

RIDGE

PROPERTY & CONSTRUCTION CONSULTANTS



GROUND CONDITION ASSESSMENT,
HARTS FARM WAY, HAVANT
October 2017

Prepared for

Salmon Property

2nd Floor
Prince Frederick House
35-39 Maddox Street
London
W1S 2PP

Prepared by

Ridge and Partners LLP

Partnership House,
Moorside Road,
Winchester,
Hampshire,
SO23 7RX

Tel: 01962 834400

5004378-RDG-XX-ST-DOC-C-0101

VERSION	DATE	DESCRIPTION	CREATED BY	APPROVED BY
1.0	17/10/17	Final	AP	RP

CONTENTS

CONTENTS	3
1. INTRODUCTION	8
1.1. Introduction.....	8
1.2. Legal Context	8
1.3. Methodology	9
1.3.1. Pollutant Linkage Concept	9
1.3.2. Conceptual Model.....	10
1.3.3. Risk Assessment	10
1.4. Proposed Use.....	10
1.5. Sources of Information	10
1.6. Report Scope and Limitation	11
2. HAZARD IDENTIFICATION	12
2.1. Site Location and Description	12
2.2. Site History	12
2.3. Documented Ground Conditions.....	13
2.3.1. Geology	13
2.3.2. Hydrogeology	13
2.3.3. Hydrology	14
2.3.4. Radon.....	14
2.4. Environmental Data Search	14
2.5. Previous Reports	15
2.5.1. Foundation and Exploration Services Ltd Factual Report on Ground Investigation (July 2002);	15
2.5.2. RPS Phase 1 Desk Study and Phase 2 Site Investigation Report (September 2007);	15
2.5.3. Structural Soils Ltd Final Report on Site Investigation (August 2013);	16
2.5.4. Structural Soils Ltd Remedial Method Statement (January 2014);	18
2.5.5. Structural Soils Ltd Supplementary Investigation (May 2014).	18

3. FIELDWORK SUMMARY OF SCOPE AND RATIONALE.....	20
3.1. Rationale and Summary of Scope	20
3.2. Sampling	20
3.3. Site Investigation Standards	20
4. GROUND CONDITIONS ENCOUNTERED.....	21
4.1. Soil Conditions	21
4.1.1. Surfacing	21
4.1.2. Made Ground	21
4.1.3. Alluvium.....	22
4.1.4. River Terrace Deposits.....	22
4.1.5. Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation (undifferentiated)	22
4.2. Obstructions	22
4.3. Groundwater Conditions	22
4.4. Visual/Olfactory Evidence of Contamination	22
5. GENERIC RISK ASSESSMENT	23
5.1. Contamination Assessment Methodology	23
5.1.1. Soils	23
5.1.2. Assessment framework	24
5.1.3. Groundwater.....	24
5.1.4. Leachate.....	24
5.1.5. Ground Gas.....	24
5.2. Soil Assessment.....	25
5.2.1. General	25
5.2.2. Heavy metals.....	25
5.2.3. Petroleum hydrocarbons.....	25
5.2.4. Polycyclic aromatic hydrocarbons (PAHs).....	26
5.2.5. BTEX compounds and MTBE	26

5.2.6. Inorganics.....	26
5.3. Groundwater Assessment	26
5.4. Statistical Analysis.....	27
5.5. Ground Gas Assessment.....	27
6. CONCEPTUAL SITE MODEL	29
6.1. Sources	29
6.1.1. On-site – Historic and Current	29
6.1.2. Off-site – Historic and Current	29
6.2. Pathways.....	29
6.2.1. Indirect	29
6.2.2. Direct.....	29
6.3. Receptors.....	29
6.3.1. Human.....	29
6.3.2. Environmental	30
7. RISK ASSESSMENT.....	31
7.1. Risk Assessment Procedure.....	31
7.2. Pollutant Linkage Assessment.....	33
7.2.1. Asbestos in Made Ground	34
7.2.2. Residual TPH in Made Ground	34
7.2.3. Ground Gas from Made Ground	34
8. GEOTECHNICAL ASSESSMENT.....	35
8.1. Introduction.....	35
8.2. Geotechnical Tests.....	35
8.3. Geotechnical and Geological Parameters.....	35
8.3.1. Made Ground	36
8.3.2. Alluvium.....	36
8.3.3. River Terrace Deposits.....	36
8.3.4. Undifferentiated White Chalk	38

