Innovation Park Medway

Geoenvironmental and Geotechnical Desk Study

For:

Project Number:
12841

September 2018

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## EXECUTIVE SUMMARY

### SITE LOCATION

The study site comprises two discrete areas, situated in the north west (Area 1) and south (Area 2) sectors of Rochester Airport. The airport is situated on the south west extend of the Chatham/Rochester urban area; and on the east side of the M2 motorway. The A229 (Maidstone Road) runs along the east boundary of the airport, with an industrial estate and residential areas to the north.

### ENVIRONMENTAL SETTING

Geological maps indicate the site to be underlain by superficial deposits of the Clay with Flints Formation and bedrock geology of the Seaford Chalk Formation. The environmental sensitivity of the site is considered to be **High** based on the following classifications:

- **Hydrogeology:** **High** – The underlying chalk formations are designated Principal Aquifers and the site lies within a Source Protection Zone 2.
- **Hydrology:** **Low-Moderate** – No surface water features were identified during a site walkover; however some drainage channels are understood to be present which are assumed to ultimately discharge to the River Medway, situated approximately 2.5km to the north west of Area 1.

### HISTORY AND CURRENT USE

Area 1 is generally flat, comprising part of the grassed runway to the airport as well as four industrial units with associated car parking. The historic use of Area 1 has been similar to its current use and is closely associated with the past history of the airport, namely, the development of Short Brother Ltd aircraft manufacturing, as well as electrical component manufacture (Marconi and GEC) in the 1930’s. Area 1 is to be developed with a mixture of open park space/soft landscaping and commercial units in two clusters: The Runway Park (to north of Area 1) and Orchard Cluster (to south).

Area 2 is an “L” shaped area of land situated to the south of the current airfield. The eastern part of this site comprises concrete and tarmac hard standing, as well as former building areas (understood to have previously included hangars), split over two levels, with a small building and concrete structures still present in some areas. The western part of the site has been used as a caravan park since late 1970’s and an “Electrical Engineering” building appeared on the eastern part of the site in the 1930’s, to be demolished before the 2003. Development proposals for Area 2 are currently unknown and anticipated to include development of car parking spaces and potential multi-storey cark park.

The proposed developments are considered to represent a **Low-Moderate** sensitivity end use.

### GEOTECHNICAL HAZARDS

Based on a review of available information the following risks and considerations are adjudged in relation to potential geotechnical hazards:

- Made Ground and Obstructions;
- Compressible Ground;
- Shrinking and Swelling Clay;
- Services;
- Aggressive Ground Conditions;
- Dissolution Features; and,
- Chalk Mining.

### CONTAMINATION ISSUES

Based on the history of the area there is considered to be significant potential for contamination and other ground based risks to be present beneath some of the study area. The perceived potential risks associated with these are summarised below:

- **End Users:** A **MODERATE** risk is adjudged based on the significant potential for contamination to be present; however the proposed redevelopment of the two study areas for commercial purposes is considered to represent moderate end user sensitivity.
- **Groundwater:** A **VERY HIGH** risk has been identified. This is driven by the presence of a Principal Aquifer beneath the site, situated within a Source Protection Zone 2; and the potential for significant contamination to be present beneath the site derived from historic industrial uses.
- **Surface Water:** A **HIGH** potential risk is adjudged. A surface water feature is present on the site; while this is understood to represent a drainage feature, the overall hydrological sensitivity may be higher given the potential for hydraulic communication between surface and groundwater.
### Ground Gases and Vapours:
A **LOW-MODERATE** risk has been identified. No significant potential ground gas sources have been identified at the site; however, the potential for volatile contaminants and contaminants which may degrade and generate ground gases to be present cannot be discounted.

### Services:
A **MODERATE-HIGH** risk is adjudged, based on the identified potential for hydrocarbons to be present beneath the site.

### Groundworks:
A **MODERATE** risk has been identified based on the assumption that, while basic health and safety provisions may be in place, the potential for significant contamination (including asbestos) which could require more developed risk mitigation measures cannot be discounted.

### Unexploded Ordnance:
A **HIGH** risk is adjudged. Zetica bomb risk mapping indicates the majority of the site to be situated within a high risk area and available records state that the airport experienced a heavy bombing raid during World War II.

### RECOMMENDATIONS
A ground investigation should be designed by a competent person, implemented in accordance with BS 10175:2011+A2:2017 and BS 5930+A3:2015 and reported in accordance with current technical guidance. This should provide information on the general ground conditions and also target identified potential pollutant linkages. In addition, it should consider potential geotechnical hazards in accordance with the above BS guidance and Eurocode 7 to provide information for desiccation assessment, buried concrete classification and the design of foundations, floor slabs, external areas, excavations and drainage. Issues such as soil reuse and waste classification should also be considered.

Land quality assessment is an iterative process and likely to be a condition of planning consent for the redevelopment. It is recommended that this report is submitted to the Local Authority as part of the Planning Process.

A detailed assessment of the potential risk associated with UXOs is recommended prior to ground investigation as records indicate the site is known to have been subject to significant bombing during World War II.

Whilst not identified during the site walkover, it is recommended that a specialist undertakes a survey for invasive species.
1.0 INTRODUCTION

1.1. Appointment and Scope

1.1.1. This report has been produced by Campbell Reith Hill LLP (CampbellReith) on behalf of Medway Council (the Client) to summarise environmental and geotechnical information relating to Innovation Park Medway, Rochester Airport, Kent (hereafter referred to as the site). The references and limitations associated with this report follow the main text.

1.1.2. Innovation Park Medway comprises two discrete parcels of land, situated in the south and north-western sectors of Rochester Airport. Figures showing the location of these are presented in Appendix A.

1.1.3. The report has been produced in general accordance with the procedures for ground investigation, interpretation and reporting set out in DEFRA Contaminated Land Report (CLR) 11, BS 5930:2015, BS 10175:2011 (+A2:2017) and BS EN 1997 (Eurocode 7). The objective of the report is to collate and interpret Phase 1 Desk Study information including:

a) A conceptual model for the site ground conditions (soil, water and gas);

b) A generic quantitative risk assessment (human health, controlled waters and gas);

c) Outline recommendations for land contamination issues;

d) A geotechnical evaluation; and,

e) Geotechnical design recommendations.

1.1.4. The contamination appraisal is intended to identify remedial requirements necessary to permit the redevelopment of the site for commercial purposes, with associated areas of soft landscaping and car parking.

1.1.5. This assessment considers the objectives of the National Planning Policy Framework which requires information to demonstrate that a site is suitable for its new use (taking account of ground conditions and land instability) and not capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990 (after remediation). The NPPF requires adequate site investigation information, prepared by a competent person.

1.1.6. It should be recognised that further appraisals, investigations, specification and validation may be required to accord with the recommendations stated herein. It is noted that these appraisals do not consider wider development issues, with cost implications, such as waste classification.

1.1.7. The geotechnical appraisal has been carried out in accordance with Eurocode 7.

1.1.8. The report is based on a review of readily available information as referenced and a site visit undertaken by a representative of CampbellReith on 14th August 2018. The desk study information is presented in Appendix B. Photographs taken during the site visit are presented in Appendix C.
2.0 SITE DESCRIPTION

2.1 Site Location

2.1.1. The study site comprises two discrete areas, situated in the north west (Area 1) and southern (Area 2) sectors of Rochester Airport.

2.1.2. The airport is situated on the south-western edge of the Chatham/Rochester urban area and on the eastern side of the M2 motorway. The A229 (Maidstone Road) runs along the eastern boundary of the airport, with an industrial estate and residential areas present to the north.

2.1.3. Area 1 is approximately 14.8Ha in size and centred on National Grid reference 164727E, 574332N. Area 2 occupies approximately 3.3Ha and is centred on 163753E, 574614N.

2.1.4. A plan showing the location and extents of the areas is presented as Figure 2. Site photographs are provided in Appendix C, with photograph locations presented as Figure 5.

2.2 Site Layout

Area 1

2.2.1. Area 1 is approximately triangular in shape and is predominantly an area of grassed airfield, but also includes a part of Rochester Airport Industrial Estate, comprising approximately four commercial units and associated parking areas.

2.2.2. The area can be accessed via Maidstone Road and Laker Road in the east and Marconi Way in the northeast.

Based on satellite imagery, the area appears relatively flat and is recorded to be approximately 118.0-120.0m above ordnance datum (AOD), increasing in height from north west to south east.

Area 2

2.2.3. An annotated plan showing key features identified within and around Area 2 is presented as Figure 3.

2.2.4. Area 2 is approximately ‘L’ shaped and comprises a caravan storage site with associated buildings and a residential dwelling in the west sector; and areas of hardstanding, car parking, built up areas of Made Ground, former building footprints and concrete structures in the east.

2.2.5. The area can be accessed via Rochester Road (for the caravan site) in the west; and from Maidstone Road (for the remainder) in the east. The concrete car parking area situated in the east of Area 2 may also be accessed via the car parking associated with the current Medway Innovation Centre offices, situated nearby to the north.

2.2.6. During the site walkover it was noted that the east sector of Area 2 has historically comprised an area of former buildings, now demolished, with associated tarmac hardstanding situated around these, and split over two separate levels.

2.2.7. From the current Innovation Centre building area situated to the north, the area slopes up onto a relatively flat area (residing at approximately 132.0-132.5m AOD) which comprises concrete and tarmac, with some raised building floor slabs and former wall structures also apparent.
2.2.8. At the south end of the concrete car parking area a significant slope upwards of approximately 3.0m in height is present, with a raised platform of 135.0-136.0m AOD completing the remainder of the south east sector.

2.2.9. This raised platform appears to be effected by a combination of raised former building platforms as well as a volume of placed Made Ground comprising a significant proportion of brick. A cross-section of the above is presented alongside Figure 3.

2.2.10. In the south east corner of the concrete car parking area, a two storey building associated with the now demolished larger structures in this area remains. This is understood to include an electricity sub-station; with an associated external staircase illustrating the former split building level. Concrete structures associated with former buildings are also still present nearby to the west. These features are visible in Photographs 3-5 (inclusive) presented in Appendix C.

2.2.11. The caravan storage area in the west sector of Area 2 generally resides at 137.0-138.0m AOD, however slopes of up to 3.0m in height are present around the periphery of this facility, generally occupied by trees and dense vegetation.

2.2.12. The remainder of the caravan park area predominantly comprises tarmac access roads, former camp site buildings, and a residential property. An area used for burning waste was also noted in the north east corner of the property, whilst a sceptic tank serving the residential dwelling is also present nearby to the west of this structure.

2.3. **Invasive Plant Species**

2.3.1. The potential presence of invasive plant species, such as Japanese Knotweed, has not been assessed and it is recommended that an appropriately qualified specialist carries out a survey.

2.4. **Surrounding Land Use**

2.4.1. To the west, north-west and north of Area 1 lies the main portion of Rochester Airport Industrial Estate, recreational / sports grounds and further afield, residential land uses. To the north of Area 2 lies Rochester Airport and associated buildings and runways.

2.4.2. East and south east of Area 1 lie runways associated with Rochester Airport, followed by commercial units to the east and southeast and residential developments and open fields to the east and northeast. East of Area 2 lies residential properties and a superstore.

2.4.3. South of Area 1 lie runways associated with Rochester Airport, with residential land uses and a covered reservoir present south of Area 2.

2.4.4. West of Area 1 lies a strip of commercial units followed by Rochester Road, M2 and open greenfields / woodland. The same road networks are present west of Area 2, alongside a go-kart circuit and additional woodland.

2.5. **Redevelopment Proposal**

2.5.1. The site is to be developed with a mixture of commercial units, associated car parking, and open park space/soft landscaping; considered to represent a **Low-Moderate** sensitivity end use.
3.0 ENVIRONMENTAL SETTING

3.1. Geology

3.1.1. The British Geological Survey (BGS) geology viewer [1] of the area shows the bedrock of the site to be the Seaford Chalk Formation, described as a firm, white chalk with nodular and tabular flint seams. Hard lithified strata and thin marls are known to be present within the lower beds of the formation. Flint nodules are noted to be large to very large in size. Superficial deposits of the Clay with Flints Formation are recorded to overlay the Chalk, described broadly as unbedded and heterogeneous orange to brown and red to brown sandy Clays.

3.1.2. Nearby boreholes, accessed through the online BGS borehole archive [2], indicate a layer of turf over topsoil up to 0.1m bgl, underlain by Made Ground up to 0.45-0.60m bgl. Variable Clay deposits (Clay with Flints Formation) are recorded beneath the Made Ground up to 2.20m bgl, in turn underlain by variable Chalks (Seaford Chalk Formation) encountered up to hole completion (4.6m bgl).

3.2. Geological Hazards

3.2.1. The Groundsure Report [3] indicates a ‘Negligible’ to ‘Low’ Hazard Rating for the following natural ground hazards: shrink-swell clays, landslides, compressible deposits, collapsible deposits and running sands on site. However, the Hazard Rating for ground dissolution of soluble rocks is indicated to be ‘High’. Further, due to the recorded presence of Clay deposits (Superficial Clay with Flints) on site, and likely Made Ground associated with historic and present developments, the Hazard Rating for shrink-swell clays and compressible ground has been modified to Moderate.

3.2.2. Both site areas are recorded in the Groundsure Report [3] to contain natural cavities. Four solution pipes are recorded in the north west of Area 1 and two solution pipes are recorded in the central part of Area 2.

3.2.3. The site is located within chalk mining area [3]. An associated chalk cavity has been recorded 296m west of the site. The available report suggests that “non-coal mining” is ‘Unlikely’ to have been carried out on site. However, a suspected chalk mining feature has been identified from historic maps approximately 184m north of Area 2. Geological conditions on site are considered suitable for mineral extraction and therefore, the potential for further unrecorded extraction features cannot be discounted.

3.2.4. The Coal Authority UK Map [4] does not include the site within a coal mining reporting area and no brine affected areas have been identified within 1km of the site.

3.3. Seismicity

The national forward to BS EN 1998-1:2004+A1:2013 ‘Eurocode 8: Design of Structures for Earthquake Resistance – Part 1’ states there are no requirements in the UK to consider seismic loading, and the whole of the UK may be considered an area of very low seismicity in which the provisions of EN 1998 need not apply.
3.4. **Hydrogeology**

3.4.1. The site hydrogeology is summarised in Table 3.1 and the associated references listed at the back of the report.

**Table 3.1: Summary of Hydrogeology**

<table>
<thead>
<tr>
<th>Type</th>
<th>Distance</th>
<th>Description</th>
<th>Ref</th>
</tr>
</thead>
<tbody>
<tr>
<td>Superficial/Drift Deposits</td>
<td>On site</td>
<td>Unproductive</td>
<td>[3]</td>
</tr>
<tr>
<td>Soil/Bedrock Deposits - Seaford Chalk Formation</td>
<td>On site</td>
<td>Principal Aquifer</td>
<td>[3]</td>
</tr>
<tr>
<td>Soil Leaching Potential</td>
<td>-</td>
<td>SPZ 2 Outer Catchment (Area B)</td>
<td></td>
</tr>
<tr>
<td>Source Protection Zone</td>
<td>On site</td>
<td>SPZ 3 Total Catchment (Area B)</td>
<td>[3]</td>
</tr>
<tr>
<td>Groundwater Abstractions</td>
<td>513-514m E</td>
<td>License: 9/40/02/0236/G</td>
<td>[3]</td>
</tr>
<tr>
<td></td>
<td>697m W</td>
<td>Details: Potable Water Supply - Direct Source: Southern Region Groundwater Point: Boreholes at Snodhurst Ps</td>
<td></td>
</tr>
</tbody>
</table>

3.4.2. The site is considered to have a **High** Sensitivity with respect to hydrogeology. The sensitivity is based upon the definitions provided in NHBC R&D661, as amended to include the requirements of the Water Framework Directive and the EA's River Basin Catchment Plans.

3.5. **Hydrology**

3.5.1. The site hydrology is summarised in Table 3.2 and the associated references listed at the rear of the report.

**Table 3.2: Summary of Hydrology**

<table>
<thead>
<tr>
<th>Type</th>
<th>Distance</th>
<th>Description</th>
<th>Ref</th>
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</thead>
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<tr>
<td>Surface Water features</td>
<td>On-site</td>
<td>No surface water features were identified on site during the recent walkover; however it is understood that some drainage channels are present and these are assumed to ultimately discharge to the River Medway</td>
<td>[3]</td>
</tr>
<tr>
<td>Surface Water Abstractions</td>
<td>&lt;2km</td>
<td>None identified</td>
<td>[3]</td>
</tr>
<tr>
<td>River network</td>
<td>&lt;2km</td>
<td>None identified</td>
<td>[3]</td>
</tr>
<tr>
<td>Flooding</td>
<td>&gt;250m</td>
<td>None identified</td>
<td>[3]</td>
</tr>
</tbody>
</table>

3.5.2. The site is considered to have a **Low-Moderate** Sensitivity with respect to hydrology. The sensitivity is based upon the guidance detailed for the hydrogeological assessment above.

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3.6. **Radon**

3.6.1. The Groundsure Report [3] indicates that the site is located in an area where between 1-3% of homes are above the action level and as such a **LOW** risk is adjudged and radon protection measures are not required for development, excluding any proposed basement construction.

3.6.2. BRE 211: Radon – Guidance on Protective Measures for New Buildings (2015) notes that all basements are at increased risk of elevated levels of radon regardless of geographic location, because more walls are in contact with the ground as well as the floor, and reduced natural ventilation below ground level increases the risk of elevated radon levels. In addition, the Management of Health and Safety at Work Regulations (1999) require the assessment of health and safety risks and both the Health and Safety Executive (HSE) and Public Health England (PHE) state that this should include the measurement of radon for occupied below ground workplaces (occupied for more than 1 hour per week/52 hours of the year), irrespective of whether a site is situated in a radon affected area. This is the responsibility of the Employer.

3.6.3. As such, if the proposed development is to include construction of a basement, consideration should be given to the incorporation of radon protection measures or site specific assessment to determine whether protective measures are actually required. The form of assessment should be agreed in advance with Building Control and/or the Contaminated Land Department of the Local Planning Authority but may include passive radon monitoring during ground investigation together with a more detailed assessment of the site geology to determine the likelihood for radon-emitting strata to be present at the site.

3.7. **Sensitive Land Uses**

3.7.1. A review has been made of Designated Ecological sites. These are summarised in Table 3.3 below and presented on Figure 4.

