

_planningadvice

From: Gedney, David
Sent: 27 May 2021 15:06
To: _planningadvice
Subject: H06-0302-21
Attachments: 3591_Doubledays Agricultural Engineers_Phase I Contamination Report_v1.pdf

Please scan – 6SUP (Phase 1 (Desk Study) Ground Contamination Report)

Regards

David Gedney | Senior Planning Officer | South Holland District Council
dgedney@sholland.gov.uk
DDI: 01775 764468 |
www.sholland.gov.uk

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From: Gillian Hoy <gillian.hoy@b-h-a-consulting.co.uk>
Sent: 27 May 2021 14:40
To: Armour, Susan <Susan.Armour@sholland.gov.uk>
Cc: Gedney, David <DGedney@sholland.gov.uk>
Subject: RE: 3591 Phase I Desk Study Report (H06-0302-21)

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Report Text

Kind Regards

Gilly

Gillian Hoy BSc MSc FGS
Principal Engineer

Due to the latest advice relating to COVID-19 virus we would just like to reassure all of our clients that we have put into place a working from home plan so that we can continue to operate efficiently delivering the high quality service you are used to.



From: Armour, Susan <Susan.Armour@sholland.gov.uk>
Sent: 27 May 2021 14:36
To: Gillian Hoy <gillian.hoy@b-h-a-consulting.co.uk>
Cc: Gedney, David <DGedney@sholland.gov.uk>
Subject: RE: 3591 Phase I Desk Study Report (H06-0302-21)

Hi Gilly,

Please could you send through the separate files?

This is what it looks like to me:



Contact us with any questions at:
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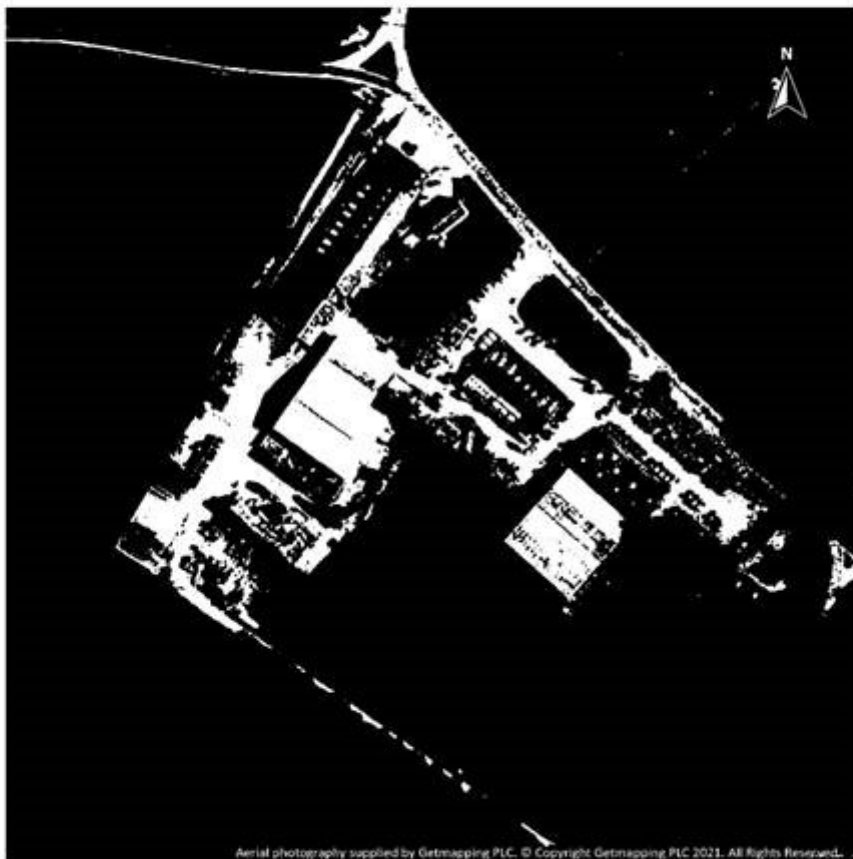
Date: 8 January 2021



