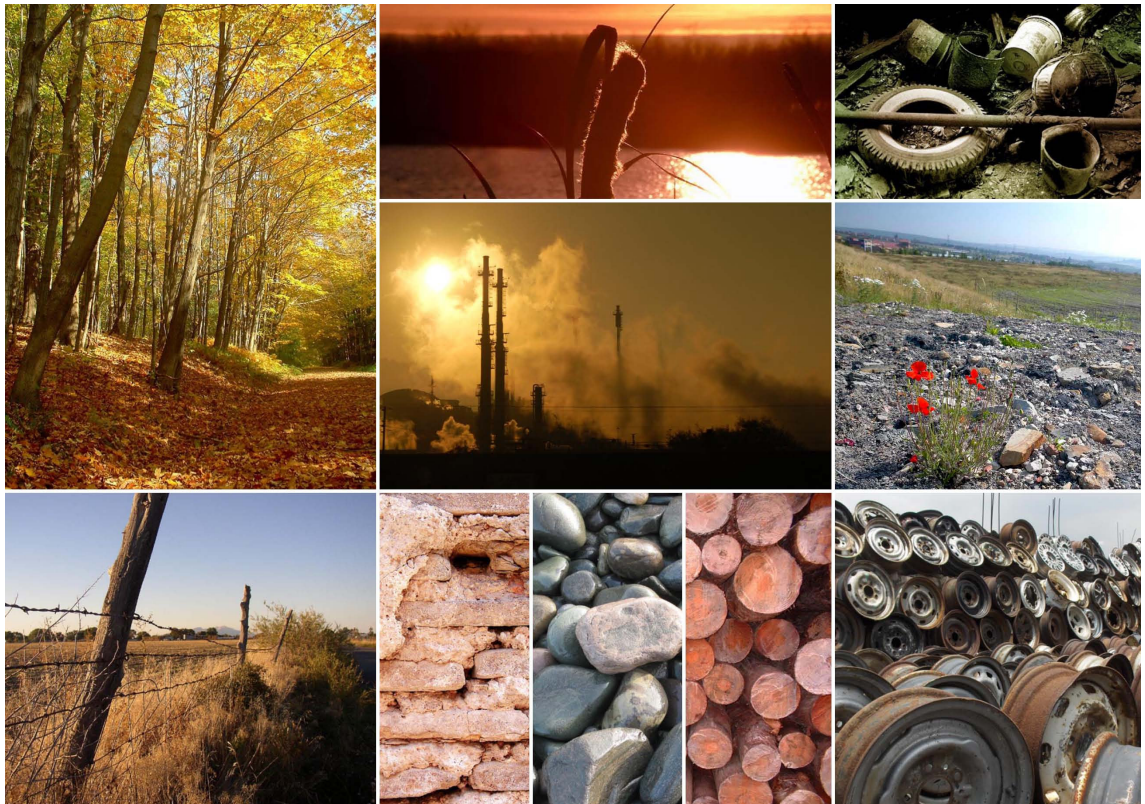


# CONTAMINATION & GEOTECHNICAL CONSTRAINTS APPRAISAL

Station Development Area

Leamington Spa

June 2008



Prepared for:

Warwick District Council/Advantage West Midlands

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## EXECUTIVE SUMMARY

<b>Job No.</b>	01A807694
<b>Site Location</b>	Station Area Old Warwick Road Leamington
<b>Site Area</b>	16.51 hectares (40.79 acres).
<b>Grid Reference</b>	430990, 265260
<b>Objectives</b>	To identify the potential contamination and geotechnical constraints associated with Leamington Spa Station Area for strategic planning purposes.

