

# Phase 1 Environmental Risk Assessment

Old Fire Station,  
123 Mortlake High Street,  
SW14 8SN

A REPORT PREPARED FOR AND ON BEHALF OF:  
Mr Guy Holt  
422 Lisburn Road, Belfast, BT9 6GN

Issue Date: 12 June 2024  
Revision No:  
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For and on behalf of  
Colliers Building Consultancy Limited

## SUMMARY

### KEY ASSESSMENT FINDINGS

	<p>The following issues represent the key matters for consideration as a result of our Phase 1 Environmental Audit with regards to ground conditions as part of the proposed permitted development of the site.</p>
1.	<p>The site comprises a three-storey office block centred approximately at National Grid Reference: 521148, 176054, which extends to approximately 0.02Ha. The site is situated in a predominantly residential area with the River Thames to the north of the site, a restaurant and commercial uses to the east of the site, Mortlake High Street (road) to the south with residential properties with private gardens beyond, and residential properties to the west of the site. No sources of contamination were identified from the current use of the site.</p>
2.	<p>Historically, the site was part of a private garden until ca. 1913 where it was shown as a fire engine station. Minor changes to the site layout were shown until 1966 when the present-day layout was first shown. Despite this it is understood that it was a horse and cart fire station with water. No water tanks are understood to be present at the site. The surrounding area included an electricity works (power station) and a corporation depot.</p>
3.	<p>The site is underlain by the Kempton Park Gravel Member over the London Clay Formation, which are classified as a Secondary A Aquifer and Unproductive Strata respectively. In addition, no potable groundwater abstractions have been identified within 1km of the site and the site is not situated within a Source Protection Zone.</p>
4.	<p>An environmental risk assessment was undertaken in regards to the change of use application from offices to a single residential house. As no significant sources of contamination were identified and the site is entirely surfaced with hardstanding, and as there will be minimal ground works as part of the change of use redevelopment, no source-pathway-receptor linkages have been identified. Therefore, the risk to site users and Controlled Waters is considered to be Low.</p>
5.	<p>A small section in the northern part of the site is situated within Flood Zone 2 and 3. While it benefits from flood defences, a Flood Risk Assessment has been commissioned and is to be reported separately.</p>

### ENVIRONMENTAL RISK RATING

 <i>Critical or high risk issue for urgent management attention</i>	 <i>Moderate to high risk issue considered as a significant management item</i>	 <i>Medium risk issue for ongoing management or action</i>	 <i>Low to medium risk issue that may require management or action</i>	 <i>Low risk item or for information only</i>	 <i>Note for information only</i>
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We can advise that based on the continued commercial use of the site and its proposed use, there is a **low** risk with regard to environmental liability.

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## RECOMMENDATIONS

- |    |   |
|----|---|
| 1. | No further work is required for a continuation of the current site use or in the proposed use.                        |
| 2. | Please see the accompanying Flood Risk Assessment following the identification of an elevated flood risk at the site. |

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## PHASE 1 ENVIRONMENTAL RISK ASSESSMENT

CLIENT NAME: Mr Guy Holt

PROPERTY ADDRESS: Old Fire Station,  
123 Mortlake High Street,  
SW14 8SN

INSPECTION DATE: 10 June 2024



### 1.0 INTRODUCTION

**1.1** Colliers Project and Building Consultancy Limited (hereafter referred to as Colliers) was instructed by Mr Guy Holt to complete a Phase 1 Assessment on a site referred to as Old Fire Station, 123 Mortlake High Street, SW14 8SN. These works have been undertaken in connection with the permitted development of the site from offices into residential.

#### **1.2 Aims and Objectives**

1.2.1 The aims of this report are to:

- Assess the environmental risks associated with the proposed permitted development at the of the site.

1.2.2 The objective of this report is to observe environmental risks from a site walkover and review various data sources, in order to prepare a Preliminary Risk Assessment.

#### **1.3 Scope of Works**

1.3.1 This assessment has been carried out in general accordance with current best practice requirements of the National Planning Policy Framework (NPPF) and guidance; as given in the Land Contamination: Risk Management (LCRM, 2020), Contaminated Land Exposure Assessment (CLEA) framework, Part 2A of the Environmental Protection Act (EPA) 1990 (and subsequent amendments), DEFRA (2012) Part 2A Contaminated Land Statutory Guidance and CIRIA Contaminated Land Risk Assessment Guide to Good Practice C552 (2001).

1.3.2 In addition, Colliers have reviewed various data sources and contacted regulators where possible. A summary of the data sources is listed below:

- Groundsure Database including environmental information and historical mapping.
- The Local Planning Authority website.
- The Environment Agency website.

## 2.0 SITE SETTING

<b>2.1</b>	<b>Site Location</b>
2.1.1	The site is centred approximately at National Grid Reference: 521148, 176054, and extends to approximately 0.02Ha. A site location plan is provided as Figure 1, in Appendix 1.
2.1.2	The site is situated in a predominantly residential area with the River Thames to the north of the site, a restaurant and commercial uses to the east of the site, Mortlake High Street (road) to the south with residential properties with private gardens beyond, and residential properties to the west of the site.
<b>2.2</b>	<b>General Description and Current Site Use</b>
2.2.1	Colliers completed a site walkover on 10 June 2024 and photographs taken during the inspection are presented in Appendix 2. A summary of the key information for this assessment is presented below.
2.2.2	The site comprises a single three-storey building that is currently used as offices by Winch Design. It is understood that the site is to undergo a change of use under a permitted development to residential. Whilst designs are not finalised, it is highly likely that the building would be repurposed into one house and no bedrooms are proposed on the ground floor.
2.2.3	The external areas are limited to the car parking spaces immediately to the south of the building. No vegetation is present. No evidence for Japanese Knotweed or Giant Hogweed was identified during the site inspection.
2.2.4	The levels vary across the site and external areas to the north of the building are below the property. As such, there is a raised access to the rear of the building. The River Thames is situated to the north of the site, and is accessed through steps that lead down to the tow path, and a second set of steps beyond lead down to the river.
<b>2.3</b>	<b>Potentially Contaminative Sources</b>
2.3.1	No potential contaminative sources have been identified onsite.
<b>2.4</b>	<b>Summary of Surrounding Area</b>
2.4.1	No significant offsite sources of contamination have been identified from the current uses in the surrounding area.
<b>2.5</b>	<b>Historical Land Use</b>
2.5.1	Colliers has completed a review of the historical mapping information. The maps are presented in Appendix 2 and the key information is summarised below.

2.5.2	<p>Onsite</p> <ul style="list-style-type: none"> <li>• The earliest mapping from 1869 shows the site as gardens associated with residential properties ‘The Limes’.</li> <li>• By 1896, a terrace of buildings was shown in the easternmost part of the site.</li> <li>• By 1913, a building was shown in the centre of the site, which was labelled ‘Fire Engine Station’.</li> <li>• The 1951 mapping shows a terrace of buildings in the southern part of the site.</li> <li>• By 1966, the present-day building layout was first shown.</li> <li>• No further changes were shown to the site layout.</li> </ul>
2.5.3	<p>Although the site was used as a fire station, it is understood that it was a horse and cart fire station which used water only. No water tanks are understood to be present at the site.</p>
2.5.4	<p>Offsite</p> <ul style="list-style-type: none"> <li>• The earliest mapping from 1869 shows the surrounding area are residential with private gardens.</li> <li>• By 1896, a terrace of buildings and yard area had been developed to the east of the site.</li> <li>• By 1913, an electricity works was shown to the west of the site. In addition, a Wharf and travelling crane was also shown to the northwest of the power station. Furthermore, a significant residential development had occurred to the south of the site.</li> <li>• By 1951, the land to the east of the site was labelled Corporation Depot. In addition, the electricity works had been extended to the west and a coal bunker was shown.</li> <li>• By 1992, the corporation yard and electricity works layouts had been altered and were no longer labelled as such. The land to the east of the site was shown as Tideway yard and the power station was labelled ‘The Old Power Station’ in the 2003 mapping.</li> </ul>
2.6	<p><b>Regulator Enquiries and Planning Review</b></p>
2.6.1	<p>A review of the London Borough of Richmond’s planning portal has not identified any environmentally pertinent information for this site.</p>
2.6.2	<p>Currently, no consultation has been made with the Environment Agency or Local Authority. However, upon review of the London Borough of Richmond’s Contaminated Land Register, the site is not listed. This means the regulators have not classified the site as Contaminated Land under Part 2A of the Environmental Protection Act 1990.</p>
2.7	<p><b>Summary of Previous Reports</b></p>
2.7.1	<p>We have been provided with the following historical environmental reports for review:</p> <ul style="list-style-type: none"> <li>• Groundsure, 2024. Groundsure Review. Reference: IT-55343039. Dated: 29 April 2024</li> </ul>
2.7.2	<p>In summary, the report is a computer-generated document with little human input. It has collated the environmental database information for the site and assigned a generic risk. The risk ratings proposed in the report are “Moderate: Acceptable Risk” for Contaminated Land and “Low” for flooding.</p>



2.7.3	The context for the moderate risk associated with Contaminated Land is as a result of the historical use of the site as a Fire Station. However, no further information or risk assessment is proposed.
2.7.4	As such, the Groundsure Review is considered to be a data source and not a thorough risk assessment. Our report therefore supersedes the Groundsure Review.