DOUBLEDAYS AGRICULTURAL
ENGINEERS, DOUBLEDAYS
AGRICULTURAL ENGINEERS, OLD FEN
DIKE, HOLBEACH ST JOHNS, SPALDING,

Ref: GS-7413499
Your ref: 21-1-8-GRH-3591
Grid ref: 536748 318723

Recent site history - 2015 aerial photograph



Capture Date: 06/04/2015

Site Area: 0.08ha

Thanks,
Sue

Sue Armour | Environmental Protection Officer | **South Holland District Council**

Telephone : 01775 764738

www.sholland.gov.uk

Please note my current working days are Monday to Thursday termtime, Monday and one other day in school holidays.

Please note my new email address: susan.armour@sholland.gov.uk



From: Gillian Hoy [<mailto:gillian.hoy@b-h-a-consulting.co.uk>]

Sent: 20 May 2021 16:06

To: Armour, Susan <Susan.Armour@sholland.gov.uk>

Subject: 3591 Phase I Desk Study Report

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Hi Susan,

Try this, seems to be ok at our end. If not ok I can send through as separate files.

Kind Regards

Gilly

Gillian Hoy BSc MSc FGS
Principal Engineer

Due to the latest advice relating to COVID-19 virus we would just like to reassure all of our clients that we have put into place a working from home plan so that we can continue to operate efficiently delivering the high quality service you are used to.



30 Connaught Road
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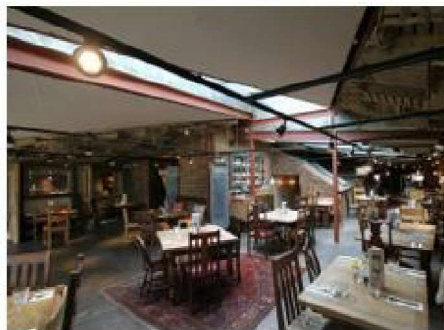
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Phase I (Desk Study) Ground Contamination Report

Proposed Service Workshop
Doubledays Agricultural Engineers
Old Fen Dyke
Holbeach St Johns

K L Ringer Building and Groundworks Ltd
February 2021



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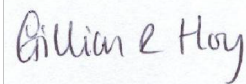
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Document Control Sheet

Project Name:	Proposed Service Workshop, Doubledays Agricultural Engineers, Old Fen Dyke, Holbeach St Johns, Spalding, PE12 8SQ
Client:	K L Ringer Building and Groundworks Ltd
Project Reference:	3591
Report Title:	Phase I (Desk Study) Contamination Report
Document Reference:	Version 1

	Name	Position	Signature	Date
Prepared By:	Gillian Hoy	Principal Engineer		12 February 2021
Approved By:	Andrew Westby	Director		12 February 2021
For and on behalf of BHA Consulting Ltd				

Prepared by	Approved by	Version	Description	Date

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Contents

Executive Summary	4
1 Introduction	5
Limitations	5
2 The Site & Site History	6
Site Location & Current Land Use.....	6
Site History	7
Review of Previous Site Investigations	8
3 Environmental Setting	9
Geology and Hydrogeology - Aquifer Characteristics	9
Hydrology & Surface Water Abstraction Licences	9
Flood Map for Planning	9
Designated Environmentally Sensitive Sites.....	9
4 Land Use Data	10
General.....	10
Historical and Current Industrial Data Entries or Environmental Permits	10
Fuel Station Entries	10
5 Ground Gases.....	11
6 Conceptual Site Model & Environmental Risk Assessment	12
General.....	12
Potential Sources	12
Potential Pathways.....	13
Potential Receptors.....	13
Preliminary Risk Assessment.....	13
7 Conclusions & Recommendations.....	15
Environmental Conclusions and Recommendations	15

Appendices

Appendix A: Development Plan

Appendix B: Historical Maps

Appendix C: Environmental Data Pack

Appendix D: Environment Agency Response – Jekyll's Farm Landfill Information

Appendix E: Contaminated Land Risk Assessment Methodology

Executive Summary

This Phase I (Desk Study) Contamination Report has been prepared for K L Ringer Building and Groundworks Ltd in support of a planning application for a new service workshop at Doubledays Agricultural Engineers, Old Fen Dyke, Holbeach St Johns. The proposed building will be located roughly central within the existing premises which has supplied and serviced agricultural machinery since the 1970's.

