GeoSmart Information

Environmental Thinking

EnviroSmart Plus

(Phase 1 Contaminated Land Assessment)

Site address	Edmansons Close Bruce Grove Tottenham London N17 6XD
Site coordinates	533530, 190510
Report prepared for	Drapers' Almshouse Charity Drapers' Hall Throgmorton Avenue London EC2N 2DQ
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Report summary: contaminated land risks

The purpose of this EnviroSmart report is to provide clear and pragmatic advice regarding the nature and potential significance of contaminated land hazards which may be present at the study site. GeoSmart are providing consultancy and professional opinion based upon our collation, interpretation and assessment of information contained within an Envirocheck report, and other sources where expressly stated (i.e. site visits, photographs, and anecdotal evidence).

As such, potential contaminated land risks have been assessed by considering two key items:

1. The likelihood that **sources of contamination** are present within the sub surface beneath the site. This gives a measure of the potential for contamination to be occurring at the site.
2. The **consequence or severity of any impacts** should contamination be present. The consequence or severity of impact is inferred from the nature of any **potential receptors** (i.e., something that could be adversely affected by a contaminant, such as people, an ecological system, property or a water body) as well as any **relevant pathways** (i.e., a route or means by which a receptor can be exposed to or affected by a contaminant) relating to the site and the surrounding area.

The assessment findings are summarised as follows:

		On-Site	Off-Site
1. **Probability/likelihood** of a contaminant hazard at the Site	High likelihood		
	Likely		
	Low likelihood		
	Unlikely		
2. Potential **severity/consequence** of any impacts	**Severe***		
	Medium		
	Mild		
	Minor		
3. **Overall land quality risks posed by the Site**	Very high		
	High		
	Moderate		
	Moderate/low		
	Low		
	Very low		

*The risk classification associated with this is a reflection of the severity of consequences of the potential gas risks at the Site (Severe) rather than the likelihood of occurrence (unlikely).

Risk Key

Very High	High	Moderate	Moderate/Low	Low	Very Low
There is a high probability that severe harm could arise to a designated receptor from an identified hazard without appropriate remediation action	Harm is likely to arise to a designated receptor from an identified hazard at the site without appropriate remediation action	It is possible that without appropriate remediation action harm could arise to a designated receptor. It is relatively unlikely that any such harm would be severe, and if any harm were to occur it is more likely that such harm would be relatively mild	It is possible that harm could arise to a designated receptor from an identified hazard. It is likely any harm would be mild	It is possible that harm could arise to a designated receptor from an identified hazard. It is likely that, at worst if any harm was realised any effects would be mild	The presence of an identified hazard does not give rise to the potential to cause harm to a receptor

It is acknowledged that the risk assessment findings are based on documentary sources of information alone.

Recommendations (for next steps)

✓	**No immediate action but observe a watching brief**	It is noted that whilst a limited intrusive site investigation (including appropriate laboratory testing of soil samples) could be adopted in order to validate the preliminary risk assessment conclusions, a watching brief during all proposed redevelopment activities and associated ground works (which would include a thorough inspection of any exposed sub surface soils/Made Ground) would likely be sufficient.

GeoSmart would be delighted to provide further information and a site specific quotation in relation to the above recommendations.

Please contact **info@geosmartinfo.co.uk** for further advice.

1. Introduction

1.1 Background

The study site (from herein known as 'the Site') is situated at Edmansons Close in Bruce Grove, Tottenham. A location plan of the Site is shown in Section 1.5. A proposed development plan is shown in Section 1.6.

GeoSmart was commissioned by Drapers' Almshouse Charity in August 2020 to undertake a Phase 1 Land Quality Assessment for the Site. The report has been requested in order to support a proposed planning application for the Site. The report was then updated in February 2022 following changes to the proposed development plan and once again in September 2022 due to changes to the proposed development description.

The proposed development comprises the demolition of existing laundry building and 1970s infill building; alterations and extensions to 44 existing almshouses to create 8 x 1 bed, 12 x 2 bed and 6 x 3 bed units; alterations to existing Gatehouse to provide 1 x 2 bed unit; construction of 1 x new build 3 bed almshouse to replace 1970s infill building; construction of a new apartment building comprising 7 x studio units and 9 x 1 bed units; construction of 4 x new build 2 bed units within two new pavilions (2 units in each pavilion, 4 units in total); with landscaping; improvements to access; car parking; and ancillary development thereto.