### 3.0 ENVIRONMENTAL SETTING

<b>3.1</b>	<b>Geology</b>															
3.1.1	From a review of the British Geological Survey (BGS) mapping, the geology of the subject site comprises the Kempton Park Gravel Member (sand and gravel) over the London Clay Formation (clay).															
3.1.2	A review of the BGS mapping records has identified a third-party borehole situated some 125m east of the site. A summary of the ground conditions is presented below.															
3.1.3	<table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 33%;">Depth From (m bgl)</th> <th style="width: 33%;">Depth To (m bgl)</th> <th style="width: 33%;">Soil Type</th> </tr> </thead> <tbody> <tr> <td>Ground Level</td> <td>0.15</td> <td>Tarmac</td> </tr> <tr> <td>0.15</td> <td>0.30</td> <td>Concrete</td> </tr> <tr> <td>0.30</td> <td>0.90</td> <td>Made Ground</td> </tr> <tr> <td>0.90</td> <td>7.50</td> <td>Sand and Gravel</td> </tr> </tbody> </table> <p style="text-align: center;"><b>Table 1. Ground Conditions</b></p>	Depth From (m bgl)	Depth To (m bgl)	Soil Type	Ground Level	0.15	Tarmac	0.15	0.30	Concrete	0.30	0.90	Made Ground	0.90	7.50	Sand and Gravel
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3.1.4	Groundwater was encountered at 1.95mbgl.															
<b>3.2</b>	<b>Hydrogeology</b>															
3.2.1	The aquifer designation is set out below.															
3.2.2	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Formation</th> <th style="width: 30%;">Aquifer Designation</th> <th style="width: 45%;">Permeability</th> </tr> </thead> <tbody> <tr> <td>Kempton Park Gravel Member</td> <td>Secondary (A) Aquifer</td> <td>Permeable layers capable of transmission of contaminants.</td> </tr> <tr> <td>London Clay Formation</td> <td>Unproductive Strata</td> <td>Low permeability preventing transmission of contaminants.</td> </tr> </tbody> </table> <p style="text-align: center;"><b>Table 2. Aquifer Designation &amp; Permeability</b></p>	Formation	Aquifer Designation	Permeability	Kempton Park Gravel Member	Secondary (A) Aquifer	Permeable layers capable of transmission of contaminants.	London Clay Formation	Unproductive Strata	Low permeability preventing transmission of contaminants.						
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3.2.3	The site is not situated within a groundwater Source Protection Zone.															
3.2.4	There are two groundwater abstractions within 1km of the site. These are situated 690m and 890m away from the site for spray irrigation at Dukes Meadow Golf Club and Kings House School Chiswick respectively.															

**3.3 Hydrology**

3.3.1 There are no surface water features onsite. The nearest surface water feature is the River Thames some 15m north of the site.

3.3.2 There are no surface water abstraction licences within 1km of the site.

**3.4 Ground Stability Hazards**

3.4.1 The following data is obtained from the Groundsure report, which is based on the propensity of the natural soils to subside and is provided by the British Geological Survey.

3.4.2

Hazard	Groundsure Risk Rating
Shrink-Swell	Moderate
Landslide	Low
Soluble Rocks	Negligible
Compressible Ground	High
Collapsible Rocks	Very Low
Running Sand	Low

**Table 3. Ground Stability Hazards**

The identified high risk compressible ground deposits and moderate shrink-swell deposits are notably associated with the river bank to the north of the site, where the site and building itself is notably low risk. As such, no significant ground stability risk has been identified.

**3.5 Mining**

3.5.1 The site is not situated in an area of coal or non-coal mining.

**3.6 Radon**

3.6.1 The site is situated within an area where less than 1% of homes are above the Radon Action Level. As such, no special radon protection measures are required. This is based on information provided by the British Geological Survey (Radon Atlas) and Public Health England.

<b>3.7</b>	<b>Unexploded Ordnance (UXO)</b>
3.7.1	In general accordance with CIRIA C681 (Stone et al 2009), a non-specialist UXO evaluation has been undertaken. This has included our review of Zetica Bomb Risk Mapping <sup>1</sup> and Bombsight <sup>2</sup> , which indicates that there is a medium risk associated with UXO. However, the change of use application is unlikely to involve excavation beneath the site, meaning the likelihood of exposing an unexploded bomb is highly unlikely. Furthermore, our review of the historical mapping has not found drastic changes to the building layout during or immediately after WWII. As such, it's unlikely UXO would remain beneath the site. The risk associated with UXO has therefore been reduced to low.

## 4.0 ENVIRONMENTAL DATABASE INFORMATION

<b>4.1</b>	<b>Environmental Database Information</b>																																												
4.1.1	The following information has been ascertained from publicly available Environment Agency, BGS, Local Authority and National Radiological Protection Board (NRPB) records.																																												
4.1.2	<table border="1"> <thead> <tr> <th>Environmental Records</th> <th>On site</th> <th>0-250m</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>Pollution Incidents</td> <td>0</td> <td>0</td> <td>N/A</td> </tr> <tr> <td>Registered landfill or other waste disposal sites</td> <td>0</td> <td>1</td> <td>A historical landfill is situated some 130m northwest of the site (north of the river). The landfill was operational between 1945 and 1950. No further information is available. As the River Thames separates the landfill and the site, the site is not considered to be affected by the landfill.</td> </tr> <tr> <td>Waste transfer sites</td> <td>0</td> <td>0</td> <td>N/A</td> </tr> <tr> <td>Part A(2) and B activities</td> <td>0</td> <td>0</td> <td>N/A</td> </tr> <tr> <td>Integrated Pollution Prevention and Control authorisations</td> <td>0</td> <td>0</td> <td>N/A</td> </tr> <tr> <td>Licensed radioactive substances</td> <td>0</td> <td>0</td> <td>N/A</td> </tr> <tr> <td>Control of major accident hazards (COMAH) regulations 2015</td> <td>0</td> <td>0</td> <td>N/A</td> </tr> <tr> <td>Fuel sites</td> <td>0</td> <td>0</td> <td>N/A</td> </tr> <tr> <td>Environmental Designated Sites</td> <td>0</td> <td>0</td> <td>N/A</td> </tr> <tr> <td>Discharge consent</td> <td>0</td> <td>2</td> <td>These relate to revoked discharges to the River Thames in 1991 and 2010 for miscellaneous effluent some 50m from the site. These are not considered to have impacted the site.</td> </tr> </tbody> </table> <p style="text-align: center;"><b>Table 4. Environmental Database</b></p>	Environmental Records	On site	0-250m	Description	Pollution Incidents	0	0	N/A	Registered landfill or other waste disposal sites	0	1	A historical landfill is situated some 130m northwest of the site (north of the river). The landfill was operational between 1945 and 1950. No further information is available. As the River Thames separates the landfill and the site, the site is not considered to be affected by the landfill.	Waste transfer sites	0	0	N/A	Part A(2) and B activities	0	0	N/A	Integrated Pollution Prevention and Control authorisations	0	0	N/A	Licensed radioactive substances	0	0	N/A	Control of major accident hazards (COMAH) regulations 2015	0	0	N/A	Fuel sites	0	0	N/A	Environmental Designated Sites	0	0	N/A	Discharge consent	0	2	These relate to revoked discharges to the River Thames in 1991 and 2010 for miscellaneous effluent some 50m from the site. These are not considered to have impacted the site.
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<sup>1</sup> <https://zeticauxo.com/downloads-and-resources/risk-maps/>

<sup>2</sup> <http://bombsight.org/>

## 5.0 PRELIMINARY RISK ASSESSMENT

<p><b>5.1</b></p>	<p><b>Preliminary Conceptual Site Model</b></p>
<p>5.1.1</p>	<p>In order to assess the risks associated with the presence of ground contamination, the linkages between the sources and potential receptors need to be established and evaluated. This is in accordance with Part 2A of the Environmental Protection Act (EPA) 1990 (and relevant amendments), 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:</p> <ul style="list-style-type: none"> <li>• Significant harm is being caused or there is a significant possibility of such harm being caused; or</li> <li>• Significant pollution of controlled waters is being caused, or there is a significant possibility of such pollution being caused.</li> </ul>
<p>5.1.2</p>	<p>Risk from contamination is assessed by consideration of possible linkages between contaminant sources and potential pathways between them. A contaminant linkage must exist in relation to particular land before the land can be considered potentially to be contaminated land under Part 2A, including evidence of the actual presence of contaminants.</p>
<p>5.1.3</p>	<p>This assessment is based on the potential current and historical sources identified, the site’s environmental setting and the development proposals to evaluate the potential source-pathway-receptor linkages, which must exist to define a site as contaminated land. The risk assessment considers the site within an area context and assesses potential risks to identified receptors in relation to the existing site setting.</p>
<p><b>5.2</b></p>	<p><b>Sources</b></p>
<p>5.2.1</p>	<p>No significant sources of contamination were identified from the current uses of the site and surrounding area.</p>
<p>5.2.2</p>	<p>The following potential onsite sources have been identified:</p> <ul style="list-style-type: none"> <li>• Contaminants and ground gases that may be present within Made Ground associated with the historical industrial uses (fire station)</li> </ul>
<p>5.2.3</p>	<p>The following potential offsite sources have been identified:</p> <ul style="list-style-type: none"> <li>• Contaminants associated with a former power station and corporation yard.</li> </ul>
<p><b>5.3</b></p>	<p><b>Pathways</b></p>
<p>5.3.1</p>	<p>The following pathways have been assessed:</p> <ul style="list-style-type: none"> <li>• Ingestion, direct contact (dermal), inhalation of dust and outdoor air;</li> <li>• Ground gas ingress into property; and</li> <li>• Migration of contamination into water courses/groundwater.</li> </ul>