**Table 3.3: Summary of Designated Sites**

<table>
<thead>
<tr>
<th>Type</th>
<th>Distance</th>
<th>Description</th>
<th>Ref</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sites of Special Scientific Interest (SSSI)</td>
<td>1km-2km</td>
<td>3 x SSSI have been identified within the indicated distance from the site</td>
<td></td>
</tr>
<tr>
<td>Areas of Outstanding Natural Beauty (AONB)</td>
<td>50-250m</td>
<td>1 x AONB has been identified within the indicated distance from the site</td>
<td>[3]</td>
</tr>
<tr>
<td></td>
<td>(West, beyond the M2)</td>
<td>(Kent Downs AONB)</td>
<td></td>
</tr>
<tr>
<td>Ancient Woodlands</td>
<td>50-250m</td>
<td>5 x ancient woodlands haven been identified within the indicated distance from the site (nearest is Frith/Impton Woods)</td>
<td></td>
</tr>
</tbody>
</table>
4.0 SITE HISTORY AND INDUSTRIAL SETTING

4.1. Site History

4.1.1. Information relating to the site history has been obtained by reference to the Groundsure report [3] including historical mapping and is summarised for the site and its surroundings in Tables 4.1 and 4.2.

Table 4.1: Site History

<table>
<thead>
<tr>
<th>Date</th>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>1865</td>
<td>Area 1 is formed predominantly of the woodland of Great Delce Wood in the north and Slipper's Hearne in the south, with minor areas of grassland / agricultural land in the east. Area 2 is predominantly covered by Woolmans Wood.</td>
</tr>
<tr>
<td>1895-1907</td>
<td>Woodland previously covering Area 1 no longer exists, instead, three footpaths are present. No change is observed in Area 2.</td>
</tr>
<tr>
<td>1932-1933</td>
<td>A recreational and sports ground area are seen to extend within the north-eastern corner of Area 1, with one structure present on the northeast boundary. No significant changes are present in Area 2.</td>
</tr>
<tr>
<td>1938-1939</td>
<td>Removal of recreational areas and structures and suspected development of larger commercial structures within the north-eastern corner of Area 1. Eastern strip of Area 2 developed with two rectangular structures, later seen to be “electrical engineering works”.</td>
</tr>
<tr>
<td>1961-64</td>
<td>Area 1 – Two small buildings present in north central part of the site associated with engineering ‘works’ to the north. Pond present opposite the entrance to the larger building to the north of the site (Electronic Engineering Works). Area 2 – ‘Works’ buildings remain to west of site and the remainder of the open area labelled as Rochester Airport. 1972 Revision to map of Area 2 shows extension to rear of Electrical Engineering Works and an electricity substation to the east of the site.</td>
</tr>
<tr>
<td>1973-1975</td>
<td>Development of 2 / 3 small structures and associated strip of land within the north-north-eastern part of Area 1. Suspected extensions/developments to buildings previously recorded in Area 2.</td>
</tr>
<tr>
<td>1988-1989</td>
<td>Further developments along the northern strip of Area 1, including 2/3 rectangular structures, suspected to be commercial / industrial. Development of a caravan site within the central-western parts of Area 2. Electrical engineering building and substation remains to east of Area 2.</td>
</tr>
<tr>
<td>1990-2002</td>
<td>Suspected minor developments associated with present buildings. Areas more or less in the same layout seen today.</td>
</tr>
<tr>
<td>2003 to date</td>
<td>Apparent demolition of the Electrical engineering building and substation to the east of Area 2.</td>
</tr>
</tbody>
</table>

Table 4.2: Adjacent Land History

<table>
<thead>
<tr>
<th>Date</th>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>1865</td>
<td>Surrounding area predominantly grassland / agricultural spaces and woodland. Horsted (suspected small village) including pond feature and a minor chalk pit present approximately 150-300m east / southeast of Area 1, respectively.</td>
</tr>
<tr>
<td>1895-1896</td>
<td>Further removal of woodland areas, with earthworks present approximately 150m west of Area 1. Further suspected earthworks and suspected chalk mining feature also present 100-150m north of Area 1. New Horsted developed approximately 160m north of Area 2.</td>
</tr>
<tr>
<td>1907</td>
<td>Development of reservoir south of Area 2.</td>
</tr>
</tbody>
</table>
## 4.2. Unexploded Ordnance (UXO)

### 4.2.1. A preliminary review has been made of the UXO risk presented by the site based upon CIRIA C681 ('Unexploded Ordnance (UXO) - A guide for the construction industry') and the assessment matrices presented in Tables 5.1-5.3 therein.

### 4.2.2. Zetica bomb risk mapping indicates the majority of the site to be situated within a high risk area. In addition, available records indicate that “The airport was bombed heavily during the war by a wing of Dornier 17s on August 15th 1940. Many 100lb bombs scored hits on the factory and the runways.” [6].

### 4.2.3. As such the potential for unexploded ordnance to be present beneath the site is currently considered to be **HIGH** and will require further assessment and consideration during future phases of work.

## 4.3. Tunnels and Infrastructure

### 4.3.1. In reference to the Groundsure report [3] and GISSMO [4], no tunnels, tunnel features or railway lines are recorded to exist beneath the site.

### 4.3.2. It should be noted that the above review does not constitute a formal review of all buried utilities that may be present at the site.

## 4.4. Current Industrial Setting

### 4.4.1. Table 4.3 summarises identified industrial features which may present a potential source of contamination to the site based upon the Groundsure Report. The Groundsure Report should be consulted for further details. Unless otherwise stated, only those features that are within the stated review distances have been included.
## Table 4.3: Industrial Setting

<table>
<thead>
<tr>
<th>Type</th>
<th>Distance Reviewed</th>
<th>Distance from Site</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contaminated land register entries and notices</td>
<td>&lt;500m</td>
<td>N/A</td>
<td>Not present</td>
</tr>
<tr>
<td>Landfills</td>
<td>&lt;250m</td>
<td>N/A</td>
<td>None present (note Non-operational landfill recorded 268m W of Site A - “Difficult” waste)</td>
</tr>
<tr>
<td>Waste Transfer/Treatment Stations</td>
<td>&lt;100m</td>
<td>N/A</td>
<td>Not present</td>
</tr>
<tr>
<td>Potentially Infilled Land</td>
<td>&lt;250m</td>
<td>N/A</td>
<td>Not present</td>
</tr>
<tr>
<td>Pollution Incidents</td>
<td></td>
<td></td>
<td><strong>Onsite (Area 1)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>EA recorded pollution incident. Category 3 (Minor) impact to air, land and water. Date: 12/5/2002, ref. 78204, Pollutant: not defined (“other”)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>8m W (Area 1)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>EA recorded pollution incident. Category 4 (no impact) impact to air and water. Category 3 (minor) impact to land. Date: 12/7/2001, ref. 15838, Pollutant: Oils and Fuel - Diesel</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>50m NW (Area 1)</strong></td>
</tr>
<tr>
<td>Environmental Permits</td>
<td></td>
<td></td>
<td>Not present</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>On site (Area 1)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Water Industry Referrals (potentially harmful discharges to the public sewer), Ref: AF0539, Vacuum Physics Department, Airport Works. Active</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>Part A(2) and Part B Activities and Enforcements:</strong> BAE Systems Ltd, Marconi Way, Rochester, ME1 2XX Process: Surface Cleaning, Status: Current Permit. Permit Type: Part B. No enforcements notified</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>68m SW (Area 1)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>126m E (Area 1)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Records of Category 3 or 4 Radioactive Substance Licences: Mid Kent College, Horsted, Maidstone Road, Chatham, Kent, ME5 9UQ. Disposal Of Radioactive Waste (was Rsa60 Section 6). Ref: BA4477</td>
</tr>
<tr>
<td>Discharge Consents</td>
<td></td>
<td></td>
<td><strong>47m E (Both Area 1 and 2)</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td><strong>47m E</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Address: Maidstone Road, Maidstone Road, Chatham, Kent, ME5. Effluent Type: Miscellaneous</td>
</tr>
</tbody>
</table>
## Geoenvironmental and Geotechnical Desk Study

### Table

<table>
<thead>
<tr>
<th>Type</th>
<th>Distance Reviewed</th>
<th>Distance from Site</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abstractions</td>
<td>&lt;250m</td>
<td>-</td>
<td>Not present</td>
</tr>
<tr>
<td>Fuel Stations</td>
<td>&lt;200m</td>
<td>-</td>
<td>No active stations present</td>
</tr>
<tr>
<td>Contemporary trade directory entries-active</td>
<td>&lt;100m</td>
<td>0m</td>
<td>None present on site Area 1 In the south eastern part of Area 2 is an Electricity Substation</td>
</tr>
<tr>
<td>Control of Major Accident Hazards (COMAH) Sites</td>
<td>&lt;500m</td>
<td>-</td>
<td>Not present</td>
</tr>
</tbody>
</table>

### 4.4.2. The past history of Rochester Airport site and some of the surrounding areas is characterised by military uses, such as:

- Fortifications, bunkers and anti-aircraft uses part of the defences of the Chatham and Rochester Ports (Napoleonic, later used through World Wars and into Cold War)[5]; and,

- Aircraft and component design and manufacture (site of former Shorts Aircraft Factory and Marconi/GEC electrical engineering sites [6]).

It has been common practice for militarily “sensitive sites” not to be shown on historic maps as result of government censorship of OS mapping. There is a significant possibility that some former uses of the site and surrounding areas are unrecorded in available mapping.

### 4.4.3. The following features identified in the review of information available and listed above require further consideration as part of the conceptual site model:

- Onsite current and previous use as an electrical component engineering and aeronautical manufacturing site (both Area 1 and Area 2) with associated tanks (some ASTs identified in mapping) and use and storage of potentially hazardous materials;

- Onsite previous contamination incident (EA recorded pollution incident, Category 3 (Minor) impact to air, land and water. Date: 12/5/2002, ref. 78204). The pollutant was
not defined (“other”) and some legacy may remain within below ground soil and groundwater at Area 1;

- Onsite previous electricity substation (east central part of Area 2) which may have formerly used PCBs as a coolant and may have leaked or spilt to the soils at the site;

- Offsite previous contamination incident recorded 8m W of Area 1 (Category 3 (minor) impact to land. Date: 12/7/2001, ref. 15838, Pollutant: Oils and Fuel – Diesel) was assessed to have had a minor impact on land that may encroach onto the site soils and groundwater; and,

- Offsite: Significant pollution incident 50m NW of Area 1 (National Incidents Recording System, List 1 [ref: 2171.0], 22 March 1999. A release of an unknown contaminant resulted in a “significant” impact to land and water receptors). Without other information it is possible that this may have resulted in contamination to the land and groundwater at Area 1.

4.4.4. Other features listed in the table above are not otherwise considered further. This includes a Non-operational landfill recorded 268m W of Area 1. Available records note that this contained “Difficult” waste. However, this landfill is greater than 250m from the site and it is unlikely that a migration pathway exists to transport contamination either in groundwater or ground gas to the site (nearest to Area 1). The permitted discharges to public sewer, permitted use of surface cleaning operations (current on Area 1) and non-ferrous metal process activities (Adjacent Area 1) should be controlled as part of the licence conditions and liability for contamination and clean up created by these activities would reside with the permit holders. The onsite use of Area 2 as a Caravan Park is not considered to be a significant potentially contaminative use.
5.0 PRELIMINARY CONCEPTUAL SITE MODEL & QUALITATIVE RISK ASSESSMENT

5.1. Introduction

5.1.1. Current practice for land contamination evaluation involves classification of risk for each of the identified contaminant source-pathway-receptor pollutant linkages. These are summarised below, considering the desk study information obtained. This information has been utilised to design the site investigation considering the proposed end use.

5.2. Classification of Risk

5.2.1. Risk is defined by the combination of two factors: i) the probability of an occurrence (expressed as a likelihood); and ii) the consequence of it happening (expressed as a severity). The procedure for classifying risk is summarised in Table 5.1. The categories of risk have been based upon those defined in the Guidance for the Safe Development of Housing on Land Affected by Contamination, R&D66: 2008 Volume 1 (Environment Agency, NHBC and CIEH). The categories are defined in the Environmental Risk Assessment Supporting Information section to the rear of this report, together with definitions of the classifications of probability and consequence.

Table 5.1: Classification of Risk

<table>
<thead>
<tr>
<th>Probability (Likelihood)</th>
<th>Consequence</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Severe</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
</tr>
<tr>
<td></td>
<td>Mild</td>
</tr>
<tr>
<td></td>
<td>Minor</td>
</tr>
<tr>
<td>High likelihood</td>
<td>Very high risk</td>
</tr>
<tr>
<td></td>
<td>High risk</td>
</tr>
<tr>
<td></td>
<td>Moderate risk</td>
</tr>
<tr>
<td></td>
<td>Low risk</td>
</tr>
<tr>
<td>Likely</td>
<td>High risk</td>
</tr>
<tr>
<td></td>
<td>Moderate risk</td>
</tr>
<tr>
<td></td>
<td>Moderate/low risk</td>
</tr>
<tr>
<td></td>
<td>Low risk</td>
</tr>
<tr>
<td>Low likelihood</td>
<td>Moderate risk</td>
</tr>
<tr>
<td></td>
<td>Moderate/low risk</td>
</tr>
<tr>
<td></td>
<td>Low risk</td>
</tr>
<tr>
<td></td>
<td>Very low risk</td>
</tr>
<tr>
<td>Unlikely</td>
<td>Moderate/low risk</td>
</tr>
<tr>
<td></td>
<td>Low risk</td>
</tr>
<tr>
<td></td>
<td>Very low risk</td>
</tr>
<tr>
<td></td>
<td>Very low risk</td>
</tr>
</tbody>
</table>

5.3. Potential Sources of Contamination

5.3.1. Table 5.2 summarises the potential contamination sources that have been identified on or near the site. The potential contaminant types associated with these is then given based upon a review of CLR 11, industry profiles and anecdotal information:

Table 5.2: Potential Sources of Contamination

<table>
<thead>
<tr>
<th>Feature on or near site</th>
<th>Potential Contaminant</th>
</tr>
</thead>
<tbody>
<tr>
<td>Onsite current and previous use as an electrical engineering component and aeronautical manufacturing site (both Area 1 and Area 2) with associated tanks (some ASTs identified in mapping) and use and storage of potentially hazardous materials.</td>
<td>M, H, VOC, ACM, PCB</td>
</tr>
<tr>
<td>Onsite previous contamination incident (EA recorded pollution incident, Category 3 (Minor) impact to air, land and water. Date: 12/5/2002, ref. 78204). The pollutant was not defined (“other”) and some legacy may remain within below ground soil and groundwater at Area 1.</td>
<td>H, VOC, PCB, Otherwise unknown</td>
</tr>
</tbody>
</table>
Feature on or near site | Potential Contaminant
--- | ---
Onsite previous electricity substation (east central part of **Area 2**). | PCB
Offsite previous contamination incident recorded 8m W of **Area 1** - Category 3 (minor) impact to land. | H, PAH (Diesel)
Offsite previous pollution incident 50m NW of **Area 1** (National Incidents Recording System, List 1) unknown contaminant resulted in a "significant" impact to land and water receptors. | H, VOC, PCB, Otherwise unknown

**5.4. Receptors and Exposure Pathways**

5.4.1. Potential risks have been identified based on the proposed site use (see Section 2), the receptors and potential pathways by which the receptor/s may be exposed to the contaminant source/s. These are presented in Table 5.3:

<table>
<thead>
<tr>
<th>Receptor</th>
<th>Pathway</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>End Users</strong></td>
<td>Ingestion of soil/dust</td>
<td><strong>LOW-MODERATE</strong> – intended end use includes commercial buildings with associated areas of car parking and some soft landscaping.</td>
</tr>
<tr>
<td><strong>Neighbours</strong></td>
<td></td>
<td><strong>LOW</strong> - intended end use includes commercial buildings with associated areas of car parking and some soft landscaping.</td>
</tr>
<tr>
<td><strong>Construction Workers</strong></td>
<td></td>
<td><strong>LOW-MODERATE</strong> - Uncertain nature of ground conditions and potential for contamination below site represents risk during construction to receptors. It is likely that appropriate PPE and working method will be applied to reduce this risk.</td>
</tr>
<tr>
<td><strong>End Users</strong></td>
<td>Inhalation of soil/dust (including potential asbestos fibres)</td>
<td><strong>LOW-MODERATE</strong> – intended end use includes commercial buildings with associated areas of open park/soft landscaping and car parking.</td>
</tr>
<tr>
<td><strong>Neighbours</strong></td>
<td></td>
<td><strong>LOW</strong> - intended end use includes commercial buildings with associated areas of car parking and some soft landscaping.</td>
</tr>
<tr>
<td><strong>Construction Workers</strong></td>
<td></td>
<td><strong>HIGH</strong> - Uncertain nature of ground conditions and potential for contamination below site represents risk during construction to receptors. The potential for construction workers to be exposed to asbestos should be considered a potential high risk until sufficient information and data is available to quantitatively assess this.</td>
</tr>
<tr>
<td><strong>End Users</strong></td>
<td>Dermal contact with soil/dust/water</td>
<td><strong>LOW</strong> - intended end use includes commercial buildings with associated areas of car parking and some soft landscaping.</td>
</tr>
<tr>
<td><strong>Neighbours</strong></td>
<td></td>
<td><strong>LOW</strong> - intended end use includes commercial buildings with associated areas of car parking and some soft landscaping.</td>
</tr>
<tr>
<td><strong>Construction Workers</strong></td>
<td></td>
<td><strong>LOW-MODERATE</strong> – Uncertain nature of ground conditions and potential for contamination below site represents risk during construction to receptors. It is likely that appropriate PPE and working method will be applied to reduce this risk.</td>
</tr>
<tr>
<td><strong>End Users</strong></td>
<td>Inhalation of vapour from soil/dust</td>
<td><strong>LOW-MODERATE</strong> - intended end use includes commercial buildings with associated areas of car parking and some soft landscaping.</td>
</tr>
<tr>
<td>Receptor</td>
<td>Pathway</td>
<td>Risk</td>
</tr>
<tr>
<td>------------------</td>
<td>------------------------------------------------------------------------</td>
<td>-----------------------</td>
</tr>
<tr>
<td>Neighbours</td>
<td>LOW - intended end use includes commercial buildings with associated areas of car parking and some soft landscaping.</td>
<td></td>
</tr>
<tr>
<td>Construction Workers</td>
<td>MODERATE - Uncertain nature of ground conditions and potential for contamination below site represents risk during construction to receptors. It is likely that appropriate PPE and working method will be applied to reduce this risk.</td>
<td></td>
</tr>
<tr>
<td>End Users</td>
<td>MODERATE-HIGH - intended use may include basements and potential for contamination to be present within soil or groundwater uncertain. Once characterised suitable remedial measures to remove the pathway between sources can reduce the risk to this receptor.</td>
<td></td>
</tr>
<tr>
<td>End Users</td>
<td>MODERATE-HIGH - intended use may include basements and potential for contamination to be present within soil or groundwater uncertain. It is likely that actions by site workers to ensure safe working in confined spaces will reduce risk.</td>
<td></td>
</tr>
<tr>
<td>Construction Workers</td>
<td>MODERATE - intended use may include basements and potential for contamination to be present within soil or groundwater uncertain. Once characterised suitable remedial measures to remove the pathway between sources can reduce the risk to this receptor.</td>
<td></td>
</tr>
<tr>
<td>Building</td>
<td>LOW-MODERATE - intended end use includes commercial buildings with associated areas of car parking and some soft landscaping.</td>
<td></td>
</tr>
<tr>
<td>End Users</td>
<td>LOW-MODERATE - uncertain nature of groundwater and soil contamination may include volatile component. It is likely that actions by site workers to ensure safe working in confined spaces will reduce risk.</td>
<td></td>
</tr>
<tr>
<td>Surface Waters</td>
<td>LOW - intended end use includes commercial buildings with associated areas of car parking and some soft landscaping.</td>
<td></td>
</tr>
<tr>
<td>Groundwater Aquifer</td>
<td>MODERATE - There are records of historic pollution incidents on site. The character of this potential source is unknown. Site development may mobilise or otherwise introduce a pathway allowing contamination to migrate from site.</td>
<td></td>
</tr>
<tr>
<td>Groundwater Aquifer</td>
<td>HIGH - There are records of historic pollution incidents on site. The character of this potential source is unknown. Site development may mobilise or otherwise introduce a pathway allowing contamination to groundwater (especially Area 1).</td>
<td></td>
</tr>
<tr>
<td>Groundwater Aquifer</td>
<td>HIGH - There are records of significant historic pollution incidents off-site. The character of this potential source is unknown. Site development may mobilise or otherwise introduce a pathway allowing contamination to migrate from offsite to onsite receptors.</td>
<td></td>
</tr>
<tr>
<td>End Users</td>
<td>MODERATE - There are records of historic pollution incidents on and off site. The character of these potential sources are unknown. Site development may mobilise or otherwise introduce a pathway allowing contamination to affect engineered structures.</td>
<td></td>
</tr>
<tr>
<td>Sensitive Land</td>
<td>LOW - While the source and character of contamination on site is uncertain, sensitive land uses that could be affected are</td>
<td></td>
</tr>
</tbody>
</table>
5.4.2. Based on a preliminary conceptual site model, a **HIGH** risk has been identified from potential contamination at the site.