The EnviroSmart report has been undertaken by firstly compiling information concerning the Site and the surrounding area, including current and historical land uses, geological records and registered pollution incidents. The information which is gathered is then used to construct a 'conceptual site model', including an understanding of likely contaminant sources, pathways and receptors. Finally, a preliminary assessment of risks posed to identified receptors (i.e., people, buildings or the natural environment) from the anticipated land quality at the Site is performed. The risk assessment methodology is consistent with CIRIA C552 (2001); see Section 3.4 for details.

1.2 Purpose of this report

The purpose of this EnviroSmart report is to provide clear and pragmatic advice regarding the nature and potential significance of contamination hazards which may be present at the Site.

1.3 Report contents

This report is divided into two sections, as described below:

Section	Content	Purpose
Section 2: **LAND QUALITY ASSESSMENT**	A summary of the site history and environmental setting, the findings of the preliminary risk assessment and associated recommendations	To present a clear and concise overview of the land quality issues facing the Site, including recommendations of how to manage any land contamination which may be present
Section 3: **SUPPORTING INFORMATION**	A collection of site specific information on which the land quality assessment is based	To provide detailed information in support of the risk assessment; this section also represents a source of reference data for use in any subsequent site works/assessments

1.4 Report limitations

It is noted that the findings presented in this report are largely based on information supplied by third parties. Whilst we assume that all information is representative of past and present conditions we can offer no guarantee as to its validity.

This report excludes consideration of potential hazards arising from any activities at the Site other than normal use and occupancy for the intended land uses. Hazards associated with any other activities have not been assessed and must be subject to a specific risk assessment by the parties responsible for those activities.

1. Introduction

1.5 Site location plan

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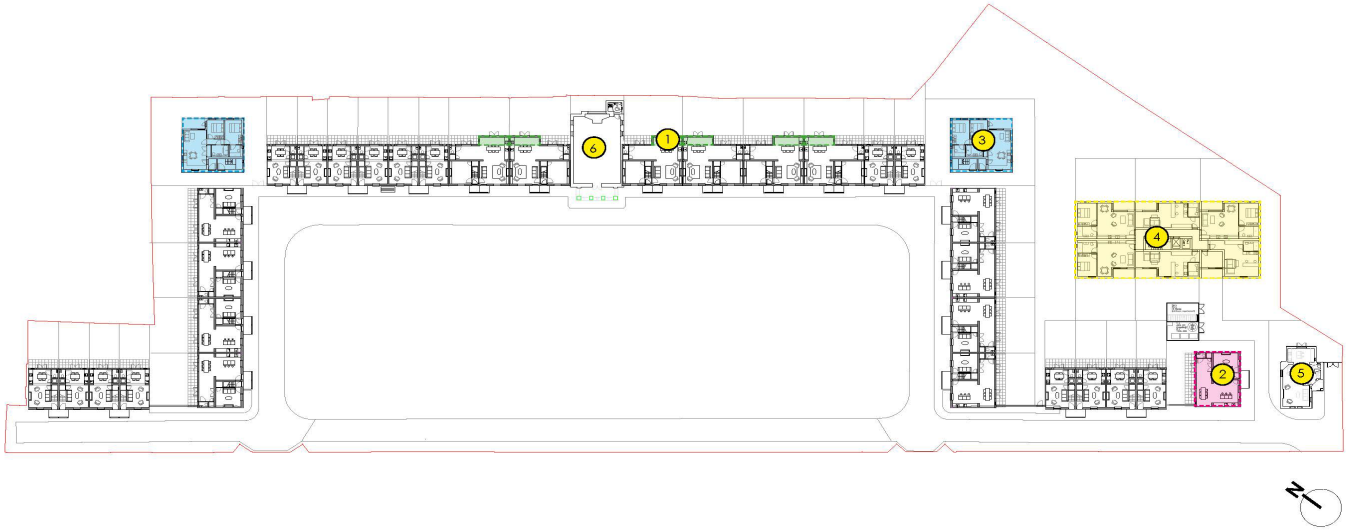
1. Introduction