8.4. Aggressive Ground Soil Chemistry	41
8.5. Characteristic Geotechnical Parameters.....	42
9. FOUNDATION AND GROUND ENGINEERING	43
9.1. Introduction.....	43
9.2. Groundwater.....	43
9.3. Shallow Foundations	44
9.4. Piled Foundations.....	46
9.4.1. Pile Calculations	47
9.4.2. Design Approach	47
9.5. Other Engineering Considerations	49
9.5.1. Floor Slabs	49
9.5.2. Californian Bearing Ratio.....	49
9.5.3. Dissolution Features and their Treatment	50
10. CONCLUSIONS AND RECOMMENDATIONS	51
10.1. Contamination	51
10.2. Geotechnical	52
10.2.1. Other Geotechnical Considerations	52
10.2.2. Concrete Aggressivity.....	53
FIGURE 1 – SITE LOCATION PLAN	54
FIGURE 2 – INVESTIGATION LOCATION PLAN	55
FIGURE 3 – SPT N VS DEPTH.....	56
APPENDIX 1 – REPORT CONDITIONS	57
APPENDIX 2 – ENGINEERING LOGS	59
APPENDIX 3 – GENERIC ASSESSMENT CRITERIA.....	60
APPENDIX 4 – SOIL SCREENING SUMMARY	61
APPENDIX 5 – CHEMICAL ANALYSIS RESULTS	62
APPENDIX 6 – GEOTECHNICAL TEST CERTIFICATES.....	63
APPENDIX 7 – BEARING RESISTANCE CALCULATIONS.....	64

APPENDIX 8 – TRRL PROBE WORKSHEETS.....	65
--	-----------

1. INTRODUCTION

1.1. Introduction

Ridge and Partners LLP (Ridge) was commissioned by Salmon Property in August 2017 to undertake a Ground Condition Assessment of a site (known as Site 4) at the former council depot land Harts Farm Way, Havant.

The brief was to undertake a limited site investigation and assessment to confirm any ground contamination issues that may affect the proposed development identified by previous investigation works. This report provides an assessment of the identified and potential ground conditions of the site, with regard to the proposed works in accordance with the Model Procedures for the Management of Land Contamination (CLR 11), published by the Environment Agency. In addition, the geotechnical sections of this report provide a detailed assessment of the materials present beneath the site and present characteristic parameters that should be used in design of all geotechnical facets of the proposed development.

This report is prepared in line with the agreed brief and is subject to the report conditions shown in Appendix 1.

1.2. Legal Context

Part IIA of the Environmental Protection Act 1990 (inserted by Section 57 of the Environment Act 1995) provides a regime for the control of specific threats to health or the environment from land contamination. In accordance with the Act and the statutory guidance document 'The Contaminated Land (England) Regulations 2000', the definition of contaminated land is intended to embody the concept of risk assessment. Within the meaning of the Act, land is only "contaminated land" where it appears to the Regulatory Authority, by reason of substances within or under the land, that:

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

Inherent in this definition is the requirement for contamination risk assessment to be undertaken on a site specific basis, as the potential for harm is determined by the site's end use and its specific environmental setting.

The guidance defines "risk" as the combination of:

- The probability, or frequency, of occurrence of a defined hazard (for example, exposure of a property to a substance with the potential to cause harm); and
- The magnitude (including the seriousness) of the consequences.

While Part IIA of the Environmental Protection Act provides a risk based approach to the identification and remediation of land where contamination poses an unacceptable risk to human health or the environment, the regime does not take into account future uses. New developments are therefore controlled by the planning regime, with reference to the National Planning Policy Framework (NPPF), rather than directly by Part IIA of the Environmental Protection Act.

The NPPF is based on the principal that the site should be suitable for its new use, taking account of ground conditions, including from natural hazards or former activities and states that “Where a site is affected by contamination or land stability issues, responsibility for securing a safe development rests with the developer and/or landowner”. The NPPF also links the planning and Part IIA regimes by stating that “after remediation, as a minimum, land should not be capable of being determined as contaminated land under Part IIA of the Environmental Protection Act 1990”. Key components of the Part IIA regime, such as the definition of Contaminated Land and the associated risk based assessment approach, are therefore considered to also be applicable to the planning regime.

1.3. Methodology

This report has been prepared in accordance with published Environment Agency guidance (‘Model Procedures for the Management of Land Contamination – Contaminated Land Report (CLR) 11’). CLR 11 provides the technical framework for structured decision making about land contamination and builds on previous work carried out under the Contaminated Land Research Programme (of the former Department of the Environment).