5.4.3. Considering the past and current uses of the site, a ground investigation is required in order to appraise the potential issues of land contamination, as well as geotechnical matters.

5.4.4. Effort should be made to locate and obtain more detail about the previous on-site and offsite contamination incidents to understand the source, extent of contamination, work to remediate the incidents and to understand if there is likely to be any residual contamination. If sufficient information becomes available it may lead to a reassessment of the risk with the effect of reducing uncertainty. However, a ground investigation may still be required to validate the findings and collect site specific information.
6.0 GEOTECHNICAL CONCLUSIONS AND RECOMMENDATIONS

6.1. Summary

6.1.1. The site is expected lie upon a layer of Topsoil / Made Ground atop of the Clay with Flint Formation, underlain by the Seaford Chalk Formation. An intrusive ground investigation with geotechnical testing is required to confirm the underlying geology, groundwater regime and engineering properties of the underlying material.

6.1.2. The site is to be developed with new commercial units, soft landscaping and car parking areas.

6.1.3. The anticipated geotechnical hazards associated with the proposed developments are summarised in Table 6.1.

Table 6.1: Summary of Onsite Geotechnical Hazards

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Made Ground and Obstructions</td>
<td>Made Ground, associated with past and present developments, is likely present on site. Obstructions to excavations, such as historical foundations, may also be present within the Made Ground. Natural obstructions such as flints and marls are likely present within the strata. Obstructions are likely to conflict with proposed developments. Made Ground is not anticipated to be a suitable founding stratum.</td>
</tr>
<tr>
<td>Compressible Ground</td>
<td>Made Ground is likely to be encountered onsite, as indicated above, and is unlikely to have been laid to an engineered specification. Further soft natural ground and structureless chalks may also be present. Such strata may exhibit large total and differential settlements under relatively light loads such as that imparted by pavements or low rise residential buildings. Ground improvement or bespoke / abnormal foundation solutions may therefore be required.</td>
</tr>
<tr>
<td>Shrinking and Swelling Clay</td>
<td>The Clay with Flints Formation may exhibit large volume change potential. Foundations within materials of large volume change potential should be designed to relevant guidance. The designer should account for this at an early stage particularly where structures are in proximity to existing/proposed trees.</td>
</tr>
<tr>
<td>Services</td>
<td>The Site is likely underlain by a number of redundant and active services which may conflict with the proposed development or future intrusive ground investigation works.</td>
</tr>
<tr>
<td>Aggressive Ground Conditions</td>
<td>At this stage it should be assumed that the underlying materials could be aggressive to buried construction products (such as concrete and steel). This includes likely Made Ground underlying the site, which is anticipated to be of a variable composition and could also be aggressive to buried concrete.</td>
</tr>
<tr>
<td>Dissolution Features</td>
<td>A number of dissolution pipes have been recorded on site. Due to the recorded geology, presence of additional dissolution features cannot be discounted. Such features may conflict with proposed developments and require ground improvement / remediation and / or bespoke / abnormal foundation solutions.</td>
</tr>
<tr>
<td>Chalk Mining</td>
<td>A chalk related mining feature has been identified north of the site. Presence of small scale surface or underground mining features on site cannot be discounted. Such extraction features may conflict with proposed developments and require ground improvement / remediation and / or bespoke / abnormal foundation solutions.</td>
</tr>
<tr>
<td>UXO’s</td>
<td>There is a significant potential for UXO(s) presence on site. It is recommended that appropriate UXO risk assessments are commissioned to suitably assess the potential risk posed during work below ground.</td>
</tr>
</tbody>
</table>

6.2. Preliminary Design Recommendations

6.2.1. The adopted foundation solution will depend on the nature of the proposed structures and the ground conditions revealed by intrusive investigations.
6.2.2. Bespoke / Abnormal / Deep foundation solutions may also be required should the intrusive ground investigation find poor quality / adverse ground conditions, dissolution features, mineral extraction features and / or obstructions. It is noted that flints and marls within the Seaford Chalk Formation should be considered as being potentially present.

6.2.3. Ground works associated with landscaping and any additional associated design requirements will, as above, be dependent on the ground conditions revealed by intrusive investigations.

6.2.4. Due to the nature of the presumed ground conditions, including the Clay with Flints Formation, heave protection and potential requirement for deepening of foundations may be required. Such requirements may be more prevalent in cases where trees are present in the vicinity of developments and should be assessed accordingly.

6.2.5. Buried concrete may have to be designed to have an enhanced resistance to sulphate and thaumasite attack.

6.2.6. Soakaway drainage may be suitable given the presence of the anticipated relatively permeable Seaford Chalk Formation. The potential for use of soakaway drainage on site requires soakage testing in the appropriate strata and locations proposed for such drainage.

6.3. Ground Investigation

6.3.1. Due to the risks identified, a ground investigation is deemed required which should be designed based on the requirements of Eurocode 7 Part 2 (and the associated national annex) to confirm the underlying geology and engineering properties of the soils. The investigation should be tailored so as to ensure the geotechnical hazards discussed in Section 7.1 are addressed. This should include, but not be limited to; boreholes, laboratory geotechnical testing, in-situ geotechnical testing (including SPT testing), soakage testing and groundwater monitoring.

The geotechnical objectives of the ground investigation are to:

- Provide a detailed geological model;
- Assess design parameters for the soil properties (both physical and chemical);
- Investigate geotechnical hazards;
- Provide groundwater and hydrogeological data; and,
- Provide adequate design information for the proposed development.

6.3.2. The ground investigation should be designed by a ‘competent person’ in accordance with BS 5930:2015 and Eurocode EN 1997 (Eurocode 7).

6.3.3. It should be noted that the nature of the site and the anticipated ground conditions present a number of practical issues that would need to be considered in the design and implementation of the recommended ground investigation.

- This site is currently in active use which may place constraints on the areas that can be investigated and will have bearing on the nature of equipment that can be deployed (in areas where available working space is limited).
- As the site is in active use, live services will be present onsite. A detailed service survey should be undertaken and safe digging best practice applied during ground investigation.
- Historical foundations, unrecorded infrastructure, flints / marls and / or unrecorded mine workings may provide obstructions to ground investigation works.

6.3.4. A Geotechnical Design/Interpretative Geotechnical Report should be prepared in accordance with Eurocode 7, once the ground investigation has been completed and the final scheme details are known.

6.4. **Additional work**

6.4.1. It is recommended that a detailed desk study is commissioned to assess the risk posed by UXO(s) onsite.
7.0 GEOENVIRONMENTAL CONCLUSIONS AND RECOMMENDATIONS

7.1. Summary

7.1.1. The potential sources of contamination identified at the site include:

- Onsite current and previous use as an electrical engineering component and aeronautical manufacturing site (both Area 1 and Area 2) with associated tanks (some ASTs identified in historic mapping) and use and storage of potentially hazardous materials. Potential for metals, hydrocarbons, polyaromatic hydrocarbons, volatile organic compounds and polychlorinated biphenyl;

- Onsite previous contamination incident (EA recorded pollution incident, Category 3 (Minor) impact to air, land and water. Date: 12/5/2002, ref. 78204). The pollutant was not defined (“other”) and some legacy may remain within below ground soil and groundwater at Area 1. Unknown contaminant may be anything from inorganic solutions, simple hydrocarbons through to more complex organic complexes;

- Onsite previous electricity substation (east central part of Area 2) associated with use of polychlorinated biphenyls (PCBs);

- Offsite previous contamination incident recorded 8m W of Area 1 - Category 3 (minor) impact to land known to be Diesel (hydrocarbon and polyaromatic hydrocarbons); and,

- Offsite previous pollution incident 50m NW of Area 1 (National Incidents Recording System, List 1) unknown contaminant resulted in a “significant” impact to land and water receptors. Unknown contaminant may be anything from inorganic solutions, simple hydrocarbons through to more complex organic complexes.

7.1.2. The site is generally considered to present a MODERATE to HIGH risk in relation to contamination across the majority of the site.

7.1.3. Effort should be made to locate and obtain more detail about the previous on and off-site contamination incidents to understand the source, extent of contamination, work to remediate the incidents and to understand if there is likely to be any residual contamination. If sufficient information becomes available it may lead to a reassessment of the risk with the effect of reducing uncertainty. However, a ground investigation may still be required to validate the findings and collect site specific information.

7.1.4. A ground investigation is required in order to appraise the potential land contamination identified. This should be designed by a ‘competent person’ in accordance with BS10175:2011+A2:2017. The investigation should provide general site coverage, target the potential sources of identified contamination and assess the underlying soil quality, groundwater quality and ground gas conditions. Provision should be made for between 4 to 6 visits to monitor ground gas and vapours. The investigation should also consider waste issues, as these can affect the development costs, and options for soil recycling at the site.

7.1.5. A contamination analysis suite should be applied that considers metals, semi-metals, inorganic chemicals, speciated petroleum hydrocarbons and polyaromatic hydrocarbons, phenols, and BTEX, in order to provide data for human health and groundwater risk assessments. In addition, the presence of asbestos in soils should be appraised by testing. Such testing should be
completed in accordance with UKAS and MCERTs standards. Subject to the determination of the final objectives of the ground investigation, the test suite may also be modified to facilitate the classification of waste soil arisings and also to consider the suitability of soils on site for reuse as a growing medium (BS 3882).

7.1.6. The desk study is considered sufficient to satisfy planning conditions relating to former site uses and provision of a preliminary risk assessment. It is likely that site investigation and reporting will be required in order to satisfy further planning condition(s) relating to land contamination.

7.1.7. The results of any intrusive investigation should be reported within a Land Quality Statement (LQS) for the site considering the requirements of current technical guidance (publications by the Environment Agency, NHBC and Eurocode 7) and the requirements of the NPPF or associated planning conditions. This report should include: a Generic Quantitative (Tier 2) Environmental Risk Assessment; revised Conceptual Site Model; recommendations for further assessments (if required); and, outline remedial and geotechnical recommendations. Land quality assessment is a phased process and it should be noted that further investigation, assessment and reporting may be required, dependent upon the findings of the Land Quality Statement.

7.2. Additional Work

7.2.1. Whilst not identified during the site walkover, it is recommended that a specialist undertakes a survey for invasive species.
# Technical References

<table>
<thead>
<tr>
<th>Ref</th>
<th>Reference Title</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1]</td>
<td>BGS Geology of Britain viewer</td>
<td>Website</td>
</tr>
<tr>
<td></td>
<td>(<a href="http://mapapps.bgs.ac.uk/geologyofbritain/home.html">http://mapapps.bgs.ac.uk/geologyofbritain/home.html</a>)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Accessed 1st June 2018</td>
<td></td>
</tr>
<tr>
<td>[2]</td>
<td>BGS Borehole Data</td>
<td>Website</td>
</tr>
<tr>
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<td>[5]</td>
<td>Victorian Forts, Bridgewoods Fort</td>
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<td>(<a href="https://www.victorianforts.co.uk/pdf/datasheets/bridgewoods.pdf">https://www.victorianforts.co.uk/pdf/datasheets/bridgewoods.pdf</a>)</td>
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<td>(<a href="https://rochesterairport.co.uk/about/history/">https://rochesterairport.co.uk/about/history/</a>)</td>
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ENVI RONMENTAL R I SK A SS ESSMENT SUPPORTING I NFORMATION

Soil Screening Values

The Environment Agency has published non statutory technical guidance for Regulators and their advisors to assess the chronic risk posed to human health from land contamination, known as the Contaminated Land Exposure Assessment (CLEA) Framework.

The CLEA Framework documents and associated risk assessment model are subject to ongoing technical review. In July 2008 guidance documents CLR7 to 10, which previously underpinned the CLEA Framework, were withdrawn. In January 2009 the Environment Agency published CLEA V1.04 risk assessment software and associated guidance documents as a replacement to the previous CLEA UK Beta Version and documents CLR 7 to 10. Further revisions were made in September 2009 to CLEA V1.05 and October 2009 to CLEA 1.06 risk assessment software.

Soil Guideline Values (SGVs) were produced by Defra/EA and Generic Assessment Criteria (GACs) were produced by CampbellReith and others. These were based on the CLEA model and supporting guidance (SR2 and SR3) and where based on a minimal/tolerable level of risk.

In December 2014 DEFRA released final versions of the C4SLs (Category 4 Screening Levels) for 6 No. contaminants (As, benzene, BaP, Cd, Cr VI and Pb) together with a Policy Companion Document and an Erratum. These represent contaminant soil concentrations which present an acceptable (Low) level of risk, within the context of Part 2A, i.e. they are representative of Category 4 sites. In the Contaminated Land Statutory Guidance (April 2012), sites under Part 2A assessments are categorised 1 - 4, with Category 1 being definitely Part 2A and Category 4 definitely not Part 2A (‘where there is no risk or the level of risk posed is low’).

The C4SLs were produced using the CLEA model and follow the general approach of SR3, although, changes were made to exposure parameters and to the toxicological basis of the assessments. The C4SLs are based on a low level of toxicological concern (LLTC) and are, by definition, less conservative than Health Criteria Values (HCVs) which are the basis for assessments defined in SR2 and used in the generation of SGVs and GACs. They are, therefore, indicative of a low level of risk.

Since their release, DEFRA have confirmed that C4SLs can be used in the planning regime and DCLG (Department for Communities and Local Government) amended Planning Practice Guidance (PPG) on Land Affected by Contamination (12 June 2014) which stated that C4SLs provide a simple test for deciding when land is suitable for use and definitely not contaminated land. On 03 September 2014 the Secretary for the Environment, Lord de Mauley, issued a letter (attached) to all Local Authorities which references DCLG’s PPG and confirms that C4SLs could be used in planning and provide a simple test for establishing when sites are suitable for use.

LQM/CIEH issued S4ULs in December 2014 for 89 contaminants (metals, BTEX, banded TPH, speciated PAH, chlorinated solvents, phenols, chlorophenols, chlorobenzenes, pesticides and a number of miscellaneous others). The S4ULs have generally adopted the revisions to the exposure modelling that were developed in the production of the C4SLs. Critically, however, they are based on HCVs to produce concentrations which are indicative of a minimal/tolerable level of risk.

S4ULs are therefore used as the preliminary stage of soil assessments since they are indicative of minimal/tolerable level of risk. If these are exceeded then the C4SLs are used (if available) to determine if the risk could be described as low.

Where CLEA compliant S4ULs or C4SLs are not available reference is made to Generic Assessment Criteria (GAC) derived using the CLEA UK model (beta version). These are currently used for cyanide. Where referred to, the non-compliant standing of these values is considered.

---

Selection of Appropriate [Tier 2] Soil Screening Values

The CLEA model is based upon defined exposure scenarios and six generic land uses have been established for the C4SLs and S4ULs. These set out a discrete set of circumstances where exposure may occur, including a source, the pathways, and the exposed population.

The three generic land use scenarios used in the development of SGVs are:

- commercial/Industrial;
- allotments; and,
- residential with plant uptake,
- residential without plant uptake,
- public open space (residential)
- public open space (parks)

It is noted that the CLEA screening values are generic and not always applicable. Where the CLEA conceptual model is not appropriate it will be necessary to develop site specific Detailed Quantitative Risk Assessment screening values as a further stage of assessment.

It is noted that the CLEA model does not consider risks from contaminated waters beneath the site to human health and the model also assumes that no free product is present. Should such conditions exist at the subject site the requirement for application of an alternative risk assessment model should be assessed. Alternatively, construction workers are potentially exposed to acute risk and therefore require separate consideration.
Statistical analysis of soil based analytical results has been undertaken in accordance with CL:AIRE Guidance on Comparing Soil Contamination Data with a Critical Concentration (May 2008). The use of the Mean Value Test and Maximum Value Test is still considered appropriate for site assessments. Although the guidance advocates use of the one-sample t test, this is a variation of the mean value test and establishes the confidence level at which the assessor can determine whether a particular screening level has/has not been succeeded. The mean value test used herein is set at the 95th percentile confidence limit in order to be risk conservative.

The Maximum Value Test is a statistical tool that is used to identify outlier values from a numerical distribution of results for a given determinant. These outlier values can be excluded and considered separately, and the remaining values are then used to calculate upper bound 95th percentile values (95thile) (Mean Value Test) for comparison with the screening values.

The results are reviewed prior to any statistical analysis in order to determine if zoning of the soils is apparent and hence whether the site requires to be divided into averaging areas. Additional tables are presented where appropriate to reflect distinct ground characteristics relevant to the conceptual model.

Water Screening Values

This assessment considers potential risks to controlled waters (groundwater and surface waters) in relation to risks from any historical contamination. The most stringent test is that defined for Contaminated Land under Part 2A of the Environmental Protection Act, 1990. However, it should be recognised that a wider evaluation of risk is considered within the planning regime and CLR 11.

The Environment Agency has a wider policy agenda for the protection of controlled waters that will impinge upon judgements in relation to land contamination issues. This includes those for the Water Framework Directive and Groundwater Directive and wider legislation for both groundwater, surface water and associated elements (such as fisheries).