1.6 Proposed Site development plan

3.0

3.0 SITE LAYOUT - NEW PROPOSALS JANUARY 2022



KEY - NEW DEVELOPMENT

- REAR EXTENSIONS - 2 BED HOUSES
- 3 BED MEWS HOUSE
- 2 BED APARTMENTS
- STUDIOS AND 1 BED APARTMENTS

1. Extended almshouses
2. New build family house
3. New build apartments
4. New build apartments
5. Family house within the gatehouse
6. Chapel remains as a community resource (later Mezzanine removed)

2. Land quality assessment

2.1 Site details

Site name:	Edmansons Close	Current land cover:	Building cover (25%), Hardstanding (15%), 60% grass
Current use:	Residential with garden		
Proposed use:	Residential with garden	Site area:	1.2 ha

2.2 Conceptual understanding (potential sources of contamination)

Site history *(historical land use taken within 250m radius of the Site boundary)*

Date	Description of land use: On-Site	Description of land use: Off-Site
1867	The Site is a garden/parkland area with a track in the east of the Site, trending north-south and a pond partially within the north eastern corner of the Site. The Site is likely associated with the Elmslea development located adjacent to the north east.	Bruce Castle is located c. 85 m north west and there is a nursery c. 205 m north west.
1873 - 1879	No change	
1895 - 1896	The area of the pond on-Site is no longer present, the area of the pond located outside of the Site boundary remains present. The Site is developed matching the current Site layout with adjoining properties along the northern and eastern boundaries, continuing into the south of the Site. There is a lodge in the southern corner of the Site and a Chapel on the eastern boundary. The Site as labelled as 'Sailmakers' Almshouses'.	There has been terraced residential development adjacent to the eastern Site Boundary. There is a potential large pond c. 25 m south of the Site associated with a development labelled 'Elmhurst'.
1913 - 1920	No change	The pond to the south of the Site, the Elmhurst development and the nursey c. 205 m north west are no longer present. The area adjacent to the south and west of the Site has been developed with terraced properties.
1935 - 1938		There have been several tennis courts and bowling greens constructed c.30 m north associated with Bruce Castle.

POTENTIAL **SOURCES** OF CONTAMINATION

Source description

The land use history suggests that there is the potential for contamination to have occurred both on-Site and off-Site relating to the following:

Infilled Pond
Made Ground associated with former infilling activities. Any Made Ground/fill materials may contain a variety of inorganic and organic contaminants and could give rise to the generation of bulk gases and also leachate.

Residential
- Miscellaneous small scale fuel or chemical spills relating to domestic land-uses.(i.e., fuels used for garden machinery, herbicides, paints/creosote, detergents, etc.)
- Potential for localised/historical deposition of residential waste materials (ash, litter, packaging, etc.).
- Made Ground/demolition waste materials associated with former development/demolition activities.
- Asbestos containing materials (ACM) may have been incorporated within the built structures in the past; the disturbance of any such materials may have resulted in asbestos being present within the sub surface surrounding the buildings.

LOW LIKELI-HOOD

PROBABILITY OF CONTAMINATION

2. Land quality assessment

2.2 Conceptual understanding (potential sources of contamination)

Site history
(historical land use taken within 250m radius of the Site boundary)

Date	Description of land use: On-Site	Description of land use: Off-Site
1952	No change	
1955 - 1956	No change	The Elmslea development and the remaining area of the pond adjacent to the north eastern corner of the Site are no longer present. A county court has been constructed adjacent to the east. A garage and laundry is located c. 55 m west and there is a further garage c. 165 m north west.
1966	No change	
1971 - 1975	No change	A probation office has been constructed adjacent to the north east of the Site.
1981	There has been development of another structure in the south of the Site. The Site is labelled as 'Drapers Almshouses'.	No change
1991 - 1992	No change	
1999 - 2019	Aerial imagery shows no change	
Other Information	A plaque observed during the Site walkover stated that the on-Site buildings were constructed in 1870 (Section 3.2 Photograph 7).	

