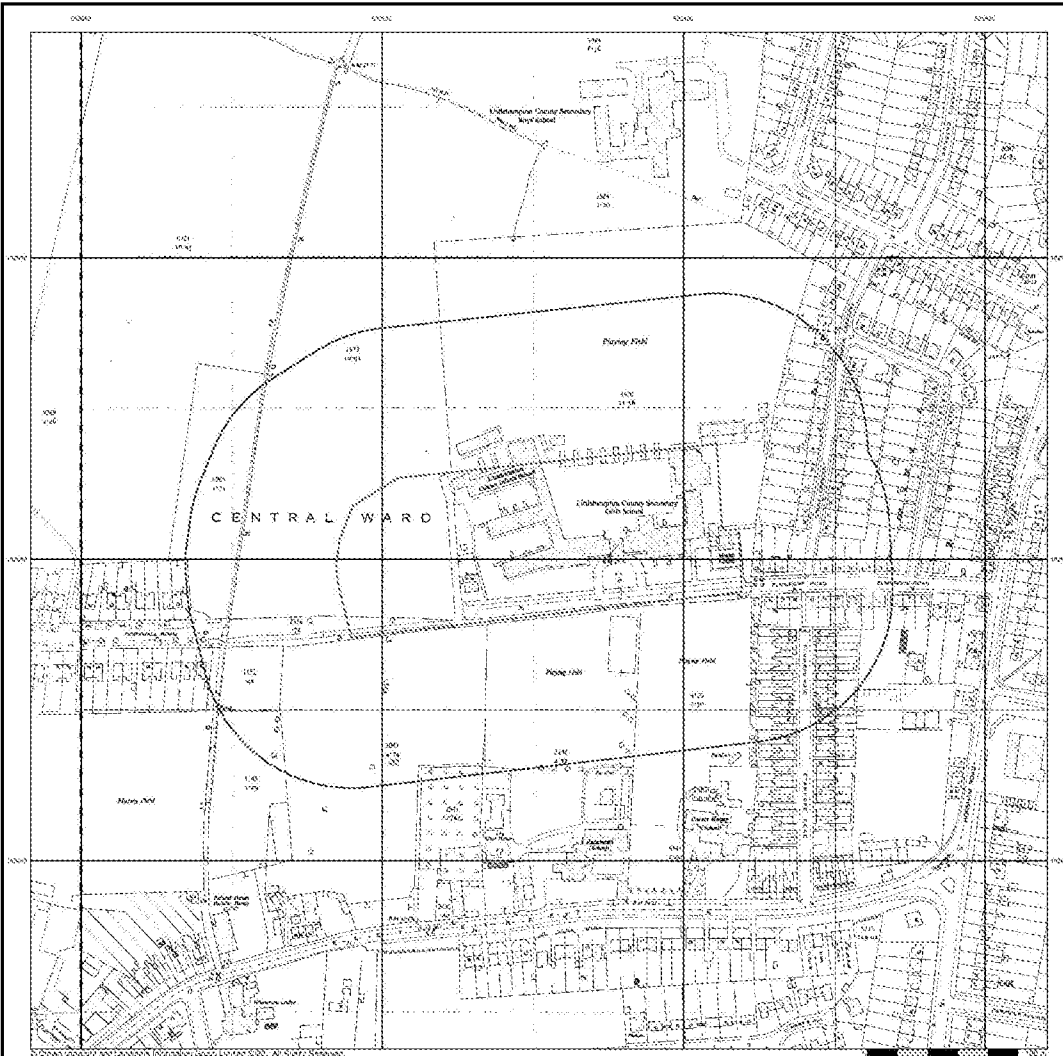


### Order Details

Order Number: 245184381\_1\_1  
 Customer Ref: LP2265  
 National Grid Reference: 503310, 102610  
 Slice: A  
 Site Area (Ha): 2.56  
 Search Buffer (m): 100

### Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE





## Additional SIMs

**Published 1966 - 1978**

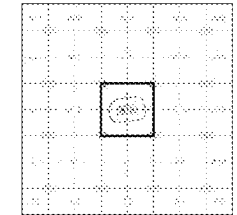
**Source map scale - 1:1,250**

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-uses. These maps were produced at both 1:2,500 and 1:1,250 scales.

## Map Name(s) and Date(s)

|    |           |      |         |
|----|-----------|------|---------|
| 1  | T02030000 | 1966 | 1:1,250 |
| 2  | T02030000 | 1966 | 1:1,250 |
| 3  | T02030000 | 1966 | 1:1,250 |
| 4  | T02030000 | 1966 | 1:1,250 |
| 5  | T02030000 | 1966 | 1:1,250 |
| 6  | T02030000 | 1966 | 1:1,250 |
| 7  | T02030000 | 1966 | 1:1,250 |
| 8  | T02030000 | 1966 | 1:1,250 |
| 9  | T02030000 | 1966 | 1:1,250 |
| 10 | T02030000 | 1966 | 1:1,250 |
| 11 | T02030000 | 1966 | 1:1,250 |
| 12 | T02030000 | 1966 | 1:1,250 |
| 13 | T02030000 | 1966 | 1:1,250 |
| 14 | T02030000 | 1966 | 1:1,250 |
| 15 | T02030000 | 1966 | 1:1,250 |
| 16 | T02030000 | 1966 | 1:1,250 |
| 17 | T02030000 | 1966 | 1:1,250 |
| 18 | T02030000 | 1966 | 1:1,250 |
| 19 | T02030000 | 1966 | 1:1,250 |
| 20 | T02030000 | 1966 | 1:1,250 |

## Historical Map - Segment A13



## Order Details

Order Number: 245184381\_1\_1  
 Customer Ref: LP2265  
 National Grid Reference: 503310, 102610  
 Slice: A  
 Site Area (Ha): 2.56  
 Search Buffer (m): 100

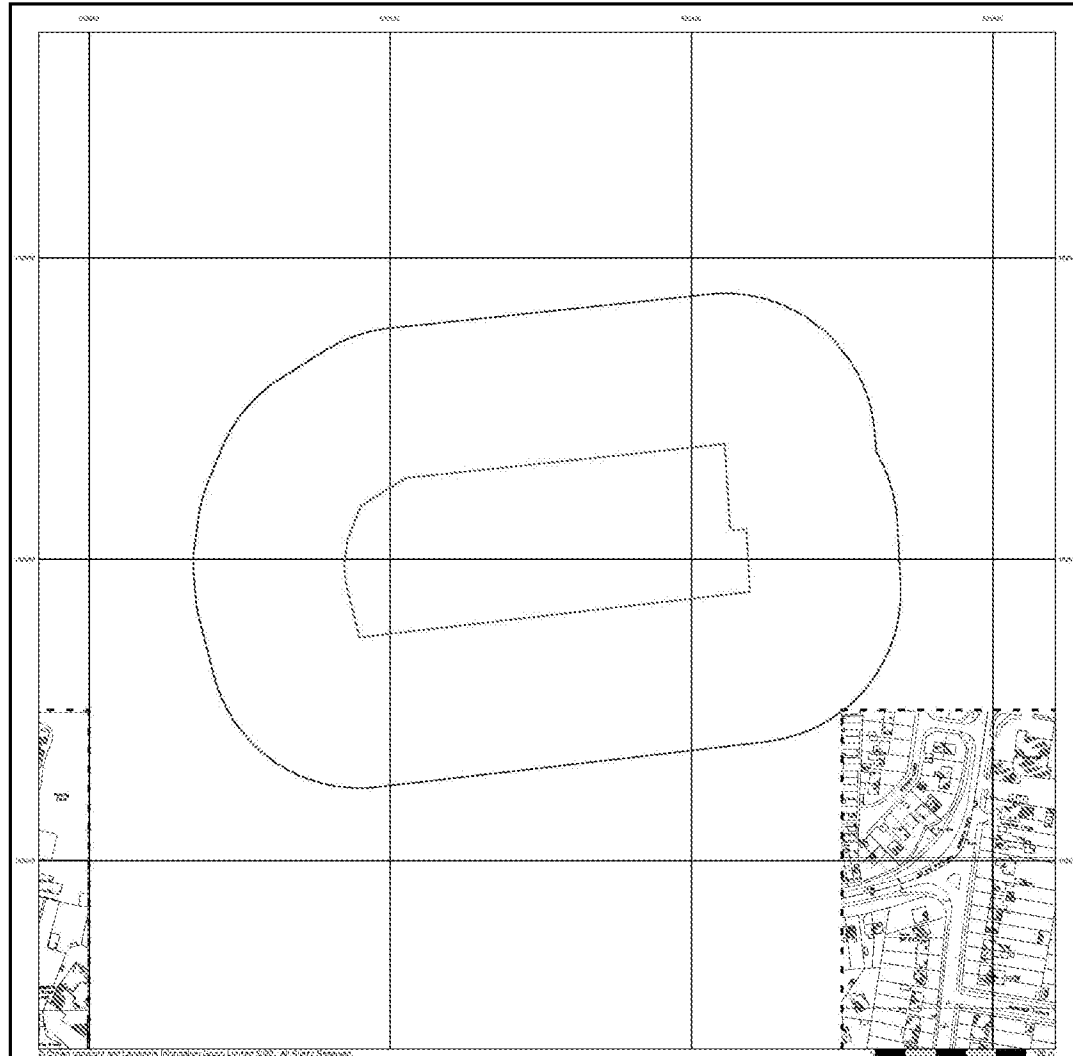
## Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE





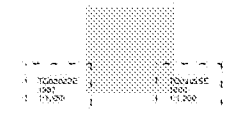




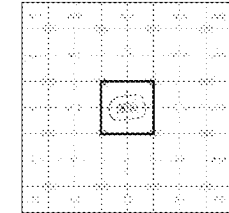
**Ordnance Survey Plan**  
**Published 1980 - 1987**  
**Source map scale - 1:1,250**

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 1886 it covered the whole of what was considered to be the cultivated parts of Great Britain. The published date given below is often some years later than the surveyed date. Before 1938, all OS maps were based on the Cassini Projection, with independent surveys of a single county or group of counties, giving rise to significant inaccuracies in outlying areas.

**Map Name(s) and Date(s)**

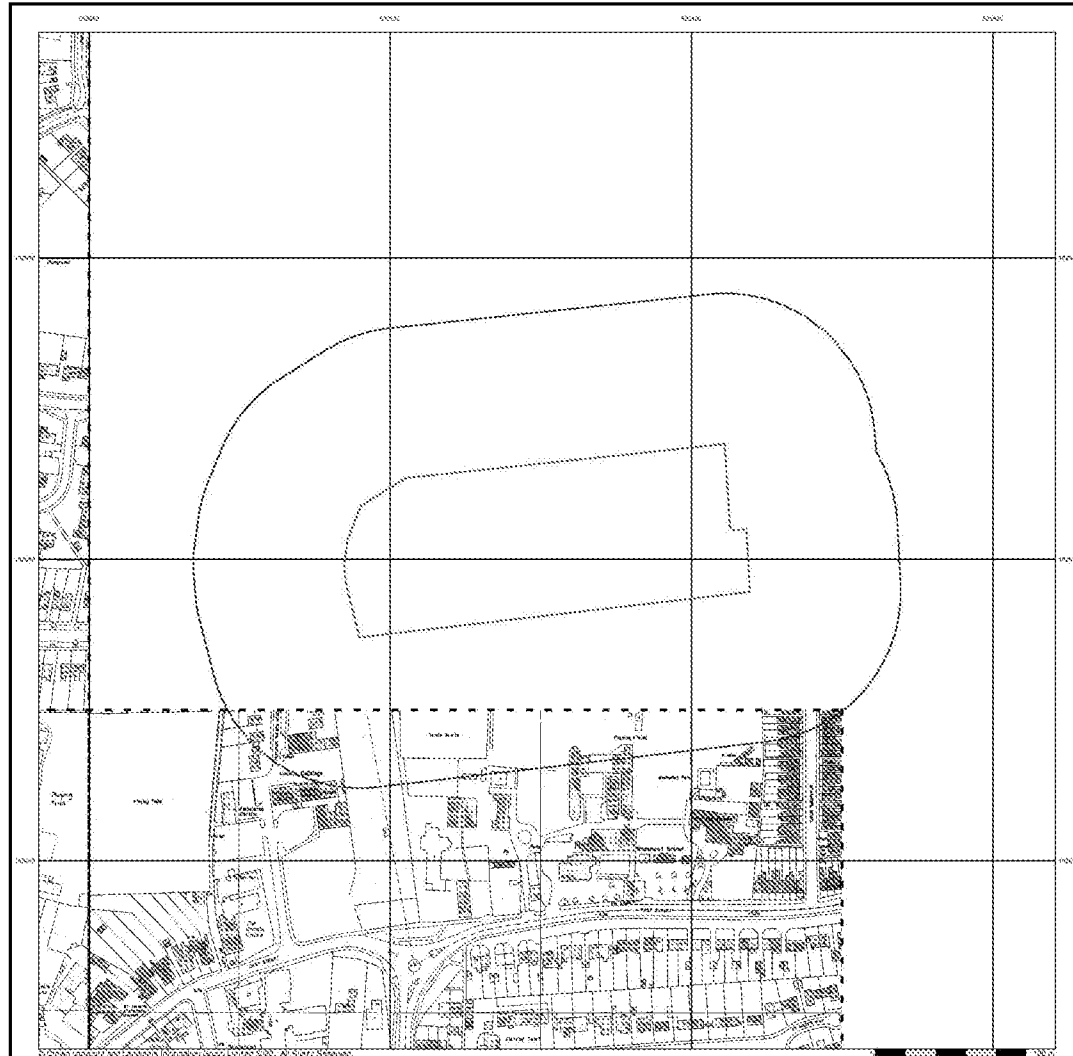


**Historical Map - Segment A13**



**Order Details**  
Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 100

**Site Details**  
Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE



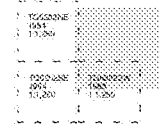
## Additional SIMs

**Published 1984 - 1989**

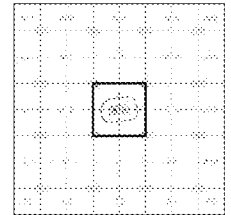
**Source map scale - 1:1,250**

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

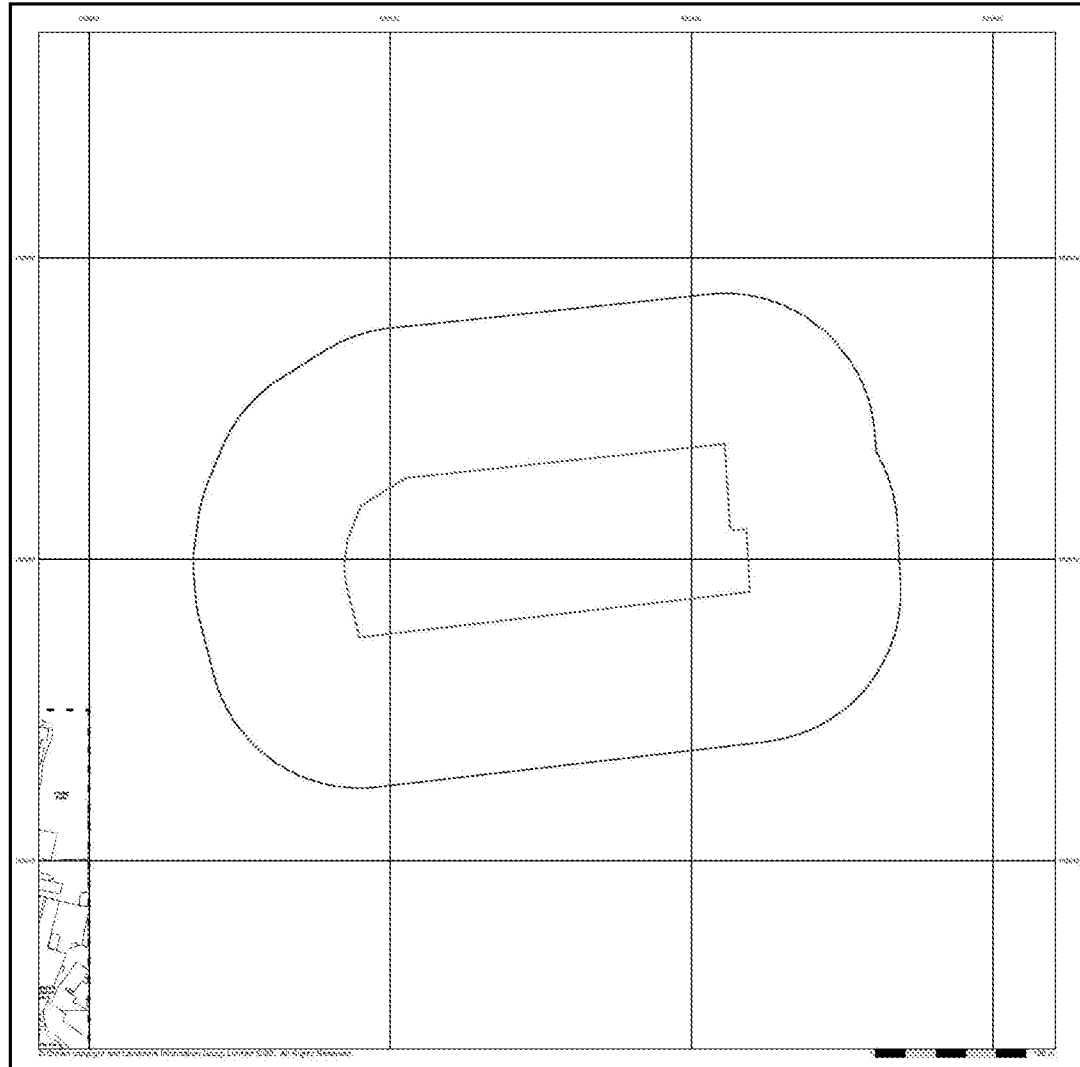


## Order Details

Order Number: 245184381\_1\_1  
 Customer Ref: LP2265  
 National Grid Reference: 503310, 102610  
 Slice: A  
 Site Area (Ha): 2.56  
 Search Buffer (m): 100

## Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE



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**Additional SIMs**  
**Published 1987**  
**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)**

10/20022  
500  
1:1,250

**Historical Map - Segment A13**

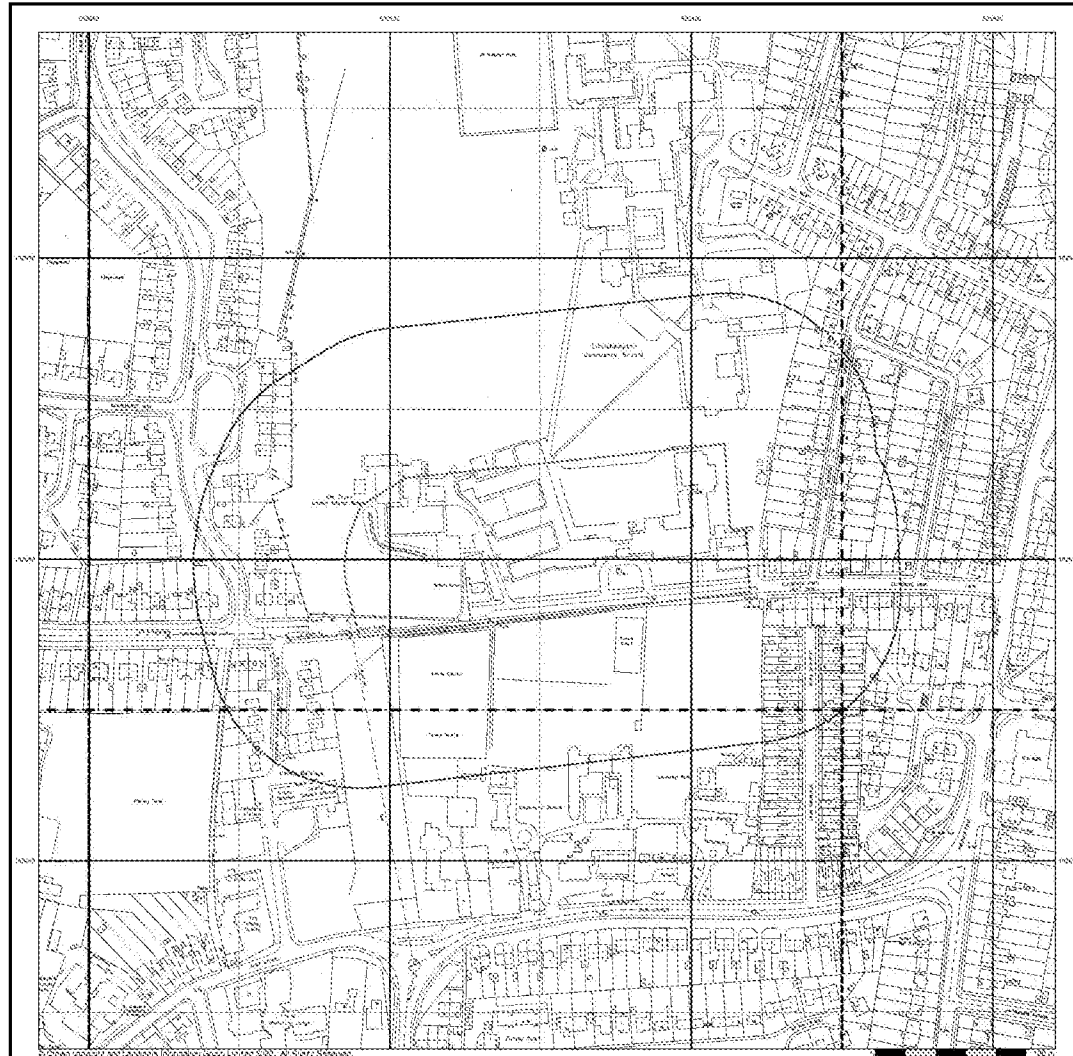
**Order Details**  
Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 100

**Site Details**  
Land off Elmgrove Road, LITTLEHAMPTON, BN17 6FE

**Landmark<sup>®</sup>**  
LANDMARK INFORMATION GROUP<sup>®</sup>

Tel: 0245 514 1000  
Fax: 0564 564 0001  
Web: [www.envirocheck.co.uk](http://www.envirocheck.co.uk)

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# Envirocheck<sup>®</sup>

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## Large-Scale National Grid Data

Published 1994

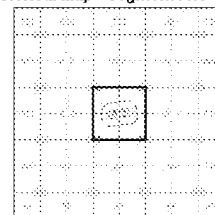
Source map scale - 1:1,250

'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 forerunners 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)

|            |            |            |
|------------|------------|------------|
| 1000000000 | 1000000000 | 1000000000 |
| 1000       | 1000       | 1000       |
| 1000000000 | 1000000000 | 1000000000 |
| 1000       | 1000       | 1000       |
| 1000000000 | 1000000000 | 1000000000 |
| 1000       | 1000       | 1000       |

### Historical Map - Segment A13



### Order Details

Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 100

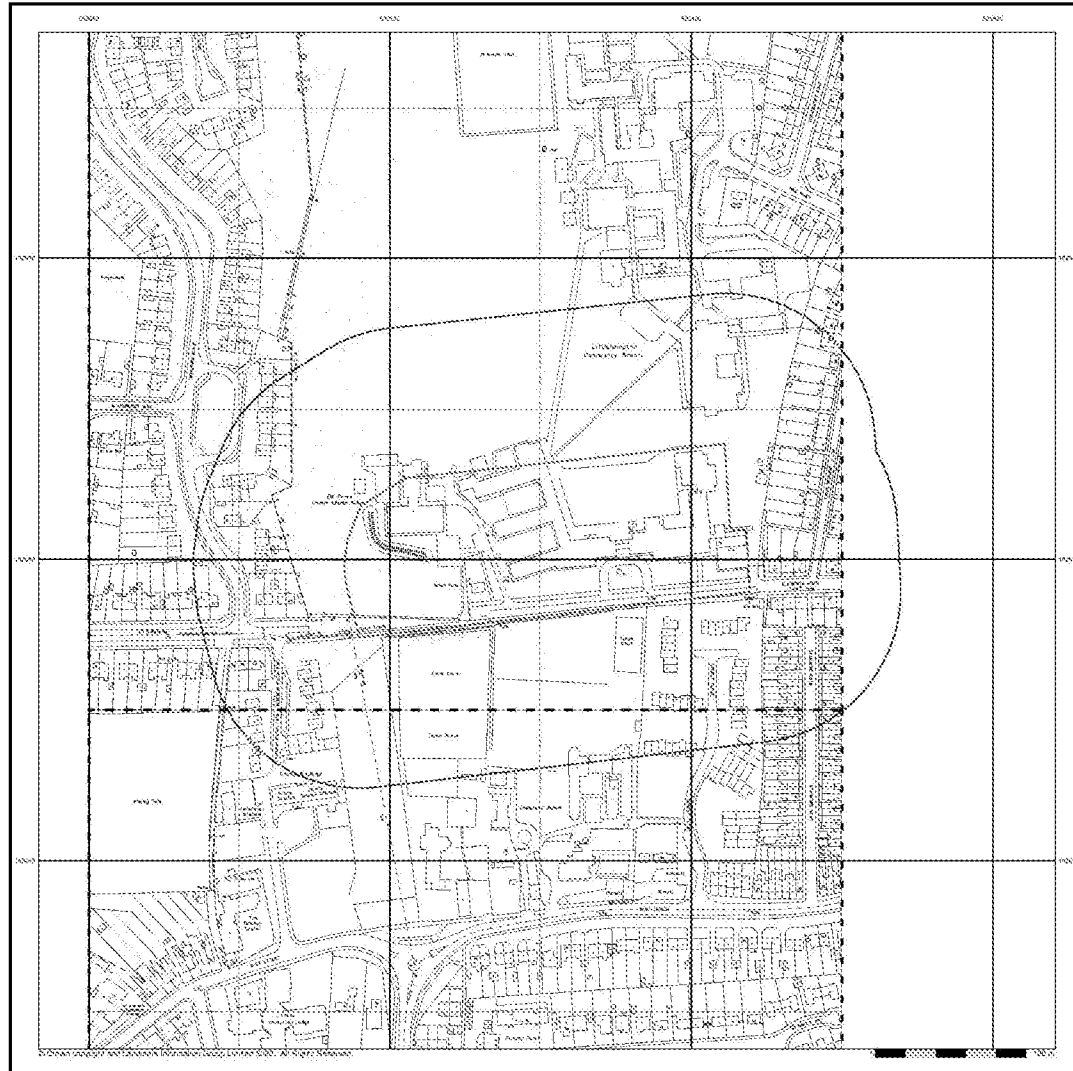
### Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE

**Landmark**  
LANDMARK INFORMATION GROUP<sup>®</sup>

Tel: 01474 519100  
Fax: 01474 519101  
Web: www.envirocheck.co.uk

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# Envirocheck<sup>®</sup>

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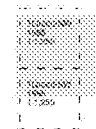
### Large-Scale National Grid Data

Published 1995

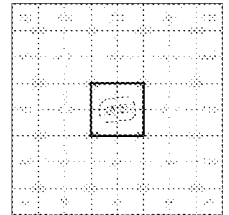
**Source map scale - 1:1,250**

'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: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 100

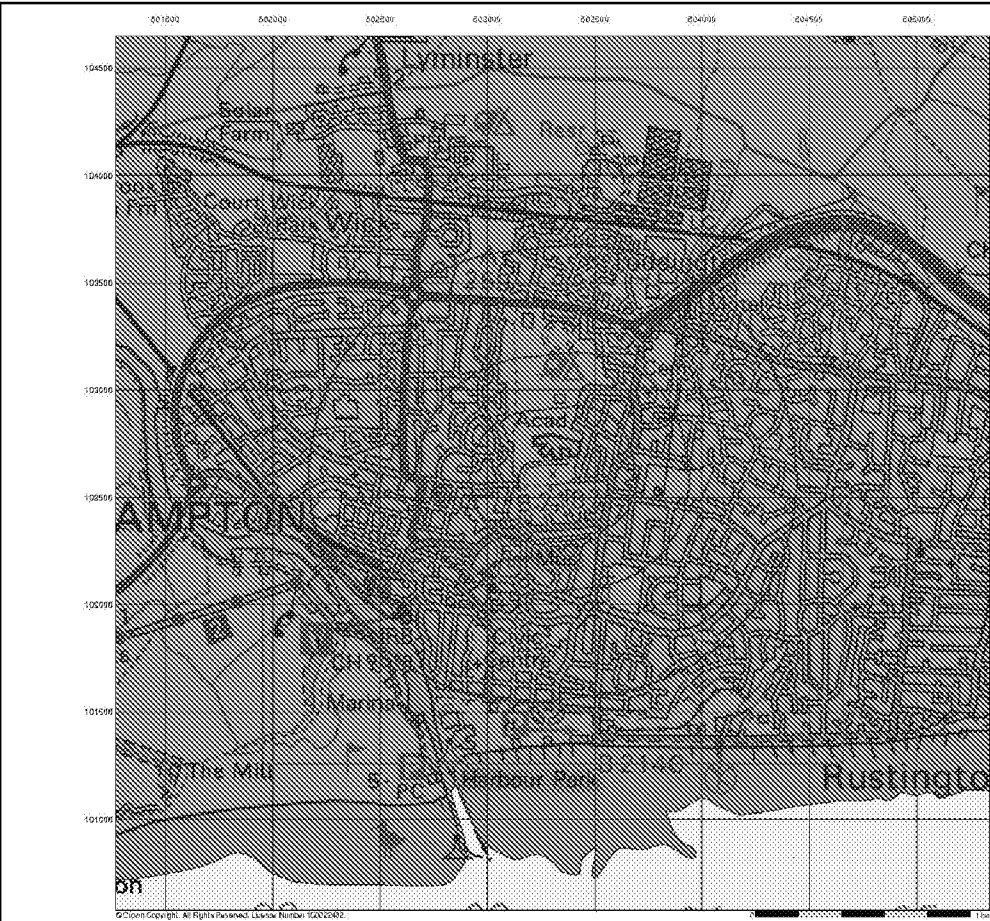
## Site Details

Land off Elmgrove Road, LITTLEHAMPTON, BN17 6FE

**Landmark**  
MEDIA & INFORMATION GROUP

Tel: 02045 8845 8860  
Fax: 02045 046 0051  
Web: [www.enformanet.co.uk](http://www.enformanet.co.uk)





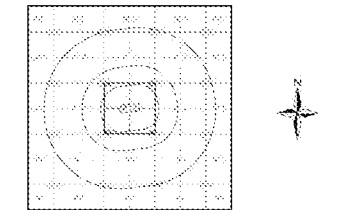
Bedrock Aquifer Designation

- General
- Specified Site
  - Specified Buffer(s)
  - Clearing Reference Point
  - Site
  - Site ID

Agency and Hydrological

- Geological Classes
- Principal Aquifer
  - Secondary A Aquifer
  - Secondary B Aquifer
  - Secondary Undifferentiated
  - Unproductive Strata
  - Unknown
  - Unknown (Lakes and Landfill)

Site Sensitivity Context Map - Slice A



Order Details

Order Number: 246184381\_1.1  
Customer Ref: LP2285  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.58  
Search Buffer (m): 1000

Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE



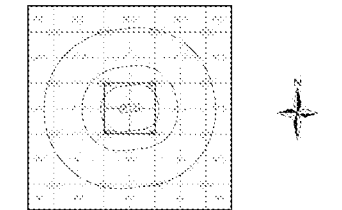
Superficial Aquifer Designation

- General
- Specified Site
  - Specified Buffer(s)
  - Clearing Reference Point
  - Site
  - Site 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

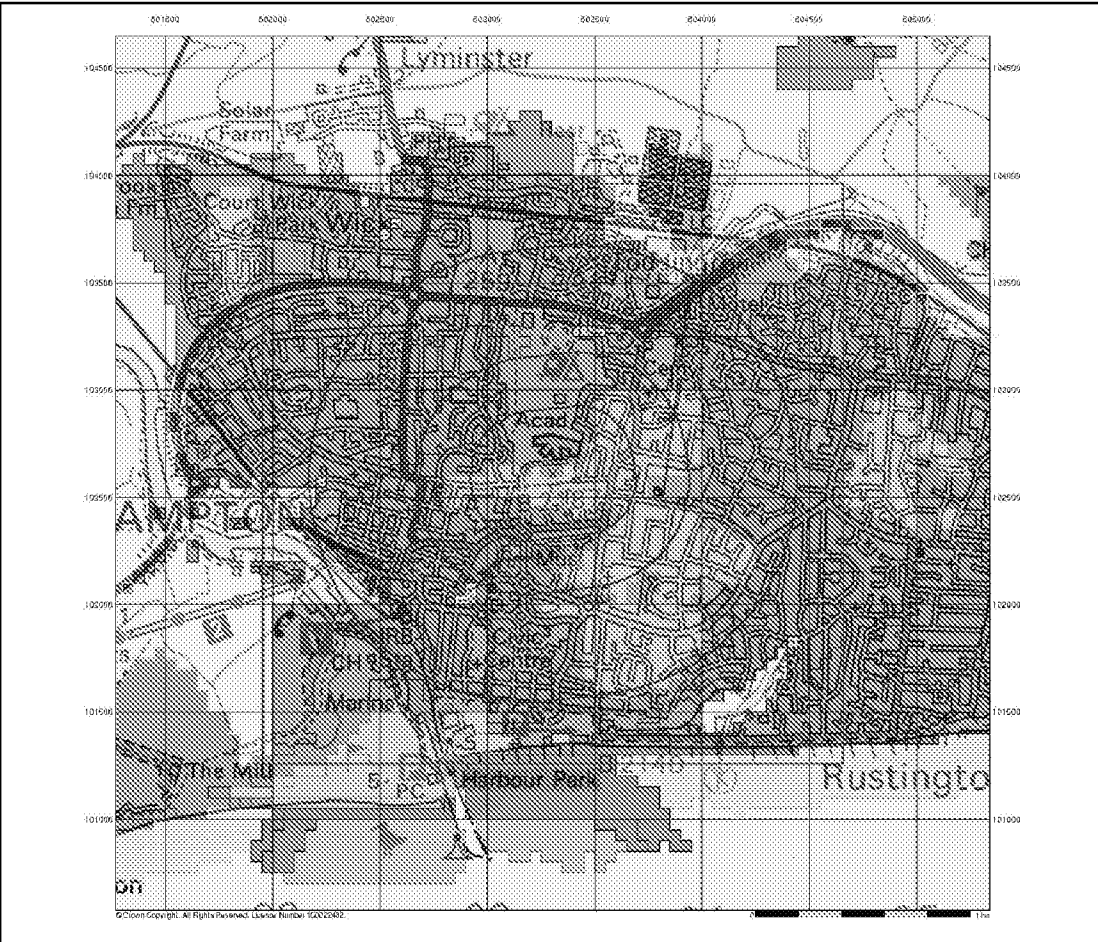
Order Number: 245184381\_1\_1  
Customer Ref: LP2285  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.58  
Search Buffer (m): 1000

Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE







# Envirocheck®

LANDMARK INFORMATION GROUP

## BGS Flood GFS Data

**General**

- Specified Site
- Specified Buffers
- Bearing Reference Point

**Agency and Hydrological (Flood)**

- Unlikely 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:            | 246184381_1.1  |
| Customer Ref:            | LP2286         |
| National Grid Reference: | 503310, 102610 |
| Slice:                   | A              |
| Site Area (Ha):          | 2.56           |
| Search Buffer (m):       | 1000           |

**Site Details**  
Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE

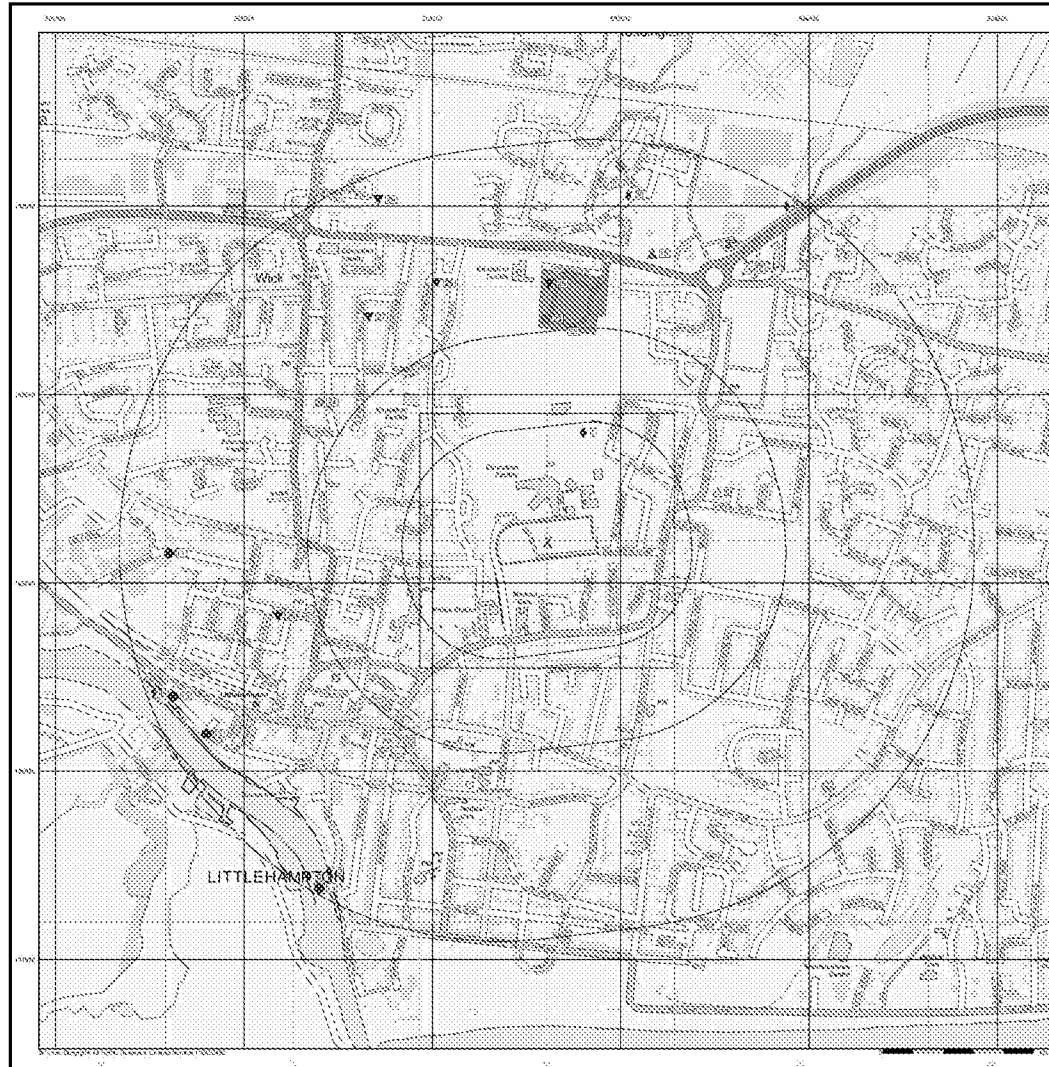
### Landmark®

LANDMARK INFORMATION GROUP

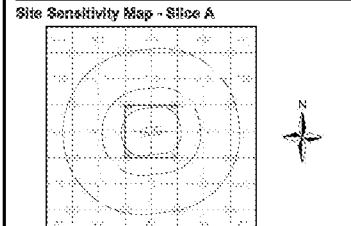
Tel: 0811 555 000  
Fax: 0844 544 500  
Web: [www.envirocheck.co.uk](http://www.envirocheck.co.uk)

A Landmark Information Group Service v15.0 18-Jun-2020

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- General**
- Specified Site
  - Specified Buffer(s)
  - ✕ Bearing Reference Point
  - Map ID
  - Several of Type at Location
- Agency and Hydrological**
- Contaminated Land Register Entry or Notice (Location)
  - Contaminated Land Register Entry or Notice (Several of Type at Location)
  - Discharge Consent
  - Enforcement or Prohibition Notice
  - Integrated Pollution 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
  - Protection Relating to Controlled Processes
  - Protection Relating to Controlled Waters
  - Registered Polluting Substance
  - River Network or Water Feature
  - River Quality Sampling Point
  - Substantiated Pollution Incident Register
  - Water Abstraction
  - Water Industry Act Material
- Geological**
- DSE Recorded Mineral Site
- Industrial Land Use**
- ★ Contemporary Trade Directory Entry
  - ★ Fuel Station Entry
- Waste**
- BOD Recorded Landfill Site (Location)
  - BOD Recorded Landfill Site
  - EA Historic Landfill (Surface Risk)
  - EA Historic Landfill (Reign)
  - Integrated Pollution Control Registered Waste Site
  - Licensed Waste Management Facility (Location)
  - Local Authority Recorded Landfill Site (Location)
  - Local Authority Recorded Landfill Site
  - Registered Landfill Site
  - Registered Landfill Site (Location)
  - Registered Landfill Site (Pre Defined to 100m)
  - Registered Landfill Site (Pre Defined to 200m)
  - Registered Waste Transfer Site (Location)
  - Registered Waste Transfer Site
  - Registered Waste Treatment or Disposal Site (Location)
  - Registered Waste Treatment or Disposal Site
- Hazardous Substances**
- COSHH Site
  - Explosive Site
  - HNS Site
  - Handling Hazardous Substance Consent
  - Handling Hazardous Substance Enforcement

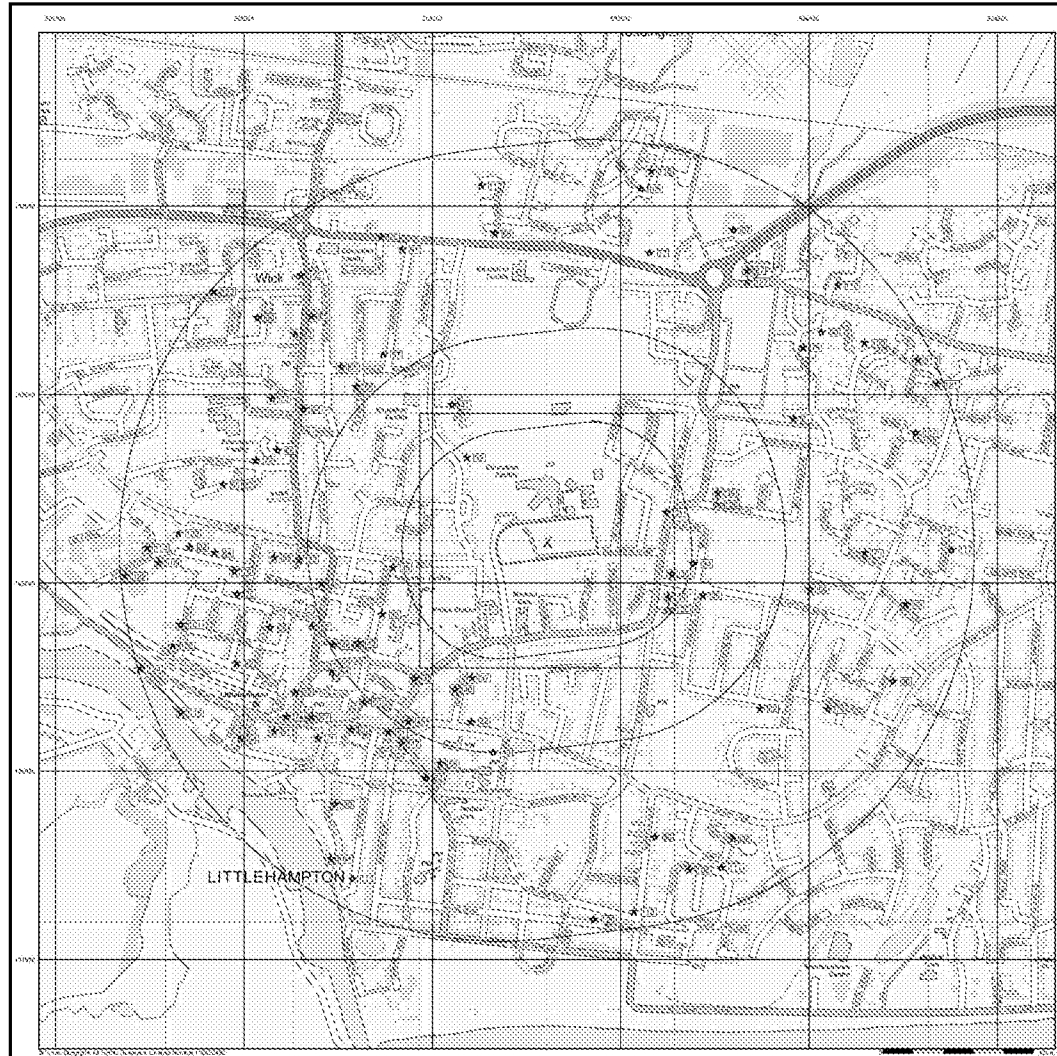


**Order Details**

Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 1000

**Site Details**

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE



## Industrial Land Use Map

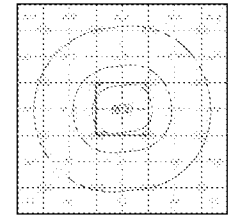
### General

- Specified Site
- Specified Buffer(s)
- Existing Reference Point
- Site
- Map ID

### Industrial Land Use

- Contemporary Trade Directory Entry
- Fuel Station Entry
- Gas Station
- Underground Electrical Cables

## Industrial Land Use Map - Slice A



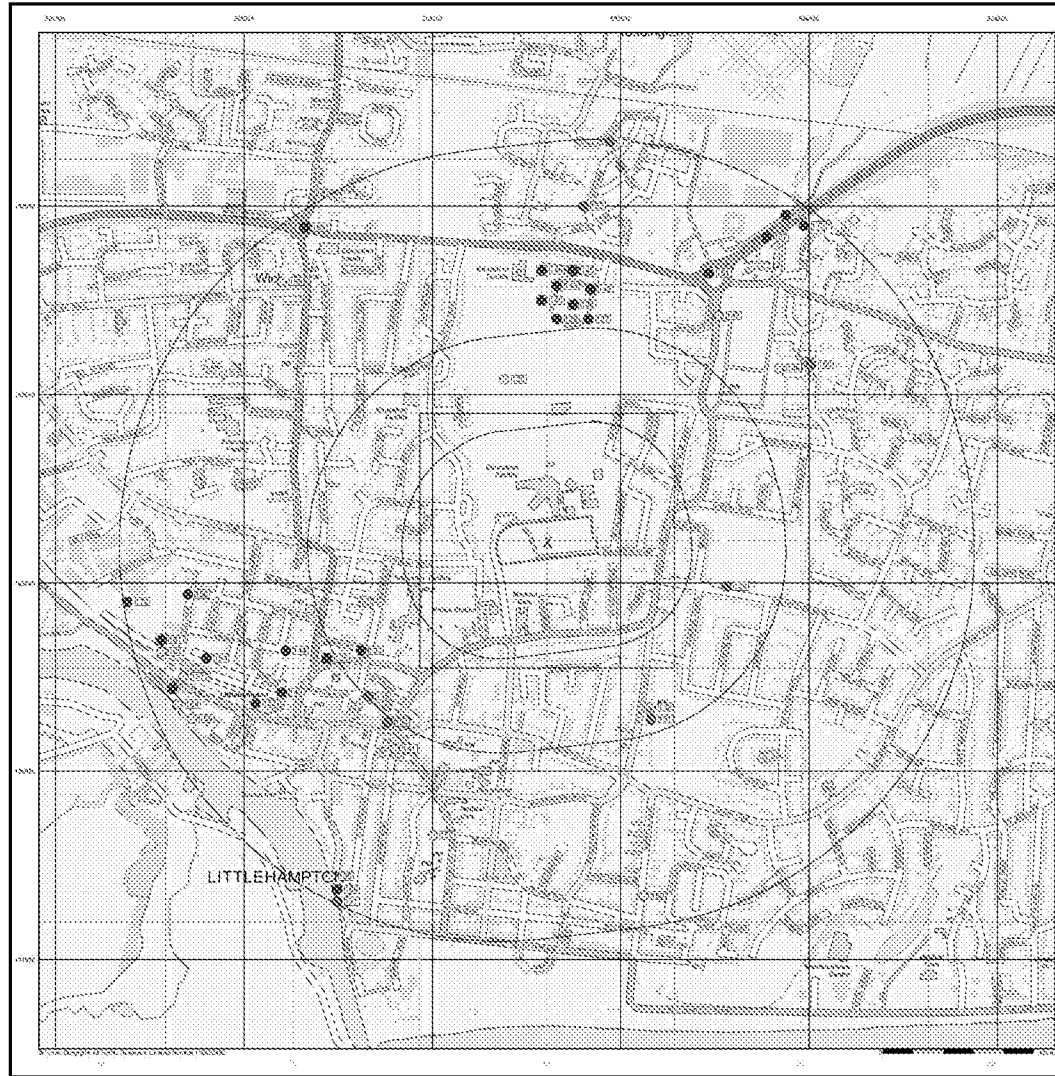
### Order Details

Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 1000

### Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE





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## General

- Selected Site
- Searching Buffer (m)
- X Existing Reference Point
- Map ID
- Several of Typical Location

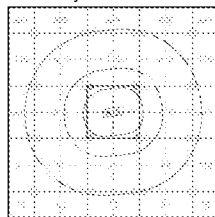
## Agency and Hydrological (Boreholes)

- BGS Borehole Depth 0 - 10m
- BGS Borehole Depth 10 - 30m
- ✱ BGS Borehole Depth 30m +
- Horizontal
- 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](http://www.envirocheck.co.uk).

