



# Phase I Desk Study and Preliminary Risk Assessment

*Land East of Ugley Village Hall, Ugley*

*Prepared by Pelham Structures  
August 2024*

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## Executive Summary

Pelham Structures Ltd has undertaken a Phase 1 Preliminary Risk Assessment (PRA) of the site known as Land East of Ugley Village Hall.

The purpose of the study was to evaluate the contamination status at the site and to develop a risk assessment based on the past uses of the site and the proposed end use.

The site is proposed for residential redevelopment and is a former Gravel Pit. The Gravel extraction appears to have occurred between 1898 and 1921. Meaning it was likely undertaken manually and unlikely to have left notable contamination.

The entire application site is located on the Glaciofluvial Gravel, e.g., deposited by torrents of water from above a retreating glacier and from pressurized water from below the glacier.

The site is accessed via Pound Lane. At the time of walk over the site was accessed from Pound Lane. The sites levels have clearly been lowered as part of the Gravel extraction and there are varying levels across the site. The site was extracted at the turn of the C20 and doesn't seem to have been repurposed since, with it being maintained occasionally.

In addition to the desk top study trial pits were undertaken 15<sup>th</sup> February 2024, these showed further seems of gravel but no sign of contamination. The photos of these pits is provided at appendix B. this show the soil conditions to be largely sand/ gravel.

# 1. Introduction

## General

- 1.1. The purposes of this study is to evaluate the contamination status at the site and to develop a risk assessment based on the past uses of the site and proposed end use.
- 1.2. The site is proposed for residential development. Proposed development plan is provided at appendix C and the topographical survey at appendix D.
- 1.3. Assessment of the risks that may be associated with potentially contaminated land are generally undertaken on a phased or tiered basis, in accordance with current UK policy and technical guidance given in the Land Contamination: Risk Management (LCRM) procedures published by the Environment Agency (2019) and British Standard BS10175 “Investigation of Potentially Contaminated Sites – Code of Practice” (2011 + A2:2017) as well as other relevant documents. The LCRM procedures have been produced after the withdrawal of the former CLR11 report and generally follow the procedures in CLR11.
- 1.4. There are three stages presented in the LCRM as follows:
  - Stage 1: Risk Assessment
  - Stage 2: Options Appraisal
  - Stage 3: Remediation
- 1.5. The relevant phases of risk assessment are as follows:
  - Development of a Conceptual Model that identifies potential source-pathway-receptor linkages (pollutant linkages) based initially on a consideration of desk based and site reconnaissance information on the characteristics of the site and its environmental setting;
  - Risk estimation and evaluation using generic assessment criteria. This allows refinement of the Conceptual Model on the basis of factual information on the condition of the land (site investigation data) and involves comparison between Proposal observed concentrations of contaminants in environmental media against relevant and applicable generic assessment (or screening) criteria; and
  - Risk estimation and evaluation using site specific assessment criteria. This involves further refinement of the Conceptual Model on the basis of more detailed, site specific information on the condition of the land, and the use of relevant and applicable exposure models and site specific assumptions to estimate risks.
- 1.6. This report provides a qualitative judgement about the potential human health and environmental risks that may be associated with the site.

## *Planning Status*

- 1.7. This report accompanies a planning application for 16 dwellings.

## *Project Objectives*

- 1.8. Establish the historical and current uses of subject site.

- 1.9. Determine the environmental setting of the land as characterised by:
  - 1.9.1. Geology
  - 1.9.2. Hydrology
  - 1.9.3. Licenced waste management activities
  - 1.9.4. Pollution controls and authorisations
  - 1.9.5. Historical pollution incidents; and
  - 1.9.6. Ecosystem designations
  
- 1.10. Comment on potential for contamination of the soil and water environment in contract with the subject site, arising from the use of the site and surrounding land for particular purposes or as the result of other factors; and
  
- 1.11. Identify the potential human health and environmental risks that may be associated with the subject site, taking into account past, current and planned future uses of the land and its environmental setting.