POTENTIAL **SOURCES** OF CONTAMINATION

Source description

The land use history suggests that there is the potential for contamination to have occurred off-Site relating to the following:

Nursery
- Miscellaneous small scale fuel and chemical spills (i.e. fuel used for heating, oils and lubricants, herbicides/pesticides, fertilisers, etc.)
- Bulk storage of fuels and/or miscellaneous chemicals

Garage
- Miscellaneous fuel or chemical spills/leaks (i.e. fuels used for refilling and storage in UST's, oils, lubricants, greases, antifreeze residues ,etc.) associated with the nearby garages.
- Potential for underground tanks or other buried infrastructure including former waste oil pits, inspection pits, grease pits, drainage interceptors, etc.

Laundry
- Miscellaneous fuel and chemical spills (i.e., fuels used for heating & powering machinery/vehicles, oils and lubricants, chlorinated solvents used in dry cleaning, detergents etc.).
- Potential for bulk storage of fuels and/or miscellaneous chemicals.

LOW LIKELI-HOOD

PROBABILITY OF CONTAMINATION

2. Land quality assessment

2.2 Conceptual understanding (potential sources of contamination)

Current land use	The almshouses are currently arranged as 61 small residential units of which 17 are occupied as at the date of the report. In addition there is a chapel, a laundry building for residents and extensive grounds. There are no known buried storage tanks at the Site. There is no known bulk fuel or chemical storage on Site. Additional information concerning the current Site condition is presented in Section 2.5 (site walkover information).	The Site's current use is unlikely to have given rise to significant land contamination.	**UNLIKELY**
Neighbouring industrial land uses *(see environmental data report in Section 3.3 for full listing)*	There are one or more potentially contaminative land uses are located within 250 m of the Site:	Despite the presence of potential contaminative activities in the area surrounding the Site, since none occur within close proximity (i.e., within a 50 m radius of the Site) they are unlikely to pose a significant contamination hazard in relation to the Site itself. Contemporary trade directory entries include: J T F Motor Services Ltd (inactive) garage services c. 55 m north west. P K Freight Services (inactive) road haulage services c. 55 m south east Decorative Art Metals Ltd (inactive) metal workers c. 60 m west Newleaf Export (inactive) car dealers - used c. 85 m west Error Solutions (active) screen process printers c. 85 m west John Sanderson (inactive) computer manufacturers c. 85 m south west Shado-Tech (inactive) garages services c. 95 m south east Fuel Station Entries Mfg Tottenham c. 165 m north west. Premises Type: Petrol Station. Status: Open Local Authority Pollution Prevention and Controls 1. Solus Accident Repair Centre c. 120 m north west. Description: PG6/34 Respraying of road vehicles. Dated: 29th October 1999. Status: Authorised. 2. High Cross Service Station c. 165 m north west. Description: PG1/14 Petrol filling station. Dated: 17th April 2001. Status: Authorised. 3. Merin Dry Cleaners c. 190 m south east. PG6/46 Dry cleaning c. 190 m south east. Dated: Not Supplied. Status: Dry cleaning.	**UNLIKELY**

POTENTIAL **SOURCES** OF CONTAMINATION

PROBABILITY OF CONTAMINATION

Distance from Site	Number of active industrial land uses	Number of inactive industrial land uses
0 - 50 m	0	0
51 - 100m	1	6
101 - 250 m	4	19

Nr	Nearest distance	Land use / permitted activity / authorisation
1	c. 165 m	Fuel station entries
0	NA	Gas pipelines
0	NA	Underground electrical cables
0	NA	Control of major accident hazards sites (COMAH)
0	NA	Notification of installations handling hazardous substances (NIHHS)
0	NA	Explosives sites
0	NA	Planning hazardous substance consents
0	NA	Planning hazardous substance enforcements
0	NA	Sites determined as Contaminated Land under Part IIA of the Environmental Protection Act 1990
0	NA	Records of Licensed Discharge Consents.
3	c. 120 m	Local Authority pollution prevention and control sites
0	NA	Local Authority pollution prevention and control enforcements
0	NA	Records of Category 3 or 4 Radioactive Substance Licences