<b>5.4</b>	<b>Receptors</b>
5.4.1	<p>The following potential receptors have been identified:</p> <ul style="list-style-type: none"><li>• Site end users;</li><li>• Construction/maintenance workers;</li><li>• Offsite human receptors;</li><li>• Groundwater: Secondary A Aquifer (Kempton Park Gravel); and</li><li>• Surface Water: River Thames (15m north).</li></ul>
<b>5.5</b>	<b>Risk Assessment</b>
5.5.1	<p>CIRIA C552 (2001) has been used to define the risk rating presented in the Preliminary Qualitative Risk Assessment below in Table 3. The methodology and definition of risk associated with these linkages is set out in detail in Appendix 4. In summary, an evaluation of each viable pollutant linkage is made in relation to the 'probability of a risk being realised' (P) against the 'consequence of a risk being realised' (C) to establish a 'risk classification' (R). From this, the potential risk management requirements are established.</p>

5.5.2

Potential Sources	Pathways	Receptor	Risk	Justification
Potential contamination within suspected Made Ground associated with the former use of the site.	Ingestion, inhalation or direct contact	Site Users	L	The likelihood of gross contamination being present is minimal. Based on our review of the historical mapping, the building footprint has not significantly changed and no significant development has taken place at the site. Furthermore, the site is entirely surfaced with hardstanding meaning there is a barrier between the site users and the underlying soils. As such, no specific requirements under the change of use redevelopment are considered necessary.
		Construction/ maintenance workers	L	The likelihood of gross contamination being present is minimal. The potential exposure to construction workers during the change of use redevelopment is minimal as the need for ground to be broken is minimal. Construction workers should work in line with risk assessments and method statements.
		Offsite users	L	The likelihood of gross contamination being present is minimal. In addition, the sensitivity of the offsite receptors is considered to be low. As such, the likelihood of harm occurring to offsite users is considered to be minimal.
	Migration of contamination into water courses/groundwater.	Groundwater: Secondary Undifferentiated Aquifer (Head Deposits)	L	Although the site is underlain by permeable sands and gravel, no significant sources of contamination have been identified. As such, no specific requirements under the change of use redevelopment are considered necessary.
		Surface Water: Drainage Ditch (15m south)	L	
Ground gases (carbon dioxide and methane)	Inhalation	Site Users, construction/ maintenance workers, offsite users.	L	No significant sources of ground gas have been identified as the likelihood for a significant thickness of Made Ground or organic deposits is minimal. As such, no specific requirements under the change of use redevelopment are considered necessary.
Offsite potential contamination and ground gases within suspected Made Ground associated with the former uses of the surrounding area.	Ingestion, inhalation or direct contact	Site Users and construction / maintenance workers.	L	Due to the extensive hardstanding across the site, the exposure to site users from offsite sources of contamination is considered to be minimal. No specific requirements under the change of use redevelopment are considered necessary.

Table 5. Preliminary Conceptual Site Model

**5.6 Risk Assessment Summary**

5.6.1 Based on the above table, there is a low risk to human health and Controlled Waters.

**5.7 Key Environmental Risks Requiring Further Attention**

5.7.1 No additional investigations are required for the continued use of the site.

## 6.0 EVALUATION OF FLOOD RISK

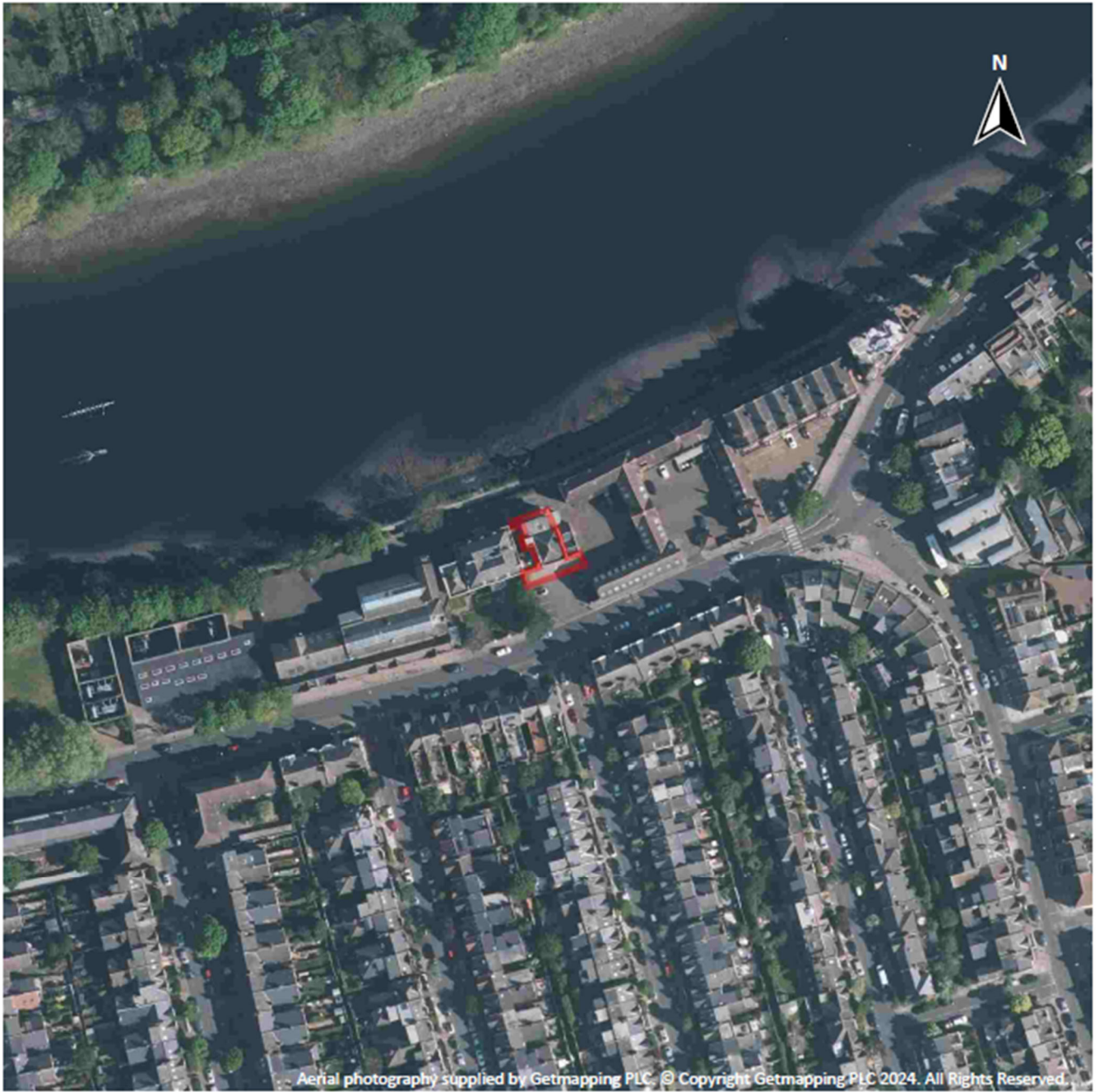
<b>6.1</b>	<b>Flooding</b>
6.1.1	Data from the Environment Agency (EA) and Ambiental Risk Analytics have been reviewed to ascertain the current flood risk associated with the site. Please see the summary below and Appendix 4 for Flood Risk Mapping.
6.1.2	Based on a review of the available mapping the northern part of the site is situated within Flood Zone 3, the centre of the site is situated within Flood Zone 2, and the southern part of the site is situated within Flood Zone 1.
6.1.3	Whilst the site benefits from flood defences, a Flood Risk Assessment has been recommended. This report has been prepared separately.

## 7.0 CONCLUSIONS AND RECOMMENDATIONS

<b>7.1</b>	<b>Commercial Considerations</b>
7.1.1	The site is considered to be suitable for its current use and proposed use and no further works are required.
<b>7.2</b>	<b>Recommendations</b>
7.2.1	No further work is required for a continuation of the current site use or in the proposed use.
7.2.2	Please see the accompanying Flood Risk Assessment following the identification of an elevated flood risk at the site.