The results of water analysis have been compared to screening values selected to assess the potential risk to the identified controlled water receptors in the Conceptual Model. The specific standards utilised for this purpose are considered in the assessment table footnotes and typically comprise: Environmental Quality Standards for the protection of aquatic life; Surface Water Standards; EC, UK and WHO Drinking Water Standards; or Background water quality (where no applicable standard exists).

The initial assessment considers the sensitivity of the receptor in the selection of the screening value. Advice for this purpose has been obtained principally from Environment Agency Technical Advice to Third Parties on Pollution of Controlled Waters for Part 2A of the Environmental Protection Act 1990, No 07/02, EA, 2002 (INFO-RA2-3e), as informed by the EA's GP3.

Definitions of Consequence, Probability and Risk

The following classification has been taken from Guidance for the Safe Development of Housing on Land Affected by Contamination R&D6: 2008 Volume 1 (Environment Agency, NHBC and CIEH.

The key to the classification is that the designation of risk is based upon the consideration of both:

a) the magnitude of the potential consequence (i.e. severity).
[takes into account both the potential severity of the hazard and the sensitivity of the receptor]

b) the magnitude of probability (i.e. likelihood).
[takes into account both the presence of the hazard and receptor and the integrity of the pathway]

---

4 Refer to Environment Agency Publications for Groundwater Protection Policy and Practice (GP3)
## Classification of Consequence

<table>
<thead>
<tr>
<th>Classification</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Severe</strong></td>
<td>Highly elevated concentrations <strong>likely</strong> to result in “significant harm” to human health as defined by the EPA 1990, Part 2A, if exposure occurs.</td>
<td>Significant harm to humans is defined in circular 01.2006 as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. Major fish kill in surface water from large spillage of contaminants from site. Highly elevated concentrations of List I and II substances present in groundwater close to small potable abstraction (high sensitivity). Explosion, causing building collapse (can also equate to immediate human health risk if buildings are occupied).</td>
</tr>
<tr>
<td></td>
<td>Equivalent to <strong>EA Category 1</strong> pollution incident including persistent and/or extensive effects on water quality; leading to closure of a potable abstraction point; major impact on amenity value or major damage to agriculture or commerce. Major damage to aquatic or other ecosystems, which is likely to result in a substantial adverse change in its functioning or harm to a species of special interest that endangers the long-term maintenance of the population. Catastrophic damage to crops, buildings or property.</td>
<td></td>
</tr>
<tr>
<td><strong>Medium</strong></td>
<td>Elevated concentrations which could result in “significant harm” to human health as defined by the EPA 1990, Part 2A if exposure occurs. Equivalent to <strong>EA Category 2</strong> pollution incident including significant effect on water quality; notification required to abstractors; reduction in amenity value or significant damage to agriculture or commerce. Significant damage to aquatic or other ecosystems, which may result in a substantial adverse change in its functioning or harm to a species of special interest that may endanger the long-term maintenance of the population. Significant damage to crops, buildings or property.</td>
<td>Significant harm to humans is defined in circular 01/2006 as death, disease*, serious injury, genetic mutation, birth defects or the impairment of reproductive functions. Damage to building rendering it unsafe to occupy e.g. foundation damage resulting in instability. Ingress of contaminants through plastic potable water pipes.</td>
</tr>
<tr>
<td><strong>Mild</strong></td>
<td>Exposure to human health <strong>unlikely</strong> to lead to “significant harm”. Equivalent to <strong>EA Category 3</strong> pollution incident including minimal or short lived effect on water quality; marginal effect on amenity value, agriculture or commerce. Minor or short lived damage to aquatic or other ecosystems, which is unlikely to result in a substantial adverse change in its functioning or harm to a species of special interest that would endanger the long-term maintenance of the population.</td>
<td>Exposure could lead to slight short-term effects (e.g. mild skin rash). Surface spalling of concrete.</td>
</tr>
</tbody>
</table>
### Classification

<table>
<thead>
<tr>
<th>Classification</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minor</td>
<td>Minor damage to crops, buildings or property.</td>
<td>The loss of plants in a landscaping scheme.</td>
</tr>
<tr>
<td></td>
<td>No measurable effect on humans.</td>
<td>Discoloration of concrete.</td>
</tr>
<tr>
<td></td>
<td>Equivalent to insubstantial pollution incident with no observed effect on water quality or ecosystems.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Repairable effects of damage to buildings, structures and services.</td>
<td></td>
</tr>
</tbody>
</table>

### Classification of Probability

<table>
<thead>
<tr>
<th>Classification</th>
<th>Definition</th>
<th>Examples</th>
</tr>
</thead>
</table>
| **High likelihood** | There is pollutant linkage and an event would appear very likely in the short-term and almost inevitable over the long-term, or there is evidence at the receptor of harm or pollution. | a) Elevated concentrations of toxic contaminants are present in soils in the top 0.5m in a residential garden.  
b) Ground/groundwater contamination could be present from chemical works, containing a number of USTs, having been in operation on the same site for over 50 years. |
| **Likely**       | There is pollutant linkage and all the elements are present and in the right place which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short-term and likely over the long-term. | a) Elevated concentrations of toxic contaminants are present in soils at depths of 0.5-1.0m in a residential garden, or the top 0.5m in public open space.  
b) Ground/groundwater contamination could be present from an industrial site containing a UST present between 1970 and 1990. The tank is known to be single skin. There is no evidence of leakage although there are no records of integrity tests. |
| **Low likelihood** | There is pollutant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a long period such an event would take place, and is less likely in the shorter term. | a) Elevated concentrations of toxic contaminants are present in soils at depths >1m in a residential garden, or 0.5-1.0m in public open space.  
b) Ground/groundwater contamination could be present on a light industrial unit constructed in the 1990s containing a UST in operation over the last 10 years - the tank is double skinned but there is no integrity testing or evidence of leakage. |
| **Unlikely**     | There is pollutant linkage but circumstances are such that it is improbable that an event would occur even in the very long-term. | a) Elevated concentrations of toxic contaminants are present below hardstanding.  
b) Light industrial units <10 yrs old containing a double-skinned UST with...
Note: A pollution linkage must first be established before probability is classified. If there is no pollution linkage then there is no potential risk. If there is no pollution linkage then there is no need to apply tests for probability and consequence.

For example if there is surface contamination and a principal aquifer is present at depth, but this principal aquifer is overlain by an aquiclude of significant thickness then there is no pollution linkage and the risks to the principal aquifer are not assessed. The report should identify both the source and the receptor but state that because there is no linkage there are no potential risks.

**Description of the classified risks**

**Very high risk**
There is a high probability that severe harm could arise to a designated receptor from an identified hazard at the site without remediation action OR there is evidence that severe harm to a designated receptor is already occurring. Realisation of that risk is likely to present a substantial liability to be site owner/or occupier. Investigation is required as a matter of urgency and remediation works likely to follow in the short-term.

**High risk**
Harm is likely to arise to a designated receptor from an identified hazard at the site without remediation action. Realisation of the risk is likely to present a substantial liability to the site owner/or occupier. Investigation is required as a matter of urgency to clarify the risk. Remediation works may be necessary in the short-term and are likely over the longer term.

**Moderate risk**
It is possible that harm could arise to a designated receptor from an identified hazard. However, it is either relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely, that the harm would be relatively mild. Further investigative work is normally required to clarify the risk and to determine the potential liability to site owner/occupier. Some remediation works may be required in the longer term.

**Low risk**
It is possible that harm could arise to a designated receptor from identified hazard, but it is likely at worst, that this harm if realised would normally be mild. It is unlikely that the site owner/or occupier would face substantial liabilities from such a risk. Further investigative work (which is likely to be limited) to clarify the risk may be required. Any subsequent remediation works are likely to be relatively limited.

**Very low risk**
It is a low possibility that harm could arise to a designated receptor, but it is likely at worst, that the harm if realised would normally be mild or minor.

**No potential risk**
There is no potential risk if no pollution linkage has been established.
LIMITATIONS

Environmental & Geotechnical Interpretative Reports

1. This report provides available factual data for the site obtained only from the sources described in the text and related to the site on the basis of the location information provided by the client.

2. Where any data or information supplied by the client or other external source, including that from previous studies, has been used, it has been assumed that the information is correct. No responsibility can be accepted by CampbellReith for inaccuracies within this data or information. In relation to historic maps the accuracy of maps cannot be guaranteed and it should be recognized that different conditions on site may have existed between and subsequent to the various map surveys.

3. This report is limited to those aspects of historical land use and enquiries related to environmental matters reported on and no liability is accepted for any other aspects. The opinions expressed cannot be absolute due to the limit of time and resources implicit within the agreed brief and the possibility of unrecorded previous uses of the site and adjacent land.

4. The material encountered and samples obtained during on-site investigations represent only a small proportion of the materials present on the site. There may be other conditions prevailing at the site which have not been revealed and which have therefore not been taken into account in this report. These risks can be minimised and reduced by additional investigations. If significant variations become evident, additional specialist advice should be sought to assess the implications of these few findings.

5. The generalised soil conditions described in the text are intended to convey trends in subsurface conditions. The boundaries between strata are approximate and have been developed on interpretations of the exploration locations and samples collected.

6. Water level and gas readings have been taken at times and under conditions stated on the exploration logs. It must be noted that fluctuations in the level of groundwater or gas may occur due to a variety of factors which may differ from those prevailing at the time the measurements were taken.

7. Please note that CampbellReith cannot accept any liability for observations or opinions expressed regarding the absence or presence of asbestos or on any product or waste that may contain asbestos. We recommend that an asbestos specialist, with appropriate professional indemnity insurance, is employed directly by the client in every case where asbestos may be present on the site or within the buildings or installations. Any comments made in this report with respect to asbestos, or asbestos containing materials, are only included to assist the client with the initial appraisal of the project and should not be relied upon in any way.

8. The findings and opinions expressed are relevant to those dates of the reported site work and should not be relied upon to represent conditions at substantially later dates.

9. This report is produced solely for the benefit of the client, and no liability is accepted for any reliance placed upon it by any other party unless specifically agreed in writing.
Appendix A: Figures

Figure 1: Site Location
Figure 2: Redline Boundary
Figure 3: Area 2 Annotated Layout
Figure 4: Designated Ecological Sites
Figure 5: Photograph Location Plan
Innovation Park, Medway

Client: Medway Council

Figure 2:
Red Line Boundary
Innovation Park, Medway
Client: Medway Council

Figure 5:
Photo Location Plan
Appendix B: Desk Study Information
Dear Sir/Madam,

Thank you for placing your order with emapsite. Please find enclosed the GroundSure EnviroInsight as requested.

If you would like further assistance regarding this report then please contact the emapsite customer services team on 0118 9736883 quoting the above report reference number.

Yours faithfully,

emapsite customer services team

Enc.
GroundSure EnviroInsight
Aerial Photograph of Study Site

Site Name:
Grid Reference: 574470,164589
Size of Site: 68.99 ha

Report Reference: EMS-193945_283303
Overview of Findings

For further details on each dataset, please refer to each individual section in the main report as listed. Where the database has been searched a numerical result will be recorded. Where the database has not been searched '-' will be recorded.

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<tr>
<td>1.1 Industrial Sites Holding Environmental Permits and/or Authorisations</td>
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<tr>
<td>Records of historic IPC Authorisations</td>
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</tr>
<tr>
<td>Records of Part A(1) and IPPC Authorised Activities</td>
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</tr>
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<td>Records of Water Industry Referrals (potentially harmful discharges to the public sewer)</td>
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</tr>
<tr>
<td>Records of Red List Discharge Consents (potentially harmful discharges to controlled waters)</td>
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<tr>
<td>Records of List 1 Dangerous Substances Inventory sites</td>
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</tr>
<tr>
<td>Records of List 2 Dangerous Substances Inventory sites</td>
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<td>Records of Part A(2) and Part B Activities and Enforcements</td>
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</tr>
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<td>Records of Category 3 or 4 Radioactive Substances Authorisations</td>
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<td>Records of Licensed Discharge Consents</td>
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<td>Records of Planning Hazardous Substance Consents and Enforcements</td>
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<td>1.2 Records of COMAH and NIHHS sites</td>
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<td>1.3 Environment Agency Recorded Pollution Incidents</td>
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<td>National Incidents Recording System, List 2</td>
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<td>1.4 Sites Determined as Contaminated Land under Part IIA EPA 1990</td>
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<td>2. Landfill and Other Waste Sites</td>
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<td>2.1 Landfill Sites</td>
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<td>Environment Agency Registered Landfill Sites</td>
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<td>Landfill Data – Non-Operational Landfill Sites</td>
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<td>2.2 Landfill and Other Waste Sites Findings</td>
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<td>Non-Operational Waste Treatment, Transfer and Disposal Sites</td>
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<td>Environment Agency Licensed Waste Sites</td>
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Report Reference: EMS-193945_283303
3. Current Land Uses

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<th>251-500</th>
<th>501-1000</th>
<th>1001-1500</th>
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<td>3.1 Current Industrial Sites Data</td>
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<td>35</td>
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<td>3.2 Records of Petrol and Fuel Sites</td>
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<td>0</td>
<td>1</td>
<td>2</td>
<td>-</td>
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<td>3.3 Underground High Pressure Oil and Gas Pipelines</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</table>

4. Geology

<table>
<thead>
<tr>
<th>Description</th>
<th>4.1 Are there any records of Artificial Ground and Made Ground present beneath the study site? *</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.2 Are there any records of Superficial Ground and Drift Geology present beneath the study site? *</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>4.3 For records of Bedrock and Solid Geology beneath the study site* see the detailed findings section.</td>
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</tr>
</tbody>
</table>

Scale: 1:50,000 BGS Sheet 272

* This includes an automatically generated 50m buffer zone around the site.

5. Hydrogeology and Hydrology

<table>
<thead>
<tr>
<th>On-site</th>
<th>0-50</th>
<th>51-250</th>
<th>251-500</th>
<th>501-1000</th>
<th>1001-2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.1 Are there any records of Productive Strata in the Superficial Geology within 500m of the study site?</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.2 Are there any records of Productive Strata in the Bedrock Geology within 500m of the study site?</td>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
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<td>5.3 Groundwater Abstraction Licences (within 2000m of the study site).</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
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<tr>
<td>5.4 Surface Water Abstraction Licences (within 2000m of the study site).</td>
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<td>0</td>
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<td>5.5 Potable Water Abstraction Licences (within 2000m of the study site).</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>5.6 Are there any Source Protection Zones within 500m of the study site?</td>
<td>Yes</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>5.7 River Quality</td>
<td>Is there any Environment Agency information on river quality within 1500m of the study site?</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is there any Environment Agency Information on river quality within 1500m of the study site?</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
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<td>5.8 Detailed River Network entries within 500m of the site</td>
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<td>5.9 Surface water features within 250m of the study site</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

6. Flooding

| 6.1 Are there any Environment Agency indicative Zone 2 floodplains within 250m of the study site? | No |
| 6.2 Are there any Environment Agency indicative Zone 3 floodplains within 250m of the study site? | No |
| 6.3 Are there any Flood Defences within 250m of the study site? | No |
| 6.4 Are there any areas benefitting from Flood Defences within 250m of the study site? | No |
| 6.5 Are there any areas used for Flood Storage within 250m of the study site? | No |
| 6.6 What is the maximum BGS Groundwater Flooding susceptibility within 50m of the study site? | Very Low |
| 6.7 What is the BGS confidence rating for the Groundwater Flooding susceptibility areas? | High |

7. Designated Environmentally Sensitive Sites

<table>
<thead>
<tr>
<th>On-site</th>
<th>0-50</th>
<th>51-250</th>
<th>251-500</th>
<th>501-1000</th>
<th>1001-2000</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.1 Records of Sites of Special Scientific Interest (SSSI)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>7.2 Records of National Nature Reserves (NNR)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Report Reference: EMS-193945_283303
7.1 Records of Sites of Special Scientific Interest (SSSI) 0 0 0 0 0 3
7.3 Records of Local Nature Reserves (LNR) 0 0 0 0 0 0
7.4 Records of Special Areas of Conservation (SAC) 0 0 0 0 0 0
7.5 Records of Special Protection Areas (SPA) 0 0 0 0 0 0
7.6 Records of Ramsar sites 0 0 0 0 0 0
7.7 Records of World Heritage Sites 0 0 0 0 0 0
7.8 Records of Environmentally Sensitive Areas 0 0 0 0 0 0
7.9 Records of Areas of Outstanding Natural Beauty (AONB) 0 0 1 0 0 0
7.10 Records of National Parks 0 0 0 0 0 0
7.11 Records of Nitrate Sensitive Areas 0 0 0 0 0 0
7.12 Records of Nitrate Vulnerable Zones 0 0 0 0 0 0
7.13 Records of Ancient Woodlands 0 0 5 1 3 10

8. Natural Hazards

8.1 What is the maximum risk of natural ground subsidence? High

9. Mining

9.1 Are there any coal mining areas within 75m of the study site? No
9.2 What is the risk of subsidence relating to shallow mining within 150m of the study site? Low
9.3 Are there any brine affected areas within 75m of the study site? No
Using this Report

The following report is designed by Environmental Consultants for Environmental Professionals bringing together the most up-to-date market leading environmental data. This report is provided under and subject to the Terms & Conditions agreed between GroundSure and the Client. The document contains the following sections:

1. Environmental Permits, Incidents and Registers

Provides information on Regulated Industrial Activities and Pollution Incidents as recorded by Regulatory Authorities, and sites determined as Contaminated Land. This search is conducted using radii up to 500m.

2. Landfills and Other Waste Sites

Provides information on landfills and other waste sites that may pose a risk to the study site. This search is conducted using radii up to 1500m.

3. Current Land Uses

Provides information on current land uses that may pose a risk to the study site in terms of potential contamination from activities or processes. These searches are conducted using radii of up to 500m. This includes information on potentially contaminative industrial sites, petrol stations and fuel sites as well as high pressure underground oil and gas pipelines.

4. Geology

Provides information on artificial and superficial deposits and bedrock beneath the study site.

5. Hydrogeology and Hydrology

Provides information on productive strata within the bedrock and superficial geological layers, abstraction licenses, Source Protection Zones (SPZs) and river quality. These searches are conducted using radii of up to 2000m.

6. Flooding

Provides information on surface water flooding, flood defences, flood storage areas and groundwater flood areas. This search is conducted using radii of up to 250m.

7. Designated Environmentally Sensitive Sites

Provides information on the Sites of Special Scientific Interest (SSSI), National Nature Reserves (NNR), Special Areas of Conservation (SAC), Special Protection Areas (SPA), Ramsar sites, Local Nature Reserves (LNR), Areas of Outstanding Natural Beauty (AONB), National Parks (NP), Environmentally Sensitive Areas, Nitrate Sensitive Areas, Nitrate Vulnerable Zones and World Heritage Sites. These searches are conducted using radii of up to 500m.

8. Natural Hazards

Provides information on a range of natural hazards that may pose a risk to the study site. These factors include natural ground subsidence.