The Report demonstrates the following:

- Hydrocarbons are present throughout the Site due to the inherent nature of the business but these are stored in above ground tanks on concrete pads. There are no underground storage tanks and above ground tanks are not present within the application area.
- The Site is connected to a wider watercourse network and at risk from mobilised contaminants within flood waters as it lies within a Flood Zone 3. It does not lie within an environmentally sensitive area.
- The Environmental Data Pack indicates there is a historical landfill opposite the premises that received household waste, potentially over 45 years ago. It is likely that any gassing regime is now deemed complete. In addition, the low permeability of the underlying soils will restrict the lateral movement of gases and other contaminants.
- The Preliminary Risk Assessment, and accompanying Conceptual Site Model, which has considered on and off-site sources, including the historical landfill, has identified that receptors are at **LOW** risk and in accordance with the appended *Contaminated Land Risk Assessment – A Guide to Good Practice* further investigation is not required. Therefore, the Site is considered suitable for the proposed service workshop without a Phase II contamination investigation.
- These recommendations are subject to approval by the LPA.

This Executive Summary contains an overview of the key findings and conclusions in this report. No reliance should be placed on any part of the Executive Summary until the whole of this report has been read. Other sections of the report may contain information which puts into context the findings summarised in the Executive Summary.

1 Introduction

- 1.1 BHA Consulting Ltd (BHA) has been commissioned by K L Ringer Building and Groundworks Ltd to produce a Phase I (Desk Study) Ground Contamination Report for the construction of a new service workshop at Doubledays Agricultural Engineers, Old Fen Dye, Holbeach St John. To be referred to hereafter as 'the Site'. The proposed development plan is provided in **Appendix A**.
- 1.2 This report has been prepared for the benefit of K L Ringer Building and Groundworks and the contents should not be relied upon by others without the express written authority of BHA. If any unauthorised third party makes use of this report they do so at their own risk and BHA owe them no duty of care or skill.
- 1.3 The purpose of this report is to identify, as far as is reasonably possible, the ground conditions beneath the Site and the potential for contamination which might affect Site users and the environment and give rise to legal liability to the Client or prompt regulatory action pursuant to any Environmental Laws, including Part 2A of the Environmental Protection Act 1990.
- 1.4 The scope of works included a Site walkover survey, review of available information including geological, hydrogeological and hydrological information; a commercially available environmental database, historical plans and previous reports. This information has been used to develop an initial conceptual Site model to consider any potentially complete pollution linkages.

Limitations

- 1.5 This document has been prepared for the titled project and should not be relied upon or used for any other project. BHA accepts no responsibility or liability for the consequences of this document being used for a purpose other than that for which it was commissioned. The assessments and judgments contained herein should not be relied upon as legal opinion.
- 1.6 The findings and opinions are relevant to the dates of the Site visit and information review and should not be relied upon to represent conditions at substantially later dates. Conditions at the Site will change over time due to natural variations and may be affected by human activities. The opinions included herein are based on the information obtained from the assessments undertaken at the Site and from our experience. No intrusive investigations have been carried out. If additional information becomes available which may alter our conclusions, we request the opportunity to review the information, reassess the potential concerns and modify our opinion, if warranted.

2 The Site & Site History

Site Location & Current Land Use

- 2.1 Doubledays Agricultural Engineers is set in an isolated rural location around 2km west of Holbeach St John which is in turn around 6km from the town of Holbeach and 10km south east of Spalding. The proposed building will be located roughly central within their existing premises which has supplied and serviced agricultural machinery since the 1970's. The new building will be used as a service workshop. Location plans are provided below in **Figures 2.1.** and **2.2.**