## APPENDIX 1: FIGURES





Title: Site Location Plan

## APPENDIX 2: PHOTOGRAPHS



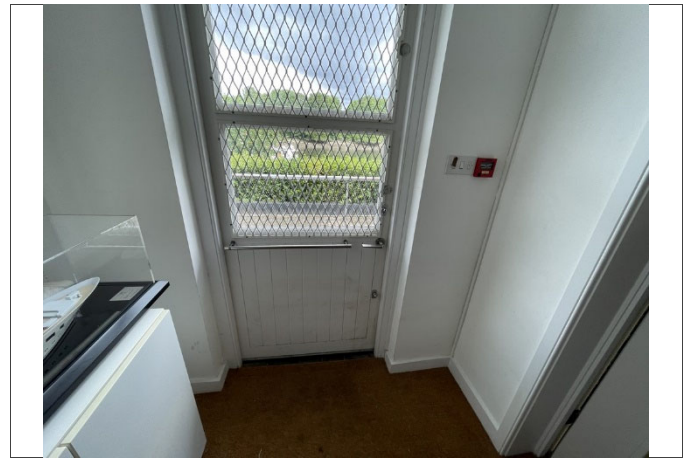
01: Southern Elevation



02: Building Entrance



03: Lobby



04: Rear access



05: Rear Elevation



06: Steps Leading to River



07: Tow Path

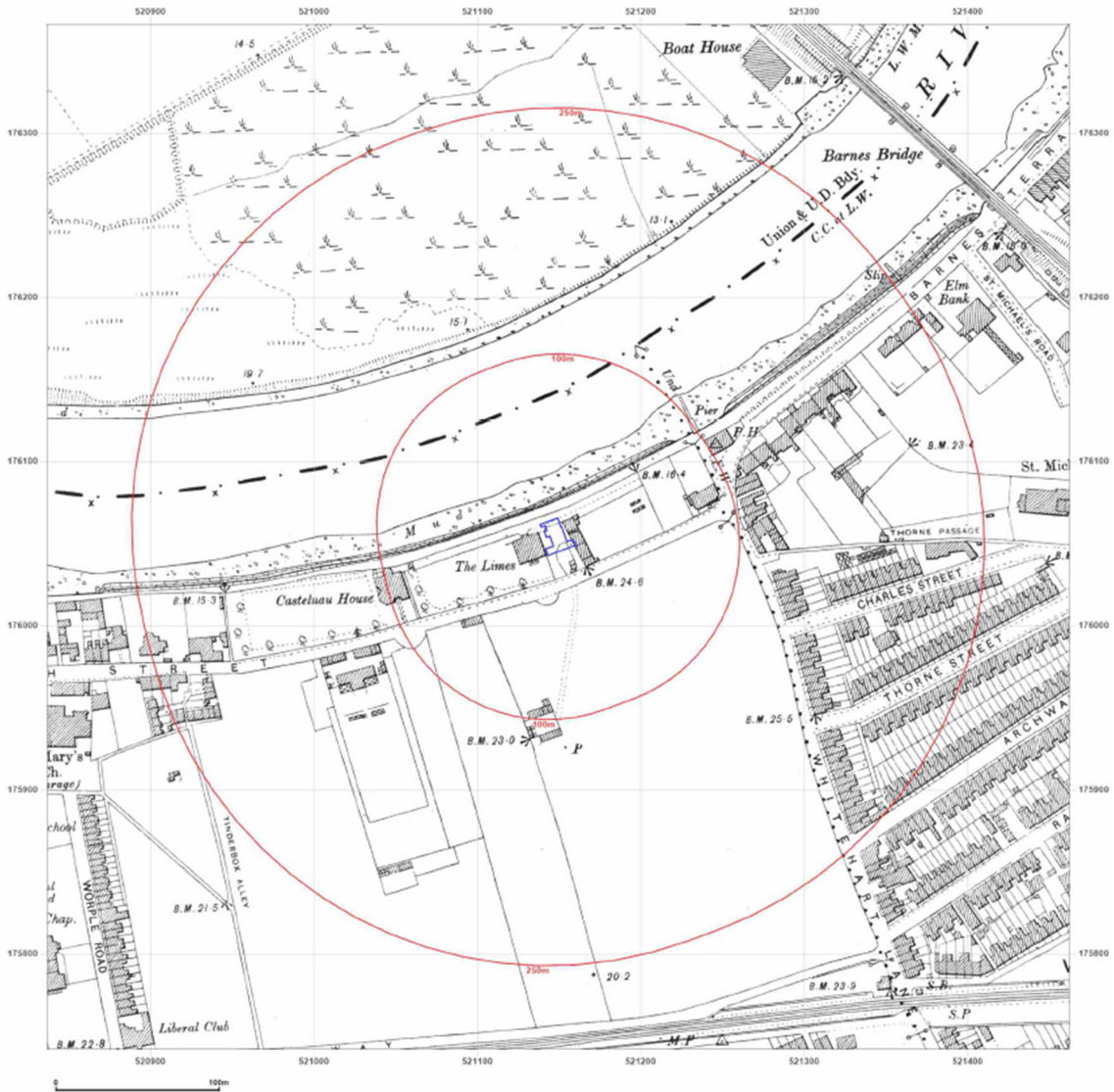


08: River Access

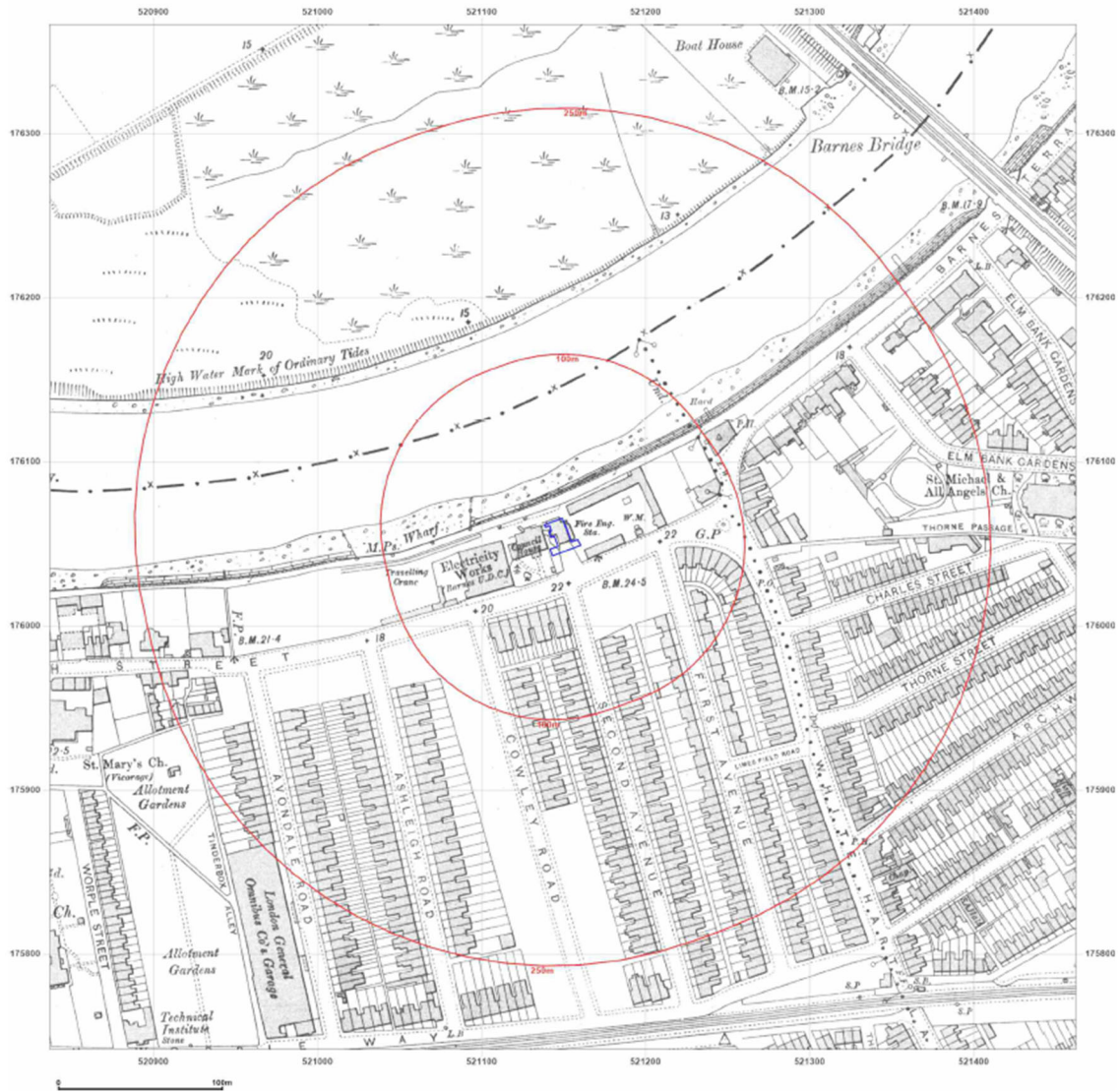
## APPENDIX 3: HISTORICAL MAPPING RECORDS