9. Mining

Provides information on areas of coal and shallow mining.
10. Contacts

This section of the report provides contact points for statutory bodies and data providers that may be able to provide further information on issues raised within this report. Alternatively, GroundSure provide a free Technical Helpline (08444 159000) for further information and guidance.

Note: Maps

Only certain features are placed on the maps within the report. All features represented on maps found within this search are given an identification number. This number identifies the feature on the mapping and correlates it to the additional information provided below. This identification number precedes all other information and takes the following format -Id: 1, Id: 2, etc. Where numerous features on the same map are in such close proximity that the numbers would obscure each other a letter identifier is used instead to represent the features. (e.g. Three features which overlap may be given the identifier “A” on the map and would be identified separately as features 1A, 3A, 10A on the data tables provided).

Where a feature is reported in the data tables to a distance greater than the map area, it is noted in the data table as “Not Shown”.

All distances given in this report are in Metres (m). Directions are given as compass headings such as N: North, E: East, NE: North East from the nearest point of the study site boundary.
1. Environmental Permits, Incidents and Registers Map
1. Environmental Permits, Incidents and Registers

1.1 Industrial Sites Holding Licences and/or Authorisations

Searches of information provided by the Environment Agency and Local Authorities reveal the following information:

**Records of historic IPC Authorisations within 500m of the study site:**

Database searched and no data found.

**Records of Part A(1) and IPPC Authorised Activities within 500m of the study site:**

Database searched and no data found.

**Records of Water Industry Referrals (potentially harmful discharges to the public sewer) within 500m of the study site:**

The following Water Industry Referral records are represented as points on the Authorisations, Incidents and Registers map:

<table>
<thead>
<tr>
<th>ID</th>
<th>Distance [m]</th>
<th>Direction</th>
<th>Address</th>
<th>Permission reference</th>
<th>Local Authority</th>
<th>First Date Received</th>
<th>Last Date Received</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>22C</td>
<td>0.0</td>
<td>On Site</td>
<td>Vacuum Physics Department, Airport Works, Rochester, Kent, Me1 2xx</td>
<td>AP0539</td>
<td>Maidstone Borough Council</td>
<td>01-06-2001</td>
<td>01-04-2008</td>
<td>Effective</td>
</tr>
</tbody>
</table>

**Records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the study site:**

Database searched and no data found.

**Records of List 1 Dangerous Substances Inventory Sites within 500m of the study site:**

Database searched and no data found.

**Records of List 2 Dangerous Substance Inventory Sites within 500m of the study site:**

Database searched and no data found.

**Records of Part A(2) and Part B Activities and Enforcements within 500m of the study site:**

The following Part A(2) and Part B Activities are represented as points on the Authorisations, Incidents and Registers map:

<table>
<thead>
<tr>
<th>ID</th>
<th>Distance</th>
<th>Direction</th>
<th>NGR</th>
<th>Details</th>
</tr>
</thead>
</table>

Report Reference: EMS-193945_283303
Records of Category 3 or 4 Radioactive Substance Licences within 500m of the study site: 3

The following RAS Licence (3 or 4) records are represented as points on the Authorisations, Incidents and Registers map:

<table>
<thead>
<tr>
<th>ID</th>
<th>Distance [m]</th>
<th>Direction</th>
<th>Address</th>
<th>Operator</th>
<th>Type</th>
<th>Permission Number</th>
<th>Dates</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>19D</td>
<td>126.0</td>
<td>E</td>
<td>Mid Kent College, Horsted , Maidstone Road, Chatham, Kent, ME5 9UQ</td>
<td>Mid Kent College</td>
<td>Disposal Of Radioactive Waste (was Rsa60 Section 6).</td>
<td>BA4477</td>
<td>Date of Approval:2</td>
<td>Superseded By Variation</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td>6/6/1998</td>
<td></td>
</tr>
<tr>
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<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Effective from:29/6</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1998</td>
<td></td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>Last date of update:20</td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>12-10-01</td>
<td></td>
</tr>
<tr>
<td>20D</td>
<td>126.0</td>
<td>E</td>
<td>Mid Kent College, Horsted , Maidstone Road, Chatham, Kent, ME5 9UQ</td>
<td>Mid Kent College</td>
<td>Disposal Of Radioactive Waste (was Rsa60 Section 6).</td>
<td>BA4477</td>
<td>Date of Approval:1</td>
<td>Superseded By Variation</td>
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<tr>
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<td>5/9/1998</td>
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<tr>
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<td>Effective from:10/1</td>
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<td>0/1998</td>
<td></td>
</tr>
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<td>Last date of update:20</td>
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</tr>
<tr>
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<td></td>
<td></td>
<td></td>
<td>12-10-01</td>
<td></td>
</tr>
<tr>
<td>21D</td>
<td>126.0</td>
<td>E</td>
<td>Mid Kent College, Horsted , Maidstone Road, Chatham, Kent, ME5 9UQ</td>
<td>Mid Kent College</td>
<td>Disposal Of Radioactive Waste (was Rsa60 Section 6).</td>
<td>BA4477</td>
<td>Date of Approval:2</td>
<td>Revoked/ cancelled</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>7/11/1998</td>
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<td>Effective from:30/1</td>
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<td>1/1998</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>12-10-01</td>
<td></td>
</tr>
</tbody>
</table>

Records of Licensed Discharge Consents within 500m of the study site: 8

The following Licensed Discharge Consents records are represented as points on the Authorisations, Incidents and Registers map:

<table>
<thead>
<tr>
<th>ID</th>
<th>Distance</th>
<th>Direction</th>
<th>NGR</th>
<th>Address</th>
<th>Details</th>
</tr>
</thead>
</table>
| 4A  | 47.0     | E         | 574700, 164400 | Retail Park Development, Retail Park Development, Maidstone Road, Chatham, Kent | Effluent Type: Trade Discharges - Site Drainage
|     |          |           |     |                                              | Permit Number: P06806R
|     |          |           |     |                                              | Permit Version: 1 |
|     |          |           |     |                                              | Receiving Water: Into Land
|     |          |           |     |                                              | Status: New Consent (wra 91, S88 & Sched 10 As Amended By Env Act 1995)
|     |          |           |     |                                              | Issue date: 1/4/1997
|     |          |           |     |                                              | Effective Date: 1/4/1997
|     |          |           |     |                                              | Revocation Date: 3/12/1997 |
5A 47.0 E 574700, 164400
Address: Maidstone Road, Maidstone Road, Chatham, Kent, ME5 9??
Effluent Type: Miscellaneous Discharges - Surface Water
Permit Number: P01037L
Permit Version: 1
Receiving Water: Freshwater River
Issue date: 29/6/1987
Effective Date: 29/6/1987
Revocation Date: 31/3/1997

6 153.0 SW 574030, 164660
Address: Csm Joint Venture, Csm Joint Venture, Maidstone Rd, Chatham, Kent
Effluent Type: Trade Discharges - Site Drainage
Permit Number: P09087
Permit Version: 1
Receiving Water: Into Land
Status: Revoked (wra 91, S88 & Sched 10 As Amended By Env Act 1995)
Issue date: 8/9/2000
Effective Date: 8/9/2000
Revocation Date: -

7 268.0 W 573800, 165200
Address: Bridgewood Business Park, Bridgewood Business Park, Maidstone Road, Rochester, Kent
Effluent Type: Miscellaneous Discharges - Surface Water
Permit Number: P03926
Permit Version: 1
Receiving Water: Freshwater River
Status: New Consent (wra 91, S88 & Sched 10 As Amended By Env Act 1995)
Issue date: -
Effective Date: -
Revocation Date: -

8 357.0 S 574700, 163300
Address: Medway Towns South Peripheral Rd, Medway Towns South Peripheral Rd, 400m E B'wood R/about, Maidstone, Kent, ME5 9??
Effluent Type: Miscellaneous Discharges - Surface Water
Permit Number: P02166
Permit Version: 1
Receiving Water: Into Land
Issue date: 7/3/1989
Effective Date: 7/3/1989
Revocation Date: 31/3/1997

9B 369.0 W 573920, 164200
Address: Eurolink Ctrl Constuction Site, Eurolink Ctrl Construction Site, London Portal, Stony Lane Bluebell Hill, Chatham Kent
Effluent Type: Sewage Discharges - Final/treated Effluent - Not Water Company
Permit Number: P07608
Permit Version: 1
Receiving Water: Into Land
Status: Revoked (wra 91, S88 & Sched 10 As Amended By Env Act 1995)
Issue date: 20/5/1999
Effective Date: 20/5/1999
Revocation Date: -

10B 369.0 W 573920, 164200
Address: Eurolink Ctrl Constuction Site, Eurolink Ctrl Construction Site, London Portal, Stony Lane Bluebell Hill, Chatham Kent
Effluent Type: Trade Discharges - Unspecified
Permit Number: P07608
Permit Version: 1
Receiving Water: Into Land
Status: Revoked (wra 91, S88 & Sched 10 As Amended By Env Act 1995)
Issue date: 20/5/1999
Effective Date: 20/5/1999
Revocation Date: -

11B 369.0 W 573920, 164200
Address: Eurolink Ctrl Constuction Site, Eurolink Ctrl Construction Site, London Portal, Stony Lane Bluebell Hill, Chatham Kent
Effluent Type: Trade Discharges - Site Drainage
Permit Number: P07608
Permit Version: 1
Receiving Water: Into Land
Status: Revoked (wra 91, S88 & Sched 10 As Amended By Env Act 1995)
Issue date: 20/5/1999
Effective Date: 20/5/1999
Revocation Date: -

Records of Planning Hazardous Substance Consents and Enforcements within 500m of the study site: 0
Database searched and no data found.

1.2 Dangerous or Hazardous Sites
Records of COMAH & NIHHS sites within 500m of the study site: 0
Database searched and no data found.

1.3 Environment Agency Recorded Pollution Incidents
Records of National Incidents Recording System, List 2 within 250m of the study site: 2
The following NIRS List 2 records are represented as points on the Authorisations, Incidents and Registers Map:

<table>
<thead>
<tr>
<th>ID</th>
<th>Distance</th>
<th>Direction</th>
<th>NGR</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Report Reference: EMS-193945_283303
Records of National Incidents Recording System, List 1 within 250m of the study site:

The following NIRS List 1 records are represented as points on the Authorisations, Incidents and Registers Map:

<table>
<thead>
<tr>
<th>ID</th>
<th>Distance</th>
<th>Direction</th>
<th>NGR</th>
<th>Details</th>
</tr>
</thead>
</table>
| 3  | 40.0     | S         | 574200, 165100 | Incident Date: 22-Mar-1999  
Incident Identification: 2171.0  
Catchments Name: MEDWAY ESTUARY (NIRS)  
Water Description: ESTUARY  
Water Course: D  
Incident Substantiated: Yes  
Priority Description: Immediate (2 Hours)  
Waste Description: Not Available  
Water Impact: Significant Impact  
Land Impact: Significant Impact  
Air Impact: No Impact  
Pollutant: |

1.4 Sites Determined as Contaminated Land under Part IIA EPA 1990

How many records of sites determined as contaminated land under Section 78R of the Environmental Protection Act 1990 are there within 500m of the study site? 0

Database searched and no data found.
2. Landfill and Other Waste Sites Map

Landfill & Other Waste Sites Legend

- E.A. Active Landfill
- E.A. Historic Landfill (Area Data)
- E.A. Historic Landfill (Point Data)
- BGS / DoE Survey Landfill
- Local Authority Landfill (Area Data)
- Local Authority Landfill (Point Data)
- Operational Waste Treatment Licence
- Closed Waste Treatment Licence
- REGIS Waste Licence
- Operational Landfill
- Closed Landfill

Report Reference: EMS-193945_283303
2. Landfill and Other Waste Sites

2.1 Landfill Sites

Records from Environment Agency landfill data within 1000m of the study site: 0
Database searched and no data found.

Records of operational landfill sites sourced from Landmark within 1000m of the study site: 0
Database searched and no data found.

Records of Environment Agency historic landfill sites within 1500m of the study site: 0
Database searched and no data found.

Records of non-operational landfill sites sourced from Landmark within 1000m of the study site: 1
The following landfill records are represented as points on the Landfill and Other Waste Sites map:

<table>
<thead>
<tr>
<th>ID</th>
<th>Distance</th>
<th>Direction</th>
<th>NGR</th>
<th>Details</th>
</tr>
</thead>
</table>
| 1  | 268.0    | W         | 573800, 165200 | Site Address: Fort Bridgewood, ROCHESTER, Kent,
|    |          |           |              | Landfill Licence: 24HAKPAL
|    |          |           |              | Agency Reference: 
|    |          |           |              | Waste Type: Difficult
|    |          |           |              | Waste Description: Difficult Landfill
|    |          |           |              | Known Restrictions: No known restriction
|    |          |           |              | on source of waste
|    |          |           |              | Record Date: 01-Jun-1978
|    |          |           |              | Transfer Date: 
|    |          |           |              | Modification Date: 
|    |          |           |              | Status: Licence
|    |          |           |              | lapsed/cancelled/defunct/not applicable/surrendered
|    |          |           |              | Category: LANDFILL
|    |          |           |              | Regulator: EA - Southern Region - Kent
|    |          |           |              | Area (Addington)
|    |          |           |              | Size: Undefined |

Records of BGS/DoE non-operational landfill sites within 1500m of the study site: 0
Database searched and no data found.

Records of Local Authority landfill sites within 1500m of the study site: 0
Database searched and no data found.

2.2 Other Waste Sites

Records of operational waste treatment, transfer or disposal sites within 500m of the study site: 0
Database searched and no data found.

Records of non-operational waste treatment, transfer or disposal sites within 500m of the study site: 0
Database searched and no data found.

Report Reference: EMS-193945_283303
Records of Environment Agency licensed waste sites within 1500m of the study site:

The following waste treatment, transfer or disposal sites records are represented as points on the Landfill and Other Waste Sites map:

| ID   | Distance | Direction | NGR       | Site Address                                      | Type                                | Size                     | Regis Licence Number | EPR reference         | Operator                              | Waste Management licence No | Annual Tonnage | Issue Date   | Effective Date | Modified | Surrendered Date | Expiry Date | Cancelled Date | Status      | Site Name          | Correspondence Address |
|------|----------|-----------|-----------|---------------------------------------------------|------------------------------------|--------------------------|-----------------------|-----------------------|-------------------------|-----------------------------|------------------------|---------------|--------------|-----------------|----------|-----------------|-------------|-----------------|-------------|----------------|----------------|------------------|
| 2    | 605.0    | NW        | 573700, 165800 | Site Address: 1, Fort Road, Rochester, Kent, ME1 3QS | WEEE treatment facility          | < 25000 tonnes            | REC248                | EA/EPR/GP3093LZ/5002 | Reclaimed Appliances Ltd | 101444                     | 0.0                     | 12/05/2010 | -             | -               | 16/02/2011 | -               | -            | -              | Surrendered | H M P Rochester   | -                 |
|      | 962.0    | NW        | 573607, 166170 | Site Address: H M P Rochester, 1, Fort Road, Rochester, Kent, ME1 3QS | WEEE treatment facility          | < 25000 tonnes            | MR 004                | EA/EPR/JB3938RV/A001  | M D J Light Brothers (Scrap Processors) Ltd | 104555                     | 74999.0                 | 13/08/2012 | -             | -               | -        | -               | -            | -              | Issued       | H M P Rochester   | -                 |
3. Current Land Use Map

Current Land Use Legend

- Site Outline
- Search Buffers (m)
- Current Industrial Sites
- Petrol & Fuel Sites
- Underground High Pressure Oil & Fuel Pipelines

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Licence Number: 100035207

Report Reference: EMS-193945_283303
### 3. Current Land Uses

#### 3.1 Current Industrial Data

Records of potentially contaminative industrial sites within 250m of the study site: 90

The following records are represented as points on the Current Land Uses map.