Figure 2.1: Site Location Plan

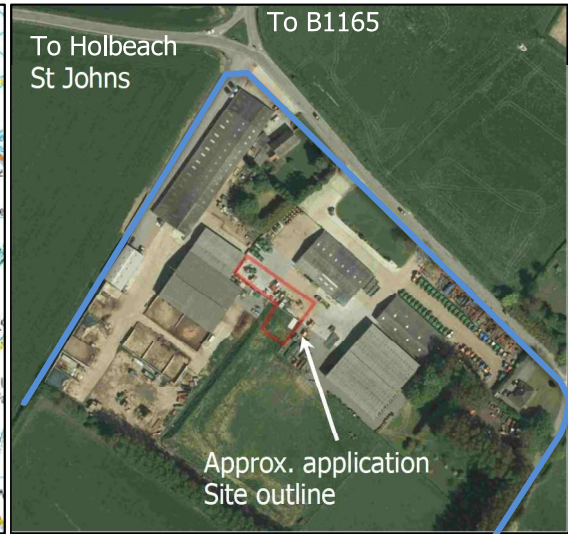


Figure 2.2: Site Location Plan: Aerial View

Site Walkover

- 2.2 A Site walkover was undertaken on the 12 January 2021 to identify potential contamination sources both within the Site curtilage, and in the immediate vicinity, resulting from the current and previous use of the Site.
- 2.3 The proposed service workshop will be built centrally within the existing premises partly upon existing hardstandings and partly upon a grassed area as shown on the images provided below in **Table 2.1.** Hydrocarbons are present throughout the Site due to the inherent nature of the business but these are stored in above ground tanks on concrete pads. There are no underground storage tanks and tanks are not present within the application area.



Table 2.1 Site Images

Site History

- 2.4 Historical maps were obtained to assist in the desk study (**Appendix B**) and pertinent extracts are shown below in **Table 2.2**. The maps indicate that the Site (Doubledays Agricultural Engineers) was originally developed during the 1970's with additional development in the 2000's and in the last few years.
- 2.5 Within the surrounding area, land to the immediate north west known as Jekyll's Farm is shown as developed since the earliest dated mapping of 1887 with redevelopment in the 1970's and early 2000's.
- 2.6 Around 150m north of the Site, land known as Jiggle's Hurn House which appears as a cluster of buildings with associated orchards, is present between the earliest dated mapping of 1887 but by the 1970's is shown as agricultural with no trace of development. An area to the south west of the buildings could represent a pit or quarry which was later infilled. This area is recorded as a historical landfill and is discussed further in Section 5.