## Borehole Map - Slice A



## Order Details

Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 1000

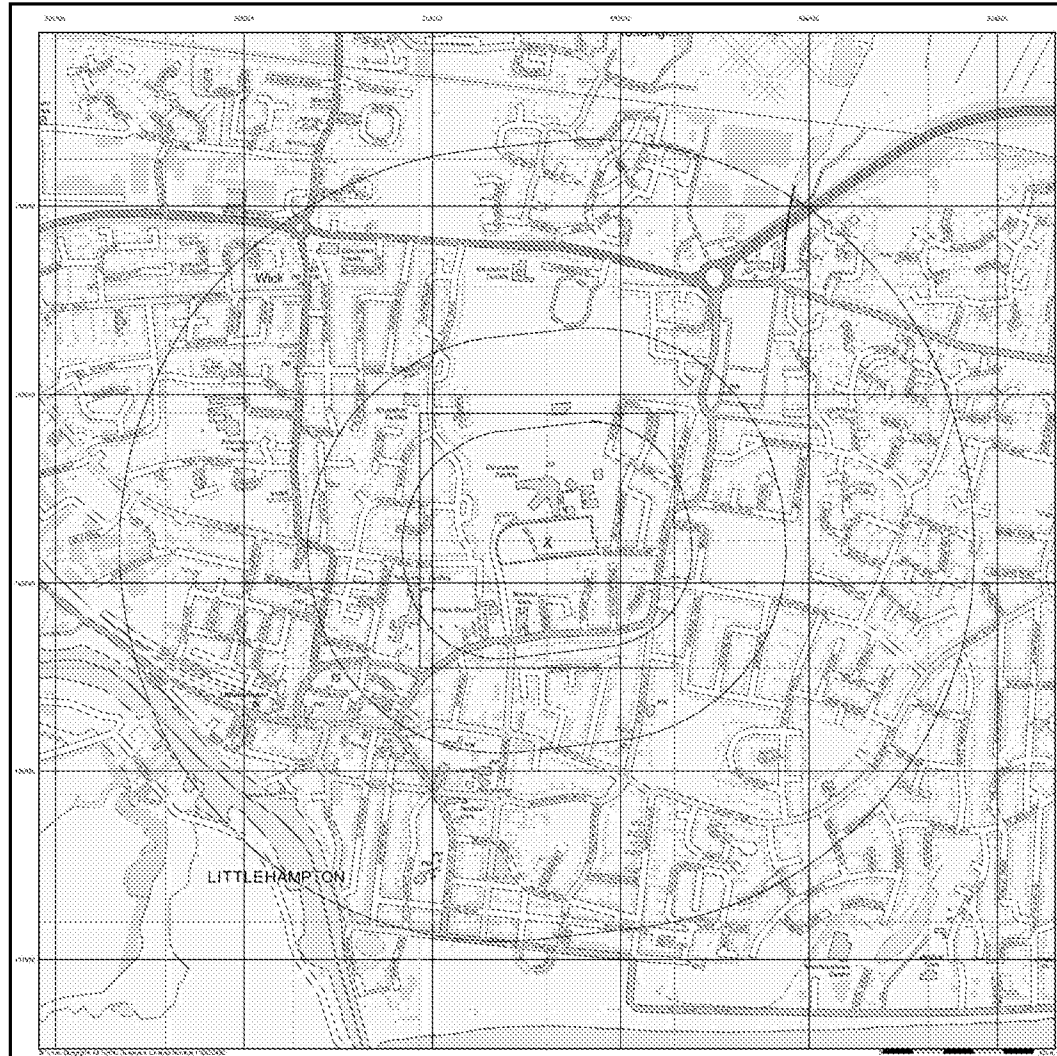
## Site Details

Land off Elmgrove Road, LITTLEHAMPTON, BN17 6FE

Landmark<sup>®</sup>  
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# Envirocheck<sup>®</sup>

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General

- Specified Site
- Specified Buffering
- X Boring Reference Point

OS Water Network Data

|                    |                               |
|--------------------|-------------------------------|
| ----- Canal        | ----- Drain                   |
| ----- Reservoir    | ----- Other                   |
| ----- Foreshore    | ----- Lake                    |
| ----- Wharft       | ----- Transfer                |
| ----- Tidal River  | ----- Lack Of Right Of Access |
| ----- Inland River | ----- Sea                     |

OS Water Network Map - Slice A

Order Details

Order Number: 245184381\_1\_1  
Customer Ref: LP2265  
National Grid Reference: 503310, 102610  
Slice: A  
Site Area (Ha): 2.56  
Search Buffer (m): 1000

Site Details

Land off Elm Grove Road, LITTLEHAMPTON, BN17 6FE

**Landmark**  
LANDMARK INFORMATION GROUP

Tel: 0244 344 9002  
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Web: [www.landmarkinfo.co.uk](http://www.landmarkinfo.co.uk)

A Landmark Information Group Service v50.0 18-Jun-2020 Page 5 of 5

## Envirocheck® Report:

### Datasheet

#### Order Details:

Order Number:

245184381\_1\_1

Customer Reference:

LP2265

National Grid Reference:

503310, 102610

Slice:

A

Site Area (Ha):

2.56

Search Buffer (m):

1000

#### Site Details:

Land off Elmgrove Road

LITTLEHAMPTON

BN17 6FE

#### Client Details:

Mrs H Smith

Leap Environmental Ltd

The Atrium Business Centre

Curtis Road

Dorking

Surrey

RH4 1XA

| Report Section        | Page Number |
|-----------------------|-------------|
| Summary               | -           |
| Agency & Hydrological | 1           |
| Waste                 | 14          |
| Hazardous Substances  | -           |
| Geological            | 15          |
| Industrial Land Use   | 17          |
| Sensitive Land Use    | 32          |
| Data Currency         | 33          |
| Data Suppliers        | 38          |
| Useful Contacts       | 39          |

### Introduction

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

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### Report Version v53.0

| Data Type                                                     | Page Number | On Site | 0 to 250m | 251 to 500m | 501 to 1000m (*up to 2000m) |
|---------------------------------------------------------------|-------------|---------|-----------|-------------|-----------------------------|
| <b>Agency &amp; Hydrological</b>                              |             |         |           |             |                             |
| BGS Groundwater Flooding Susceptibility                       | pg 1        | Yes     | Yes       |             | n/a                         |
| Contaminated Land Register Entries and Notices                |             |         |           |             |                             |
| Discharge Consents                                            | pg 1        |         | 1         |             | 7                           |
| 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 2        |         | 1         | 1           | 2                           |
| Local Authority Pollution Prevention and Control Enforcements |             |         |           |             |                             |
| Nearest Surface Water Feature                                 | pg 3        | Yes     |           |             |                             |
| Pollution Incidents to Controlled Waters                      | pg 3        |         |           |             | 6                           |
| Prosecutions Relating to Authorised Processes                 |             |         |           |             |                             |
| Registered Radioactive Substances                             | pg 4        |         |           |             | 1                           |
| River Quality                                                 |             |         |           |             |                             |
| River Quality Biology Sampling Points                         |             |         |           |             |                             |
| River Quality Chemistry Sampling Points                       |             |         |           |             |                             |
| Substantiated Pollution Incident Register                     |             |         |           |             |                             |
| Water Abstractions                                            | pg 4        |         |           |             | 7 (*24)                     |
| Water Industry Act Referrals                                  |             |         |           |             |                             |
| Groundwater Vulnerability Map                                 | pg 12       | Yes     | n/a       | n/a         | n/a                         |
| Groundwater Vulnerability - Soluble Rock Risk                 | pg 12       | 1       | n/a       | n/a         | n/a                         |
| Bedrock Aquifer Designations                                  | pg 12       | Yes     | n/a       | n/a         | n/a                         |
| Superficial Aquifer Designations                              | pg 12       | Yes     | n/a       | n/a         | n/a                         |
| Source Protection Zones                                       |             |         |           |             |                             |
| Extreme Flooding from Rivers or Sea without Defences          | pg 12       |         | Yes       | n/a         | n/a                         |
| Flooding from Rivers or Sea without Defences                  | pg 12       |         | Yes       | 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 13       |         |           |             | 4                           |

| Data Type                                                           | Page Number | On Site | 0 to 250m | 251 to 500m | 501 to 1000m (*up to 2000m) |
|---------------------------------------------------------------------|-------------|---------|-----------|-------------|-----------------------------|
| <b>Waste</b>                                                        |             |         |           |             |                             |
| BGS Recorded Landfill Sites                                         |             |         |           |             |                             |
| Historical Landfill Sites                                           | pg 14       |         |           | 1           |                             |
| Integrated Pollution Control Registered Waste Sites                 |             |         |           |             |                             |
| Licensed Waste Management Facilities (Landfill Boundaries)          |             |         |           |             |                             |
| Licensed Waste Management Facilities (Locations)                    |             |         |           |             |                             |
| Local Authority Landfill Coverage                                   | pg 14       | 2       | n/a       | n/a         | n/a                         |
| Local Authority Recorded Landfill Sites                             | pg 14       |         |           |             | 1                           |
| Registered Landfill Sites                                           |             |         |           |             |                             |
| Registered Waste Transfer Sites                                     |             |         |           |             |                             |
| Registered Waste Treatment or Disposal Sites                        | pg 14       |         |           |             | 1                           |
| <b>Hazardous Substances</b>                                         |             |         |           |             |                             |
| Control of Major Accident Hazards Sites (COMAH)                     |             |         |           |             |                             |
| Explosive Sites                                                     |             |         |           |             |                             |
| Notification of Installations Handling Hazardous Substances (NIHHS) |             |         |           |             |                             |
| Planning Hazardous Substance Consents                               |             |         |           |             |                             |
| Planning Hazardous Substance Enforcements                           |             |         |           |             |                             |
| <b>Geological</b>                                                   |             |         |           |             |                             |
| BGS 1:625,000 Solid Geology                                         | pg 15       | Yes     | n/a       | n/a         | n/a                         |
| BGS Recorded Mineral Sites                                          | pg 15       |         |           |             | 5                           |
| 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 15       | Yes     |           | n/a         | n/a                         |
| Potential for Collapsible Ground Stability Hazards                  | pg 15       | Yes     |           | n/a         | n/a                         |
| Potential for Compressible Ground Stability Hazards                 |             |         |           | n/a         | n/a                         |
| Potential for Ground Dissolution Stability Hazards                  | pg 16       | Yes     |           | n/a         | n/a                         |
| Potential for Landslide Ground Stability Hazards                    | pg 16       | Yes     |           | n/a         | n/a                         |
| Potential for Running Sand Ground Stability Hazards                 | pg 16       | Yes     |           | n/a         | n/a                         |
| Potential for Shrinking or Swelling Clay Ground Stability Hazards   | pg 16       | 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                         |

| Data Type                            | Page Number | On Site | 0 to 250m | 251 to 500m | 501 to 1000m<br>(*up to 2000m) |
|--------------------------------------|-------------|---------|-----------|-------------|--------------------------------|
| <b>Industrial Land Use</b>           |             |         |           |             |                                |
| Contemporary Trade Directory Entries | pg 17       |         | 8         | 27          | 125                            |
| Fuel Station Entries                 | pg 30       |         | 1         | 1           | 1                              |
| Gas Pipelines                        |             |         |           |             |                                |
| Underground Electrical Cables        |             |         |           |             |                                |
| <b>Sensitive Land Use</b>            |             |         |           |             |                                |
| 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 32       |         |           |             | 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           |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------|---------|---------------|
|        | <b>BGS Groundwater Flooding Susceptibility</b><br>Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | A13SE (N)                              | 0                            | 1       | 503306 102609 |
|        | <b>BGS Groundwater Flooding Susceptibility</b><br>Flooding Type: Limited Potential for Groundwater Flooding to Occur                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | A13SE (S)                              | 0                            | 1       | 503306 102600 |
|        | <b>BGS Groundwater Flooding Susceptibility</b><br>Flooding Type: Potential for Groundwater Flooding of Property Situated Below Ground Level                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | A13SW (SW)                             | 152                          | 1       | 503150 102400 |
| 1      | <b>Discharge Consents</b><br>Operator: West Sussex County Council<br>Property Type: EDUCATION/NURSERY/SCHOOL/COLLEGE/UNI/TRAINING VENUE<br>Location: Littlehampton Comm. School, Hill Road, Littlehampton, West Sussex<br>Authority: Environment Agency, Southern Region<br>Catchment Area: Not Supplied<br>Reference: P04113<br>Permit Version: 1<br>Effective Date: 24th February 1992<br>Issued Date: 24th February 1992<br>Revocation Date: 31st March 1995<br>Discharge Type: Discharge Of Other Matter-Surface Water<br>Discharge: Freshwater Stream/River<br>Environment:<br>Receiving Water: Freshwater River<br><b>Status:</b> Post National Rivers Authority Legislation where issue date > 31/08/1989<br>Positional Accuracy: Located by supplier to within 100m | A13NE (N)                              | 225                          | 2       | 503400 102900 |
| 2      | <b>Discharge Consents</b><br>Operator: Firview Nursery<br>Property Type: Mixed Farming<br>Location: Firview Nursery, Toddington Lane, Littlehampton, West Sussex, Bn17 7qp<br>Authority: Environment Agency, Southern Region<br>Catchment Area: Not Supplied<br>Reference: App/So/74su<br>Permit Version: 1<br>Effective Date: 1st April 1999<br>Issued Date: 1st April 1999<br>Revocation Date: 1st April 1999<br>Discharge Type: Trade Discharge - Process Water<br>Discharge: Into Land<br>Environment:<br>Receiving Water: Into Land<br><b>Status:</b> New Consent (Water Resources Act 1991, Section 88 & Schedule 10 as amended by Environment Act 1995)<br>Positional Accuracy: Located by supplier to within 10m                                                    | A18NE (N)                              | 860                          | 2       | 503520 103530 |
| 3      | <b>Discharge Consents</b><br>Operator: Mr Rupert Cleaver<br>Property Type: DOMESTIC PROPERTY (SINGLE) (INCL FARM HOUSE)<br>Location: Penn House Old London Road, Coldwaltham, Pulborough, West Sussex, Rh20 1lf<br>Authority: Environment Agency, Southern Region<br>Catchment Area: Not Supplied<br>Reference: Eprfb3994ey<br>Permit Version: 1<br>Effective Date: 3rd April 2017<br>Issued Date: 3rd April 2017<br>Revocation Date: Not Supplied<br>Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company<br>Discharge: Freshwater Stream/River<br>Environment:<br>Receiving Water: Unnamed Trib Of Rover Rother<br><b>Status:</b> New issued under EPR 2010<br>Positional Accuracy: Located by supplier to within 10m                           | A7SE (SW)                              | 934                          | 2       | 502725 101733 |
| 4      | <b>Discharge Consents</b><br>Operator: Southern Water Services Ltd<br>Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY)<br>Location: Maxwell Rd/East Ham Rd, Littlehampton, Sussex<br>Authority: Environment Agency, Southern Region<br>Catchment Area: Not Supplied<br>Reference: A00864<br>Permit Version: 1<br>Effective Date: 13th July 2001<br>Issued Date: 13th July 2001<br>Revocation Date: 31st March 2018<br>Discharge Type: Public Sewage: Storm Sewage Overflow<br>Discharge: Freshwater Stream/River<br>Environment:<br>Receiving Water: Freshwater River<br><b>Status:</b> Surrendered under EPR 2010<br>Positional Accuracy: Located by supplier to within 10m                                                                               | A6NE (W)                               | 962                          | 2       | 502280 102210 |

| Map ID | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------|---------|---------------|
| 4      | <b>Discharge Consents</b><br>Operator: Southern Water Services Limited. +<br>Property Type: STORM TANK/CSO ON SEWERAGE NETWORK (WATER COMPANY)<br>Location: Talbot Road Littlehampton Cso, Talbot Road, Littlehampton, West Sussex, Bn17 7bp<br>Authority: Environment Agency, Southern Region<br>Catchment Area: Adur Estuary & Freshwater Tributaries<br>Reference: A01261<br>Permit Version: 1<br>Effective Date: 7th February 2008<br>Issued Date: 7th February 2008<br>Revocation Date: 31st March 2018<br>Discharge Type: Public Sewage: Storm Sewage Overflow<br>Discharge: Saline Estuary<br>Environment:<br>Receiving Water: River Arun (Tidal)<br><b>Status:</b> Surrendered under EPR 2010<br>Positional Accuracy: Located by supplier to within 10m | A6NE (W)                               | 965                          | 2       | 502280 102200 |
| 4      | <b>Discharge Consents</b><br>Operator: The Occupier<br>Property Type: FOOD+BEVERAGE SERVICES/CAFE/RESTAURANT/PUB<br>Location: The Arun View Inn, Wharf Road, Littlehampton West Sussex<br>Authority: Environment Agency, Southern Region<br>Catchment Area: Not Given<br>Reference: S01458<br>Permit Version: 1<br>Effective Date: 12th April 1966<br>Issued Date: 12th April 1966<br>Revocation Date: 31st March 1997<br>Discharge Type: Discharge Of Other Matter-Surface Water<br>Discharge: Controlled Sea<br>Environment:<br>Receiving Water: Controlled Sea<br><b>Status:</b> Lapsed (under Environment Act 1995, Schedule 23)<br>Positional Accuracy: Located by supplier to within 100m                                                                 | A6NE (W)                               | 980                          | 2       | 502260 102210 |
| 5      | <b>Discharge Consents</b><br>Operator: West Sussex County Council<br>Property Type: WAREHOUSING + SUPPORT ACTIVITIES FOR TRANSPORTATION<br>Location: A259 Rustington By-Pass, Western Roundabout, West Sussex<br>Authority: Environment Agency, Southern Region<br>Catchment Area: Not Given<br>Reference: P01566<br>Permit Version: 1<br>Effective Date: 17th May 1988<br>Issued Date: 17th May 1988<br>Revocation Date: 31st March 1997<br>Discharge Type: Discharge Of Other Matter-Surface Water<br>Discharge: Freshwater Stream/River<br>Environment:<br>Receiving Water: Freshwater River<br><b>Status:</b> Lapsed (under Environment Act 1995, Schedule 23)<br>Positional Accuracy: Located by supplier to within 100m                                   | A19NW (NE)                             | 973                          | 2       | 503940 103500 |
| 6      | <b>Discharge Consents</b><br>Operator: Ms S Jenkins, Hon. Secretary<br>Property Type: SPORT, AMUSEMENT+RECREATION/GOLF CLUB/GYM/THEME PK/SPA<br>Location: Arun Yacht Club, Littlehampton, West Sussex<br>Authority: Environment Agency, Southern Region<br>Catchment Area: Not Supplied<br>Reference: S01173<br>Permit Version: 1<br>Effective Date: 1st June 1961<br>Issued Date: 1st June 1961<br>Revocation Date: 11th May 1995<br>Discharge Type: Sewage Discharges - Final/Treated Effluent - Not Water Company<br>Discharge: Controlled Sea<br>Environment:<br>Receiving Water: Controlled Sea<br><b>Status:</b> Pre National Rivers Authority Legislation where issue date < 01/09/1989<br>Positional Accuracy: Located by supplier to within 10m        | A7SE (SW)                              | 973                          | 2       | 502670 101720 |
| 7      | <b>Local Authority Pollution Prevention and Controls</b><br>Name: Cuff Miller & Co Ltd<br>Location: Horsham Road, LITTLEHAMPTON, West Sussex, BN17 6BX<br>Authority: Arun District Council, Environmental Health Department<br>Permit Reference: 1946<br>Dated: 29th October 1998<br>Process Type: Local Authority Air Pollution Control<br>Description: PG1/14 Petrol filling station<br><b>Status:</b> Permitted<br>Positional Accuracy: Automatically positioned to the address                                                                                                                                                                                                                                                                              | A13SE (SE)                             | 224                          | 3       | 503627 102459 |

| Map ID | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------|---------|---------------|
| 8      | <b>Local Authority Pollution Prevention and Controls</b><br>Name: Yeomans Honda<br>Location: Thomcroft Garage, Horsham Road, LITTLEHAMPTON, West Sussex, BN17 6DP<br>Authority: Arun District Council, Environmental Health Department<br>Permit Reference: 1915<br>Dated: 29th May 1998<br>Process Type: Local Authority Air Pollution Control<br>Description: PG1/14 Petrol filling station<br>Status: <b>Authorisation revoked</b><br>Positional Accuracy: Manually positioned to the address or location                                                        | A14NW (E)                              | 340                          | 3       | 503756 102738 |
| 9      | <b>Local Authority Pollution Prevention and Controls</b><br>Name: Beach Road Dry Cleaners<br>Location: 4 Beach Road, Littlehampton, Bn17 5ht<br>Authority: Arun District Council, Environmental Health Department<br>Permit Reference: 8105<br>Dated: 13th March 2008<br>Process Type: Local Authority Air Pollution Control<br>Description: PG6/46 Dry cleaning<br>Status: <b>Permitted</b><br>Positional Accuracy: Manually positioned to the address or location                                                                                                 | A7NE (SW)                              | 543                          | 3       | 502918 102073 |
| 10     | <b>Local Authority Pollution Prevention and Controls</b><br>Name: Shell Eastfield<br>Location: Worthing Road, Rustington, LITTLEHAMPTON, West Sussex, BN17 6LE<br>Authority: Arun District Council, Environmental Health Department<br>Permit Reference: 1941<br>Dated: 14th September 1998<br>Process Type: Local Authority Air Pollution Control<br>Description: PG1/14 Petrol filling station<br>Status: <b>Permitted</b><br>Positional Accuracy: Automatically positioned to the address                                                                        | A19NW (NE)                             | 773                          | 3       | 503836 103328 |
|        | <b>Nearest Surface Water Feature</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | A13SW (W)                              | 0                            | -       | 503179 102603 |
| 11     | <b>Pollution Incidents to Controlled Waters</b><br>Property Type: Waste Management Facilities<br>Location: Onyx Depot, Harwood Road, LITTLEHAMPTON<br>Authority: Environment Agency, Southern Region<br>Pollutant: Organic Chemicals : Diesel Fuels<br>Note: Not Supplied<br>Incident Date: 13th September 1999<br>Incident Reference: 2891<br>Catchment Area: Arun<br>Receiving Water: Potential River<br>Cause of Incident: Deliberate Action<br>Incident Severity: Category 3 - Minor Incident<br>Positional Accuracy: Approximate location provided by supplier | A12SW (W)                              | 870                          | 2       | 502300 102580 |
| 12     | <b>Pollution Incidents to Controlled Waters</b><br>Property Type: Ships/Boats<br>Location: River Arun By The Arun View<br>Authority: Environment Agency, Southern Region<br>Pollutant: Oils - Diesel (Including Agricultural)<br>Note: Diesel On River Arun<br>Incident Date: 24th April 1998<br>Incident Reference: 2547<br>Catchment Area: Not Given<br>Receiving Water: Not Given<br>Cause of Incident: Oils/Related Products<br>Incident Severity: Category 3 - Minor Incident<br>Positional Accuracy: Located by supplier to within 100m                       | A7NW (SW)                              | 900                          | 2       | 502400 102100 |
| 13     | <b>Pollution Incidents to Controlled Waters</b><br>Property Type: Not Given<br>Location: Adjacent To Arun View Hotel<br>Authority: Environment Agency, Southern Region<br>Pollutant: Oils - Other Oil<br>Note: Slight Oil Pollution<br>Incident Date: 26th May 1993<br>Incident Reference: 661<br>Catchment Area: Not Given<br>Receiving Water: Not Given<br>Cause of Incident: Oils/Related Products<br>Incident Severity: Category 3 - Minor Incident<br>Positional Accuracy: Located by supplier to within 100m                                                  | A7NW (W)                               | 946                          | 2       | 502300 102200 |

| Map ID | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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| 14     | <b>Pollution Incidents to Controlled Waters</b><br>Property Type: Ships/Boats<br>Location: Littlehampton Harbour, Jetty Adjacent To, Harbourmasters Office, LITTLEHAMPTON<br>Authority: Environment Agency, Southern Region<br>Pollutant: Oils - Petrol<br>Note: Fuel Leaking From Red Speedboat<br>Incident Date: 24th September 1996<br>Incident Reference: 1878<br>Catchment Area: Not Given<br>Receiving Water: Not Given<br>Cause of Incident: Oil Boat/Ship<br>Incident Severity: Category 3 - Minor Incident<br>Positional Accuracy: Unknown                                                                                | A7SE (SW)                              | 949                          | 2       | 502700 101730 |
| 14     | <b>Pollution Incidents to Controlled Waters</b><br>Property Type: Industrial: Other<br>Location: Entrance To Littlehampton Harbour<br>Authority: Environment Agency, Southern Region<br>Pollutant: Oils - Diesel (Including Agricultural)<br>Note: Oil Sheen On River Arun; Industrial: Other<br>Incident Date: 9th December 1995<br>Incident Reference: 1521<br>Catchment Area: Not Given<br>Receiving Water: Not Given<br>Cause of Incident: Oils/Related Products<br>Incident Severity: Category 3 - Minor Incident<br>Positional Accuracy: Located by supplier to within 100m                                                  | A7SE (SW)                              | 975                          | 2       | 502700 101700 |
| 14     | <b>Pollution Incidents to Controlled Waters</b><br>Property Type: Miscellaneous Premises: Unknown<br>Location: Alongside, Harbour Masters Office<br>Authority: Environment Agency, Southern Region<br>Pollutant: Oils - Tars/Bitumen<br>Note: Oil/Tar On River Arun<br>Incident Date: 24th February 1997<br>Incident Reference: 2041<br>Catchment Area: Not Given<br>Receiving Water: Not Given<br>Cause of Incident: Oils/Related Products<br>Incident Severity: Category 3 - Minor Incident<br>Positional Accuracy: Located by supplier to within 100m                                                                           | A7SE (SW)                              | 979                          | 2       | 502700 101695 |
| 15     | <b>Registered Radioactive Substances</b><br>Name: Horticulture Research International<br>Location: Worthing Road, LITTLEHAMPTON, West Sussex, BN17 6LP<br>Authority: Environment Agency, Southern Region<br>Permit Reference: AH5094<br>Dated: 31st March 1991<br>Process Type: Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7)<br>Description: Authorisation under RSA<br>Status: <b>Authorisation either revoked or cancelled</b><br>Positional Accuracy: Located by supplier to within 100m                                                                                                    | A18NE (N)                              | 712                          | 2       | 503583 103370 |
| 16     | <b>Water Abstractions</b><br>Operator: Firview Nursery<br>Licence Number: 414025A<br>Permit Version: Not Supplied<br>Location: Firview Nursery, Toddington Lane, LITTLEHAMPTON<br>Authority: Environment Agency, Southern Region<br>Abstraction: Agriculture (General)<br>Abstraction Type: Not Supplied<br>Source: Pond or Lake<br>Daily Rate (m3): 68<br>Yearly Rate (m3): 511<br>Details: Additional Purpose: Spray Irrigation<br>Authorised Start: Not Supplied<br>Authorised End: Not Supplied<br>Permit Start Date: Not Supplied<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 100m | A18NE (N)                              | 880                          | 2       | 503465 103555 |

| Map ID | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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| 16     | <b>Water Abstractions</b><br>Operator: Yoder Toddington Ltd<br>Licence Number: 10/41/414025<br>Permit Version: 101<br>Location: Firview Nursery Toddington Lane<br>Authority: Environment Agency, Southern Region<br>Abstraction: Agriculture: Horticultural Watering<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 January<br>Authorised End: 31 December<br>Permit Start Date: 17th October 2003<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 10m                   | A18NE (N)                              | 885                          | 2       | 503460 103560 |
| 16     | <b>Water Abstractions</b><br>Operator: Yoder Toddington Ltd<br>Licence Number: 10/41/414025<br>Permit Version: 101<br>Location: Firview Nursery Toddington Lane<br>Authority: Environment Agency, Southern Region<br>Abstraction: Horticulture And Nurseries: Spray Irrigation - Direct<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 January<br>Authorised End: 31 December<br>Permit Start Date: 17th October 2003<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 10m | A18NE (N)                              | 885                          | 2       | 503460 103560 |
| 16     | <b>Water Abstractions</b><br>Operator: Firview Nursery<br>Licence Number: 10/41/414025<br>Permit Version: 100<br>Location: Firview Nursery Toddington Lane<br>Authority: Environment Agency, Southern Region<br>Abstraction: Horticulture And Nurseries: Spray Irrigation - Direct<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 January<br>Authorised End: 31 December<br>Permit Start Date: 23rd March 1966<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 100m       | A18NE (N)                              | 885                          | 2       | 503460 103560 |
| 16     | <b>Water Abstractions</b><br>Operator: Firview Nursery<br>Licence Number: 10/41/414025<br>Permit Version: 100<br>Location: Firview Nursery Toddington Lane<br>Authority: Environment Agency, Southern Region<br>Abstraction: Agriculture: Horticultural Watering<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 January<br>Authorised End: 31 December<br>Permit Start Date: 23rd March 1966<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 10m                          | A18NE (N)                              | 885                          | 2       | 503460 103560 |

| Map ID | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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| 17     | <b>Water Abstractions</b><br>Operator: Ministry Of Agriculture; Fisheries & Food<br>Licence Number: 414028<br>Permit Version: Not Supplied<br>Location: Former Glasshouse Crops Research Inst, LITTLEHAMPTON<br>Authority: Environment Agency, Southern Region<br>Abstraction: Garden Centre, Non Domestic Garden Or Horticulture<br>Abstraction Type: Not Supplied<br>Source: Groundwater<br>Daily Rate (m3): 136<br>Yearly Rate (m3): 5682<br>Details: H5 Chalk; Licence Status: Revoked; Lapsed Or Cancelled<br>Authorised Start: Not Supplied<br>Authorised End: Not Supplied<br>Permit Start Date: Not Supplied<br>Permit End Date: Not Supplied<br>Positional Accuracy: Unknown | A19SE (NE)                             | 970                          | 2       | 504180 103280 |
| 17     | <b>Water Abstractions</b><br>Operator: Ministry Of Agriculture Fisheries & Food<br>Licence Number: 414028<br>Permit Version: Not Supplied<br>Location: Former , Glasshouse Crops Research Inst, LITTLEHAMPTON<br>Authority: Environment Agency, Southern Region<br>Abstraction: Spray Irrigation<br>Abstraction Type: Not Supplied<br>Source: Groundwater<br>Daily Rate (m3): 0<br>Yearly Rate (m3): 0<br>Details: H5 Chalk; Licence Status: Revoked; Lapsed Or Cancelled<br>Authorised Start: Not Supplied<br>Authorised End: Not Supplied<br>Permit Start Date: Not Supplied<br>Permit End Date: Not Supplied<br>Positional Accuracy: Unknown                                       | A19NE (NE)                             | 995                          | 2       | 504200 103295 |
|        | <b>Water Abstractions</b><br>Operator: Yoder Toddington Ltd<br>Licence Number: 10/41/414019<br>Permit Version: 101<br>Location: Foxdale Nursery Toddington Lane<br>Authority: Environment Agency, Southern Region<br>Abstraction: Agriculture: Horticultural Watering<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 January<br>Authorised End: 31 December<br>Permit Start Date: 1st November 2004<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 10m                        | A23SE (N)                              | 1086                         | 2       | 503580 103750 |
|        | <b>Water Abstractions</b><br>Operator: D W P Dales & Co<br>Licence Number: 10/41/414019<br>Permit Version: 100<br>Location: Foxdale Nursery Toddington Lane<br>Authority: Environment Agency, Southern Region<br>Abstraction: Agriculture: Horticultural Watering<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 January<br>Authorised End: 31 December<br>Permit Start Date: 19th July 1967<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 100m                              | A23SE (N)                              | 1086                         | 2       | 503580 103750 |

| Map ID | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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|        | <b>Water Abstractions</b><br>Operator: Yoder Toddington Ltd<br>Licence Number: 10/41/414031<br>Permit Version: 101<br>Location: Foxdale Nursery Toddington Lane (A)<br>Authority: Environment Agency, Southern Region<br>Abstraction: Agriculture: Horticultural Watering<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 April<br>Authorised End: 31 March<br>Permit Start Date: 1st November 2004<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 10m | A24SW (N)                              | 1097                         | 2       | 503760 103720 |
|        | <b>Water Abstractions</b><br>Operator: D W P Dales & Co<br>Licence Number: 10/41/414031<br>Permit Version: 100<br>Location: Foxdale Nursery Toddington Lane (A)<br>Authority: Environment Agency, Southern Region<br>Abstraction: Agriculture: Horticultural Watering<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 April<br>Authorised End: 31 March<br>Permit Start Date: 1st August 1968<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 100m      | A24SW (N)                              | 1097                         | 2       | 503760 103720 |
|        | <b>Water Abstractions</b><br>Operator: Store Property Investments<br>Licence Number: 414034<br>Permit Version: Not Supplied<br>Location: Black Ditch, Church Farm, BODYSHOP SITE<br>Authority: Environment Agency, Southern Region<br>Abstraction: Impounding<br>Abstraction Type: Not Supplied<br>Source: Surface<br>Daily Rate (m3): 0<br>Yearly Rate (m3): 0<br>Details: Tributary Of Arun<br>Authorised Start: Not Supplied<br>Authorised End: Not Supplied<br>Permit Start Date: Not Supplied<br>Permit End Date: Not Supplied<br>Positional Accuracy: Unknown                                                                                           | A24SE (NE)                             | 1116                         | 2       | 504000 103630 |
|        | <b>Water Abstractions</b><br>Operator: Arc Ltd (Solent Aggregates Ltd)<br>Licence Number: 10/41/411021<br>Permit Version: 100<br>Location: River Arun Estuary - Tidal<br>Authority: Environment Agency, Southern Region<br>Abstraction: Construction: General Washing/Process Washing<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Tidal<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 January<br>Authorised End: 31 December<br>Permit Start Date: 1st April 2016<br>Permit End Date: Not Supplied<br>Positional Accuracy: Unknown                   | A11SW (W)                              | 1286                         | 2       | 501910 102330 |

| Map ID | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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|        | <b>Water Abstractions</b><br>Operator: Farfield Plants Limited<br>Licence Number: 10/41/411012<br>Permit Version: 102<br>Location: Borehole At Sandfield Nurseries<br>Authority: Environment Agency, Southern Region<br>Abstraction: Horticulture And Nurseries: Spray Irrigation - Direct<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 January<br>Authorised End: 31 December<br>Permit Start Date: 13th November 2006<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 10m          | A22SW (NW)                             | 1459                         | 2       | 502560 103960 |
|        | <b>Water Abstractions</b><br>Operator: Sandfield Plant Ltd<br>Licence Number: 10/41/411012<br>Permit Version: 101<br>Location: Borehole At Sandfield Nurseries<br>Authority: Environment Agency, Southern Region<br>Abstraction: Horticulture And Nurseries: Spray Irrigation - Direct<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 January<br>Authorised End: 31 December<br>Permit Start Date: 1st November 1999<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 10m               | A22SW (NW)                             | 1459                         | 2       | 502560 103960 |
|        | <b>Water Abstractions</b><br>Operator: Kirin Agribo Toddington Ltd<br>Licence Number: 24/067<br>Permit Version: 1<br>Location: Borehole At Point 'A' At Kirin Agribo Toddington Nurseries<br>Authority: Environment Agency, Southern Region<br>Abstraction: General Agriculture: Spray Irrigation - Direct<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: Not Supplied<br>Authorised Start: 01 January<br>Authorised End: 31 December<br>Permit Start Date: 16th June 2009<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 10m | A23NW (N)                              | 1461                         | 2       | 503090 104110 |
|        | <b>Water Abstractions</b><br>Operator: The Norman Nurseries Ltd<br>Licence Number: 411011<br>Permit Version: Not Supplied<br>Location: Norman Nurseries, Courtwick Lane, LITTLEHAMPTON<br>Authority: Environment Agency, Southern Region<br>Abstraction: Garden Centre, Non Domestic Garden Or Horticulture<br>Abstraction Type: Not Supplied<br>Source: Groundwater<br>Daily Rate (m3): 55<br>Yearly Rate (m3): 9092<br>Details: H5 Chalk<br>Authorised Start: Not Supplied<br>Authorised End: Not Supplied<br>Permit Start Date: Not Supplied<br>Permit End Date: Not Supplied<br>Positional Accuracy: Unknown                                                                              | A21SE (NW)                             | 1486                         | 2       | 502090 103645 |

| Map ID | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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|        | <b>Water Abstractions</b><br>Operator: Yoder Toddington Ltd<br>Licence Number: 10/41/411004<br>Permit Version: 101<br>Location: Normans Nurseries Courtwick Lane<br>Authority: Environment Agency, Southern Region<br>Abstraction: Horticulture and Nurseries: Animal Watering & General Use (Non Agricultural)<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 April<br>Authorised End: 31 March<br>Permit Start Date: 6th October 2003<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 10m | A21SE (NW)                             | 1504                         | 2       | 502080 103660 |
|        | <b>Water Abstractions</b><br>Operator: The Normans Nurseries Ltd<br>Licence Number: 10/41/411004<br>Permit Version: 100<br>Location: Normans Nurseries Courtwick Lane<br>Authority: Environment Agency, Southern Region<br>Abstraction: Horticulture and Nurseries: Animal Watering & General Use (Non Agricultural)<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 April<br>Authorised End: 31 March<br>Permit Start Date: 14th July 1993<br>Permit End Date: Not Supplied<br>Positional Accuracy: Unknown                        | A21SE (NW)                             | 1504                         | 2       | 502080 103660 |
|        | <b>Water Abstractions</b><br>Operator: Mr J L Baird<br>Licence Number: 10/41/411016<br>Permit Version: 100<br>Location: Ryebank Rife And Elmer Rife<br>Authority: Environment Agency, Southern Region<br>Abstraction: General Agriculture: Spray Irrigation - Direct<br>Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints<br>Source: Surface<br>Daily Rate (m3): 1091<br>Yearly Rate (m3): 27272<br>Details: See Licence Map<br>Authorised Start: 01 April<br>Authorised End: 30 September<br>Permit Start Date: 8th December 2005<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 10m                         | A6NW (W)                               | 1508                         | 2       | 501710 102210 |
|        | <b>Water Abstractions</b><br>Operator: James D Baird (Home Farm) Ltd<br>Licence Number: 10/41/411016<br>Permit Version: 101<br>Location: Ryebank Rife<br>Authority: Environment Agency, Southern Region<br>Abstraction: General Agriculture: Spray Irrigation - Direct<br>Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints<br>Source: Surface<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 April<br>Authorised End: 30 September<br>Permit Start Date: 16th April 2019<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 10m          | A6NW (W)                               | 1511                         | 2       | 501720 102160 |

| Map ID | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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|        | <b>Water Abstractions</b><br>Operator: G F Molica Esq<br>Licence Number: 24/065<br>Permit Version: 100<br>Location: Torri House<br>Authority: Environment Agency, Southern Region<br>Abstraction: Agriculture: Horticultural Watering<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 January<br>Authorised End: 31 December<br>Permit Start Date: 1st April 2008<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 100m                              | A22NW (NW)                             | 1631                         | 2       | 502320 104020 |
|        | <b>Water Abstractions</b><br>Operator: A F Molica Esq<br>Licence Number: 24/064<br>Permit Version: 100<br>Location: Marina House<br>Authority: Environment Agency, Southern Region<br>Abstraction: Agriculture: Horticultural Watering<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 January<br>Authorised End: 31 December<br>Permit Start Date: 1st April 2008<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 100m                             | A22NW (NW)                             | 1665                         | 2       | 502320 104060 |
|        | <b>Water Abstractions</b><br>Operator: Mr G Molica-Franco<br>Licence Number: 24/062<br>Permit Version: 103<br>Location: Sandfield Nursery<br>Authority: Environment Agency, Southern Region<br>Abstraction: General Agriculture: Spray Irrigation - Direct<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 January<br>Authorised End: 31 December<br>Permit Start Date: 16th June 2009<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 10m          | A21NE (NW)                             | 1716                         | 2       | 502240 104070 |
|        | <b>Water Abstractions</b><br>Operator: Farfield Plants Limited<br>Licence Number: 24/062<br>Permit Version: 102<br>Location: Sandfield Nursery<br>Authority: Environment Agency, Southern Region<br>Abstraction: General Agriculture: Spray Irrigation - Direct<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 January<br>Authorised End: 31 December<br>Permit Start Date: 13th November 2006<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 10m | A21NE (NW)                             | 1716                         | 2       | 502240 104070 |

| Map ID | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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|        | <b>Water Abstractions</b><br>Operator: Sandfield Plant Ltd<br>Licence Number: 24/062<br>Permit Version: 101<br>Location: Sandfield Nursery<br>Authority: Environment Agency, Southern Region<br>Abstraction: General Agriculture: Spray Irrigation - Direct<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 January<br>Authorised End: 31 December<br>Permit Start Date: 1st November 1999<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 100m                                | A21NE (NW)                             | 1716                         | 2       | 502240 104070 |
|        | <b>Water Abstractions</b><br>Operator: J A Longhurst Ltd<br>Licence Number: 414020<br>Permit Version: Not Supplied<br>Location: Black Ditch , Church Farm, LYMINSTER<br>Authority: Environment Agency, Southern Region<br>Abstraction: Spray Irrigation<br>Abstraction Type: Not Supplied<br>Source: Surface<br>Daily Rate (m3): 655<br>Yearly Rate (m3): 9090<br>Details: Tributary Of Arun<br>Authorised Start: Not Supplied<br>Authorised End: Not Supplied<br>Permit Start Date: Not Supplied<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 100m                                                                                        | (N)                                    | 1775                         | 2       | 503350 104450 |
|        | <b>Water Abstractions</b><br>Operator: Mr K Langmead<br>Licence Number: 10/41/414014<br>Permit Version: 101<br>Location: Black Ditch At Manor Farm<br>Authority: Environment Agency, Southern Region<br>Abstraction: General Agriculture: Spray Irrigation - Direct<br>Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints<br>Source: Surface<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 April<br>Authorised End: 31 October<br>Permit Start Date: 1st April 2006<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 10m  | (N)                                    | 1792                         | 2       | 503250 104460 |
|        | <b>Water Abstractions</b><br>Operator: Mr K Langmead<br>Licence Number: 10/41/414014<br>Permit Version: 100<br>Location: Black Ditch At Manor Farm<br>Authority: Environment Agency, Southern Region<br>Abstraction: General Agriculture: Spray Irrigation - Direct<br>Abstraction Type: Water may be abstracted from a river or stream reach, or a row of wellpoints<br>Source: Surface<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 April<br>Authorised End: 31 October<br>Permit Start Date: 2nd April 1987<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 100m | (N)                                    | 1792                         | 2       | 503250 104460 |

| Map ID | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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|        | <b>Water Abstractions</b><br>Operator: A H Bowerman & Son Ltd<br>Licence Number: 10/41/411003<br>Permit Version: 100<br>Location: Court Wick Park Littlehampton<br>Authority: Environment Agency, Southern Region<br>Abstraction: General Farming And Domestic<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 April<br>Authorised End: 31 March<br>Permit Start Date: 1st April 2008<br>Permit End Date: Not Supplied<br>Positional Accuracy: Located by supplier to within 100m | A21SW (NW)                             | 1844                         | 2       | 501720 103760 |
|        | <b>Water Abstractions</b><br>Operator: P Perella<br>Licence Number: 24/059<br>Permit Version: 100<br>Location: Glenvilla Lyminster<br>Authority: Environment Agency, Southern Region<br>Abstraction: Agriculture: Horticultural Watering<br>Abstraction Type: Water may be abstracted from a single point<br>Source: Groundwater<br>Daily Rate (m3): Not Supplied<br>Yearly Rate (m3): Not Supplied<br>Details: See Licence Map<br>Authorised Start: 01 January<br>Authorised End: 31 December<br>Permit Start Date: 21st May 1992<br>Permit End Date: Not Supplied<br>Positional Accuracy: Unknown                                              | A21NE (NW)                             | 1849                         | 2       | 502180 104190 |
|        | <b>Groundwater Vulnerability Map</b><br>Combined Classification: Secondary Superficial Aquifer - Medium Vulnerability<br>Combined Vulnerability: Medium<br>Combined Aquifer: Productive Bedrock Aquifer, Productive Superficial Aquifer<br>Pollutant Speed: Intermediate<br>Bedrock Flow: Well Connected Fractures<br>Dilution: 300-550 mm/year<br>Baseflow Index: >70%<br>Superficial Patchiness: >90%<br>Superficial Thickness: 3-10m<br>Superficial Recharge: High                                                                                                                                                                            | A13SE (N)                              | 0                            | 4       | 503306 102609 |
|        | <b>Groundwater Vulnerability - Soluble Rock Risk</b><br>Classification: Significant Risk - Problems Unlikely                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | A13SE (N)                              | 0                            | 4       | 503306 102609 |
|        | <b>Bedrock Aquifer Designations</b><br>Aquifer Designation: Principal Aquifer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | A13SE (N)                              | 0                            | 4       | 503306 102609 |
|        | <b>Superficial Aquifer Designations</b><br>Aquifer Designation: Secondary Aquifer - A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | A13SE (N)                              | 0                            | 4       | 503306 102609 |
|        | <b>Extreme Flooding from Rivers or Sea without Defences</b><br>Type: Extent of Extreme Flooding from Rivers or Sea without Defences<br>Flood Plain Type: Tidal Models<br>Boundary Accuracy: As Supplied                                                                                                                                                                                                                                                                                                                                                                                                                                          | A13SW (SW)                             | 195                          | 2       | 503173 102354 |
|        | <b>Flooding from Rivers or Sea without Defences</b><br>Type: Extent of Flooding from Rivers or Sea without Defences<br>Flood Plain Type: Tidal Models<br>Boundary Accuracy: As Supplied                                                                                                                                                                                                                                                                                                                                                                                                                                                          | A13SW (SW)                             | 204                          | 2       | 503160 102344 |
|        | <b>Areas Benefiting from Flood Defences</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                        |                              |         |               |
|        | <b>Flood Water Storage Areas</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                        |                              |         |               |
|        | <b>Flood Defences</b><br>None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                        |                              |         |               |

| Map ID | Details                                                                                                                                                                                                                                    | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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| 18     | <b>OS Water Network Lines</b><br>Watercourse Form: Inland river<br>Watercourse Length: 103.0<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Rother and Arun<br>Primacy: 1 | A19NW (NE)                             | 830                          | 5       | 503934 103329 |
| 19     | <b>OS Water Network Lines</b><br>Watercourse Form: Tidal river<br>Watercourse Length: 1150.0<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: River Arun<br>Catchment Name: Rother and Arun<br>Primacy: 1   | A7SW (SW)                              | 895                          | 5       | 502629 101841 |
| 20     | <b>OS Water Network Lines</b><br>Watercourse Form: Inland river<br>Watercourse Length: 123.2<br>Watercourse Level: Not Supplied<br>Permanent: True<br>Watercourse Name: Not Supplied<br>Catchment Name: Rother and Arun<br>Primacy: 1      | A19NW (NE)                             | 915                          | 5       | 503938 103432 |
| 21     | <b>OS Water Network Lines</b><br>Watercourse Form: Tidal river<br>Watercourse Length: 913.9<br>Watercourse Level: On ground surface<br>Permanent: True<br>Watercourse Name: River Arun<br>Catchment Name: Rother and Arun<br>Primacy: 1    | A7SE (SW)                              | 971                          | 5       | 502698 101706 |

| Map ID | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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| 22     | <b>Historical Landfill Sites</b><br>Licence Holder: Not Supplied<br>Location: Worthing Road, Littlehampton, Sussex<br>Name: Cornfield Close Caravan Site<br>Operator Location: Not Supplied<br>Boundary Accuracy: As Supplied<br>Provider Reference: EAHLD19985<br>First Input Date: 31st December 1960<br>Last Input Date: 31st December 1970<br>Specified Waste: Deposited Waste included Inert, Commercial and Household Waste<br>Type:<br>EA Waste Ref: 0<br>Regis Ref: Not Supplied<br>WRC Ref: 3800/8118<br>BGS Ref: Not Supplied<br>Other Ref: WD27/153                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | A18SE (N)                              | 484                          | 2       | 503374 103167 |
|        | <b>Local Authority Landfill Coverage</b><br>Name: Arun District Council<br>- Has no landfill data to supply                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                        | 0                            | 6       | 503306 102609 |
|        | <b>Local Authority Landfill Coverage</b><br>Name: West Sussex County Council<br>- Has supplied landfill data                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                        | 0                            | 7       | 503306 102609 |
| 23     | <b>Local Authority Recorded Landfill Sites</b><br>Location: Worthing Road, Land Adjoining Cornfield Close, Littlehampton<br>Reference: JU/310/91<br>Authority: West Sussex County Council, Environment & Development<br>Last Reported Status: Unknown<br>Types of Waste: Not Supplied<br>Date of Closure: Not Supplied<br>Positional Accuracy: Located by supplier to within 100m<br>Boundary Quality: Not Applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | A18SW (N)                              | 534                          | 7       | 503300 103200 |
| 24     | <b>Registered Waste Treatment or Disposal Sites</b><br>Licence Holder: Mrs D E White<br>Licence Reference: WSX/L1/0024<br>Site Location: Barn Works, Wick Street, Littlehampton, West Sussex<br>Operator Location: White Lodge, Toddington Lane, Littlehampton, West Sussex<br>Authority: Environment Agency - Southern Region, Sussex Area<br>Site Category: Scrapyard<br>Max Input Rate: Very Small (Less than 10,000 tonnes per year)<br>Waste Source: No known restriction on source of waste<br>Restrictions:<br>Licence Status: Licence lapsed/cancelled/defunct/not applicable/surrenderedCancelled<br>Dated: 1st March 1994<br>Preceded By: Not Given<br>Licence:<br>Superseded By: Not Given<br>Licence:<br>Positional Accuracy: Manually positioned to the address or location<br>Boundary Quality: Not Supplied<br>Authorised Waste<br>Compressed Gas Cylinders<br>Domestic Electrical Appliances<br>Electric/Electronic Components<br>Electric/Electronic Fitt.Fixture/Appl.<br>Empty Used Containers Capacity > 25 L<br>Ferrous Metal Scrap<br>Lead/Acid Batteries<br>Max.Waste Permitted By Licence<br>Motor Vehicles<br>Non-Ferrous Metal Scrap<br>Prohibited Waste<br>Asbestos<br>Metallic Powders<br>Pcb'S And Analogues<br>Percussive/Explosive/Similar Waste<br>Special Wastes N.O.S.<br>Sub'S Control. Radioactive Subs Act'60<br>Waste N.O.S.<br>Waste React.Violently W/Water Or Air | A17SE (NW)                             | 592                          | 2       | 502700 102980 |