### Environmental Constraints

<b>Site Activities</b>	The development area comprises; open land, former foundry, builders' merchants, railway land, railway station, car parking, landscaping and a place of worship.
<b>Previous Site Investigations</b>	Site investigation data is only available for Area 9 only, but has not identified any significant contamination issues.
<b>Site History</b>	Historically, the majority of development occurred across the site before 1889, with the foundry and railway station noted in the southern portion.  Development to the northern portion was historically railway lines prior to their clearance in 1960's and redevelopment for industrial uses in circa 1960s.
<b>Geology</b>	Underlain by Made Ground and River Terrace Gravels with Mercia Mudstone at depth.
<b>Hydrogeology</b>	Minor Aquifer.
<b>Hydrology &amp; Flooding</b>	The site is not located on a fluvial flood plain.
<b>Sensitive Receptors</b>	Moderate Sensitivity due to underlying minor aquifer and nearby residential properties.
<b>Regulatory Enquiries</b>	Site is not listed as Contaminated Land under the Part 2a of the Environmental Protection Act 1990.



### Conclusions

The site has had a history of industrial and commercial development, however we consider that there are no areas of the development site that preclude residential development. However clean-up costs associated with redeveloping the site are likely to be lower in the areas that have been less intensively developed.

### Recommendations

#### Redevelopment

- A Phase II Site Investigation would be required as a condition of planning to determine the degree of contamination at the site, facilitate future development and to assess future remedial requirements (if any).

### Disclaimer

The Executive Summary should not be relied upon in isolation. All advice given is subject to our Standard Conditions of Engagement and those Definitions and Reservations presented in the main report.

### Signed

**For and on behalf of Warwick District  
Council/Advantage West Midlands**

## 1. INSTRUCTIONS

Instructions were received on the 11<sup>th</sup> February 2008 to undertake desk based research to identify the potential contamination and geotechnical constraints associated with the redevelopment of land known as the 'Leamington Spa Station Area' for strategic planning purposes.

We understand that this appraisal is required to inform the future Development Brief for the Leamington Spa Station Area.

Our report has been undertaken in accordance with the proposal and terms and conditions agreed between GVA Grimley Limited and Warwick District Council on the 11<sup>th</sup> February 2008.

### Report Reliance

This report has been prepared in accordance with the scope of the GVA Grimley Limited appointment with the client and is subject to the terms of that appointment.

The report is addressed to and for the use and reliance of GVA Grimley Limited and we accept no liability for any use of this report other than by our client. No parties other than GVA Grimley Limited may copy, use or rely on the contents of this report, without the prior written permission of the Environmental Services team at GVA Grimley Limited.

**Any recommendations made within the report, are for the sole use of the client. Any other parties should make their own assumptions based on their own data.**

### Data Sources

The findings of this report are based upon information obtained during the site's inspection or provided by Warwick District Council, data obtained from regulatory bodies (the Environment Agency, Local Authority, Petroleum Licensing Officer etc.) and the Envirocheck Report (Ref. 24589118\_1\_1) purchased from Landmark Information Group.

### Date and Extent of Inspection

Karen Storey MSc BSc AIEMA, from our Environmental Department carried out an unaccompanied visual inspection of the accessible areas of the site on 6<sup>th</sup> March 2008. The Council does not own all of the land falling into the development brief, consequently some landowners did not grant permission to view their land.

## 2. ENVIRONMENTAL RISK ASSESSMENT

### Regulatory Regime

In order to assess the risks associated with the presence of ground contamination, the linkages between the sources and potential receptors need to be established and evaluated. This is in accordance with Part 2A of the Environmental Protection Act (EPA) 1990, which provides a statutory definition of contaminated land.

To fall within this definition it is necessary that, as a result of the condition of the land, substances may be present on or under the land such that:

- Significant harm is being caused or there is a significant possibility of such harm being caused; or
- Significant pollution of controlled waters is being, or is likely to be, caused.

Risk from contamination is assessed by consideration of possible linkages between contaminant sources and potential receptors which could be harmed or polluted, and the potential pathways between them.