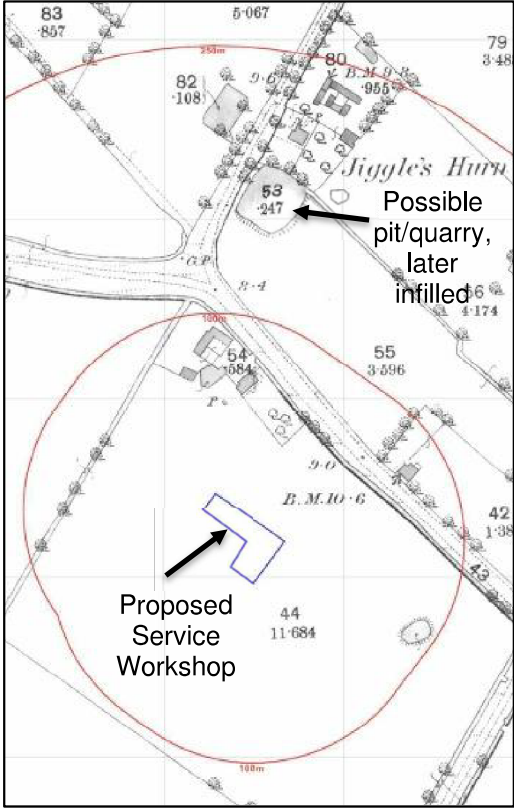
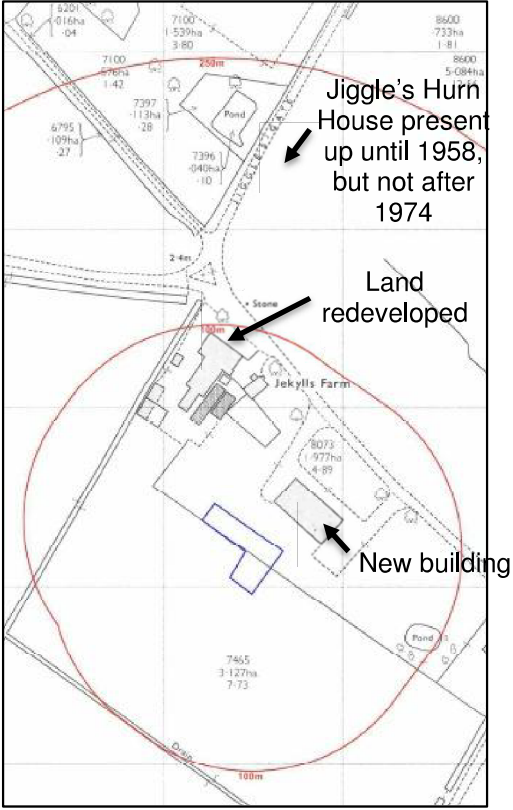
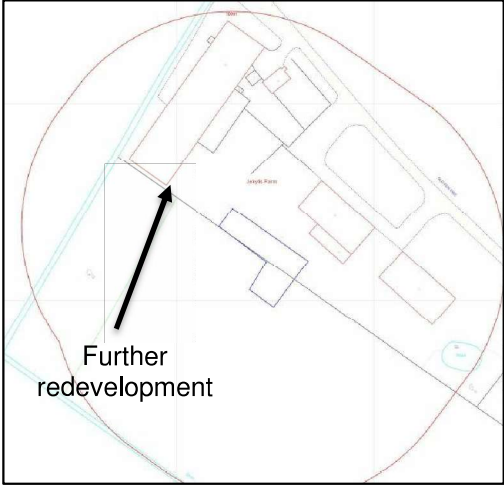
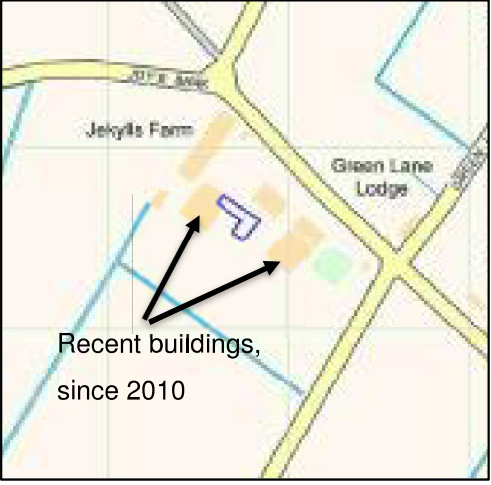
	
1887: Site and surrounding area appears agricultural	1974
	
2003	2021

Table 2.2: Historical Map Extracts

Review of Previous Site Investigations

2.7 BHA is not aware of any previous site investigations that have been undertaken on the Site.

3 Environmental Setting

Geology and Hydrogeology - Aquifer Characteristics

- 3.1 The British Geological Survey (BGS) website lists the geology underlying the Site as superficial Tidal Flat Deposits (clay and silt) overlying bedrock of the West Walton Formation (mudstone and siltstone). Both are designated as Unproductive Strata meaning they have low permeability and negligible significance for water supply and thus the transmission of pollutants.

Source Protection Zones and Groundwater Abstraction Licences

- 3.2 The Site is not within a Source Protection Zone and there are no groundwater abstraction licences within a 250m radius of the Site.

Hydrology & Surface Water Abstraction Licences

- 3.3 Due to the low lying area and low permeability of the underlying soils there is a network of drains within the area which flow towards the South Holland Main Drain. There are no surface water abstraction licences registered within a 250m radius of the Site.

Flood Map for Planning

- 3.4 The Environment Agency (EA) Flood Map indicates the Site to be located within FLOOD ZONE 3; an area where there is a 1 in 100 (1%) chance of flooding each year from rivers or a 1 in 200 (0.5%) or greater chance of flooding each year from the sea.

Designated Environmentally Sensitive Sites

- 3.5 The Site is not located within an environmentally sensitive area.

