



Your Environment

PHASE 1: DESKTOP STUDY AND
PRELIMINARY RISK ASSESSMENT
REPORT AT
256 FIELD END ROAD,
RUISLIP,
GREATER LONDON,
HA4 9DN

For Field End Homes Ltd

Your Environment

Unit 2, Woodhorn Business Centre, Chichester, West Sussex, PO20 2BX
Tel: 01243 787150

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Daniel Speight
daniel@yourenvironment.org

	Name	Position	Signature	Date
Prepared by:	Daniel Speight	Junior-Geo Environmental Engineer		February 2020
Reviewed by:	Mathew Griffiths	Junior-Geo Environmental Engineer		February 2020
Approved:	Colin Hiscock	Director		February 2020

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1.0 Introduction

YourEnvironment (YE) was instructed by Field End Homes Ltd to produce a Phase 1: Desktop Study and Preliminary Risk Assessment Report for a site located at 256 Field End Road, Ruislip, Greater London, HA4 9DN (grid ref: 511110, 187544; area: 0.07ha).

We understand current plans for the redevelopment of the site include;

- Alteration to existing structure to provide ten (10no.) residential units.

The purpose of this report is to satisfy a particular planning condition, which may be attached to the redevelopment of the site by Hillingdon Council.

A proposed site plan provided to YE, at the time of issuing this report can be reviewed within **Appendix A**.

Objectives

The objectives of this Phase 1 report are to:

- Establish the environmental setting, including sensitivity in relation to human health, surface water, groundwater and ecological receptors;
- Review historical and recent uses to assess the potential for contamination to be present from past and current land-use;
- Assess by qualitative means the potential nature and extent of contamination from those uses and the environmental risk and liabilities which may affect the site redevelopment;
- Identify the prevalent source-pathway-receptor linkages present on site by means of a Tier 1 contamination risk assessment which incorporates the formulation of a Conceptual Site Model.

Information Sources

During the production of this report the following information sources have been utilised:

- A review of Historical Ordnance Survey Maps, Envirolnsight and GeoInsight information obtained from Groundsure (4C Group Ltd).

It should be noted that the information from these sources referenced in this report has been predominantly limited to that identified within 100m of the site, in order to focus on the most pertinent information. Information from outside this 100m radius will be referenced when deemed relevant (for example, landfills). The full information from these sources can be reviewed within **Appendices B & C**.

2.0 Site Geology & Geological Hazards

Artificial/Made Ground

There are no records of Artificial/Made Ground within 50m.

Superficial Ground and Drift Deposits

There are no records of Superficial Ground Deposits within 50m.

Bedrock Geology

Underlying the site, bedrock is composed of Lambeth Group (Clay, Silt and Sand).

Landslips

There are no records of landslips within 50m of the site.

Linear Features

There are no records of linear features within 50m of the site.

Coal Mining

There are no records of coal mining areas within 100m of the site.

Non-Coal Mining

The study site is located within an identified non-coal mining area, on-site for Chalk. Small scale underground mining may have occurred; mine adits, shafts and tunnels may be present. Potential for localised difficult ground conditions are at a level where they should be considered.

Johnson Poole and Bloomer Mining

The study site is not located within a Johnson Poole and Bloomer mining area.

Historical Mining

There are no records within 100m of the study site boundary.

Brine Extraction

The study site is not recorded as being within 100m of a brine extraction area.

Radon

The study site is not located within a Radon Affected Area, as less than 1% of properties are above the Action Level. Therefore, no radon protective measures are necessary for new properties or extensions to existing ones as described in publication BR211 by the Building Research Establishment.

Borehole Records

There are two records within 100m of the study site, the closest of which are located 27m northwest that was drilled to a depth of -9.44 metre. The records however are not available for review.

3.0 Site Hydrogeology and Hydrology

Aquifer within Bedrock Geology

As a result of the bedrock geology on site, the aquifer is designated as being Secondary (A). This is defined as permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as Minor Aquifers.