### Risk Exposure

In consideration of the regulatory regime and available information, the overall risk of significant harm with respect to contamination issues has been assessed. Each area has been ranked according to their contamination risk (identified as low, medium or high) and the proposed end use as presented in the Draft Planning and Development Brief.

- Low assumes a limited industrial usage and it is unlikely that significant concentrations of contamination will be identified. A low risk of harm to future end users has been identified and significant remediation is unlikely to be required;
- Medium assumes a history of industrial usage and that hotspots of contamination are likely to be encountered in areas of former or current fuel storage. A low to medium risk to future end users has been identified if remediation is not undertaken. Consequently small scale remediation may be required as part of the development of the area; and
- High assumes a long history of industrial usage and that significant contamination is likely to be encountered across the site particularly in areas of former fuel and chemical storage. Remediation will be required to reduce the risk to future end users to an acceptable level.

Area	Risk Rating	Potential Redevelopment	Redevelopment Issues	Recommendations
1 – Ford Employee Car Park	Low	Light Industrial Units	The area has historically been used as a depot and car park with below ground fuel storage reportedly decommissioned. Localised hot spots of contamination are likely to be associated with below ground fuel storage.	<p>A Type 3 Asbestos Survey will be required prior to the demolition of the existing site buildings.</p> <p>A Phase II Geo-Environmental Site Investigation will be required to provide site coverage and to establish the presence (if any) of localised hotspots of contamination in the area of former fuel storage.</p>
2 – Ford Foundry	High	Commercial Use to include retail and hotel accommodation	The area has historically supported a foundry with ancillary activities including railway sidings, fuel and chemical storage. Contamination is likely to be encountered across the site, particularly in areas of known fuel storage.	<p>A Type 3 Asbestos Survey will be required prior to the demolition of the existing site buildings.</p> <p>A Phase II Geo-Environmental Site Investigation will be required to provide site coverage and focus on areas of fuel and chemical storage to establish the presence of contamination. In addition, the presence and extent of historical foundations should also be assessed.</p> <p>The Phase II site investigation should also be used to provide information for the remediation strategy.</p>
3 – Spa Garage	Medium	Education / Technology Park	This area has historically been used as a timber yard, railway sidings and engineering works. Hotspots of contamination are likely to be encountered across the site.	<p>A Type 3 Asbestos Survey will be required prior to the demolition of the existing site buildings.</p> <p>A Phase II Geo-Environmental Site Investigation will be required to provide site coverage and to establish the presence of contamination.</p>



Area	Risk Rating	Potential Redevelopment	Redevelopment Issues	Recommendations
4 - Jewsons	Medium	Education / Technology Park	This area has historically been used as a timber yard and saw mill. Localised hot spots of contamination are likely to be associated with former chemical storage and timber treatment chemicals.	<p>A Type 3 Asbestos Survey will be required prior to the demolition of the existing site buildings.</p> <p>A Phase II Geo-Environmental Site Investigation will be required to provide site coverage and to establish the presence of contamination associated with former uses.</p>
5 -Travis Perkins	Medium	Education / Technology Park	This area has historically been used as railway sidings, goods yard and depot. Localised hot spots of contamination are likely to be associated with fuel storage.	<p>A Type 3 Asbestos Survey will be required prior to the demolition of the site buildings.</p> <p>A Phase II Geo-Environmental Site Investigation will be required to provide site coverage and to establish the presence of contamination associated with former uses.</p>
6 and 7 Leamington Train Station	Medium	Train station and commercial uses	<p>This area has historically supported Leamington Train Station. Localised hotspots of contamination are likely to be encountered in areas of former fuel storage associated with the station.</p> <p>The Whitnash fault runs along the eastern boundary.</p>	<p>A Type 3 Asbestos Survey will be required prior to the demolition (or refurbishment) of the existing site buildings.</p> <p>A Phase II Geo-Environmental Site Investigation will be required to provide site coverage and to establish the presence of contamination.</p> <p>In addition, a geotechnical assessment of the ground conditions will need to be undertaken to establish the presence (if any) of broken ground associated with the fault and its impact on foundations.</p>