4 Land Use Data

General

- 4.1 Information provided by the Environment Agency and Local Authorities, provided as part of the Environmental Data Pack (**Appendix C**) for environmental permits, incidents and registers (within 50m of the Site boundary) include:

Historical and Current Industrial Data Entries or Environmental Permits

- 4.2 There are no significant historical industrial data entries within 250m of the Site radius. The current industrial data entries are aligned with known agricultural machinery activities on-site.

Fuel Station Entries

- 4.3 There are no active or obsolete fuel stations within a 250m radius of the Site.

5 Ground Gases

Landfill Sites and Registered Waste Treatment Sites

- 5.1 There is a historical landfill located opposite the site, to the north of Old Fen Dyke, as shown in **Figure 5.1** below. The Environmental Data Pack indicates it received household waste. There are no dates provided but information from the historical maps (**Table 2.2**) indicates that the land was occupied with Jiggle's Hurn House up until 1958, but not after 1974. To the north of the location shown there was a pond or possible pit which may then have formed the landfill. A request for more information was made to the Environment Agency and their response is provided in **Appendix D**.
- 5.2 Due to the historical nature of the landfill, potentially over 45 years ago, it is likely that any gassing regime is now deemed complete and therefore of negligible risk to the Site. In addition, the low permeability of the underlying soils will restrict the lateral movement of gases which are more likely to escape via the capping layer.
- 5.3 There are no active or recent landfills within 250m of the Site radius.

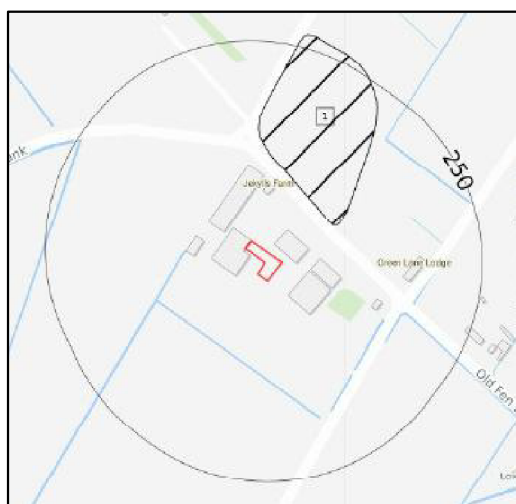


Figure 5.1: Historic Landfill (Source: Environmental Data Pack, Appendix

Radon Gas

- 5.4 The Site is in a lower probability radon area (less than 1% of homes are above the action level), therefore no protective measures are required with respect to radon gas.

Ground Gases Generated from BGS Made Ground Sources or Potentially Infilled Land (other than registered landfill)

- 5.5 The BGS 1:50,000 map does not indicate any made ground close to the Site.

6 Conceptual Site Model & Environmental Risk Assessment

General

- 6.1 In accordance with the Environmental Protection Act 1990, for contaminated land to exist there should be a source of contamination, a receptor where 'significant harm' or 'significant possibility of significant harm' may be caused or pollution of controlled waters is being or likely to be caused and a pathway which connects the two. Should any element of this contaminant linkage not be present (or severed) then the land may not be regarded as contaminated land, as defined in Part 2A of the Environmental Protection Act 1990.
- 6.2 In accordance with the above approach, a conceptual model of the Site has been produced based on the findings of the desk study, which describes the likely sources and pathways associated with the Site and the potential receptors which may be adversely impacted by a pollutant linkage.
- 6.3 The proposed service workshop will be built centrally within the existing premises partly upon existing hardstandings and partly upon a grassed area. Hydrocarbons are present throughout the Site due to the inherent nature of the business but these are stored in above ground tanks on concrete pads. There are no underground storage tanks and tanks are not present within the application area.
- 6.4 The Environmental Data Pack indicates there is a historical landfill opposite the premises that received household waste, potentially over 45 years ago. It is likely that any gassing regime is now deemed complete and therefore of negligible risk to the Site, however, this source is considered in the risk assessment below. In addition, the low permeability of the underlying soils will restrict the lateral movement of gases and other contaminants.
- 6.5 The Site is connected to a wider watercourse network and at risk from mobilised contaminants within flood waters as it lies within a Flood Zone 3. It does not lie within an environmentally sensitive area.