| Map ID | Details                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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|        | <b>BGS 1:625,000 Solid Geology</b><br>Description: White Chalk Subgroup                                                                                                                                                                                                                                                                                                                                                                                                                                    | A13SE (N)                              | 0                            | 1       | 503306 102609 |
| 25     | <b>BGS Recorded Mineral Sites</b><br>Site Name: Littlehampton Brick Works<br>Location: Littlehampton, West Sussex<br>Source: British Geological Survey, National Geoscience Information Service<br>Reference: 157621<br>Type: Opencast<br>Status: Ceased<br>Operator: Unknown Operator<br>Operator Location: Not Supplied<br>Periodic Type: Quaternary<br>Geology: River Terrace Deposits (Undifferentiated)<br>Commodity: Common Clay and Shale<br>Positional Accuracy: Located by supplier to within 10m | A12SW (W)                              | 605                          | 1       | 502590 102415 |
| 26     | <b>BGS Recorded Mineral Sites</b><br>Site Name: Toddington Brickfield<br>Location: Littlehampton, West Sussex<br>Source: British Geological Survey, National Geoscience Information Service<br>Reference: 16125<br>Type: Opencast<br>Status: Ceased<br>Operator: Unknown Operator<br>Operator Location: Not Supplied<br>Periodic Type: Quaternary<br>Geology: River Terrace Deposits<br>Commodity: Common Clay and Shale<br>Positional Accuracy: Located by supplier to within 10m                         | A18NE (N)                              | 631                          | 1       | 503309 103299 |
| 27     | <b>BGS Recorded Mineral Sites</b><br>Site Name: Worthing Road Brickfield<br>Location: Wick, Littlehampton, West Sussex<br>Source: British Geological Survey, National Geoscience Information Service<br>Reference: 16126<br>Type: Opencast<br>Status: Ceased<br>Operator: Unknown Operator<br>Operator Location: Not Supplied<br>Periodic Type: Quaternary<br>Geology: River Terrace Deposits<br>Commodity: Common Clay and Shale<br>Positional Accuracy: Located by supplier to within 10m                | A17SE (NW)                             | 673                          | 1       | 502830 103210 |
| 28     | <b>BGS Recorded Mineral Sites</b><br>Site Name: Worthing Road Brickfield<br>Location: Wick, Littlehampton, West Sussex<br>Source: British Geological Survey, National Geoscience Information Service<br>Reference: 16127<br>Type: Opencast<br>Status: Ceased<br>Operator: Unknown Operator<br>Operator Location: Not Supplied<br>Periodic Type: Quaternary<br>Geology: River Terrace Deposits<br>Commodity: Common Clay and Shale<br>Positional Accuracy: Located by supplier to within 10m                | A18NW (NW)                             | 677                          | 1       | 503010 103300 |
| 29     | <b>BGS Recorded Mineral Sites</b><br>Site Name: Wick Brick Works<br>Location: Wick, Littlehampton, West Sussex<br>Source: British Geological Survey, National Geoscience Information Service<br>Reference: 157620<br>Type: Opencast<br>Status: Ceased<br>Operator: Unknown Operator<br>Operator Location: Not Supplied<br>Periodic Type: Quaternary<br>Geology: River Terrace Deposits (Undifferentiated)<br>Commodity: Common Clay and Shale<br>Positional Accuracy: Located by supplier to within 10m    | A17NE (NW)                             | 937                          | 1       | 502856 103521 |
|        | <b>Coal Mining Affected Areas</b><br>In an area that might not be affected by coal mining                                                                                                                                                                                                                                                                                                                                                                                                                  |                                        |                              |         |               |
|        | <b>Non Coal Mining Areas of Great Britain</b><br>Risk: Rare<br>Source: British Geological Survey, National Geoscience Information Service                                                                                                                                                                                                                                                                                                                                                                  | A13SE (N)                              | 0                            | 1       | 503306 102609 |
|        | <b>Potential for Collapsible Ground Stability Hazards</b><br>Hazard Potential: Low<br>Source: British Geological Survey, National Geoscience Information Service                                                                                                                                                                                                                                                                                                                                           | A13SE (N)                              | 0                            | 1       | 503306 102609 |

| Map ID | Details                                                                                                                                                                                                                                                                   | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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|        | <b>Potential for Compressible Ground Stability Hazards</b><br>Hazard Potential: No Hazard<br>Source: British Geological Survey, National Geoscience Information Service                                                                                                   | A13SE (N)                              | 0                            | 1       | 503306 102609 |
|        | <b>Potential for Ground Dissolution Stability Hazards</b><br>Hazard Potential: Very Low<br>Source: British Geological Survey, National Geoscience Information Service                                                                                                     | A13SE (N)                              | 0                            | 1       | 503306 102609 |
|        | <b>Potential for Ground Dissolution Stability Hazards</b><br>Hazard Potential: No Hazard<br>Source: British Geological Survey, National Geoscience Information Service                                                                                                    | A13NE (E)                              | 174                          | 1       | 503611 102618 |
|        | <b>Potential for Landslide Ground Stability Hazards</b><br>Hazard Potential: Very Low<br>Source: British Geological Survey, National Geoscience Information Service                                                                                                       | A13SE (N)                              | 0                            | 1       | 503306 102609 |
|        | <b>Potential for Running Sand Ground Stability Hazards</b><br>Hazard Potential: Low<br>Source: British Geological Survey, National Geoscience Information Service                                                                                                         | A13SE (N)                              | 0                            | 1       | 503306 102609 |
|        | <b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b><br>Hazard Potential: Low<br>Source: British Geological Survey, National Geoscience Information Service                                                                                           | A13SE (N)                              | 0                            | 1       | 503306 102609 |
|        | <b>Radon Potential - Radon Affected Areas</b><br>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).<br>Source: British Geological Survey, National Geoscience Information Service | A13SE (N)                              | 0                            | 1       | 503306 102609 |
|        | <b>Radon Potential - Radon Protection Measures</b><br>Protection Measure: No radon protective measures are necessary in the construction of new dwellings or extensions<br>Source: British Geological Survey, National Geoscience Information Service                     | A13SE (N)                              | 0                            | 1       | 503306 102609 |

| Map ID | Details                                                                                                                                                                                                                                                                                                   | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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| 30     | <b>Contemporary Trade Directory Entries</b><br>Name: United Carpet Cleaning Masters<br>Location: 31c Horsham Rd, Littlehampton, West Sussex, BN17 6BZ<br>Classification: Carpet, Curtain & Upholstery Cleaners<br>Status: Inactive<br>Positional Accuracy: Manually positioned to the address or location | A13SE (E)                              | 160                          | -       | 503592 102536 |
| 30     | <b>Contemporary Trade Directory Entries</b><br>Name: Arun Mouldings<br>Location: 3, Southfields Road, Littlehampton, West Sussex, BN17 6AF<br>Classification: Glass Fibre Moulding, Materials & Manufacturers<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address         | A13SE (E)                              | 205                          | -       | 503635 102523 |
| 30     | <b>Contemporary Trade Directory Entries</b><br>Name: Arun Mouldings<br>Location: 3, Southfields Road, Littlehampton, West Sussex, BN17 6AF<br>Classification: Glass Fibre Manufacturers<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                 | A13SE (E)                              | 205                          | -       | 503635 102523 |
| 31     | <b>Contemporary Trade Directory Entries</b><br>Name: C M D Recovery<br>Location: 77, Horsham Road, Littlehampton, West Sussex, BN17 6DB<br>Classification: Breakdown and Recovery<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                     | A13NE (E)                              | 196                          | -       | 503620 102686 |
| 32     | <b>Contemporary Trade Directory Entries</b><br>Name: R T Spencer Services<br>Location: 64, Highdown Drive, Littlehampton, West Sussex, BN17 6HH<br>Classification: Firefighting Equipment<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                               | A13NW (NW)                             | 215                          | -       | 503091 102832 |
| 33     | <b>Contemporary Trade Directory Entries</b><br>Name: Cuff Miller Forces Cars<br>Location: Horsham Road, Littlehampton, BN17 6BX<br>Classification: Car Dealers<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                                        | A13SE (SE)                             | 223                          | -       | 503627 102460 |
| 33     | <b>Contemporary Trade Directory Entries</b><br>Name: Esso<br>Location: Horsham Road, Littlehampton, West Sussex, BN17 6BX<br>Classification: Petrol Filling Stations<br>Status: Active<br>Positional Accuracy: Manually positioned within the geographical locality                                       | A13SE (SE)                             | 223                          | -       | 503627 102460 |
| 33     | <b>Contemporary Trade Directory Entries</b><br>Name: Cuff Miller<br>Location: Horsham Road, LITTLEHAMPTON, West Sussex, BN17 6BX<br>Classification: Car Dealers<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                                         | A13SE (SE)                             | 223                          | -       | 503627 102460 |
| 34     | <b>Contemporary Trade Directory Entries</b><br>Name: Mr Housework<br>Location: 34, Falkland Avenue, Littlehampton, West Sussex, BN17 6AB<br>Classification: Cleaning Services - Domestic<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                | A14SW (E)                              | 258                          | -       | 503695 102545 |
| 35     | <b>Contemporary Trade Directory Entries</b><br>Name: C L Services<br>Location: 89, Queen Street, Littlehampton, BN17 6EL<br>Classification: Commercial Cleaning Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                              | A12SE (W)                              | 279                          | -       | 502895 102540 |
| 36     | <b>Contemporary Trade Directory Entries</b><br>Name: Carroll Media Ltd<br>Location: 10, Southfields Road, Littlehampton, West Sussex, BN17 6AE<br>Classification: Photo & Digital Imaging Bureaus<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                     | A14SW (E)                              | 302                          | -       | 503719 102466 |
| 37     | <b>Contemporary Trade Directory Entries</b><br>Name: Profile Metal Finishing<br>Location: Goda Ct, Goda Rd, Littlehampton, West Sussex, BN17 6AS<br>Classification: Metal Finishing Services<br>Status: Inactive<br>Positional Accuracy: Manually positioned to the address or location                   | A8NW (SW)                              | 310                          | -       | 503104 102248 |

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| 37     | <b>Contemporary Trade Directory Entries</b><br>Name: L A Ceramics<br>Location: 5, Goda Road, Littlehampton, West Sussex, BN17 6AS<br>Classification: Ceramic Manufacturers, Supplies & Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                   | A8NW (SW)                              | 334                          | -       | 503063 102236 |
| 38     | <b>Contemporary Trade Directory Entries</b><br>Name: Traffic Shepherd<br>Location: 45, Queen Street, Littlehampton, West Sussex, BN17 6EP<br>Classification: Furniture - Repairing & Restoring<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                    | A12SE (SW)                             | 341                          | -       | 502866 102416 |
| 39     | <b>Contemporary Trade Directory Entries</b><br>Name: Yeomans Honda<br>Location: Horsham Road, Littlehampton, West Sussex, BN17 6DN<br>Classification: Car Dealers<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                                 | A14NW (E)                              | 342                          | -       | 503757 102739 |
| 39     | <b>Contemporary Trade Directory Entries</b><br>Name: N B Recovery<br>Location: 7, Bellscoft Close, Littlehampton, West Sussex, BN17 6EA<br>Classification: Car Breakdown & Recovery Services<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                        | A14NW (E)                              | 372                          | -       | 503786 102753 |
| 40     | <b>Contemporary Trade Directory Entries</b><br>Name: Cobwebs Quality Cleaning<br>Location: 9, Goda Road, Littlehampton, West Sussex, BN17 6AS<br>Classification: Commercial Cleaning Services<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                       | A8NW (SW)                              | 354                          | -       | 503060 102216 |
| 40     | <b>Contemporary Trade Directory Entries</b><br>Name: Cobwebs Quality Cleaning<br>Location: 9, Goda Road, Littlehampton, West Sussex, BN17 6AS<br>Classification: Commercial Cleaning Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                     | A8NW (SW)                              | 354                          | -       | 503060 102216 |
| 41     | <b>Contemporary Trade Directory Entries</b><br>Name: R S Vehicle Inspections<br>Location: 1, Amberley Close, Wick, Littlehampton, West Sussex, BN17 6HN<br>Classification: Vehicle Inspection Services<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address              | A18SW (NW)                             | 355                          | -       | 503053 102972 |
| 42     | <b>Contemporary Trade Directory Entries</b><br>Name: Littlehampton Fantastic Cleaners<br>Location: 37, East Street, Littlehampton, West Sussex, BN17 6AU<br>Classification: Carpet, Curtain & Upholstery Cleaners<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address | A7NE (SW)                              | 381                          | -       | 502952 102244 |
| 42     | <b>Contemporary Trade Directory Entries</b><br>Name: Littlehampton Cleaners<br>Location: 37, East Street, Littlehampton, West Sussex, BN17 6AU<br>Classification: Carpet, Curtain & Upholstery Cleaners<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address           | A7NE (SW)                              | 381                          | -       | 502952 102244 |
| 43     | <b>Contemporary Trade Directory Entries</b><br>Name: Magical Maids<br>Location: 3, Queen Street, Littlehampton, West Sussex, BN17 6EP<br>Classification: Cleaning Services - Domestic<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                             | A12SE (SW)                             | 406                          | -       | 502843 102321 |
| 43     | <b>Contemporary Trade Directory Entries</b><br>Name: Levett & Quinn<br>Location: 17a, Connaught Road, Littlehampton, BN17 6ER<br>Classification: Boilers - Servicing, Replacements & Repairs<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                        | A12SE (SW)                             | 430                          | -       | 502804 102340 |
| 44     | <b>Contemporary Trade Directory Entries</b><br>Name: Downlands Machines<br>Location: 27, Church Street, Littlehampton, West Sussex, BN17 5EN<br>Classification: Vacuum Cleaners - Sales & Service<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                 | A8NW (SW)                              | 426                          | -       | 503104 102129 |

| Map ID | Details                                                                                                                                                                                                                                                                                                           | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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| 45     | <b>Contemporary Trade Directory Entries</b><br>Name: Blue Frog Cleaning Services<br>Location: Gratwicke House, 10, East Street, Littlehampton, BN17 6AW<br>Classification: Commercial Cleaning Services<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                         | A7NE (SW)                              | 446                          | -       | 502939 102173 |
| 45     | <b>Contemporary Trade Directory Entries</b><br>Name: M J S Auto & Marine<br>Location: Littlehampton, BN17 5AH<br>Classification: Garage Services<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                                                                | A7NE (SW)                              | 475                          | -       | 502945 102136 |
| 45     | <b>Contemporary Trade Directory Entries</b><br>Name: Ats Euromaster Ltd<br>Location: Church Street, Littlehampton, West Sussex, BN17 5AH<br>Classification: Tyre Dealers<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                                      | A7NE (SW)                              | 484                          | -       | 502935 102131 |
| 45     | <b>Contemporary Trade Directory Entries</b><br>Name: A & A Cleaning Services<br>Location: 2, Manor Parade Flats, Church Street, LITTLEHAMPTON, West Sussex, BN17 5AJ<br>Classification: Carpet, Curtain & Upholstery Cleaners<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address | A7NE (SW)                              | 484                          | -       | 502956 102119 |
| 46     | <b>Contemporary Trade Directory Entries</b><br>Name: Cobra Cars<br>Location: Arundel Road, Littlehampton, BN17 7DE<br>Classification: Mot Testing Centres<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                                                     | A12SE (W)                              | 473                          | -       | 502706 102497 |
| 46     | <b>Contemporary Trade Directory Entries</b><br>Name: Cobra Cars<br>Location: Arundel Road, Littlehampton, West Sussex, BN17 7DE<br>Classification: Garage Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                                            | A12SE (W)                              | 473                          | -       | 502706 102497 |
| 47     | <b>Contemporary Trade Directory Entries</b><br>Name: Alpha Catering Equipment Ltd<br>Location: Lloyds Bank Chambers, High Street, Littlehampton, West Sussex, BN17 5AG<br>Classification: Catering Equipment<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                  | A7NE (SW)                              | 493                          | -       | 502946 102115 |
| 47     | <b>Contemporary Trade Directory Entries</b><br>Name: Mcb Components Ltd<br>Location: Lloyds Bank Chambers, High Street, Littlehampton, West Sussex, BN17 5AG<br>Classification: Distribution Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                         | A7NE (SW)                              | 493                          | -       | 502946 102115 |
| 47     | <b>Contemporary Trade Directory Entries</b><br>Name: Coopers Cleaning Services<br>Location: 79, High Street, Littlehampton, West Sussex, BN17 5AG<br>Classification: Cleaning Services - Domestic<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                             | A7NE (SW)                              | 496                          | -       | 502940 102114 |
| 47     | <b>Contemporary Trade Directory Entries</b><br>Name: Paul Ryan Uk Ltd<br>Location: Lloyds Bank Chambers, 90 High Street, Littlehampton, West Sussex, BN17 5AG<br>Classification: French Polishing<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                             | A7NE (SW)                              | 515                          | -       | 502940 102093 |
| 47     | <b>Contemporary Trade Directory Entries</b><br>Name: Gunthart & Co Ltd<br>Location: 86 High St, Littlehampton, West Sussex, BN17 5DX<br>Classification: Confectionery Manufacturers<br>Status: Inactive<br>Positional Accuracy: Manually positioned to the address or location                                    | A7NE (SW)                              | 541                          | -       | 502900 102086 |

| Map ID | Details                                                                                                                                                                                                                                                                                          | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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| 47     | <b>Contemporary Trade Directory Entries</b><br>Name: Beach Road Dry Cleaners<br>Location: 4, Beach Road, Littlehampton, West Sussex, BN17 5HT<br>Classification: Dry Cleaners<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                  | A7NE (SW)                              | 543                          | -       | 502919 102073 |
| 47     | <b>Contemporary Trade Directory Entries</b><br>Name: Hygiene Express<br>Location: 9-11, Beach Road, Littlehampton, West Sussex, BN17 5HZ<br>Classification: Cleaning Materials & Equipment<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                   | A7NE (SW)                              | 546                          | -       | 502956 102051 |
| 47     | <b>Contemporary Trade Directory Entries</b><br>Name: Coastline Cleaning Co<br>Location: 9-11, Beach Road, Littlehampton, West Sussex, BN17 5HZ<br>Classification: Cleaning Services - Commercial<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address             | A7NE (SW)                              | 546                          | -       | 502956 102051 |
| 47     | <b>Contemporary Trade Directory Entries</b><br>Name: Hygiene Express<br>Location: 9-11, Beach Road, Littlehampton, West Sussex, BN17 5HZ<br>Classification: Cleaning Materials & Equipment<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                   | A7NE (SW)                              | 546                          | -       | 502956 102051 |
| 47     | <b>Contemporary Trade Directory Entries</b><br>Name: Electech Services<br>Location: 8 Ocean House 16-18 Beach rd, Littlehampton, West Sussex, BN17 5HT<br>Classification: Electrical Engineers<br>Status: Active<br>Positional Accuracy: Manually positioned to the address or location          | A7NE (SW)                              | 573                          | -       | 502939 102029 |
| 48     | <b>Contemporary Trade Directory Entries</b><br>Name: Tyrrell Autos<br>Location: Rear Of 38 Arundel Rd, Littlehampton, West Sussex, BN17 7DB<br>Classification: Garage Services<br>Status: Inactive<br>Positional Accuracy: Manually positioned to the address or location                        | A12SE (SW)                             | 493                          | -       | 502736 102334 |
| 49     | <b>Contemporary Trade Directory Entries</b><br>Name: Littlehampton Hospital<br>Location: Fitzalan Road, Littlehampton, West Sussex, BN17 5EU<br>Classification: Hospitals<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                    | A8NW (S)                               | 499                          | -       | 503162 102050 |
| 50     | <b>Contemporary Trade Directory Entries</b><br>Name: Lulus Designs & Services Ltd<br>Location: Unit 8, Anchor Springs, Littlehampton, West Sussex, BN17 6BP<br>Classification: Printers<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                      | A7NE (SW)                              | 514                          | -       | 502819 102182 |
| 51     | <b>Contemporary Trade Directory Entries</b><br>Name: Interphones<br>Location: 67a, High Street, Littlehampton, West Sussex, BN17 5EJ<br>Classification: Mobile Phone Accessories and Car Kits<br>Status: Inactive<br>Positional Accuracy: Manually positioned to the address or location         | A7NE (SW)                              | 524                          | -       | 502884 102117 |
| 52     | <b>Contemporary Trade Directory Entries</b><br>Name: Home & Dry Cleaning Services<br>Location: Flat 5, 59, Arundel Road, Littlehampton, BN17 7BY<br>Classification: Commercial Cleaning Services<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address               | A12SE (W)                              | 526                          | -       | 502680 102384 |
| 53     | <b>Contemporary Trade Directory Entries</b><br>Name: P G Autos<br>Location: Merton Dr, Littlehampton, West Sussex, BN17 7DU<br>Classification: Garage Services<br>Status: Inactive<br>Positional Accuracy: Manually positioned to the road within the address or location                        | A12SE (W)                              | 527                          | -       | 502644 102562 |
| 54     | <b>Contemporary Trade Directory Entries</b><br>Name: Littlehampton Tyre & Exhaust Centre<br>Location: St. Martins Barn, St. Martins Lane, Littlehampton, West Sussex, BN17 6BS<br>Classification: Tyre Dealers<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address | A7NE (SW)                              | 530                          | -       | 502733 102263 |

| Map ID | Details                                                                                                                                                                                                                                                                                      | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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| 55     | <b>Contemporary Trade Directory Entries</b><br>Name: S G Tank Insulation<br>Location: 6, Sussex Street, Wick, Littlehampton, West Sussex, BN17 6JD<br>Classification: Tank Cleaning & Repairing<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address          | A17SE (NW)                             | 543                          | -       | 502797 103020 |
| 56     | <b>Contemporary Trade Directory Entries</b><br>Name: Tyrrell Autos Ltd<br>Location: Church Approach, Littlehampton, West Sussex, BN17 5EH<br>Classification: Garage Services<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                               | A8NW (SW)                              | 553                          | -       | 503021 102020 |
| 56     | <b>Contemporary Trade Directory Entries</b><br>Name: City Contract Cleaning Ltd<br>Location: 41b, Beach Road, Littlehampton, West Sussex, BN17 5JA<br>Classification: Commercial Cleaning Services<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address         | A8NW (SW)                              | 587                          | -       | 502998 101990 |
| 57     | <b>Contemporary Trade Directory Entries</b><br>Name: Austins<br>Location: 68, Lansdowne Road, Wick, Littlehampton, West Sussex, BN17 6JG<br>Classification: Carpet, Curtain & Upholstery Cleaners<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address        | A17SE (NW)                             | 564                          | -       | 502869 103105 |
| 58     | <b>Contemporary Trade Directory Entries</b><br>Name: S & N Auto Services<br>Location: Rear Of 7 Clun Rd, Littlehampton, West Sussex, BN17 7DX<br>Classification: Garage Services<br>Status: Inactive<br>Positional Accuracy: Manually positioned to an adjacent address or location          | A12SW (W)                              | 566                          | -       | 502604 102598 |
| 58     | <b>Contemporary Trade Directory Entries</b><br>Name: Hatches Garage<br>Location: Merton Drive, Littlehampton, West Sussex, BN17 7DU<br>Classification: Garage Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                   | A12SW (W)                              | 590                          | -       | 502580 102567 |
| 59     | <b>Contemporary Trade Directory Entries</b><br>Name: Apex Gutter Clearing<br>Location: 27, Southfields Road, Littlehampton, West Sussex, BN17 6PA<br>Classification: Commercial Cleaning Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address        | A14SE (E)                              | 572                          | -       | 504002 102482 |
| 59     | <b>Contemporary Trade Directory Entries</b><br>Name: Apex Gutter & Window Cleaning<br>Location: 27, Southfields Road, Littlehampton, West Sussex, BN17 6PA<br>Classification: Commercial Cleaning Services<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address | A14SE (E)                              | 572                          | -       | 504002 102482 |
| 60     | <b>Contemporary Trade Directory Entries</b><br>Name: Klick<br>Location: 35, High Street, Littlehampton, West Sussex, BN17 5EG<br>Classification: Photographic Processors<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                 | A7NE (SW)                              | 582                          | -       | 502767 102139 |
| 60     | <b>Contemporary Trade Directory Entries</b><br>Name: Bunce'S Home Hardware<br>Location: 50, High Street, Littlehampton, West Sussex, BN17 5EA<br>Classification: Hardware<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                | A7NE (SW)                              | 591                          | -       | 502785 102109 |
| 60     | <b>Contemporary Trade Directory Entries</b><br>Name: Bunces Home Hardware<br>Location: 50, High Street, Littlehampton, BN17 5EA<br>Classification: Hardware<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                                | A7NE (SW)                              | 591                          | -       | 502785 102109 |
| 61     | <b>Contemporary Trade Directory Entries</b><br>Name: Baxi Air Management Ltd<br>Location: 15, Timberleys, Littlehampton, West Sussex, BN17 6QA<br>Classification: Ventilators & Ventilation Systems<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address      | A14NW (NE)                             | 597                          | -       | 503959 102935 |

| Map ID | Details                                                                                                                                                                                                                                                                                                              | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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| 62     | <b>Contemporary Trade Directory Entries</b><br>Name: Solar Screen<br>Location: 80, Parkside Avenue, Littlehampton, West Sussex, BN17 6BJ<br>Classification: Window Tinting<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                                       | A9NW (SE)                              | 598                          | -       | 503871 102166 |
| 63     | <b>Contemporary Trade Directory Entries</b><br>Name: B M W<br>Location: Beach Rd, Littlehampton, West Sussex, BN17 5JA<br>Classification: Garage Services<br>Status: Inactive<br>Positional Accuracy: Manually positioned to the road within the address or location                                                 | A8NW (SW)                              | 600                          | -       | 502983 101982 |
| 64     | <b>Contemporary Trade Directory Entries</b><br>Name: H D White<br>Location: 42, Wick Street, Wick, Littlehampton, West Sussex, BN17 7JH<br>Classification: Scrap Metal Merchants<br>Status: Inactive<br>Positional Accuracy: Manually positioned to the address or location                                          | A17SE (NW)                             | 601                          | -       | 502687 102977 |
| 64     | <b>Contemporary Trade Directory Entries</b><br>Name: Baker Press Ltd<br>Location: A, 30, Wick Street, Wick, Littlehampton, West Sussex, BN17 7JH<br>Classification: Printers<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                                     | A17SE (NW)                             | 615                          | -       | 502659 102960 |
| 65     | <b>Contemporary Trade Directory Entries</b><br>Name: The Car Surgery Littlehampton Ltd<br>Location: 9, North Street, Wick, Littlehampton, West Sussex, BN17 6JJ<br>Classification: Garage Services<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                 | A17SE (NW)                             | 608                          | -       | 502758 103072 |
| 65     | <b>Contemporary Trade Directory Entries</b><br>Name: Arun Laundry<br>Location: 11, North Street, Wick, Littlehampton, West Sussex, BN17 6JJ<br>Classification: Laundries & Launderettes<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                          | A17SE (NW)                             | 611                          | -       | 502772 103090 |
| 66     | <b>Contemporary Trade Directory Entries</b><br>Name: Dairy Crest<br>Location: Wick Farm, Arundel Road, Littlehampton, West Sussex, BN17 7DH<br>Classification: Dairies<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                                           | A12NW (W)                              | 630                          | -       | 502589 102852 |
| 67     | <b>Contemporary Trade Directory Entries</b><br>Name: Make It Snappy<br>Location: 11, High Street, Littlehampton, West Sussex, BN17 5EG<br>Classification: Photographic Processors<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                                | A7NE (SW)                              | 630                          | -       | 502699 102143 |
| 67     | <b>Contemporary Trade Directory Entries</b><br>Name: Rainbow International<br>Location: 1-3, High Street, Littlehampton, West Sussex, BN17 5EG<br>Classification: Carpet, Curtain & Upholstery Cleaners<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                          | A7NE (SW)                              | 644                          | -       | 502680 102142 |
| 67     | <b>Contemporary Trade Directory Entries</b><br>Name: A Langley<br>Location: Office B, 20a, High Street, LITTLEHAMPTON, West Sussex, BN17 5EE<br>Classification: Concrete Contractors<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                             | A7NE (SW)                              | 665                          | -       | 502675 102116 |
| 68     | <b>Contemporary Trade Directory Entries</b><br>Name: T H A Plumbing, Heating & Electrical<br>Location: 44, Gloucester Place, LITTLEHAMPTON, West Sussex, BN17 7AL<br>Classification: Boilers - Servicing, Replacements & Repairs<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address | A12SW (W)                              | 634                          | -       | 502569 102380 |
| 69     | <b>Contemporary Trade Directory Entries</b><br>Name: Rentafilm<br>Location: 9, Arundel Road, Littlehampton, West Sussex, BN17 7BY<br>Classification: Digital Printing<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                                            | A7NE (SW)                              | 643                          | -       | 502634 102209 |

| Map ID | Details                                                                                                                                                                                                                                                                                       | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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| 70     | <b>Contemporary Trade Directory Entries</b><br>Name: Walsh Pest Control<br>Location: 47, Carvel Way, Littlehampton, BN17 6RJ<br>Classification: Pest & Vermin Control<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                       | A14SE (E)                              | 670                          | -       | 504108 102602 |
| 70     | <b>Contemporary Trade Directory Entries</b><br>Name: Walsh Pest Control<br>Location: 47, Carvel Way, Littlehampton, West Sussex, BN17 6RJ<br>Classification: Pest & Vermin Control<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                        | A14SE (E)                              | 670                          | -       | 504108 102602 |
| 70     | <b>Contemporary Trade Directory Entries</b><br>Name: Jeff King<br>Location: 34, Beacon Way, Littlehampton, West Sussex, BN17 6QS<br>Classification: Washing Machines - Servicing & Repairs<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                | A14SE (E)                              | 710                          | -       | 504149 102579 |
| 71     | <b>Contemporary Trade Directory Entries</b><br>Name: Wynn Engineering<br>Location: Surrey St, Littlehampton, West Sussex, BN17 5BG<br>Classification: Precision Engineers<br>Status: Inactive<br>Positional Accuracy: Manually positioned within the geographical locality                    | A7NE (SW)                              | 670                          | -       | 502695 102087 |
| 72     | <b>Contemporary Trade Directory Entries</b><br>Name: Hammond<br>Location: 97, Wick Farm Road, Wick, LITTLEHAMPTON, West Sussex, BN17 7HJ<br>Classification: Boilers - Servicing, Replacements & Repairs<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address   | A12NW (W)                              | 674                          | -       | 502532 102825 |
| 73     | <b>Contemporary Trade Directory Entries</b><br>Name: South Coast Minis<br>Location: Whitelea Rd, Wick, Littlehampton, West Sussex, BN17 7JL<br>Classification: Garage Services<br>Status: Inactive<br>Positional Accuracy: Manually positioned to the road within the address or location     | A12NW (NW)                             | 677                          | -       | 502580 102948 |
| 73     | <b>Contemporary Trade Directory Entries</b><br>Name: Scutt & Underwood<br>Location: 9a, Whitelea Road, Wick, Littlehampton, West Sussex, BN17 7JL<br>Classification: Garage Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                      | A17SW (NW)                             | 702                          | -       | 502575 102989 |
| 73     | <b>Contemporary Trade Directory Entries</b><br>Name: J Ds<br>Location: 14, West Way, Wick, Littlehampton, West Sussex, BN17 7LY<br>Classification: Car Breakdown & Recovery Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                      | A17SW (NW)                             | 728                          | -       | 502560 103015 |
| 74     | <b>Contemporary Trade Directory Entries</b><br>Name: Straight<br>Location: Flat 1, Progress House, 1, Arundel Road, Littlehampton, West Sussex, BN17 7BA<br>Classification: Ironing & Home Laundry Services<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address | A7NW (SW)                              | 689                          | -       | 502623 102144 |
| 75     | <b>Contemporary Trade Directory Entries</b><br>Name: Lab Kinetics Ltd<br>Location: 52, East Ham Road, Littlehampton, West Sussex, BN17 7BE<br>Classification: Laboratory Equipment<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                        | A12SW (W)                              | 698                          | -       | 502483 102470 |
| 76     | <b>Contemporary Trade Directory Entries</b><br>Name: I P L D<br>Location: 1, Harwood Road, Littlehampton, BN17 7AT<br>Classification: Plastic Products - Manufacturers<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                    | A12SW (W)                              | 699                          | -       | 502474 102530 |

| Map ID | Details                                                                                                                                                                                                                                                                                       | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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| 76     | <b>Contemporary Trade Directory Entries</b><br>Name: Sussex Eco Solutions<br>Location: Enterprise Harwood Road, Littlehampton, West Sussex, BN17 7AT<br>Classification: Woodburning Stoves<br>Status: Active<br>Positional Accuracy: Manually positioned to the address or location           | A12SW (W)                              | 699                          | -       | 502474 102530 |
| 77     | <b>Contemporary Trade Directory Entries</b><br>Name: Stuart Lyons<br>Location: Windross, Worthing Road, Wick, Littlehampton, West Sussex, BN17 6LY<br>Classification: Road Haulage Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address               | A18NE (N)                              | 717                          | -       | 503578 103376 |
| 78     | <b>Contemporary Trade Directory Entries</b><br>Name: Rassilon Replicas<br>Location: 90, Timberleys, Littlehampton, BN17 6QE<br>Classification: Tool Design, Manufacturers & Makers<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                          | A19SE (NE)                             | 720                          | -       | 503985 103124 |
| 79     | <b>Contemporary Trade Directory Entries</b><br>Name: Chemical Express<br>Location: 35, Leeward Road, Littlehampton, West Sussex, BN17 6PQ<br>Classification: Cleaning Materials & Equipment<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address               | A9NE (SE)                              | 738                          | -       | 504049 102164 |
| 80     | <b>Contemporary Trade Directory Entries</b><br>Name: Ortronics<br>Location: 22, Roman Acre, Wick, Littlehampton, West Sussex, BN17 7HN<br>Classification: Electronic Engineers<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                            | A12NW (W)                              | 743                          | -       | 502444 102760 |
| 81     | <b>Contemporary Trade Directory Entries</b><br>Name: Arun Tyre & Exhaust<br>Location: 4, Terminus Road, Littlehampton, BN17 5BS<br>Classification: Garage Services<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                          | A7NW (SW)                              | 746                          | -       | 502580 102106 |
| 81     | <b>Contemporary Trade Directory Entries</b><br>Name: Porter Coachwork Co<br>Location: The Old Railway Goods Yard, Terminus Road, Littlehampton, West Sussex, BN17 5BS<br>Classification: Car Body Repairs<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address | A7NW (SW)                              | 764                          | -       | 502541 102130 |
| 82     | <b>Contemporary Trade Directory Entries</b><br>Name: K Lansdowne<br>Location: 47, Maxwell Road, Littlehampton, West Sussex, BN17 7BW<br>Classification: Boilers - Servicing, Replacements & Repairs<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address       | A12SW (W)                              | 749                          | -       | 502479 102285 |
| 83     | <b>Contemporary Trade Directory Entries</b><br>Name: Wick Launuderette<br>Location: 93, Wick Street, Wick, Littlehampton, BN17 7JN<br>Classification: Dry Cleaners<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                          | A17SE (NW)                             | 756                          | -       | 502636 103160 |
| 83     | <b>Contemporary Trade Directory Entries</b><br>Name: Wick Launuderette<br>Location: 93, Wick Street, Wick, Littlehampton, West Sussex, BN17 7JN<br>Classification: Laundries & Launderettes<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address               | A17SE (NW)                             | 756                          | -       | 502636 103160 |
| 83     | <b>Contemporary Trade Directory Entries</b><br>Name: Littlehampton Blinds<br>Location: 5-6 True Blue Precinct, Wick Street, Wick, Littlehampton, BN17 7JN<br>Classification: Blinds, Awnings & Canopies<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address     | A17SW (NW)                             | 760                          | -       | 502612 103139 |

| Map ID | Details                                                                                                                                                                                                                                                                                                                   | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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| 84     | <b>Contemporary Trade Directory Entries</b><br>Name: Flashings & Fabrications Services Ltd<br>Location: Units 1-2-4 Harwood Centre, Harwood Road, Littlehampton, West Sussex, BN17 7AT<br>Classification: Sheet Metal Work<br>Status: Active<br>Positional Accuracy: Manually positioned within the geographical locality | A12SW (W)                              | 757                          | -       | 502413 102580 |
| 85     | <b>Contemporary Trade Directory Entries</b><br>Name: R W P Group - Your Marketing Services Partner<br>Location: 108, Wick Street, Wick, Littlehampton, BN17 7JS<br>Classification: Printers<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                             | A17SE (NW)                             | 762                          | -       | 502679 103208 |
| 85     | <b>Contemporary Trade Directory Entries</b><br>Name: R W P<br>Location: 108, Wick Street, Wick, Littlehampton, West Sussex, BN17 7JS<br>Classification: Printers<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                                                      | A17SE (NW)                             | 762                          | -       | 502679 103208 |
| 86     | <b>Contemporary Trade Directory Entries</b><br>Name: Gray Computer Services Ltd<br>Location: 67, Norfolk Road, Littlehampton, West Sussex, BN17 5HE<br>Classification: Heat Exchangers<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                                | A8SE (S)                               | 769                          | -       | 503592 101826 |
| 87     | <b>Contemporary Trade Directory Entries</b><br>Name: Shell Select<br>Location: Service Station, Worthing Road, Wick, Littlehampton, BN17 6LE<br>Classification: Petrol Filling Stations<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                                 | A19NW (NE)                             | 772                          | -       | 503836 103328 |
| 87     | <b>Contemporary Trade Directory Entries</b><br>Name: Shell East Field<br>Location: Service Station, Worthing Road, Wick, Littlehampton, West Sussex, BN17 6LE<br>Classification: Petrol Filling Stations<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                              | A19NW (NE)                             | 773                          | -       | 503836 103328 |
| 87     | <b>Contemporary Trade Directory Entries</b><br>Name: Shell Service Station Ltd<br>Location: Service Station, Worthing Road, Wick, Littlehampton, West Sussex, BN17 6LE<br>Classification: Petrol Filling Stations - 24 Hour<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address           | A19NW (NE)                             | 773                          | -       | 503836 103328 |
| 88     | <b>Contemporary Trade Directory Entries</b><br>Name: Chauffer Services Ltd<br>Location: 7, Toddington Park, Wick, Littlehampton, West Sussex, BN17 6JZ<br>Classification: Car Engine Tuning & Diagnostic Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                     | A18NW (N)                              | 773                          | -       | 503166 103427 |
| 89     | <b>Contemporary Trade Directory Entries</b><br>Name: Travis Perkins Plc<br>Location: Pier Road, Littlehampton, West Sussex, BN17 5BB<br>Classification: Builders' Merchants<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                                             | A7SE (SW)                              | 773                          | -       | 502743 101911 |
| 89     | <b>Contemporary Trade Directory Entries</b><br>Name: Amstel Cycles<br>Location: 47, Pier Road, Littlehampton, West Sussex, BN17 5LW<br>Classification: Cycle Accessories, Manufacturers & Wholesalers<br>Status: Inactive<br>Positional Accuracy: Manually positioned to the address or location                          | A7SE (SW)                              | 781                          | -       | 502777 101879 |
| 90     | <b>Contemporary Trade Directory Entries</b><br>Name: Sparkle Cleaners<br>Location: 118, Timberleys, Littlehampton, West Sussex, BN17 6QF<br>Classification: Cleaning Services - Domestic<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                              | A19SE (NE)                             | 783                          | -       | 504034 103164 |

| Map ID | Details                                                                                                                                                                                                                                                                                                     | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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| 91     | <b>Contemporary Trade Directory Entries</b><br>Name: Bluelight Distributions<br>Location: 8, Lansdowne Road, Wick, Littlehampton, West Sussex, BN17 6JQ<br>Classification: Distribution Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                        | A17NE (NW)                             | 787                          | -       | 502919 103385 |
| 92     | <b>Contemporary Trade Directory Entries</b><br>Name: Noble Autos<br>Location: Enterprise Unit, 2, Harwood Road, LITTLEHAMPTON, West Sussex, BN17 7AT<br>Classification: Car Body Repairs<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                  | A12SW (W)                              | 814                          | -       | 502356 102595 |
| 93     | <b>Contemporary Trade Directory Entries</b><br>Name: Pensa Engineering Services<br>Location: 23, Windward Close, Littlehampton, West Sussex, BN17 6QX<br>Classification: Refrigerators & Freezers - Servicing & Repairs<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address | A14SE (E)                              | 829                          | -       | 504256 102442 |
| 93     | <b>Contemporary Trade Directory Entries</b><br>Name: C M D Recovery<br>Location: 39, Windward Close, Littlehampton, West Sussex, BN17 6QX<br>Classification: Car Breakdown & Recovery Services<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                            | A14SE (E)                              | 872                          | -       | 504299 102440 |
| 94     | <b>Contemporary Trade Directory Entries</b><br>Name: A M S<br>Location: 25, River Road, Littlehampton, West Sussex, BN17 5BZ<br>Classification: Garage Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                                         | A7NW (SW)                              | 831                          | -       | 502490 102086 |
| 95     | <b>Contemporary Trade Directory Entries</b><br>Name: Frank Clarke<br>Location: Worthing Rd, Wick, Littlehampton, West Sussex, BN17 6JR<br>Classification: Cabinet Makers<br>Status: Inactive<br>Positional Accuracy: Manually positioned to the road within the address or location                         | A17NE (NW)                             | 839                          | -       | 502865 103418 |
| 96     | <b>Contemporary Trade Directory Entries</b><br>Name: Grip & Tip Services<br>Location: 27, The Blatchen, Littlehampton, West Sussex, BN17 5HF<br>Classification: Waste Disposal Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                 | A9SW (SE)                              | 840                          | -       | 503798 101820 |
| 96     | <b>Contemporary Trade Directory Entries</b><br>Name: Grip & Tip Services<br>Location: 27, The Blatchen, Littlehampton, West Sussex, BN17 5HF<br>Classification: Waste Disposal Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                 | A9SW (SE)                              | 840                          | -       | 503798 101820 |
| 97     | <b>Contemporary Trade Directory Entries</b><br>Name: Cosi Ltd<br>Location: Watersmead Business Park, Littlehampton, West Sussex, BN17 6LS<br>Classification: Toiletries<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                                 | A19NW (NE)                             | 849                          | -       | 503799 103437 |
| 98     | <b>Contemporary Trade Directory Entries</b><br>Name: Jpa<br>Location: 20, The Cape, Littlehampton, West Sussex, BN17 6PL<br>Classification: Cleaning Services - Domestic<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                                | A9NE (E)                               | 855                          | -       | 504223 102238 |
| 99     | <b>Contemporary Trade Directory Entries</b><br>Name: Shanks Printers & Finishers<br>Location: 10, Selwyn Avenue, Wick, Littlehampton, BN17 7NF<br>Classification: Printers<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                                | A17SW (NW)                             | 859                          | -       | 502536 103203 |

| Map ID | Details                                                                                                                                                                                                                                                                                            | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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| 100    | <b>Contemporary Trade Directory Entries</b><br>Name: Oven Solutions<br>Location: 40, The Faroes, Littlehampton, West Sussex, BN17 6SB<br>Classification: Oven cleaning<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                         | A19SE (NE)                             | 860                          | -       | 504148 103136 |
| 101    | <b>Contemporary Trade Directory Entries</b><br>Name: C M Wood<br>Location: Linden Park, Littlehampton, West Sussex, BN17 7BJ<br>Classification: Car Body Repairs<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                               | A12SW (W)                              | 861                          | -       | 502332 102389 |
| 101    | <b>Contemporary Trade Directory Entries</b><br>Name: Complete Automobile Repair Services<br>Location: Unit 6, Gloucester Road, Littlehampton, West Sussex, BN17 7BS<br>Classification: Garage Services<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address           | A12SW (W)                              | 890                          | -       | 502302 102388 |
| 101    | <b>Contemporary Trade Directory Entries</b><br>Name: R W Catering Services Ltd<br>Location: Unit 3-5, Gloucester Road, Littlehampton, West Sussex, BN17 7BS<br>Classification: Catering Equipment<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address              | A12SW (W)                              | 890                          | -       | 502302 102388 |
| 102    | <b>Contemporary Trade Directory Entries</b><br>Name: Sts Communication Ltd<br>Location: 143, Wick Street, Wick, Littlehampton, West Sussex, BN17 7JY<br>Classification: Telecommunications Equipment & Systems<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address | A17NE (NW)                             | 863                          | -       | 502651 103316 |
| 103    | <b>Contemporary Trade Directory Entries</b><br>Name: Biffa Municipal<br>Location: Harwood Road, Littlehampton, BN17 7AU<br>Classification: Waste Disposal Services<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                               | A12SW (W)                              | 863                          | -       | 502307 102611 |
| 104    | <b>Contemporary Trade Directory Entries</b><br>Name: Fuse Logistics<br>Location: Pier Road, Littlehampton, West Sussex, BN17 5LR<br>Classification: Road Haulage Services<br>Status: Active<br>Positional Accuracy: Manually positioned to the road within the address or location                 | A7SE (SW)                              | 871                          | -       | 502754 101789 |
| 104    | <b>Contemporary Trade Directory Entries</b><br>Name: Harbour Master Office<br>Location: Harbour Office, Pier Road, Littlehampton, West Sussex, BN17 5LR<br>Classification: Ports, Docks & Harbours<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address             | A7SE (SW)                              | 903                          | -       | 502729 101766 |
| 104    | <b>Contemporary Trade Directory Entries</b><br>Name: Littlehampton Harbour<br>Location: Harbour Office, Pier Road, LITTLEHAMPTON, West Sussex, BN17 5LR<br>Classification: Ports, Docks & Harbours<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address               | A7SE (SW)                              | 909                          | -       | 502733 101757 |
| 105    | <b>Contemporary Trade Directory Entries</b><br>Name: Crystal Clear<br>Location: 26, Norfolk Gardens, Littlehampton, West Sussex, BN17 5PE<br>Classification: Cleaning Materials & Equipment<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                    | A9SW (SE)                              | 876                          | -       | 503681 101737 |
| 106    | <b>Contemporary Trade Directory Entries</b><br>Name: Express Transport<br>Location: 45, Olliver Acre, Wick, Littlehampton, West Sussex, BN17 6FD<br>Classification: Road Haulage Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                      | A18NE (N)                              | 879                          | -       | 503552 103546 |
| 107    | <b>Contemporary Trade Directory Entries</b><br>Name: The Service Centre<br>Location: 6, The Saltings, Littlehampton, West Sussex, BN17 6RR<br>Classification: Domestic Appliances - Servicing, Repairs & Parts<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address | A14NE (E)                              | 890                          | -       | 504283 102898 |

