



**PHASE 1 SITE INVESTIGATION**

5-7 East Street, Havant

For

Boulevard Property Holdings Ltd

July 2017

Project No. 001BOUL110

Prepared by

Wesson Environmental

Telephone 0117 369 0156



Contaminated Land Solutions

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**5-7 East Street, HAVANT**

For

Boulevard Property Holdings Ltd

The material and data in this report were prepared under the supervision and direction of the undersigned.

Wesson Environmental

A handwritten signature in black ink, consisting of a large, stylized 'R' followed by a dot and a long, wavy horizontal line extending to the right.

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**Prepared by: Dr. Richard Wesson  
Environmental Consultant**

16<sup>th</sup> August 2017

**Date**

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## **1.0 Introduction**

### **1.1 General**

Wesson Environmental were commissioned to carry out a Phase 1 Site Investigation of the site located at 5-7 East Street, Havant.

The report uses documentary data (refs. 1, 2, 3).

The purpose of this report is to assess the potential risks to human, controlled water receptors and to the wider environment arising from past and present land use, and naturally occurring features present at or near the site.

### **1.2 Scope of report**

This report aims to identify and address the following issues related to the use of the site for residential development:

1. The potential presence of any contaminants.
2. Pathways which may feasibly exist between contaminant sources and receptors.
3. Potential impact on human, controlled waters and the wider environment.

The report will conclude with a preliminary risk assessment which will address issues associated with potential contaminants on the site based on the collation of documentary data.

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## 2.0 Site Location and Description

The site is located at National Grid Reference 471830, 106280 and covers an area of approximately 0.04ha.

### *Current Site Use:*

The site consists of a disused retail premises.

### *Site Boundaries:*

The site is bordered by a road to the south and the very north of the site. A mixture of retail and residential premises borders the east and west of the site.

### *Surrounding Site Use:*

The surrounding area is predominantly residential and retail.

### *Storage Tanks:*

No Tanks were present on the study site.

## 2.1 Site History

Historical maps have been procured from the Ordnance Survey, which show development of the site and its surrounding area from 1867– 2016.

These maps are contained in Appendix B. Please note that maps showing no significant change to the site or surrounding area are not referred to in this section.

| Site Area                                                                                                                      | Date of Map | Surrounding Area                                                                                                                                                                                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A building is shown on the site. It is not possible to determine use from the site but it appears to be residential or retail. | 1867        | Small retail or residential buildings predominate. A grave yard is shown approximately 100m to the south east. Orchard is shown 90m south west of the site. A parchment manufactory is shown 200m to the south west. A railway is present 250m north east of the site. |
|                                                                                                                                | 1909        | Residential properties are present on the majority of the orchard to the south east.                                                                                                                                                                                   |
|                                                                                                                                | 1953        | A builder's yard is present on what was the parchment works to the south west.                                                                                                                                                                                         |
|                                                                                                                                | 1960        | Works are shown 50m south of the study site. A garage is shown 130m south of the study site.                                                                                                                                                                           |
|                                                                                                                                | 1965        | The works are shown as engineering works. The graveyard is no longer marked.                                                                                                                                                                                           |
|                                                                                                                                | 1973        | A garage is shown as part of the engineering works.                                                                                                                                                                                                                    |
|                                                                                                                                | 1981        | A works is shown immediately to the west of the site access road.                                                                                                                                                                                                      |

## 2.2 Areas of Disturbed Ground

There is no evidence of disturbed ground on the site itself.

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### **2.3 Intended Site Use**

A residential development is planned on the site.

### 3.0 Geological Setting

#### 3.1 Geology

Current geological maps of the region (ref. 2) have been consulted to provide information on geological conditions associated with the site.

*Artificial/Made Ground:*

There is 1 record within 1000m of the study site. This refers to Made Ground (Undivided) located 341m south of the study site.

*Superficial Geology:*

The site is underlain by Head consisting of clayey gravel.

*Bedrock/solid geology:*

Bedrock under the majority of the site is shown as Lambeth Group consisting of Clay, Silt and Sand. The northern part of the access road is underlain by London Clay Formation consisting of clay, silt and sand.