<table>
<thead>
<tr>
<th>ID</th>
<th>Distance</th>
<th>Direction</th>
<th>Company</th>
<th>Address</th>
<th>Activity</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.0</td>
<td>On Site</td>
<td>Electricity Sub Station</td>
<td>ME1</td>
<td>Electrical Features</td>
<td>Infrastructure and Facilities</td>
</tr>
<tr>
<td>2</td>
<td>0.0</td>
<td>On Site</td>
<td>Works</td>
<td>ME1</td>
<td>Unspecified Works Or Factories</td>
<td>Industrial Facilities</td>
</tr>
<tr>
<td>3</td>
<td>0.0</td>
<td>On Site</td>
<td>Electricity Sub Station</td>
<td>ME5</td>
<td>Electrical Features</td>
<td>Infrastructure and Facilities</td>
</tr>
<tr>
<td>4A</td>
<td>0.0</td>
<td>On Site</td>
<td>County Fire Protection Ltd</td>
<td>Rochester City Airport, Maidstone Road, Chatham, ME5 9SD</td>
<td>Special Purpose Machinery and Equipment</td>
<td>Industrial Products</td>
</tr>
<tr>
<td>5A</td>
<td>0.0</td>
<td>On Site</td>
<td>Rochester Airport</td>
<td>Maidstone Road, Chatham, ME5 9SD</td>
<td>Airports and Landing Strips</td>
<td>Air</td>
</tr>
<tr>
<td>6B</td>
<td>0.0</td>
<td>On Site</td>
<td>Innovation Centre Medway</td>
<td>Innovation Centre Medway, Maidstone Road, Chatham, ME5 9FD</td>
<td>Business Parks and Industrial Estates</td>
<td>Industrial Features</td>
</tr>
<tr>
<td>7</td>
<td>0.0</td>
<td>On Site</td>
<td>Av8 Helicopters Ltd</td>
<td>Maidstone Road, Chatham, ME5 9SD</td>
<td>Aircraft Charters</td>
<td>Contract Services</td>
</tr>
<tr>
<td>8</td>
<td>0.0</td>
<td>On Site</td>
<td>Tank</td>
<td>ME1</td>
<td>Tanks (Generic)</td>
<td>Industrial Features</td>
</tr>
<tr>
<td>9B</td>
<td>0.0</td>
<td>On Site</td>
<td>T A Barcoding</td>
<td>G15 Innovation Centre Medway, Maidstone Road, Chatham, ME5 9FD</td>
<td>Office and Shop Equipment</td>
<td>Industrial Products</td>
</tr>
<tr>
<td>10</td>
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<td>11E</td>
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<td>13D</td>
<td>21.0</td>
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<tr>
<td>14J</td>
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<td>SW</td>
<td>Hi-spec</td>
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<td>Construction and Completion Services</td>
<td>Construction Services</td>
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<tr>
<td>15C</td>
<td>25.0</td>
<td>S</td>
<td>Autoglass</td>
<td>4 Stirling Park, Laker Road, Rochester, ME1 3QR</td>
<td>Vehicle Repair, Testing and Servicing</td>
<td>Repair and Servicing</td>
</tr>
<tr>
<td>16C</td>
<td>25.0</td>
<td>S</td>
<td>Hotchkiss Air Supply</td>
<td>2 Stirling Park, Laker Road, Rochester, ME1 3QR</td>
<td>Cooling and Refrigeration</td>
<td>Industrial Products</td>
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<tr>
<td>17D</td>
<td>26.0</td>
<td>SW</td>
<td>Castle View Enterprises Ltd</td>
<td>23 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX</td>
<td>Catering and Non Specific Food Products</td>
<td>Foodstuffs</td>
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<td>18H</td>
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<td>Kent Modular Electronics Ltd</td>
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<td>20F</td>
<td>28.0</td>
<td>N</td>
<td>The Generator Company</td>
<td>12 Stirling Park, Laker Road, Rochester, ME1 3QR</td>
<td>Electrical Equipment Repair and Servicing</td>
<td>Repair and Servicing</td>
</tr>
<tr>
<td>21F</td>
<td>28.0</td>
<td>N</td>
<td>T G C International Ltd</td>
<td>12 Stirling Park, Laker Road, Rochester, ME1 3QR</td>
<td>Electrical Motors and Generators</td>
<td>Industrial Products</td>
</tr>
<tr>
<td>22D</td>
<td>28.0</td>
<td>SW</td>
<td>Depot</td>
<td>ME1</td>
<td>Container and Storage</td>
<td>Transport, Storage and Delivery</td>
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<tr>
<td>24G</td>
<td>30.0</td>
<td>SW</td>
<td>Sprint Fuels Ltd</td>
<td>43 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX</td>
<td>Fuel Distributors and Suppliers</td>
<td>Household, Office, Leisure and Garden</td>
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Report Reference: EMS-193945_283303
<table>
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<tr>
<th>Code</th>
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<td>26 G</td>
<td>35.0</td>
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<td>Palatine Precision Ltd</td>
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<td>SW</td>
<td>Geku UK</td>
<td>31 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX</td>
<td>Measurement and Inspection Equipment</td>
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<tr>
<td>30I</td>
<td>42.0</td>
<td>W</td>
<td>Martin Environmental Services Ltd</td>
<td>Unit 1, Forward Way, Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX</td>
<td>Mechanical Engineers</td>
</tr>
<tr>
<td>31 G</td>
<td>42.0</td>
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<td>32 R</td>
<td>42.0</td>
<td>SW</td>
<td>Halton Foodservice Ltd</td>
<td>11 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX</td>
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<td>33I</td>
<td>43.0</td>
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<td>Southern Sheds Ltd</td>
<td>17 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX</td>
<td>Garden Goods</td>
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<tr>
<td>34</td>
<td>44.0</td>
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<td>ME1</td>
<td>Travelling Cranes and Gantry</td>
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<td>35E</td>
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<td>ME1</td>
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<tr>
<td>36 K</td>
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<td>W</td>
<td>Stirling Park MOT Centre</td>
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<td>37 K</td>
<td>46.0</td>
<td>W</td>
<td>R Winter Tooling</td>
<td>7 Stirling Park, Laker Road, Rochester, ME1 3QR</td>
<td>Tools Including Machine Shops</td>
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<tr>
<td>38 K</td>
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<td>W</td>
<td>Hydraquip Braided Hose Division Ltd</td>
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<td>General Construction Supplies</td>
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<tr>
<td>39 E</td>
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<td>E</td>
<td>Solomon Petroleum Services Ltd</td>
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<td>Oil and Gas Extraction, Refinery and Product Manufacture</td>
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<td>D A Printers Ltd</td>
<td>6, Lankester Parker Road, Rochester, ME1 3QU</td>
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<td>Electricity Sub Station</td>
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<tr>
<td>46L</td>
<td>51.0</td>
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<td>ME1</td>
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<tr>
<td>47 N</td>
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<td>ME1</td>
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<tr>
<td>48 O</td>
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<tr>
<td>49J</td>
<td>55.0</td>
<td>SW</td>
<td>Component Force Ltd</td>
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<td>50 Q</td>
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<td>51 G</td>
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<td>Master Hydraulics Ltd</td>
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<td>Industrial Repairs and Servicing</td>
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Report Reference: EMS-193945_283303
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<td>B S L Gas Tech</td>
<td>101 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX</td>
<td>Lifting and Handling Equipment</td>
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<td>ME1</td>
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<td>Tanks (Generic)</td>
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<td>Constructional Services</td>
<td>641, Maidstone Road, Rochester, ME1 3QJ</td>
<td>Measurement and Inspection Equipment</td>
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<td>62 D</td>
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<td>SW</td>
<td>Aeromet International Plc</td>
<td>21 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX</td>
<td>Moulds, Dies and Castings</td>
<td>Industrial Products</td>
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<tr>
<td>63 D</td>
<td>68.0</td>
<td>SW</td>
<td>Factory</td>
<td>ME1</td>
<td>Unspecified Works Or Factories</td>
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<tr>
<td>65 Q</td>
<td>70.0</td>
<td>NW</td>
<td>Warehouse</td>
<td>ME1</td>
<td>Container and Storage</td>
<td>Transport, Storage and Delivery</td>
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<tr>
<td>66 G</td>
<td>71.0</td>
<td>SW</td>
<td>Warehouse</td>
<td>ME1</td>
<td>Container and Storage</td>
<td>Transport, Storage and Delivery</td>
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<tr>
<td>67J</td>
<td>71.0</td>
<td>SW</td>
<td>Fourmost Fixings Ltd</td>
<td>Unit 3-4 Forward Way Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX</td>
<td>General Construction Supplies</td>
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<tr>
<td>68 O</td>
<td>76.0</td>
<td>W</td>
<td>Medway Supplies</td>
<td>631, Maidstone Road, Rochester, ME1 3QJ</td>
<td>Dairy Products</td>
<td>Foodstuffs</td>
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<tr>
<td>69 R</td>
<td>79.0</td>
<td>SW</td>
<td>Ainsworth Insulation Ltd</td>
<td>6-7 Rochester Airport Industrial Estate, Laker Road, Rochester, ME1 3QX</td>
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<td>Industrial Products</td>
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<td>70 S</td>
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<td>ME1</td>
<td>Unspecified Works Or Factories</td>
<td>Industrial Features</td>
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<tr>
<td>71 Q</td>
<td>84.0</td>
<td>W</td>
<td>Warehouse</td>
<td>ME1</td>
<td>Container and Storage</td>
<td>Transport, Storage and Delivery</td>
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<td>72</td>
<td>85.0</td>
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<td>ME5</td>
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<td>Infrastructure and Facilities</td>
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<td>Works</td>
<td>ME1</td>
<td>Unspecified Works Or Factories</td>
<td>Industrial Features</td>
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<td>74T</td>
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<td>Electricity Sub Station</td>
<td>ME1</td>
<td>Electrical Features</td>
<td>Infrastructure and Facilities</td>
</tr>
<tr>
<td>75T</td>
<td>96.0</td>
<td>SW</td>
<td>Kent Gas Springs</td>
<td>Unit 17 Rochester Trade Park Rochester Airport Industrial Estate, Maidstone Road, Rochester, ME1 3QY</td>
<td>Vehicle Parts and Accessories</td>
<td>Motoring</td>
</tr>
<tr>
<td>76T</td>
<td>96.0</td>
<td>SW</td>
<td>Gate Control Gear Ltd</td>
<td>Unit 17 Rochester Trade Park Rochester Airport Industrial Estate, Maidstone Road, Rochester, ME1 3QY</td>
<td>Electronic Equipment</td>
<td>Industrial Products</td>
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<tr>
<td>77T</td>
<td>96.0</td>
<td>SW</td>
<td>Lake Leason Ltd</td>
<td>Unit 17 Rochester Trade Park Rochester Airport Industrial Estate, Maidstone Road, Rochester, ME1 3QY</td>
<td>Fences, Gates and Railings</td>
<td>Industrial Products</td>
</tr>
<tr>
<td>78T</td>
<td>96.0</td>
<td>SW</td>
<td>Mid-kent Chrysler Ltd</td>
<td>Unit 16 Rochester Trade Park Rochester Airport Industrial Estate, Maidstone Road, Rochester, ME1 3QY</td>
<td>Vehicle Repair, Testing and Servicing</td>
<td>Repair and Servicing</td>
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<tr>
<td>79</td>
<td>102.0</td>
<td>W</td>
<td>Electricity Sub Station</td>
<td>ME1</td>
<td>Electrical Features</td>
<td>Infrastructure and Facilities</td>
</tr>
</tbody>
</table>

Report Reference: EMS-193945_283303
3.2 Petrol and Fuel Sites

**Records of petrol or fuel sites within 500m of the study site:**

The following petrol or fuel site records provided by Catalist are represented as points on the Current Land Use map:

<table>
<thead>
<tr>
<th>ID</th>
<th>Distance</th>
<th>Direction</th>
<th>NGR</th>
<th>Company</th>
<th>Address</th>
<th>LPG</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>91U</td>
<td>148.0</td>
<td>E</td>
<td>574801, 164394</td>
<td>Obsolete Shirley Service Station, Maidstone Road, Maidstone Road, Chatham, Kent, ME5 9UR</td>
<td>Not Applicable</td>
<td>Obsolete</td>
<td></td>
</tr>
<tr>
<td>92</td>
<td>441.0</td>
<td>S</td>
<td>574694, 163215</td>
<td>Obsolete Bridgewood Service Station, Maidstone Road, Maidstone Road, Chatham, Kent, ME5 9RY</td>
<td>Not Applicable</td>
<td>Obsolete</td>
<td></td>
</tr>
<tr>
<td>93</td>
<td>454.0</td>
<td>N</td>
<td>574045, 165789</td>
<td>Total Total Rochester, Maidstone Road, Maidstone Road, Rochester, Kent, ME1 3L</td>
<td>No</td>
<td>Open</td>
<td></td>
</tr>
</tbody>
</table>

3.3 Underground High Pressure Oil and Gas Pipelines

**Records of high pressure underground pipelines within 500m of the study site:**

Database searched and no data found.

Report Reference: EMS-193945_283303
4. Geology

4.1 Artificial Ground and Made Ground

Database searched and no data found.
The database has been searched on site, including a 50m buffer.

4.2 Superficial Ground and Drift Geology

The database has been searched on site, including a 50m buffer.

<table>
<thead>
<tr>
<th>Lex Code</th>
<th>Description</th>
<th>Rock Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>CWF-CSSG</td>
<td>CLAY-WITH-FLINTS FORMATION</td>
<td>CLAY, SILT, SAND AND GRAVEL</td>
</tr>
</tbody>
</table>

(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

4.3 Bedrock and Solid Geology

The database has been searched on site, including a 50m buffer.

<table>
<thead>
<tr>
<th>Lex Code</th>
<th>Description</th>
<th>Rock Type</th>
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<tbody>
<tr>
<td>SECK-CHLK</td>
<td>SEAFORD CHALK FORMATION</td>
<td>CHALK</td>
</tr>
<tr>
<td>LECH-CHLK</td>
<td>LEWES NODULAR CHALK FORMATION</td>
<td>CHALK</td>
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</tbody>
</table>

(Derived from the BGS 1:50,000 Digital Geological Map of Great Britain)

For more detailed geological and ground stability data please refer to the “GroundSure GeoInsight”. Available from our website.
5a. Hydrogeology - Aquifer Within Superficial Geology
5b. Hydrogeology - Aquifer Within Bedrock

Geology and Abstraction Licenses

Aquifer Within Bedrock Geology Legend

- Principal Aquifer
- Secondary (A) Aquifer - Permeable Layers
- Secondary (B) Aquifer - Lower Permeability Layers
- Groundwater Abstraction Licence
- Surface Water Abstraction Licence
- Secondary Aquifer - Undifferentiated Layers
- Unproductive
- Unknown (trenches and landslip)

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Report Reference: EMS-193945_283303
5c. Hydrogeology – Source Protection Zones and Potable Water Abstraction Licenses

SPZ and Potable Water Abstraction Licenses

Legend

- Site Outline
- Source Protection Zone 1 - Inner Catchment
- Source Protection Zone 2 - Outer Catchment
- Source Protection Zone 3 - Total Catchment
- Source Protection Zone 4 - Zone of Special Interest
- Potable Water Abstraction Licence

Report Reference: EMS-193945_283303
5. Hydrogeology and Hydrology

5.1 Aquifer within Superficial Deposits

Are there records of productive strata within the superficial geology at or in proximity to the property?  Yes

From 1 April 2010, the Environment Agency’s Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the GroundSure EnviroInsight User Guide.

The following aquifer records are shown on the Aquifer within Superficial Geology Map (5a):

<table>
<thead>
<tr>
<th>ID</th>
<th>Distance [m]</th>
<th>Direction</th>
<th>Designation</th>
<th>Description</th>
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<td>On Site</td>
<td>Unproductive</td>
<td>These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow</td>
</tr>
<tr>
<td>15</td>
<td>0.0</td>
<td>On Site</td>
<td>Unproductive</td>
<td>These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow</td>
</tr>
<tr>
<td>1</td>
<td>54.0</td>
<td>N</td>
<td>Secondary (undifferentiated)</td>
<td>Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type</td>
</tr>
<tr>
<td>2</td>
<td>94.0</td>
<td>SW</td>
<td>Secondary (undifferentiated)</td>
<td>Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type</td>
</tr>
<tr>
<td>3</td>
<td>189.0</td>
<td>SE</td>
<td>Secondary (undifferentiated)</td>
<td>Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type</td>
</tr>
<tr>
<td>16</td>
<td>211.0</td>
<td>E</td>
<td>Unproductive</td>
<td>These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow</td>
</tr>
<tr>
<td>17</td>
<td>213.0</td>
<td>E</td>
<td>Unproductive</td>
<td>These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow</td>
</tr>
<tr>
<td>4</td>
<td>225.0</td>
<td>E</td>
<td>Secondary (undifferentiated)</td>
<td>Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type</td>
</tr>
<tr>
<td>5A</td>
<td>229.0</td>
<td>E</td>
<td>Secondary (undifferentiated)</td>
<td>Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type</td>
</tr>
<tr>
<td>6</td>
<td>240.0</td>
<td>E</td>
<td>Secondary (undifferentiated)</td>
<td>Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type</td>
</tr>
<tr>
<td>7A</td>
<td>248.0</td>
<td>E</td>
<td>Secondary (undifferentiated)</td>
<td>Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type</td>
</tr>
<tr>
<td>8</td>
<td>276.0</td>
<td>E</td>
<td>Secondary (undifferentiated)</td>
<td>Assigned where it is not possible to attribute either category A or B to a rock type. In general these layers have previously been designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type</td>
</tr>
<tr>
<td>18</td>
<td>285.0</td>
<td>SE</td>
<td>Unproductive</td>
<td>These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow</td>
</tr>
</tbody>
</table>
5.2 Aquifer within Bedrock Deposits

Are there records of productive strata within the bedrock geology at or in proximity to the property? Yes

From 1 April 2010, the Environment Agency’s Groundwater Protection Policy has been using aquifer designations consistent with the Water Framework Directive. For further details on the designation and interpretation of this information, please refer to the GroundSure Environisght User Guide.

The following aquifer records are shown on the Aquifer within Bedrock Geology Map (5b):

<table>
<thead>
<tr>
<th>ID</th>
<th>Distance [m]</th>
<th>Direction</th>
<th>Designation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.0</td>
<td>On Site</td>
<td>Principal</td>
<td>Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers</td>
</tr>
<tr>
<td>2</td>
<td>0.0</td>
<td>On Site</td>
<td>Principal</td>
<td>Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers</td>
</tr>
<tr>
<td>3</td>
<td>211.0</td>
<td>E</td>
<td>Principal</td>
<td>Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers</td>
</tr>
<tr>
<td>4</td>
<td>213.0</td>
<td>E</td>
<td>Principal</td>
<td>Geology of high intergranular and/or fracture permeability, usually providing a high level of water storage and may support water supply/river base flow on a strategic scale. Generally principal aquifers were previously major aquifers</td>
</tr>
</tbody>
</table>

5.3 Groundwater Abstraction Licences

Are there any Groundwater Abstraction Licences within 2000m of the study site? Yes

The following Abstraction Licences records are represented as points, lines and regions on the Aquifer within Bedrock Geology Map (5b):

<table>
<thead>
<tr>
<th>ID</th>
<th>Distance [m]</th>
<th>Direction</th>
<th>NGR</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>513.0</td>
<td>E</td>
<td>575280, 165270</td>
<td>Licence No: 9/40/02/0236/G Details: Potable Water Supply - Direct Source: Southern Region Groundwater Point: Boreholes At Snodhurst Ps Data Type: Region Annual Volume (m³): 9300000 Max Daily Volume (m³): 51000 Original Application No: 169/0639C Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 29/11/2006 Version End Date:</td>
</tr>
<tr>
<td>6</td>
<td>514.0</td>
<td>E</td>
<td>575280, 165270</td>
<td>Licence No: 9/40/02/0236/G Details: Potable Water Supply - Direct Source: Southern Region Groundwater Point: Boreholes At Snodhurst Ps Data Type: RegionAnnual Volume (m³): - Max Daily Volume (m³): - Original Application No: 169/0639C Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 24/3/1986 Version End Date:</td>
</tr>
</tbody>
</table>
### 5.4 Surface Water Abstraction Licences

**Are there any Surface Water Abstraction Licences within 2000m of the study site?**  
No

Database searched and no data found.

### 5.5 Potable Water Abstraction Licences

**Are there any Potable Water Abstraction Licences within 2000m of the study site?**  
Yes

The following Potable Water Abstraction Licences records are represented as points, lines and regions on the SPZ and Potable Water Abstraction Licences Map (5c):

<table>
<thead>
<tr>
<th>ID</th>
<th>Distance</th>
<th>Direction</th>
<th>NGR</th>
<th>Licence No: 9/40/02/0236/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: Boreholes At Nashenden Ps Data Type: Region</th>
<th>Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 169/0639C Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: - Version End Date: -</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>513.0</td>
<td>E</td>
<td>575280, 165270</td>
<td>License No: 9/40/02/0236/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: Boreholes At Snodhurst Ps Data Type: Region</td>
<td>Annual Volume (m³): 9300000 Max Daily Volume (m³): 51000 Original Application No: 169/0639C Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: 29/11/2006 Version End Date:</td>
</tr>
</tbody>
</table>

| 7  | 514.0    | E         | 575280, 165270 | License No: 9/40/02/0236/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: Boreholes At Nashenden Ps Data Type: Region | Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 169/0639C Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: Version End Date: |

| 8  | 697.0    | W         | 572720, 165240 | License No: 9/40/02/0236/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: Boreholes At Nashenden Ps Data Type: Region | Annual Volume (m³): - Max Daily Volume (m³): - Original Application No: 169/0639C Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: Version End Date: |

| 9  | 697.0    | W         | 572720, 165240 | License No: 9/40/02/0236/G Details: Potable Water Supply - Direct Direct Source: Southern Region Groundwater Point: Boreholes At Nashenden Ps Data Type: Region | Annual Volume (m³): 9300000 Max Daily Volume (m³): 51000 Original Application No: 169/0639C Original Start Date: - Expiry Date: - Issue No: 100 Version Start Date: Version End Date: |

Report Reference: EMS-193945_283303
5.6 Source Protection Zones

Are there any Source Protection Zones within 500m of the study site?  Yes

The following Source Protection Zones records are represented on the SPZ and Potable Water Abstraction Map (5c):

<table>
<thead>
<tr>
<th>ID</th>
<th>Distance</th>
<th>Direction</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0.0</td>
<td>On Site</td>
<td>2</td>
<td>Outer Catchment</td>
</tr>
<tr>
<td>5</td>
<td>0.0</td>
<td>On Site</td>
<td>3</td>
<td>Total Catchment</td>
</tr>
<tr>
<td>1</td>
<td>132.0</td>
<td>W</td>
<td>1</td>
<td>Inner Catchment</td>
</tr>
<tr>
<td>4</td>
<td>186.0</td>
<td>E</td>
<td>2</td>
<td>Outer Catchment</td>
</tr>
<tr>
<td>2</td>
<td>337.0</td>
<td>E</td>
<td>1</td>
<td>Inner Catchment</td>
</tr>
</tbody>
</table>

5.7 River Quality

Is there any Environment Agency information on river quality within 1500m of the study site?  No

Biological Quality:

Database searched and no data found.