## 2. Site Context

- 2.1. The site is located to the east of Ugley Village Hall on the junction of B1383 and Pound Lane. Ugley is an established village, with a village hall, Church and employment uses such as the quarry and the residential unit at Orchard House. The site is 1.07 ha in area and is the shape of a horseshoe wrapping around the village hall.



*(Site location plan)*

- 2.2. Walk over surveys were undertaken 2 August 2023 and trial pits undertaken 15<sup>th</sup> February 2024. The site was largely accessible and there were no obvious signs of contamination on the site.

### 3. Historical Map Survey

#### 3.1. National landscape

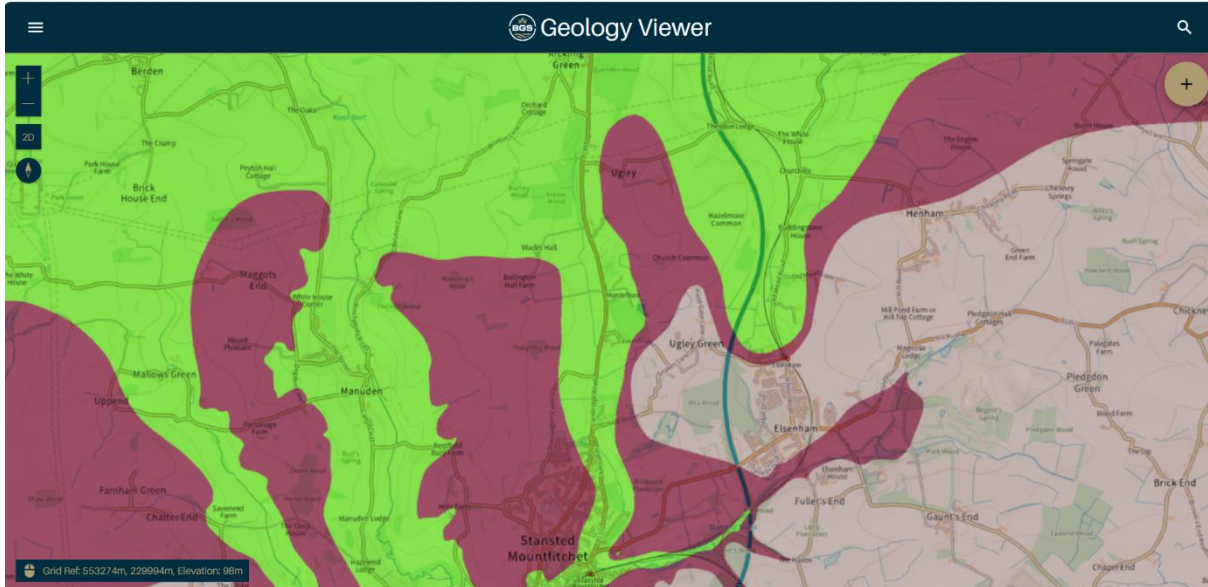
Map & Date	On-Site	Off-Site
1881	Undeveloped	Undeveloped to the east and west, orchard to the south and cluster of buildings to the north.
1883	“	“
1897	Gravel pit shown	“
1898	“	“
1921	Site undefined suggesting Gravel extraction has ended	“
1951	“	Village Hall constructed on the western edge of site.
1966 onwards	No notable change	“

3.2. The only notable development of the site appears to be the Gravel extraction 1987-1921 and the construction of the village hall around 1951.