Title: 1869



Title: 1896

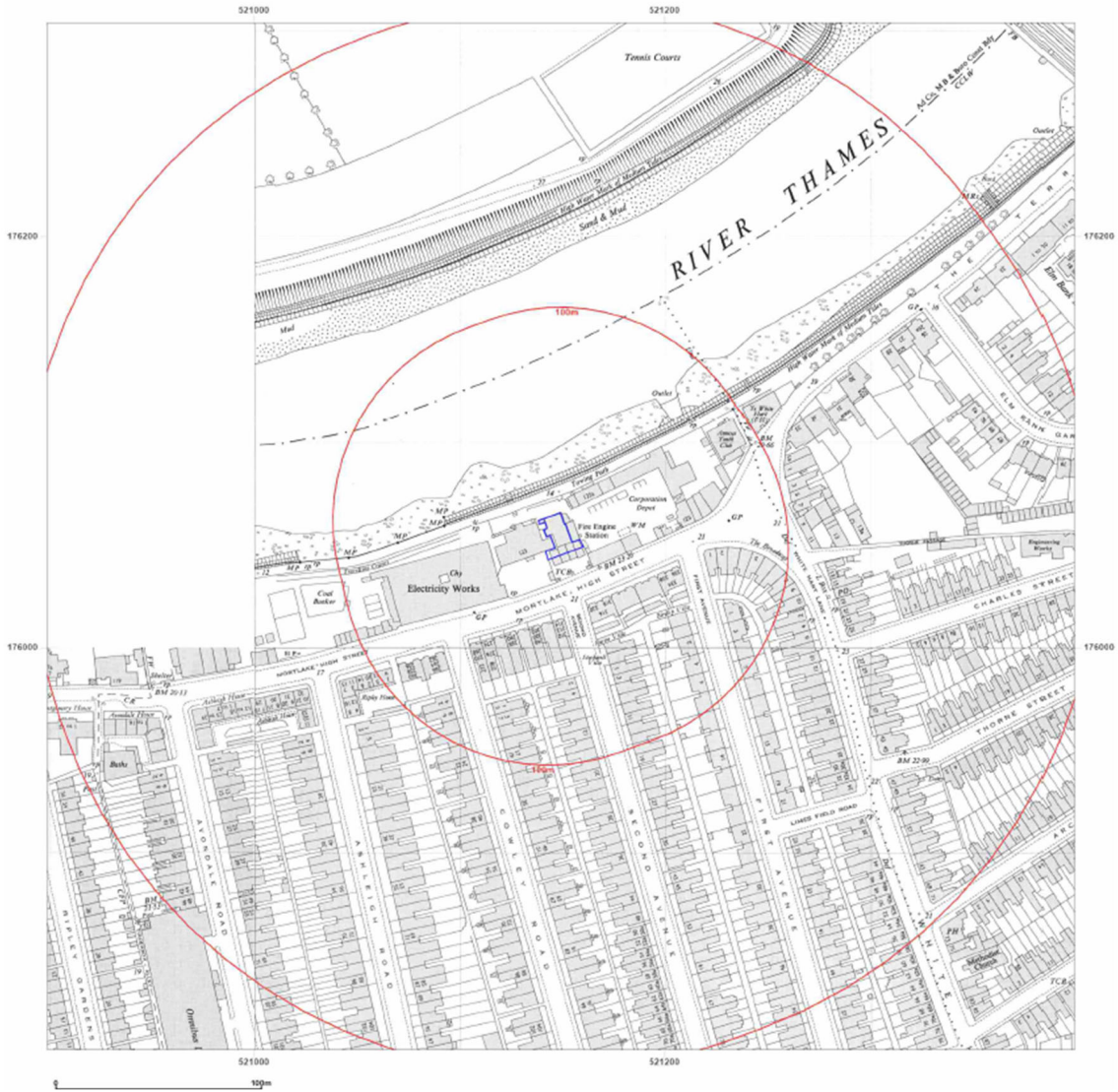


Title: 1913



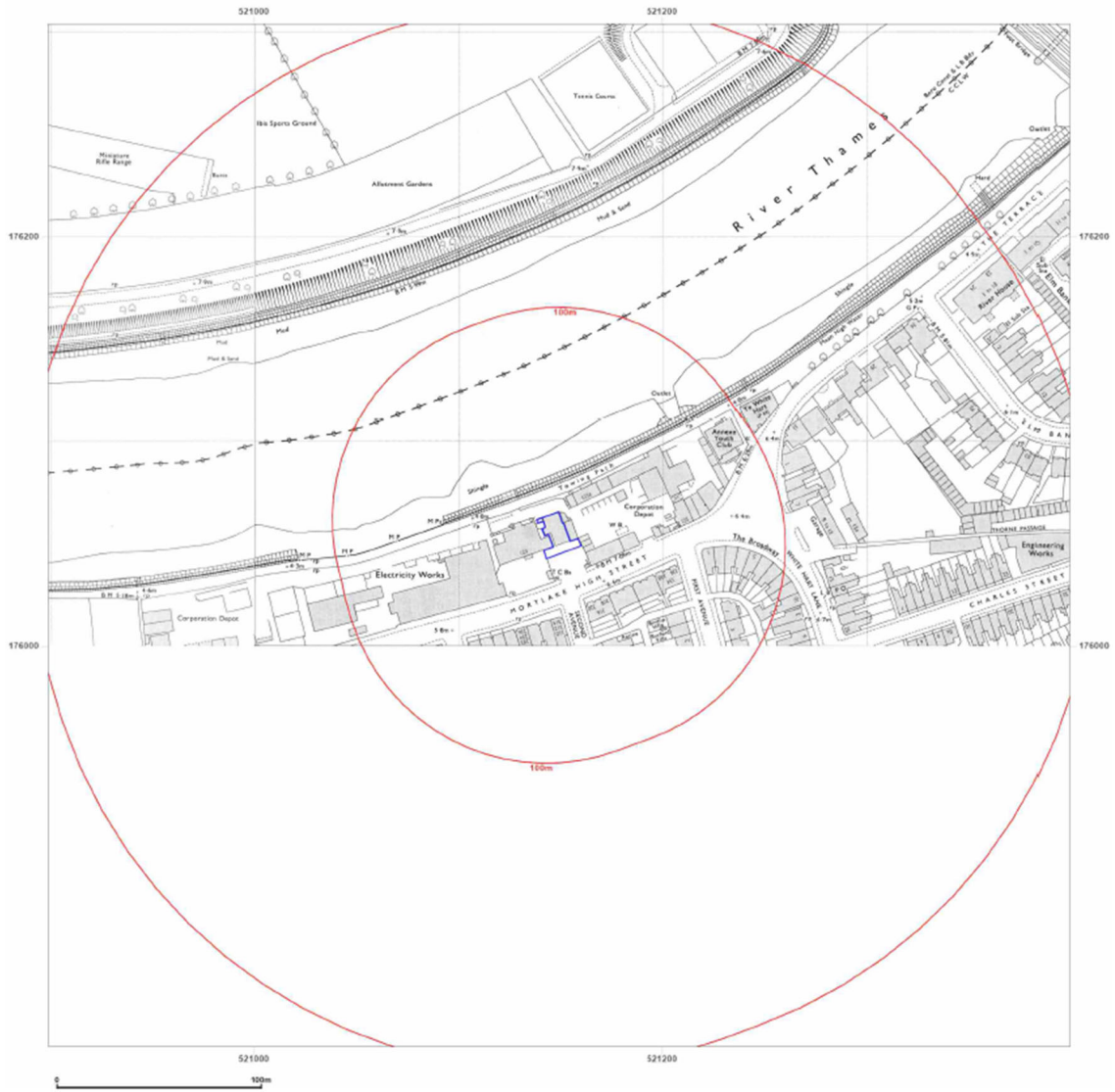


Title: 1933



Title: 1951





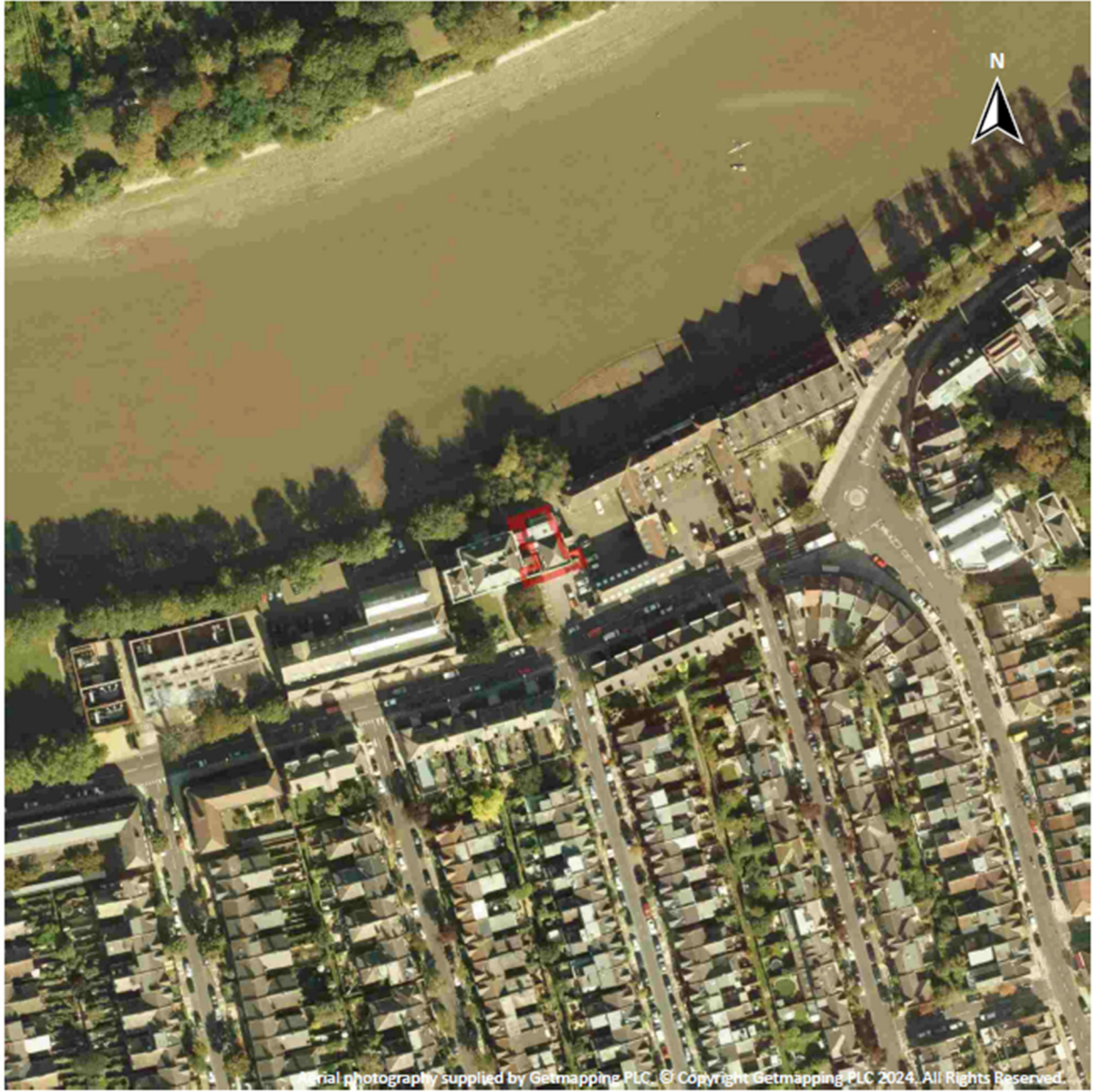
Title: 1973



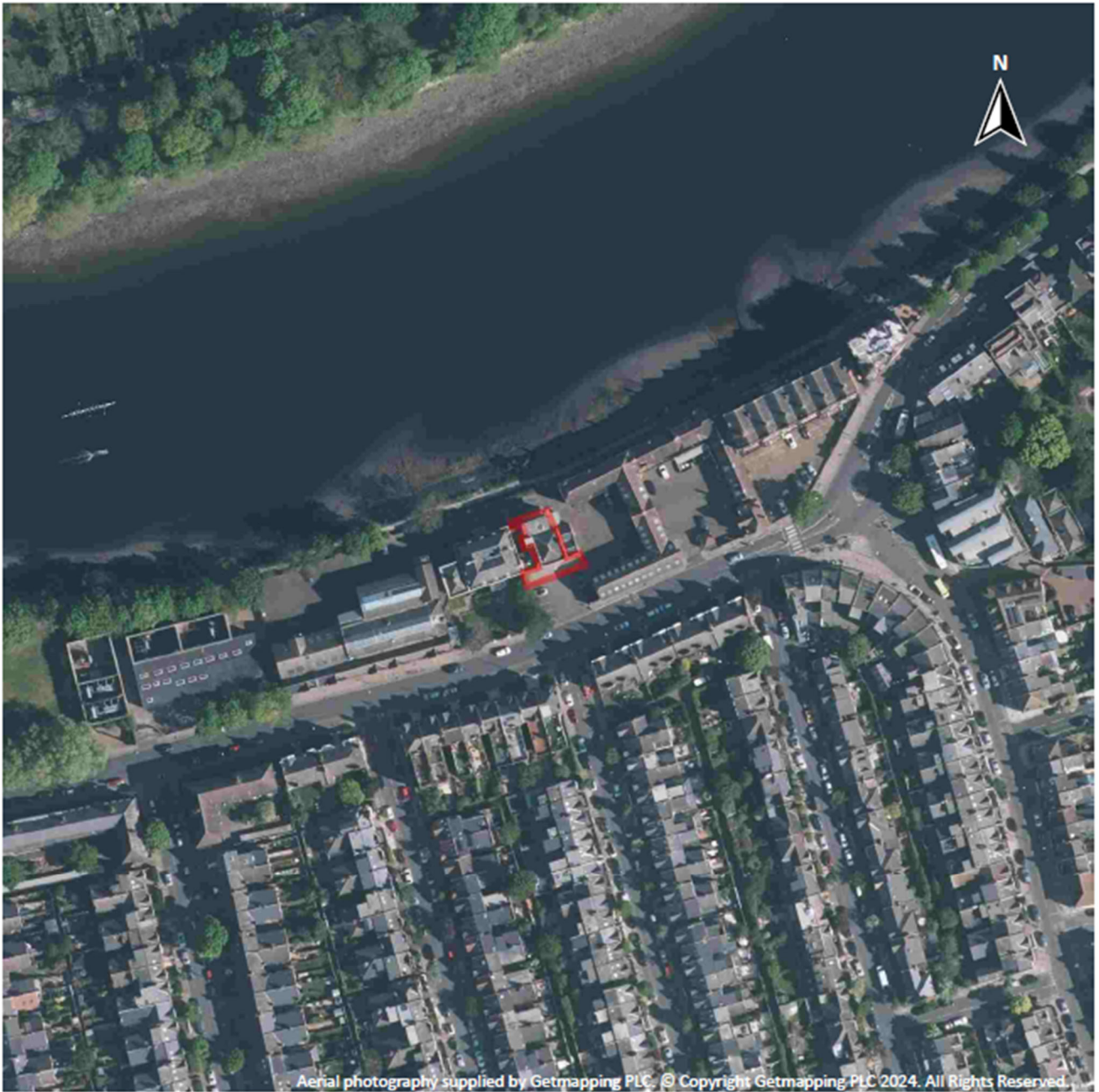
Title: 1991



Title: 2003



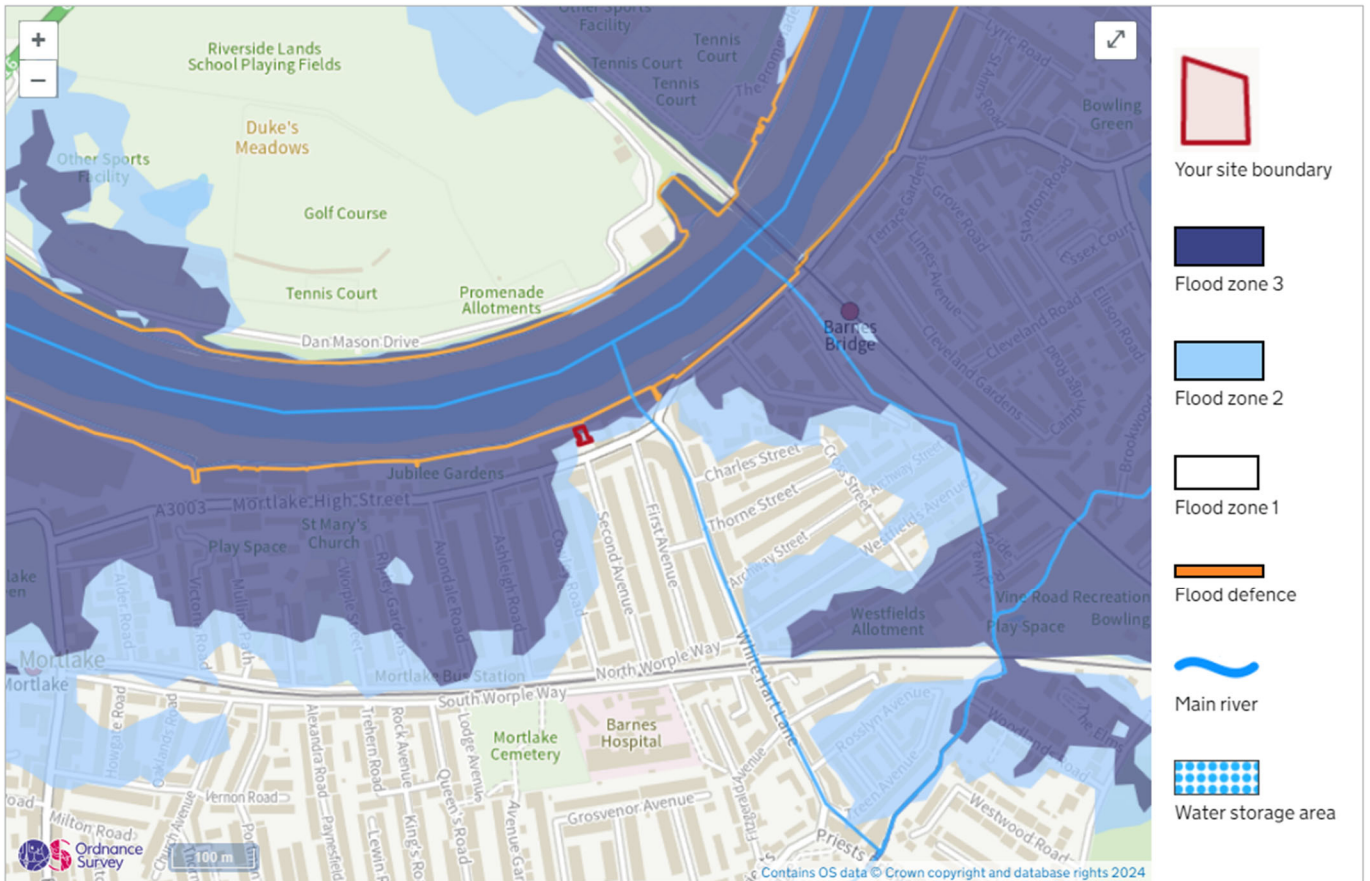
Title: 2011



Title: 2022

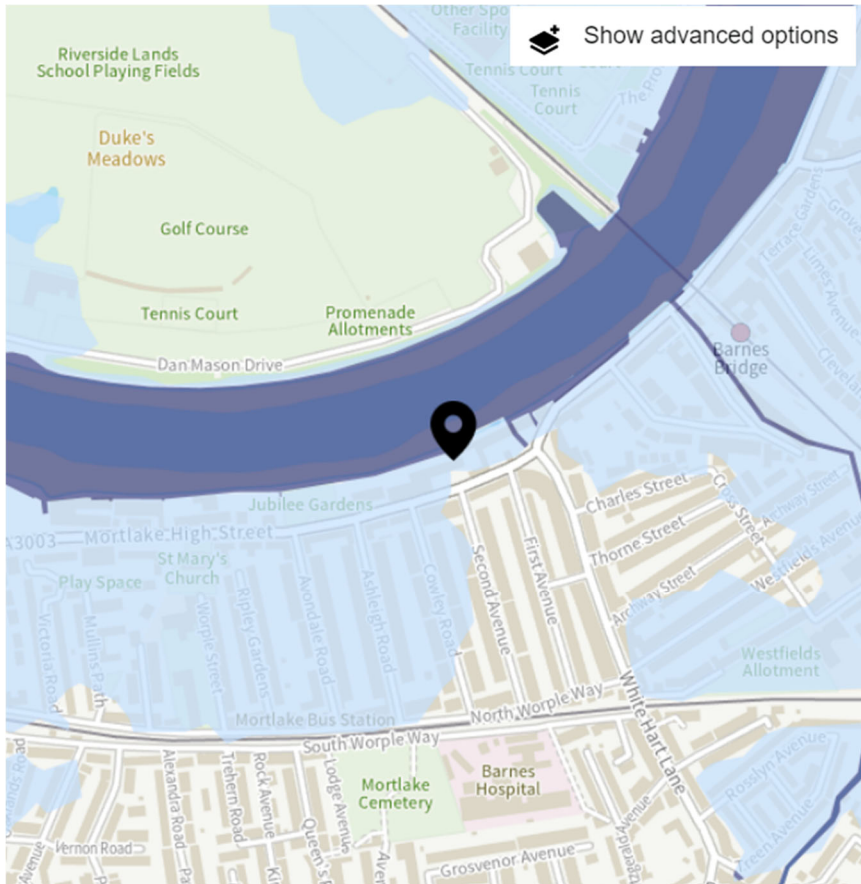


## APPENDIX 4: FLOOD MAPS



Title: Fluvial Flood Map

Source: Gov.UK



**Key**

**Rivers and the sea**

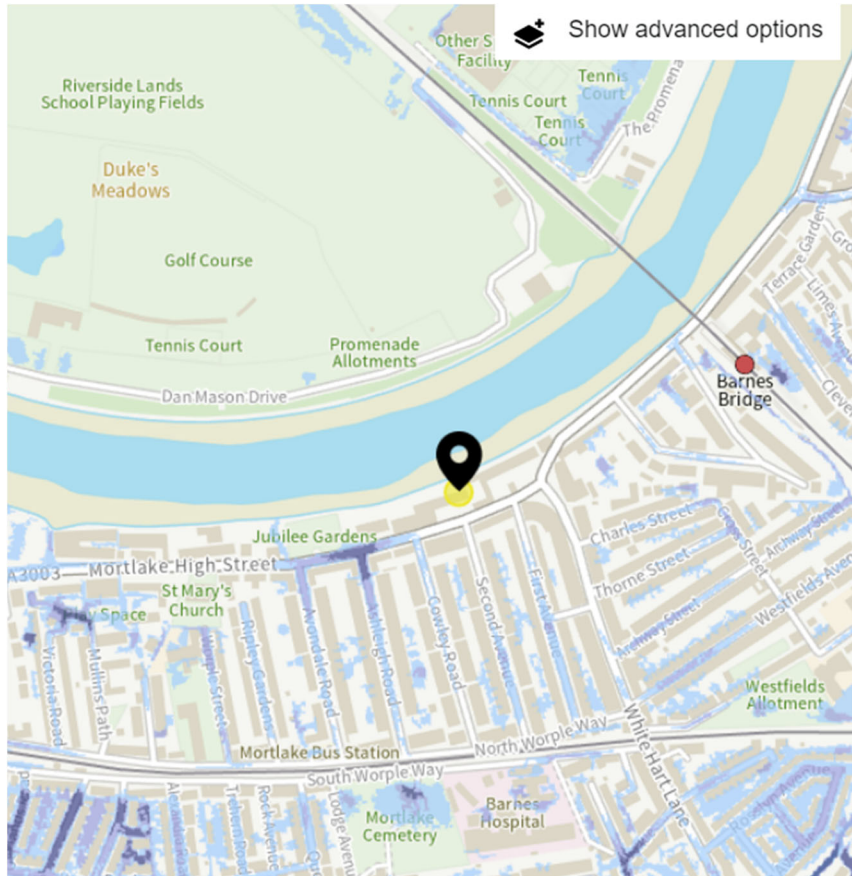
- Extent
- High risk  