Chemical Quality:

Database searched and no data found.

5.8 Detailed River Network

Are there any Detailed River Network entries within 500m of the study site?  No

Database searched and no data found.

5.9 Surface Water Features

Are there any surface water features within 250m of the study site?  Yes

The following surface water records are not represented on mapping:

<table>
<thead>
<tr>
<th>Distance to Surface Water (m)</th>
<th>on-site</th>
<th>0-50</th>
<th>51-250</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface water features within 250m of the study site</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Report Reference: EMS-193945_283303
6. Environment Agency Flood Map

Environment Agency Flood Legend

- Site Outline
- Search Buffers (m)
- Zone 2 Floodplain
- Zone 3 Floodplain
- Flood Storage Area
- Area Benefitting from Flood Defences
- Flood Defences

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Report Reference: EMS-193945_283303
6. Flooding

6.1 Zone 2 Flooding

Zone 2 floodplain estimates the annual probability of flooding as one in one thousand (0.1%) or greater from rivers and the sea but less than 1% from rivers or 0.5% from the sea. Alternatively, where information is available they may show the highest known flood level.

Is the site within 250m of an Environment Agency indicative Zone 2 floodplain? No

Database searched and no data found.

6.2 Zone 3 Flooding

Zone 3 estimates the annual probability of flooding as one in one hundred (1%) or greater from rivers and a one in two hundred (0.5%) or greater from the sea. Alternatively, where information is available they may show the highest known flood level.

Is the site within 250m of an Environment Agency indicative Zone 3 floodplain? No

Database searched and no data found.

6.3 Flood Defences

Are there any Flood Defences within 250m of the study site? No

6.4 Areas benefiting from Flood Defences

Are there any areas benefiting from Flood Defences within 250m of the study site? No

6.5 Areas used for Flood Storage

Are there any areas used for Flood Storage within 250m of the study site? No

6.6 Groundwater Flooding Susceptibility Areas

Are there any British Geological Survey groundwater flooding susceptibility flood areas within 50m of the boundary of the study site? Yes

What is the highest susceptibility to groundwater flooding in the search area based on the underlying geological conditions? Very Low

Report Reference: EMS-193945_283303
6.7 Groundwater Flooding Confidence Areas

What is the British Geological Survey confidence rating in this result? High

Notes:

Groundwater flooding is defined as the emergence of groundwater at the ground surface or the rising of groundwater into man-made ground under conditions where the normal range of groundwater levels is exceeded.

The confidence rating is on a threefold scale - Low, Moderate and High. This provides a relative indication of the BGS confidence in the accuracy of the susceptibility result for groundwater flooding. This is based on the amount and precision of the information used in the assessment. In areas with a relatively lower level of confidence the susceptibility result should be treated with more caution. In other areas with higher levels of confidence the susceptibility result can be used with more confidence.
7. Designated Environmentally Sensitive Sites Map

Designated Environmentally Sensitive Sites Legend

- SAC
- SSSI
- NNR
- World Heritage Sites
- SPA
- Ramsar
- LNR
- Environmentally Sensitive Areas
- Areas of Outstanding Natural Beauty
- Nitrates Vulnerable Zones
- Nitrates Sensitive Areas
- National Parks
- Ancient Woodlands

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Report Reference: EMS-193945_283303
7. Designated Environmentally Sensitive Sites

Presence of Designated Environmentally Sensitive Sites within 2000m of the study site? Yes

Records of Sites of Special Scientific Interest (SSSI) within 2000m of the study site: 3

The following Site of Special Scientific Interest (SSSI) records provided by Natural England/Countryside Council for Wales and Scottish Natural Heritage are represented as polygons on the Designated Environmentally Sensitive Sites Map:

<table>
<thead>
<tr>
<th>ID</th>
<th>Distance</th>
<th>Direction</th>
<th>SSSI Name</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1417.0</td>
<td>SW</td>
<td>Wouldham to Detling Escarpment</td>
<td>Natural England</td>
</tr>
<tr>
<td>2</td>
<td>1694.0</td>
<td>W</td>
<td>Wouldham to Detling Escarpment</td>
<td>Natural England</td>
</tr>
<tr>
<td>Not shown</td>
<td>1967.0</td>
<td>S</td>
<td>Wouldham to Detling Escarpment</td>
<td>Natural England</td>
</tr>
</tbody>
</table>

Records of National Nature Reserves (NNR) within 2000m of the study site: 0

Database searched and no data found.

Records of Special Areas of Conservation (SAC) within 2000m of the study site: 0

Database searched and no data found.

Records of Special Protection Areas (SPA) within 2000m of the study site: 0

Database searched and no data found.

Records of Ramsar sites within 2000m of the study site: 0

Database searched and no data found.

Records of Local Nature Reserves (LNR) within 2000m of the study site: 0

Database searched and no data found.

Records of World Heritage Sites within 2000m of the study site: 0

Database searched and no data found.

Records of Environmentally Sensitive Areas within 2000m of the study site: 0

Database searched and no data found.

Records of Areas of Outstanding Natural Beauty (AONB) within 2000m of the study site: 1

Report Reference: EMS-193945_283303
The following Area of Outstanding Natural Beauty (AONB) records and Scottish National Scenic Area (NSA) records provided by Natural England/Countryside Council for Wales/Scottish Government are represented as polygons on the Designated Environmentally Sensitive Sites Map:

<table>
<thead>
<tr>
<th></th>
<th>Distance</th>
<th>Direction</th>
<th>AONB/NSA Name</th>
<th>Data Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>60.0</td>
<td>W</td>
<td>Kent Downs</td>
<td>Natural England</td>
</tr>
</tbody>
</table>

**Records of National Parks (NP) within 2000m of the study site:**

Database searched and no data found.

**Records of Nitrate Sensitive Areas within 2000m of the study site:**

Database searched and no data found.

**Records of Nitrate Vulnerable Zones within 2000m of the study site:**

Database searched and no data found.

**Records of Ancient Woodland within 2000m of the study site:**

The following Ancient Woodland records are supplied by English Nature/Scottish Natural Heritage/Countryside Council for Wales and are represented as polygons on the Designated Environmentally Sensitive Sites Map:

<table>
<thead>
<tr>
<th>ID</th>
<th>Distance</th>
<th>Direction</th>
<th>Ancient Woodland Name</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>117.0</td>
<td>E</td>
<td>FRITH/IMPTON WOODS</td>
<td>Ancient and Semi-Natural Woodland</td>
</tr>
<tr>
<td>6</td>
<td>119.0</td>
<td>S</td>
<td>UNKNOWN</td>
<td>Ancient and Semi-Natural Woodland</td>
</tr>
<tr>
<td>7</td>
<td>147.0</td>
<td>W</td>
<td>UNKNOWN</td>
<td>Ancient and Semi-Natural Woodland</td>
</tr>
<tr>
<td>8</td>
<td>203.0</td>
<td>NW</td>
<td>UNKNOWN</td>
<td>Ancient and Semi-Natural Woodland</td>
</tr>
<tr>
<td>9</td>
<td>242.0</td>
<td>SW</td>
<td>BRIDGE WOODS</td>
<td>Ancient and Semi-Natural Woodland</td>
</tr>
<tr>
<td>10</td>
<td>349.0</td>
<td>S</td>
<td>FRITH/IMPTON WOODS</td>
<td>Ancient and Semi-Natural Woodland</td>
</tr>
<tr>
<td>11</td>
<td>662.0</td>
<td>S</td>
<td>FRITH/IMPTON WOODS</td>
<td>Ancient and Semi-Natural Woodland</td>
</tr>
<tr>
<td>12</td>
<td>919.0</td>
<td>SE</td>
<td>FRITH/IMPTON WOODS</td>
<td>Ancient and Semi-Natural Woodland</td>
</tr>
<tr>
<td>13</td>
<td>976.0</td>
<td>SW</td>
<td>BARN WOOD</td>
<td>Ancient and Semi-Natural Woodland</td>
</tr>
<tr>
<td>14</td>
<td>1141.0</td>
<td>E</td>
<td>BISHOPS HOATH WOOD</td>
<td>Ancient and Semi-Natural Woodland</td>
</tr>
<tr>
<td>Not shown</td>
<td>1377.0</td>
<td>S</td>
<td>UNKNOWN</td>
<td>Ancient and Semi-Natural Woodland</td>
</tr>
<tr>
<td>Not shown</td>
<td>1415.0</td>
<td>S</td>
<td>UNKNOWN</td>
<td>Ancient and Semi-Natural Woodland</td>
</tr>
<tr>
<td>Not shown</td>
<td>1447.0</td>
<td>SW</td>
<td>BURHAM DOWN 1</td>
<td>Ancient and Semi-Natural Woodland</td>
</tr>
<tr>
<td>Not shown</td>
<td>1542.0</td>
<td>SW</td>
<td>UNKNOWN</td>
<td>Ancient and Semi-Natural Woodland</td>
</tr>
<tr>
<td>19</td>
<td>1693.0</td>
<td>W</td>
<td>HARRISS COPSE</td>
<td>Ancient and Semi-Natural Woodland</td>
</tr>
<tr>
<td>20</td>
<td>1765.0</td>
<td>SE</td>
<td>FRITH/IMPTON WOODS</td>
<td>Ancient Replanted Woodland</td>
</tr>
<tr>
<td>21</td>
<td>1914.0</td>
<td>SE</td>
<td>FRITH/IMPTON WOODS</td>
<td>Ancient and Semi-Natural Woodland</td>
</tr>
<tr>
<td>Not shown</td>
<td>1965.0</td>
<td>S</td>
<td>UNKNOWN</td>
<td>Ancient and Semi-Natural Woodland</td>
</tr>
<tr>
<td>23</td>
<td>1990.0</td>
<td>SE</td>
<td>FRITH/IMPTON WOODS</td>
<td>Ancient Replanted Woodland</td>
</tr>
</tbody>
</table>

Report Reference: EMS-193945_283303
8. Natural Hazards Findings

8.1 Detailed BGS GeoSure Data

BGS GeoSure Data has been searched to 50m. The data is included in tabular format. If you require further information on geology and ground stability, please obtain a GroundSure GeoInsight, available from our website. The following information has been found:

8.1.1 Shrink Swell

**What is the maximum Shrink-Swell* hazard rating identified on the study site?**  Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

<table>
<thead>
<tr>
<th>Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground conditions predominantly medium plasticity. Do not plant trees with high soil moisture demands near to buildings. For new build, consideration should be given to advice published by the National House Building Council (NHBC) and the Building Research Establishment (BRE). There is a possible increase in construction cost to reduce potential shrink-swell problems. For existing property, there is a possible increase in insurance risk, especially during droughts or where vegetation with high moisture demands is present.</td>
</tr>
</tbody>
</table>

8.1.2 Landslides

**What is the maximum Landslide* hazard rating identified on the study site?**  Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

<table>
<thead>
<tr>
<th>Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Possibility of slope instability problems after major changes in ground conditions. Consideration should be given to stability if changes to drainage or excavations take place. Possible increase in construction cost to reduce potential slope stability problems. Existing property no significant increase in insurance risk due to natural slope instability problems.</td>
</tr>
</tbody>
</table>

8.1.3 Soluble Rocks

**What is the maximum Soluble Rocks* hazard rating identified on the study site?**  High

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

<table>
<thead>
<tr>
<th>Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very significant soluble rocks are present, with a high possibility of localised subsidence occurring naturally or in adverse conditions such as high surface or subsurface water flow. Obtain specialist advice to advise on need for stabilisation work and/or land management plan to maintain stability. Do not dispose of drainage into the ground. For new build a specialist land stability assessment is necessary. Investigation, remediation and/or mitigation works may be necessary to stabilise the area. Construction work may cause subsidence. Surface drainage must not affect the karst system or groundwater. Increased construction costs are likely. For existing property increase in insurance risk due to potential soluble rocks hazards. Potential of groundwater pollution.</td>
</tr>
</tbody>
</table>

8.1.4 Compressible Ground

**What is the maximum Compressible Ground* hazard rating identified on the study site?**  Negligible

*Report Reference: EMS-193945_283303*
The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

<table>
<thead>
<tr>
<th>Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>No indicators for compressible deposits identified. No special actions</td>
</tr>
<tr>
<td>required to avoid problems due to compressible deposits. No special</td>
</tr>
<tr>
<td>ground investigation required, and increased construction costs or</td>
</tr>
<tr>
<td>increased financial risks are unlikely due to potential problems with</td>
</tr>
<tr>
<td>compressible deposits.</td>
</tr>
</tbody>
</table>

8.1.5 Collapsible Rocks

What is the maximum Collapsible Rocks* hazard rating identified on the study site? Very Low

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

<table>
<thead>
<tr>
<th>Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deposits with potential to collapse when loaded and saturated are</td>
</tr>
<tr>
<td>unlikely to be present. No special ground investigation required or</td>
</tr>
<tr>
<td>increased construction costs or increased financial risk due to</td>
</tr>
<tr>
<td>potential problems with collapsible deposits.</td>
</tr>
</tbody>
</table>

8.1.6 Running Sand

What is the maximum Running Sand* hazard rating identified on the study site? Negligible

The following natural subsidence information provided by the British Geological Survey is not represented on mapping:

<table>
<thead>
<tr>
<th>Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>No indicators for running sand identified. No special actions required</td>
</tr>
<tr>
<td>to avoid problems due to running sand. No special ground investigation</td>
</tr>
<tr>
<td>required, and increased construction costs or increased financial risks</td>
</tr>
<tr>
<td>are unlikely due to potential problems with running sand.</td>
</tr>
</tbody>
</table>

* This indicates an automatically generated 50m buffer and site.
9. Mining

9.1 Coal Mining

Are there any coal mining areas within 75m of the study site? No
Database searched and no data found.

9.2 Shallow Mining

What is the subsidence hazard relating to shallow mining on-site*? Low
*Please note this data is searched with a 150m buffer.

9.3 Brine Affected Areas

Are there any brine affected areas within 75m of the study site? No
Database searched and no data found.
10. Contacts

EmapSite
Telephone: 0118 9736883
sales@emapsite.com

British Geological Survey (England & Wales)
Kingsley Dunham Centre
Keyworth, Nottingham NG12 5GG
Tel: 0115 936 3143. Fax: 0115 936 3276. Email:
enquiries@bgs.ac.uk
Web: www.bgs.ac.uk
BGS Geological Hazards Reports and general geological
enquiries

Environment Agency
National Customer Contact Centre
PO Box 544
Rotherham
S60 1BY
Tel: 08708 506 506
Web: www.environment-agency.gov.uk
Email: enquiries@environment-agency.gov.uk

Health Protection Agency
Chilton, Didcot, Oxon, OX11 0RQ
Tel: 01235 822622 www.hpa.org.uk/radiation
Radon measures and general radon information and
guidance

The Coal Authority
200 Lichfield Lane, Mansfield, Notts NG18 4RG
Tel: 0845 762 6848
DX 716176 Mansfield 5
Web: www.groundstability.com

Ordnance Survey
Romsey Road
Southampton SO16 4GU
Tel: 08456 050505

Local Authority
Authority: Medway Council
Phone: 01634 306000
Web: www.medway.gov.uk
Address: Civic Centre, Strood, Rochester, Kent, ME2 4AU

Get Mapping PLC
Virginia Villas, High Street, Hartley Witney, Hampshire RG27 8NW
Tel: 01252 845444

Acknowledgements
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This report has been prepared in accordance with the GroundSure Ltd standard Terms and Conditions of business for work of this nature.

Report Reference: EMS-193945_283303
Definitions

In these conditions unless the context otherwise requires:

- "Beneficiary" or the customer of the Beneficiary for whom the Client has procured the Services.

- "Commercial" means any building which is not Residential.

- "Consultancy Services" mean consultancy services provided by GroundSure including, without limitation, carrying out interpretation of third party and in-house environmental data, provision of environmental consultancy advice, undertaking environmental audits and assessments, Site investigation, Site monitoring and related items.

- "Contract" means the agreement between the Client and GroundSure for the supply of the Services which arises from the performance of the Client for the payment of the Client's acceptance of an Order or Commission and which shall incorporate these conditions, the relevant GroundSure User Guide, proposal by GroundSure and the content of any subsequent report, and any agreements acknowledged in clause 11.

- "Client" means the party that submits an Order or Commission.

- "Data Reports" means any party providing Third Party Content to GroundSure.

- "Data Report" means reporting factual data with no professional interpretation in respect of the level of likely risk and/or liability available from GroundSure.

- "GroundSure" means GroundSure Limited, a company registered in England and Wales under number 03421028 and whose registered office is at Greater London House, Hampstead Road, London NW1 7EX.

- "GroundSure Materials" means all materials prepared by GroundSure as a result of the provision of the Services, including but not limited to Data Reports, Mapping and Risk Screening Reports.

- "Intellectual Property" means any patent, copyright, design rights, service marks, moral rights, data protection rights, know-how, trade mark or any other intellectual property right.

- "Mapping" means an historical map or a combination of historical maps of various ages, time periods and scales available from GroundSure.

- "Order" means any order form submitted by the Client requiring Services from GroundSure in respect of a specified Site.

- "Order Website" means online platform via which Orders may be placed.

- "Report" means a Risk Screening Report or Data Report for commercial or residential property available from GroundSure relating to the Site prepared in accordance with the specifications set out in the relevant User Guide.

- "User Guide" means the relevant current version of the user guide, available upon request from GroundSure.

Scope of Services

2.1 GroundSure agrees to carry out the Services in accordance with the Contract and to the extent set out therein.

2.2 GroundSure shall exercise all the reasonable skill, care and diligence to be expected of experienced environmental consultants in the performance of the Services.