Permeability of Bedrock Deposits

The minimum permeability is recorded as being very low with the maximum permeability recorded as being moderate.

Groundwater and Surface Water Abstraction Licences

There are no active groundwater and surface water abstraction licences within 2000m.

Potable Water Abstraction Licences

There are no active potable abstraction licences within 2000m.

Groundwater Vulnerability and Soil Leaching Potential

The on site soil vulnerability category is listed as being 'medium', with a combined classification of Productive bedrock Aquifer, No Superficial Aquifer.

Source Protection Zones

The study site is not located within a Source Protection Zone.

Ordnance Survey Water Network

There are no records within 250m of the study site.

Surface Water Features

There are no records within 250m of the study site.

Licensed Discharge Consents

There are no records of sites within 100m of the study site.

4.0 Site Environmental and Industrial Setting

Environmental Permits, Incidents and Registers

Records of Historic IPC Authorisations

There are no records within 100m of the study site.

Records of Part A(1) and IPPC Authorised Activities

There are no records within 100m of the study site.

Records of Red List Discharge Consents

There are no records within 100m of the study site.

Records of List 1 Dangerous Substances Inventory Sites

There are no records within 100m of the study site.

Records of List 2 Dangerous Substance Inventory Sites

There are no records within 100m of the study site.

Records of Part A(2) and Part B Activities and Enforcements

There are no records within 100m of the study site.

Records of Category 3 or 4 Radioactive Substances Authorisations

There are no records within 100m of the study site.

Records of Water Industry Referrals

There are no records within 100m of the study site.

Records of Planning Hazardous Substance Consents and Enforcements

There are no records within 100m of the study site.

Records of COMAH and NIHHS Sites

There are no records within 100m of the study site.

Records of National Incidents Recording System, List 2

There are no records within 100m of the study site.

Records of National Incidents Recording System, List 1

There are no records within 100m of the study site.

Sites Determined as Contaminated Land under Part IIA EPA 1990

There are no records within 100m of the study site.

Landfill and Other Waste Sites

Records of Landfill Sites

There are two entries within 500m, the which are 181m northwest for Storage of waste in a secure place.

Workings/Tunnels and Railway Features

Historical Surface Ground Working Features

There are sixteen ground working features within 100m, the closest three of which are 33-39m north for cuttings. The remaining records are over 50m from the study site.

Historical Underground Working Features

There are no features within 100m of the study site.

Current Ground Workings

There are no features within 100m of the study site.

Underground Railway Lines

There are two entries within 100m, located 54m north for the Metropolitan Line and Piccadilly Line.

Historical Railway and Tunnel Features

There are eleven entries within 100m of the site, two of which are 31m north for a railway. The next closest is 43m northeast for railway sidings. The remaining records are greater than 50m from study site.

Active Railways

There are no entries within 100m of the site.

Historical/Current Land Uses

Records of Potentially Contaminative Uses

There are thirty-five records of sites with a potentially contaminative past land use within 500m, the nearest is 33-38m north for cuttings, followed by 42m northeast for Unspecified Commercial/Industrial. The remaining entries are over 50m from the study area.

Historical Tanks

There are no records of sites within 500m of the study area.

Historical Energy Features

There are eleven records of sites within 500m, the nearest of which is 34m northwest for electricity substations. The remaining entries are over 50m from the study area for electricity substations.

Historical Petrol and Fuel Sites

There are no records within 500m of the study site.

Historical Garage and Motor Vehicles Repairs

There are four records of sites within 500m, the closest of which is 157m northwest for a garage. The remaining records are over 195m from the study site.

Petrol and Fuel Sites

There is one record within 500m located, 205m southeast for an obsolete petrol or fuel site.

Records of Potentially Contaminative Industrial Sites

There are twenty-nine records of sites with a potentially contaminative industrial usage within 250m, the closest of which is 15m east for a Medical Equipment Supplies and Pharmaceuticals. There are further entries, 18m northeast for Printing Related Machinery. The remaining entries are over 20m from the study area, for industrial products, infrastructure and facilities, Transport, Storage and Delivery.