| Map ID | Details                                                                                                                                                                                                                                                                                  | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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| 108    | <b>Contemporary Trade Directory Entries</b><br>Name: Lynx Finishers Ltd<br>Location: Gloucester Road, Littlehampton, West Sussex, BN17 7BS<br>Classification: Powder Coatings<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                        | A12SW (W)                              | 895                          | -       | 502311 102332 |
| 108    | <b>Contemporary Trade Directory Entries</b><br>Name: Formet Fabrications Ltd<br>Location: Gloucester Road, Littlehampton, West Sussex, BN17 7BS<br>Classification: Sheet Metal Work<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                  | A12SW (W)                              | 895                          | -       | 502311 102332 |
| 108    | <b>Contemporary Trade Directory Entries</b><br>Name: First Call Trading Ltd<br>Location: Gloucester Road, Littlehampton, West Sussex, BN17 7BS<br>Classification: Salvage Dealers<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                    | A12SW (W)                              | 895                          | -       | 502311 102332 |
| 108    | <b>Contemporary Trade Directory Entries</b><br>Name: Becket Recovery Services Ltd<br>Location: Unit 7a, Gloucester Road, Littlehampton, BN17 7BS<br>Classification: Breakdown and Recovery<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address           | A12SW (W)                              | 903                          | -       | 502296 102362 |
| 108    | <b>Contemporary Trade Directory Entries</b><br>Name: C A R S<br>Location: Unit 6, Gloucester Road, Littlehampton, West Sussex, BN17 7BS<br>Classification: Mot Testing Centres<br>Status: Active<br>Positional Accuracy: Manually positioned to the road within the address or location  | A12SW (W)                              | 904                          | -       | 502309 102306 |
| 109    | <b>Contemporary Trade Directory Entries</b><br>Name: Inpress Plastics Ltd<br>Location: Unit 1, Harwood Road, Littlehampton, West Sussex, BN17 7AU<br>Classification: Plastics - Injection Moulding<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address     | A11SE (W)                              | 896                          | -       | 502274 102553 |
| 109    | <b>Contemporary Trade Directory Entries</b><br>Name: Noble Autos<br>Location: Unit 1,2, Harwood Rd, Littlehampton, West Sussex, BN17 7AU<br>Classification: Garage Services<br>Status: Inactive<br>Positional Accuracy: Manually positioned to the road within the address or location   | A11SE (W)                              | 934                          | -       | 502236 102562 |
| 110    | <b>Contemporary Trade Directory Entries</b><br>Name: A S W Print & Promo<br>Location: 5, Watersmead Drive, Littlehampton, BN17 6GH<br>Classification: Printers<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                         | A19NE (NE)                             | 897                          | -       | 504076 103289 |
| 111    | <b>Contemporary Trade Directory Entries</b><br>Name: Kleen Zone<br>Location: 44, Trinity Way, Littlehampton, West Sussex, BN17 5SS<br>Classification: Cleaning Services - Domestic<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                   | A9SW (SE)                              | 898                          | -       | 503768 101744 |
| 112    | <b>Contemporary Trade Directory Entries</b><br>Name: Maxicause Ltd<br>Location: 21, Toddington Park, Wick, Littlehampton, BN17 6JZ<br>Classification: Heat Exchangers<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                | A18NW (N)                              | 904                          | -       | 503130 103554 |
| 113    | <b>Contemporary Trade Directory Entries</b><br>Name: Cushy Motors<br>Location: 1, Victoria Gardens, Clifton Road, Littlehampton, BN17 5LU<br>Classification: Car Dealers<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                             | A7SE (SW)                              | 922                          | -       | 502790 101713 |
| 114    | <b>Contemporary Trade Directory Entries</b><br>Name: Engine Management Services<br>Location: Unit 1, Wickham Business Centre, Harwood Road, Littlehampton, BN17 7AU<br>Classification: Garage Services<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address | A11SE (W)                              | 927                          | -       | 502243 102592 |

| Map ID | Details                                                                                                                                                                                                                                                                                                          | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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| 114    | <b>Contemporary Trade Directory Entries</b><br>Name: Engine Management Services<br>Location: Unit 1, Wickham Business Centre, Harwood Road, Littlehampton, West Sussex, BN17 7AU<br>Classification: Garage Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address          | A11SE (W)                              | 927                          | -       | 502243 102592 |
| 114    | <b>Contemporary Trade Directory Entries</b><br>Name: J & N Joinery<br>Location: Unit 16, Wickham Business Centre, Harwood Road, Littlehampton, West Sussex, BN17 7AU<br>Classification: Cabinet Makers<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                         | A11SE (W)                              | 964                          | -       | 502206 102577 |
| 114    | <b>Contemporary Trade Directory Entries</b><br>Name: Rokk Building Products Ltd<br>Location: Unit 4, Wickham Business Centre, Harwood Road, Littlehampton, West Sussex, BN17 7AU<br>Classification: Builders' Merchants<br>Status: Active<br>Positional Accuracy: Manually positioned to the address or location | A11SE (W)                              | 964                          | -       | 502206 102577 |
| 114    | <b>Contemporary Trade Directory Entries</b><br>Name: Rk Direct<br>Location: Unit 4, Wickham Business Centre, Harwood Road, Littlehampton, West Sussex, BN17 7AU<br>Classification: Builders' Merchants<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                       | A11SE (W)                              | 964                          | -       | 502206 102577 |
| 115    | <b>Contemporary Trade Directory Entries</b><br>Name: Oven Miracle Cleaning Co<br>Location: 11, Gratwicke Drive, Wick, Littlehampton, West Sussex, BN17 6GU<br>Classification: Oven cleaning<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                    | A18NE (N)                              | 931                          | -       | 503581 103593 |
| 115    | <b>Contemporary Trade Directory Entries</b><br>Name: Ironing R Us<br>Location: 11, Gratwicke Drive, Wick, Littlehampton, BN17 6GU<br>Classification: Ironing & Home Laundry Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                         | A18NE (N)                              | 931                          | -       | 503581 103593 |
| 116    | <b>Contemporary Trade Directory Entries</b><br>Name: Complete Automobile Repair Services<br>Location: 47, River Road, Littlehampton, West Sussex, BN17 5BZ<br>Classification: Garage Services<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                | A7NW (SW)                              | 933                          | -       | 502334 102156 |
| 116    | <b>Contemporary Trade Directory Entries</b><br>Name: Riverside Autos<br>Location: 47, River Road, Littlehampton, West Sussex, BN17 5BZ<br>Classification: Car Body Repairs<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                                   | A7NW (SW)                              | 933                          | -       | 502334 102156 |
| 116    | <b>Contemporary Trade Directory Entries</b><br>Name: Riverside Autos<br>Location: 57 River Road, Littlehampton, West Sussex, BN17 5BZ<br>Classification: Car Body Repairs<br>Status: Active<br>Positional Accuracy: Manually positioned to the address or location                                               | A7NW (SW)                              | 933                          | -       | 502334 102156 |
| 117    | <b>Contemporary Trade Directory Entries</b><br>Name: Uk 24-7 Repair & Recovery<br>Location: 4, Ensign Way, Littlehampton, West Sussex, BN17 6RQ<br>Classification: Breakdown and Recovery<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                    | A15SW (E)                              | 941                          | -       | 504379 102587 |
| 118    | <b>Contemporary Trade Directory Entries</b><br>Name: Bill Dodd Computer Systems Ltd<br>Location: 16b Norfolk Road, Littlehampton, West Sussex, BN17 5PN<br>Classification: Computer Manufacturers<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                              | A8SE (S)                               | 958                          | -       | 503535 101626 |

| Map ID | Details                                                                                                                                                                                                                                                                                                              | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
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| 119    | <b>Contemporary Trade Directory Entries</b><br>Name: Domestic Bliss<br>Location: 44, Capstan Drive, LITTLEHAMPTON, West Sussex, BN17 6RW<br>Classification: Cleaning Services - Domestic<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                         | A19SE (NE)                             | 962                          | -       | 504289 103092 |
| 119    | <b>Contemporary Trade Directory Entries</b><br>Name: Housekeepers Of Rustington<br>Location: 6, Pebble Walk, Littlehampton, West Sussex, BN17 6TE<br>Classification: Cleaning Services - Domestic<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                | A19SE (NE)                             | 992                          | -       | 504310 103117 |
| 120    | <b>Contemporary Trade Directory Entries</b><br>Name: Framework Accounting Solutions Ltd<br>Location: 23, Western Road, Littlehampton, West Sussex, BN17 5NP<br>Classification: Metal Workers<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                                       | A8SE (S)                               | 967                          | -       | 503429 101605 |
| 121    | <b>Contemporary Trade Directory Entries</b><br>Name: 1st Call Commercial Cleaning<br>Location: 27, Buttermere Way, Littlehampton, West Sussex, BN17 6SX<br>Classification: Cleaning Services - Commercial<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                        | A20SW (E)                              | 967                          | -       | 504334 102996 |
| 121    | <b>Contemporary Trade Directory Entries</b><br>Name: D D P<br>Location: 12, Buttermere Way, Littlehampton, West Sussex, BN17 6SX<br>Classification: Scaffolding & Work Platforms<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                                 | A20SW (E)                              | 980                          | -       | 504340 103017 |
| 121    | <b>Contemporary Trade Directory Entries</b><br>Name: Andy Hooper<br>Location: 10, Buttermere Way, Littlehampton, West Sussex, BN17 6SX<br>Classification: Outboard Motors - Sales & Service<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address                                      | A20SW (E)                              | 984                          | -       | 504341 103026 |
| 122    | <b>Contemporary Trade Directory Entries</b><br>Name: Packaging Etc<br>Location: Harwood House, Harwood Road, Littlehampton, BN17 7AU<br>Classification: Packaging Materials Manufacturers & Suppliers<br>Status: Active<br>Positional Accuracy: Automatically positioned to the address                              | A11SE (W)                              | 988                          | -       | 502185 102517 |
| 122    | <b>Contemporary Trade Directory Entries</b><br>Name: Design Packaging<br>Location: Harwood House, Harwood Road, Littlehampton, West Sussex, BN17 7AU<br>Classification: Packaging Materials Manufacturers & Suppliers<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address            | A11SE (W)                              | 988                          | -       | 502185 102517 |
| 123    | <b>Contemporary Trade Directory Entries</b><br>Name: Mander Pools Ltd<br>Location: 32, Courtwick Road, Wick, Littlehampton, West Sussex, BN17 7NH<br>Classification: Swimming Pool Contractors, Repairers & Service<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address              | A17SW (NW)                             | 993                          | -       | 502419 103273 |
| 124    | <b>Contemporary Trade Directory Entries</b><br>Name: Dando Drilling International Ltd<br>Location: Old Customs House, Wharf Road, Littlehampton, West Sussex, BN17 5DD<br>Classification: Drilling & Boring Equipment & Supplies<br>Status: Inactive<br>Positional Accuracy: Automatically positioned to the address | A6NE (W)                               | 995                          | -       | 502225 102270 |
| 125    | <b>Fuel Station Entries</b><br>Name: Cuff Miller<br>Location: Horsham Road Southfields Road, , Littlehampton, West Sussex, BN17 6BX<br>Brand: Esso<br>Premises Type: Petrol Station<br>Status: Open<br>Positional Accuracy: Automatically positioned to the address                                                  | A13SE (SE)                             | 224                          | -       | 503627 102459 |

| Map ID | Details                                                                                                                                                                                                                                                                      | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR           |
|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------|---------|---------------|
| 126    | <b>Fuel Station Entries</b><br>Name: Yeomans Garage<br>Location: 52-54, Horsham Road , , Littlehampton, West Sussex, BN17 6DN<br>Brand: Obsolete<br>Premises Type: Not Applicable<br>Status: Obsolete<br>Positional Accuracy: Manually positioned to the address or location | A14NW (E)                              | 340                          | -       | 503756 102738 |
| 127    | <b>Fuel Station Entries</b><br>Name: Shell Eastfield<br>Location: Rustington Bypass Worthing Road, , Littlehampton, West Sussex, BN17 6LE<br>Brand: SHELL<br>Premises Type: Petrol Station<br>Status: Open<br>Positional Accuracy: Automatically positioned to the address   | A19NW (NE)                             | 773                          | -       | 503836 103328 |

| Map ID | Details                                                                                                                      | Quadrant Reference (Compass Direction) | Estimated Distance From Site | Contact | NGR              |
|--------|------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|------------------------------|---------|------------------|
| 128    | <b>Nitrate Vulnerable Zones</b><br>Name: Sussex Chalk<br>Description: Groundwater<br>Source: Environment Agency, Head Office | A19NW (NE)                             | 721                          | 4       | 503650<br>103360 |

| Agency & Hydrological                                                                                                                                                                                                                         | Version                                          | Update Cycle                                               |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------|
| <b>Contaminated Land Register Entries and Notices</b><br>Arun District Council - Environmental Health Department<br>Worthing Borough Council - Environmental Health Department<br>Environment Agency - Head Office                            | December 2019<br>December 2019<br>September 2019 | Annual Rolling Update<br>Annual Rolling Update<br>Annually |
| <b>Discharge Consents</b><br>Environment Agency - Southern Region                                                                                                                                                                             | April 2020                                       | Quarterly                                                  |
| <b>Enforcement and Prohibition Notices</b><br>Environment Agency - Southern Region                                                                                                                                                            | March 2013                                       | Annual Rolling Update                                      |
| <b>Integrated Pollution Controls</b><br>Environment Agency - Southern Region                                                                                                                                                                  | October 2008                                     | Variable                                                   |
| <b>Integrated Pollution Prevention And Control</b><br>Environment Agency - South East Region - Solent & South Downs Area<br>Environment Agency - Southern Region                                                                              | April 2020<br>April 2020                         | Quarterly<br>Quarterly                                     |
| <b>Local Authority Integrated Pollution Prevention And Control</b><br>Arun District Council - Environmental Health Department<br>Worthing Borough Council - Environmental Health Department                                                   | December 2014<br>March 2013                      | Variable<br>Variable                                       |
| <b>Local Authority Pollution Prevention and Controls</b><br>Arun District Council - Environmental Health Department<br>Worthing Borough Council - Environmental Health Department                                                             | December 2014<br>November 2014                   | Not Applicable<br>Annual Rolling Update                    |
| <b>Local Authority Pollution Prevention and Control Enforcements</b><br>Arun District Council - Environmental Health Department<br>Worthing Borough Council - Environmental Health Department                                                 | December 2014<br>November 2014                   | Variable<br>Variable                                       |
| <b>Nearest Surface Water Feature</b><br>Ordnance Survey                                                                                                                                                                                       | April 2020                                       |                                                            |
| <b>Pollution Incidents to Controlled Waters</b><br>Environment Agency - Southern Region                                                                                                                                                       | December 1999                                    | Not Applicable                                             |
| <b>Prosecutions Relating to Authorised Processes</b><br>Environment Agency - Southern Region                                                                                                                                                  | March 2013                                       | Annual Rolling Update                                      |
| <b>Prosecutions Relating to Controlled Waters</b><br>Environment Agency - Southern Region                                                                                                                                                     | March 2013                                       | Annual Rolling Update                                      |
| <b>Registered Radioactive Substances</b><br>Environment Agency - Southern Region                                                                                                                                                              | June 2016                                        |                                                            |
| <b>River Quality</b><br>Environment Agency - Head Office                                                                                                                                                                                      | November 2001                                    | Not Applicable                                             |
| <b>River Quality Biology Sampling Points</b><br>Environment Agency - Head Office                                                                                                                                                              | July 2012                                        | Annually                                                   |
| <b>River Quality Chemistry Sampling Points</b><br>Environment Agency - Head Office                                                                                                                                                            | July 2012                                        | Annually                                                   |
| <b>Substantiated Pollution Incident Register</b><br>Environment Agency - South East Region - Solent & South Downs Area<br>Environment Agency - Southern Region - Solent and South Downs<br>Environment Agency - Southern Region - Sussex Area | April 2020<br>April 2020<br>April 2020           | Quarterly<br>Quarterly<br>Quarterly                        |
| <b>Water Abstractions</b><br>Environment Agency - Southern Region                                                                                                                                                                             | April 2020                                       | Quarterly                                                  |
| <b>Water Industry Act Referrals</b><br>Environment Agency - Southern Region                                                                                                                                                                   | October 2017                                     | Quarterly                                                  |
| <b>Groundwater Vulnerability Map</b><br>Environment Agency - Head Office                                                                                                                                                                      | June 2018                                        | As notified                                                |
| <b>Groundwater Vulnerability - Soluble Rock Risk</b><br>Environment Agency - Head Office                                                                                                                                                      | June 2018                                        | As notified                                                |

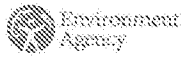
| Agency & Hydrological                                                                                                 | Version       | Update Cycle |
|-----------------------------------------------------------------------------------------------------------------------|---------------|--------------|
| <b>Bedrock Aquifer Designations</b><br>Environment Agency - Head Office                                               | January 2018  | Annually     |
| <b>Superficial Aquifer Designations</b><br>Environment Agency - Head Office                                           | January 2018  | Annually     |
| <b>Source Protection Zones</b><br>Environment Agency - Head Office                                                    | October 2019  | Quarterly    |
| <b>Extreme Flooding from Rivers or Sea without Defences</b><br>Environment Agency - Head Office                       | February 2020 | Quarterly    |
| <b>Flooding from Rivers or Sea without Defences</b><br>Environment Agency - Head Office                               | February 2020 | Quarterly    |
| <b>Areas Benefiting from Flood Defences</b><br>Environment Agency - Head Office                                       | February 2020 | Quarterly    |
| <b>Flood Water Storage Areas</b><br>Environment Agency - Head Office                                                  | February 2020 | Quarterly    |
| <b>Flood Defences</b><br>Environment Agency - Head Office                                                             | February 2020 | Quarterly    |
| <b>OS Water Network Lines</b><br>Ordnance Survey                                                                      | March 2020    | Quarterly    |
| <b>BGS Groundwater Flooding Susceptibility</b><br>British Geological Survey - National Geoscience Information Service | May 2013      | Annually     |

| Waste                                                                                                                                                                                                                                                          | Version                                         | Update Cycle                                       |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|----------------------------------------------------|
| <b>BGS Recorded Landfill Sites</b><br>British Geological Survey - National Geoscience Information Service                                                                                                                                                      | June 1996                                       | Not Applicable                                     |
| <b>Historical Landfill Sites</b><br>Environment Agency - Head Office                                                                                                                                                                                           | October 2019                                    | Quarterly                                          |
| <b>Integrated Pollution Control Registered Waste Sites</b><br>Environment Agency - Southern Region                                                                                                                                                             | October 2008                                    | Not Applicable                                     |
| <b>Licensed Waste Management Facilities (Landfill Boundaries)</b><br>Environment Agency - South East Region - Solent & South Downs Area<br>Environment Agency - Southern Region - Solent and South Downs<br>Environment Agency - Southern Region - Sussex Area | November 2019<br>November 2019<br>November 2019 | Quarterly<br>Quarterly<br>Quarterly                |
| <b>Licensed Waste Management Facilities (Locations)</b><br>Environment Agency - South East Region - Solent & South Downs Area<br>Environment Agency - Southern Region - Solent and South Downs<br>Environment Agency - Southern Region - Sussex Area           | April 2020<br>April 2020<br>April 2020          | Quarterly<br>Quarterly<br>Quarterly                |
| <b>Local Authority Landfill Coverage</b><br>Arun District Council - Technical Support Unit<br>West Sussex County Council - Environment & Development<br>Worthing Borough Council - Planning Department                                                         | May 2000<br>May 2000<br>May 2000                | Not Applicable<br>Not Applicable<br>Not Applicable |
| <b>Local Authority Recorded Landfill Sites</b><br>Arun District Council - Technical Support Unit<br>West Sussex County Council - Environment & Development<br>Worthing Borough Council - Planning Department                                                   | May 2000<br>May 2000<br>May 2000                | Not Applicable<br>Not Applicable<br>Not Applicable |
| <b>Registered Landfill Sites</b><br>Environment Agency - Southern Region - Solent and South Downs<br>Environment Agency - Southern Region - Sussex Area                                                                                                        | March 2003<br>March 2003                        | Not Applicable<br>Not Applicable                   |
| <b>Registered Waste Transfer Sites</b><br>Environment Agency - Southern Region - Solent and South Downs<br>Environment Agency - Southern Region - Sussex Area                                                                                                  | March 2003<br>March 2003                        | Not Applicable<br>Not Applicable                   |
| <b>Registered Waste Treatment or Disposal Sites</b><br>Environment Agency - Southern Region - Solent and South Downs<br>Environment Agency - Southern Region - Sussex Area                                                                                     | March 2003<br>March 2003                        | Not Applicable<br>Not Applicable                   |
| Hazardous Substances                                                                                                                                                                                                                                           | Version                                         | Update Cycle                                       |
| <b>Control of Major Accident Hazards Sites (COMAH)</b><br>Health and Safety Executive                                                                                                                                                                          | April 2018                                      | Bi-Annually                                        |
| <b>Explosive Sites</b><br>Health and Safety Executive                                                                                                                                                                                                          | March 2017                                      | Annually                                           |
| <b>Notification of Installations Handling Hazardous Substances (NIHHS)</b><br>Health and Safety Executive                                                                                                                                                      | November 2000                                   | Not Applicable                                     |
| <b>Planning Hazardous Substance Enforcements</b><br>Arun District Council - Technical Support Unit<br>Worthing Borough Council - Planning Department<br>West Sussex County Council - Environment & Development                                                 | February 2016<br>February 2016<br>October 2006  | Variable<br>Variable<br>Annual Rolling Update      |
| <b>Planning Hazardous Substance Consents</b><br>Arun District Council - Technical Support Unit<br>Worthing Borough Council - Planning Department<br>West Sussex County Council - Environment & Development                                                     | February 2016<br>February 2016<br>October 2006  | Variable<br>Variable<br>Annual Rolling Update      |

| Geological                                                                                                                                      | Version      | Update Cycle          |
|-------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------|
| <b>BGS 1:625,000 Solid Geology</b><br>British Geological Survey - National Geoscience Information Service                                       | January 2009 | Not Applicable        |
| <b>BGS Recorded Mineral Sites</b><br>British Geological Survey - National Geoscience Information Service                                        | October 2019 | Bi-Annually           |
| <b>CBSCB Compensation District</b><br>Cheshire Brine Subsidence Compensation Board (CBSCB)                                                      | August 2011  | Not Applicable        |
| <b>Coal Mining Affected Areas</b><br>The Coal Authority - Property Searches                                                                     | March 2014   | Annual Rolling Update |
| <b>Mining Instability</b><br>Ove Arup & Partners                                                                                                | October 2000 | Not Applicable        |
| <b>Non Coal Mining Areas of Great Britain</b><br>British Geological Survey - National Geoscience Information Service                            | May 2015     | Not Applicable        |
| <b>Potential for Collapsible Ground Stability Hazards</b><br>British Geological Survey - National Geoscience Information Service                | January 2019 | Annually              |
| <b>Potential for Compressible Ground Stability Hazards</b><br>British Geological Survey - National Geoscience Information Service               | January 2019 | Annually              |
| <b>Potential for Ground Dissolution Stability Hazards</b><br>British Geological Survey - National Geoscience Information Service                | January 2019 | Annually              |
| <b>Potential for Landslide Ground Stability Hazards</b><br>British Geological Survey - National Geoscience Information Service                  | January 2019 | Annually              |
| <b>Potential for Running Sand Ground Stability Hazards</b><br>British Geological Survey - National Geoscience Information Service               | January 2019 | Annually              |
| <b>Potential for Shrinking or Swelling Clay Ground Stability Hazards</b><br>British Geological Survey - National Geoscience Information Service | January 2019 | Annually              |
| <b>Radon Potential - Radon Affected Areas</b><br>British Geological Survey - National Geoscience Information Service                            | July 2011    | Annually              |
| <b>Radon Potential - Radon Protection Measures</b><br>British Geological Survey - National Geoscience Information Service                       | July 2011    | Annually              |
| Industrial Land Use                                                                                                                             | Version      | Update Cycle          |
| <b>Contemporary Trade Directory Entries</b><br>Thomson Directories                                                                              | April 2020   | Quarterly             |
| <b>Fuel Station Entries</b><br>Catalist Ltd - Experian                                                                                          | June 2020    | Quarterly             |
| <b>Gas Pipelines</b><br>National Grid                                                                                                           | July 2014    |                       |
| <b>Underground Electrical Cables</b><br>National Grid                                                                                           | October 2019 |                       |

| Sensitive Land Use                                                                                                                                | Version                                         | Update Cycle                              |
|---------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------|-------------------------------------------|
| <b>Ancient Woodland</b><br>Natural England                                                                                                        | April 2020                                      | Bi-Annually                               |
| <b>Areas of Adopted Green Belt</b><br>Arun District Council - Technical Support Unit<br>South Downs National Park<br>Worthing Borough Council     | February 2020<br>February 2020<br>February 2020 | As notified<br>As notified<br>As notified |
| <b>Areas of Unadopted Green Belt</b><br>Arun District Council - Technical Support Unit<br>South Downs National Park<br>Worthing Borough Council   | February 2020<br>February 2020<br>February 2020 | As notified<br>As notified<br>As notified |
| <b>Areas of Outstanding Natural Beauty</b><br>Natural England                                                                                     | June 2019                                       | Bi-Annually                               |
| <b>Environmentally Sensitive Areas</b><br>Natural England                                                                                         | January 2017                                    |                                           |
| <b>Forest Parks</b><br>Forestry Commission                                                                                                        | April 1997                                      | Not Applicable                            |
| <b>Local Nature Reserves</b><br>Natural England                                                                                                   | April 2020                                      | Bi-Annually                               |
| <b>Marine Nature Reserves</b><br>Natural England                                                                                                  | July 2019                                       | Bi-Annually                               |
| <b>National Nature Reserves</b><br>Natural England                                                                                                | July 2019                                       | Bi-Annually                               |
| <b>National Parks</b><br>Natural England                                                                                                          | April 2017                                      | Bi-Annually                               |
| <b>Nitrate Sensitive Areas</b><br>Natural England                                                                                                 | April 2016                                      | Not Applicable                            |
| <b>Nitrate Vulnerable Zones</b><br>Environment Agency - Head Office<br>Department for Environment, Food and Rural Affairs (DEFRA - formerly FRCA) | December 2017<br>October 2015                   | Bi-Annually                               |
| <b>Ramsar Sites</b><br>Natural England                                                                                                            | April 2019                                      | Bi-Annually                               |
| <b>Sites of Special Scientific Interest</b><br>Natural England                                                                                    | May 2020                                        | Bi-Annually                               |
| <b>Special Areas of Conservation</b><br>Natural England                                                                                           | June 2019                                       | Bi-Annually                               |
| <b>Special Protection Areas</b><br>Natural England                                                                                                | April 2019                                      | Bi-Annually                               |

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              | <br>British Geological Survey<br>NATURAL ENVIRONMENT RESEARCH COUNCIL      |
| Centre for Ecology and Hydrology       | <br>Centre for Ecology & Hydrology<br>NATURAL ENVIRONMENT RESEARCH COUNCIL |
| Natural Resources Wales                |                                                                           |
| Scottish Natural Heritage              |                                                                          |
| Natural England                        |                                                                          |
| Public Health England                  |                                                                          |
| Ove Arup                               |                                                                          |
| Peter Brett Associates                 |                                                                          |

| Contact | Name and Address                                                                                                                                               | Contact Details |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| 1       | <b>British Geological Survey - Enquiry Service</b><br>British Geological Survey, Environmental Science Centre, Keyworth, Nottingham, Nottinghamshire, NG12 5GG |                 |
| 2       | <b>Environment Agency - National Customer Contact Centre (NCCC)</b><br>PO Box 544, Templeborough, Rotherham, S60 1BY                                           |                 |
| 3       | <b>Arun District Council - Environmental Health Department</b><br>Civic Centre, Maltravers Road, Littlehampton, Sussex, BN17 5LF                               |                 |
| 4       | <b>Environment Agency - Head Office</b><br>Rio House, Waterside Drive, Aztec West, Almondsbury, Bristol, Avon, BS32 4UD                                        |                 |
| 5       | <b>Ordnance Survey</b><br>Adanac Drive, Southampton, Hampshire, SO16 0AS                                                                                       |                 |
| 6       | <b>Arun District Council - Technical Support Unit</b><br>Civic Centre, Maltravers Road, Littlehampton, Sussex, BN17 5LF                                        |                 |
| 7       | <b>West Sussex County Council - Environment &amp; Development</b><br>County Hall, Tower hall, Chichester, West Sussex, PO19 1RH                                |                 |
| 8       | <b>Natural England</b><br>County Hall, Spetchley Road, Worcester, WR5 2NP                                                                                      |                 |
| -       | <b>Public Health England - Radon Survey, Centre for Radiation, Chemical and Environmental Hazards</b><br>Chilton, Didcot, Oxfordshire, OX11 0RQ                |                 |
| -       | <b>Landmark Information Group Limited</b><br>Imperium, Imperial Way, Reading, Berkshire, RG2 0TD                                                               |                 |

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

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## APPENDIX E – Qualitative Risk Assessment

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|                                               |
|-----------------------------------------------|
| <p><b>Qualitative Risk<br/>Assessment</b></p> |
|-----------------------------------------------|

## Preliminary Geotechnical Risk Register

Geotechnical risk is the risk to building and construction work created by the site ground conditions. The Preliminary Geotechnical Risk Register has been compiled to provide an assessment of the likely risks that may impact on the proposed development based on the results of the desk study, and should be used to specify the type and extent of the intrusive investigation and testing undertaken, and to identify potential mitigation measures to control the risk to an acceptable level.

The inclusion of a risk in the register does not indicate that the risk is present, rather the likelihood of mitigation measures being required due to that risk, based on the available data. Equally, a risk classified as low indicates that mitigation measures are unlikely to be required for the hazard identified based on the available data.

The risk register should be developed and refined throughout the design process such that it will enable the management of geotechnical risk.

The Geotechnical Risk Register has been developed in accordance with the guidance presented in ICE/DETR Document "Managing Geotechnical Risk" (2002). The degree of risk (R) is determined by assessing the likelihood of a hazard (L) occurring and the effect of the hazard (E) on the project ( $R=L \times E$ ). The effect may be measured in one or more aspect e.g. increased cost, delays in the program, health and safety etc. The scale of the likelihood, effect and risk are determined as follows:-

| Likelihood of Occurrence |            |                     | X | Effect of Hazard |           |                          | = | Degree of Risk |             |                                                                                                          |
|--------------------------|------------|---------------------|---|------------------|-----------|--------------------------|---|----------------|-------------|----------------------------------------------------------------------------------------------------------|
| Scale                    | Likelihood | Chance              |   | Scale            | Effect    | Increase in cost or time |   | Degree of Risk | Risk Level  | Action required                                                                                          |
| 4                        | Probable   | >1 in 2             |   | 4                | Very High | >10%                     |   | 1-4            | Trivial     | None                                                                                                     |
| 3                        | Likely     | 1 in 10 to 1 in 2   |   | 3                | High      | 4-10%                    |   | 5-8            | Significant | Consider cost effective solutions or improvements at no extra cost                                       |
| 2                        | Unlikely   | 1 in 100 to 1 in 10 |   | 2                | Low       | 1-4%                     |   | 9-12           | Substantial | Work must not start until risk has been reduced. Additional resource required                            |
| 1                        | Negligible | <1 in 100           |   | 1                | Very Low  | <1%                      |   | 13-16          | Intolerable | Work must not start until risk has been reduced. If risk can not be reduced, project should not proceed. |



| Hazard                                    | Effect                              | Likelihood of Occurrence | Effect of Hazard | Risk Classification | Notes                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------|-------------------------------------|--------------------------|------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Made Ground                               | Deepened foundations                | Likely                   | Low              | Significant         | Given the site was previously occupied by buildings which have since been demolished it is likely that the made ground occurs over most of the site. The historical maps indicate an area of low ground during demolition which no longer appears of aerial imagery, therefore it is likely that relatively deep made ground may occur on site.                                                                          |
|                                           | Unstable excavations                | Likely                   | Low              | Significant         |                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                           |                                     | Likely                   | Low              | Significant         |                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Compressible Ground                       | Bearing capacity failure            | Negligible               | High             | Trivial             | The natural deposits beneath the site are not deemed to be excessively compressible. However, made ground is highly variable and can be compressible. Given the potentiality for areas of deep made ground on site there is a potential for compressible ground in these areas. However, assuming all loads are extended to the natural soils at depth then risks associated with compressible ground is considered low. |
|                                           | Excessive settlement                | Negligible               | High             | Trivial             |                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                           |                                     | Negligible               | High             | Trivial             |                                                                                                                                                                                                                                                                                                                                                                                                                          |
| High Groundwater Table                    | Unstable excavations/ running sands | Likely                   | High             | Substantial         | Given the variable nature of the underlying river terrace deposits there is a potential for perched water to occur on site. Furthermore, the environmental report highlights that the site is situated in an area of potential risk for groundwater flooding. As such groundwater at shallow depths is considered likely on site.                                                                                        |
|                                           | Dewatering                          | Likely                   | High             | Substantial         |                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                           | Contamination                       | Negligible               | Low              | Trivial             |                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                           |                                     | Negligible               | Low              | Trivial             |                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Deep Excavations                          | Deepened foundations                | Negligible               | High             | Trivial             | Absence of deep excavations on-site                                                                                                                                                                                                                                                                                                                                                                                      |
| Working in highway                        | Traffic Management                  | Negligible               | Very low         | Trivial             | N/A                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Shrinkable soils                          | Deepened foundations                | Unlikely                 | High             | Significant         | The soils on site are not considered to be likely to exhibit excess shrink swell behaviour. However, river terrace deposits can contain a large clay fraction and given the trees along the sites southern boundary there is a potential for foundations to require deepening in this area.                                                                                                                              |
|                                           | Heave                               | Unlikely                 | High             | Significant         |                                                                                                                                                                                                                                                                                                                                                                                                                          |
|                                           |                                     | Unlikely                 | Low              | Trivial             |                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Frost Susceptible soils                   | Road Design                         | Unlikely                 | Low              | Trivial             | The soils on site may contain a significant quantity of silt and as such may be susceptible to frost action.                                                                                                                                                                                                                                                                                                             |
| Aggressive ground conditions for Concrete | Concrete design                     | Unlikely                 | Low              | Trivial             | The soils on site are not among those listed as potentially aggressive to concrete within the BRE digest on aggressive ground conditions.                                                                                                                                                                                                                                                                                |

# Geotechnical Risk Register

|                                      |                             |            |           |             |                                                                                                                                                                                                                                                                                 |
|--------------------------------------|-----------------------------|------------|-----------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Slope Stability/Retaining Structure  | Local stability             | Negligible | High      | Tolerable   | The site is relatively flat.                                                                                                                                                                                                                                                    |
|                                      | Global stability            | Negligible | High      | Tolerable   |                                                                                                                                                                                                                                                                                 |
| Mining                               | Suitability for development | Negligible | High      | Tolerable   | N/A                                                                                                                                                                                                                                                                             |
| Ground dissolution/ Natural cavities | Remedial measures           | Unlikely   | High      | Significant | The site is situated on river terrace deposits which overlay the chalk. As such there is a potential for solution features to occur on site. Furthermore from local experience leap is aware of potential solution features which have been encountered in the local area.      |
|                                      |                             |            |           |             |                                                                                                                                                                                                                                                                                 |
| Landfill                             | Land gas                    | Unlikely   | High      | Significant | Given the potential for deep made ground to occur on site there is a potential that this included biodegradable material which could represent a potential ground gas source on site.                                                                                           |
|                                      |                             |            |           |             |                                                                                                                                                                                                                                                                                 |
| Contaminated land                    | Remedial measures           | Likely     | High      | Substantial | It is assumed that much of the demolition rubble from the removal of the previous school buildings is still present on site. There is a potential for contamination including heavy metals, hydrocarbons and asbestos within the stockpiles as well as any made ground on site. |
|                                      |                             |            |           |             |                                                                                                                                                                                                                                                                                 |
| Archaeological remains               | Remedial measures           | Negligible | High      | Tolerable   | Given the site has previously been developed it is unlikely that it previously present any archaeological materials remain on site.                                                                                                                                             |
| UXO                                  | UXO supervision             | Likely     | Very high | Substantial | UXO risk has been deemed Moderate based on an assessment of the Zetca Risk Maps.                                                                                                                                                                                                |



| Primary concern(s)                                          | Potential contaminants                                                                                                                   | Potential pathways                                                   | Potential receptors                                           | Likelihood      | Consequence | Risk Classification | Comments                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|---------------------------------------------------------------|-----------------|-------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Main ground source area 1                                   | Non volatile potential contaminants of concern i.e. metals, semimetals, TPH compounds with carbon bands >C12, PAHs including naphthalene | Direct contact with household dust                                   | Future residential land users                                 | Likely          | Mid         | Minor/moderate risk | In the non developed areas of the site there were visible signs of contamination waste at surface including concrete, brick and asphalt granules. Given the age of the previous school buildings heavy metals and PAHs in this material.                                                                                                                                                                  |
|                                                             |                                                                                                                                          | Direct contact with soil                                             |                                                               |                 |             |                     |                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                             |                                                                                                                                          | Ingestion of contaminated vegetation                                 |                                                               |                 |             |                     |                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                             |                                                                                                                                          | Ingestion of household dust                                          |                                                               |                 |             |                     |                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                             |                                                                                                                                          | Ingestion of soil                                                    |                                                               |                 |             |                     |                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                             |                                                                                                                                          | Ingestion of soil attached to vegetation                             |                                                               |                 |             |                     |                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                             |                                                                                                                                          | Ingestion of household dust                                          |                                                               |                 |             |                     |                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                             |                                                                                                                                          | Inhalation of fugitive household dust                                |                                                               |                 |             |                     |                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                             |                                                                                                                                          | Inhalation of fugitive soil dust                                     |                                                               |                 |             |                     |                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                             |                                                                                                                                          | Direct contact with soil                                             | Construction worker                                           | High likelihood | Mid         | Minor/moderate risk | In the absence of PPE the risk to constructional maintenance workers is moderate. This may be reduced to low/very low with appropriate risk assessments, method statements and use of PPE                                                                                                                                                                                                                 |
|                                                             |                                                                                                                                          | Ingestion of soil                                                    |                                                               |                 |             |                     |                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                             |                                                                                                                                          | Inhalation of fugitive soil dust                                     |                                                               |                 |             |                     |                                                                                                                                                                                                                                                                                                                                                                                                           |
| Adjacent existing materials / house extension flows to soil | Asbestos containing materials / house extension flows to soil                                                                            | Direct contact with soil                                             | Future ground infrastructure e.g. possible water supply flows | Likely          | Medium      | Minor/moderate risk | Localized areas of PAH/TPH contamination may pose a risk to possible water flows                                                                                                                                                                                                                                                                                                                          |
|                                                             |                                                                                                                                          | Verbal and lateral migration via saturated zone                      | Construction worker                                           | Low likelihood  | Medium      | Minor/moderate risk | House extension walls comprise low permeability clay, bricks and tiles of the Peter Turner Develop (discretionary A Grade) consisting Chalk rubble (Principal Aquifer)                                                                                                                                                                                                                                    |
|                                                             |                                                                                                                                          | Verbal and lateral migration via unsaturated zone                    |                                                               |                 |             |                     |                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                             |                                                                                                                                          | Surface water runoff                                                 | Surface water feature                                         | Unlikely        | Mid         | Very low risk       | There is a contained surface water feature, which appears to be a dry weather point in the west of the site. There are no other surface water features within 100 m of the site.                                                                                                                                                                                                                          |
|                                                             |                                                                                                                                          | Inhalation pathways only                                             | Future residential land users                                 | Low likelihood  | Severe      | Minor/moderate risk | There is the possibility of residual asbestos containing material in demolition material to rear surface walls, as observed during the walkover. However it is noted that during demolition works (as evidenced by the contractor report filed in the WSCC planning portal) that asbestos removal works were undertaken. On this basis, it may be anticipated that low level ACMs may be present on site. |
|                                                             |                                                                                                                                          |                                                                      | Construction worker                                           | Low likelihood  | Severe      | Minor/moderate risk | As above, the risk to construction workers may be reduced to low provided that appropriate PPE and mitigation measures are applied, including surface walls, dust suppression and PPE/PE as a last measure.                                                                                                                                                                                               |
|                                                             |                                                                                                                                          | Inhalation of dust from ground                                       | Future residential land users                                 | Low likelihood  | Medium      | Minor/moderate risk | Main ground features across the majority of the site is anticipated to be <1 m thick, so such the penetration of dust given is considered to be <1 low likelihood.                                                                                                                                                                                                                                        |
|                                                             |                                                                                                                                          | Inhalation of dust from ground                                       |                                                               |                 |             |                     | However, historical maps indicate an earth bank to the western portion of the site, which is currently covered by a water storage. Depending on the nature of the covered bank and whether it contained permeable waste there is a possibility of possible dust generation                                                                                                                                |
|                                                             |                                                                                                                                          | Migration of dust from ground through permeable deposits             | Buildings                                                     | Low likelihood  | Medium      | Minor/moderate risk | As above                                                                                                                                                                                                                                                                                                                                                                                                  |
|                                                             |                                                                                                                                          |                                                                      |                                                               |                 |             |                     |                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                             |                                                                                                                                          |                                                                      |                                                               |                 |             |                     |                                                                                                                                                                                                                                                                                                                                                                                                           |
|                                                             |                                                                                                                                          |                                                                      |                                                               |                 |             |                     |                                                                                                                                                                                                                                                                                                                                                                                                           |
| Developed material                                          | Metals and metalloids e.g. arsenic, lead, copper, TPH, PAH, VOCs, asbestos containing materials, permeable waste                         | All human health (thermal cancer, Reproductive, irritation) pathways | Future residential land users                                 | Unlikely        | Mid         | Very low risk       | At this stage we understand that the development is a minor and will not be permitted to remain on site, so such post development there will be no risk.                                                                                                                                                                                                                                                  |
|                                                             |                                                                                                                                          |                                                                      | Construction worker                                           | Likely          | Mid         | Minor/moderate risk | During groundworks construction workers may be exposed to potential contaminants of concern that may be contained within the development. During the walkover no obvious signs of contaminated material were observed in the development.                                                                                                                                                                 |
|                                                             |                                                                                                                                          | Surface water runoff                                                 | Surface water feature                                         | Unlikely        | Mid         | Very low risk       | As above - post development the development will not remain                                                                                                                                                                                                                                                                                                                                               |
|                                                             |                                                                                                                                          | Verbal and lateral migration via unsaturated zone                    | Construction worker                                           | Unlikely        | Mid         | Very low risk       | As above - post development the development will not remain                                                                                                                                                                                                                                                                                                                                               |
| Electrical substation                                       | Polychlorinated biphenyls (PCBs)                                                                                                         | Verbal and lateral migration via unsaturated zone                    | Future residential land users                                 | Unlikely        | Medium      | Low risk            | The off site electrical substation is down hydraulic gradient of the site. It is considered unlikely that significant releases of construction site waste might be brought the material deposits onto site.                                                                                                                                                                                               |
|                                                             |                                                                                                                                          |                                                                      | Construction worker                                           | Unlikely        | Medium      | Low risk            |                                                                                                                                                                                                                                                                                                                                                                                                           |

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## APPENDIX F – Trial Hole and Borehole Logs

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**Trial Hole and  
Borehole Logs**

| Leap Environmental Ltd<br>The Atrium, Curtis Road<br>Dorking, Surrey RH4 1XA<br>T [REDACTED]<br>W [REDACTED] |                             |         |         | <h1 style="text-align: center;">Trial Pit Log</h1> |              |                      |                                                                                                                                   | Trialpit No<br><b>TP1</b><br>Sheet 1 of 1 |  |
|--------------------------------------------------------------------------------------------------------------|-----------------------------|---------|---------|----------------------------------------------------|--------------|----------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--|
| Project Name: Elmgrove Road, Littlehampton                                                                   |                             |         |         | Project No.<br>LP2265                              |              | Co-ords: -<br>Level: |                                                                                                                                   | Date<br>22/06/2020                        |  |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                          |                             |         |         |                                                    |              | Dimensions (m):      |                                                                                                                                   | Scale<br>1:25                             |  |
| Client: Boklok Housing                                                                                       |                             |         |         |                                                    |              | Depth<br>2.50        |                                                                                                                                   | Logged<br>MW                              |  |
| Water<br>Strike                                                                                              | Samples and In Situ Testing |         |         | Depth<br>(m)                                       | Level<br>(m) | Legend               | Stratum Description                                                                                                               |                                           |  |
|                                                                                                              | Depth                       | Type    | Results |                                                    |              |                      |                                                                                                                                   |                                           |  |
|                                                                                                              | 0.20                        | ES      | N=12    | 0.50                                               |              |                      | Light brown sandy gravelly MADE GROUND. The gravel comprises brick and concrete with occasional asphalt, wires and flint cobbles. |                                           |  |
|                                                                                                              | 0.50<br>0.60                | D<br>ES |         |                                                    |              |                      | Stiff brown becoming orangish brown with depth slightly silty CLAY.<br><u>Hand Pen=240kPa</u>                                     |                                           |  |
|                                                                                                              | 1.00                        | D       |         | 1.50                                               |              |                      |                                                                                                                                   |                                           |  |
|                                                                                                              | 1.50                        | B       |         |                                                    |              |                      |                                                                                                                                   |                                           |  |
|                                                                                                              | 2.00                        | D       |         | 2.50                                               |              |                      | Medium dense silty slightly clayey gravelly SAND. Sand is medium to coarse, gravel is sub-angular to rounded flint.               |                                           |  |
|                                                                                                              | 2.50                        | B       |         |                                                    |              |                      | End of pit at 2.50 m                                                                                                              |                                           |  |
| Remarks: Trial pit remained dry and stable and was backfilled with arisings on completion.                   |                             |         |         |                                                    |              |                      |                                                                                                                                   |                                           |  |
| Stability:                                                                                                   |                             |         |         |                                                    |              |                      |                                                                                                                                   |                                           |  |

| Leap Environmental Ltd<br>The Atrium, Curtis Road<br>Dorking, Surrey RH4 1XA<br><div style="background-color: black; width: 150px; height: 20px; margin-top: 5px;"></div> |                             |      |         | <h1 style="margin: 0;">Trial Pit Log</h1> |              |                                                                           |                                                                                                                                     | Trialpit No<br><b>TP2</b><br>Sheet 1 of 1 |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------|---------|-------------------------------------------|--------------|---------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--|
| Project Name: Elmgrove Road, Littlehampton                                                                                                                                |                             |      |         | Project No.<br>LP2265                     |              | Co-ords: -<br>Level:                                                      |                                                                                                                                     | Date<br>22/06/2020                        |  |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                                                                                       |                             |      |         |                                           |              | Dimensions (m):                                                           |                                                                                                                                     | Scale<br>1:25                             |  |
| Client: Boklok Housing                                                                                                                                                    |                             |      |         |                                           |              | Depth<br>3.00                                                             |                                                                                                                                     | Logged<br>MW                              |  |
| Water<br>Strike                                                                                                                                                           | Samples and In Situ Testing |      |         | Depth<br>(m)                              | Level<br>(m) | Legend                                                                    | Stratum Description                                                                                                                 |                                           |  |
|                                                                                                                                                                           | Depth                       | Type | Results |                                           |              |                                                                           |                                                                                                                                     |                                           |  |
|                                                                                                                                                                           | 0.15                        | ES   | N=10    | 0.02                                      |              |                                                                           | Grass over light brown gravelly clayey TOPSOIL                                                                                      |                                           |  |
|                                                                                                                                                                           |                             |      |         |                                           |              |                                                                           | Black ashy gravelly fill possible remenant blacktop surface.                                                                        |                                           |  |
|                                                                                                                                                                           |                             |      |         | 0.25                                      |              |                                                                           | Pale brown gravelly sandy CLAY. Gravel is fine to coarse                                                                            |                                           |  |
|                                                                                                                                                                           |                             |      |         | 0.35                                      |              |                                                                           | sub angular to sub rounded flint with occasional flint cobbles.                                                                     |                                           |  |
|                                                                                                                                                                           | 0.50                        | D    |         |                                           |              |                                                                           | Very stiff greyish brown CLAY.                                                                                                      |                                           |  |
|                                                                                                                                                                           |                             |      |         |                                           |              |                                                                           | Hand Pen=580kPa                                                                                                                     |                                           |  |
|                                                                                                                                                                           | 0.80                        | ES   |         |                                           |              |                                                                           |                                                                                                                                     |                                           |  |
|                                                                                                                                                                           | 1.00                        | D    |         |                                           | 1.00         |                                                                           | Firm orange brown CLAY. From 1.5m becoming slightly mottled orange slightly gravelly CLAY. Gravel is sub angular to angular gravel. |                                           |  |
|                                                                                                                                                                           | 1.50                        | D    |         |                                           |              |                                                                           | Clay becomes slightly mottled orange and slightly gravelly from 1.5m                                                                |                                           |  |
|                                                                                                                                                                           |                             |      |         |                                           |              |                                                                           | Hand Pen=180kPa                                                                                                                     |                                           |  |
|                                                                                                                                                                           |                             |      | 1.80    |                                           |              | Firm orange brown sandy silty CLAY. Sand is fine to medium grained.       |                                                                                                                                     |                                           |  |
|                                                                                                                                                                           |                             |      | 2.00    |                                           |              |                                                                           |                                                                                                                                     |                                           |  |
|                                                                                                                                                                           |                             |      | 2.10    |                                           |              | Firm pale yellow mottled brown sandy CLAY. Sand is fine to coarse grained |                                                                                                                                     |                                           |  |
|                                                                                                                                                                           |                             |      | 2.40    |                                           |              | Firm pale yellow mottled brown sandy CLAY.                                |                                                                                                                                     |                                           |  |
|                                                                                                                                                                           |                             |      |         |                                           |              | Hand Pen=215kPa                                                           |                                                                                                                                     |                                           |  |
|                                                                                                                                                                           |                             |      | 3.00    |                                           |              | End of pit at 3.00 m                                                      |                                                                                                                                     |                                           |  |
| Remarks: Trial pit remained dry and stable and was backfilled with arisings on completion.                                                                                |                             |      |         |                                           |              |                                                                           |                                                                                                                                     |                                           |  |
| Stability:                                                                                                                                                                |                             |      |         |                                           |              |                                                                           |                                                                                                                                     |                                           |  |

|                                                                                                                                                                           |  |  |  |                                           |  |                      |  |                                           |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|--|-------------------------------------------|--|----------------------|--|-------------------------------------------|--|
| Leap Environmental Ltd<br>The Atrium, Curtis Road<br>Dorking, Surrey RH4 1XA<br><div style="background-color: black; width: 150px; height: 20px; margin-top: 5px;"></div> |  |  |  | <h1 style="margin: 0;">Trial Pit Log</h1> |  |                      |  | Trialpit No<br><b>TP3</b><br>Sheet 1 of 1 |  |
| Project Name: Elmgrove Road, Littlehampton                                                                                                                                |  |  |  | Project No.<br>LP2265                     |  | Co-ords: -<br>Level: |  | Date<br>22/06/2020                        |  |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                                                                                       |  |  |  |                                           |  | Dimensions (m):      |  | Scale<br>1:25                             |  |
| Client: Boklok Housing                                                                                                                                                    |  |  |  |                                           |  | Depth<br>3.00        |  | Logged<br>MW                              |  |

| Water Strike | Samples and In Situ Testing |         |         | Depth (m) | Level (m) | Legend                                                                                                                                                                                      | Stratum Description |   |
|--------------|-----------------------------|---------|---------|-----------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---|
|              | Depth                       | Type    | Results |           |           |                                                                                                                                                                                             |                     |   |
|              | 0.20                        | ES      | N=46    | 0.30      |           | Light brown sandy gravelly MADE GROUND. Comprising gravels of asphalt concrete, occasional tile fragment and medium to coarse flint.                                                        | 1                   |   |
|              | 0.50<br>0.60                | D<br>ES |         |           |           | Stiff brown silty gravelly CLAY. Gravel is medium to coarse sub angular to sub rounded flint.<br><div style="border: 1px solid black; padding: 2px; margin-top: 5px;">Hand Pen=245kPa</div> |                     |   |
|              | 1.00                        | D       |         | 1.20      |           | Firm orange brown sandy gravelly CLAY. Sand is fine to medium grained. Gravel is sub-angular to sub-rounded flint.                                                                          | 2                   |   |
|              | 1.50                        | D       |         |           |           | Medium dense orange finely laminated silty SAND. Sand is fine to medium grained.                                                                                                            |                     |   |
|              | 2.00                        | B       |         | 2.50      |           | Medium dense yellowish orange silty gravelly SAND. Sand is fine to medium grained. Gravel is angular to sub-angular occasional sub-rounded flint with rare flint cobbles.                   | 3                   |   |
|              | 2.50                        | D       |         |           |           |                                                                                                                                                                                             |                     |   |
|              | 3.00                        | D       |         | 3.00      |           | -----<br>End of pit at 3.00 m                                                                                                                                                               | 4                   |   |
|              |                             |         |         |           |           |                                                                                                                                                                                             |                     | 5 |

Remarks: Trial pit remained dry and stable and was backfilled with arisings on completion.