#### 3.2 Natural Hazards

| Hazard                  | Risk                                                                                                                                                                                                                              |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Collapsible deposits    | Very Low                                                                                                                                                                                                                          |
| Compressible deposits   | No Hazard                                                                                                                                                                                                                         |
| Ground Dissolution      | No Hazard                                                                                                                                                                                                                         |
| Landslides              | Very Low                                                                                                                                                                                                                          |
| Running Sand            | No Hazard                                                                                                                                                                                                                         |
| Shrinking/Swelling clay | Moderate                                                                                                                                                                                                                          |
| Radon                   | The property is in an Intermediate probability radon area (3to 5% of homes are estimated to be at or above the Action Level).<br>Basic radon protective measures are necessary in the construction of new dwellings or extensions |

#### 3.1 Man Made/ Induced Hazards

| Hazard                     | Risk                                                                     |
|----------------------------|--------------------------------------------------------------------------|
| BGS Recorded Mineral Sites | 3 records found. Nearest: 462m NE. Commodity: Sand and Gravel. Opencast. |
| Brine Compensation areas   | No data found.                                                           |
| Coal mining affected areas | No data found.                                                           |
| Mining instability         | No data found                                                            |
| Man-made mining cavities   | No data found                                                            |
| Natural Cavities           | No data found.                                                           |
| Non-Coal Mining Areas      | No data found                                                            |

## 4.0 Environmental Setting

### 4.1 Hydrology and Hydrogeology

#### *Groundwater:*

The superficial deposits and bedrock underlying the majority of the study site are classified as a Secondary A Aquifer. These are permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers,

The bedrock underlying the northern part of the access drive is classified as Unproductive Strata. These are rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.

#### *Surface water:*

The nearest river network line is located 120m north of the site and is classified as an inland river.

#### *Source Protection Zones:*

A Zone I (Inner Protection Zone) Source Protection Zone is shown 5m south of the study site.

#### *Surface and Groundwater Abstraction Points:*

3 abstractions are shown within 1000m of the study site. Nearest:

809m W. Public Water Supply: Potable Water Supply – Direct. Source: Groundwater

#### *Flood Risk:*

An Environment Agency Flood Zone 3 flood plain is shown 50m south west of the site. Flood Zone 3 shows areas of land with an annual probability of flooding of 1% (1 in 100) or greater from rivers and 0.5% (1 in 200) or greater from the sea.

BGS Groundwater Flooding Data indicates that there is potential for groundwater flooding to occur at the surface.

### 4.2 Sensitive Land Uses

Uses within 1km

| Designation                                 | Details                                         |
|---------------------------------------------|-------------------------------------------------|
| Areas of Green Belt                         | No records found                                |
| Areas of Outstanding Natural Beauty (AONB)  | 1 record found:<br>573m SE. Chichester harbour. |
| Environmentally Sensitive Areas             | No records found                                |
| Local Nature Reserves (LNR)                 | No records found.                               |
| Marine Nature Reserves (MNR)                | No records found.                               |
| National Nature Reserves (NNR)              | No records found                                |
| National Parks (NP)                         | No records found                                |
| National Scenic Areas                       | No records found                                |
| Nitrate Sensitive Areas                     | No records found                                |
| Nitrate Vulnerable Zones (NVZ)              | The site is located within a NVZ                |
| Ramsar sites                                | No records found                                |
| Sites of Special Scientific Interest (SSSI) | No records found                                |

|                                     |                  |
|-------------------------------------|------------------|
| Special Areas of Conservation (SAC) | No records found |
| Special Protection Areas (SPA)      | No records found |
| World Heritage Sites                | No records found |
| Ancient Woodland                    | No records found |