Designated Environmentally Sensitive Sites

The study site is located within an SSSI Impact Risk Zone.

Information on the environmental and geological setting of the site is presented in a Groundsure EnviroInsight and GeoInsight Report prepared for the site, a copy of this report is reproduced in **Appendix B**.

5.0 Historical Mapping Study

The object of this search was to report on the evidence of site history and redevelopment of the site and its environs from available County Series and Ordnance Survey Maps dating from the mid to late 19th Century to the present day as downloaded from Groundsure.

Maps only represent a “snap shot” of the site and its environs at the date of the survey. Changes that had occurred either to the site and/or the environs may well not have been recorded on the maps and could represent a hazard to the site.

The information reported might not represent all pertinent information that could be obtained. Any maps with no discernible changes will not be commented on in this report.

The interpretation of the maps and/or other data commented on in this report is subjective.

Year	On site	Off site
1864	➤ The site is a rectangular plot of land with no discernible features on site.	➤ Off site, the site is surrounded by agricultural land in all directions.
1865	➤ No discernible changes.	➤ No relevant changes.
1883	➤ No discernible changes.	➤ No relevant changes.
1896	➤ No discernible changes.	➤ No relevant changes.
1897	➤ No discernible changes.	➤ No relevant changes.
1912	➤ No discernible changes.	➤ Railway line has been constructed 40m to the North. ‘Athletic Ground’ to the 50m southwest and development 200m west.
1914	➤ No discernible changes.	➤ No relevant changes.
1920	➤ No discernible changes.	➤ No relevant changes.
1935	➤ No discernible changes.	➤ Extensive residential development to the north and west.
1938	➤ No discernible changes.	➤ Residential development in all directions.
1939	➤ No discernible changes.	➤ No relevant changes.
1959	➤ There is now a warehouse on site.	➤ Depot and works southwest. Works, coal yard, builder’s yard 100m east. Garage 180m north. Railway station 150m northeast.

1960	➤ No discernible changes.	➤ No relevant changes.
1967	➤ No discernible changes.	➤ Further development to the south.
1972	➤ Incomplete mapping - No discernible changes.	➤ Incomplete mapping - Commercial buildings to the south
1974	➤ No discernible changes.	➤ No relevant changes.
1990	➤ No discernible changes.	➤ No relevant changes.
1991	➤ No discernible changes.	➤ No relevant changes.
1993	➤ Incomplete mapping - No discernible changes.	➤ Incomplete mapping - no discernible changes.
1994	➤ No discernible changes.	➤ Electricity Substation 50m north
2001	➤ No discernible changes.	➤ No relevant changes.
2003	➤ No discernible changes.	➤ There is an electricity substation 110m northeast.
2010	➤ No discernible changes.	➤ No relevant changes.
2020	➤ No discernible changes.	➤ No relevant changes.

Table 1: *Historical Mapping Review*

The Historical Ordnance Survey Maps were obtained from Groundsure and are available for review within **Appendix C**.

6.0 Walkover Survey

The site was visited by YE on February 4th, 2020. The weather was dry and sunny at the time.

Access

The site is accessible from Field End Road, with metal gates that can be opened on the access roadway leading to site providing vehicle access onto site, and Heras fencing on the north west corner of the site that can be opened to provide pedestrian access into the site and vehicle access into the western end of the site.

Topography

Both on and off the site the ground is relatively flat and level.

Vegetation

There is little to no vegetation upon the site itself and in the immediate surrounding location other than weeds growing through cracks in the surface covering.

Buildings and Structures / Floor Covering

There is one building located on the site, which at the time of walkover was currently within its renovation/construction phase. The building is a single storey brick-built building, with a concrete floor covering and at the time of walkover no roofing present.