Stability:

[illegible]

| Leap Environmental Ltd<br>The Atrium, Curtis Road<br>Dorking, Surrey RH4 1XA<br><div style="background-color: black; width: 150px; height: 20px; margin-top: 5px;"></div> |                             |      |         | <h1 style="margin: 0;">Trial Pit Log</h1> |              |                               |                                                                                                                                                                                                                                                                                         | Trialpit No<br><b>TP5</b><br>Sheet 1 of 1 |  |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------|---------|-------------------------------------------|--------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--|--|
| Project Name: Elmgrove Road, Littlehampton                                                                                                                                |                             |      |         | Project No.<br>LP2265                     |              | Co-ords: -<br>Level:          |                                                                                                                                                                                                                                                                                         | Date<br>22/06/2020                        |  |  |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                                                                                       |                             |      |         |                                           |              | Dimensions (m):<br>Depth 3.00 |                                                                                                                                                                                                                                                                                         | Scale<br>1:25                             |  |  |
| Client: Boklok Housing                                                                                                                                                    |                             |      |         |                                           |              |                               |                                                                                                                                                                                                                                                                                         | Logged<br>ADC                             |  |  |
| Water<br>Strike                                                                                                                                                           | Samples and In Situ Testing |      |         | Depth<br>(m)                              | Level<br>(m) | Legend                        | Stratum Description                                                                                                                                                                                                                                                                     |                                           |  |  |
|                                                                                                                                                                           | Depth                       | Type | Results |                                           |              |                               |                                                                                                                                                                                                                                                                                         |                                           |  |  |
|                                                                                                                                                                           | 0.30                        | ES   | N=12    | 0.20                                      |              |                               | Grass over light brown slightly silty slightly sandy gravelly MADE GROUND. Gravel is flint, concrete, brick and blacktop.                                                                                                                                                               |                                           |  |  |
|                                                                                                                                                                           | 0.50                        | ES   |         | 0.50                                      |              |                               | Orangish brown gravelly MADE GROUND. Gravel is medium to coarse flint, whole bricks and concrete cobbles.                                                                                                                                                                               |                                           |  |  |
|                                                                                                                                                                           | 1.00                        | D    |         | 1.30                                      |              |                               | Firm to stiff orangish brown slightly silty slightly gravelly CLAY. Gravel is medium to coarse sub angular flint.<br><br><div style="border: 1px solid black; padding: 2px; width: fit-content;">Hand Pen=210kPa</div>                                                                  |                                           |  |  |
|                                                                                                                                                                           | 1.50                        | D    |         |                                           |              |                               | Medium dense orangish brown slightly gravelly slightly clayey SAND with occasional pockets of sandy clay. Sand is fine grained. Gravel is coarse rounded flint.<br><br><div style="border: 1px solid black; padding: 2px; width: fit-content;">Hand Pen=180kPa (on a clay pocket)</div> |                                           |  |  |
|                                                                                                                                                                           | 1.70                        | D    |         |                                           |              |                               |                                                                                                                                                                                                                                                                                         |                                           |  |  |
|                                                                                                                                                                           | 2.50                        | B    |         | 3.00                                      |              |                               |                                                                                                                                                                                                                                                                                         |                                           |  |  |
|                                                                                                                                                                           |                             |      |         |                                           |              |                               |                                                                                                                                                                                                                                                                                         | End of pit at 3.00 m                      |  |  |
|                                                                                                                                                                           |                             |      |         |                                           |              |                               |                                                                                                                                                                                                                                                                                         |                                           |  |  |
|                                                                                                                                                                           |                             |      |         |                                           |              |                               |                                                                                                                                                                                                                                                                                         |                                           |  |  |
|                                                                                                                                                                           |                             |      |         |                                           |              |                               |                                                                                                                                                                                                                                                                                         |                                           |  |  |
|                                                                                                                                                                           |                             |      |         |                                           |              |                               |                                                                                                                                                                                                                                                                                         |                                           |  |  |
|                                                                                                                                                                           |                             |      |         |                                           |              |                               |                                                                                                                                                                                                                                                                                         |                                           |  |  |

Remarks: Trial pit remained dry and stable and was backfilled with arisings on completion.

Stability:

|                                                                                                                                                                     |                             |      |         |           |           |                       |                                                                                                                                                                                                              |                      |                               |  |  |                                                                                     |                                             |                            |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------|---------|-----------|-----------|-----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-------------------------------|--|--|-------------------------------------------------------------------------------------|---------------------------------------------|----------------------------|---|
| Leap Environmental Ltd<br>The Atrium, Curtis Road<br><br>www.leapenvironmental.com |                             |      |         |           |           | Trial Pit Log         |                                                                                                                                                                                                              |                      |                               |  |  |                                                                                     | Trialp pit No<br><b>TP6</b><br>Sheet 1 of 1 |                            |   |
| Project Name: Elmgrove Road, Littlehampton                                                                                                                          |                             |      |         |           |           | Project No.<br>LP2265 |                                                                                                                                                                                                              | Co-ords: -<br>Level: |                               |  |  |                                                                                     | Date<br>22/06/2020                          |                            |   |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                                                                                 |                             |      |         |           |           |                       |                                                                                                                                                                                                              |                      | Dimensions (m):<br>Depth 0.70 |  |  |  |                                             | Scale<br>1:25<br>Logged MW |   |
| Client: Boklok Housing                                                                                                                                              |                             |      |         |           |           |                       |                                                                                                                                                                                                              |                      |                               |  |  |                                                                                     |                                             |                            |   |
| Water Strike                                                                                                                                                        | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend                | Stratum Description                                                                                                                                                                                          |                      |                               |  |  |                                                                                     |                                             |                            |   |
|                                                                                                                                                                     | Depth                       | Type | Results |           |           |                       |                                                                                                                                                                                                              |                      |                               |  |  |                                                                                     |                                             |                            |   |
|                                                                                                                                                                     | 0.50                        | ES   |         | 0.70      |           |                       | Grass over brown slightly sandy clayey gravelly MADE GROUND. Gravels of rounded to sub rounded sub angular flint, sub rounded chalk, Numerous whole bricks. Occasional gravels of medium to coarse concrete. |                      |                               |  |  |                                                                                     |                                             |                            |   |
|                                                                                                                                                                     |                             |      |         |           |           |                       | ----- End of pit at 0.70 m -----                                                                                                                                                                             |                      |                               |  |  |                                                                                     |                                             |                            |   |
|                                                                                                                                                                     |                             |      |         |           |           |                       |                                                                                                                                                                                                              |                      |                               |  |  |                                                                                     |                                             |                            | 1 |
|                                                                                                                                                                     |                             |      |         |           |           |                       |                                                                                                                                                                                                              |                      |                               |  |  |                                                                                     |                                             |                            | 2 |
|                                                                                                                                                                     |                             |      |         |           |           |                       |                                                                                                                                                                                                              |                      |                               |  |  |                                                                                     |                                             |                            | 3 |
|                                                                                                                                                                     |                             |      |         |           |           |                       |                                                                                                                                                                                                              |                      |                               |  |  |                                                                                     |                                             |                            | 4 |
|                                                                                                                                                                     |                             |      |         |           |           |                       |                                                                                                                                                                                                              |                      |                               |  |  |                                                                                     |                                             |                            | 5 |
| Remarks: Trial pit remained dry and stable and was backfilled with arisings on completion. Refused on concrete at 0.70m. Trial pit was undertaken into stockpile.   |                             |      |         |           |           |                       |                                                                                                                                                                                                              |                      |                               |  |  |                                                                                     |                                             |                            |   |
| Stability:                                                                                                                                                          |                             |      |         |           |           |                       |                                                                                                                                                                                                              |                      |                               |  |  |                                                                                     |                                             |                            |   |

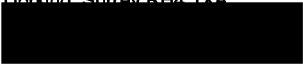
[illegible]

| Leap Environmental Ltd<br>The Atrium, Curtis Road<br>Dorking, Surrey RH4 1XA<br><div style="background-color: black; width: 100px; height: 20px;"></div> |                             |      |         |           |           | <h1>Trial Pit Log</h1> |                                                                                                                                                                                                                              |                                                                          |  |                               |  |  | Trialpit No<br><b>TP8</b><br><br>Sheet 1 of 1 |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------|---------|-----------|-----------|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|--|-------------------------------|--|--|-----------------------------------------------|--|
| Project Name: Elmgrove Road, Littlehampton                                                                                                               |                             |      |         |           |           | Project No.<br>LP2265  |                                                                                                                                                                                                                              | Co-ords: -<br>Level:                                                     |  | Date<br>22/06/2020            |  |  |                                               |  |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                                                                      |                             |      |         |           |           | Dimensions (m):        |                                                                                                                                                                                                                              | <div style="border: 1px solid black; width: 100px; height: 30px;"></div> |  | Scale<br>1:25<br>Logged<br>MW |  |  |                                               |  |
| Client: Boklok Housing                                                                                                                                   |                             |      |         |           |           | Depth<br>1.90          |                                                                                                                                                                                                                              |                                                                          |  |                               |  |  |                                               |  |
| Water Strike                                                                                                                                             | Samples and In Situ Testing |      |         | Depth (m) | Level (m) | Legend                 | Stratum Description                                                                                                                                                                                                          |                                                                          |  |                               |  |  |                                               |  |
|                                                                                                                                                          | Depth                       | Type | Results |           |           |                        |                                                                                                                                                                                                                              |                                                                          |  |                               |  |  |                                               |  |
|                                                                                                                                                          | 1.50                        | ES   |         | 1.90      |           |                        | Grass over brown slightly sandy clayey gravelly MADE GROUND. Gravels of rounded to sub rounded sub angular flint, sub rounded chalk, coarse brick and concrete, occasional whole bricks. Length of electrical cable at 0.5 m |                                                                          |  |                               |  |  |                                               |  |
|                                                                                                                                                          |                             |      |         |           |           |                        | End of pit at 1.90 m                                                                                                                                                                                                         |                                                                          |  |                               |  |  |                                               |  |
| Remarks: Trial pit remained dry and stable and was backfilled with arisings on completion. Trial pit was undertaken into stockpile                       |                             |      |         |           |           |                        |                                                                                                                                                                                                                              |                                                                          |  |                               |  |  |                                               |  |
| Stability:                                                                                                                                               |                             |      |         |           |           |                        |                                                                                                                                                                                                                              |                                                                          |  |                               |  |  |                                               |  |



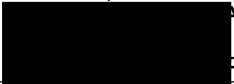
| Leap Environmental Ltd<br>The Atrium, Curtis Road<br>Dorking, Surrey RH4 1XA<br><div style="background-color: black; width: 150px; height: 30px; margin-top: 5px;"></div> |                             |      |         | <h1 style="margin: 0;">Trial Pit Log</h1> |           |                                                                                                                                               |                                                                                                                                                                 | Trialpit No<br><b>TP10</b><br>Sheet 1 of 1 |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------|---------|-------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--|
| Project Name: Elmgrove Road, Littlehampton                                                                                                                                |                             |      |         | Project No.<br>LP2265                     |           | Co-ords: -<br>Level:                                                                                                                          |                                                                                                                                                                 | Date<br>22/06/2020                         |  |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                                                                                       |                             |      |         |                                           |           | Dimensions (m):<br>Depth 1.50                                                                                                                 |                                                                                                                                                                 | Scale 1:25<br>Logged MW                    |  |
| Client: Boklok Housing                                                                                                                                                    |                             |      |         |                                           |           |                                                                                                                                               |                                                                                                                                                                 |                                            |  |
| Water Strike                                                                                                                                                              | Samples and In Situ Testing |      |         | Depth (m)                                 | Level (m) | Legend                                                                                                                                        | Stratum Description                                                                                                                                             |                                            |  |
|                                                                                                                                                                           | Depth                       | Type | Results |                                           |           |                                                                                                                                               |                                                                                                                                                                 |                                            |  |
|                                                                                                                                                                           | 0.80                        | ES   |         | 0.70                                      |           |                                                                                                                                               | Grass over brown clayey gravelly slightly sandy MADE GROUND. Gravels of rounded to sub rounded sub angular flint, sub rounded chalk, coarse brick and concrete, |                                            |  |
|                                                                                                                                                                           |                             |      | 0.75    |                                           |           | Layer of well rotted wood chippings<br>Soft greyish brown slightly gravelly CLAY. Gravels comprise of fine sub angular to sub rounded flints. |                                                                                                                                                                 |                                            |  |
|                                                                                                                                                                           |                             |      | 1.50    |                                           |           | End of pit at 1.50 m                                                                                                                          |                                                                                                                                                                 |                                            |  |
| Remarks: Trial pit remained dry and stable and was backfilled with arisings on completion. Trial pit was undertaken into stockpile                                        |                             |      |         |                                           |           |                                                                                                                                               |                                                                                                                                                                 |                                            |  |
| Stability:                                                                                                                                                                |                             |      |         |                                           |           |                                                                                                                                               |                                                                                                                                                                 |                                            |  |

| Leap Environmental Ltd<br>The Atrium, Curtis Road<br>Dorking, Surrey RH4 1XA<br><div style="background-color: black; width: 100px; height: 20px; margin-top: 5px;"></div> |                             |      |         | <h1 style="margin: 0;">Trial Pit Log</h1> |              |                               |                                                                                                                                                                                                                                                         | Trialpit No<br><b>TP11</b><br>Sheet 1 of 1 |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------|---------|-------------------------------------------|--------------|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--|
| Project Name: Elmgrove Road, Littlehampton                                                                                                                                |                             |      |         | Project No.<br>LP2265                     |              | Co-ords: -<br>Level:          |                                                                                                                                                                                                                                                         | Date<br>22/06/2020                         |  |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                                                                                       |                             |      |         |                                           |              | Dimensions (m):<br>Depth 2.50 |                                                                                                                                                                                                                                                         | Scale<br>1:25<br>Logged<br>MW              |  |
| Client: Boklok Housing                                                                                                                                                    |                             |      |         |                                           |              |                               |                                                                                                                                                                                                                                                         |                                            |  |
| Water<br>Strike                                                                                                                                                           | Samples and In Situ Testing |      |         | Depth<br>(m)                              | Level<br>(m) | Legend                        | Stratum Description                                                                                                                                                                                                                                     |                                            |  |
|                                                                                                                                                                           | Depth                       | Type | Results |                                           |              |                               |                                                                                                                                                                                                                                                         |                                            |  |
|                                                                                                                                                                           | 0.50                        | ES   |         | 1.20                                      |              |                               | Grass over greyish brown slightly sandy clayey gravelly<br><b>MADE GROUND.</b> Gravels of rounded to sub rounded<br>sub angular flint, coarse brick and concrete, occasional<br>whole bricks.                                                           |                                            |  |
|                                                                                                                                                                           | 1.50                        | ES   |         |                                           |              |                               | Soft dark brown greyish gravelly clay <b>MADE GROUND.</b><br>Gravels of rounded to sub rounded flint. Occasional fine<br>to medium brick gravel. Woven black plastic membrane<br>embedded within clay.<br><i>Burnt organic odour within made ground</i> |                                            |  |
|                                                                                                                                                                           |                             |      |         |                                           | 2.50         |                               |                                                                                                                                                                                                                                                         | -----<br>End of pit at 2.50 m              |  |
| Remarks: Trial pit remained dry and stable and was backfilled with arisings on completion. Trial pit was undertaken into stockpile                                        |                             |      |         |                                           |              |                               |                                                                                                                                                                                                                                                         |                                            |  |
| Stability:                                                                                                                                                                |                             |      |         |                                           |              |                               |                                                                                                                                                                                                                                                         |                                            |  |

| Leap Environmental Ltd<br>The Atrium, Curtis Road<br>Dorking, Surrey RH4 1XA<br> |                             |      |         | <h1 style="text-align: center;">Trial Pit Log</h1> |              |                      |                                                                                                                                                                                                                                                                                                  | Trialpit No<br><b>TP12</b><br>Sheet 1 of 1 |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------|---------|----------------------------------------------------|--------------|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|--|
| Project Name: Elmgrove Road, Littlehampton                                                                                                                        |                             |      |         | Project No.<br>LP2265                              |              | Co-ords: -<br>Level: |                                                                                                                                                                                                                                                                                                  | Date<br>22/06/2020                         |  |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                                                                               |                             |      |         |                                                    |              | Dimensions (m):      |                                                                                                                                                                                                                                                                                                  | Scale<br>1:25                              |  |
| Client: Boklok Housing                                                                                                                                            |                             |      |         |                                                    |              | Depth<br>2.50        |                                                                                                                                                                                                                                                                                                  | Logged<br>MW                               |  |
| Water<br>Strike                                                                                                                                                   | Samples and In Situ Testing |      |         | Depth<br>(m)                                       | Level<br>(m) | Legend               | Stratum Description                                                                                                                                                                                                                                                                              |                                            |  |
|                                                                                                                                                                   | Depth                       | Type | Results |                                                    |              |                      |                                                                                                                                                                                                                                                                                                  |                                            |  |
|                                                                                                                                                                   | 0.50                        | ES   |         | 1.60                                               |              |                      | Grass over light brown becoming brown with depth slightly sandy gravelly clay MADE GROUND. Gravel is sub rounded to sub angular flint with medium to coarse brick and concrete. Occasional whole bricks, and asphalt gravels. Rare wood and plastic fragments / plastic bags. Rare paving slabs. |                                            |  |
|                                                                                                                                                                   | 1.80                        | ES   |         |                                                    |              |                      | Soft to firm dark grey slightly gravelly clay MADE GROUND. Slight organic odour. Gravel is medium to coarse sub rounded to rounded sub angular flint. Black plastic netting, plastic tile fragments and rare rubber seals encountered within clay.                                               |                                            |  |
|                                                                                                                                                                   |                             |      |         |                                                    | 2.50         |                      |                                                                                                                                                                                                                                                                                                  | -----<br>End of pit at 2.50 m              |  |
| Remarks: Trial pit remained dry and stable and was backfilled with arisings on completion. Trial pit was undertaken into stockpile                                |                             |      |         |                                                    |              |                      |                                                                                                                                                                                                                                                                                                  |                                            |  |
| Stability:                                                                                                                                                        |                             |      |         |                                                    |              |                      |                                                                                                                                                                                                                                                                                                  |                                            |  |

| Leap Environmental Ltd<br>The Atrium, Curtis Road<br>Dorking, Surrey RH4 1XA<br>Tel: [REDACTED]<br>www.[REDACTED]                                                              |                  |                             |      |         | <h1>Borehole Log</h1>          |              |                  | Borehole No.<br><b>WS1A</b><br>Sheet 1 of 1                                                                                    |                 |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------------|------|---------|--------------------------------|--------------|------------------|--------------------------------------------------------------------------------------------------------------------------------|-----------------|--|
| Project Name: Elmgrove Road, Littlehampton                                                                                                                                     |                  |                             |      |         | Project No.<br>LP2265          |              | Co-ords: -       |                                                                                                                                | Hole Type<br>WS |  |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                                                                                            |                  |                             |      |         | Level:                         |              | Scale<br>1:20    |                                                                                                                                |                 |  |
| Client: Boklok Housing                                                                                                                                                         |                  |                             |      |         | Dates: 22/06/2020 - 22/06/2020 |              | Logged By<br>ADC |                                                                                                                                |                 |  |
| Well                                                                                                                                                                           | Water<br>Strikes | Samples and In Situ Testing |      |         | Depth<br>(m)                   | Level<br>(m) | Legend           | Stratum Description                                                                                                            |                 |  |
|                                                                                                                                                                                |                  | Depth (m)                   | Type | Results |                                |              |                  |                                                                                                                                |                 |  |
|                                                                                                                                                                                |                  |                             |      |         | 0.30                           |              |                  | Blacktop and concrete rubble over grey slightly<br>silty sandy gravelly MADEGROUND. Gravel is<br>concrete, blacktop and flint. |                 |  |
|                                                                                                                                                                                |                  |                             |      |         |                                |              |                  | -----<br>End of borehole at 0.30 m                                                                                             |                 |  |
| Remarks<br>Excavation remained dry and stable and was backfilled with arisings on completion. Excavation was terminated due to<br>encountering a concrete obstruction at 0.30m |                  |                             |      |         |                                |              |                  |                                                                                                                                |                 |  |

| Leap Environmental Ltd<br>The Atrium, Curtis Road<br>Dorking, Surrey RH4 1XA<br>Tel: [REDACTED]<br>www.leapenv.com                                                             |                  |                             |      |         | <h1 style="text-align: center;">Borehole Log</h1> |              |                  | Borehole No.<br><b>WS1B</b><br>Sheet 1 of 1                                                                                            |                 |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------------|------|---------|---------------------------------------------------|--------------|------------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------------|--|
| Project Name: Elmgrove Road, Littlehampton                                                                                                                                     |                  |                             |      |         | Project No.<br>LP2265                             |              | Co-ords: -       |                                                                                                                                        | Hole Type<br>WS |  |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                                                                                            |                  |                             |      |         | Level:                                            |              | Scale<br>1:20    |                                                                                                                                        |                 |  |
| Client: Boklok Housing                                                                                                                                                         |                  |                             |      |         | Dates: 22/06/2020 - 22/06/2020                    |              | Logged By<br>ADC |                                                                                                                                        |                 |  |
| Well                                                                                                                                                                           | Water<br>Strikes | Samples and In Situ Testing |      |         | Depth<br>(m)                                      | Level<br>(m) | Legend           | Stratum Description                                                                                                                    |                 |  |
|                                                                                                                                                                                |                  | Depth (m)                   | Type | Results |                                                   |              |                  |                                                                                                                                        |                 |  |
|                                                                                                                                                                                |                  |                             |      |         | 0.35                                              |              |                  | Grass over pale brown slightly gravelly slightly<br>sandy silty reworked TOPSOIL. Gravel is fine to<br>medium flint and rare concrete. |                 |  |
|                                                                                                                                                                                |                  |                             |      |         |                                                   |              |                  | -----<br>End of borehole at 0.35 m                                                                                                     |                 |  |
|                                                                                                                                                                                |                  |                             |      |         |                                                   |              |                  |                                                                                                                                        |                 |  |
| Remarks<br>Excavation remained dry and stable and was backfilled with arisings on completion. Excavation was terminated due to<br>encountering a concrete obstruction at 0.35m |                  |                             |      |         |                                                   |              |                  |                                                                                                                                        |                 |  |

| Leap Environmental Ltd<br>The Atrium, Curtis Road<br><br>com                                  |                  |                             |      |         | <h1>Borehole Log</h1>          |              |                  | Borehole No.<br><b>WS1C</b><br>Sheet 1 of 1                                                                                     |                 |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------------|------|---------|--------------------------------|--------------|------------------|---------------------------------------------------------------------------------------------------------------------------------|-----------------|--|
| Project Name: Elmgrove Road, Littlehampton                                                                                                                                     |                  |                             |      |         | Project No.<br>LP2265          |              | Co-ords: -       |                                                                                                                                 | Hole Type<br>WS |  |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                                                                                            |                  |                             |      |         | Level:                         |              | Scale<br>1:20    |                                                                                                                                 |                 |  |
| Client: Boklok Housing                                                                                                                                                         |                  |                             |      |         | Dates: 22/06/2020 - 22/06/2020 |              | Logged By<br>ADC |                                                                                                                                 |                 |  |
| Well                                                                                                                                                                           | Water<br>Strikes | Samples and In Situ Testing |      |         | Depth<br>(m)                   | Level<br>(m) | Legend           | Stratum Description                                                                                                             |                 |  |
|                                                                                                                                                                                |                  | Depth (m)                   | Type | Results |                                |              |                  |                                                                                                                                 |                 |  |
|                                                                                                                                                                                |                  |                             |      |         | 0.30                           |              |                  | Blacktop and concrete rubble over grey slightly<br>sandy gravelly MADEGROUND. Gravel is<br>concrete, brick, blacktop and flint. |                 |  |
|                                                                                                                                                                                |                  |                             |      |         |                                |              |                  | -----<br>End of borehole at 0.30 m                                                                                              |                 |  |
| Remarks<br>Excavation remained dry and stable and was backfilled with arisings on completion. Excavation was terminated due to<br>encountering a concrete obstruction at 0.30m |                  |                             |      |         |                                |              |                  |                                                                                                                                 |                 |  |

| Leap Environmental Ltd<br>The Atrium, Curtis Road<br>Bellingham, Bournemouth, Dorset, BH11 1AA                                                                                                                                                                                                                                                                                            |               | <h1 style="text-align: center;">Borehole Log</h1> |      |                                |                                                                                                                                                 | Borehole No.<br><h2 style="text-align: center;">WS2</h2> |                                                                                                                                                               |                     |  |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|---------------------------------------------------|------|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|--|
| Project Name: Elmgrove Road, Littlehampton                                                                                                                                                                                                                                                                                                                                                |               | Project No.<br>LP2265                             |      | Co-ords: -                     |                                                                                                                                                 | Sheet 1 of 2<br>Hole Type<br>WS                          |                                                                                                                                                               |                     |  |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                                                                                                                                                                                                                                                                                                       |               |                                                   |      | Level:                         |                                                                                                                                                 | Scale<br>1:20                                            |                                                                                                                                                               |                     |  |
| Client: Boklok Housing                                                                                                                                                                                                                                                                                                                                                                    |               |                                                   |      | Dates: 22/06/2020 - 22/06/2020 |                                                                                                                                                 | Logged By<br>ADC                                         |                                                                                                                                                               |                     |  |
| Well                                                                                                                                                                                                                                                                                                                                                                                      | Water Strikes | Samples and In Situ Testing                       |      |                                | Depth (m)                                                                                                                                       | Level (m)                                                | Legend                                                                                                                                                        | Stratum Description |  |
|                                                                                                                                                                                                                                                                                                                                                                                           |               | Depth (m)                                         | Type | Results                        |                                                                                                                                                 |                                                          |                                                                                                                                                               |                     |  |
| W                                                                                                                                                                                                                                                                                                                                                                                         |               | 0.20                                              | ES   |                                | 0.50                                                                                                                                            |                                                          | Grass over light brown gravelly silty MADE GROUND. Gravel is fine to coarse, flint, brick and mortar.                                                         | 1                   |  |
|                                                                                                                                                                                                                                                                                                                                                                                           |               |                                                   |      |                                |                                                                                                                                                 |                                                          | Firm orangish brown slightly gravelly slightly silty CLAY. Gravel is fine to coarse flint with occasional rounded flint cobbles.                              |                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                           |               | 0.90                                              | D    | N=14 (3,4/4,4,3,3)             | 1.60                                                                                                                                            |                                                          | Hand Pen at 1.2m =330kPa                                                                                                                                      | 2                   |  |
|                                                                                                                                                                                                                                                                                                                                                                                           |               | 1.00                                              |      |                                |                                                                                                                                                 |                                                          |                                                                                                                                                               |                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                           |               | 1.80                                              | D    | N=12 (4,4/3,3,3,3)             | 2.35                                                                                                                                            |                                                          | Medium dense dark orangish brown slightly gravelly slightly clayey SAND. Gravel is medium to coarse sub-angular to sub-rounded flint. Sand is fine to medium. | 3                   |  |
|                                                                                                                                                                                                                                                                                                                                                                                           |               | 2.00                                              |      |                                |                                                                                                                                                 |                                                          |                                                                                                                                                               |                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                           |               | 2.50                                              | D    | N=37 (7,5/10,9,9,9)            | 3.10                                                                                                                                            |                                                          | Stiff grey sandy CLAY with occasional medium flint gravel.<br>Localised orange iron staining.<br>Hand Pen at 2.5m =490kPa                                     | 4                   |  |
|                                                                                                                                                                                                                                                                                                                                                                                           |               | 3.00                                              |      |                                |                                                                                                                                                 |                                                          |                                                                                                                                                               |                     |  |
|                                                                                                                                                                                                                                                                                                                                                                                           | 3.50          | D                                                 |      |                                | Highly weathered off white mottled pale orange CHALK recovered as gravelly silt. Gravel is fine to medium low density chalk and flint. Grade Dm |                                                          |                                                                                                                                                               |                     |  |
| Continued on next sheet                                                                                                                                                                                                                                                                                                                                                                   |               |                                                   |      |                                |                                                                                                                                                 |                                                          |                                                                                                                                                               |                     |  |
| Remarks<br>Borehole remained stable throughout. Groundwater monitoring well was installed comprising a raised steel cover over 1.0m of plain 63mm diameter pipe over 2.0m of slotted pipe. The slotted pipe was surrounded with shingle whilst the plain pipe was surrounded with bentonite to form a seal. The remainder of the borehole from 3.0m to 6.0m was backfilled with arisings. |               |                                                   |      |                                |                                                                                                                                                 |                                                          |                                                                                                                                                               |                     |  |

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|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------------------|----------------------|--------------------------|-----------|--------------------------------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| Project Name: Elmgrove Road, Littlehampton                                                                                                                                                                                                                                                                                                                                                       |               | Project No. LP2265             |                      | Co-ords: -               |           | Hole Type WS                               |        |                                                                                                                                                         |   |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                                                                                                                                                                                                                                                                                                              |               | Level:                         |                      | Scale 1:20               |           |                                            |        |                                                                                                                                                         |   |
| Client: Boklok Housing                                                                                                                                                                                                                                                                                                                                                                           |               | Dates: 22/06/2020 - 22/06/2020 |                      | Logged By ADC            |           |                                            |        |                                                                                                                                                         |   |
| Well                                                                                                                                                                                                                                                                                                                                                                                             | Water Strikes | Samples and In Situ Testing    |                      |                          | Depth (m) | Level (m)                                  | Legend | Stratum Description                                                                                                                                     |   |
|                                                                                                                                                                                                                                                                                                                                                                                                  |               | Depth (m)                      | Type                 | Results                  |           |                                            |        |                                                                                                                                                         |   |
|                                                                                                                                                                                                                                                                                                                                                                                                  |               | 4.00                           |                      | N=47<br>(2,4/8,11,14,14) | 4.30      |                                            |        |                                                                                                                                                         | 5 |
|                                                                                                                                                                                                                                                                                                                                                                                                  | 4.50          | D                              |                      |                          |           |                                            |        | Highly weathered off white mottled pale orange CHALK recovered as silty gravel. Gravel is fine to coarse, medium density chalk. Grade Dc                |   |
|                                                                                                                                                                                                                                                                                                                                                                                                  | 5.00          |                                | N=42 (4,6/7,12,15,8) |                          |           |                                            |        |                                                                                                                                                         |   |
|                                                                                                                                                                                                                                                                                                                                                                                                  | 5.80          | D                              |                      |                          |           |                                            |        |                                                                                                                                                         |   |
|                                                                                                                                                                                                                                                                                                                                                                                                  |               | 6.00                           |                      | N=40<br>(6,8/5,10,10,15) | 6.00      |                                            |        | <div style="border: 1px solid black; padding: 2px; display: inline-block;">Sample slightly damp to the touch at 6.0m</div><br>End of borehole at 6.00 m | 6 |
|                                                                                                                                                                                                                                                                                                                                                                                                  |               |                                |                      |                          |           |                                            |        |                                                                                                                                                         | 7 |
|                                                                                                                                                                                                                                                                                                                                                                                                  |               |                                |                      |                          |           |                                            |        |                                                                                                                                                         | 8 |
| <b>Remarks</b><br>Borehole remained stable throughout. Groundwater monitoring well was installed comprising a raised steel cover over 1.0m of plain 63mm diameter pipe over 2.0m of slotted pipe. The slotted pipe was surrounded with shingle whilst the plain pipe was surrounded with bentonite to form a seal. The remainder of the borehole from 3.0m to 6.0m was backfilled with arisings. |               |                                |                      |                          |           |                                            |        |                                                                                                                                                         |   |

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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|------------------|--------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|---|---|
| Project Name: Elmgrove Road, Littlehampton                                                                                                                                                                                                                                                                  |               |                             |      | Project No.<br>LP2265          |           | Co-ords: -       |        | Hole Type<br>WS                                                                                                                                                 |   |   |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                                                                                                                                                                                                                         |               |                             |      | Level:                         |           | Scale<br>1:20    |        |                                                                                                                                                                 |   |   |
| Client: Boklok Housing                                                                                                                                                                                                                                                                                      |               |                             |      | Dates: 22/06/2020 - 22/06/2020 |           | Logged By<br>ADC |        |                                                                                                                                                                 |   |   |
| Well                                                                                                                                                                                                                                                                                                        | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)        | Legend | Stratum Description                                                                                                                                             |   |   |
|                                                                                                                                                                                                                                                                                                             |               | Depth (m)                   | Type | Results                        |           |                  |        |                                                                                                                                                                 |   |   |
|                                                                                                                                                                                                                                                                                                             |               | 0.15                        | ES   |                                | 0.30      |                  |        | Grass over light orangish brown gravelly reworked silty TOPSOIL. Gravel is fine to medium flint and occasional brick and concrete.                              | 1 |   |
|                                                                                                                                                                                                                                                                                                             |               |                             |      |                                |           |                  |        | Firm orangish brown slightly sandy very silty CLAY with occasional coarse rounded flint gravel.<br><br><u>Becoming sandier with depth.</u>                      |   |   |
|                                                                                                                                                                                                                                                                                                             |               | 1.00                        |      | N=12 (2,2/3,3,3,3)             | 1.55      |                  |        | <u>Hand Pen at 1.3m =230kPa</u>                                                                                                                                 |   | 2 |
|                                                                                                                                                                                                                                                                                                             |               | 1.20                        | D    |                                |           |                  |        |                                                                                                                                                                 |   |   |
|                                                                                                                                                                                                                                                                                                             |               | 1.70                        | D    |                                |           |                  |        | Medium dense orangish brown slightly gravelly slightly clayey SAND with occasional sandy clay pockets. Gravel is medium to coarse sub-rounded to rounded flint. |   | 3 |
|                                                                                                                                                                                                                                                                                                             |               | 2.00                        |      | N=37 (6,10/10,8,10,9)          |           |                  |        |                                                                                                                                                                 |   |   |
|                                                                                                                                                                                                                                                                                                             |               | 2.50                        | D    |                                |           |                  |        |                                                                                                                                                                 |   | 4 |
|                                                                                                                                                                                                                                                                                                             |               | 3.00                        |      | N=8 (2,2/2,2,2,2)              |           |                  |        |                                                                                                                                                                 |   |   |
| 3.50                                                                                                                                                                                                                                                                                                        | D             |                             |      |                                |           |                  |        |                                                                                                                                                                 |   |   |
|                                                                                                                                                                                                                                                                                                             |               | 4.00                        |      | N=6 (1,1/1,1,2,2)              |           |                  |        |                                                                                                                                                                 |   |   |
| Continued on next sheet                                                                                                                                                                                                                                                                                     |               |                             |      |                                |           |                  |        |                                                                                                                                                                 |   |   |
| Remarks<br>Borehole remained stable throughout. Groundwater monitoring well was installed comprising a raised steel cover over 1.0m of plain 63mm diameter pipe over 5.0m of slotted pipe. The slotted pipe was surrounded with shingle whilst the plain pipe was surrounded with bentonite to form a seal. |               |                             |      |                                |           |                  |        |                                                                                                                                                                 |   |   |

| Leap Environmental Ltd<br>The Atrium, Curtis Road<br>Dorking, Surrey RH4 1XA<br><div style="background-color: black; width: 200px; height: 20px; margin-top: 5px;"></div>                                                                                                                                   |               |                             |      | <h1>Borehole Log</h1>          |           |                  |        | Borehole No.<br><b>WS3</b><br>Sheet 2 of 2                                                                                                              |   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|------------------|--------|---------------------------------------------------------------------------------------------------------------------------------------------------------|---|
| Project Name: Elmgrove Road, Littlehampton                                                                                                                                                                                                                                                                  |               |                             |      | Project No.<br>LP2265          |           | Co-ords: -       |        | Hole Type<br>WS                                                                                                                                         |   |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                                                                                                                                                                                                                         |               |                             |      | Level:                         |           | Scale<br>1:20    |        |                                                                                                                                                         |   |
| Client: Boklok Housing                                                                                                                                                                                                                                                                                      |               |                             |      | Dates: 22/06/2020 - 22/06/2020 |           | Logged By<br>ADC |        |                                                                                                                                                         |   |
| Well                                                                                                                                                                                                                                                                                                        | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)        | Legend | Stratum Description                                                                                                                                     |   |
|                                                                                                                                                                                                                                                                                                             |               | Depth (m)                   | Type | Results                        |           |                  |        |                                                                                                                                                         |   |
|                                                                                                                                                                                                                                                                                                             |               |                             |      |                                | 4.10      |                  |        |                                                                                                                                                         |   |
|                                                                                                                                                                                                                                                                                                             |               | 4.50                        | D    |                                |           |                  |        | Weathered off white CHALK recovered as silty gravel. Gravel is fine to coarse low to medium density chalk and occasional coarse rounded flint. Grade Dc |   |
|                                                                                                                                                                                                                                                                                                             | ▼             | 5.00                        |      | N=43<br>(2,3/4,12,17,10)       | 5.00      |                  |        | Off white relidy strucutured low desnity CHALK recovered as silty chalk Gravel.                                                                         | 5 |
|                                                                                                                                                                                                                                                                                                             |               | 5.50                        | D    |                                |           |                  |        | <div style="border: 1px solid black; padding: 2px; display: inline-block;">           Sample recovered wet below 5.0m         </div>                    |   |
| w                                                                                                                                                                                                                                                                                                           |               | 6.00                        |      | N=52<br>(9,10/14,12,11,15)     | 6.00      |                  |        | End of borehole at 6.00 m                                                                                                                               | 6 |
| Remarks<br>Borehole remained stable throughout. Groundwater monitoring well was installed comprising a raised steel cover over 1.0m of plain 63mm diameter pipe over 5.0m of slotted pipe. The slotted pipe was surrounded with shingle whilst the plain pipe was surrounded with bentonite to form a seal. |               |                             |      |                                |           |                  |        |                                                                                                                                                         |   |

| Leap Environmental Ltd<br>The Atrium, Curtis Road<br>Dorking, Surrey RH4 1XA<br><div style="background-color: black; width: 150px; height: 20px; margin-top: 5px;"></div>                                                                                                                                                                                                                                                                                                         |               |                             |                     |                    | <h1>Borehole Log</h1>          |                                                                                                                                                   |                                                                                                                                                                                                   | Borehole No.<br><b>WS4</b><br>Sheet 1 of 2 |                 |  |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|---------------------|--------------------|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------|--|
| Project Name: Elmgrove Road, Littlehampton                                                                                                                                                                                                                                                                                                                                                                                                                                        |               |                             |                     |                    | Project No.<br>LP2265          |                                                                                                                                                   | Co-ords: -                                                                                                                                                                                        |                                            | Hole Type<br>WS |  |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                                                                                                                                                                                                                                                                                                                                                                                               |               |                             |                     |                    | Level:                         |                                                                                                                                                   | Scale<br>1:20                                                                                                                                                                                     |                                            |                 |  |
| Client: Boklok Housing                                                                                                                                                                                                                                                                                                                                                                                                                                                            |               |                             |                     |                    | Dates: 22/06/2020 - 22/06/2020 |                                                                                                                                                   | Logged By<br>ADC                                                                                                                                                                                  |                                            |                 |  |
| Well                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Water Strikes | Samples and In Situ Testing |                     |                    | Depth (m)                      | Level (m)                                                                                                                                         | Legend                                                                                                                                                                                            | Stratum Description                        |                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               | Depth (m)                   | Type                | Results            |                                |                                                                                                                                                   |                                                                                                                                                                                                   |                                            |                 |  |
| W                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 0.10                        | ES                  |                    | 0.30                           |                                                                                                                                                   | Grass over light brown slightly gravelly reworked silty TOPSOIL. Gravel is coarse to cobble sized rounded flint and occasional chalk and mortar.                                                  | 1                                          |                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               | 0.40                        | ES                  |                    |                                |                                                                                                                                                   | Orangish brown slightly clayey silty SUBSOIL.                                                                                                                                                     |                                            |                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               |                             |                     |                    |                                |                                                                                                                                                   | Friable orangish brown silty slightly sandy CLAY.                                                                                                                                                 |                                            |                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               | 1.00                        | D                   | N=8 (1,1/2,3,1,2)  | 1.10                           |                                                                                                                                                   | Firm orangish brown slightly sandy silty CLAY with occasional fine flint gravel.                                                                                                                  |                                            |                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               | 1.00                        |                     |                    |                                |                                                                                                                                                   |                                                                                                                                                                                                   |                                            |                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               | 1.20                        | D                   |                    |                                | Hand Pen at 1.3m =130kPa                                                                                                                          |                                                                                                                                                                                                   |                                            |                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               | 1.70                        | D                   | N=15 (2,1/3,3,4,5) | 1.60                           |                                                                                                                                                   | Medium dense orangish brown slightly gravelly slightly clayey SAND. Gravel is coarse sub-rounded flint. Sand is fine to medium.                                                                   |                                            | 2               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               | 2.00                        |                     |                    |                                |                                                                                                                                                   |                                                                                                                                                                                                   |                                            |                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               | 2.00 - 2.60                 | B                   |                    |                                |                                                                                                                                                   | Sand is laminated below 2.0m                                                                                                                                                                      |                                            |                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               | 2.90                        | D                   | N=11 (2,1/1,2,2,6) | 3.00                           |                                                                                                                                                   | Off white mottled pale yellow slightly gravelly slightly sandy SILT. Gravel is fine low density chalk and coarse rounded flints. (Chalk Head)<br>Sample was noted to be damp to the touch at 2.7m |                                            | 3               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               | 3.00                        |                     |                    |                                |                                                                                                                                                   |                                                                                                                                                                                                   |                                            |                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |               | 3.10                        | D                   |                    |                                |                                                                                                                                                   | Medium dense orangish brown fine SAND intermixed with off white gravelly sandy SILT. (Chalk Head)                                                                                                 |                                            |                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 3.50          | D                           |                     | 3.20               |                                | Weathered off white CHALK recovered as very gravelly silt. Gravel is medium to coarse, medium density chalk and occasional coarse flint. Grade Dm |                                                                                                                                                                                                   |                                            |                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 4.00          |                             | N=27 (4,4/5,6,6,10) |                    |                                | Continued on next sheet                                                                                                                           | 4                                                                                                                                                                                                 |                                            |                 |  |
| <b>Remarks</b><br>Borehole was terminated at 5.0m where the standar penetrometer test refused. The borehole remained stable throughout. Groundwater monitoring well was installed comprising a raised steel cover over 1.0m of plain 63mm diameter pipe over 2.0m of slotted pipe. The slotted pipe was surrounded with shingle whilst the plain pipe was surrounded with bentonite to form a seal. The remainder of the borehole from 3.0m to 5.0m was backfilled with arisings. |               |                             |                     |                    |                                |                                                                                                                                                   |                                                                                                                                                                                                   |                                            |                 |  |

| Leap Environmental Ltd<br>The Atrium, Curtis Road<br>Dorking, Surrey RH4 1YA                                                                                                                                                                                                                                                                                                                                                                                                    |               |                             |      |                           | <h1>Borehole Log</h1>          |           |                                                                                                                                                             | Borehole No.<br><b>WS4</b><br>Sheet 2 of 2 |                 |  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|------|---------------------------|--------------------------------|-----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|-----------------|--|
| Project Name: Elmgrove Road, Littlehampton                                                                                                                                                                                                                                                                                                                                                                                                                                      |               |                             |      |                           | Project No.<br>LP2265          |           | Co-ords: -                                                                                                                                                  |                                            | Hole Type<br>WS |  |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                                                                                                                                                                                                                                                                                                                                                                                             |               |                             |      |                           | Level:                         |           | Scale<br>1:20                                                                                                                                               |                                            |                 |  |
| Client: Boklok Housing                                                                                                                                                                                                                                                                                                                                                                                                                                                          |               |                             |      |                           | Dates: 22/06/2020 - 22/06/2020 |           | Logged By<br>ADC                                                                                                                                            |                                            |                 |  |
| Well                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Water Strikes | Samples and In Situ Testing |      |                           | Depth (m)                      | Level (m) | Legend                                                                                                                                                      | Stratum Description                        |                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | Depth (m)                   | Type | Results                   |                                |           |                                                                                                                                                             |                                            |                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 4.10                        |      |                           |                                |           |                                                                                                                                                             |                                            |                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 4.50                        | D    |                           |                                |           | Off white relicly structured low density CHALK recovered as silty gravel. Gravel is fine to coarse low to medium density chalk and occasional coarse flint. |                                            |                 |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               | 5.00                        |      | N=51<br>(8,9/14,10,12,15) | 5.00                           |           | -----<br>End of borehole at 5.00 m                                                                                                                          |                                            | 5               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                             |      |                           |                                |           |                                                                                                                                                             |                                            | 6               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                             |      |                           |                                |           |                                                                                                                                                             |                                            | 7               |  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |               |                             |      |                           |                                |           |                                                                                                                                                             |                                            | 8               |  |
| <b>Remarks</b><br>Borehole was terinated at 5.0m where the standar penetromter test refused. The borehole remained stable throughout. Groundwater monitoring well was installed comprising a raised steel cover over 1.0m of plain 63mm diameter pipe over 2.0m of slotted pipe. The slotted pipe was surrounded with shingle whilst the plain pipe was surrounded with bentonite to form a seal. The remainder of the borehole from 3.0m to 5.0m was backfilled with arisings. |               |                             |      |                           |                                |           |                                                                                                                                                             |                                            |                 |  |

| Leap Environmental Ltd<br>The Atrium, Curtis Road<br>Dorking, Surrey RH4 1XA<br><div style="background-color: black; width: 150px; height: 20px; margin-top: 5px;"></div> |               |                             |      | <h1>Borehole Log</h1>          |           |                  |                                                                                                                        | Borehole No.<br><b>WS5</b><br>Sheet 1 of 1                                              |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-----------------------------|------|--------------------------------|-----------|------------------|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|---|
| Project Name: Elmgrove Road, Littlehampton                                                                                                                                |               |                             |      | Project No.<br>LP2265          |           | Co-ords: -       |                                                                                                                        | Hole Type<br>WS                                                                         |   |
| Location: ElmGrove Road, Littlehampton, West Sussex                                                                                                                       |               |                             |      | Level:                         |           | Scale<br>1:20    |                                                                                                                        |                                                                                         |   |
| Client: Boklok Housing                                                                                                                                                    |               |                             |      | Dates: 22/06/2020 - 22/06/2020 |           | Logged By<br>ADC |                                                                                                                        |                                                                                         |   |
| Well                                                                                                                                                                      | Water Strikes | Samples and In Situ Testing |      |                                | Depth (m) | Level (m)        | Legend                                                                                                                 | Stratum Description                                                                     |   |
|                                                                                                                                                                           |               | Depth (m)                   | Type | Results                        |           |                  |                                                                                                                        |                                                                                         |   |
|                                                                                                                                                                           |               | 0.20                        | ES   |                                | 0.40      |                  |                                                                                                                        | Grass over gravelly silty reworked TOPSOIL. Gravel is flint, brick, concrete and chalk. | 1 |
|                                                                                                                                                                           |               |                             |      |                                |           |                  |                                                                                                                        | Dark orangish brown slightly silty CLAY with rare flint gravel.                         |   |
|                                                                                                                                                                           |               | 1.00                        |      | N=28 (4,4/5,8,7,8)             | 1.10      |                  |                                                                                                                        |                                                                                         |   |
|                                                                                                                                                                           |               | 1.50                        | D    |                                |           |                  |                                                                                                                        | Medium dense orangish brown slightly clayey SAND with rare coarse flint gravel.         | 2 |
|                                                                                                                                                                           |               |                             |      |                                |           |                  |                                                                                                                        | <u>Becoming clayey with depth.</u>                                                      |   |
|                                                                                                                                                                           |               | 2.00                        |      | N=8 (1,1/0,2,2,4)              |           |                  |                                                                                                                        |                                                                                         |   |
|                                                                                                                                                                           |               | 2.50                        | D    |                                | 2.40      |                  | Weathered off yellowish white CHALK recovered as silty gravel. Gravel is fine to coarse medium density chalk. Grade Dc |                                                                                         |   |
|                                                                                                                                                                           |               | 3.00                        |      | N=22 (4,6/9,6,4,3)             | 3.00      |                  | -----<br>End of borehole at 3.00 m                                                                                     | 3                                                                                       |   |
| Remarks<br>Borehole remained dry and stable and was backfilled with arisings on completion                                                                                |               |                             |      |                                |           |                  |                                                                                                                        |                                                                                         | 4 |