1.3.1. Pollutant Linkage Concept

In the context of land contamination, there are three essential elements to any risk:

- A **contaminant source** – a substance that is in, on or under the land and has the potential to cause harm or to cause pollution of controlled waters.
- A **receptor** – in general terms, something that could be adversely affected by a contaminant, such as people, an ecological system, property, or a water body.
- A **pathway** – a route or means by which a receptor can be exposed to, or affected by, a contaminant.

Each of these elements can exist independently, but they create a risk only where they are linked together, so that a particular contaminant affects a particular receptor through a particular pathway. This kind of linked combination of contaminant–pathway–receptor is described as a pollutant linkage.

1.3.2. Conceptual Model

An important thread throughout the overall process of risk assessment is the need to formulate and develop a conceptual model for the site, which supports the identification and assessment of pollutant linkages. A conceptual model represents the characteristics of the site in diagrammatic or written form that shows the possible relationships between contaminants, pathways and receptors (pollutant linkages).

1.3.3. Risk Assessment

CLR 11 advocates a phased approach to risk assessment comprising the following in order, as necessary:

Preliminary Risk Assessment – a desk study consisting of a review of documentary, anecdotal and site walk over evidence.

Generic Quantitative Risk Assessment (GQRA) - comparison of contaminant concentrations obtained from site investigation with generic assessment criteria.

Detailed Quantitative Risk Assessment (DQRA) - comparison of contaminant concentrations obtained from site investigation with site-specific assessment criteria.

This document constitutes a Preliminary and Generic Quantitative Risk Assessment and a Geotechnical Design Report.

1.4. Proposed Use

It is understood that the site is proposed for development as commercial/industrial. A change in the site use from that currently proposed may result in the need for re-assessment of risk criteria and the conclusions and recommendations resulting from the risk assessment could therefore significantly change.

1.5. Sources of Information

The information and documents received for the purpose of this report are given below:

- *Foundation and Exploration Services Ltd* Factual Report on Ground Investigation (July 2002);
- *RPS* Phase 1 Desk Study and Phase 2 Site Investigation Report (September 2007);
- *Structural Soils Ltd* Final Report on Site Investigation (August 2013);
- *Structural Soils Ltd* Remedial Method Statement (January 2014);
- *Structural Soils Ltd* Supplementary Investigation (May 2014).

1.6. Report Scope and Limitation

This report is based upon a review of readily available historical and current information and the recent site investigation data detailed herein. The report presents an interpretation of the borehole and laboratory data provided by the Ridge site investigation undertaken on the 4th September 2017. In addition, this report outlines the basic ground conditions encountered in the exploratory holes and the results of any monitoring of ground installations.

This information has been collated, processed and used to provide an interpretation of the ground conditions, with recommendations on potential ground contamination risks for the proposed development.

The recommendations and opinions expressed in this report are based on the strata observed in the exploratory holes, the results of the site and laboratory tests, and information obtained as part of the desk study or provided by others. Ridge takes no responsibility for conditions that have not been revealed by the exploratory holes, or which occur between them.

Whilst every effort has been made to interpret the conditions between investigation locations, such information is only indicative and liability cannot be accepted for its accuracy. Information provided from other sources is taken in good faith and Ridge cannot guarantee its accuracy.

The information contained in this report is intended for the use of Salmon Property and Ridge can take no responsibility for the use of this information by any other party or for uses other than that described in this report.

2. HAZARD IDENTIFICATION

2.1. Site Location and Description

The site is located in south Havant, Hampshire. The approximate British National Grid Reference of the site is SU 707 058.

The site of investigation was the southwest quadrant of a former council depot located in an industrial area of Havant and approximately 140m by 70m in size. The area was bound by Harts Farm Way to the south, Harts Farm Way Stream (flowing from east to west) and an access road to the north, an access road to the east and the local household waste recycling centre (HWRC) to the west.

The site was predominantly level apart from localised areas where demolition rubble had been heaped. The majority of the area was covered by bare ground where the demolished buildings and surfacing had been removed with macadam and concrete associated with access roads and car parking still locally present. The site was particularly overgrown with a number of mature trees to the southern and western perimeter.

Overhead electricity transfer lines were present in the southwestern corner of the site trending from southeast to northwest.

No visual residual evidence of contamination sources was noted on site although an underground fuel storage tank was believed to have formerly been present at the main site entrance to the south.

