



Our Ref: 8433,VA,LETTER,HS,PD,08-04-24,V1

Needhams Contracts Limited  
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By Email

## 15 MILTON ROAD EAST, LOWESTOFT

### 1. INTRODUCTION

Geosphere Environmental Ltd was commissioned by the Client, Needham Contracts Limited, to prepare a Validation Letter Report for their residential development at 15 Milton Road East, Lowestoft, NR32 1NT.

The site is understood to have been developed into six residential dwellings with associated gardens, car parking and infrastructure under planning permission DC/21/5015/FUL.

The main objectives of this report are:

- Detail remedial and validation works undertaken (where applicable).
- To highlight any amendments to the original remediation strategy made during the construction works.
- To recommend, if required, further mitigation measures to render the site suitable for its intended residential end-use.

### 2. BACKGROUND

#### 2.1 Previous Reports

Geosphere Environmental Limited has been present during the majority of the (LCRM), 2020, (ref. **R.2**) process to undertake environmental assessment at the site.

Key conclusions from previous reports for the site are summarised in the sections below.

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## 2.2 Phase 1 Desk Study Report – Harrison Group Environmental Ltd, January 2021

The report detailed the history of the site, which included a Chapel and residential housing from the earliest available mapping. The Chapel structure was no longer depicted by 1960, being replaced with a single large structure, denoted as a warehouse.

By 1974 five small rectangular buildings were noted to extend off the western face of the warehouse building, which were no longer depicted after 2003. Over the periods observed within the mapping, the surrounding land uses were largely depicted to include increasing amounts of residential dwellings and associated infrastructure.

The main contaminative risks identified within the review of the previous site data include potentially contaminative historic land uses associated with the site and surrounding area. Primarily, these sources pertain to the former use as a warehouse and historical developments of the site.

Recommendations within the Desk Study report included limited intrusive investigation and ground gas monitoring.

## 2.3 Phase 2 Ground Investigation (External Areas) – Geosphere Environmental Ltd, May 2022, ref. 6241,GI,GROUND,JG,AH,GF,24-05-22,V2

Geosphere advanced a series of exploratory holes across the external areas of the site in May 2022. At the time the area of the site below the existing structure footprint was inaccessible. Samples were obtained from the exploratory holes and submitted for laboratory analyses for contaminants of concern.

The results of the chemical testing were compared against a 'residential with plant uptake' land-use scenario. The results showed that none of the analysed samples had concentrations of analytes above the adopted screening criteria.

In the absence of elevated concentrations of commonly occurring analytes, the risk to sensitive receptors from contamination within the Made Ground was deemed negligible with the exception of a low risk to construction workers during demolition and construction works.

Based upon the results of the gas monitoring undertaken, the site was placed in Characteristic Situation CS1 or 'Green' on the NHBC traffic light scheme, and no special gas protection measures were deemed necessary.

Due to structures being present at the time of the initial investigation, a large part of the site was not able to be investigated. In the absence of analytes above the adopted screening criteria within the area tested

(external), gross contamination across the remainder of the site was considered unlikely. However, a post demolition investigation was recommended to assess the risk from the remainder of the site.

#### 2.4 Phase 2 Ground Investigation Report (Internal Areas) – Geosphere Environmental Ltd, November 2022, ref. 6701,GI,GROUND,AH,SG,03-11-22,V2

Based upon the findings of the desk study and previous phase of investigation, a number of potential contaminant sources and pathways to sensitive receptors had been identified. Whilst no significant contamination was encountered externally, further investigation was required below the building footprint to determine if the underlying soils were contaminated.

Based upon the results of this investigation, no significant risk to receptors was identified. It was concluded that there may be contamination onsite that was not encountered during these works and so a discovery strategy was recommended.

### 3. DISCOVERY STRATEGY

No contaminants at concentrations requiring remediation were identified during the pre-development site investigation surveys. As such, a Discovery Strategy was implemented during the construction process whereby any suspected contamination encountered would be assessed by a suitably qualified and experienced practitioner to determine if it posed a risk to receptors in the context of the proposed development.

The Discovery Strategy was as follows:

“There is the possibility that sources of contamination may be present on the site which were not identified during this investigation. Should contamination be identified or suspected during any phase of the development (most likely groundworks) this should be assessed accordingly by implementing the following:

#### Immediate action

All works in the vicinity of the suspected contaminated material to cease; and  
Attendance by a suitably experienced Environmental Engineer to assess the suspected contaminated material and if necessary, sample for characterisation.