Surface Permeability / Ground Covering

It is estimated that approximately 80% of the site is impermeable concrete with approximately 20% comprising soft landscaping covered in sand or gravel.

Drainage Features

One drainage feature was observed during the walkover, a newly constructed drainage run along the southern boundary line yet to have been covered in soil. A junction chamber appeared to be located in the south east corner of the site.

Other Services

The site has access to all water and electric.

Direction	Description of Site boundary
North	Heras fencing approximately two metres in height.
East	Heras fencing approximately two metres in height.
South	Heras fencing approximately two metres in height.
West	Heras fencing approximately two metres in height.

Table 3: Summary of site boundaries

Direction	Description of Surrounding Land Use
North	An industrial or commercial site, believed to be for UK Power Network, with an over ground train line running further north.
East	A commercial and residential building and its allocated parking area.
South	Commercial units and their allocated parking areas.
West	Commercial units and their allocated parking areas.

Table 4: Summary of Surrounding Land Uses

Potentially Contaminative Land Uses

On site sources:

- None identified.

Off site sources:

- Commercial units surrounding the site;
- Over ground train line running approximately fifty to seventy-five metres north of the site.

Photographs taken during the walkover of the site and surrounds, can be reviewed within **Appendix D**.

7.0 Framework for Assessment of Contamination

Environmental risks are assessed within the risk management framework established in Part IIA of the Environmental Protection Act (EPA) 1990 introduced by Section 57 of the Environment Act 1995 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:

(a) Significant harm is being caused or there is a significant possibility of such harm being caused;

or

(b) Pollution of controlled water 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.

The key aspect of the framework is the development of a Conceptual Site Model (CSM) which illustrates the spatial interaction between the potential sources and receptors on site.

The information presented in this report was collated and evaluated to develop an initial CSM to assess ground contamination issues at the site.

For a risk of pollution or environmental harm to occur as a result of ground contamination, **all** of the following elements must be present:

- A source, i.e., a substance that is capable of causing pollution or harm;
- A receptor, i.e., something which could be adversely affected by the contaminant;
- A pathway, i.e., a route by which the contaminant can reach the receptor.

If one of these elements is absent there can be no significant risk. If all are present then the magnitude of the risk is a function of the magnitude and mobility of the source, the sensitivity of the receptor and the nature of the migration pathway.

Potential sources, pathways and receptors are identified in the sections below and the risks associated with possible pollutant linkages outlined.

8.0 Contaminant Sources

On Site Sources

The following possible on site sources have been identified from the historical study:

- Warehouse.

The following on site sources have been identified from the site walkover:

- None identified.

The following possible on site sources have been identified from the EnviroInsight and GeoInsight:

- None.

The following contaminants are potentially associated with these sources:

- Potential for localised contamination, from a wide range of contaminants due to the unknown contents of the warehouse.

In practice, a broad contaminant screen should be analysed for to ensure that potential contaminants are not omitted.

Off Site Sources

The following off site sources have been identified from the historical study:

- Railway tracks (50m north);
- Railway cuttings (50m north);
- Electricity substation (50m north and 110m northeast);
- Works (100m east).

There are further entries present but these are considered far enough from the site to pose no risk.

The following off site sources have been identified from the site walkover:

- Commercial units surrounding the site;

- Over ground train line running approximately fifty to seventy-five metres north of the site.

The following off site sources have been identified from the GeoInsight and EnviroInsight:

- Railway line (54m north);
- Railway cuttings (33-38m north);
- Electricity substations (34-83m north);
- Industrial sites (15-100m in all directions).

The following contaminants are potentially associated with these sources.

- Heavy Metals;
- PAH and TPH;
- Asbestos;
- PCBs;
- VOCs and SVOCs;
- Ground gas - from the variety of infilled land and activities in the area that could have led to methane and carbon dioxide generation from decomposition of organic carbon in Made Ground/infilled material and hydrocarbon spillages which could volatilise in the subsurface of the site.