#### 4.3 Landfill and Other Waste Sites

Uses within 1km

| Records Searched:                                   | Details                                                                                                                                                                                                                                                                                   |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| BGS Recorded Landfill Sites                         | No data found                                                                                                                                                                                                                                                                             |
| Historical Landfill Sites                           | No data found                                                                                                                                                                                                                                                                             |
| Integrated Pollution Control Registered Waste Sites | No data found                                                                                                                                                                                                                                                                             |
| Licensed Waste Management Facilities                | 2 records found:<br>412m NE. Household, Commercial and Industrial transfer stations.<br>858m SW. WEEE treatment facility.                                                                                                                                                                 |
| Local Authority Recorded Landfill Sites             | No data found                                                                                                                                                                                                                                                                             |
| Potentially infilled land (non-water)               | 3 records found. Nearest:<br>448m NE. Unknown Filled Ground (Pit, quarry etc)                                                                                                                                                                                                             |
| Potentially infilled land (water)                   | 19 records found. Nearest:<br>204m NW. Unknown Filled Ground (Pond, marsh, river, stream, dock etc). Date of mapping: 1898.                                                                                                                                                               |
| Registered Landfill Sites                           | 2 records found:<br>515m NW. Authorised waste: Wholly Inert Concrete Waste, Wholly Inert/Uncontam. Nat'Excav.Mat'L, Wholly Inert/Uncontam. Soil/Subsoil<br>553m NW. Authorised waste: Cullet, inert Constr'N/Demol. Waste, Inert Excavation Waste, Reject Concrete Prods Ex On-Site Fact. |
| Registered Waste Transfer Sites                     | 1 record found:<br>398m NE. Category: Transfer. No known restriction on source of waste.                                                                                                                                                                                                  |
| Registered Waste Treatment or Disposal Sites        | 1 record found:<br>439m W. Scrapyard. No known restriction on source of waste.                                                                                                                                                                                                            |

#### 4.4 Current Land Use

There are 35 Contemporary Trade Directory Entries recorded within 250m of the study site. 13 of these occur within 100m of the study site. The majority of these appear to be retailers. The most relevant land uses within 100m are listed below:

5m N. Engine building and reconditioning. Inactive.  
10m N. Gearboxes. Inactive.  
65m S. Garage Services. Active.  
68m S. Garage Services. Inactive.  
78m S. Garage Services. Active.  
80m S. MOT Testing Centres. Inactive.

Full details are contained in Appendix C.

#### 4.5 Petrol and Fuel Sites

3 records found. Nearest:  
239m W. Obsolete.

#### 4.6 Underground High Pressure Oil and Gas Pipelines

No records found

#### 4.7 Environmental permits, Incidents and Registers

| <b>Industrial Sites Holding Licences/ Authorisations:</b>           | <b>Records Held:</b>                                                                                                           |
|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| Contaminated Land Register Entries and Notices                      | No records found                                                                                                               |
| Discharge Consents                                                  | 17 records found. Nearest: 250m NW. Trade Effluent Discharge-Site Drainage                                                     |
| Enforcement and Prohibition Notices                                 | No records found                                                                                                               |
| Integrated Pollution Controls                                       | 5 records found. Nearest: 696m SW. 4.4 A (E) processes involving Halogens within the Chemical Industry                         |
| Integrated Pollution Prevention and Control                         | 7 records found. Nearest: 874m W. Activity: Waste Landfilling; Any Other Landfill to Which The 2002 Landfill Regulations Apply |
| Local Authority Integrated Pollution Prevention and Control         | 1 record found: 987m NE. Description: Not supplied.                                                                            |
| Local Authority Pollution Prevention and Controls                   | 12 records found. Nearest: 124m S. PG1/1Waste oil burners, less than 0.4MW net rated thermal input                             |
| Local Authority Pollution Prevention and Control Enforcements       | 1 record found: 940m NE. Air Pollution Control Enforcement Notice                                                              |
| Pollution Incidents to Controlled Waters                            | 15 records found: Nearest: 227m W. Pollutant: Miscellaneous - Vehicle Washings and De Waxing. Category 3 - Minor Incident.     |
| Prosecutions Relating to Authorised Processes                       | No records found                                                                                                               |
| Prosecutions Relating to Controlled Waters                          | No records found                                                                                                               |
| Registered Radioactive Substances                                   | 6 records found. Nearest: 757m W. Authorisation under S13 RSA for the disposal of Radioactive waste (was RSA60 S7).            |
| Control of Major Accident Hazards Sites (COMAH)                     | No records found                                                                                                               |
| Explosive Sites                                                     | No records found                                                                                                               |
| Notification of Installations Handling Hazardous Substances (NIHHS) | No records found                                                                                                               |
| Planning Hazardous Substance Consents                               | No records found                                                                                                               |
| Planning Hazardous Substance Enforcements                           | No records found                                                                                                               |

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## **5.0 Walkover Survey and Other information**

The site was visited on 29<sup>th</sup> June 2017. The southern part of the site was observed to be a retail premises. Water was observed to have occurred. To the north of the retail premises was an access drive. This largely consisted of concrete slab and was overgrown near to the retail premises with some soft landscaping present in this location. No storage tanks were observed. There was no evidence of vegetation stress. The area where the works had been shown on historical mapping adjacent to the access drive appeared to be residential which had been built in the last 20 years.