2.2. Site History

From 1866 to 1970 the site was predominantly rural farmland associated with Harts Farm to the east. Harts Farm stream crossed to the north of the site in an east to west direction and a Well was present next to the farm buildings. The surrounding area was similar, with marshland liable to flooding.

Brockhampton Stream passed to the east and south of the site with a mill located on the stream to the south. There was little significant change in the surrounding area until 1963 when major development took place with the construction of the A27 bypass to the north of the site. At the same time Brockhampton Road to the east of the site was blocked off and moved to accommodate a junction on the bypass. Around this period, the marshland to the west was subject to reclamation as a landfill.

Electricity substations were positioned 20m southwest and 35m southeast and sewage works 165m to the south. Between the 1970 and 1973 the maps indicate the site was developed into a council depot with an access road Harts Farm Way constructed along the southern boundary of the site. By 1984 the maps indicate an incinerator was built approximately 83m to the west and Harts Farm Way had been extended to the west to provide access to the incinerator site and extends across the landfilled area. Over this period the site appears to have been used as a haulage yard. On the 2012 map the council depot and buildings are no longer shown and the area appears derelict. The incinerator to the west had also been demolished.

The site has contained 6no. petrol/diesel tanks of a total capacity of 63,000 litres and with associated 4no. fuel pumps, vent pipes and three stage interceptor within the east of the site, adjacent to the former depot entrance from Harts Farm Way. Topographic drawings and drawings from the previous investigation reports for the site also show a Paint Bay, Lub' Bay and Wash Bay in a building spanning the central section of the northern site boundary.

2.3. Documented Ground Conditions

Ground conditions recorded in readily available sources are summarised below.

2.3.1. Geology

The BGS Map extracts presented within the Groundsure report in Appendix H Structural Soils Ltd Final Report on Site Investigation (August 2013) indicate the site to be underlain by superficial deposits of Alluvium over River Terrace Deposits overlying bedrock geology of the Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation (undifferentiated).

Previous ground investigations identified natural soils underlying the Made Ground proven to a depth from 0.30m to greater than 2.60m, with a typical thickness of between about 1.00m and 1.50m.

2.3.2. Hydrogeology

The Hydrogeological map extracts presented within the Groundsure report in Appendix H Structural Soils Ltd Final Report on Site Investigation (August 2013) indicate the site to be underlain by superficial Secondary A Aquifers, interpreted as the Alluvium and River Terrace Deposits and a bedrock Principal Aquifer, interpreted as the Lewes Nodular Chalk Formation, Seaford Chalk Formation, Newhaven Chalk Formation, Culver Chalk Formation (undifferentiated).

The site does not lie within a groundwater source protection zone (SPZ)

2.3.3. Hydrology

The nearest surface water feature to the site is a spring fed stream present just to the north of the site boundary.

2.3.4. Radon

Radon is a naturally occurring radioactive gas which may be harmful to human health. Radon is generally released into the atmosphere in areas underlain by granite and limestone. Harmful concentrations of radon may build up if it becomes trapped in an enclosed space such as a building.

National Radiological Protection Board data presented within the Groundsure Report indicates that the percentage of houses exceeding the Action Levels for Radon in this area is less than 1%. Therefore the British Geological Survey recommends that no radon protective measures are necessary in the construction of new dwellings or extensions.

2.4. Environmental Data Search

A search of an environmental database was undertaken together with information from various other organisations as part of the desk study and is summarised in the following sections. The following summary is generally limited to locations within 250m of the site boundaries unless it is considered that installations or activities beyond that range could potentially have an impact on the site or be affected by the redevelopment of the site.

Table 2.1: Data search results

Discharge consents	There are numerous recorded discharge consents within 250m of the site, related to surface water and site drainage to rivers and saline estuary. None of these appear to relate to the adjacent stream upgradient of the site.
Pollution incidents	There are numerous recorded pollution incidents within 250m of the site, relating to waste material, oils and fuels, firefighting run-off, biodegradable waste and sewage material. None of these appear to relate to the adjacent stream upgradient of the site.
Water abstractions	There are no recorded water abstractions within 250m of the site.
Fuel stations	There are no recorded active fuel stations within 250m of the site although fuel tanks are known to have been present on the site.
Landfill sites	There are 2no recorded Landfill sites within 250m of the site. The first is to the west and is shown on historical maps to have been

	infilled by 1963. The second is located some 230m to the and is noted to have received household waste.
--	---

The site is located in an area which may not be affected by mining.