Area	Risk Rating	Potential Redevelopment	Redevelopment Issues	Recommendations
8 – Leamington Train Station	Low	Commercial and Public Open Space	This area has historically supported landscaping and access associated with Leamington Train Station. Significant concentrations of contaminants are unlikely to be encountered.	A Phase II Geo-Environmental Site Investigation will be required to provide site coverage and information on ground conditions for the retail units.
9 – Pendragon Netherland BV	Low	Residential properties with gardens.	This area has historically supported Avenue Train Station, and a garage. Whilst site investigation data has not identified any significantly elevated concentrations of contaminants localised hotspots of contamination may be encountered in areas of former fuel storage not previously investigated.  Anecdotal information suggests that Area 9 might also be the site of a former landfill.	A Phase II Geo-Environmental Site Investigation will be required to provide site coverage and to establish the presence of contamination (if any) in the area of the former petrol tanks and asbestos from demolition of former structures.  In addition, the site investigation should assess the potential for ground gas (if any) should the landfill be present.
10 – Warwick District Council	Low	Residential properties with gardens.	This area has supported agricultural land, prior to redevelopment into a bus station but not a bus depot. Significant concentrations of contaminants are considered unlikely.	There will be a need to undertake a site investigation to provide general site coverage.
11 – Kingdom Hall	Low	No change of use	This area has supported agricultural land and sports pavilion prior to redevelopment into a bus station but not a bus depot. Significant concentrations of contaminants are considered unlikely.	No site investigation necessary.



Area	Risk Rating	Potential Redevelopment	Redevelopment Issues	Recommendations
12 – Stagecoach Bus Depot	Medium	Residential properties with gardens.	This area has supported railway sidings, later becoming a bus depot. Localised hotspots of contamination are likely to be encountered in service bays, vehicle wash areas and refuelling areas.	<p>A Type 3 Asbestos Survey will be required prior to the demolition of the existing site buildings.</p> <p>A Phase II geo-environmental site investigation will be required to provide site coverage and to establish the presence of contamination (if any) in the area of the former fuel tanks, vehicle wash and service areas.</p>
13 – Network Rail	Low - Medium	Residential properties with gardens.	This area has supported railway sidings and a coal yard. The land currently comprises derelict land which appears to have been raised in some areas and fly tipped material is also present. Significant concentrations of contaminants are considered unlikely, although localised hotspots may be present.	<p>A Phase II Geo-Environmental Site Investigation will be required to provide site coverage and to establish the presence of contamination hotspots (if any) and asbestos from demolition of former structures.</p> <p>In addition, the site investigation should assess the potential for ground gas (if any) from the made ground and classify excess materials for off-site disposal.</p>
14 – Ford (Waste Water Treatment Works WWTW)	Medium	Public Open Space / District Heating System	This area has historically supported agricultural land, railway sidings, engine shed and waste water treatment works associated with Ford Foundry. Localised hotspots of contamination are likely to be encountered in fuel storage areas / service bays of the former engine shed.	<p>A Phase II Geo-Environmental Site Investigation will be required to provide site coverage and to establish the presence of contamination (if any) and asbestos from demolition of former structures. In addition, the site investigation should assess the potential for issues associated with made ground located along the north west boundary of the property.</p> <p>In addition, the site investigation should assess the potential for ground gas (if any) associated with the WWTW.</p>

Definitions and Reservations used in this report are presented in **Appendix IV**



APPENDIX I  
Definitions & Reservations

## Definitions and Reservations

For the avoidance of doubt, GVA Grimley Limited has prepared the following alphabetical list of definitions and reservations to aid the client in understanding the content of our advice and or written reports(s):