## 4. Environmental Setting

### Geology

#### 4.1. Solid geology



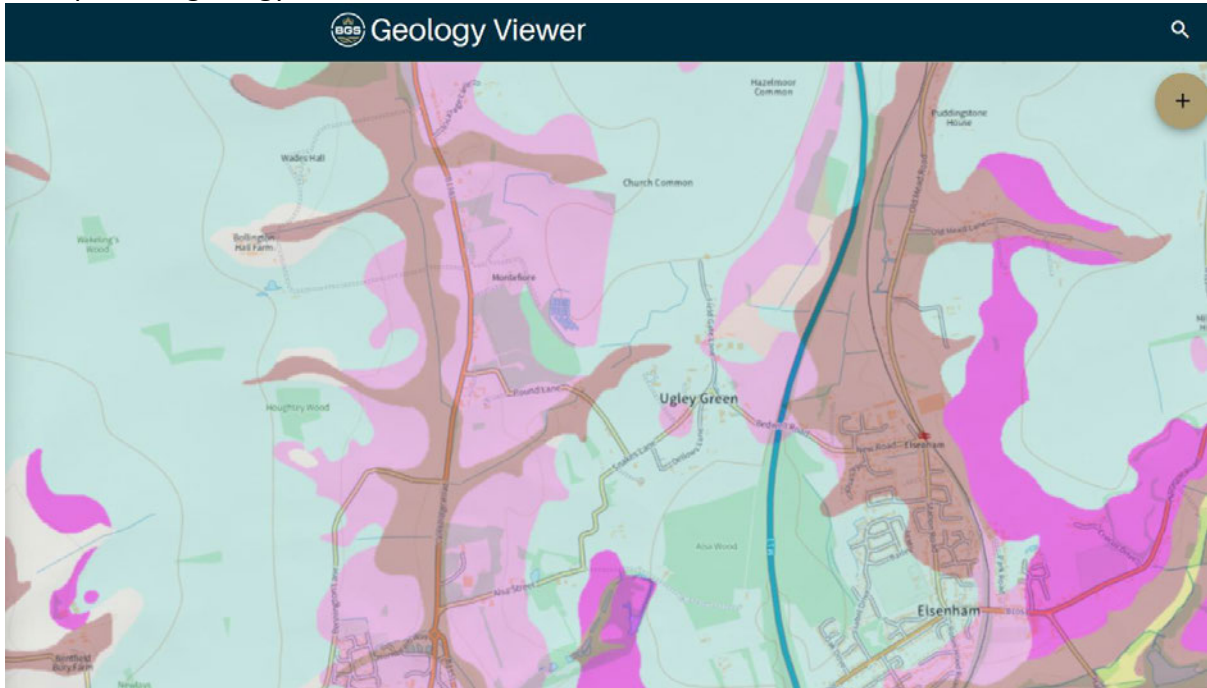
4.1.1. The entire site, i.e., Green, is on a deposit of Lewes Nodular Chalk and Seaford Chalk Formation but undifferentiated. These white Upper Chalk deposits were laid down in warm, shallow Cretaceous seas c. 84 to 94 Ma. This deposit becomes differentiated into two separate strata elsewhere in southern UK.

4.1.2. Purple, Thanet Formation and Lambeth Group - Clay, silt and sand. Sedimentary bedrock formed between 66 and 47.8 million years ago during the Palaeogene period.

4.1.3. Mauve, London Clay Formation - Clay, silt and sand. Sedimentary bedrock formed between 56 and 47.8 million years ago during the Palaeogene period.



## 4.2. Superficial geology



- 4.2.1. Glaciofluvial Deposits, Mid Pleistocene - Sand and gravel. Sedimentary superficial deposit formed between 860 and 116 thousand years ago during the Quaternary period.
- 4.2.2. Brown Head - Clay, silt, sand and gravel. Sedimentary superficial deposit formed between 2.588 million years ago and the present during the Quaternary period.
- 4.2.3. Grey, Lowestoft Formation formerly known as Boulder Clay. Sedimentary superficial deposit formed between 480 and 423 thousand years ago during the Anglian glacial period.



- 4.2.4. The entire application site is located on the Glaciofluvial Gravel, e.g., deposited by torrents of water from above a retreating glacier and from pressurized water from below the glacier.

Contains British Geological Survey materials © UKRI 2024.