The following ground hazards were identified:

- Compressible ground stability hazards – Moderate hazard
- Collapsible ground stability hazards – Low hazard
- Ground dissolution stability hazards – Very Low hazard
- Landslide ground stability hazard – Very Low hazard
- Shrinking or swelling clay ground stability hazard – Low hazard
- Running sand ground stability hazards – Low hazard

2.5. Previous Reports

2.5.1. Foundation and Exploration Services Ltd Factual Report on Ground Investigation (July 2002);

This is a factual ground investigation report prepared for Robert West Consulting on behalf of the South East England Development Agency (SEEDA) and presents geotechnical and contamination data for an investigation comprising 6no. cable percussive borehole (up to 13.2mbgl) and 8no. machine excavated trial pits (up to 3mbgl) across the wider former depot site. 3no of these boreholes and 2no of these trial pits were located within or immediately adjacent to the current study site.

2.5.2. RPS Phase 1 Desk Study and Phase 2 Site Investigation Report (September 2007);

RPS Planning and Development Chepstow were commissioned by Edgmond Holding Limited to complete a Phase 1 desk study and Phase 2 site investigation report for the wider former depot site. The report contains a description of the intrusive investigation undertaken by RPS, comprising 6no. cable percussive boreholes (up to 17.6mbgl) and 14no. machine excavated trial pits (up to 3mbgl or refusal). The investigation location plan indicates that 2no. of the RPS cable percussive boreholes and 5no. of the RPS trial pits were located within the current study site boundary.

The investigation encountered up to 2.0m of Made Ground over, 0.2-0.7m of Alluvium over 5.7-7.7m of Brickearth and Coombe Deposits (typically clayey gravel) over Chalk to the maximum depth of the investigation at 17.6m. Groundwater levels were recorded to be between 1.15m and 2.08mbgl.

RPS concludes that the site investigation analytical data and screening exercise confirms that there are slightly elevated concentrations of organic determinants detected in soils at one location on the site (associated with TP1 and TP12 – associated with a former underground fuel storage tank). The concentrations fall marginally below the commercial/industrial use screening criteria in use at the time. Elevated concentrations of organic determinands above water quality standards were measured in groundwater (BH2-S and TP1). The concentrations are present at concentrations that may pose a low risk to controlled waters, however, the contamination appears to be localised within groundwater around the area of hydrocarbon contamination discussed above.

In summary, Significant contamination findings were:

1. Surface water sample SW2 had elevated PAH concentrations.
2. A water sample taken from TP1 near to the underground fuel tanks had elevated TPH and PAH.
3. A water sample from BH2 had elevated TPH concentrations.
4. PAH Concentrations in TP4 were considered to potentially pose a risk to groundwater.

2.5.3. Structural Soils Ltd Final Report on Site Investigation (August 2013);

Structural Soils Ltd (SSL) was commissioned by Upton McGougan Limited on behalf of Begg (Nominees) Ltd to undertake a Preliminary Risk Assessment and combined contamination and geotechnical investigation of the wider former depot site. The Structural Soils report includes a review of the FES and RPS reports discussed above. SSL also noted that the EHO raised the following comments about the RPS report which were addressed by their investigation:

1. Further gas monitoring was required
2. A detailed/site-specific risk assessment with respect to hydrocarbon risk to groundwater from the vicinity of TP1 and TP12 (assume location of underground fuel tank).
3. Further trial pitting in the area of TP10 (above-ground fuel tank area) and in area of BH2 and TP4 to determine if previous concentrations were hotspots or widespread.

SSL's intrusive investigation comprised 4no. cable percussion boreholes (20.0mbgl), 10 no. window percussive dynamic windowless sample exploratory holes (up to 3.0mbgl) and 13 no. machine dug trial pits (up to 3.8mbgl).

The investigation encountered up to 2.6m (typically 1.0-1.5m) of Made Ground over, up to 1.8m of Alluvium over Head gravels to depths of between 9.0 and 13.0mbgl over Chalk to the maximum depth of the investigation at 20.0m. Groundwater levels were recorded to be between 1.41m and 2.07mbgl.

SSL made the following conclusions:

A low volume change potential should be assumed for the made ground clay and a medium volume change potential for the Alluvial clay for design purposes. The chalk fill and granular soils are non shrinkable.