9.0 Source / Pathway / Receptor

Sources

The **main sources** of potential contamination that have been identified at the site or in the vicinity of the site are summarised above and below:

Source	Location	Description
Railway sidings	Off site	Potential for asbestos from brake linings as well as fuels and PCBs.
Warehouses	On and Off site	Potential for localised contamination, from a wide range of contaminants due to the unknown contents of the depot.
Made Ground	Off site	Potential for considerable Made Ground from railway cuttings. This creates a risk for ground gas generation.
Electricity substations	Off site	Potential contamination PCBs, although the distance from the site reduces the risk.

Table 4: Sources

Pathways

In order for contaminants to reach potential receptors, there has to be a viable **pathway** for the contaminant. Potential pathways that may affect the migration of contaminants are listed below:

Pathway	Medium	Properties
Direct Contact	Dust, solid and liquid phase	There may be direct contact with potentially impacted soil and Made Ground across the site. There is a possibility of dust fumes being produced during earthworks in the construction phase. Dermal contact and ingestion of

		potentially contaminated soils during construction or operational phase of the site.
Leaching through Made Ground	Unsaturated flow	Potential for leaching and migration of potential contaminants along preferential flow paths in the Made Ground due to its heterogeneity.
Foundations and Underground Infrastructure and Obstructions	Preferential flow	Depending on the foundation solution adopted, preferential flow paths for the vertical migration of potential contaminants to the underlying groundwater could be created.
Migration of Ground Gas	Gaseous flow	Made Ground is known to be highly variable in composition. Migration through granular material in Made Ground and alongside buried utility pipes / cables or along preferential flow paths.

Table 5: Pathways

Receptors

The site specific **receptors** that could be potentially affected by the contamination hazards identified during this preliminary appraisal are summarised below:

Category	Receptor	Properties
Humans	End users (such as residents and visitors)	Potential contact with contaminated soils in existing/proposed soft landscaping areas.
	Construction workers	Reworking of the contaminant impacted materials in Made Ground during construction works can expose workers to contamination.
Property	Materials and site structures	Foundations and site services may be damaged by potentially aggressive compounds present in soils.
Controlled Waters	Underlying superficial / bedrock Aquifer and surface water	The site is recorded as having a Secondary (A) Aquifer within the bedrock underlying the site. There are no abstraction licences within 2000m of the site.
Plant (species and uptake) and Wildlife	Various	Attributes will be influenced by factors such as relative quality, scale, rarity and substitutability.

Table 6: Receptors

10.0 Qualitative Risk Assessment

Potential pollutant linkages are identified using the source-pathway-receptor framework detailed above. An assessment of the potential significance of each linkage is then made by consideration of the likely magnitude and mobility of the source, the sensitivity of the receptor and nature of the migration/exposure pathways.

This qualitative risk assessment has been undertaken in accordance with CIRIA C552: Contaminated Land Risk Assessment, A Guide to Good Practice (Rudland et al., 2001).

An assessment of the likelihood of the risk being realised and the magnitude of potential risk is presented below to give an estimation of the significance of each potential pollutant linkage identified.

The assessment is undertaken based on the current proposals for the site, at the time of issuing this report, which would be classed as been a generic end land use of 'residential'.