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## APPENDIX G – Field Monitoring Records

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### Field Monitoring Records

| Continuous Gas Monitoring Record |              |                  |            |                     |  |                    |          |                        |
|----------------------------------|--------------|------------------|------------|---------------------|-------------------------------------------------------------------------------------|--------------------|----------|------------------------|
| Date                             | 30/06/2020   | Engineer         | ADC        |                     |                                                                                     |                    |          |                        |
| Project No                       | LP2265       | Temp °C          | 16         |                     |                                                                                     |                    |          |                        |
| Site                             | Elmgrove, Rd | Ambient Pressure | 1009       |                     |                                                                                     |                    |          |                        |
| <b>WS2</b>                       |              | Time             | Flow (l/h) | CH <sup>4</sup> (%) | CO <sup>2</sup> (%)                                                                 | O <sup>2</sup> (%) | CO (ppm) | H <sup>2</sup> S (ppm) |
|                                  |              | 00:00            | 0.00       | 0.10                | 0.00                                                                                | 21.00              | 0.00     | 0.00                   |
| Hole ID                          |              | 00:15            | 0.00       | 0.10                | 1.30                                                                                | 20.20              | 0.00     | 0.00                   |
| VOC peak (ppm)                   |              | 00:30            | 0.00       | 0.10                | 1.50                                                                                | 19.50              | 0.00     | 0.00                   |
|                                  |              | 01:00            | 0.00       | 0.10                | 1.60                                                                                | 19.40              | 0.00     | 0.00                   |
| VOC steady (ppm)                 |              | 01:30            | 0.00       | 0.10                | 1.70                                                                                | 19.30              | 0.00     | 0.00                   |
|                                  |              | 02:00            | 0.00       | 0.10                | 1.90                                                                                | 19.00              | 0.00     | 0.00                   |
| Borehole Depth (mbgl)            | 3.10         | 02:30            | 0.00       | 0.10                | 2.10                                                                                | 18.80              | 0.00     | 0.00                   |
|                                  |              | 03:00            | 0.00       | 0.10                | 2.30                                                                                | 18.50              | 0.00     | 0.00                   |
| Water level (mbgl)               | Dry          | 03:30            | 0.00       | 0.10                | 2.70                                                                                | 18.10              | 0.00     | 0.00                   |
|                                  |              | 04:00            | 0.00       | 0.10                | 3.10                                                                                | 17.70              | 0.00     | 0.00                   |
| Borehole Pressure (mb)           | 1009.00      | 04:30            | 0.00       | 0.10                | 3.20                                                                                | 17.50              | 0.00     | 0.00                   |
|                                  |              | 05:00            |            |                     |                                                                                     |                    |          |                        |
| <b>WS3</b>                       |              | Time             | Flow (l/h) | CH <sup>4</sup> (%) | CO <sup>2</sup> (%)                                                                 | O <sup>2</sup> (%) | CO (ppm) | H <sup>2</sup> S (ppm) |
|                                  |              | 00:00            | 0.00       | 0.20                | 0.10                                                                                | 20.90              | 0.00     | 0.00                   |
| Hole ID                          |              | 00:15            | 0.00       | 0.20                | 4.30                                                                                | 16.50              | 0.00     | 0.00                   |
| VOC peak (ppm)                   |              | 00:30            | 0.00       | 0.20                | 4.30                                                                                | 16.40              | 0.00     | 0.00                   |
|                                  |              | 01:00            | 0.00       | 0.20                | 4.30                                                                                | 16.40              | 0.00     | 0.00                   |
| VOC steady (ppm)                 |              | 01:30            | 0.00       | 0.20                | 4.30                                                                                | 16.40              | 0.00     | 0.00                   |
|                                  |              | 02:00            |            |                     |                                                                                     |                    |          |                        |
| Borehole Depth (mbgl)            | 5.92         | 02:30            |            |                     |                                                                                     |                    |          |                        |
|                                  |              | 03:00            |            |                     |                                                                                     |                    |          |                        |
| Water level (mbgl)               | 5.26         | 03:30            |            |                     |                                                                                     |                    |          |                        |
|                                  |              | 04:00            |            |                     |                                                                                     |                    |          |                        |
| Borehole Pressure (mb)           | 1009.00      | 04:30            |            |                     |                                                                                     |                    |          |                        |
|                                  |              | 05:00            |            |                     |                                                                                     |                    |          |                        |

|                        |         |       |            |                     |                     |                    |          |                        |
|------------------------|---------|-------|------------|---------------------|---------------------|--------------------|----------|------------------------|
| <b>WS4</b>             |         | Time  | Flow (l/h) | CH <sup>4</sup> (%) | CO <sup>2</sup> (%) | O <sup>2</sup> (%) | CO (ppm) | H <sup>2</sup> S (ppm) |
| Hole ID                |         | 00:00 | 0.00       | 0.10                | 0.10                | 20.80              | 0.00     | 0.00                   |
|                        |         | 00:15 | 0.00       | 0.10                | 2.10                | 19.40              | 0.00     | 0.00                   |
|                        |         | 00:30 | 0.00       | 0.10                | 2.20                | 19.30              | 0.00     | 0.00                   |
| VOC peak (ppm)         |         | 01:00 | 0.00       | 0.10                | 2.20                | 19.30              | 0.00     | 0.00                   |
| VOC steady (ppm)       |         | 01:30 | 0.00       | 0.10                | 2.20                | 19.30              | 0.00     | 0.00                   |
|                        |         | 02:00 | 0.00       | 0.10                | 2.20                | 19.30              | 0.00     | 0.00                   |
| Borehole Depth (mbgl)  | 2.82    | 02:30 |            |                     |                     |                    |          |                        |
|                        |         | 03:00 |            |                     |                     |                    |          |                        |
| Water level (mbgl)     | Dry     | 03:30 |            |                     |                     |                    |          |                        |
|                        |         | 04:00 |            |                     |                     |                    |          |                        |
| Borehole Pressure (mb) | 1009.00 | 04:30 |            |                     |                     |                    |          |                        |
|                        |         | 05:00 |            |                     |                     |                    |          |                        |

| Continuous Gas Monitoring Record |              |                  |            |                     |  |                    |          |                        |
|----------------------------------|--------------|------------------|------------|---------------------|-------------------------------------------------------------------------------------|--------------------|----------|------------------------|
| Date                             | 08/07/2020   | Engineer         | KT         |                     |                                                                                     |                    |          |                        |
| Project No                       | LP2265       | Temp °C          | 18         |                     |                                                                                     |                    |          |                        |
| Site                             | Elmgrove, Rd | Ambient Pressure | 1016       |                     |                                                                                     |                    |          |                        |
|                                  |              |                  |            |                     |                                                                                     |                    |          |                        |
| <b>WS2</b>                       |              | Time             | Flow (l/h) | CH <sup>4</sup> (%) | CO <sup>2</sup> (%)                                                                 | O <sup>2</sup> (%) | CO (ppm) | H <sup>2</sup> S (ppm) |
|                                  |              | 00:00            | 0.00       | 0.20                | 0.00                                                                                | 20.90              | 0.00     | 0.00                   |
| Hole ID                          |              | 00:15            | 0.00       | 0.20                | 3.90                                                                                | 18.70              | 0.00     | 0.00                   |
| VOC peak (ppm)                   |              | 00:30            | 0.00       | 0.20                | 4.20                                                                                | 16.50              | 0.00     | 0.00                   |
|                                  |              | 01:00            | 0.00       | 0.20                | 4.20                                                                                | 16.30              | 0.00     | 0.00                   |
| VOC steady (ppm)                 |              | 01:30            | 0.00       | 0.20                | 4.20                                                                                | 16.30              | 0.00     | 0.00                   |
|                                  |              | 02:00            | 0.00       | 0.20                | 4.20                                                                                | 16.30              | 0.00     | 0.00                   |
| Borehole Depth (mbgl)            | 3.13         | 02:30            | 0.00       | 0.20                | 4.20                                                                                | 16.40              | 0.00     | 0.00                   |
|                                  |              | 03:00            | 0.00       | 0.20                | 4.20                                                                                | 16.40              | 0.00     | 0.00                   |
| Water level (mbgl)               | Dry          | 03:30            | 0.00       | 0.20                | 4.20                                                                                | 16.50              | 0.00     | 0.00                   |
|                                  |              | 04:00            | 0.00       | 0.20                | 4.20                                                                                | 16.60              | 0.00     | 0.00                   |
| Borehole Pressure (mb)           | 1016.00      | 04:30            | 0.00       | 0.20                | 4.10                                                                                | 16.70              | 0.00     | 0.00                   |
|                                  |              | 05:00            | 0.00       | 0.20                | 4.10                                                                                | 16.80              | 0.00     | 0.00                   |
|                                  |              |                  |            |                     |                                                                                     |                    |          |                        |
| <b>WS3</b>                       |              | Time             | Flow (l/h) | CH <sup>4</sup> (%) | CO <sup>2</sup> (%)                                                                 | O <sup>2</sup> (%) | CO (ppm) | H <sup>2</sup> S (ppm) |
|                                  |              | 00:00            | 0.00       | 0.20                | 0.00                                                                                | 21.00              | 0.00     | 0.00                   |
| Hole ID                          |              | 00:15            | 0.00       | 0.20                | 3.80                                                                                | 19.40              | 0.00     | 0.00                   |
| VOC peak (ppm)                   |              | 00:30            | 0.00       | 0.20                | 4.40                                                                                | 17.10              | 0.00     | 0.00                   |
|                                  |              | 01:00            | 0.00       | 0.20                | 4.40                                                                                | 16.90              | 0.00     | 0.00                   |
| VOC steady (ppm)                 |              | 01:30            | 0.00       | 0.20                | 4.40                                                                                | 16.90              | 0.00     | 0.00                   |
|                                  |              | 02:00            | 0.00       | 0.20                | 4.40                                                                                | 16.90              | 0.00     | 0.00                   |
| Borehole Depth (mbgl)            | 6.06         | 02:30            | 0.00       | 0.20                | 4.40                                                                                | 16.90              | 0.00     | 0.00                   |
|                                  |              | 03:00            | 0.00       | 0.20                | 4.40                                                                                | 16.90              | 0.00     | 0.00                   |
| Water level (mbgl)               | Dry          | 03:30            | 0.00       | 0.20                | 4.40                                                                                | 16.90              | 0.00     | 0.00                   |
|                                  |              | 04:00            | 0.00       | 0.20                | 4.40                                                                                | 16.90              | 0.00     | 0.00                   |
| Borehole Pressure (mb)           | 1016.00      | 04:30            |            |                     |                                                                                     |                    |          |                        |
|                                  |              | 05:00            |            |                     |                                                                                     |                    |          |                        |

| WS4                    |         | Time  | Flow (l/h) | CH <sup>4</sup> (%) | CO <sup>2</sup> (%) | O <sup>2</sup> (%) | CO (ppm) | H <sup>2</sup> S (ppm) |
|------------------------|---------|-------|------------|---------------------|---------------------|--------------------|----------|------------------------|
|                        |         | 00:00 | 0.00       | 0.20                | 0.10                | 20.30              | 0.00     | 0.00                   |
| Hole ID                |         | 00:15 | 0.00       | 0.20                | 2.10                | 18.80              | 0.00     | 0.00                   |
| VOC peak (ppm)         |         | 00:30 | 0.00       | 0.20                | 2.00                | 19.30              | 0.00     | 0.00                   |
|                        |         | 01:00 | 0.00       | 0.20                | 2.00                | 19.30              | 0.00     | 0.00                   |
|                        |         | 01:30 |            | 0.20                | 2.00                | 19.30              | 0.00     | 0.00                   |
| VOC steady (ppm)       |         | 02:00 |            | 0.20                | 2.00                | 19.30              | 0.00     | 0.00                   |
|                        |         | 02:30 |            | 0.20                | 2.00                | 19.30              | 0.00     | 0.00                   |
| Borehole Depth (mbgl)  | 2.94    | 03:00 |            | 0.20                | 2.00                | 19.30              | 0.00     | 0.00                   |
|                        |         | 03:30 |            | 0.20                | 2.00                | 19.30              | 0.00     | 0.00                   |
| Water level (mbgl)     | Dry     | 04:00 |            | 0.20                | 2.00                | 19.30              | 0.00     | 0.00                   |
|                        |         | 04:30 |            | 0.20                | 2.00                | 19.30              | 0.00     | 0.00                   |
| Borehole Pressure (mb) | 1016.00 | 05:00 |            | 0.20                | 2.00                | 19.30              | 0.00     | 0.00                   |
|                        |         |       |            |                     |                     |                    |          |                        |

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## APPENDIX H – Chemical Laboratory Test Results

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|                                                    |
|----------------------------------------------------|
| <p><b>Chemical Laboratory<br/>Test Results</b></p> |
|----------------------------------------------------|



2683



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

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## THE ENVIRONMENTAL LABORATORY LTD

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**Analytical Report Number:** 20-28607

**Issue:** 1

**Date of Issue:** 02/07/2020

**Contact:** Martin Weil

**Customer Details:** Leap Environmental Ltd  
The Atrium  
Curtis Road  
Dorking  
Surrey RH4 1X4

**Quotation No:** Q14-00063

**Order No:** LPO-2136

**Customer Reference:** LP2265

**Date Received:** 24/06/2020

**Date Approved:** 02/07/2020

**Details:** Land off Elmgrove Road, Littlehampton

**Approved by:**

Mike Varley, Technical Manager

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## Sample Summary

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| Elab No. | Client's Ref. | Date Sampled | Date Scheduled | Description       | Deviations |
|----------|---------------|--------------|----------------|-------------------|------------|
| 206931   | TP1 0.20      | 22/06/2020   | 25/06/2020     | Sandy silty loam  |            |
| 206932   | TP1 0.60      | 22/06/2020   | 25/06/2020     | Silty clayey loam |            |
| 206933   | TP2 0.15      | 22/06/2020   | 25/06/2020     | Sandy silty loam  |            |
| 206934   | TP2 0.80      | 22/06/2020   | 25/06/2020     |                   |            |
| 206935   | TP3 0.20      | 22/06/2020   | 25/06/2020     | Silty loam        |            |
| 206936   | TP3 0.60      | 22/06/2020   | 25/06/2020     | Silty clayey loam |            |
| 206937   | TP4 1.20      | 22/06/2020   | 25/06/2020     | Silty loam        |            |
| 206938   | TP5 0.30      | 22/06/2020   | 25/06/2020     | Sandy silty loam  |            |
| 206939   | TP5 0.50      | 22/06/2020   | 25/06/2020     |                   |            |
| 206940   | TP6 0.50      | 22/06/2020   | 25/06/2020     | Silty loam        | c          |
| 206941   | TP7 1.50      | 22/06/2020   | 25/06/2020     | Silty loam        | c          |
| 206942   | TP8 1.50      | 22/06/2020   | 25/06/2020     | Silty loam        | c          |
| 206943   | TP9 1.50      | 22/06/2020   | 25/06/2020     | Silty loam        | c          |
| 206944   | TP10 0.80     | 22/06/2020   | 25/06/2020     | Silty loam        | c          |
| 206945   | TP11 0.50     | 22/06/2020   | 25/06/2020     | Silty loam        |            |
| 206946   | TP11 1.50     | 22/06/2020   | 25/06/2020     | Silty clayey loam |            |
| 206947   | TP12 1.80     | 22/06/2020   | 25/06/2020     | Silty loam        |            |
| 206948   | WS2 0.20      | 22/06/2020   | 25/06/2020     | Silty loam        |            |
| 206949   | WS3 0.15      | 22/06/2020   | 25/06/2020     | Silty loam        |            |
| 206950   | WS4 0.10      | 22/06/2020   | 25/06/2020     | Silty loam        |            |
| 206951   | WS4 0.40      | 22/06/2020   | 25/06/2020     | Silty loam        |            |
| 206952   | WS5 0.20      | 22/06/2020   | 25/06/2020     | Silty loam        |            |



## Results Summary

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|                                           |              |              |            |                        |
|-------------------------------------------|--------------|--------------|------------|------------------------|
| ELAB Reference                            | 206931       | 206932       | 206933     | 206935                 |
| Customer Reference                        |              |              |            |                        |
| Sample ID                                 |              |              |            |                        |
| Sample Type                               | SOIL         | SOIL         | SOIL       | SOIL                   |
| Sample Location                           | TP1          | TP1          | TP2        | TP3                    |
| Sample Depth (m)                          | 0.20         | 0.60         | 0.15       | 0.20                   |
| Sampling Date                             | 22/06/2020   | 22/06/2020   | 22/06/2020 | 22/06/2020             |
| <b>Determinand</b>                        | <b>Codes</b> | <b>Units</b> | <b>LOD</b> |                        |
| <b>Soil sample preparation parameters</b> |              |              |            |                        |
| Material removed                          | N            | %            | 0.1        | 68.9                   |
| Description of Inert material removed     | N            |              | 0          | Stones, brick, clinker |
| <b>Metals</b>                             |              |              |            |                        |
| Arsenic                                   | M            | mg/kg        | 1          | 13.3                   |
| Cadmium                                   | M            | mg/kg        | 0.5        | 0.5                    |
| Chromium                                  | M            | mg/kg        | 5          | 25.1                   |
| Copper                                    | M            | mg/kg        | 5          | 21.0                   |
| Lead                                      | M            | mg/kg        | 5          | 108                    |
| Mercury                                   | M            | mg/kg        | 0.5        | < 0.5                  |
| Nickel                                    | M            | mg/kg        | 5          | 20.8                   |
| Selenium                                  | M            | mg/kg        | 1          | < 1.0                  |
| Zinc                                      | M            | mg/kg        | 5          | 287                    |
| <b>Inorganics</b>                         |              |              |            |                        |
| Hexavalent Chromium                       | N            | mg/kg        | 0.8        | < 0.8                  |
| <b>Miscellaneous</b>                      |              |              |            |                        |
| 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        | 8.6                    |
| Total Organic Carbon                      | N            | %            | 0.01       | 1.5                    |
| <b>Polyaromatic hydrocarbons</b>          |              |              |            |                        |
| Naphthalene                               | M            | mg/kg        | 0.1        | 0.2                    |
| Acenaphthylene                            | M            | mg/kg        | 0.1        | 1.1                    |
| Acenaphthene                              | M            | mg/kg        | 0.1        | 0.4                    |
| Fluorene                                  | M            | mg/kg        | 0.1        | 0.3                    |
| Phenanthrene                              | M            | mg/kg        | 0.1        | 6.7                    |
| Anthracene                                | M            | mg/kg        | 0.1        | 2.6                    |
| Fluoranthene                              | M            | mg/kg        | 0.1        | 34.5                   |
| Pyrene                                    | M            | mg/kg        | 0.1        | 35.2                   |
| Benzo(a)anthracene                        | M            | mg/kg        | 0.1        | 20.8                   |
| Chrysene                                  | M            | mg/kg        | 0.1        | 21.1                   |
| Benzo(b)fluoranthene                      | M            | mg/kg        | 0.1        | 20.2                   |
| Benzo(k)fluoranthene                      | M            | mg/kg        | 0.1        | 18.1                   |
| Benzo(a)pyrene                            | M            | mg/kg        | 0.1        | 20.9                   |
| Indeno(1,2,3-cd)pyrene                    | M            | mg/kg        | 0.1        | 14.7                   |
| Dibenzo(a,h)anthracene                    | M            | mg/kg        | 0.1        | 3.6                    |
| Benzo[g,h,i]perylene                      | M            | mg/kg        | 0.1        | 13.7                   |
| Total PAH(16)                             | M            | mg/kg        | 0.4        | 214                    |
| Total PAH (Including Coronene GC-FID)     | N            | mg/kg        | 2          | n/t                    |
| <b>BTEX</b>                               |              |              |            |                        |
| Total BTEX                                | N            | mg/kg        | 0.01       | n/t                    |
| <b>Total Petroleum Hydrocarbons</b>       |              |              |            |                        |
| Mineral Oil                               | M            | mg/kg        | 5          | n/t                    |
| <b>PCB (ICES 7 congeners)</b>             |              |              |            |                        |
| PCB (Total of 7 Congeners)                | M            | mg/kg        | 0.03       | n/t                    |



## Results Summary

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| ELAB Reference                            |       |          |      | 206936     | 206937     | 206938     | 206940     | 206941     |
|-------------------------------------------|-------|----------|------|------------|------------|------------|------------|------------|
| Customer Reference                        |       |          |      |            |            |            |            |            |
| Sample ID                                 |       |          |      |            |            |            |            |            |
| Sample Type                               |       |          |      | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       |
| Sample Location                           |       |          |      | TP3        | TP4        | TP5        | TP6        | TP7        |
| Sample Depth (m)                          |       |          |      | 0.60       | 1.20       | 0.30       | 0.50       | 1.50       |
| Sampling Date                             |       |          |      | 22/06/2020 | 22/06/2020 | 22/06/2020 | 22/06/2020 | 22/06/2020 |
| Determinand                               | Codes | Units    | LOD  |            |            |            |            |            |
| <b>Soil sample preparation parameters</b> |       |          |      |            |            |            |            |            |
| Material removed                          | N     | %        | 0.1  | < 0.1      | 18.6       | 75.0       | 49.8       | 25.0       |
| Description of Inert material removed     | N     |          | 0    | None       | Stones     | Stones     | Stones     | Stones     |
| <b>Metals</b>                             |       |          |      |            |            |            |            |            |
| Arsenic                                   | M     | mg/kg    | 1    | 11.2       | 11.0       | 11.0       | 12.6       | 9.5        |
| Cadmium                                   | M     | mg/kg    | 0.5  | < 0.5      | < 0.5      | 0.5        | < 0.5      | < 0.5      |
| Chromium                                  | M     | mg/kg    | 5    | 29.3       | 25.0       | 20.5       | 26.6       | 20.9       |
| Copper                                    | M     | mg/kg    | 5    | 18.7       | 21.6       | 17.7       | 23.8       | 22.6       |
| Lead                                      | M     | mg/kg    | 5    | 16.1       | 51.6       | 38.0       | 50.5       | 46.8       |
| Mercury                                   | M     | mg/kg    | 0.5  | < 0.5      | < 0.5      | < 0.5      | < 0.5      | < 0.5      |
| Nickel                                    | M     | mg/kg    | 5    | 21.1       | 18.0       | 22.5       | 21.3       | 15.8       |
| Selenium                                  | M     | mg/kg    | 1    | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |
| Zinc                                      | M     | mg/kg    | 5    | 54.5       | 76.7       | 115        | 73.6       | 76.6       |
| <b>Inorganics</b>                         |       |          |      |            |            |            |            |            |
| Hexavalent Chromium                       | N     | mg/kg    | 0.8  | < 0.8      | < 0.8      | < 0.8      | < 0.8      | < 0.8      |
| <b>Miscellaneous</b>                      |       |          |      |            |            |            |            |            |
| Acid Neutralisation Capacity              | N     | mol/kg   | 0.1  | n/t        | n/t        | n/t        | n/t        | n/t        |
| Loss On Ignition (450°C)                  | M     | %        | 0.01 | n/t        | n/t        | n/t        | n/t        | n/t        |
| pH                                        | M     | pH units | 0.1  | 7.7        | 8.9        | 9.7        | 8.7        | 8.4        |
| Total Organic Carbon                      | N     | %        | 0.01 | 0.49       | 1.2        | 2.8        | 1.1        | 2.2        |
| <b>Polyaromatic hydrocarbons</b>          |       |          |      |            |            |            |            |            |
| Naphthalene                               | M     | mg/kg    | 0.1  | < 0.1      | < 0.1      | 0.5        | c < 0.1    | c < 0.1    |
| Acenaphthylene                            | M     | mg/kg    | 0.1  | < 0.1      | < 0.1      | 1.4        | c < 0.1    | c < 0.1    |
| Acenaphthene                              | M     | mg/kg    | 0.1  | < 0.1      | < 0.1      | 2.8        | c < 0.1    | c < 0.1    |
| Fluorene                                  | M     | mg/kg    | 0.1  | < 0.1      | < 0.1      | 2.0        | c < 0.1    | c < 0.1    |
| Phenanthrene                              | M     | mg/kg    | 0.1  | < 0.1      | 0.1        | 40.1       | c 0.3      | c 0.2      |
| Anthracene                                | M     | mg/kg    | 0.1  | < 0.1      | < 0.1      | 11.5       | c < 0.1    | c < 0.1    |
| Fluoranthene                              | M     | mg/kg    | 0.1  | 0.1        | 0.4        | 66.1       | c 0.5      | c 0.6      |
| Pyrene                                    | M     | mg/kg    | 0.1  | < 0.1      | 0.3        | 65.8       | c 0.4      | c 0.5      |
| Benzo(a)anthracene                        | M     | mg/kg    | 0.1  | < 0.1      | 0.3        | 30.1       | c 0.3      | c 0.4      |
| Chrysene                                  | M     | mg/kg    | 0.1  | < 0.1      | 0.3        | 32.1       | c 0.4      | c 0.4      |
| Benzo(b)fluoranthene                      | M     | mg/kg    | 0.1  | < 0.1      | 0.2        | 30.6       | c 0.4      | c 0.3      |
| Benzo(k)fluoranthene                      | M     | mg/kg    | 0.1  | < 0.1      | 0.2        | 27.1       | c 0.5      | c 0.4      |
| Benzo(a)pyrene                            | M     | mg/kg    | 0.1  | < 0.1      | 0.3        | 32.0       | c 0.3      | c 0.4      |
| Indeno(1,2,3-cd)pyrene                    | M     | mg/kg    | 0.1  | < 0.1      | 0.2        | 20.7       | c 0.8      | c 0.3      |
| Dibenzo(a,h)anthracene                    | M     | mg/kg    | 0.1  | < 0.1      | < 0.1      | 4.2        | c 0.1      | c < 0.1    |
| Benzo[g,h,i]perylene                      | M     | mg/kg    | 0.1  | < 0.1      | 0.2        | 22.1       | c 1.0      | c 0.3      |
| Total PAH(16)                             | M     | mg/kg    | 0.4  | < 0.4      | 2.5        | 389        | c 5.3      | c 3.8      |
| Total PAH (Including Coronene GC-FID)     | N     | mg/kg    | 2    | n/t        | n/t        | n/t        | n/t        | n/t        |
| <b>BTEX</b>                               |       |          |      |            |            |            |            |            |
| Total BTEX                                | N     | mg/kg    | 0.01 | n/t        | n/t        | n/t        | n/t        | n/t        |
| <b>Total Petroleum Hydrocarbons</b>       |       |          |      |            |            |            |            |            |
| Mineral Oil                               | M     | mg/kg    | 5    | n/t        | n/t        | n/t        | n/t        | n/t        |
| <b>PCB (ICES 7 congeners)</b>             |       |          |      |            |            |            |            |            |
| PCB (Total of 7 Congeners)                | M     | mg/kg    | 0.03 | n/t        | n/t        | n/t        | n/t        | n/t        |



## Results Summary

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| ELAB Reference                            |       |          |      | 206942     | 206943     | 206944     | 206945     | 206946     |
|-------------------------------------------|-------|----------|------|------------|------------|------------|------------|------------|
| Customer Reference                        |       |          |      |            |            |            |            |            |
| Sample ID                                 |       |          |      |            |            |            |            |            |
| Sample Type                               |       |          |      | SOIL       | SOIL       | SOIL       | SOIL       | SOIL       |
| Sample Location                           |       |          |      | TP8        | TP9        | TP10       | TP11       | TP11       |
| Sample Depth (m)                          |       |          |      | 1.50       | 1.50       | 0.80       | 0.50       | 1.50       |
| Sampling Date                             |       |          |      | 22/06/2020 | 22/06/2020 | 22/06/2020 | 22/06/2020 | 22/06/2020 |
| Determinand                               | Codes | Units    | LOD  |            |            |            |            |            |
| <b>Soil sample preparation parameters</b> |       |          |      |            |            |            |            |            |
| Material removed                          | N     | %        | 0.1  | 21.4       | 16.4       | < 0.1      | 21.8       | < 0.1      |
| Description of Inert material removed     | N     |          | 0    | Stones     | Stones     | None       | Stones     | None       |
| <b>Metals</b>                             |       |          |      |            |            |            |            |            |
| Arsenic                                   | M     | mg/kg    | 1    | 9.1        | 11.5       | 9.4        | 10.4       | 9.7        |
| Cadmium                                   | M     | mg/kg    | 0.5  | < 0.5      | < 0.5      | < 0.5      | < 0.5      | < 0.5      |
| Chromium                                  | M     | mg/kg    | 5    | 21.3       | 28.1       | 19.4       | 22.9       | 22.9       |
| Copper                                    | M     | mg/kg    | 5    | 22.0       | 25.7       | 22.4       | 23.6       | 19.2       |
| Lead                                      | M     | mg/kg    | 5    | 40.5       | 79.4       | 49.0       | 50.7       | 26.8       |
| Mercury                                   | M     | mg/kg    | 0.5  | < 0.5      | < 0.5      | < 0.5      | < 0.5      | < 0.5      |
| Nickel                                    | M     | mg/kg    | 5    | 15.4       | 19.6       | 14.3       | 17.4       | 16.8       |
| Selenium                                  | M     | mg/kg    | 1    | < 1.0      | < 1.0      | < 1.0      | < 1.0      | < 1.0      |
| Zinc                                      | M     | mg/kg    | 5    | 66.3       | 119        | 75.1       | 83.2       | 54.7       |
| <b>Inorganics</b>                         |       |          |      |            |            |            |            |            |
| Hexavalent Chromium                       | N     | mg/kg    | 0.8  | < 0.8      | < 0.8      | < 0.8      | < 0.8      | < 0.8      |
| <b>Miscellaneous</b>                      |       |          |      |            |            |            |            |            |
| Acid Neutralisation Capacity              | N     | mol/kg   | 0.1  | n/t        | n/t        | n/t        | < 0.1      | < 0.1      |
| Loss On Ignition (450°C)                  | M     | %        | 0.01 | n/t        | n/t        | n/t        | 4.93       | 4.06       |
| pH                                        | M     | pH units | 0.1  | 8.1        | 8.4        | 7.8        | 8.0        | 7.8        |
| Total Organic Carbon                      | N     | %        | 0.01 | 1.2        | 1.5        | 2.6        | 1.2        | 0.86       |
| <b>Polyaromatic hydrocarbons</b>          |       |          |      |            |            |            |            |            |
| Naphthalene                               | M     | mg/kg    | 0.1  | c < 0.1    | c 0.3      | c < 0.1    | < 0.1      | 0.2        |
| Acenaphthylene                            | M     | mg/kg    | 0.1  | c < 0.1    | c 0.9      | c < 0.1    | < 0.1      | < 0.1      |
| Acenaphthene                              | M     | mg/kg    | 0.1  | c < 0.1    | c 2.2      | c < 0.1    | < 0.1      | < 0.1      |
| Fluorene                                  | M     | mg/kg    | 0.1  | c < 0.1    | c 2.3      | c < 0.1    | 0.1        | < 0.1      |
| Phenanthrene                              | M     | mg/kg    | 0.1  | c 0.1      | c 52.3     | c 0.2      | 1.6        | 0.1        |
| Anthracene                                | M     | mg/kg    | 0.1  | c < 0.1    | c 14.8     | c < 0.1    | 0.5        | < 0.1      |
| Fluoranthene                              | M     | mg/kg    | 0.1  | c 0.3      | c 69.1     | c 0.5      | 2.5        | 0.3        |
| Pyrene                                    | M     | mg/kg    | 0.1  | c 0.3      | c 54.1     | c 0.4      | 1.9        | 0.2        |
| Benzo(a)anthracene                        | M     | mg/kg    | 0.1  | c 0.2      | c 36.3     | c 0.2      | 1.1        | < 0.1      |
| Chrysene                                  | M     | mg/kg    | 0.1  | c 0.2      | c 35.9     | c 0.3      | 1.1        | 0.1        |
| Benzo(b)fluoranthene                      | M     | mg/kg    | 0.1  | c 0.3      | c 26.9     | c 0.3      | 1.0        | 0.2        |
| Benzo(k)fluoranthene                      | M     | mg/kg    | 0.1  | c 0.3      | c 25.9     | c 0.4      | 1.3        | 0.2        |
| Benzo(a)pyrene                            | M     | mg/kg    | 0.1  | c 0.3      | c 27.0     | c 0.3      | 0.9        | 0.1        |
| Indeno(1,2,3-cd)pyrene                    | M     | mg/kg    | 0.1  | c 0.2      | c 17.1     | c 0.4      | 0.7        | < 0.1      |
| Dibenzo(a,h)anthracene                    | M     | mg/kg    | 0.1  | c < 0.1    | c 5.5      | c < 0.1    | 0.2        | < 0.1      |
| Benzo[g,h,i]perylene                      | M     | mg/kg    | 0.1  | c 0.3      | c 15.1     | c 0.6      | 0.7        | < 0.1      |
| Total PAH(16)                             | M     | mg/kg    | 0.4  | c 2.8      | c 386      | c 3.9      | 13.8       | 1.9        |
| Total PAH (Including Coronene GC-FID)     | N     | mg/kg    | 2    | n/t        | n/t        | n/t        | 14         | < 2        |
| <b>BTEX</b>                               |       |          |      |            |            |            |            |            |
| Total BTEX                                | N     | mg/kg    | 0.01 | n/t        | n/t        | n/t        | < 0.01     | < 0.01     |
| <b>Total Petroleum Hydrocarbons</b>       |       |          |      |            |            |            |            |            |
| Mineral Oil                               | M     | mg/kg    | 5    | n/t        | n/t        | n/t        | ^ 96       | ^ 86       |
| <b>PCB (ICES 7 congeners)</b>             |       |          |      |            |            |            |            |            |
| PCB (Total of 7 Congeners)                | M     | mg/kg    | 0.03 | n/t        | n/t        | n/t        | < 0.03     | < 0.03     |



## Results Summary

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|                                           |              |              |            |            |             |
|-------------------------------------------|--------------|--------------|------------|------------|-------------|
| ELAB Reference                            | 206947       | 206948       | 206949     | 206950     | 206951      |
| Customer Reference                        |              |              |            |            |             |
| Sample ID                                 |              |              |            |            |             |
| Sample Type                               | SOIL         | SOIL         | SOIL       | SOIL       | SOIL        |
| Sample Location                           | TP12         | WS2          | WS3        | WS4        | WS4         |
| Sample Depth (m)                          | 1.80         | 0.20         | 0.15       | 0.10       | 0.40        |
| Sampling Date                             | 22/06/2020   | 22/06/2020   | 22/06/2020 | 22/06/2020 | 22/06/2020  |
| <b>Determinand</b>                        | <b>Codes</b> | <b>Units</b> | <b>LOD</b> |            |             |
| <b>Soil sample preparation parameters</b> |              |              |            |            |             |
| Material removed                          | N            | %            | 0.1        | 7.4        | 38.5        |
| Description of Inert material removed     | N            |              | 0          | Stones     | Sones,brick |
| <b>Metals</b>                             |              |              |            |            |             |
| Arsenic                                   | M            | mg/kg        | 1          | 10.4       | 9.8         |
| Cadmium                                   | M            | mg/kg        | 0.5        | < 0.5      | < 0.5       |
| Chromium                                  | M            | mg/kg        | 5          | 21.6       | 20.5        |
| Copper                                    | M            | mg/kg        | 5          | 22.7       | 18.0        |
| Lead                                      | M            | mg/kg        | 5          | 37.4       | 33.8        |
| Mercury                                   | M            | mg/kg        | 0.5        | < 0.5      | < 0.5       |
| Nickel                                    | M            | mg/kg        | 5          | 17.5       | 15.8        |
| Selenium                                  | M            | mg/kg        | 1          | < 1.0      | < 1.0       |
| Zinc                                      | M            | mg/kg        | 5          | 61.2       | 89.1        |
| <b>Inorganics</b>                         |              |              |            |            |             |
| Hexavalent Chromium                       | N            | mg/kg        | 0.8        | < 0.8      | < 0.8       |
| <b>Miscellaneous</b>                      |              |              |            |            |             |
| Acid Neutralisation Capacity              | N            | mol/kg       | 0.1        | n/t        | n/t         |
| Loss On Ignition (450°C)                  | M            | %            | 0.01       | n/t        | n/t         |
| pH                                        | M            | pH units     | 0.1        | 7.8        | 8.6         |
| Total Organic Carbon                      | N            | %            | 0.01       | 0.92       | 1.2         |
| <b>Polyaromatic hydrocarbons</b>          |              |              |            |            |             |
| Naphthalene                               | M            | mg/kg        | 0.1        | < 0.1      | 0.1         |
| Acenaphthylene                            | M            | mg/kg        | 0.1        | < 0.1      | 0.8         |
| Acenaphthene                              | M            | mg/kg        | 0.1        | < 0.1      | 0.4         |
| Fluorene                                  | M            | mg/kg        | 0.1        | < 0.1      | 0.3         |
| Phenanthrene                              | M            | mg/kg        | 0.1        | < 0.1      | 6.7         |
| Anthracene                                | M            | mg/kg        | 0.1        | < 0.1      | 2.3         |
| Fluoranthene                              | M            | mg/kg        | 0.1        | 0.1        | 16.4        |
| Pyrene                                    | M            | mg/kg        | 0.1        | < 0.1      | 15.5        |
| Benzo(a)anthracene                        | M            | mg/kg        | 0.1        | < 0.1      | 9.5         |
| Chrysene                                  | M            | mg/kg        | 0.1        | < 0.1      | 9.8         |
| Benzo(b)fluoranthene                      | M            | mg/kg        | 0.1        | < 0.1      | 9.8         |
| Benzo(k)fluoranthene                      | M            | mg/kg        | 0.1        | < 0.1      | 9.5         |
| Benzo(a)pyrene                            | M            | mg/kg        | 0.1        | < 0.1      | 10.3        |
| Indeno(1,2,3-cd)pyrene                    | M            | mg/kg        | 0.1        | < 0.1      | 8.1         |
| Dibenzo(a,h)anthracene                    | M            | mg/kg        | 0.1        | < 0.1      | 2.0         |
| Benzo[g,h,i]perylene                      | M            | mg/kg        | 0.1        | < 0.1      | 8.7         |
| Total PAH(16)                             | M            | mg/kg        | 0.4        | 0.4        | 110         |
| Total PAH (Including Coronene GC-FID)     | N            | mg/kg        | 2          | n/t        | n/t         |
| <b>BTEX</b>                               |              |              |            |            |             |
| Total BTEX                                | N            | mg/kg        | 0.01       | n/t        | n/t         |
| <b>Total Petroleum Hydrocarbons</b>       |              |              |            |            |             |
| Mineral Oil                               | M            | mg/kg        | 5          | n/t        | n/t         |
| <b>PCB (ICES 7 congeners)</b>             |              |              |            |            |             |
| PCB (Total of 7 Congeners)                | M            | mg/kg        | 0.03       | n/t        | n/t         |



## Results Summary

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|                    |            |
|--------------------|------------|
| ELAB Reference     | 206952     |
| Customer Reference |            |
| Sample ID          |            |
| Sample Type        | SOIL       |
| Sample Location    | WS5        |
| Sample Depth (m)   | 0.20       |
| Sampling Date      | 22/06/2020 |

| Determinand                               | Codes | Units    | LOD  |        |
|-------------------------------------------|-------|----------|------|--------|
| <b>Soil sample preparation parameters</b> |       |          |      |        |
| Material removed                          | N     | %        | 0.1  | 9.7    |
| Description of Inert material removed     | N     |          | 0    | Stones |
| <b>Metals</b>                             |       |          |      |        |
| Arsenic                                   | M     | mg/kg    | 1    | 9.4    |
| Cadmium                                   | M     | mg/kg    | 0.5  | < 0.5  |
| Chromium                                  | M     | mg/kg    | 5    | 21.1   |
| Copper                                    | M     | mg/kg    | 5    | 17.3   |
| Lead                                      | M     | mg/kg    | 5    | 24.0   |
| Mercury                                   | M     | mg/kg    | 0.5  | < 0.5  |
| Nickel                                    | M     | mg/kg    | 5    | 15.0   |
| Selenium                                  | M     | mg/kg    | 1    | < 1.0  |
| Zinc                                      | M     | mg/kg    | 5    | 59.1   |
| <b>Inorganics</b>                         |       |          |      |        |
| Hexavalent Chromium                       | N     | mg/kg    | 0.8  | < 0.8  |
| <b>Miscellaneous</b>                      |       |          |      |        |
| 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  | 8.1    |
| Total Organic Carbon                      | N     | %        | 0.01 | 0.62   |
| <b>Polyaromatic hydrocarbons</b>          |       |          |      |        |
| Naphthalene                               | M     | mg/kg    | 0.1  | < 0.1  |
| Acenaphthylene                            | M     | mg/kg    | 0.1  | 0.7    |
| Acenaphthene                              | M     | mg/kg    | 0.1  | 0.6    |
| Fluorene                                  | M     | mg/kg    | 0.1  | 0.3    |
| Phenanthrene                              | M     | mg/kg    | 0.1  | 6.0    |
| Anthracene                                | M     | mg/kg    | 0.1  | 2.7    |
| Fluoranthene                              | M     | mg/kg    | 0.1  | 19.5   |
| Pyrene                                    | M     | mg/kg    | 0.1  | 16.0   |
| Benzo(a)anthracene                        | M     | mg/kg    | 0.1  | 7.2    |
| Chrysene                                  | M     | mg/kg    | 0.1  | 7.5    |
| Benzo(b)fluoranthene                      | M     | mg/kg    | 0.1  | 7.8    |
| Benzo(k)fluoranthene                      | M     | mg/kg    | 0.1  | 6.5    |
| Benzo(a)pyrene                            | M     | mg/kg    | 0.1  | 7.1    |
| Indeno(1,2,3-cd)pyrene                    | M     | mg/kg    | 0.1  | 5.1    |
| Dibenzo(a,h)anthracene                    | M     | mg/kg    | 0.1  | 1.2    |
| Benzo[g,h,i]perylene                      | M     | mg/kg    | 0.1  | 4.8    |
| Total PAH(16)                             | M     | mg/kg    | 0.4  | 93.2   |
| Total PAH (Including Coronene GC-FID)     | N     | mg/kg    | 2    | n/t    |
| <b>BTEX</b>                               |       |          |      |        |
| Total BTEX                                | N     | mg/kg    | 0.01 | n/t    |
| <b>Total Petroleum Hydrocarbons</b>       |       |          |      |        |
| Mineral Oil                               | M     | mg/kg    | 5    | n/t    |
| <b>PCB (ICES 7 congeners)</b>             |       |          |      |        |
| PCB (Total of 7 Congeners)                | M     | mg/kg    | 0.03 | n/t    |

## Results Summary

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## WAC Analysis

|                              |                                       |      |         |         |                                                                              |                                            |                                                               |                          |
|------------------------------|---------------------------------------|------|---------|---------|------------------------------------------------------------------------------|--------------------------------------------|---------------------------------------------------------------|--------------------------|
| Elab Ref:                    | 206946                                |      |         |         |                                                                              | Landfill Waste Acceptance Criteria Limits* |                                                               |                          |
| Sample Date:                 | 22/06/2020                            |      |         |         |                                                                              | Inert Waste Landfill                       | Stable Non-reactive Hazardous waste in non-hazardous Landfill | Hazardous Waste Landfill |
| Sample ID:                   | TP11                                  |      |         |         |                                                                              |                                            |                                                               |                          |
| Depth (m)                    | 1.5                                   |      |         |         |                                                                              |                                            |                                                               |                          |
| Site:                        | Land off Elmgrove Road, Littlehampton |      |         |         |                                                                              |                                            |                                                               |                          |
| Determinand                  |                                       | Code | Units   |         |                                                                              |                                            |                                                               |                          |
| Total Organic Carbon         |                                       | N    | %       | 0.86    | 3                                                                            | 5                                          | 6                                                             |                          |
| Loss on Ignition             |                                       | M    | %       | 4.1     | —                                                                            | —                                          | 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   | 86      | 500                                                                          | —                                          | —                                                             |                          |
| Total (of 17) PAHs           |                                       | N    | mg/kg   | < 2     | 100                                                                          | —                                          | —                                                             |                          |
| pH                           |                                       | M    |         | 7.8     | —                                                                            | >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    | 0.031   | 0.31    | 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    | 0.023   | 0.23    | 2                                                                            | 50                                         | 100                                                           |                          |
| Mercury                      |                                       | N    | < 0.005 | < 0.01  | 0.01                                                                         | 0.2                                        | 2                                                             |                          |
| Molybdenum                   |                                       | N    | 0.011   | 0.11    | 0.5                                                                          | 10                                         | 30                                                            |                          |
| Nickel                       |                                       | N    | 0.002   | < 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       | 51.00   | 800                                                                          | 15000                                      | 25000                                                         |                          |
| Fluoride                     |                                       | N    | < 5     | < 10    | 10                                                                           | 150                                        | 500                                                           |                          |
| Sulphate                     |                                       | N    | 54      | 543.00  | 1000                                                                         | 20000                                      | 50000                                                         |                          |
| Total Dissolved Solids       |                                       | N    | 245     | 2450.00 | 4000                                                                         | 60000                                      | 100000                                                        |                          |
| Phenol Index                 |                                       | N    | < 0.01  | < 0.10  | 1                                                                            | -                                          | -                                                             |                          |
| Dissolved Organic Carbon     |                                       | N    | 22.400  | 224.00  | 500                                                                          | 800                                        | 1000                                                          |                          |
| Leach Test Information       |                                       |      |         |         |                                                                              |                                            |                                                               |                          |
| pH                           |                                       | N    | 8.2     |         |                                                                              |                                            |                                                               |                          |
| Conductivity (uS/cm)         |                                       | N    | 365     |         |                                                                              |                                            |                                                               |                          |
| Dry mass of test portion (g) |                                       |      | 100.000 |         |                                                                              |                                            |                                                               |                          |
| Dry Matter (%)               |                                       |      | 81      |         |                                                                              |                                            |                                                               |                          |
| Moisture (%)                 |                                       |      | 23      |         |                                                                              |                                            |                                                               |                          |
| Eluent Volume (ml)           |                                       |      | 910     |         |                                                                              |                                            |                                                               |                          |

Results are expressed on a dry weight basis, after correction for moisture content where applicable

\* Stated limits are for guidance only, and not for conformity assessment.

## Results Summary

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## WAC Analysis

|                              |                                       |      |         |         |                                                                              |                                            |                                                               |                          |
|------------------------------|---------------------------------------|------|---------|---------|------------------------------------------------------------------------------|--------------------------------------------|---------------------------------------------------------------|--------------------------|
| Elab Ref:                    | 206945                                |      |         |         |                                                                              | Landfill Waste Acceptance Criteria Limits* |                                                               |                          |
| Sample Date:                 | 22/06/2020                            |      |         |         |                                                                              | Inert Waste Landfill                       | Stable Non-reactive Hazardous waste in non-hazardous Landfill | Hazardous Waste Landfill |
| Sample ID:                   | TP11                                  |      |         |         |                                                                              |                                            |                                                               |                          |
| Depth (m)                    | 0.5                                   |      |         |         |                                                                              |                                            |                                                               |                          |
| Site:                        | Land off Elmgrove Road, Littlehampton |      |         |         |                                                                              |                                            |                                                               |                          |
| Determinand                  |                                       | Code | Units   |         |                                                                              |                                            |                                                               |                          |
| Total Organic Carbon         |                                       | N    | %       | 1.20    | 3                                                                            |                                            | 5                                                             | 6                        |
| Loss on Ignition             |                                       | M    | %       | 4.9     | —                                                                            |                                            | —                                                             | 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   | 96      | 500                                                                          |                                            | —                                                             | —                        |
| Total (of 17) PAHs           |                                       | N    | mg/kg   | 14.0    | 100                                                                          |                                            | —                                                             | —                        |
| pH                           |                                       | M    |         | 8.0     | —                                                                            |                                            | >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    | 0.015   | 0.15    | 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    | 0.020   | 0.20    | 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    | 8       | 84.90   | 1000                                                                         |                                            | 20000                                                         | 50000                    |
| Total Dissolved Solids       |                                       | N    | 146     | 1460.00 | 4000                                                                         |                                            | 60000                                                         | 100000                   |
| Phenol Index                 |                                       | N    | < 0.01  | < 0.10  | 1                                                                            |                                            | -                                                             | -                        |
| Dissolved Organic Carbon     |                                       | N    | 13.100  | 131.00  | 500                                                                          |                                            | 800                                                           | 1000                     |
| Leach Test Information       |                                       |      |         |         |                                                                              |                                            |                                                               |                          |
| pH                           |                                       | N    | 7.9     |         |                                                                              |                                            |                                                               |                          |
| Conductivity (uS/cm)         |                                       | N    | 218     |         |                                                                              |                                            |                                                               |                          |
| Dry mass of test portion (g) |                                       |      | 100.000 |         |                                                                              |                                            |                                                               |                          |
| Dry Matter (%)               |                                       |      | 91      |         |                                                                              |                                            |                                                               |                          |
| Moisture (%)                 |                                       |      | 9       |         |                                                                              |                                            |                                                               |                          |
| Eluent Volume (ml)           |                                       |      | 964     |         |                                                                              |                                            |                                                               |                          |

Results are expressed on a dry weight basis, after correction for moisture content where applicable

\* Stated limits are for guidance only, and not for conformity assessment.