Conventional shallow strip or pad foundations may be constructed upon the Head Gravel that was typically encountered at depths of between about 1.00m and 2.00m. This formation should offer a net allowable bearing capacity of about 200kN/m² for strip foundations up to 1.00m wide, and a net allowable bearing capacity of 285kN/m² for pad foundations up to 2.00m wide, placed at a depth of 1.00m. If such foundations are being considered then de-watering and shoring of excavations would be required. For this reason strip and pad foundations are not generally recommended.

Because the made ground is predominantly granular and the Alluvial clay is of limited thickness and extent, lightly loaded ground bearing floors slabs could be used at this site provided that the formation is proof-rolled and any soft spots are excavated out and replaced with suitably compacted granular fill.

Given the shallow depth of the groundwater, it is considered that the site is generally unsuitable for the use of soakaways.

A CBR value of 15% is recommended for pavement design. The soils are likely to be frost susceptible.

The Aggressive Chemical Environment for Concrete (ACEC) class is AC-1.

The soil TPH results show several exceedances of the UKWIR water pipes guidelines for polythene pipes. Therefore PVC or other alternative pipes may be required and the water company should be contacted in this respect.

The groundwater analysis undertaken has not identified any significant risk to water resources.

The gas monitoring to date shows some elevated carbon dioxide levels indicating that passive gas protection may be required. These would comprise an underfloor vented void, a gas resistant membrane, and sealing around service entries. These measures would also be likely to protect the buildings against any residual hydrocarbon vapours or odours from the ground.

SSL recommend that all of the underground tanks, their vent pipes, filling pipes, etc, be properly removed in line with recognised procedures, using a specialist contractor having sufficient and suitable experience in such work. It is possible that soil or water contaminated by leakages from the tanks could be found and this should also be removed and disposed of appropriately. It will be necessary to take further samples for testing from the soils around the tanks at that stage and the resulting excavations must not backfilled until results are available and have been assessed.

Given the existence of made ground on the site it would be prudent to maintain vigilance during site clearance and construction, in case any further areas of suspected contamination are encountered. If areas are found then a suitably qualified person should undertake appropriate sampling, testing and further risk assessment.

2.5.4. Structural Soils Ltd Remedial Method Statement (January 2014);

Following the Final Report on Site Investigation, Structural Soils Ltd (SSL) was commissioned by Upton McGougan Limited on behalf of Begg (Nominees) Ltd to produce a detailed Remediation Method Statement (RMS) detailing how to resolve any significant risks on the wider depot site.

SSL presented the measures required, the data that will be gathered to prove correct implementation, and the parties to validate them, summarised as follows:

Measure:	Data to be gathered:	Party to validate:
Groundwater and stream water monitoring	Contamination analysis and water levels	SSL
Water pipe materials	Correspondence from Water Company confirming their acceptance of pipe materials.	Contractor via Water Company
Gas protection measures	Photographs	Contractor
Removal of buried tanks and free product if present	Photographs, consignment notes	SSL
Provide clean imported topsoil in soft landscaped areas	Certificate from supplier and delivery notes. Validate contamination status of imported soil once placed on site	Soil supplier/contractor SSL
Assess any unforeseen/new contamination found	As required	SSL (site visits may be required)

Once all of the above risk reduction measures have been completed, then a Validation Report will be prepared to confirm that such measures have been undertaken in accordance with this method statement. The validation report will be subject to approval by the local authority before the development can be occupied.

2.5.5. Structural Soils Ltd Supplementary Investigation (May 2014).

Following the Remediation Method Statement (RMS), Structural Soils Ltd (SSL) was commissioned by Upton McGougan Limited on behalf of Begg (Nominees) Ltd to undertake a Supplementary Investigation to further investigate the risks identified in the RMS for the wider former depot site.

These works comprised recommended further water monitoring of wells across the wider former depot site and also some further investigation around the former tank farm in the form of trial trenches through the area of the former tanks.

SSL made the following overall conclusions:

1. It has been confirmed that the buried tanks are no longer present and neither is any source of free product hydrocarbon in the soils above the water table, which might impact groundwater in the future.
2. Meanwhile the water monitoring shows that the site, including the former tank farm area, are not significantly impacting the Harts Farm Stream which flows through the site.

Therefore it is considered that construction can begin, as long as the other recommendations in the RMS are followed, with the addition of the following item inadvertently omitted from the RMS:

Measure:	Data to be gathered:	Party to validate:
New stream course	SSL to visually inspect before stream routed through new course*	SSL