11.0 Preliminary Conceptual Site Model

Contaminant Source	Pathways	Receptor	Potential Severity	Probability of Risk	Level of Risk	Justification
On Site: Made Ground soils on site possibly containing elevated metals, other inorganics such as TPH, PAH, phenols, VOC and SVOCs.	Ingestion, dermal contact, inhalation of dusts/vapours	Future end users and site visitors	Medium	Low Likelihood	Low ●	Direct contact is not likely between future residential occupiers/visitors and contaminants in the shallow soil as the proposed development does not contain any soft landscaping areas.
		Construction Workers	Medium	Low Likelihood	Low ●	Construction workers are unlikely to come into direct contact with soils, as there is no change to the footprint of the building and therefore unlikely to be groundworks. Safe working practices should be implemented and appropriate personal protective equipment (PPE) should be used to mitigate any potential risk from contact with soils and shallow/perched groundwater.
	Leaching through soils and migration via groundwater or soil pore moisture	Controlled Waters	Medium	Low Likelihood	Low ●	A low risk is assessed due to the lack of made ground on site and a Secondary (A) Aquifer within the bedrock underlying the site.
	Permeation of water pipes	Construction materials, future end users and site visitors	Medium	Low Likelihood	Low ●	Hydrocarbons, especially aromatics are known to permeate plastic pipes. Provision of water supply pipes and connectors formed from proprietary “barrier pipe” materials (eg polyethylene-aluminium-polyethylene) may be required by the water supply company.
On Site: Asbestos at/near ground surface in Made Ground soils.	Inhalation of fibres in airborne dust	Future end users and site visitors	High	Low Likelihood	Low/ Moderate ● ●	Likelihood is considered to be low/moderate as although the site walkover did not identify any potential asbestos containing materials (ACMs), the commercial history of the site creates potential for asbestos contamination.
		Construction Workers	High	Low Likelihood	Low/ Moderate ● ●	Despite the lack of identified ACMs during the walkover, safe working practices should be implemented and appropriate personal protective equipment (PPE) should be used to mitigate any potential risk from asbestos in soils.
On Site: Ground Gases (CH ₄ , CO ₂) from	Gas migration and build up within buildings	Future end users and building structures.	High	Low Likelihood	Low ●	A low risk is assessed due to the lack of previous development on site, suggesting there is unlikely to be significant depths of made ground.

on site Made Ground.	(explosion/asphyxiation risk)					
Off Site: Historical land uses and activities, Made Ground/infilled material possibly containing elevated metals, other inorganics, TPH, PAH, PCBs, phenols, VOC and SVOCs.	Leaching through soils and migration via groundwater or soil pore moisture	Future end users and site visitors	Mild	Low Likelihood	Low ●	A low risk is assessed as there are no indicated areas of soft landscaping on the proposed site plans.
	Ingestion, dermal contact, inhalation of dusts/vapours	Future end users and site visitors	Medium	Low Likelihood	Low ●	A low risk is assessed as there are no indicated areas of soft landscaping on the proposed site plans.
Off Site: Ground Gases (CH ₄ , CO ₂ , H ₂ S) from off site Made Ground historical land uses/activities.	Gas migration and build up within buildings (explosion/asphyxiation risk)	Future end users and building structures.	High	Likely	Moderate ●	The potentially contaminative land uses/activities and infilled land proximal to the site create a potential for ground gas generation. Current guidance indicates that Made Ground is generally classified as low risk in terms of potential for gas generation.

Table 7: *Preliminary Conceptual Site Model*

12.0 Recommendations

Based on the information obtained for formation of this report, we would recommend that an intrusive contaminated land investigation is undertaken to determine the actual pollution linkages and to quantify the risk to the receptors as outlined with the Preliminary Conceptual Site Model.

The intrusive investigation may reveal on-site sources of contamination that were not established by the Phase I Desk Study and Site Walkover and thus require modification of the conceptual site model.

12.1 Testing Regime

The testing regime has been devised in accordance with BS10175:2017 Guidelines for the Code of Practice for Contaminated Land and CLR Report No. 4 Sampling Strategies. The objective at this stage of the report is to attempt to delineate the extent of any possible contamination that may exist at the site by using intrusive soil sampling and testing techniques.

12.2 Sampling Strategy

A service search should be completed prior to any subsequent investigation to determine the service locations by lifting up any manhole/drain covers, therefore locations may be subject to change depending upon these results.

The SI should incorporate the drilling of three (3no.) window sampler boreholes in order to gain a suitable spread of the site. This will be completed to a maximum depth of 4-5 metres below ground level (mbgl) or refusal or where groundwater is encountered.

All positions should be logged and samples removed in accordance with current protocol. In addition, groundwater conditions, if encountered, shall be logged and visual/olfactory observations noted.