## Results Summary

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### 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 No2083). They are subjective comments only which must be verified by the client.

| Elab No | Depth (m) | Clients Reference | Description of Sample Matrix #                            | Asbestos             | Gravimetric Analysis Total | Gravimetric Analysis by ACM Type | Free Fibre Analysis | Total Asbestos |
|---------|-----------|-------------------|-----------------------------------------------------------|----------------------|----------------------------|----------------------------------|---------------------|----------------|
| 206931  | 0.20      | TP1               | Brown sandy soil, stones, concrete, brick, clinker, glass | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206932  | 0.60      | TP1               | Brown sandy soil, stones                                  | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206933  | 0.15      | TP2               | Brown sandy soil, stones, concrete, clinker               | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206935  | 0.20      | TP3               | Brown sandy soil, stones, tar, organics                   | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206936  | 0.60      | TP3               | Brown sandy soil, stones                                  | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206937  | 1.20      | TP4               | Brown sandy soil, stones, concrete, brick                 | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206938  | 0.30      | TP5               | Brown sandy soil, stones, concrete, brick, tar            | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206940  | 0.50      | TP6               | Brown sandy soil, stones, concrete, brick, clinker        | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206941  | 1.50      | TP7               | Brown sandy soil, stones, clinker, organics               | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206942  | 1.50      | TP8               | Brown sandy soil, stones, wood                            | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206943  | 1.50      | TP8               | Brown sandy soil, stones, concrete, brick, clinker        | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206944  | 0.80      | TP10              | Brown sandy soil, stones, wood                            | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206945  | 0.50      | TP11              | Brown sandy soil, stones, concrete, clinker               | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206946  | 1.50      | TP11              | Brown soil, stones                                        | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206947  | 1.80      | TP12              | Brown soil, stones, clinker                               | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206948  | 0.20      | WS2               | Brown sandy soil, stones, concrete, brick, clinker        | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206949  | 0.15      | WS3               | Brown sandy soil, stones, concrete, brick, clinker        | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206950  | 0.10      | WS4               | Brown sandy soil, stones, concrete, clinker, organics     | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206951  | 0.40      | WS4               | Brown sandy soil, stones, clinker, organics               | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |
| 206952  | 0.20      | WS5               | Brown sandy soil, stones, concrete, brick, clinker        | No asbestos detected | n/t                        | n/t                              | n/t                 | n/t            |

## Method Summary

Report No.: 20-28607, issue number 1

| Parameter                            | Codes | Analysis Undertaken On | Date Tested | Method Number | Technique          |
|--------------------------------------|-------|------------------------|-------------|---------------|--------------------|
| <b>Soil</b>                          |       |                        |             |               |                    |
| Hexavalent chromium                  | N     | As submitted sample    | 26/06/2020  | 110           | Colorimetry        |
| Aqua regia extractable metals        | M     | Air dried sample       | 26/06/2020  | 118           | ICPMS              |
| PAH (GC-FID)                         | M     | As submitted sample    | 26/06/2020  | 133           | GC-FID             |
| Asbestos identification              | U     | Air dried sample       | 01/07/2020  | PMAN          | Microscopy         |
| <b>Leachate</b>                      |       |                        |             |               |                    |
| Arsenic                              | N     |                        | 30/06/2020  | 101           | ICPMS              |
| Cadmium                              | N     |                        | 30/06/2020  | 101           | ICPMS              |
| Chromium                             | N     |                        | 30/06/2020  | 101           | ICPMS              |
| Lead                                 | N     |                        | 30/06/2020  | 101           | ICPMS              |
| Nickel                               | N     |                        | 30/06/2020  | 101           | ICPMS              |
| Copper                               | N     |                        | 30/06/2020  | 101           | ICPMS              |
| Zinc                                 | N     |                        | 30/06/2020  | 101           | ICPMS              |
| Mercury                              | N     |                        | 30/06/2020  | 101           | ICPMS              |
| Selenium                             | N     |                        | 30/06/2020  | 101           | ICPMS              |
| Antimony                             | N     |                        | 30/06/2020  | 101           | ICPMS              |
| Barium                               | N     |                        | 30/06/2020  | 101           | ICPMS              |
| Molybdenum                           | N     |                        | 30/06/2020  | 101           | ICPMS              |
| pH Value                             | N     |                        | 30/06/2020  | 113           | Electrometric      |
| Electrical Conductivity              | N     |                        | 30/06/2020  | 136           | Probe              |
| Dissolved Organic Carbon             | N     |                        | 30/06/2020  | 102           | TOC analyser       |
| Chloride                             | N     |                        | 30/06/2020  | 131           | Ion Chromatography |
| Fluoride                             | N     |                        | 30/06/2020  | 131           | Ion Chromatography |
| Sulphate                             | N     |                        | 30/06/2020  | 131           | Ion Chromatography |
| Total Dissolved Solids               | N     |                        | 30/06/2020  | 144           | Gravimetric        |
| Phenol index                         | N     |                        | 30/06/2020  | 121           | HPLC               |
| <b>WAC Solids analysis</b>           |       |                        |             |               |                    |
| pH Value                             | M     | Air dried sample       | 01/07/2020  | 113           | Electrometric      |
| Total Organic Carbon                 | N     | Air dried sample       | 01/07/2020  | 210           | IR                 |
| Loss on Ignition                     | M     | Air dried sample       | 02/07/2020  | 129           | Gravimetric        |
| Acid Neutralization Capacity to pH 7 | N     | Air dried sample       | 01/07/2020  | NEN 737       | Electrometric      |
| Total BTEX                           | N     | As submitted sample    | 29/06/2020  | 181           | GCMS               |
| Mineral Oil                          | M     | As submitted sample    | 26/06/2020  | 117           | GCFID              |
| Total PCBs (7 congeners)             | M     | Air dried sample       | 29/06/2020  | 120           | GCMS               |
| Total PAH (17)                       | N     | As submitted sample    | 30/06/2020  | 133           | GCFID              |

Tests marked N are not UKAS accredited



2683

## Report Information

Report No.: 20-28607, issue number 1

### Key

---

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

Soil sample results are expressed on an air dried basis (dried at < 30°C), and are uncorrected for inert material removed.

ELAB are unable to provide an interpretation or opinion on the content of this report.

The results relate only to the sample received.

PCB congener results may include any coeluting PCBs

Uncertainty of measurement for the determinands tested are available upon request

Unless otherwise stated, sample information has been provided by the client. This may affect the validity of the results.

### 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

---

## APPENDIX I – Geotechnical Laboratory Test Results

---

|                                                        |
|--------------------------------------------------------|
| <p><b>Geotechnical Laboratory Test<br/>Results</b></p> |
|--------------------------------------------------------|

# SUMMARY OF GEOTECHNICAL TESTING

| Sample details |           |            |      |                                                               | Classification Tests |    |    |    |         | Density Tests |       | Undrained Triaxial Compression |               |                 |              | Chemical Tests |             |        | Other tests and comments   |
|----------------|-----------|------------|------|---------------------------------------------------------------|----------------------|----|----|----|---------|---------------|-------|--------------------------------|---------------|-----------------|--------------|----------------|-------------|--------|----------------------------|
| Location       | Depth (m) | Sample Ref | Type | Description                                                   | WC                   | LL | PL | PI | <425 μm | Bulk          | Dry   | Condition                      | Cell Pressure | Deviator Stress | Shear Stress | pH             | 2:1 W/S SO4 | W/S Mg |                            |
|                |           |            |      |                                                               | %                    | %  | %  | %  | %       | Mg/m³         | Mg/m³ |                                | kPa           | kPa             | kPa          |                | g/L         | mg/L   |                            |
| TP1            | 1.00      |            | D    | Brown slightly fine sandy CLAY with rare fine gravel.         | 19.4                 | 36 | 17 | 19 | 99      |               |       |                                |               |                 |              |                |             |        |                            |
| TP1            | 1.50      |            | B    | Orange brown and grey slightly gravelly silty SAND.           |                      |    |    |    |         |               |       |                                |               |                 |              |                |             |        | Particle Size Distribution |
| TP2            | 0.50      |            | D    |                                                               |                      |    |    |    |         |               |       |                                |               |                 |              | 6.5            | 0.024       |        |                            |
| TP2            | 2.00      |            | D    | Brown sandy CLAY with rare fine gravel.                       | 12.7                 | 24 | 14 | 10 | 98      |               |       |                                |               |                 |              |                |             |        |                            |
| TP3            | 1.50      |            | D    | Brown sandy CLAY with rare fine gravel.                       | 14.0                 | 28 | 14 | 14 | 98      |               |       |                                |               |                 |              |                |             |        |                            |
| TP5            | 1.00      |            | D    | Brown sandy CLAY with rare fine gravel.                       | 19.5                 | 40 | 19 | 21 | 98      |               |       |                                |               |                 |              |                |             |        |                            |
| TP5            | 2.50      |            | D    | Orange brown mottled grey clayey silty SAND with rare gravel. |                      |    |    |    |         |               |       |                                |               |                 |              |                |             |        | Particle Size Distribution |
| WS2            | 0.90      |            | D    | Brown soft slightly sandy silty CLAY with rare fine gravel.   | 15.9                 | 35 | 17 | 18 | 99      |               |       |                                |               |                 |              |                |             |        |                            |
| WS3            | 1.20      |            | D    | Brown sandy CLAY with rare fine gravel.                       | 16.9                 | 36 | 16 | 20 | 99      |               |       |                                |               |                 |              |                |             |        |                            |
| WS4            | 1.00      |            | D    | Brown sandy CLAY.                                             | 19.8                 | 39 | 20 | 19 | 100     |               |       |                                |               |                 |              |                |             |        |                            |

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

|                        |  |                                                                                           |                               |
|------------------------|--|-------------------------------------------------------------------------------------------|-------------------------------|
| <div><div></div></div> |  | <div><div>GEO / 31290</div><div>ELMGROVE ROAD, LITTLEHAMPTON</div><div>LP2265</div></div> | <div><div>GEOLABS</div></div> |
| 14/07/2020             |  |                                                                                           |                               |

Test Report By: GEOLABS Limited, Bucknalls Lane, Garston, Watford, Hertfordshire, WD25 9XX  
 Client: Leap Environmental Limited, Southern Coast Regional Office, Victoria Road, Burgess Hill, West Sussex, RH15 9LR

Page 1 of 2  
 (Ref 1594718176)

SUMMARY OF GEOTECHNICAL TESTING

| Sample details |           |            |      |                                             | Classification Tests |    |    |    |         | Density Tests |       | Undrained Triaxial Compression |               |                 | Chemical Tests |     |             | Other tests and comments |                            |
|----------------|-----------|------------|------|---------------------------------------------|----------------------|----|----|----|---------|---------------|-------|--------------------------------|---------------|-----------------|----------------|-----|-------------|--------------------------|----------------------------|
| Location       | Depth (m) | Sample Ref | Type | Description                                 | WC                   | LL | PL | PI | <425 µm | Bulk          | Dry   | Condition                      | Cell Pressure | Deviator Stress | Shear Stress   | pH  | 2:1 W/S SO4 |                          | W/S Mg                     |
|                |           |            |      |                                             | %                    | %  | %  | %  | %       | Mg/m³         | Mg/m³ |                                | kPa           | kPa             | kPa            | g/L | mg/L        |                          |                            |
| WS4            | 1.20      |            | D    |                                             |                      |    |    |    |         |               |       |                                |               |                 |                | 7.1 | < 0.010     |                          |                            |
| WS4            | 2.00-2.60 |            | B    | Orange brown clayey SAND with rare gravel.  |                      |    |    |    |         |               |       |                                |               |                 |                |     |             |                          | Particle Size Distribution |
| WS5            | 1.50      |            | D    | Orange brown slightly clayey gravelly SAND. |                      |    |    |    |         |               |       |                                |               |                 |                | 7.7 | < 0.010     |                          | Particle Size Distribution |
|                |           |            |      |                                             |                      |    |    |    |         |               |       |                                |               |                 |                |     |             |                          |                            |
|                |           |            |      |                                             |                      |    |    |    |         |               |       |                                |               |                 |                |     |             |                          |                            |
|                |           |            |      |                                             |                      |    |    |    |         |               |       |                                |               |                 |                |     |             |                          |                            |
|                |           |            |      |                                             |                      |    |    |    |         |               |       |                                |               |                 |                |     |             |                          |                            |
|                |           |            |      |                                             |                      |    |    |    |         |               |       |                                |               |                 |                |     |             |                          |                            |
|                |           |            |      |                                             |                      |    |    |    |         |               |       |                                |               |                 |                |     |             |                          |                            |
|                |           |            |      |                                             |                      |    |    |    |         |               |       |                                |               |                 |                |     |             |                          |                            |
|                |           |            |      |                                             |                      |    |    |    |         |               |       |                                |               |                 |                |     |             |                          |                            |

Sample type: B (Bulk disturb.) BLK (Block) C (Core) D (Disturbed) LB (Large Bulk dist.) U (Undisturbed)

Checked and Approved by  
  
S Burke - Senior Technician  
14/07/2020

Project Number:

GEO / 31290  
  
ELMGROVE ROAD, LITTLEHAMPTON  
LP2265



**PARTICLE SIZE DISTRIBUTION**

BH / TP No.  
Depth (m)  
Sample Type

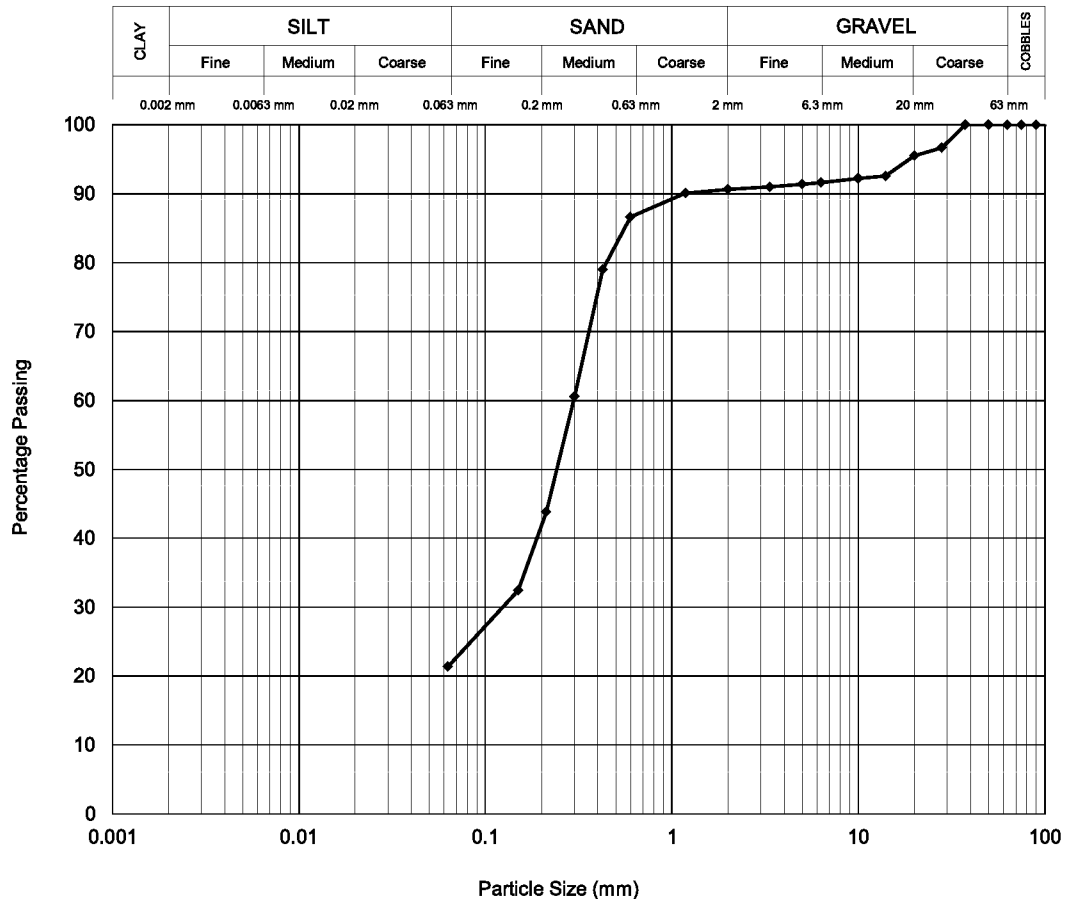
TP1  
1.50  
B

**Description**

Orange brown and grey slightly gravelly silty SAND.

**BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve**

| Sieve    |        |
|----------|--------|
| Size     | % Pass |
| 200.0 mm | 100    |
| 125.0 mm | 100    |
| 90.0 mm  | 100    |
| 75.0 mm  | 100    |
| 63.0 mm  | 100    |
| 50.0 mm  | 100    |
| 37.5 mm  | 100    |
| 28.0 mm  | 97     |
| 20.0 mm  | 96     |
| 14.0 mm  | 93     |
| 10.0 mm  | 92     |
| 6.30 mm  | 92     |
| 5.00 mm  | 91     |
| 3.35 mm  | 91     |
| 2.00 mm  | 91     |
| 1.18 mm  | 90     |
| 600 µm   | 87     |
| 425 µm   | 79     |
| 300 µm   | 61     |
| 212 µm   | 44     |
| 150 µm   | 32     |
| 63 µm    | 21     |



| Particle Proportions |    |
|----------------------|----|
| Cobbles              | 0  |
| Gravel               | 9  |
| Sand                 | 69 |
| Silt & Clay          | 22 |

Processed by SB  
Checked and Approved by

Project Number:

**GEO / 31290**

Project Name:

**ELMGROVE ROAD, LITTLEHAMPTON  
LP2265**

**GEOLABS**



Test Report By: GEOLABS Limited, Bucknalls Lane, Garston, Watford, Hertfordshire, WD25 9XX

Client: Leap Environmental Limited, Southern Coast Regional Office, Victoria Road, Burgess Hill, West Sussex, RH15 9LR

Page 1 of 1  
(Ref 1594718179)

**PARTICLE SIZE DISTRIBUTION**

BH / TP No.  
Depth (m)  
Sample Type

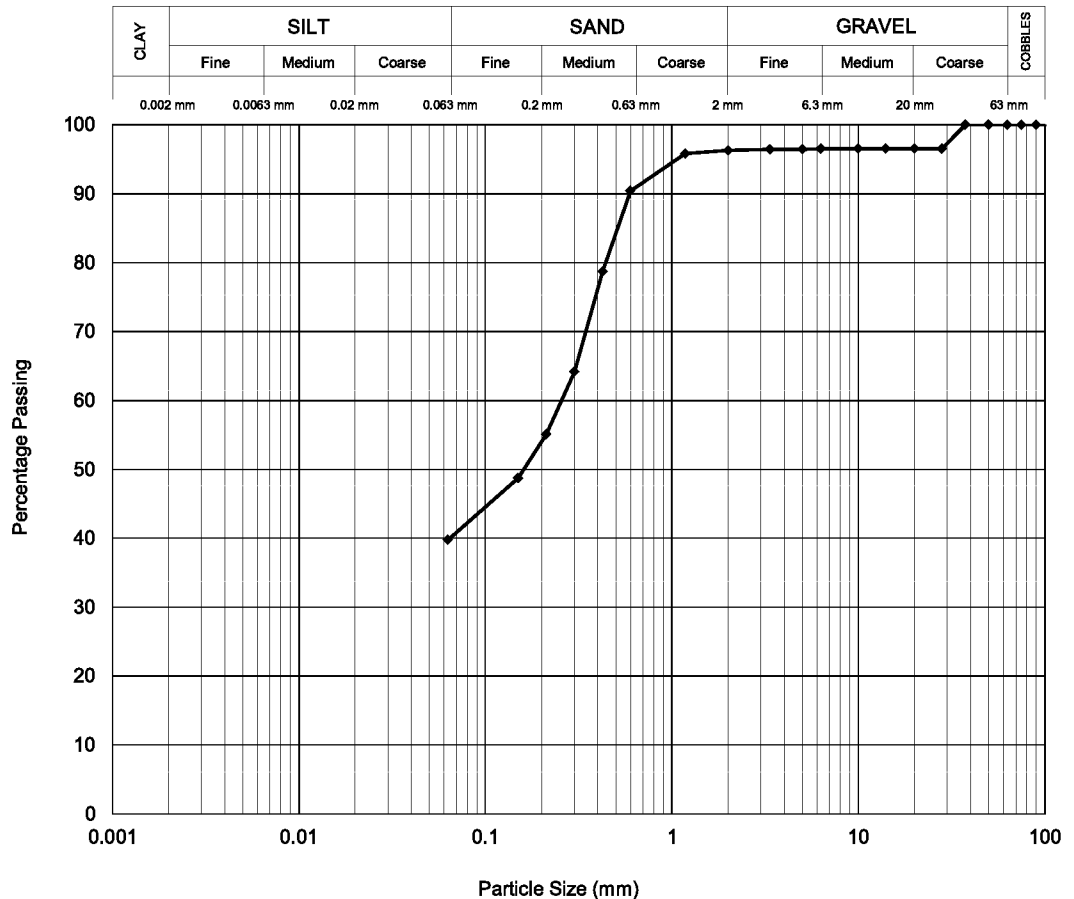
TP5  
2.50  
D

**Description**

Orange brown mottled grey clayey silty SAND with rare gravel.

**BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve**

| Sieve    |        |
|----------|--------|
| Size     | % Pass |
| 200.0 mm | 100    |
| 125.0 mm | 100    |
| 90.0 mm  | 100    |
| 75.0 mm  | 100    |
| 63.0 mm  | 100    |
| 50.0 mm  | 100    |
| 37.5 mm  | 100    |
| 28.0 mm  | 97     |
| 20.0 mm  | 97     |
| 14.0 mm  | 97     |
| 10.0 mm  | 97     |
| 6.30 mm  | 97     |
| 5.00 mm  | 96     |
| 3.35 mm  | 96     |
| 2.00 mm  | 96     |
| 1.18 mm  | 96     |
| 600 µm   | 90     |
| 425 µm   | 79     |
| 300 µm   | 64     |
| 212 µm   | 55     |
| 150 µm   | 49     |
| 63 µm    | 40     |



| Particle Proportions |    |
|----------------------|----|
| Cobbles              | 0  |
| Gravel               | 4  |
| Sand                 | 57 |
| Silt & Clay          | 39 |

Processed by SB  
Checked and Approved by

Project Number:

**GEO / 31290**

Name:

**ELMGROVE ROAD, LITTLEHAMPTON  
LP2265**



Test Report By: GEOLABS Limited

Bucknalls Lane, Garston, Watford, Hertfordshire, WD25 9XX

Client : Leap Environmental Limited, Southern Coast Regional Office, Victoria Road, Burgess Hill, West Sussex, RH15 9LR

**PARTICLE SIZE DISTRIBUTION**

BH / TP No.  
Depth (m)  
Sample Type

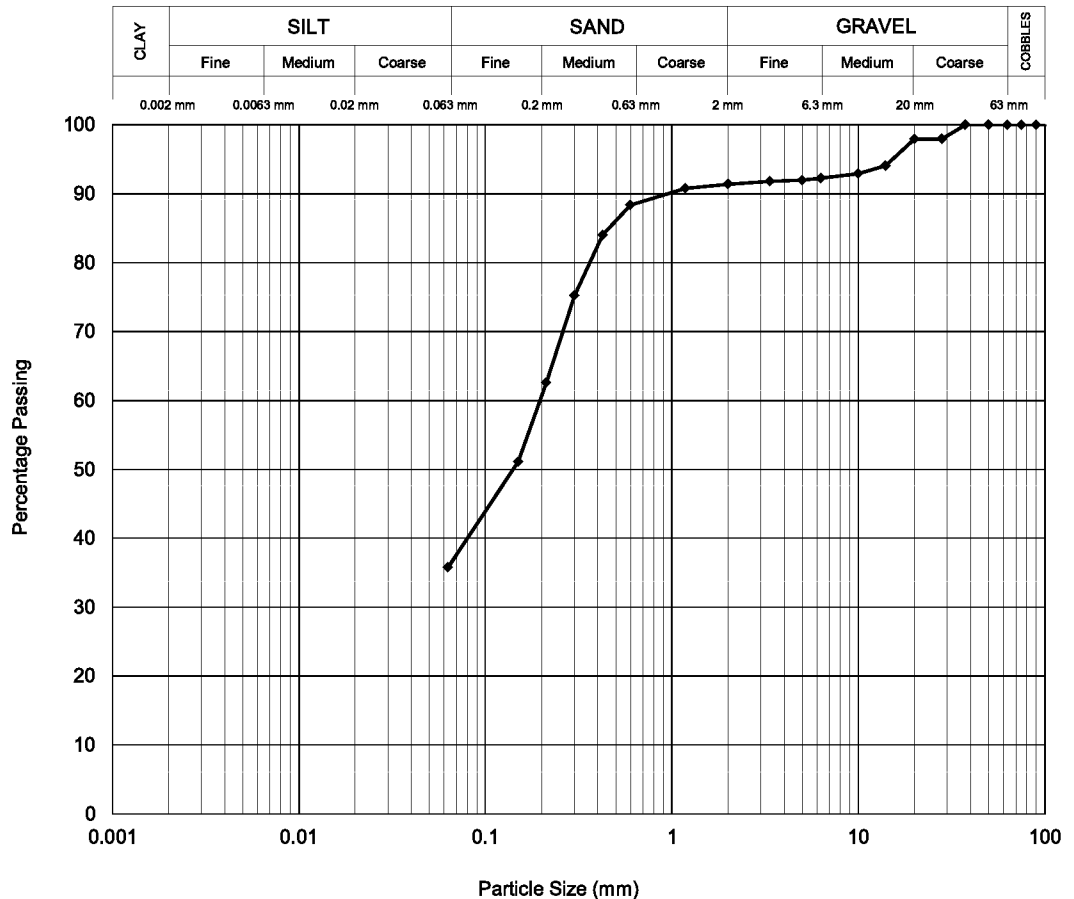
WS4  
2.00-2.60  
B

## Description

Orange brown clayey SAND with rare gravel.

## BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

| Sieve    |        |
|----------|--------|
| Size     | % Pass |
| 200.0 mm | 100    |
| 125.0 mm | 100    |
| 90.0 mm  | 100    |
| 75.0 mm  | 100    |
| 63.0 mm  | 100    |
| 50.0 mm  | 100    |
| 37.5 mm  | 100    |
| 28.0 mm  | 98     |
| 20.0 mm  | 98     |
| 14.0 mm  | 94     |
| 10.0 mm  | 93     |
| 6.30 mm  | 92     |
| 5.00 mm  | 92     |
| 3.35 mm  | 92     |
| 2.00 mm  | 91     |
| 1.18 mm  | 91     |
| 600 µm   | 88     |
| 425 µm   | 84     |
| 300 µm   | 75     |
| 212 µm   | 63     |
| 150 µm   | 51     |
| 63 µm    | 36     |



| Particle Proportions |    |
|----------------------|----|
| Cobbles              | 0  |
| Gravel               | 9  |
| Sand                 | 56 |
| Silt & Clay          | 35 |

Processed by SB  
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Project Number:

GEO / 31290

Project Name:

ELMGROVE ROAD, LITTLEHAMPTON  
LP2265

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(Ref 1594718189)

Test Report By: GEOLABS Limited

Bucknalls Lane, Garston, Watford, Hertfordshire, WD25 9XX

Client: Leap Environmental Limited, Southern Coast Regional Office, Victoria Road, Burgess Hill, West Sussex, RH15 9LR

**PARTICLE SIZE DISTRIBUTION**

BH / TP No.  
Depth (m)  
Sample Type

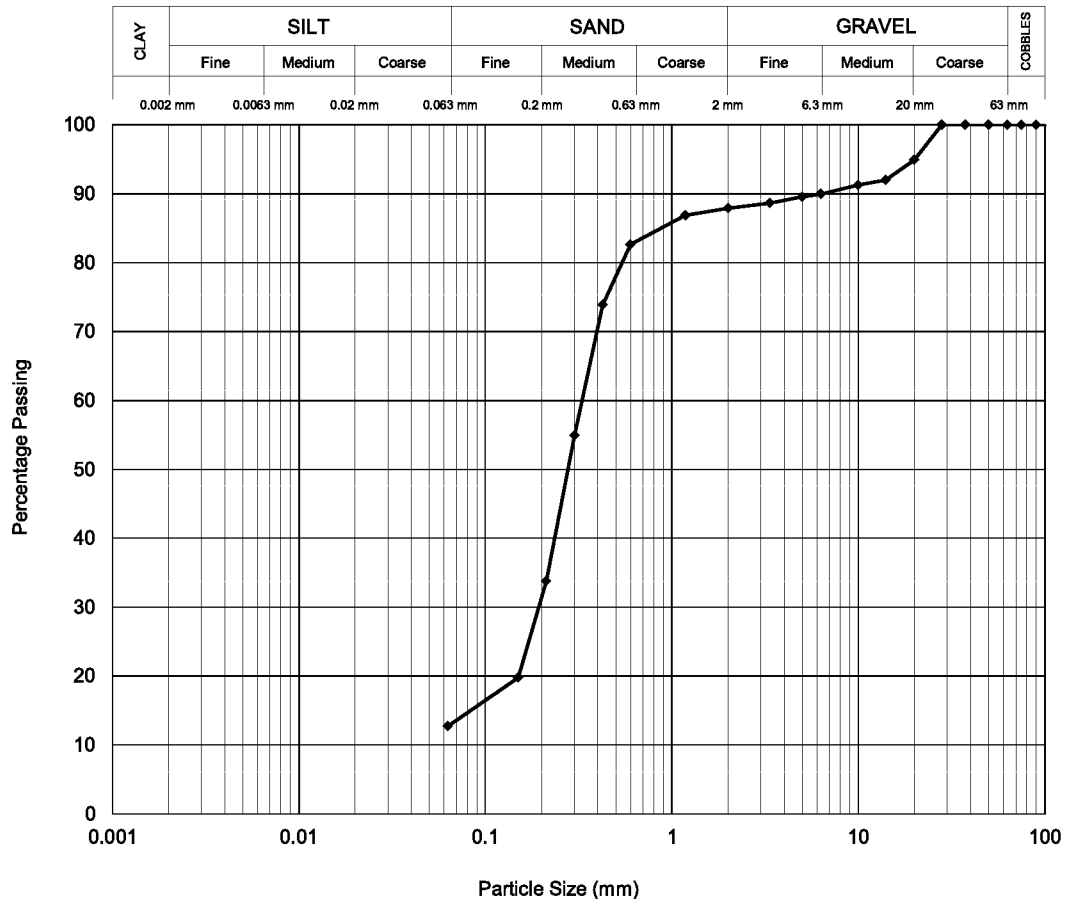
WS5  
1.50  
D

## Description

Orange brown slightly clayey gravelly SAND.

## BS EN ISO 17892-4 : 2016 : Clause 5.2 - Wet Sieve

| Sieve    |        |
|----------|--------|
| Size     | % Pass |
| 200.0 mm | 100    |
| 125.0 mm | 100    |
| 90.0 mm  | 100    |
| 75.0 mm  | 100    |
| 63.0 mm  | 100    |
| 50.0 mm  | 100    |
| 37.5 mm  | 100    |
| 28.0 mm  | 100    |
| 20.0 mm  | 95     |
| 14.0 mm  | 92     |
| 10.0 mm  | 91     |
| 6.30 mm  | 90     |
| 5.00 mm  | 90     |
| 3.35 mm  | 89     |
| 2.00 mm  | 88     |
| 1.18 mm  | 87     |
| 600 µm   | 83     |
| 425 µm   | 74     |
| 300 µm   | 55     |
| 212 µm   | 34     |
| 150 µm   | 20     |
| 63 µm    | 13     |



| Particle Proportions |    |
|----------------------|----|
| Cobbles              | 0  |
| Gravel               | 12 |
| Sand                 | 75 |
| Silt & Clay          | 13 |

Processed by SB

Project Number:

GEO / 31290

Project Name:

ELMGROVE ROAD, LITTLEHAMPTON  
LP2265

GEOLABS



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(Ref 1594718193)

Test Report By: GEOLABS Limited

Bucknalls Lane, Garston, Watford, Hertfordshire, WD25 9XX

Client : Leap Environmental Limited, Southern Coast Regional Office, Victoria Road, Burgess Hill, West Sussex, RH15 9LR

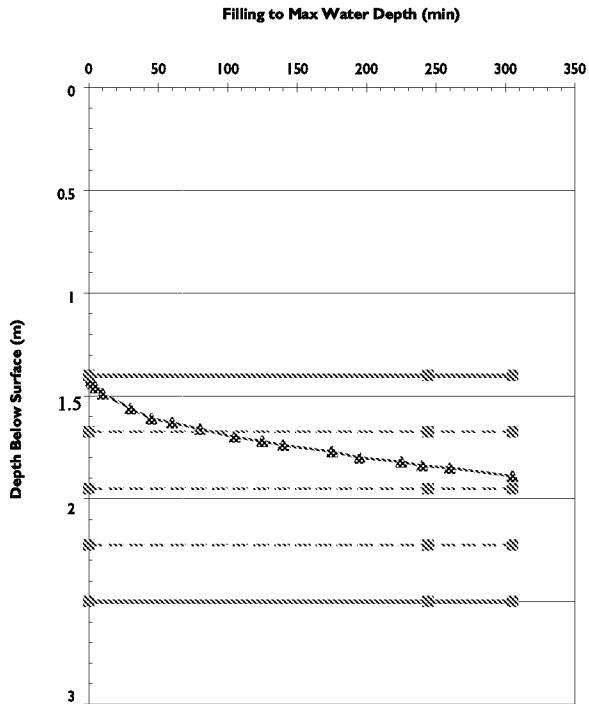
---

## APPENDIX J – Soakage Test Results

---

|                             |
|-----------------------------|
| <b>Soakage Test Results</b> |
|-----------------------------|

## BRE Digest 365 - Soakage Test



Test Hole No: TP1  
Test No: Test No 1



|                                     |           |
|-------------------------------------|-----------|
| Fit Length (m)                      | 1.6       |
| Fit Width (m)                       | 0.6       |
| Depth to Fit Base (m)               | 2.5       |
| Depth to Top of Permeable Soils (m) |           |
| Depth to Groundwater Surface (m)    |           |
| Depth to Top of Granular Fill (m)   |           |
| Void Assumed for Granular Fill (%)  |           |
| Depth of Water at Start of Test (m) | 1.4       |
| Max Water Dropdown during Test (m)  | 0.49      |
| Total Soakage Test Time (min)       | 305       |
| Mean Internal Discharge Area (m2)   | 4.117     |
| Discharge Rate (litre/min)          | 0.9572174 |
| Soakage Rate (litre/m2/min)         | 0.2325036 |
| BRE Soil Infiltration Rate (m/sec)  | 3.875E-06 |

Comments: Water level fell to 75%— 50%max water depth, calculations were based on actual fall of water level achieved. Result not compliant with BRE365 requirement since water did not fall to 25%max water depth.

Client: Bokrok Housing  
Site: Elmgrove Road, Littlehampton  
Tested By: Oakland SI  
Test Date: 23/06/20

---

## APPENDIX K – Soil Screening Tables

---

|                              |
|------------------------------|
| <b>Soil Screening Tables</b> |
|------------------------------|

LP2165 NON-STOCKPILE AREAS Elm Grove Road, Littlehampton

|                                             |          |       | Sample Location  |        | TP1        |       | TP1        |      | TP2        |      | TP3        |      | TP3        |      | TP5        |      | V02        |  | V03        |  | V04        |  | V04        |  | V05        |  |
|---------------------------------------------|----------|-------|------------------|--------|------------|-------|------------|------|------------|------|------------|------|------------|------|------------|------|------------|--|------------|--|------------|--|------------|--|------------|--|
|                                             |          |       | Depth (m)        |        | 0.20       |       | 0.60       |      | 0.15       |      | 0.20       |      | 0.40       |      | 0.30       |      | 0.20       |  | 0.15       |  | 0.10       |  | 0.10       |  | 0.20       |  |
|                                             |          |       | Date Sampled     |        | 22/04/2020 |       | 22/04/2020 |      | 22/04/2020 |      | 22/04/2020 |      | 22/04/2020 |      | 22/04/2020 |      | 22/04/2020 |  | 22/04/2020 |  | 22/04/2020 |  | 22/04/2020 |  | 22/04/2020 |  |
|                                             |          |       | Area             |        | Site       |       | Site       |      | Site       |      | Site       |      | Site       |      | Site       |      | Site       |  | Site       |  | Site       |  | Site       |  | Site       |  |
|                                             |          |       | Matrix           |        | PG         |       | Natural    |      | PG         |      | PG         |      | Natural    |      | PG         |      | PG         |  | PG         |  | PG         |  | Natural    |  | PG         |  |
|                                             |          |       | Screening Values |        |            |       |            |      |            |      |            |      |            |      |            |      |            |  |            |  |            |  |            |  |            |  |
| Determinand                                 | Units    | LOD   | Ref              | Source | N          | N-GAC |            |      |            |      |            |      |            |      |            |      |            |  |            |  |            |  |            |  |            |  |
| Miscellaneous                               |          |       |                  |        |            |       |            |      |            |      |            |      |            |      |            |      |            |  |            |  |            |  |            |  |            |  |
| Acid Neutralisation Capacity                | mg/kg    | 0.1   |                  |        |            |       |            |      |            |      |            |      |            |      |            |      |            |  |            |  |            |  |            |  |            |  |
| Loss On Ignition (550°C)                    | %        | 0.01  |                  |        |            |       |            |      |            |      |            |      |            |      |            |      |            |  |            |  |            |  |            |  |            |  |
| pH                                          | pH units | 0.1   | n.v.             | -      | 11         | 0     | 8.6        | 8    | 7.9        | 8.2  | 7.7        | 9.7  | 8.6        | 8.3  | 8          | 8.1  | 8.1        |  |            |  |            |  |            |  |            |  |
| Total Organic Carbon                        | %        | 0.1   | n.v.             | -      | 11         | 0     | 1.5        | 0.28 | 2.6        | 3.8  | 0.49       | 2.8  | 1.2        | 0.67 | 1.5        | 0.78 | 0.62       |  |            |  |            |  |            |  |            |  |
| Calculated Soil Organic Matter              | %        |       |                  |        | 11         | 0     | 2.59       | 0.48 | 4.48       | 6.55 | 0.84       | 4.83 | 2.07       | 1.16 | 2.59       | 1.34 | 1.07       |  |            |  |            |  |            |  |            |  |
| Metals                                      |          |       |                  |        |            |       |            |      |            |      |            |      |            |      |            |      |            |  |            |  |            |  |            |  |            |  |
| Arsenic                                     | mg/kg    | 2     | 37               | CMSL   | 11         | 0     | 13.3       | 13.3 | 9.6        | 9.7  | 11.2       | 11   | 9.8        | 8.1  | 9.6        | 8.6  | 9.4        |  |            |  |            |  |            |  |            |  |
| Cadmium                                     | mg/kg    | 0.1   | 22               | CMSL   | 11         | 0     | 0.5        | <0.1 | <0.1       | 0.6  | <0.1       | 0.5  | <0.1       | <0.1 | <0.1       | <0.1 | 0.5        |  |            |  |            |  |            |  |            |  |
| Chromium                                    | mg/kg    | 0.5   | 910              | SHL    | 11         | 0     | 25.1       | 33.8 | 19.8       | 19.4 | 29.3       | 20.5 | 20.5       | 17.9 | 18.1       | 18.8 | 21.1       |  |            |  |            |  |            |  |            |  |
| Chromium VI                                 | mg/kg    | 1     | 21               | CMSL   | 11         | 0     | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       |  |            |  |            |  |            |  |            |  |
| Copper                                      | mg/kg    | 2     | 2,400            | SHL    | 11         | 0     | 21         | 21.6 | 20         | 27.6 | 18.7       | 17.7 | 18         | 17.3 | 22.9       | 20.1 | 17.3       |  |            |  |            |  |            |  |            |  |
| Lead                                        | mg/kg    | 2     | 200              | CMSL   | 11         | 0     | 108        | 19.2 | 39.2       | 60.7 | 16.1       | 38   | 33.8       | 22.1 | 45.5       | 26.5 | 24         |  |            |  |            |  |            |  |            |  |
| Mercury                                     | mg/kg    | 1     | 40               | SHL    | 11         | 0     | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       |  |            |  |            |  |            |  |            |  |
| Nickel                                      | mg/kg    | 0.5   | 130              | SHL    | 11         | 0     | 20.8       | 23.9 | 16         | 15   | 21.1       | 22.5 | 15.8       | 13.4 | 14.3       | 13.9 | 15         |  |            |  |            |  |            |  |            |  |
| Selenium                                    | mg/kg    | 3     | 250              | SHL    | 11         | 0     | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       |  |            |  |            |  |            |  |            |  |
| Zinc                                        | mg/kg    | 2     | 3,700            | SHL    | 11         | 0     | 287        | 66.5 | 82         | 154  | 54.5       | 115  | 89.1       | 52.9 | 56.8       | 47.7 | 59.1       |  |            |  |            |  |            |  |            |  |
| Asbestos                                    |          |       |                  |        |            |       |            |      |            |      |            |      |            |      |            |      |            |  |            |  |            |  |            |  |            |  |
| Asbestos Identification                     | -        | -     | Presence         |        | 20         | 0     | N.D.       | N.D. | N.D.       | N.D. | N.D.       | N.D. | N.D.       | N.D. | N.D.       | N.D. | N.D.       |  |            |  |            |  |            |  |            |  |
| Asbestos Quantification                     | %        | 0.001 | Presence         |        |            |       |            |      |            |      |            |      |            |      |            |      |            |  |            |  |            |  |            |  |            |  |
| Polycyclic Aromatic Hydrocarbons (USEPA 16) |          |       |                  |        |            |       |            |      |            |      |            |      |            |      |            |      |            |  |            |  |            |  |            |  |            |  |
| Benzo(a)pyrene                              | mg/kg    | 0.1   | 5.0              | CMSL   | 11         | 7     | 20.9       | <0.1 | 77.8       | 75.5 | <0.1       | 32   | 10.3       | 1.3  | 17.2       | 0.4  | 7.1        |  |            |  |            |  |            |  |            |  |
| Naphthalene                                 | mg/kg    | 0.1   | 2.3              | SHL    | 11         | 0     | 0.2        | <0.1 | 1.1        | 1.1  | <0.1       | 0.5  | 0.1        | <0.1 | 0.2        | <0.1 | 0.1        |  |            |  |            |  |            |  |            |  |
| Acenaphthylene                              | mg/kg    | 0.1   | n.v.             | -      | 11         | 0     | 1.1        | <0.1 | 3.9        | 5.1  | <0.1       | 1.4  | 0.8        | 0.1  | 2.3        | 0.2  | 0.7        |  |            |  |            |  |            |  |            |  |
| Acenaphthene                                | mg/kg    | 0.1   | n.v.             | -      | 11         | 0     | 0.4        | <0.1 | 3.1        | 4.3  | <0.1       | 2.8  | 0.4        | <0.1 | 0.5        | <0.1 | 0.6        |  |            |  |            |  |            |  |            |  |
| Fluorene                                    | mg/kg    | 0.1   | n.v.             | -      | 11         | 0     | 0.3        | <0.1 | 1.7        | 3    | <0.1       | 2    | 0.3        | <0.1 | 0.4        | <0.1 | 0.3        |  |            |  |            |  |            |  |            |  |
| Phenanthrene                                | mg/kg    | 0.1   | n.v.             | -      | 11         | 0     | 6.7        | <0.1 | 70.5       | 117  | <0.1       | 40.1 | 6.7        | 0.4  | 8.9        | <0.1 | 6          |  |            |  |            |  |            |  |            |  |
| Anthracene                                  | mg/kg    | 0.1   | n.v.             | -      | 11         | 0     | 2.6        | <0.1 | 20.6       | 33.7 | <0.1       | 11.5 | 2.3        | 0.2  | 3.5        | <0.1 | 2.7        |  |            |  |            |  |            |  |            |  |
| Fluoranthene                                | mg/kg    | 0.1   | n.v.             | -      | 11         | 0     | 34.5       | <0.1 | 207        | 202  | 0.1        | 66.1 | 16.4       | 1.3  | 23.6       | 0.3  | 19.5       |  |            |  |            |  |            |  |            |  |
| Pyrene                                      | mg/kg    | 0.1   | n.v.             | -      | 11         | 0     | 35.2       | <0.1 | 168        | 166  | <0.1       | 65.8 | 15.5       | 1.2  | 22.7       | 0.4  | 16         |  |            |  |            |  |            |  |            |  |
| Benzo(a)anthracene                          | mg/kg    | 0.1   | n.v.             | -      | 11         | 0     | 20.8       | <0.1 | 85.4       | 82.9 | <0.1       | 30.1 | 9.5        | 1    | 18.5       | 0.3  | 7.2        |  |            |  |            |  |            |  |            |  |
| Chrysene                                    | mg/kg    | 0.1   | n.v.             | -      | 11         | 0     | 21.1       | <0.1 | 89.8       | 87.2 | <0.1       | 32.1 | 9.8        | 1.1  | 16         | 0.2  | 7.5        |  |            |  |            |  |            |  |            |  |
| Benzo(b)fluoranthene                        | mg/kg    | 0.1   | n.v.             | -      | 11         | 0     | 20.2       | <0.1 | 81.5       | 78.1 | <0.1       | 30.6 | 9.8        | 1.6  | 17.1       | 0.2  | 7.8        |  |            |  |            |  |            |  |            |  |
| Benzo(k)fluoranthene                        | mg/kg    | 0.1   | n.v.             | -      | 11         | 0     | 18.1       | <0.1 | 69.4       | 67.3 | <0.1       | 27.1 | 9.5        | 1.1  | 15         | 0.3  | 6.5        |  |            |  |            |  |            |  |            |  |
| Benzo(a)pyrene                              | mg/kg    | 0.1   | 5                | -      | 11         | 7     | 20.9       | <0.1 | 77.8       | 75.5 | <0.1       | 32   | 10.3       | 1.3  | 17.2       | 0.4  | 7.1        |  |            |  |            |  |            |  |            |  |
| Indeno(1,2,3-cd)pyrene                      | mg/kg    | 0.1   | n.v.             | -      | 11         | 0     | 14.7       | <0.1 | 62.6       | 57.7 | <0.1       | 20.7 | 8.1        | 1    | 11.8       | 0.3  | 5.1        |  |            |  |            |  |            |  |            |  |
| Dibenz(a,h)anthracene                       | mg/kg    | 0.1   | n.v.             | -      | 11         | 0     | 3.6        | <0.1 | 19.3       | 14.5 | <0.1       | 4.2  | 2          | 0.3  | 3.5        | 0.1  | 1.2        |  |            |  |            |  |            |  |            |  |
| Benzo(ghi)perylene                          | mg/kg    | 0.1   | n.v.             | -      | 11         | 0     | 13.7       | <0.1 | 52.4       | 60.7 | <0.1       | 22.1 | 8.7        | 1.1  | 10         | 0.4  | 4.8        |  |            |  |            |  |            |  |            |  |
| PAH (total)                                 | mg/kg    | 0.1   | -                | -      | 11         | 0     | 214        | <0.1 | 1010       | 1060 | <0.1       | 389  | 110        | 11.8 | 171        | 3.3  | 93.2       |  |            |  |            |  |            |  |            |  |
| all PAH (including Coronene GC-F)           | mg/kg    | 2     |                  |        | 0          | 0     | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       |  |            |  |            |  |            |  |            |  |
| Petroleum Hydrocarbons                      |          |       |                  |        |            |       |            |      |            |      |            |      |            |      |            |      |            |  |            |  |            |  |            |  |            |  |
| Total BTEX                                  | mg/kg    | 0.01  |                  |        | 0          | 0     | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       |  |            |  |            |  |            |  |            |  |
| Total PHC                                   | mg/kg    | 1     | n.v.             | -      | 0          | 0     | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       | <0.1 | <0.1       |  |            |  |            |  |            |  |            |  |