#### Likely steps (to be confirmed following initial assessment)

If it is not feasible to keep the suspected material in situ, then these should be removed and temporarily stored in a fenced area, whilst characterisation is undertaken. The storage area should be secured and contained to ensure that potential contamination does not get moved and affect other areas of the site. Depending upon the amounts of material under consideration, this could be either a skip or a lined area;

- If the suspected contaminated material is dry or is suspected to contain asbestos, the material should be covered to prevent airborne contamination in the form of dust or fibres;
- Upon characterisation of the suspected contamination, if assessed to be impacted, the material may be either treated or removed from site following suitable waste management licensing or obtaining appropriate consents or agreements with relevant Regulatory Authorities;
- All contaminated material to be removed from site, should be disposed of at a suitably licensed facility / removed by a suitably licensed waste handler;
- Following excavation and removal, any open excavations or service trenches should be backfilled with soil that is suitable and certified as 'clean', (this may be either site-won or imported); and
- Validation of backfilling and remedial works will likely be required.

The Discovery Strategy is applicable during all phases of the development.”

### 3.1 Summary of Contamination Encountered

Geosphere have not attended site following completion of the pre-construction site investigation works. However, it is understood from the Client that no suspected contamination was encountered during the earthworks associated with the development. As such, no remediation works have been completed nor is there reason to believe that they are required.

A copy of the correspondence from the Client verifying the absence of any encountered contamination is provided in Appendix 3.

## 4. CONCLUSIONS

The Phase 1 Desk Study identified potential sources of contamination at the site. Subsequent intrusive investigations identified shallow made ground but no contaminants at concentrations deemed to pose a risk to identified receptors in a residential with plant-uptake setting. As such no remediation works were proposed but a Discovery Strategy was implemented to address any contamination that may have been encountered during the wider earthworks. Email verification from the Client has confirmed that no such contamination was encountered and as such no remediation or validation is considered to be required for the site. Should contamination be encountered during any future groundworks (e.g., service installation, etc.) then the Discovery Strategy in Section 3 above should be adhered to.

Yours sincerely

  
**Harry Sparkes**

***Principal Geoenvironmental Consultant***

**Geosphere Environmental Ltd**

Harry@geosphere-environmental.co.uk

**Checked By:**



**Paul Davies**

*Director*

**Geosphere Environmental Ltd**

**Authorised By:**



**Paul Davies**

*Director*

**Geosphere Environmental Ltd**

**Enclosures:**

Appendix 1 – Report Limitations and Conditions

Appendix 2 – References

Appendix 3 – Client Discovery Strategy Statement

# APPENDICES

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## Appendix 1 – Report Limitations and Conditions

### General Limitations and Exceptions

This report was prepared solely for our Client for the stated purposes only and is not intended to be relied on by any other party or for any other use. No extended duty of care to any third party is implied or offered.

Geosphere Environmental Ltd does not purport to provide specialist legal advice.

The Executive Summary, Conclusions and Recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon, until considered within the context of the whole report.

Interpretations and recommendations contained within the report represent our professional opinions, which were arrived at in accordance with currently accepted industry practices at the time of reporting and based upon current legislation in force at that time.

### Environmental and Geotechnical Reporting (including Phase 1, Phase 2 and Site Walkovers) Limitations and Exceptions

The comments given in this report and the options expressed herein, are based upon the readily available information collated for the report and an assessment based upon the current guidance which for Phase 1 / Phase 2 reports is primarily the Environment Agency's Land Contamination Risk Management (LCRM) report, 2021.

The report has been prepared in relation to the proposed end-use and should another end-use be intended, reassessment may be required.

No warranty is given as to the possibility of future changes in the condition of the site.

The opinions expressed cannot be absolute, due to the limitation of time and resources imposed by the agreed brief.

With regards to any aspect of land contamination referred to, this is limited to those aspects specifically stated and necessarily qualified. No liability shall be accepted for other aspects which may be the result of gradual or sudden pollution incidents, past or present land uses and the potential for associated contamination migration.

Any Desk Study Report / data has been produced largely from the information purchased from The Landmark Information Group. The information is not necessarily exhaustive and further information relevant to the site may be available from other sources. The information purchased has been assumed to be correct and free from errors. However, there is the possibility that some data may be missing from the

report including (but not limited to) unrecorded land uses both onsite and offsite or unrecorded pollution events. No attempt has been made to verify the information.