2.3 The Client acknowledges that it has not relied on any statement or representation made by or on behalf of GroundSure which is not set out and expressly agreed in the Contract.

2.4 Terms and conditions appearing on a Client’s order form, printed stationery or other communication, including invoices, to GroundSure, its employees, servants, agents or other representatives or any terms implied by custom, practice or course of dealing shall be of no effect and these terms and conditions shall prevail over all others.

2.5 If a Client/Beneficiary requests insurance in conjunction with or as a result of the Services, GroundSure shall use reasonable endeavours to procure such insurance, but makes no warranties to this effect. GroundSure does not offer or undertake any responsibility for loss or damage suffered by a Client/Beneficiary or others as a result of the absence of such insurance.

2.6 GroundSure’s quotations/proposals are valid for a period of 30 days only. During that period GroundSure reserves the right to withdraw any quotation at any time before GroundSure accepts an Order or Commission acceptance of an Order, or Commission shall be effective only where such acceptance is in writing and signed by GroundSure’s authorised representative or where accepted via GroundSure’s Order Website.

The Client’s obligations

3.1 The Client shall ensure the Beneficiary complies with and is bound by the terms and conditions set out in the Contract and shall provide that GroundSure may in its own right enforce all the terms and conditions against the Beneficiary pursuant to the Contracts (Rights of Third parties) Act 1999 for the benefit of GroundSure and the Client are hereby acknowledged by the Client and Beneficiary and shall be binding on the Beneficiary for all purposes.

3.2 The Client shall or (shall procure that the Beneficiary shall) supply to GroundSure as soon as practicable and without charge all information necessary and accurate relevant data including, but not limited to, specific and/or unusual environmental and/or information relating to the Site known to the Client/Beneficiary which may pertain to the Services and shall give such assistance as GroundSure shall reasonably require in the performance of the Services (including, without limitation, access to a Site, facilities and equipment as agreed in the Contract).

3.3 Where Client/Beneficiary approval or decision is required, such approval or decision shall be given or procured in reasonable time as not to delay or disrupt the performance of any other part of the Services.

3.4 The Client shall not and shall not knowingly permit the Beneficiary to, save as expressly permitted by these terms and conditions, re-sell, alter, add to, amend or use out of context the content of any Report, Mapping, or, in respect of any Services, information given by GroundSure. For the avoidance of doubt, the Client and Beneficiary may make the Report, Mapping or GroundSure’s findings available to a third party who is considering acquiring the whole or part of the Site, or providing funding in relation to the Site, but such third party cannot rely on the same unless expressly permitted under clause 3.5.

3.5 The Client is responsible for maintaining the confidentiality of its user name and password if using GroundSure’s internet ordering service and accepts responsibility for all activity that occurs under such account and password.

Reliance

4.1 Upon full payment of all relevant fees and subject to the provisions of these terms and conditions, the Client and Beneficiary are granted an irrevocable royalty-free licence to access the information contained in a Report, Mapping or in any report prepared by GroundSure in respect of or arising out of Consultancy Services. The Services may be only used for the benefit of the Client and those persons listed in clauses 4.2 and 4.3.

4.2 In respect of the Services, Mapping and Risk Screening Reports, the Client shall be entitled to make Reports available to (i) the Beneficiary, (ii) the Beneficiary’s professional advisors, (iii) any person providing funding to the Beneficiary in relation to the Site (whether directly or as part of a lending syndicate), (iv) the first purchaser or first tenant of the Site (the "Buyer") and (v) any third party provisioning, including, but not limited to, the GroundSure share or tenancy agents and their professional advisers and lenders and (vi) the first purchaser or first tenant of the Site (the "Buyer") and (v) any third party provisioning, including, but not limited to, the limitations of GroundSure’s liability under these conditions set out in clauses 7 and 11.6 shall apply.

4.3 In respect to Consultancy Services, reliance shall be limited to the Client, Beneficiary and named parties on the Report.

4.4 If GroundSure’s conditions are contrary to clauses 4.2 and 4.3 unless otherwise agreed in writing by the Client/Beneficiary, no other party considering the information supplied by GroundSure as part of the Services, including (but not limited to) insurance underwriters, does so at their own risk and GroundSure has no legal obligations to such party unless otherwise agreed in writing.

4.5 The Client shall not and shall not knowingly permit any person (including the Beneficiary) who is provided with a copy of any Report, except as permitted herein or by separate agreement with GroundSure to: (a) remove, suppress or modify any trade mark, copyright or other proprietary marking from the Report or Mapping, (b) create any product which is derived directly or indirectly from the data contained in the Report or Mapping or (c) incorporate the Report or Mapping into any other information or data service, or re-format or otherwise change (whether by modification, addition or enhancement) data or images contained in the Report or Mapping.

Notwithstanding clause 4.5, if the Client acts in a professional capacity, it may make reasonable use of a Report and/or findings made as a result of Consultancy Services to advise Beneficiaries. However, GroundSure shall have no liability in respect of any opinion or report given to such Beneficiaries by the Client or a third party.

Fees and Disbursements

5.1 GroundSure shall charge the Client fees at the rate and frequency specified in the Contract together, in the case of Consultancy Services, with all proper disbursements incurred by GroundSure in performing the Services. For the avoidance of doubt, the fees payable for the Services are as set out in GroundSure’s written proposal, Order Form or Order acknowledgement form. The Client shall in addition pay all value added tax or other tax payable on such fees and disbursements in relation to the provision of the Services.

5.2 Unless GroundSure requires prepayment, the Client shall promptly pay all fees disbursements and other monies due to GroundSure in full without deduction, counterclaim or set off to whomsoever payable. In the event of late payment, interest shall accrue on a daily basis at 5% per annum above the Bank of England base rate from time to time.

5.3 In the event that the Client disputes the amount payable in respect of GroundSure’s invoice it shall notify GroundSure no later than 28 days after the date thereof that it is in dispute. Notice does not affect the Client’s obligations. As soon as reasonably practicable following receipt of a notification of dispute, a member of the management team at GroundSure shall contact the Client and the parties shall use all reasonable endeavours to resolve the dispute.

Intellectual Property and Confidentiality

6.1 Subject to the provisions of clause 4.1, the Client and the Beneficiary hereby acknowledge that all Intellectual Property in the Services and Content are and shall remain owned by GroundSure and that GroundSure has no legal obligations to such party unless otherwise agreed in writing.

6.2 The Client shall acknowledge the ownership of the Third Party Content where such Third Party Content is incorporated or used in the Client’s own documents, reports, systems or databases. Third Party Content are supplied to a third party.

7.1 GroundSure may, at any time when reasonably necessary, and in order to enforce the Client’s obligations under this Contract, exercise all such rights as are vested in GroundSure under any agreement with GroundSure) to,: (a) remove, suppress or modify any trade mark, copyright or other proprietary marking from the Report or Mapping, (b) create any product which is derived directly or indirectly from the data contained in the Report or Mapping or (c) incorporate the Report or Mapping into any other information or data service, or re-format or otherwise change (whether by modification, addition or enhancement) data or images contained in the Report or Mapping.

Report Reference: EMS-193945_283303
In the event that GroundSure reasonably believes that the Client or Beneficiary as applicable has not provided the information or assistance required to enable the proper
(i) the Client or Beneficiary's failure to provide facilities, access or information;
(iv) any loss or damage to a Client's computer, software, modem, telephone or other property caused by a delay or loss of use of GroundSure's internet ordering service.

he Client accepts and shall procure that any other Beneficiary shall accept that it has no claim or recourse to any Data Provider or to GroundSure in respect of the acts or omissions
7.3 GroudSure's total liability in contract, tort (including negligence or breach of statutory duty), misrepresentation, restitution or otherwise, arising in connection with the GroundSure
(i) excludes or limits the liability of GroundSure for death or personal injury caused by GroundSure's negligence, or for fraudulent misrepresentation; or
(iv) not combine the Services with or incorporate such Services into any other information data or service; and
(v)   not reformat or otherwise change (whether by modification, addition or enhancement), data contained in the Services (save that those acting in a professional capacity to the
(viii) changes in law.

6.8 Save as otherwise set out in these terms and conditions, any information provided by one party ("Disclosing Party") to the other party ("Receiving Party") shall be treated as
confidential and only used for the purposes of these terms and conditions, except in so far as the Receiving Party is authorised by the Disclosing Party to provide such information
in whole or in part to a third party.

7 Liability

7.1 Subject to the provisions of this clause 7, GroundSure shall be liable to the Beneficiary only in relation to any direct losses or damages caused by any negligent act or omission of
GroundSure in preparing the GroundSure Materials and provided that the Beneficiary has used all reasonable endeavours to mitigate any such losses.

7.2 GroundSure shall not be liable for any other losses or damages incurred by the Beneficiary, including but not limited to:
(i) loss of profit, revenue, business or goodwill, losses relating to business interruption, loss of anticipated savings, loss of or corruption to data or for any specific, indirect or consequential loss or damage which arise out of or in connection with the GroundSure Materials or otherwise in relation to a Contract;
(ii) any losses or damages that arise as a result of the use of all or part of the GroundSure Materials in breach of these terms and conditions or contrary to the terms of the relevant
User Guide;
(iii) any losses or damages that arise as a result of any error, omission or inaccuracy in any part of the GroundSure Materials where such part is based on any Third Party Content or
any reasonable interpretation of Third Party Content. The Client accepts, and shall procure that any other Beneficiary shall accept, that it has no claim or recourse to any Data Provider in relation to Third Party Content; and/or
(iv) any loss or damage to a Client's computer, software, modem, telephone or other property caused by a delay or loss of use of GroundSure's internet ordering service.

7.4 For the duration of the liability periods set out in clauses 7.5 and 7.6 below, GroundSure shall maintain professional indemnity insurance in respect of its liability under these terms and
conditions provided such insurance is readily available at commercially viable rates. GroundSure shall produce evidence of such insurance if reasonably requested by the
Client or Beneficiary.

7.5 Any claim under the Contract in relation to Data Reports, Mapping and Risk Screening Reports, must be brought within six years from the date when the Beneficiary became aware
that it may have a claim and in no event may a claim be brought twelve years after termination or expiration of the Contract. For the avoidance of doubt, any claim in respect of
which proceedings are notified to GroundSure in writing prior to the expiry of the time periods referred to in this clause 7.5 shall survive the expiry of those time periods provided
the claim is actually commenced within six months of notification.

7.6 Any claim under the Contract in relation to Consultancy Services, must be brought within six years from the date the Consultancy Services were completed.

7.7 The Client acknowledges that any other Beneficiary shall accept that it has no claim or recourse to any Data Provider or to GroundSure in respect of the acts or omissions
of any Data Provider and/or any Third Party Content provided by a Data Provider.

7.8 Nothing in these terms and conditions:
(i) excludes or limits the liability of GroundSure for death or personal injury caused by GroundSure's negligence, or for fraudulent misrepresentation; or
(ii) shall affect the statutory rights of a consumer under the applicable legislation.

8 GroundSure right to suspend or terminate

8.1 In the event that GroundSure reasonably believes that the Client or Beneficiary as applicable has not provided the information or assistance required to enable the proper
performance of the Services, GroundSure shall be entitled on fourteen days written notice to suspend all further performance of the Services until such time as any such deficiency
has been made good.

8.2 GroundSure may additionally terminate the Contract immediately on written notice in the event that:
(i) the Client shall fail to pay any sum due to GroundSure within 28 days of the Payment Date; or
(ii) the Client (being an individual) has a bankruptcy order made against him or (being a company) shall enter into liquidation whether compulsory or voluntary or have an
Administration Order made against it or if a Receiver shall be appointed over the whole or any part of its property assets or undertaking or if the Client is struck off the Register
of Companies or is dissolved; or
(iii) the Client being a company is unable to pay its debts within the meaning of Section 233 of the Insolvency Act 1986 or if the Client shall enter into a composition or arrangement with the Client's creditors or shall suffer distress or execution to be levied on its goods; or
(iv) the Client or the Beneficiary breaches any material term of the Contract (including, but not limited to, the obligations in clause 4) incapable of remedy or if remediable, is not
remedied within 14 days of notice of breach.

9 Client's Right to Terminate and Suspend

9.1 Subject to clause 10.2, the Client may at any time after commencement of the Services by notice in writing to GroundSure require GroundSure to terminate or suspend immediately
performance of all or any of the Services.

9.2 The Client waives all and any right of cancellation it may have under the Consumer Protection (Distance Selling) Regulations 2000 (as amended) in respect of the Order of a
Report.Mapping. This does not affect the Beneficiary's statutory rights.

10 Consequences of Withdrawal, Termination or Suspension

10.1 Upon termination or any suspension of the Services, GroundSure shall take steps to bring to an end the Services in an orderly manner, vacate any Site with all reasonable speed
and deliver to the Client/Beneficiary any property of the Client/Beneficiary arising from or connected to the performance of the Services up to the date of termination/suspension. In respect of any Consultancy Services provided, the Client shall also pay GroundSure any additional costs incurred in relation to the termination/suspension of the Contract.

11 General

11.1 The mapping contained in the Services is protected by Crown copyright and must not be used for any purpose outside the context of the Services or as specifically provided in
these terms.

11.2 GroundSure reserves the right to amend these terms and conditions. No variation to these terms shall be valid unless signed by an authorised representative of GroundSure.

11.3 No modification to the terms of this Contract shall be valid unless in writing and signed by both the parties.

11.4 Save as expressly provided in clauses 4.2, 4.3, 6.3 and 11.5, no person other than the persons set out therein shall have any right under the Contract (Rights of Third Parties) Act
1999 to enforce any terms of the Contract.

11.5 The Secretary of State for Communities and Local Government acting through Ordinance Survey may enforce breach of clause 6.1 of these terms and conditions against the Client
in accordance with the provisions of the Contracts (Rights of Third Parties) Act 1999.

11.6 GroundSure shall not be liable to the Client or any third party in respect of any provision of the Services delayed or prevented by one or more of the following circumstances:
(i) the Client or Beneficiary's failure to provide facilities, access or information;
(ii) fire, storm, flood, tempest or epidemic;
(iii) acts of God or the public enemy;
(iv) riot, civil commotion or war;
(v) strikes, labour disputes or industrial action;
(vi) any regulations of any governmental or other agency;
(vii) suspension or delay of services at public registries by Data Providers; or
(viii) any other changes in law.

11.7 Any notice provided shall be in writing and shall be deemed to be properly given if delivered by hand or sent by first class post, facsimile or by email to the address, facsimile
number or email address of the relevant party as may have been notified by each party to the other for such purpose or in the absence of such notification the last known
address.

11.8 Such notice shall be deemed to have been received on the day of delivery if delivered by hand, facsimile or email and on the second working day after the day of posting if sent
by first class post.

11.9 The Contract constitutes the entire contract between the parties and shall supersede all previous arrangements between the parties.

11.10 Each of the provisions of the Contract is severable and distinct from the others and if one or more provisions is or should become invalid, illegal or unenforceable, the validity and
enforceability of the remaining provisions shall not in any way be tainted or impaired.

11.11 These terms and conditions shall be governed by and construed in accordance with English law and any proceedings arising out of or connected with these terms and conditions
shall be subject to the exclusive jurisdiction of the English courts.

11.12 If the Client or Beneficiary has a complaint about the Services, notice can be given in any format eg writing, phone, email to the Compliance Officer at GroundSure who
will respond in a timely manner.

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Report Reference: EMS-193945_283303
Historical Map Pack

Legend

**County Series 1:10,560 scale**

- Vegetation
  - Fir Wood
  - Mixed Wood
  - Deciduous Wood
  - Brushwood
  - Reeds
  - Grassland
- Marsh

**National Grid 1:10,000 scale**

- Heights (Metres)
  - Values are given in metres above mean sea level at Newlyn
  - Surface heights are derived from Ordnance Survey 1:10560

- Rock Features
  - Boulders
  - Cliff

- Conversion Scale
  - Metres - Feet
  - 1:10560
  - 1:10000

**Abbreviations**

- BPS Boundary Post or Stone
- CH Church
- CL Clock House
- PS Police Station
- PB Point Bridge
- PL Post Office
- PS Police Station
- SL Slate
- SN Spring
- TCB Telephone Call Box
- TCP Telephone Call Post

**Roads**

- Railway over Road
- Road over Railway
- Road over Stream
- Road over Canal
- Road over River

**Railways**

- Single Lines of Railway and Trackway
- Multiple Trackway

**General Features**

- Gravel Pit
- Sand Pit
- Quarry
- Ochre Pit

- Artificial Water, River or Canal
  - Arrows showing direction of flow of water
  - Trigonometrical Station

**Boundaries**

- County Boundary
- Parish Boundary
- Ordnance

If you have a query regarding any of the maps provided please contact GroundSure’s technical helpline. We will endeavour to answer any queries you may have.

**Technical Helpline**

Tel: 01273 819 700
maps&data@groundsure.com
www.groundsure.com

Information present on these legends is sourced from the same Ordnance Survey mapping as the maps used in this product.
Historical Map Pack

Legend

If you have a query regarding any of the maps provided within this map pack, please contact GroundSure’s technical helpline. We will endeavour to answer any queries you may have.

Technical Helpline:
Tel: 01273 819 700
maps&data@groundsure.com
www.groundsure.com

Information present on these legends is sourced from the same Ordnance Survey mapping as the maps used in this product.

County Series
1:1,250 scale
~
County Series & National Grid
1:2,500 scale

- Groundsure
- Historical Map Pack
- Legend

County Series 1:2,500 scale

National Grid 1:2,500 / 1:1,250 scale

ABBREVIATIONS

- Historical Map Pack
- Groundsure
- Legend

- Historical Map Pack
- Groundsure
- Legend
Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS_193945_283301
Grid Ref: 574470, 164589

Map Name: County Series
Map date: 1895-1896
Scale: 1:10,560
Printed at: 1:10,560

Produced by GroundSure Environmental Insight
www.groundsure.com

Supplied by www.emapsite.com sales@emapsite.com

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Production date: 11 February 2013

To view map legend click here Legend
Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301_LS_A1
Grid Ref: 574178, 165099

Map Name: National Grid
Map date: 1986
Scale: 1:1,250
Printed at: 1:2,500

Produced by
GroundSure Environmental Insight
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sales@emapsite.com

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Production date: 11 February 2013

To view map legend click here
Legend
Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301_LS_A1
Grid Ref: 574178, 165099

Map Name: National Grid
Map date: 1982
Scale: 1:1,250
Printed at: 1:2,500

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Produced by GroundSure Environmental Insight www.groundsure.com
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Production date: 11 February 2013
To view map legend click here Legend
Site Details:

Client Ref: EMS_193945_283301
Report Ref: EMS-193945_283301_LS_A1
Grid Ref: 574178, 165099

Map Name: National Grid
Map date: 1972
Scale: 1:1,250
Printed at: 1:2,500

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Production date: 11 February 2013

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