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## 6.0 Risk Assessment

### 6.1 Potential Sources of Contamination

The retail premises on the site appears to have had the same use since earliest mapping. The area appears to have been largely residential and retail which we would consider to have a low impact. Whilst a workshop was shown adjacent to the access drive to the north, this appears to have undergone fairly recent development into housing with the site of the former workshop now building footprint. Given that the access road would have been used to access the rear of the former retail units, it is considered unlikely that Waste would have been disposed of in the access road. The unit seems to have been used by an engine retuning and conditioning company prior to redevelopment. Whilst some spillage or leakage may have taken place on the site itself, this is likely to have consisted of predominantly longer chain length hydrocarbon species originating as engine oils as opposed to short chain length species which would be associated with motor fuels. These materials would have a low mobility and based on past experience of facilities of this type, the amount of spillage and/or leakage is not great. The distance of other potential polluting activities are such that they are unlikely to impact site soils.

### 6.2 Preliminary Conceptual Model

In developing the conceptual model, it is critical that not just the source of any potential contamination is assessed but also potential receptors and pathways. The future use of the site may introduce new pathways to any contaminants that may be present. A change in use of the site may also introduce human receptors to different exposure scenarios.

As discussed in the previous section, the potential for contamination of site soils is considered to be low. Therefore, a discussion of pathways and receptors is not considered to be relevant.

Therefore, risks to human health from contaminants in soils are considered to be **VERY LOW**. Risks to controlled waters are considered to be **VERY LOW**.

The distance to recorded landfill sites and filled ground indicates that there is unlikely to be a risk from these sources.

## 7.0 Conclusions and Recommendations

The review of documentary information indicates that there is a VERY LOW risk to human health arising from the previous or current uses of the site. A VERY LOW risk to controlled waters is considered to be present. The presence of materials that may have the potential to release ground gases is considered unlikely.

All site investigations carried out in the UK should follow the principles set out in CLR11. This specifies that a phased approach should be used with a desk top study carried out in the first instant in all cases. Where this does not indicate the potential for a pollutant linkage, there is not considered to be a requirement for further stages such as intrusive investigations that involve the physical sampling of soils<sup>4</sup>.

In the absence of a potential pollution linkage, further investigative or remedial actions are not recommended.

Should during any works on the site, evidence of contamination become apparent, this should be reported to the Local Authority contaminated land officer.

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## **8.0 Statement of Limitations**

This document has been prepared for the titled project or named part thereof and should not be relied upon or used for any other project, without an independent check being carried out as to its suitability, and prior written authority of Wesson Environmental being obtained. This document can be relied upon by Boulevard Property Holdings Ltd . Wesson Environmental accepts no responsibility or liability for the consequences of this document being used for any purpose other than the purpose for which it was commissioned. Any person using or relying on the document for such other purpose, agrees, and will by such use or reliance, be taken to confirm his acceptance, to indemnify Wesson Environmental for all loss or damage resulting therefrom. Wesson Environmental accepts no responsibility or liability for this document to any other party.

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## **9.0 References**

1. Ordnance Survey Maps – Collated for Wesson Environmental by Envirocheck ref: 001BOUL110\_EC\_A\_Histslice1000, HistSeg2500.
2. Envirocheck Geology Data Sheet Report: ref 001BOUL110\_EC\_A\_GeologyDatasheet
3. Envirocheck Site Sensitivity Report: ref 001BOUL110\_EC\_A\_Datasheet
4. Model procedures for the management of land contamination (CLR11) 2004. Environment Agency

## APPENDIX A

### Figures



Figure 1. Interior of the easterly retail unit



Figure 2. Interior of the westerly retail unit



Figure 3. The exterior of the retail units.



Figure 4. The access road to the rear

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**APPENDIX B**  
**Historical Maps**

## **APPENDIX C**

### **Environmental Reports**