<b>ASBESTOS CONTAINING MATERIALS (ACM'S)</b>	Includes any of the following materials; crocidolite, amosite, chrysotile, fibrous actinolite, fibrous anthophyllite, fibrous tremolite and any mixture containing any of these materials.
<b>ASBESTOS SURVEYS</b>	Any reference to asbestos surveys is given the same meaning as that given in HSE Guidance Document MDHS 100 entitled 'Surveying, Sampling and Assessment of Asbestos Containing Materials' (July 2001).
<b>COMPOSITE PANELS AND INSURANCE</b>	Unless instructed otherwise, we will not test any panels within the property to see whether there are any polystyrene insulated composite panels. The presence of such panels may result in the property being uninsurable, which would have an adverse impact on value.
<b>CONDITION OF BUILDINGS, PLANT AND MACHINERY</b>	<p>Our inspection of a property does not constitute a structural survey. When preparing our report we have regard to apparent defects and want of repair and take into account the age of the property. We do not however carry out the detailed search for defects which is undertaken as part of the structural survey neither do we necessarily set out the various defects when making the report.</p> <p>We do not inspect woodwork or other parts of the structure, which are covered, unexposed or inaccessible. We do not arrange for any investigation to be carried out to determine whether or not high alumina cement concrete or calcium chloride additive or any other deleterious materials or permanent woodwool shuttering or composite panelling has been used in the construction.</p> <p>Unless so instructed we do not arrange for any investigations to be carried out to determine whether or not any deleterious or hazardous material or techniques have been used in the construction of the property or has since been incorporated and the services are not tested. We are therefore unable to report that the property is free from defect in these respects.</p>
<b>CONTAMINATION</b>	This is taken to mean specifically, the presence of toxic, noxious or polluting substances in, on or under land.
<b>CONTAMINATED LAND</b>	<p>Any reference to contaminated land should be construed in the statutory sense.</p> <p>Land is defined as being contaminated land under Section 78 of the Environmental Protection Act 1990 where any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, on or under the land that:</p> <p><b>Significant harm</b> is being caused or there is a significant possibility of such harm being caused; or</p> <p><b>Pollution of controlled waters</b> is being, or is likely to be caused.</p>

## **CONTROLLED WATER**

Means all in land waters, i.e. rivers and watercourses (other than public sewers or sewers or drains which drain into a public sewer) and lakes and ponds which discharge directly or indirectly into them, groundwater, coastal waters and territorial waters extending seaward for three miles from the baseline from which the breadth of the territorial sea is measured. Section 104, Water Resources Act 1991.

## **ENQUIRIES**

Any enquiries undertaken by GVA Grimley Limited of local authorities and statutory undertakers are made verbally in respect of environmental issues. Local searches are not undertaken and no responsibility is accepted for any inaccurate information provided.

It is further assumed unless otherwise stated that all necessary licences, permits etc either run with the property or are transferable to a new occupier as appropriate.

## **ENVIRONMENTAL LIABILITY**

Any reference to environmental liability should be taken to mean a combination of the following types of liabilities:

### **Actual Liabilities**

These are known present obligations of the business arising from past or future events, the settlement of which will require future expenditure.

These will include costs associated with regulatory compliance e.g. known monitoring, decommissioning requirements, fines, damages, and surrender provisions imposed by statute and/or contract.

### **Latent and Contingent Liabilities**

These are unknown obligations arising from past or future events that exist, but where the outcome will only be known following the occurrence or non-occurrence of future events that are outside the control of the business.

These might include, unknown costs associated with site remediation, decommissioning and the possibility of unforeseen future events such as a pollution incident.

## **ENVIRONMENTAL REPORTS**

Any reference to environmental reports should be taken to mean one or all of the following types of report:

### **Phase 1**

This is a desk-based study (supported by a site inspection if agreed) of past and present uses of the site, geological and hydrogeological conditions, regulatory review and qualitative risk assessment.

The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources (including the Client), together with (where appropriate) a brief walk over inspection of the site and meetings and discussions with relevant authorities and other interested parties.