More than 3.3% chance each year
- Medium risk  
Between 1% and 3.3% chance each year
- Low risk  
Between 0.1% and 1% chance each year
- Very low risk  
Less than 0.1% chance each year

**Map details**

- Show flooding
- Selected address

Title: RoFRaS Flood Map

Source: Gov.UK



**Key**

**Surface water**

- Extent
- High risk  
More than 3.3% chance each year
- Medium risk  
Between 1% and 3.3% chance each year
- Low risk  
Between 0.1% and 1% chance each year

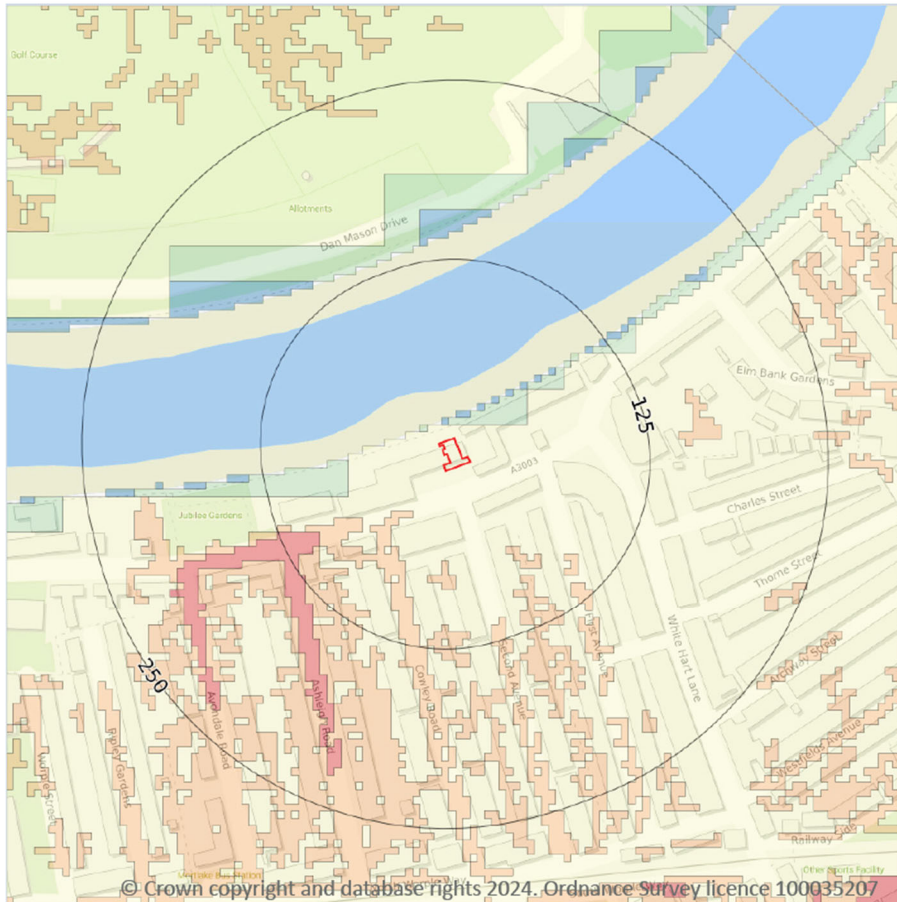
- Depth

**Map details**

- Show flooding
- Selected address
- 15m boundary

Title: Surface Water Flood Map

Source: GOV.UK



Title: Groundwater Water Flood Map

Source: Ambiantal Risk Analytics

## APPENDIX 5: RISK ASSESSMENT METHODOLOGY

**RISK ASSESSMENT METHODOLOGY**

**5.1 Risk Assessment Methodology**

5.1.1 Colliers PBC has adopted a classification level based on definitions within CIRIA Report C552 and professional judgement. Colliers PBC’s Rationale for Risk Ratings is presented in Table A. The classification for the probability of harm is presented in Table B. This information feeds into a matrix in Table C, which is used to assign a risk rating.