We would recommend that the three (3no.) windowless sample holes are installed with gas monitoring standpipes in order to quantify potential gas and groundwater risks.

We would recommend that the test locations be based on the findings contained with this report, to enable a broad coverage of the site.

12.3 Monitoring Regime

The installed positions should be monitored for ground gases and groundwater, monitoring will commence approximately 7-10 days after completion of the holes to enable equilibration of the underlying soils and groundwater. Monitoring will be completed on a fortnightly basis on three (3no.) occasions.

Gas monitoring should be completed in accordance with CIRIA C665 *Assessing Risks Posed by Hazardous Ground Gases to Buildings*, when atmospheric pressure is either falling and/or below 1005 millibars (mb).

A portable Gas Analyser (GA5000) should be used to monitor soil gases (Oxygen, Carbon Dioxide, Methane and Hydrogen Sulphide) within the positions.

Once gas monitoring has been completed, a dip meter will be used to test for groundwater depth. If groundwater is encountered the positions will be adequately purged and samples subsequently removed in accordance with BS 6068-6.18: 2001 *Water Quality Sampling: Part 18 - Guidance on Sampling of Groundwater at Contaminated Sites*.

12.4 Laboratory Analysis

An appropriate and consistent analytical suite of contaminants should be applied to any soil samples that show signs of contamination or if significant depths of made ground are encountered.

If significant depths of made ground are encountered, we would recommend that a comprehensive range of testing should be undertaken to comprise of heavy metals, speciated Total Petroleum Hydrocarbons (TPH CWG Aromatic/aliphatic split) and speciated Polycyclic Aromatic Hydrocarbons (PAH) including the more carcinogenic benzo(a)pyrene (BaP) and naphthalene, soil organic matter (SOM) content, pH and sulphates.

In addition, selected samples retrieved from the Made Ground, if encountered, will also be submitted for a screen to determine the presence, or otherwise, of asbestos.

It should be noted that not all samples retrieved from the proposed investigative works will be laboratory analysed and a UKAS and MCERTS accredited laboratory testing organisation should carry out all analysis.

12.5 Guidance

The results from the proposed SI shall be compared against standards, such as the revised LQM/CIEH S4UL criteria¹ where available.

Results from gas monitoring shall be used to calculate a Gas Screening Value (GSV) in accordance with BS8485: 2015.

13.0 Recommendations

13.1 Consultees

It is highly recommended that this report be forwarded to the relevant Local Authority Environmental Health and Planning Department prior to the proposed site investigation works commencing to seek their comments and subsequent approval, otherwise further works may be required.

13.2 Groundworks Watching Brief

If during construction works any material is noted to show visual and/or olfactory signs of contamination an environmental consultant should be contacted to supervise/guide further works.

¹ Nathanail et al. (2015) The LQM/CIEH S4ULs for Human Health Risk Assessment. Land Quality Press, 2015. Copyright Land Quality Management Limited reproduced with permission; Publication Number S4UL3495

If any landscaping materials are to be imported on site, they should be tested to check that they are suitable for the intended use.

13.3 Flood Risk Assessment

This report does not replace a full hydrogeological survey and specialist studies may need to be undertaken to ascertain the risks posed from flooding. Further details on site flood information can be found within the appendices.

14.0 Limitations and Uncertainties

This report has been prepared by YE with all reasonable skill, care and diligence. The work undertaken to provide the basis of this report comprised a study of available documented information from a variety of sources, together with a site walkover inspection of the site.

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

Information reviewed should not be considered exhaustive and accepted in good faith as providing true and representative data with respect to site conditions. Should additional information become available which may influence the opinion expressed in this report, YE reserves the right to review such information and, if warranted, to alter 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. This report is an environmental phase 1 report and does not consider the geotechnical implications for the site, its redevelopment and proposed future use. Further advice should be sought on geotechnical investigation requirements for the proposed development.