Potential Sources

- 6.6 Contamination sources can include neighbouring land uses and historical activities both on and off-site (<250m).
- 6.7 The findings of this desk study indicate the following **on-site** sources of contamination may be present:
- *Made Ground – from existing development and hardstandings*
 - *Hydrocarbons – from storage within the wider premises – above ground fuel tanks*
- 6.8 The findings of this desk study indicate the following **off-site** sources of contamination may be present:

- *Historical Landfill – filled ground and associated ground gases from (if present)*

Potential Pathways

6.9 Pathways by which contamination (if present) may migrate and impact a potential receptor.

6.10 The following pathways have been identified for the study area:

- *Direct contact with contaminants* – Ingestion, inhalation (dust) or dermal contact with contaminants that may be at or near the surface or which become exposed through excavation.
- *Migration of leachable contaminants through permeable soils / Made Ground* – The Made Ground / shallow soils are permeable and therefore the migration of contaminants (if present) should be considered.
- *Migration of ground gases through permeable soils / Made Ground* – Made Ground / shallow soils are permeable and therefore the migration of gases (if present) into confined spaces such as existing or future buildings should be considered. The underlying natural soils are designated as non aquifers within limited permeability.

Potential Receptors

6.11 The following potential receptors have been identified within 250m of the Site boundary. The receptors that may be significantly harmed or polluted by potential contaminative materials (if present) are:

- *Human health (site workers)* – due to the proximity in which they are required to work with contaminated soils and/or contaminated surfaces (if present).
- *Humans (end users)* – Site users in light industrial buildings and offices
- *Surface Water* – the Site is connected to the wider watercourse network
- *Buildings and structures* – considered to be of high sensitivity should chemically aggressive ground conditions or ground gases pose a risk to the future development.

Preliminary Risk Assessment

6.12 In order to assess the risk posed by the pollutant linkages that may exist at the site, a linkage model has been produced and is presented in the following table. The risk rating terms used to describe the risks identified at the site are based on CIRIA C552 (2001) *Contaminated Land Risk Assessment – A Guide to Good Practice* (**Appendix E**).

Pollutant Linkage		Hazard	
Source/Hazard	Pathway	Receptor	Risk/Mitigation
On-Site Sources: Made ground from existing development and hardstandings	Direct contact (ingestion, inhalation or dermal)	Human Health – Construction Workers	Low – short term exposure unlikely to result in significant harm. Construction workers to be provided with appropriate PPE and hygiene facilities.
		Human Health – End users (Site users)	Low –made ground is likely to comprise inert materials.

(Generic Contaminants, metals & PAHs)	Migration of leachable contaminants	Surface Water	Low – leachable contaminants (if present) are likely to be of negligible amounts
		Buildings, Structures & Services (pH and sulphate attack on concrete structures)	
Hydrocarbons Above ground fuel tanks within the wider premises	Direct contact (ingestion, inhalation or dermal)	Human Health – Construction Workers	Low – short term exposure unlikely to result in significant harm. Construction workers to be provided with appropriate PPE and hygiene facilities.
		Human Health – End users (Site users)	Low – contact unlikely after construction
	Migration of vapours	Buildings, Structures & Services	Low – vapours (if present) are likely to be of negligible amounts due to fuel being stored in above ground bunded tanks. Tanks are not located within the application boundary
Off-Site Sources: Landfill gases associated with historical landfill	Migration of Ground Gases	Buildings, Structures & Services	Low – ground gases (if present) are likely to be of negligible amounts due to the historical nature of the landfill

Table 6.1: Preliminary Risk Assessment

7 Conclusions & Recommendations

Environmental Conclusions and Recommendations

- 7.1 The Preliminary Risk Assessment in **Table 6.1** above has identified that on and off-site receptors are at LOW risk from sources identified by this desk study. In accordance with Table D of the Contaminated Land Risk Assessment – A Guide to Good Practice (**Appendix E**) low risk categories do not require further investigation at this stage.
- 7.2 Therefore, the Site is considered suitable for the proposed service workshop without a Phase II contamination investigation.
- 7.3 The above recommendations are subject to approval by the LPA.