## *Hydrology*

### *Nearest Main River*

- 4.3. The nearest Environment Agency defined Main River begins at a point to the northwest of the application area; Grid reference: 551324, 227621, and flows south. It passes the west of Ugley Village Hall and lies 135 metres to the west of the application area. There appear to be no Ordinary Watercourses that drain from the application site into this Main River.
- 4.4. This river flows south until it is joined by the Stansted Brook from the east. The combined waterway flows in a south-westerly direction until it reaches Gypsy Lane to the southwest of Stansted, where it joins the River Stort. All three then continue to flow in a southerly direction.

### *Ordinary Watercourses*

- 4.5. There are no Ordinary Watercourses within the application area. There is an unmaintained ditch like feature on the opposite side, the south side of Pound Lane.

### *Ponds*

- 4.6. There are no ponds or standing water features within the application site.

## 5. Assessment of Geo Technical Risk

### *Soil Conditions*

- 5.1. The trial pits show that the ground conditions are sandy gravel and therefore are considered to be limited risk associated with the ground conditions.

### *Topography*

- 5.2. The site has been lowered as part of the gravel extraction.

### *Previous Use*

- 5.3. The Historical Mapping indicates no other development on the site except the Gravel Extraction which was undertaken when mechanical equipment would have been limited in availability.

### *Geological Constraints*

- 5.4. The research doesn't suggest that there are any potential hazards associated with the underlying ground conditions, either natural or man-made.

## 6. Preliminary Risk Assessment

- 6.1. Consideration has been given to the potential for the subject site to be determined as "contaminated land" under Part 2A of the Environmental Protection Act 1990. Under Part 2A, Local Authorities have a duty to inspect sites from time to time to identify land that falls within a statutory definition of contaminated land, as assessed in the context of its current use and setting. Part 2A inspections are intended to focus primarily on land that may present unacceptable health and environmental risks but which cannot be regulated by planning controls or other enforceable mechanisms. It should be noted that it is not possible for land whose condition is assessed as being 'fit-for-purpose' under the planning regime to be identified as "contaminated land" under Part 2A.

### *Potential Sources of Contamination*

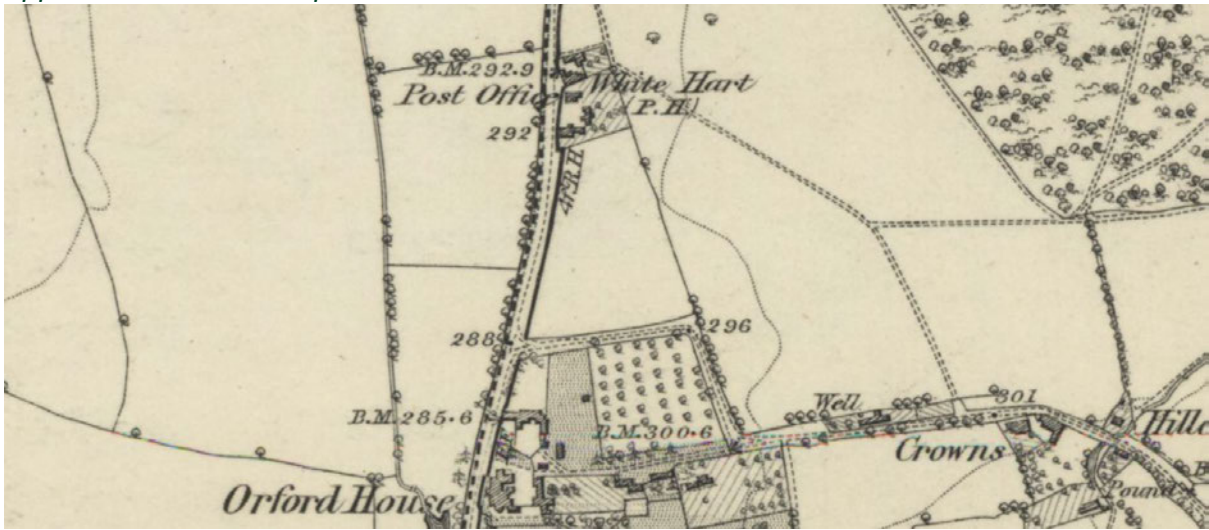
- 6.2. The research and ground investigation shows that there are no potential sources of contamination on the site.