5.1.2

Risk Rating	Rationale	Examples
High	Contaminants observed or known to be present and cause an unacceptable risk.  Equivalent to EA Category 1 pollution incident including persistent and/or extensive detrimental effects on water quality, closure of a potable abstraction point.  Site not suitable for proposed use.  Enforcement action possible.  Urgent action required.	Significant short-term effects to humans is defined as serious injury, defects or death.  Die-back of plants in landscaped areas.  Short term pollution of controlled waters, major fish kill. Elevated contaminants close to potable abstraction.  Major damage to buildings i.e. explosion.
Medium to High	Contaminants likely or known to represent an unacceptable risk.  Action required.	Possible short-term effects and likely long-term effects to humans is defined as serious injury, defects or death.  Buildings unsafe to occupy. Ingress of contaminants through plastic pipes.  Stress or dead plants in landscaped areas.  Pollution of sensitive water resources.
Medium	Contaminants likely to exceed assessment criteria and may to represent an unacceptable risk.  Some action required.	Significant long-term effects to humans is defined as serious injury, defects or death.  Buildings unsafe to occupy. Potential ingress of contaminants through plastic pipes.  Stress or dead plants in landscaped areas.  Pollution of sensitive water resources.
Low to Medium	Contaminants may exceed assessment criteria but no harm as no unacceptable intake or contact.  Minor or short-lived damage to property, ecosystems.  Site likely to be suitable for proposed use.  Action unlikely whilst in current use.	Harm not significant, pollutant linkage broken.  Minor damage to plants in landscaped areas.  Minor damage to buildings.
Low	Contaminants likely or known to have no risk of harm.  Site likely to be suitable for proposed use.  Repairable effects to damage to property etc.  No further action required.	No measurable effects.  No significant impact to property, plants, ecosystems.

**Table A. Consequences / Rationale for Risk Ratings**

5.1.3

Classification	Risk Rating
High Likelihood	There is a contaminant linkage and an event that either appears very likely in the short term and almost inevitable over the long term, or there is evidence at the receptor of harm or pollution.
Likely	There is a contaminant linkage and all the elements are present, which means that it is probable that an event will occur.
Low Likelihood	There is a contaminant linkage and circumstances are possible under which an event could occur. However, it is no means certain that even over a longer period such event could take place and is less likely in the shorter term.
Unlikely	There is a contaminant linkage, but circumstances are such that it is improbable that an event would occur even in the very long term.

Table B. Classification of Probability of Risks (add guidance reference)

5.1.4

		Consequence				
		High	Medium to High	Medium	Low to Medium	Low
Probability	High Likelihood	Very High Risk	High Risk	Medium Risk	Low / Medium Risk	Low Risk
	Likely	High Risk	Medium Risk	Low / Medium Risk	Low Risk	Low Risk
	Low Likelihood	Medium Risk	Low / Medium Risk	Low Risk	Low Risk	Very Low Risk
	Unlikely	Low / Medium Risk	Low Risk	Very Low Risk	Very Low Risk	Very Low Risk
	No Linkage	No Risk				

Table C. Probability / Consequence Graphic



## APPENDIX 6: EXTENT OF SURVEY AND LIMITATIONS

## EXTENT OF SURVEY AND LIMITATIONS

The report has been designed to identify potential source, pathway and receptor pollutant linkages by assessing the following:

- Current, former and proposed land uses on site including an inspection of the site and the immediate environs, information provided by the client on the current use of the site and a review of historical data;
- Environmental sensitivity of the site location as determined by factors including geology, hydrogeology, surface watercourses and neighbouring land uses; and
- Pertinent information provided by environmental regulators.

The environmental risk assessment will be undertaken with due regard to Contaminated Land Guidance documents (available and relevant at the time of issuing our report) issued by (but not limited to) the Environmental Protection Act Part IIA 1990, Department for Environment, Food and Rural Affairs (DEFRA) and its predecessors, the Environment Agency (and its devolved equivalents), British Standards Institute (BSi), the Royal Institution of Chartered Surveyors (RICS) and the American Society for Testing and Materials (ASTM) Standard E 1527-13. No liability can be accepted for the effects of any future changes to such guidelines and legislation. In the event that guidance / legislation changes it may be necessary for Colliers to update or modify reports.

Specific comment is made regarding the site's status under Part 2A of the Environmental Protection Act (EPA) 1990, which provides a statutory definition of Contaminated Land and as revised under The Contaminated Land (England) (Amendment) Regulations 2012. Unless specifically stated as relating to this definition, references to 'contamination' and 'contaminants' relate in general terms to the presence of potentially hazardous substances in, on or under the site.

The risk assessment is dictated by the finite data on which it is based and is relevant only for the purpose of which the report is commissioned. If additional information or data becomes available which may affect the opinions expressed in our report, we reserve the right to review such information and, if warranted, to modify the risk assessment accordingly. We reserve the right to charge an additional fee for un-anticipated second opinion reviewing of previous reports. A site inspection was carried out within the scope of this assessment.

Colliers has been able to identify perceived risks based on the information reviewed and made available. Our Phase I Environmental Audit will be based on a visual inspection of the site, a review of available historical and environmental setting records, consultations with site representatives, pertinent information provided from the client and regulatory consultations. No samples will be taken as part of this study. No intrusive ground investigation work was carried out and, as such, actual risks have not been established. Actual risks can only be assessed following an intrusive investigation of the site.

With regard to flooding our commentary is based on the publicly available mapping only, which is available at the time of writing via the EA, NRW, SEPA and / or the BGS. We cannot accept any liability where the information is updated following the issue of our report. No inspection or comment is made on the below ground drainage installations or service conduits unless instructed otherwise.

Where budget costs are included in our report, these costs are for guidance purposes only.

Our report will be for the attention and purposes of the Addressee only and consequently we cannot accept any third party liability for the whole or any part thereof. Neither may the whole nor any part of our report, nor any reference thereto, be published in any way nor included in any published document, circulate or statement without our prior written approval of the form and context in which it may appear.

**COLLIERS PBC ENVIRONMENTAL RISK ASSESSMENT – RISK CLASSIFICATIONS**

<b>RISK RATING</b>	<b>DEFINITION</b>
For Information	Note for information only, no risk associated.
Low	<p>The potential for financial liability in the future with respect to environmental considerations is considered negligible.</p> <p>No ground contamination investigation is advised assuming a continuation of current site use.</p> <p>The likelihood of the Regulatory Authority requiring a ground contamination investigation at the site in the near future is considered minimal, assuming a continuation of current site use.</p>
Low to Medium	<p>The potential risk of financial liability associated with environmental considerations in the future is considered minimal. A ground contamination investigation may be considered to fully assess the level of perceived risk. This would include an intrusive soil, groundwater and ground gas contamination assessment, and possible remedial works. A minor likelihood exists for the Regulatory Authority to require a ground contamination investigation at the site in the near future, assuming a continuation of present usage.</p>
Medium	<p>The potential risk of financial liability associated with environmental considerations in the future exists.</p> <p>A ground contamination assessment is advised prior to purchase to fully assess the level of perceived risk. This would include an intrusive soil, groundwater and ground gas contamination assessment, and possible remedial works. The potential exists for the Regulatory Authority to require a ground contamination investigation at the site in the near future, assuming a continuation of current site use.</p>
Medium to High	<p>A potentially significant risk of financial liability associated with environmental considerations in the future exists.</p> <p>The purchase of the site should only proceed with caution. An intrusive ground contamination assessment is likely to identify contamination across the site that may require extensive remediation. A significant likelihood exists that the Regulatory Authority will require a ground contamination investigation at the site in the near future assuming a continuation of current site use.</p>
High	<p>The risk of financial liability associated with environmental considerations in the future is considered high.</p> <p>An intrusive ground contamination assessment is likely to identify significant contamination across the site that may require extensive remediation. It is known that the Regulatory Authority will require a ground contamination investigation at the site in the near future assuming a continuation of present usage. Subsequent remedial works are considered likely.</p>

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