The accuracy of any map extracts cannot be guaranteed. It is possible that different conditions existed onsite, between and subsequent to the various map surveys provided.

Any site walkover undertaken is a snapshot of the site recording the visually evident conditions at the time of the walkover in the areas readily accessible. It is possible that after the walkover, the site was altered (for example by fly-tipping or groundworks) or before the walkover, the site conditions changed removing evidence of potentially contaminative features (such as oil tanks removed).

Any intrusive works only cover a tiny proportion of the site. Where exploratory holes are positioned by Geosphere Environmental Ltd, they are located to give as good a coverage of the site as possible and to target features / proposed land use where applicable, whilst allowing for areas that cannot be accessed, Client requested locations and other site / time / budget constraints. Whilst assumptions may have been drawn between exploratory holes on the ground conditions and / or extent or otherwise of any contamination, this is for guidance only and no liability can be accepted on its accuracy.

Foundation design is outside of the remit of Geosphere Environmental Ltd unless specifically stated and it is recommended that the services of foundation design specialists are sought as required. Any foundation appraisal contained within the report is limited to foundation optioneering.

Any conceptual model is based upon the information available at the time of conducting this assessment and is an interpretive assessment of the conditions at the site. Redevelopment and / or further investigation of the site may reveal additional information and therefore alter the conceptual model and the report conclusions.

Any infiltration testing results are considered to be representative of the ground conditions at the locations tested and at the time of testing. As well as lateral variation in ground conditions, seasonal changes in ground water level may affect the results.

Any post-fieldwork monitoring (including ground gas / groundwater) is a snapshot of the conditions at the time of monitoring.



## Appendix 2 – References

- R.1. Land Contamination Risk Management (LCRM), 2021.
- R.2. The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017.
- R.3. BRE Digest 465, 'Cover Systems for Land Regeneration – Thickness Cover Systems for Contaminated Land', 2004.
- R.4. The Environmental Protection Act, Part IIA, Section 78, 1990.
- R.5. Environment Act 1995, Section 57, DoE 1995.
- R.6. CLR 4, 'Sampling strategies for contaminated land', DoE 1994.
- R.7. British Standards Institute: BS 10175:2011+A2:2017 'Investigation of Potentially Contaminated Sites', Code of Practice 2017.
- R.8. British Standards Institute: BS 5930:2015+A1:2020 'Code of Practice for Ground Investigations', 2020.
- R.9. Asbestos: The Survey Guide, HSG 264, 2<sup>nd</sup> Edition, 2012.
- R.10. 'Professional Guidance on Comparing Soil Contamination Data with a Critical Concentration', Contaminated Land: Applications in Real Environments (CL:AIRE), 2021.
- R.11. EIC/AGS/CL:AIRE. Soil Generic Assessment Criteria for Human Health Risk Assessment. Contaminated Land: Applications in Real Environments, London, UK, January 2010.
- R.12. Contaminated Land Assessment Guidance Protocols, Published by agreement between Water UK and the Home Builders Federation, Published by Water UK, January 2014.
- R.13. UKWIR 'Guidance for the Selection of Water Supply Pipes to be Used in Brownfield Sites, August 2010.
- R.14. Environment Agency. Performance Standard for Laboratories Undertaking Chemical Testing on Soil, Version 5, March 2018.
- R.15. SP1010 – Development of Category 4 Screening Levels for Assessment of Land Affected by Contamination, Final Project Report (Revision 2), Contaminated Land: Applications in Real Environments (CL:AIRE) September 2014. Appendix H – Lead.
- R.16. Land Quality Press, The LQM/CIEH S4ULs for Human Health Risk Assessment, 2015.
- R.17. British Standards Institute, BS8485:2015+A1:2019, 'Code of Practice for the Design of Protective Measures for Methane and Carbon Dioxide Ground Gases for New Buildings', 2019.

## Appendix 3 – Client Discovery Strategy Statement

## Harry Sparkes

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**From:** [REDACTED]  
**Sent:** 08 April 2024 11:00  
**To:** Harry Sparkes  
**Cc:** Paul Davies  
**Subject:** RE: 8433\_RE: Fwd: 15 Milton Road, East, Lowestoft

**Caution:** This is an external email and may have a suspicious subject or content. Please take care when clicking links or opening attachments. When in doubt, contact your IT Department

Dear Harry,

Please take this statement as confirmation no suspected contamination was encountered during the earthworks or development of the site.

Kind regards,

**Elliott Jones BA (Hons), MSc**

**Contracts Manager**

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