## 7. Conclusions

- 7.1. The research has shown that the site has previously been extracted for Gravel. However, this was undertaken at a time when there was unlikely to be mechanical excavation involved. The site has not had a notable use since this ceased in circa 1921 and therefore the chances of contamination are considered to be minimal. Trial pits have also been undertaken with no signs of contamination found. No further surveys are recommended.

# Appendices:

## Appendix A: Historic map record



1881



1883



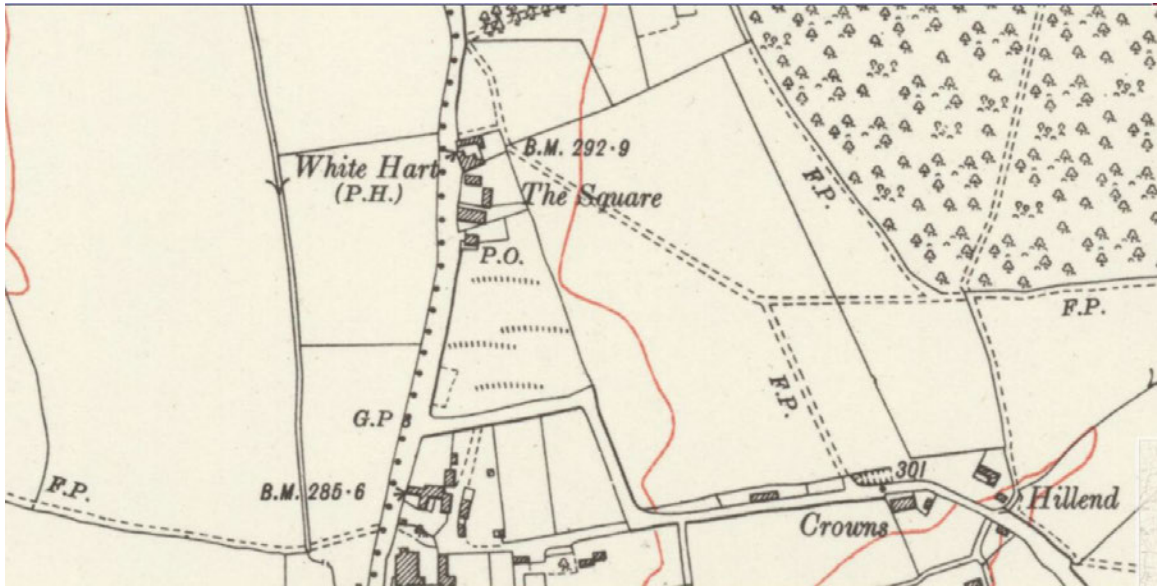
1897 the gravel extraction had just commenced in the southeast corner.



1898 ponds shown in blue. There appear to be no ponds shown either within the application red line or in the northeast quarter beyond Ugley Park.



1921 the whole site appears to be 'Rough Pasture' One tentatively concludes that all the main gravel extraction took place between 1898 and 1921 or earlier? The Ordnance Survey is sometimes slow to add features like the Village Hall that was donated to the village in 1920.



1923 no significant change; rough pasture. Village Hall still not shown or named.



1951 Village Hall rebuilt late 1940s? after bomb damage during WW2.



1960 Remains as rough pasture. Village Hall appears to have been extended.



1966 No significant change from 1960

*Appendix B: Pictures of trail pits 15<sup>th</sup> Feb 2024*







*Appendix C Proposed development plan*

*Appendix D The topographical survey*