The opinions given in the report have been dictated by the finite data on which it is based and is relevant only to the purpose for which the report was commissioned.

The information reviewed should not be considered exhaustive and has been accepted in good faith as providing true and representative data pertaining to site conditions.

Should additional information become available which may affect the opinions expressed in this report, GVA Grimley Limited reserves the right to review such information and, if warranted, to modify the opinions accordingly.

It should be noted that any risks identified in this report are perceived risks based on the information reviewed; actual risks can only be assessed following a physical investigation of the site.

## **Phase 2**

This is an intrusive phase of works involving the drilling of boreholes/trial pits and the testing of soil, groundwater and soil gas samples for environmental and geotechnical purposes.

The investigation of the site has been carried out to provide sufficient information concerning the type and degree of contamination, geotechnical characteristics, and ground and groundwater conditions to provide a reasonable assessment of the environmental risks together with engineering and development implications. If costs have been included in relation to site remediation these must be confirmed by a qualified quantity surveyor.

The exploratory holes undertaken, which investigate only a small volume of the ground in relation to the size of the site, can only provide a general indication of site conditions.

The opinions provided and recommendations given in this report are based on the ground conditions apparent at the site of each of the exploratory holes. There may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.

The comments made on groundwater conditions are based on observations made at the time that site work was carried out. It should be noted that groundwater levels will vary owing to seasonal, tidal and weather related effects.

The scope of the investigation was selected based on the specific development proposed by the Client and may be inappropriate to another form of development or scheme.



The risk assessment and opinions provided, *inter alia*, take into consideration currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values.

GVA Grimley Limited accepts no liability what so ever for the content or conduct of the Environmental Consultant/Engineer of Sub Consultants/ Contractors appointed on behalf of the client by us.

## **ENVIRONMENTAL RISK**

Any reference to environmental risk shall be taken to mean:

### **Low Risk**

It is unlikely that the issue will arise as a liability/cost for the owner of the site.

### **Low-Moderate Risk**

It is considered unlikely that the issue will arise as a liability/cost for the owner/occupier of the site, whilst the site retains its current use. However, in the event that development occurs further assessment and costs may be incurred as a result of the development/change of use.

### **Moderate Risk**

It is possible that the issue could arise as a liability/cost for the owner of the site. Further work is usually required to clarify the risk.

### **High Risk**

It is highly likely that the issue will arise as a significant liability/cost for the site owner.

## **GROUND CONDITIONS AND CONTAMINATION**

Any discussion of ground conditions in this report have been based on a review of existing documentary information prepared by British Geological Survey and/or other parties. GVA Grimley Limited accepts no responsibility for the accuracy or completeness of information prepared by third parties.

## **INFORMATION**

All information supplied by the Client, the Client's staff and professional advisers, local authorities, other statutory bodies, investigation agencies and other stated sources is accepted as being correct unless otherwise specified.

## **JURISDICTION**

In the event of a dispute arising in connection with the report, unless expressly agreed otherwise in writing, GVA Grimley Limited, the client and any third party using this report will submit to the jurisdiction of the British Courts only. This will apply wherever the property or the client is located, or the advice is provided.

## **LEGAL ISSUES**

Any interpretation of environmental reports and other legal documents and legal assumptions is given in our capacity as Environmental Consultants and must be verified by a suitably qualified lawyer if it is to be relied upon. No responsibility or liability is accepted for the true interpretation of the legal position of the client or others.

**PLANS**

Any plans supplied are for identification purposes only unless otherwise stated. The valuation assumes site boundaries are as indicated to us. The reproduction of Ordnance Survey sheets has been sanctioned by the Controller of Her Majesty's Stationery Office, Crown Copyright reserved.

**TENURE**

Title Deeds and Leases are not inspected (unless specifically stated) and, unless we are informed to the contrary, it is assumed that a property is free of any onerous covenants, easements, other restrictions or liabilities including mortgages, grants and capital allowances that may affect the value.