LP2165 STOCKPILE AREAS, Elm Grove Road, Littlehampton

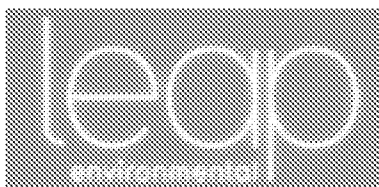
|                                             |          |       | Sample Location: |        |    | TP4         | TP6         | TP7         | TP8         | TP9         | TP10        | TP11       | TP12       |
|---------------------------------------------|----------|-------|------------------|--------|----|-------------|-------------|-------------|-------------|-------------|-------------|------------|------------|
|                                             |          |       | Depth (m):       |        |    | 1.20        | 0.50        | 1.50        | 1.50        | 1.50        | 0.80        | 0.30       | 1.50       |
|                                             |          |       | Date Sampled:    |        |    | 22/06/2020  | 22/06/2020  | 22/06/2020  | 22/06/2020  | 22/06/2020  | 22/06/2020  | 22/06/2020 | 22/06/2020 |
|                                             |          |       | Area:            |        |    | Southern SP | Southern SP | Southern SP | Southern SP | Southern SP | Southern SP | Western SP | Western SP |
|                                             |          |       | Matrix:          |        |    | MC          | MC          | MC          | MC          | MC          | MC          | MC         | MC         |
|                                             |          |       | Screening Values |        |    |             |             |             |             |             |             |            |            |
| Determinand                                 | Units    | LOD   | Real             | Source | N  | N-GAC       |             |             |             |             |             |            |            |
| Miscellaneous                               |          |       |                  |        |    |             |             |             |             |             |             |            |            |
| Acid Neutralisation Capacity                | mol/kg   | 0.1   |                  |        |    |             |             |             |             |             |             |            |            |
| Loss On Ignition (450°C)                    | %        | 0.01  |                  |        |    |             |             |             |             |             |             |            |            |
| pH                                          | pH units | 0.1   | n.x.             | -      | 9  | 0           | 8.9         | 8.7         | 8.4         | 8.1         | 8.4         | 7.8        | 7.8        |
| Total Organic Carbon                        | %        | 0.1   | n.x.             | -      | 9  | 0           | 1.2         | 1.1         | 2.2         | 1.2         | 1.5         | 2.6        | 1.2        |
| Calculated Soil Organic Matter              | %        |       |                  |        | 9  | 0           | 2.07        | 1.90        | 3.79        | 2.07        | 2.59        | 4.48       | 1.48       |
| Metals                                      |          |       |                  |        |    |             |             |             |             |             |             |            |            |
| Arsenic                                     | mg/kg    | 2     | 37               | C45L   | 9  | 0           | 11          | 126         | 9.5         | 9.1         | 11.5        | 9.4        | 10.4       |
| Cadmium                                     | mg/kg    | 0.1   | 22               | C45L   | 9  | 0           | <0.1        | <0.1        | <0.1        | <0.1        | <0.1        | <0.1       | <0.1       |
| Chromium                                    | mg/kg    | 0.5   | 910              | S4UL   | 9  | 0           | 25          | 266         | 20.9        | 21.3        | 28.1        | 19.4       | 22.9       |
| Chromium VI                                 | mg/kg    | 1     | 21               | C45L   | 9  | 0           | <0.1        | <0.1        | <0.1        | <0.1        | <0.1        | <0.1       | <0.1       |
| Copper                                      | mg/kg    | 2     | 2,400            | S4UL   | 9  | 0           | 21.6        | 23.8        | 22.6        | 22          | 25.7        | 22.4       | 19.2       |
| Lead                                        | mg/kg    | 2     | 200              | C45L   | 9  | 0           | 51.6        | 50.5        | 46.8        | 40.5        | 79.4        | 49         | 50.7       |
| Mercury                                     | mg/kg    | 1     | 40               | S4UL   | 9  | 0           | <0.1        | <0.1        | <0.1        | <0.1        | <0.1        | <0.1       | <0.1       |
| Nickel                                      | mg/kg    | 0.5   | 130              | S4UL   | 9  | 0           | 18          | 21.3        | 15.8        | 15.4        | 19.6        | 14.3       | 16.8       |
| Selenium                                    | mg/kg    | 3     | 250              | S4UL   | 9  | 0           | <1          | <1          | <1          | <1          | <1          | <1         | <1         |
| Zinc                                        | mg/kg    | 2     | 3,700            | S4UL   | 9  | 0           | 76.7        | 73.6        | 76.6        | 66.3        | 119         | 75.1       | 54.7       |
| Asbestos                                    |          |       |                  |        |    |             |             |             |             |             |             |            |            |
| Asbestos Identification                     | -        | -     | Presence         |        | 20 | 0           | N.D.        | N.D.        | N.D.        | N.D.        | N.D.        | N.D.       | N.D.       |
| Asbestos Quantification                     | %        | 0.001 | Presence         |        |    |             |             |             |             |             |             |            |            |
| Polycyclic Aromatic Hydrocarbons (USEPA 16) |          |       |                  |        |    |             |             |             |             |             |             |            |            |
| Benzo(a)pyrene                              | mg/kg    | 0.1   | 5.0              | C45L   | 9  | 1           | 0.3         | 0.3         | 0.4         | 0.3         | 27          | 0.3        | 0.1        |
| Naphthalene                                 | mg/kg    | 0.1   | 23               | S4UL   | 9  | 0           | <0.1        | <0.1        | <0.1        | <0.1        | 0.3         | <0.1       | 0.2        |
| Acenaphthylene                              | mg/kg    | 0.1   | n.x.             | -      | 9  | 0           | <0.1        | <0.1        | <0.1        | <0.1        | 0.9         | <0.1       | <0.1       |
| Acenaphthene                                | mg/kg    | 0.1   | n.x.             | -      | 9  | 0           | <0.1        | <0.1        | <0.1        | <0.1        | 2.2         | <0.1       | <0.1       |
| Fluorene                                    | mg/kg    | 0.1   | n.x.             | -      | 9  | 0           | <0.1        | <0.1        | <0.1        | <0.1        | 2.3         | <0.1       | 0.1        |
| Phenanthrene                                | mg/kg    | 0.1   | n.x.             | -      | 9  | 0           | 0.1         | 0.3         | 0.2         | 0.1         | 52.3        | 0.2        | 1.6        |
| Anthracene                                  | mg/kg    | 0.1   | n.x.             | -      | 9  | 0           | <0.1        | <0.1        | <0.1        | <0.1        | 14.8        | <0.1       | <0.1       |
| Fluoranthene                                | mg/kg    | 0.1   | n.x.             | -      | 9  | 0           | 0.4         | 0.5         | 0.6         | 0.3         | 69.1        | 0.5        | 0.3        |
| Pyrene                                      | mg/kg    | 0.1   | n.x.             | -      | 9  | 0           | 0.3         | 0.4         | 0.5         | 0.3         | 54.1        | 0.4        | 1.9        |
| Benzo(a)anthracene                          | mg/kg    | 0.1   | n.x.             | -      | 9  | 0           | 0.3         | 0.3         | 0.4         | 0.2         | 36.3        | 0.2        | 1.1        |
| Chrysene                                    | mg/kg    | 0.1   | n.x.             | -      | 9  | 0           | 0.3         | 0.4         | 0.4         | 0.2         | 35.9        | 0.3        | 1.1        |
| Benzo(b)fluoranthene                        | mg/kg    | 0.1   | n.x.             | -      | 9  | 0           | 0.2         | 0.4         | 0.3         | 0.3         | 26.9        | 0.3        | 1          |
| Benzo(k)fluoranthene                        | mg/kg    | 0.1   | n.x.             | -      | 9  | 0           | 0.2         | 0.5         | 0.4         | 0.3         | 25.9        | 0.4        | 1.3        |
| Benzo(a)pyrene                              | mg/kg    | 0.1   | 5                | -      | 9  | 1           | 0.3         | 0.3         | 0.4         | 0.3         | 27          | 0.3        | 0.9        |
| Indeno(1,2,3-cd)pyrene                      | mg/kg    | 0.1   | n.x.             | -      | 9  | 0           | 0.2         | 0.8         | 0.3         | 0.2         | 17.1        | 0.4        | 0.7        |
| Dibenz(a,h)anthracene                       | mg/kg    | 0.1   | n.x.             | -      | 9  | 0           | <0.1        | 0.1         | <0.1        | <0.1        | 5.5         | <0.1       | 0.2        |
| Benzo(ghi)perylene                          | mg/kg    | 0.1   | n.x.             | -      | 9  | 0           | 0.2         | 1           | <0.3        | <0.3        | 15.1        | <0.6       | 0.7        |
| PAH (total)                                 | mg/kg    | 0.1   | -                | -      | 9  | 0           | 2.5         | 5.3         | <3.8        | <3.8        | 386         | <3.9       | 13.8       |
| total PAH (Including Corone GC-FI)          | mg/kg    | 2     |                  |        | 2  | 0           | <1          | <1          | <1          | <1          | <1          | 14         | <1         |
| Petroleum Hydrocarbons                      |          |       |                  |        |    |             |             |             |             |             |             |            |            |
| Total BTEX                                  | mg/kg    | 0.01  |                  |        | 2  | 0           | <0.1        | <0.1        | <0.1        | <0.1        | <0.1        | <0.1       | <0.1       |
| Total PHC                                   | mg/kg    | 1     | n.x.             | -      | 2  | 0           | <0.1        | <0.1        | <0.1        | <0.1        | <0.1        | 96         | 86         |
| PCB (ICES 7 Congeners)                      |          |       |                  |        |    |             |             |             |             |             |             |            |            |
| PCB (Total of 7 Congeners)                  | mg/kg    | 0.03  |                  |        | 2  | 0           | <0.1        | <0.1        | <0.1        | <0.1        | <0.1        | <0.1       | <0.1       |

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## APPENDIX L – Preliminary Waste Classification

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|                                         |
|-----------------------------------------|
| <b>Preliminary Waste Classification</b> |
|-----------------------------------------|



## Waste Classification Report



LFWEE-EJ4J8-L2QJC

**Job name**

LP2125 SP2

**Description/Comments****Project****Site****Related Documents**

| #    | Name | Description |
|------|------|-------------|
| None |      |             |

**Waste Stream Template**

Leap Standard Classification WM3

**Classified by**

Name: **Martin Weil**  
Date: **23 Jul 2020 12:42 GMT**  
Telephone:

Company: **Leap Environmental Ltd**  
**Curtis Road**

**HazWasteOnline™ Training Record:**

| Course                                  | Date |
|-----------------------------------------|------|
| Hazardous Waste Classification          | -    |
| Advanced Hazardous Waste Classification | -    |

**Report**

Created by: Martin Weil  
Created date: 23 Jul 2020 12:42 GMT

**Job summary**

| # | Sample Name | Depth [m] | Classification Result | Hazard properties | Page |
|---|-------------|-----------|-----------------------|-------------------|------|
| 1 | SP1-S2      | -         | Non Hazardous         |                   | 2    |
| 2 | SP2-S1      | -         | Non Hazardous         |                   | 5    |
| 3 | SP3-S1      |           | Non Hazardous         |                   | 8    |

**Appendices**

|                                                         | Page |
|---------------------------------------------------------|------|
| Appendix A: Classifier defined and non CLP determinands | 11   |
| Appendix B: Rationale for selection of metal species    | 12   |
| Appendix C: Version                                     | 13   |

## Classification of sample: SP1-S2

Non Hazardous Waste  
Classified as 17 05 04  
in the List of Waste

## Sample details

Sample Name: **SP1-S2**  
Sample Depth: **- m**  
LoW Code: **17: Construction and Demolition Wastes (including excavated soil from contaminated sites)**  
Chapter: **17 05 04 (Soil and stones other than those mentioned in 17 05 03)**  
Entry:

## Hazard properties

None identified

## Determinands

Moisture content: 0% No Moisture Correction applied (MC)

| #  | Determinand                                                                                        |                                |                                  | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|    | CLP index number                                                                                   | EC Number                      | CAS Number                       |          |                   |       |              |                |       |                      |            |                |
| 1  | pH                                                                                                 |                                |                                  |          | 10.1              | pH    |              | 10.1           | pH    | 10.1 pH              |            |                |
| 2  | arsenic { arsenic trioxide }                                                                       |                                |                                  |          | 32.5              | mg/kg | 1.32         | 42.911         | mg/kg | 0.00429 %            |            |                |
|    | 033-003-00-0                                                                                       | 215-481-4                      | 1327-53-3                        |          |                   |       |              |                |       |                      |            |                |
| 3  | cadmium { cadmium sulfide }                                                                        |                                |                                  | 1        | <0.5              | mg/kg | 1.285        | <0.643         | mg/kg | <0.00005 %           |            | <LOD           |
|    | 048-010-00-4                                                                                       | 215-147-8                      | 1308-23-6                        |          |                   |       |              |                |       |                      |            |                |
| 4  | chromium { chromium(III) oxide (worst case) }                                                      |                                |                                  |          | 27.5              | mg/kg | 1.462        | 40.193         | mg/kg | 0.00402 %            |            |                |
|    |                                                                                                    | 215-180-9                      | 1308-38-9                        |          |                   |       |              |                |       |                      |            |                |
| 5  | copper { dicopper oxide; copper (I) oxide }                                                        |                                |                                  |          | 84.8              | mg/kg | 1.126        | 95.475         | mg/kg | 0.00955 %            |            |                |
|    | 028-002-00-X                                                                                       | 215-270-7                      | 1317-39-1                        |          |                   |       |              |                |       |                      |            |                |
| 6  | lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) } |                                |                                  | 1        | 31.9              | mg/kg |              | 31.9           | mg/kg | 0.00319 %            |            |                |
|    | 082-001-00-6                                                                                       |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| 7  | mercury { mercury dichloride }                                                                     |                                |                                  |          | <0.5              | mg/kg | 1.353        | <0.677         | mg/kg | <0.0000677 %         |            | <LOD           |
|    | 080-010-00-X                                                                                       | 231-288-8                      | 7487-94-7                        |          |                   |       |              |                |       |                      |            |                |
| 8  | nickel { nickel dihydroxide }                                                                      |                                |                                  |          | 48.7              | mg/kg | 1.579        | 76.922         | mg/kg | 0.00769 %            |            |                |
|    | 028-008-00-X                                                                                       | 235-008-5 [1]<br>234-348-1 [2] | 12054-48-7 [1]<br>11113-74-9 [2] |          |                   |       |              |                |       |                      |            |                |
| 9  | zinc { zinc sulphate }                                                                             |                                |                                  |          | 58.8              | mg/kg | 2.469        | 145.195        | mg/kg | 0.0145 %             |            |                |
|    | 030-008-00-9                                                                                       | 231-793-3 [1]<br>231-793-3 [2] | 7446-19-7 [1]<br>7733-02-0 [2]   |          |                   |       |              |                |       |                      |            |                |
| 10 | naphthalene                                                                                        |                                |                                  |          | 0.1               | mg/kg |              | 0.1            | mg/kg | 0.00001 %            |            |                |
|    | 001-052-00-2                                                                                       | 202-049-5                      | 91-20-3                          |          |                   |       |              |                |       |                      |            |                |
| 11 | acenaphthylene                                                                                     |                                |                                  |          | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
|    |                                                                                                    | 205-917-1                      | 208-96-8                         |          |                   |       |              |                |       |                      |            |                |
| 12 | acenaphthene                                                                                       |                                |                                  |          | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
|    |                                                                                                    | 201-469-6                      | 83-32-9                          |          |                   |       |              |                |       |                      |            |                |
| 13 | fluorene                                                                                           |                                |                                  |          | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
|    |                                                                                                    | 201-895-5                      | 86-73-7                          |          |                   |       |              |                |       |                      |            |                |
| 14 | phenanthrene                                                                                       |                                |                                  |          | 0.2               | mg/kg |              | 0.2            | mg/kg | 0.00002 %            |            |                |
|    |                                                                                                    | 201-581-5                      | 85-01-8                          |          |                   |       |              |                |       |                      |            |                |
| 15 | anthracene                                                                                         |                                |                                  |          | 0.1               | mg/kg |              | 0.1            | mg/kg | 0.00001 %            |            |                |
|    |                                                                                                    | 204-371-1                      | 120-12-7                         |          |                   |       |              |                |       |                      |            |                |

| #      | Determinand                                                                                                                                                                                |              |                                                                  | CLP Note                                                     | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------------------------------------------|--------------------------------------------------------------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|        | CLP Index number                                                                                                                                                                           | EC Number    | CAS Number                                                       |                                                              |                   |       |              |                |       |                      |            |                |
| 16     | * fluoranthene                                                                                                                                                                             | 205-912-4    | 206-44-0                                                         |                                                              | 0.2               | mg/kg |              | 0.2            | mg/kg | 0.00002 %            |            |                |
| 17     | * pyrene                                                                                                                                                                                   | 204-927-3    | 129-00-0                                                         |                                                              | 0.1               | mg/kg |              | 0.1            | mg/kg | 0.00001 %            |            |                |
| 18     | benzo[a]anthracene                                                                                                                                                                         | 601-033-00-9 | 200-280-6                                                        | 56-55-3                                                      | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
| 19     | chrysene                                                                                                                                                                                   | 601-048-00-0 | 205-923-4                                                        | 218-01-8                                                     | 0.1               | mg/kg |              | 0.1            | mg/kg | 0.00001 %            |            |                |
| 20     | benzo[b]fluoranthene                                                                                                                                                                       | 601-034-00-4 | 205-911-9                                                        | 205-98-2                                                     | 0.1               | mg/kg |              | 0.1            | mg/kg | 0.00001 %            |            |                |
| 21     | benzo[k]fluoranthene                                                                                                                                                                       | 601-036-00-5 | 205-916-8                                                        | 207-08-9                                                     | 0.1               | mg/kg |              | 0.1            | mg/kg | 0.00001 %            |            |                |
| 22     | benzo[a]pyrene; benzo[def]chrysene                                                                                                                                                         | 601-032-00-3 | 200-026-5                                                        | 50-32-8                                                      | 0.1               | mg/kg |              | 0.1            | mg/kg | 0.00001 %            |            |                |
| 23     | * indeno[123-cd]pyrene                                                                                                                                                                     | 205-893-2    | 193-38-5                                                         |                                                              | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
| 24     | dibenz[a,h]anthracene                                                                                                                                                                      | 601-041-00-2 | 200-181-8                                                        | 53-70-3                                                      | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
| 25     | * benzo[ghi]perylene                                                                                                                                                                       | 205-883-8    | 191-24-2                                                         |                                                              | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
| 26     | * confirm TPH has NOT arisen from diesel or petrol                                                                                                                                         |              |                                                                  |                                                              |                   |       |              |                |       |                      |            |                |
| 27     | * TPH (C6 to C40) petroleum group                                                                                                                                                          |              |                                                                  | TPH                                                          | 80.1              | mg/kg |              | 80.1           | mg/kg | 0.00801 %            |            |                |
| 28     | * ethylbenzene                                                                                                                                                                             | 601-023-00-4 | 202-849-4                                                        | 100-41-4                                                     | 0.01              | mg/kg |              | 0.01           | mg/kg | 0.000001 %           |            |                |
| 29     | toluene                                                                                                                                                                                    | 601-021-00-3 | 203-625-9                                                        | 108-88-3                                                     | 0.01              | mg/kg |              | 0.01           | mg/kg | 0.000001 %           |            |                |
| 30     | benzene                                                                                                                                                                                    | 601-020-00-8 | 200-753-7                                                        | 71-43-2                                                      | 0.01              | mg/kg |              | 0.01           | mg/kg | 0.000001 %           |            |                |
| 31     | xylene                                                                                                                                                                                     | 601-022-00-9 | 202-422-2 [1]<br>203-398-5 [2]<br>203-576-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] | 0.01              | mg/kg |              | 0.01           | mg/kg | 0.000001 %           |            |                |
| 32     | * cyanides { * salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } | 606-007-00-5 |                                                                  |                                                              | <1                | mg/kg | 1.884        | <1.884         | mg/kg | <0.000188 %          |            | <LOD           |
| Total: |                                                                                                                                                                                            |              |                                                                  |                                                              |                   |       |              |                |       | 0.0518 %             |            |                |

#### Key

- User supplied data
- Determinand values ignored for classification, see column 'Conc. Not Used' for reason
- \* Determinand defined or amended by HazWasteOnline (see Appendix A)
- Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD Below limit of detection
- ND Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

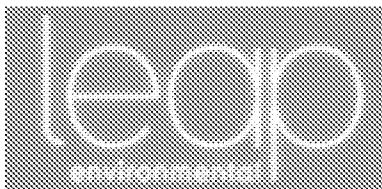
#### Supplementary Hazardous Property Information

**HP 3(I): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and <= 75°C"

Force this Hazardous property to non hazardous because NAPL or strong volatile odours not observed in the soil samples

Hazard Statements hit:

**Flam. Liq. 2; H225** "Highly flammable liquid and vapour."



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Because of determinands:

ethylbenzene: (conc.: 1.0e-06%)

toluene: (conc.: 1.0e-06%)

benzene: (conc.: 1.0e-06%)

**Flam. Liq. 3; H226 "Flammable liquid and vapour."**

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.00801%)

xylene: (conc.: 1.0e-06%)

## Classification of sample: SP2-S1

Non Hazardous Waste  
Classified as 17 05 04  
in the List of Waste

## Sample details

Sample Name:

**SP2-S1**

Sample Depth:

- m

LoW Code:

Chapter:

17: Construction and Demolition Wastes (including excavated soil from contaminated sites)

Entry:

17 05 04 (Soil and stones other than those mentioned in 17 05 03)

## Hazard properties

None identified

## Determinands

Moisture content: 0% No Moisture Correction applied (MC)

| #  | Determinand                                                                                          |                                |                                  | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|----|------------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|    | CLP index number                                                                                     | EC Number                      | CAS Number                       |          |                   |       |              |                |       |                      |            |                |
| 1  | pH                                                                                                   |                                |                                  |          | 8.6               | pH    |              | 8.6            | pH    | 8.6 pH               |            |                |
| 2  | arsenic { arsenic trioxide }                                                                         |                                |                                  |          | 9.8               | mg/kg | 1.32         | 12.939         | mg/kg | 0.00129 %            |            |                |
|    | 033-003-00-0                                                                                         | 215-481-4                      | 1327-53-3                        |          |                   |       |              |                |       |                      |            |                |
| 3  | cadmium { cadmium sulfide }                                                                          |                                |                                  | 1        | <0.5              | mg/kg | 1.285        | <0.643         | mg/kg | <0.00005 %           |            | <LOD           |
|    | 048-010-00-4                                                                                         | 215-147-8                      | 1306-23-8                        |          |                   |       |              |                |       |                      |            |                |
| 4  | chromium { * chromium(III) oxide (worst case) }                                                      |                                |                                  |          | 13                | mg/kg | 1.462        | 19             | mg/kg | 0.0019 %             |            |                |
|    |                                                                                                      | 215-160-9                      | 1308-38-8                        |          |                   |       |              |                |       |                      |            |                |
| 5  | copper { dicopper oxide; copper (I) oxide }                                                          |                                |                                  |          | 16.1              | mg/kg | 1.126        | 18.127         | mg/kg | 0.00181 %            |            |                |
|    | 029-002-00-X                                                                                         | 215-270-7                      | 1317-39-1                        |          |                   |       |              |                |       |                      |            |                |
| 6  | lead { * lead compounds with the exception of those specified elsewhere in this Annex (worst case) } |                                |                                  | 1        | 12.4              | mg/kg |              | 12.4           | mg/kg | 0.00124 %            |            |                |
|    | 062-001-00-6                                                                                         |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| 7  | mercury { mercury dichloride }                                                                       |                                |                                  |          | <0.5              | mg/kg | 1.353        | <0.677         | mg/kg | <0.0000677 %         |            | <LOD           |
|    | 060-010-00-X                                                                                         | 231-299-8                      | 7487-94-7                        |          |                   |       |              |                |       |                      |            |                |
| 8  | nickel { nickel dihydroxide }                                                                        |                                |                                  |          | 9.8               | mg/kg | 1.579        | 15.479         | mg/kg | 0.00155 %            |            |                |
|    | 028-008-00-X                                                                                         | 235-008-5 [1]<br>234-348-1 [2] | 12054-48-7 [1]<br>11113-74-9 [2] |          |                   |       |              |                |       |                      |            |                |
| 9  | zinc { zinc sulphate }                                                                               |                                |                                  |          | 39.6              | mg/kg | 2.469        | 97.784         | mg/kg | 0.00978 %            |            |                |
|    | 030-008-00-9                                                                                         | 231-793-3 [1]<br>231-793-3 [2] | 7446-19-7 [1]<br>7733-02-0 [2]   |          |                   |       |              |                |       |                      |            |                |
| 10 | naphthalene                                                                                          |                                |                                  |          | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
|    | 601-052-00-2                                                                                         | 202-049-5                      | 81-20-3                          |          |                   |       |              |                |       |                      |            |                |
| 11 | acenaphthylene                                                                                       |                                |                                  |          | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
|    |                                                                                                      | 205-917-1                      | 208-96-8                         |          |                   |       |              |                |       |                      |            |                |
| 12 | acenaphthene                                                                                         |                                |                                  |          | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
|    |                                                                                                      | 201-469-6                      | 83-32-6                          |          |                   |       |              |                |       |                      |            |                |
| 13 | fluorene                                                                                             |                                |                                  |          | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
|    |                                                                                                      | 201-695-5                      | 86-73-7                          |          |                   |       |              |                |       |                      |            |                |
| 14 | phenanthrene                                                                                         |                                |                                  |          | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
|    |                                                                                                      | 201-581-5                      | 85-01-8                          |          |                   |       |              |                |       |                      |            |                |
| 15 | anthracene                                                                                           |                                |                                  |          | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
|    |                                                                                                      | 204-371-1                      | 120-12-7                         |          |                   |       |              |                |       |                      |            |                |

| #      | Determinand                                        |              |                                                                  | CLP Note                                                     | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|--------|----------------------------------------------------|--------------|------------------------------------------------------------------|--------------------------------------------------------------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|        | CLP Index number                                   | EC Number    | CAS Number                                                       |                                                              |                   |       |              |                |       |                      |            |                |
| 16     | * fluoranthene                                     | 205-912-4    | 206-44-0                                                         |                                                              | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
| 17     | * pyrene                                           | 204-927-3    | 129-00-0                                                         |                                                              | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
| 18     | benzo[a]anthracene                                 | 601-033-00-9 | 200-280-6                                                        | 56-55-3                                                      | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
| 19     | chrysene                                           | 601-048-00-0 | 205-923-4                                                        | 218-01-9                                                     | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
| 20     | benzo[b]fluoranthene                               | 601-034-00-4 | 205-911-9                                                        | 205-99-2                                                     | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
| 21     | benzo[k]fluoranthene                               | 601-038-00-5 | 205-918-6                                                        | 207-06-9                                                     | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
| 22     | benzo[a]pyrene; benzo[def]chrysene                 | 601-032-00-3 | 200-028-5                                                        | 50-32-8                                                      | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
| 23     | * Indeno[123-cd]pyrene                             | 205-893-2    | 183-39-5                                                         |                                                              | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
| 24     | dibenz[a,h]anthracene                              | 601-041-00-2 | 200-181-8                                                        | 53-70-3                                                      | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
| 25     | * benzo[ghi]perylene                               | 205-883-8    | 181-24-2                                                         |                                                              | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
| 26     | * confirm TPH has NOT arisen from diesel or petrol |              |                                                                  |                                                              |                   |       |              |                |       |                      |            |                |
| 27     | * TPH (C6 to C40) petroleum group                  |              |                                                                  | TPH                                                          | 236               | mg/kg |              | 236            | mg/kg | 0.0236 %             |            |                |
| 28     | * ethylbenzene                                     | 601-023-00-4 | 202-849-4                                                        | 100-41-4                                                     | 0.01              | mg/kg |              | 0.01           | mg/kg | 0.000001 %           |            |                |
| 29     | toluene                                            | 601-021-00-3 | 203-625-9                                                        | 108-88-3                                                     | 0.01              | mg/kg |              | 0.01           | mg/kg | 0.000001 %           |            |                |
| 30     | benzene                                            | 601-020-00-8 | 200-753-7                                                        | 71-43-2                                                      | 0.01              | mg/kg |              | 0.01           | mg/kg | 0.000001 %           |            |                |
| 31     | xylene                                             | 601-022-00-9 | 202-422-2 [1]<br>203-396-5 [2]<br>203-578-3 [3]<br>215-535-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>106-36-3 [3]<br>1330-20-7 [4] | 0.0822            | mg/kg |              | 0.0822         | mg/kg | 0.00000822 %         |            |                |
| Total: |                                                    |              |                                                                  |                                                              |                   |       |              |                |       | 0.0415 %             |            |                |

#### Key

- User supplied data
- Determinand values ignored for classification, see column 'Conc. Not Used' for reason
- \* Determinand defined or amended by HazWasteOnline (see Appendix A)
- Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration
- <LOD Below limit of detection
- ND Not detected
- CLP: Note 1 Only the metal concentration has been used for classification

#### Supplementary Hazardous Property Information

**HP 3(I): Flammable** "flammable liquid waste; liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous property to non hazardous because NAPL or strong volatile odours not observed in the soil samples

Hazard Statements hit:

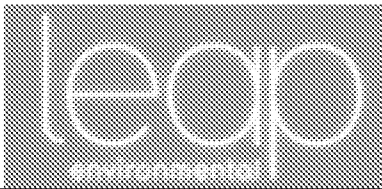
**Flam. Liq. 2; H225** "Highly flammable liquid and vapour."

Because of determinands:

ethylbenzene: (conc.: 1.0e-06%)

toluene: (conc.: 1.0e-06%)

benzene: (conc.: 1.0e-06%)



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**Flam. Liq. 3; H226** "Flammable liquid and vapour."

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.0236%)

xylene: (conc.: 8.22e-06%)

## Classification of sample: SP3-S1

Non Hazardous Waste  
Classified as 17 05 04  
in the List of Waste

## Sample details

Sample Name: **SP3-S1** LoW Code: 17: Construction and Demolition Wastes (including excavated soil from contaminated sites)  
Chapter: 17 05 04 (Soil and stones other than those mentioned in 17 05 03)  
Entry:

## Hazard properties

None identified

## Determinands

Moisture content: 0% No Moisture Correction applied (MC)

| #  | Determinand                                                                                        |                                |                                  | CLP Note | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|----|----------------------------------------------------------------------------------------------------|--------------------------------|----------------------------------|----------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|    | CLP index number                                                                                   | EC Number                      | CAS Number                       |          |                   |       |              |                |       |                      |            |                |
| 1  | pH                                                                                                 |                                |                                  |          | 10                | pH    |              | 10             | pH    | 10pH                 |            |                |
| 2  | arsenic { arsenic trioxide }                                                                       |                                |                                  |          | 36                | mg/kg | 1.32         | 47.532         | mg/kg | 0.00475 %            |            |                |
|    | 033-003-00-0                                                                                       | 215-481-4                      | 1327-53-3                        |          |                   |       |              |                |       |                      |            |                |
| 3  | cadmium { cadmium sulfide }                                                                        |                                |                                  | 1        | <0.5              | mg/kg | 1.285        | <0.643         | mg/kg | <0.00005 %           |            | <LOD           |
|    | 048-010-00-4                                                                                       | 215-147-8                      | 1308-23-6                        |          |                   |       |              |                |       |                      |            |                |
| 4  | chromium { chromium(III) oxide (worst case) }                                                      |                                |                                  |          | 38.8              | mg/kg | 1.462        | 56.708         | mg/kg | 0.00567 %            |            |                |
|    |                                                                                                    | 215-180-9                      | 1308-38-9                        |          |                   |       |              |                |       |                      |            |                |
| 5  | copper { dicopper oxide; copper (I) oxide }                                                        |                                |                                  |          | 94.9              | mg/kg | 1.126        | 106.847        | mg/kg | 0.0107 %             |            |                |
|    | 028-002-00-X                                                                                       | 215-270-7                      | 1317-39-1                        |          |                   |       |              |                |       |                      |            |                |
| 6  | lead { lead compounds with the exception of those specified elsewhere in this Annex (worst case) } |                                |                                  | 1        | 42.3              | mg/kg |              | 42.3           | mg/kg | 0.00423 %            |            |                |
|    | 082-001-00-6                                                                                       |                                |                                  |          |                   |       |              |                |       |                      |            |                |
| 7  | mercury { mercury dichloride }                                                                     |                                |                                  |          | <0.5              | mg/kg | 1.353        | <0.677         | mg/kg | <0.0000677 %         |            | <LOD           |
|    | 080-010-00-X                                                                                       | 231-288-8                      | 7487-94-7                        |          |                   |       |              |                |       |                      |            |                |
| 8  | nickel { nickel dihydroxide }                                                                      |                                |                                  |          | 67.6              | mg/kg | 1.579        | 106.774        | mg/kg | 0.0107 %             |            |                |
|    | 028-008-00-X                                                                                       | 235-008-5 [1]<br>234-348-1 [2] | 12054-48-7 [1]<br>11113-74-9 [2] |          |                   |       |              |                |       |                      |            |                |
| 9  | zinc { zinc sulphate }                                                                             |                                |                                  |          | 105               | mg/kg | 2.469        | 259.276        | mg/kg | 0.0259 %             |            |                |
|    | 030-008-00-9                                                                                       | 231-793-3 [1]<br>231-793-3 [2] | 7446-19-7 [1]<br>7733-02-0 [2]   |          |                   |       |              |                |       |                      |            |                |
| 10 | naphthalene                                                                                        |                                |                                  |          | 0.6               | mg/kg |              | 0.6            | mg/kg | 0.00006 %            |            |                |
|    | 001-052-00-2                                                                                       | 202-049-5                      | 91-20-3                          |          |                   |       |              |                |       |                      |            |                |
| 11 | acenaphthylene                                                                                     |                                |                                  |          | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
|    |                                                                                                    | 205-917-1                      | 208-96-8                         |          |                   |       |              |                |       |                      |            |                |
| 12 | acenaphthene                                                                                       |                                |                                  |          | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
|    |                                                                                                    | 201-469-6                      | 83-32-9                          |          |                   |       |              |                |       |                      |            |                |
| 13 | fluorene                                                                                           |                                |                                  |          | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
|    |                                                                                                    | 201-895-5                      | 86-73-7                          |          |                   |       |              |                |       |                      |            |                |
| 14 | phenanthrene                                                                                       |                                |                                  |          | 0.4               | mg/kg |              | 0.4            | mg/kg | 0.00004 %            |            |                |
|    |                                                                                                    | 201-581-5                      | 85-01-8                          |          |                   |       |              |                |       |                      |            |                |
| 15 | anthracene                                                                                         |                                |                                  |          | <0.1              | mg/kg |              | <0.1           | mg/kg | <0.00001 %           |            | <LOD           |
|    |                                                                                                    | 204-371-1                      | 120-12-7                         |          |                   |       |              |                |       |                      |            |                |

| #      | Determinand                                                                                                                                                                                |              |                                                                  | CLP Note                                                     | User entered data |       | Conv. Factor | Compound conc. |       | Classification value | MC Applied | Conc. Not Used |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------------------------------------------------------|--------------------------------------------------------------|-------------------|-------|--------------|----------------|-------|----------------------|------------|----------------|
|        | CLP Index number                                                                                                                                                                           | EC Number    | CAS Number                                                       |                                                              |                   |       |              |                |       |                      |            |                |
| 16     | * fluoranthene                                                                                                                                                                             | 205-912-4    | 206-44-0                                                         |                                                              | 0.6               | mg/kg |              | 0.6            | mg/kg | 0.00006 %            |            |                |
| 17     | * pyrene                                                                                                                                                                                   | 204-927-3    | 129-00-0                                                         |                                                              | 0.5               | mg/kg |              | 0.5            | mg/kg | 0.00005 %            |            |                |
| 18     | benzo[a]anthracene                                                                                                                                                                         | 601-033-00-9 | 200-280-6                                                        | 56-55-3                                                      | 0.3               | mg/kg |              | 0.3            | mg/kg | 0.00003 %            |            |                |
| 19     | chrysene                                                                                                                                                                                   | 601-048-00-0 | 205-923-4                                                        | 218-01-8                                                     | 0.4               | mg/kg |              | 0.4            | mg/kg | 0.00004 %            |            |                |
| 20     | benzo[b]fluoranthene                                                                                                                                                                       | 601-034-00-4 | 205-911-9                                                        | 205-98-2                                                     | 0.5               | mg/kg |              | 0.5            | mg/kg | 0.00005 %            |            |                |
| 21     | benzo[k]fluoranthene                                                                                                                                                                       | 601-036-00-5 | 205-916-8                                                        | 207-08-9                                                     | 0.3               | mg/kg |              | 0.3            | mg/kg | 0.00003 %            |            |                |
| 22     | benzo[a]pyrene; benzo[def]chrysene                                                                                                                                                         | 601-032-00-3 | 200-026-5                                                        | 50-32-8                                                      | 0.4               | mg/kg |              | 0.4            | mg/kg | 0.00004 %            |            |                |
| 23     | * indeno[123-cd]pyrene                                                                                                                                                                     | 205-893-2    | 193-38-5                                                         |                                                              | 0.3               | mg/kg |              | 0.3            | mg/kg | 0.00003 %            |            |                |
| 24     | dibenz[a,h]anthracene                                                                                                                                                                      | 601-041-00-2 | 200-181-8                                                        | 53-70-3                                                      | 0.2               | mg/kg |              | 0.2            | mg/kg | 0.00002 %            |            |                |
| 25     | * benzo[ghi]perylene                                                                                                                                                                       | 205-883-8    | 191-24-2                                                         |                                                              | 0.4               | mg/kg |              | 0.4            | mg/kg | 0.00004 %            |            |                |
| 26     | * TPH (C6 to C40) petroleum group                                                                                                                                                          |              | TPH                                                              |                                                              | 8.8               | mg/kg |              | 8.8            | mg/kg | 0.00088 %            |            |                |
| 27     | * ethylbenzene                                                                                                                                                                             | 601-023-00-4 | 202-649-4                                                        | 100-41-4                                                     | 0.01              | mg/kg |              | 0.01           | mg/kg | 0.000001 %           |            |                |
| 28     | toluene                                                                                                                                                                                    | 601-021-00-3 | 203-625-9                                                        | 108-88-3                                                     | 0.01              | mg/kg |              | 0.01           | mg/kg | 0.000001 %           |            |                |
| 29     | benzene                                                                                                                                                                                    | 601-020-00-8 | 200-763-7                                                        | 71-43-2                                                      | 0.01              | mg/kg |              | 0.01           | mg/kg | 0.000001 %           |            |                |
| 30     | xylene                                                                                                                                                                                     | 601-022-00-9 | 202-422-2 [1]<br>203-396-5 [2]<br>203-576-3 [3]<br>215-595-7 [4] | 95-47-6 [1]<br>106-42-3 [2]<br>108-38-3 [3]<br>1330-20-7 [4] | 0.01              | mg/kg |              | 0.01           | mg/kg | 0.000001 %           |            |                |
| 31     | * cyanides { * salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex } | 606-007-00-5 |                                                                  |                                                              | <1                | mg/kg | 1.884        | <1.884         | mg/kg | <0.000188 %          |            | <LOD           |
| Total: |                                                                                                                                                                                            |              |                                                                  |                                                              |                   |       |              |                |       | 0.0637 %             |            |                |

#### Key

|             |                                                                                                                                 |
|-------------|---------------------------------------------------------------------------------------------------------------------------------|
|             | User supplied data                                                                                                              |
|             | Determinand values ignored for classification, see column 'Conc. Not Used' for reason                                           |
| *           | Determinand defined or amended by HazWasteOnline (see Appendix A)                                                               |
| ⚠           | Speciated Determinand - Unless the Determinand is Note 1, the Conversion Factor is used to calculate the compound concentration |
| <LOD        | Below limit of detection                                                                                                        |
| ND          | Not detected                                                                                                                    |
| CLP: Note 1 | Only the metal concentration has been used for classification                                                                   |

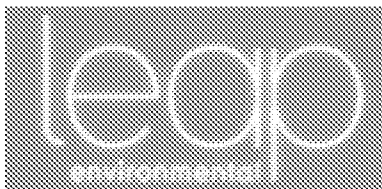
#### Supplementary Hazardous Property Information

**HP 3(i): Flammable** "flammable liquid waste: liquid waste having a flash point below 60°C or waste gas oil, diesel and light heating oils having a flash point > 55°C and ≤ 75°C"

Force this Hazardous property to non hazardous because NAPL or strong volatile odours not observed in the soil samples

Hazard Statements hit:

**Flam. Liq. 2; H225** "Highly flammable liquid and vapour."



---

Because of determinands:

ethylbenzene: (conc.: 1.0e-06%)

toluene: (conc.: 1.0e-06%)

benzene: (conc.: 1.0e-06%)

**Flam. Liq. 3; H226 "Flammable liquid and vapour."**

Because of determinands:

TPH (C6 to C40) petroleum group: (conc.: 0.00088%)

xylene: (conc.: 1.0e-06%)

## Appendix A: Classifier defined and non CLP determinands

### \* pH (CAS Number: PH)

Description/Comments: Appendix C4  
Data source: WM3 1st Edition 2015  
Data source date: 25 May 2015  
Hazard Statements: None.

### \* chromium(III) oxide (worst case) (EC Number: 215-160-9, CAS Number: 1308-38-9)

Conversion factor: 1.462  
Description/Comments: Data from C&L Inventory Database  
Data source: <https://echa.europa.eu/information-on-chemicals/cl-inventory-database/-/discli/details/33806>  
Data source date: 17 Jul 2015  
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Repr. 1B H360FD , Skin Sens. 1 H317 , Resp. Sens. 1 H334 , Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 4 H302 , Acute Tox. 4 H332

### \* lead compounds with the exception of those specified elsewhere in this Annex (worst case)

CLP index number: 082-001-00-6  
Description/Comments: Worst Case: IARC considers lead compounds Group 2A; Probably carcinogenic to humans; Lead REACH Consortium, following CLP protocols, considers lead compounds from smelting industries, flue dust and similar to be Carcinogenic category 1A  
Data source: Regulation 1272/2008/EC - Classification, labelling and packaging of substances and mixtures. (CLP)  
Additional Hazard Statement(s): Carc. 1A H350  
Reason for additional Hazards Statement(s):  
03 Jun 2015 - Carc. 1A H350 hazard statement sourced from: IARC Group 2A (Sup 7, 87) 2006; Lead REACH Consortium [www.reach-lead.eu/substanceinformation.html](http://www.reach-lead.eu/substanceinformation.html) (worst case lead compounds). Review date 29/09/2015

### \* acenaphthylene (EC Number: 205-917-1, CAS Number: 208-96-8)

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 17 Jul 2015  
Hazard Statements: Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 1 H310 , Acute Tox. 1 H330 , Acute Tox. 4 H302

### \* acenaphthene (EC Number: 201-469-6, CAS Number: 83-32-9)

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 17 Jul 2015  
Hazard Statements: Aquatic Chronic 2 H411 , Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319

### \* fluorene (EC Number: 201-695-5, CAS Number: 86-73-7)

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 06 Aug 2015  
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400

### \* phenanthrene (EC Number: 201-581-5, CAS Number: 85-01-8)

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 06 Aug 2015  
Hazard Statements: Skin Irrit. 2 H315 , Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Skin Sens. 1 H317 , Carc. 2 H351 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Acute Tox. 4 H302

### \* anthracene (EC Number: 204-371-1, CAS Number: 120-12-7)

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 17 Jul 2015  
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Skin Sens. 1 H317 , Skin Irrit. 2 H315 , STOT SE 3 H335 , Eye Irrit. 2 H319

### \* fluoranthene (EC Number: 205-912-4, CAS Number: 206-44-0)

Description/Comments: Data from C&L Inventory Database  
Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>  
Data source date: 21 Aug 2015  
Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , Acute Tox. 4 H302

✧ **pyrene** (EC Number: 204-927-3, CAS Number: 129-00-0)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 2014

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 21 Aug 2015

Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400 , STOT SE 3 H335 , Eye Irrit. 2 H319 , Skin Irrit. 2 H315

✧ **Indeno[123-cd]pyrene** (EC Number: 205-893-2, CAS Number: 193-39-5)

Description/Comments: Data from C&L Inventory Database

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 06 Aug 2015

Hazard Statements: Carc. 2 H351

✧ **benzo[ghi]perylene** (EC Number: 205-883-8, CAS Number: 191-24-2)

Description/Comments: Data from C&L Inventory Database; SDS Sigma Aldrich 28/02/2015

Data source: <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>

Data source date: 23 Jul 2015

Hazard Statements: Aquatic Chronic 1 H410 , Aquatic Acute 1 H400

✧ **TPH (C6 to C40) petroleum group** (CAS Number: TPH)

Description/Comments: Hazard statements taken from WM3 1st Edition 2015; Risk phrases: WM2 3rd Edition 2013

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: Aquatic Chronic 2 H411 , Repr. 2 H361d , Carc. 1B H350 , Muta. 1B H340 , STOT RE 2 H373 , Asp. Tox. 1 H304 , Flam. Liq. 3 H226

✧ **ethylbenzene** (EC Number: 202-849-4, CAS Number: 100-41-4)

CLP index number: 601-023-00-4

Description/Comments:

Data source: Commission Regulation (EU) No 605/2014 – 6th Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP6)

Additional Hazard Statement(s): Carc. 2 H351

Reason for additional Hazards Statement(s):

03 Jun 2015 - Carc. 2 H351 hazard statement sourced from: IARC Group 2B (77) 2000

✧ **salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex**

CLP index number: 006-007-00-5

Description/Comments: Conversion factor based on a worst case compound: sodium cyanide

Data source: Commission Regulation (EC) No 790/2009 - 1st Adaptation to Technical Progress for Regulation (EC) No 1272/2008. (ATP1)

Additional Hazard Statement(s): EUH032 >= 0.2 %

Reason for additional Hazards Statement(s):

14 Dec 2015 - EUH032 >= 0.2 % hazard statement sourced from: WM3, Table C12.2

✧ **confirm TPH has NOT arisen from diesel or petrol**

Description/Comments: Chapter 3, section 4b requires a positive confirmation for benzo[a]pyrene to be used as a marker in evaluating Carc. 1B; H350 (HP 7) and Muta. 1B; H340 (HP 11)

Data source: WM3 1st Edition 2015

Data source date: 25 May 2015

Hazard Statements: None.

## Appendix B: Rationale for selection of metal species

### arsenic {arsenic trioxide}

Worst case species based on risk phrases

### cadmium {cadmium sulfide}

Worst case species based on risk phrases

### chromium {chromium(III) oxide (worst case)}

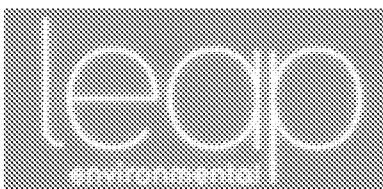
Chromium VI not detected above LoD

### copper {dicopper oxide; copper (I) oxide}

Most likely common species

### lead {lead compounds with the exception of those specified elsewhere in this Annex (worst case)}

Chromium VI not detected above LoD



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**mercury {mercury dichloride}**

Worst case species based on risk phrases

---

**nickel {nickel dihydroxide}**

Worst case species based on risk phrases

---

**zinc {zinc sulphate}**

Chromium VI not detected above LoD

**cyanides {salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex}**

Worst case species

---

**Appendix C: Version**

HazWasteOnline Classification Engine: WM3 1st Edition v1.1, May 2018

HazWasteOnline Classification Engine Version: 2020.204.4416.8648 (22 Jul 2020)

HazWasteOnline Database: 2020.204.4416.8648 (22 Jul 2020)

This classification utilises the following guidance and legislation:

**WM3 v1.1 - Waste Classification** - 1st Edition v1.1 - May 2018  
**CLP Regulation** - Regulation 1272/2008/EC of 16 December 2008  
**1st ATP** - Regulation 790/2009/EC of 10 August 2009  
**2nd ATP** - Regulation 286/2011/EC of 10 March 2011  
**3rd ATP** - Regulation 618/2012/EU of 10 July 2012  
**4th ATP** - Regulation 487/2013/EU of 8 May 2013  
**Correction to 1st ATP** - Regulation 758/2013/EU of 7 August 2013  
**5th ATP** - Regulation 944/2013/EU of 2 October 2013  
**6th ATP** - Regulation 605/2014/EU of 5 June 2014  
**WFD Annex III replacement** - Regulation 1357/2014/EU of 18 December 2014  
**Revised List of Wastes 2014** - Decision 2014/955/EU of 18 December 2014  
**7th ATP** - Regulation 2015/1221/EU of 24 July 2015  
**8th ATP** - Regulation (EU) 2016/918 of 19 May 2016  
**9th ATP** - Regulation (EU) 2016/1179 of 19 July 2016  
**10th ATP** - Regulation (EU) 2017/776 of 4 May 2017  
**HP14 amendment** - Regulation (EU) 2017/997 of 8 June 2017  
**13th ATP** - Regulation (EU) 2018/1480 of 4 October 2018  
**14th ATP** - Regulation (EU) 2020/217 of 4 October 2019  
**POPs Regulation 2004** - Regulation 850/2004/EC of 29 April 2004  
**1st ATP to POPs Regulation** - Regulation 756/2010/EU of 24 August 2010  
**2nd ATP to POPs Regulation** - Regulation 757/2010/EU of 24 August 2010