2. Land quality assessment

2.2 Conceptual understanding (potential sources of contamination)

EA recorded pollution incidents *(see environmental data report in Section 3.3 for full listing)*	No Environment Agency pollution incidents have been recorded within 250 m of the Site.	POTENTIAL **SOURCES** OF CONTAMINATION	No potential for gross contamination has been identified in relation to any pollution incidents occurring near to the Site.	**NEGLIGIBLE**	**PROBABILITY** OF CONTAMINATION
Landfills / waste sites *(taken within 500m radius of the Site boundary, see environmental data report in Section 3.3 for*	There are no Environment Agency listed historical landfills located within 500 m of the Site. There are no registered landfills located within 500 m of the Site. There are no Local Authority listed historical landfills located within 500 m of the Site. The following other waste sites are registered within 500 m of the Site: 0 Records of registered waste transfer sites. 0 Records of registered waste treatment or disposal sites. 0 Records of licenced waste management facilities.		Given the absence of any historical or operational landfills within close proximity of the Site no associated contamination hazards have been identified. Given the absence of any waste treatment, transfer or disposal sites within close proximity of the Site no associated contamination hazards have been identified.	**NEGLIGIBLE**	
Rn Radon *(see environmental data report in Section 3.3 for full listing)*	According to current UK radon mapping the Site lies in an area where <1% of homes are at or above the UK radon action level (200 Bq/m3).		<1% of homes are at or above the UK radon action level (200 Bq/m3).	**UNLIKELY**	

2. Land quality assessment

2.3 Conceptual understanding (environmental sensitivity / potential severity of impacts)

Geology and Groundwater *(see the environmental data report in Section 3.3 for full details)*	British Geological Survey mapping indicates the absence of superficial deposits beneath the majority (97%) of the Site. There is a small area in the north west (3%) which is underlain by Taplow Gravel Member which comprises sand and gravel and is classified as a Secondary (A) Aquifer. British Geological Survey mapping indicates that the bedrock geology consists of London Clay Formation, which comprises of clay, silt and sand and is classified as Unproductive Strata. According to the GeoSmart Groundwater Flood Risk (GW5) Map (GeoSmart, 2020). The risk of groundwater flooding at the Site is 'negligible'. The south eastern 70% of the Site lies within an outer groundwater Source Protection Zone (SPZ II). There are no groundwater abstraction licences within 1 km of the Site.	POTENTIAL **RECEPTORS**	A Secondary (A) Aquifer comprises permeable layers capable of supporting water supply at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. Unproductive Strata typically have low permeability and offer negligible water supply or river base flow potential. Based on the susceptibility of the Site to groundwater flooding, a groundwater flood risk assessment is not considered necessary for the Site. The depth to groundwater beneath the Site is unknown. The absence of any groundwater abstractions does not necessarily indicate a low resource potential. Small scale abstractions, such as for private water supplies, may not be listed.	**MEDIUM**	**POTENTIAL SEVERITY** OF IMPACT
Geohazards *(see the environmental data report in Section 3.3 for full details)*	The Site does not lie within a 'Coal Mining Reporting Area'. There are no brine affected areas within 75 m of the Site. No or limited artificial ground / Made Ground is anticipated on Site. There are no natural hazards (with a hazard rating of moderate or above) at or within 50 m of the Site. Shrinking or swelling clay		The Site does not lie within an identified coal mining area and is therefore unlikely to be affected by related ground stability or mine gas issues. The Site does not lie within an area of former brine working and is therefore unlikely to be affected by related ground stability issues. BGS GeoIndex Onshore mapping does not have any artificial deposits recorded at the Site. The Site has ground stability hazards that should be considered further as part of the redevelopment plans.	**MILD**	

2. Land quality assessment

2.3 Conceptual understanding (environmental sensitivity / potential severity of impacts)

Surface water *(see the environmental data report in Section 3.3 for full details)*	The nearest water feature is a pond, located c. 210 m north west of the Site boundary. The Site lies within a Flood Zone 1. A Flood Risk Assessment and Sustainable Drainage Strategy have been undertaken separately (GeoSmart Information Ref: 73492.01.01 & 73492.02.01). There are no surface water abstraction licences within 1 km of the Site.	**POTENTIAL** RECEPTORS	Given the distance from the Site and the nature of the local geology, the sensitivity of local surface waters is judged to be low.	**MILD**	**POTENTIAL SEVERITY** OF IMPACT
Environmental designations *(see the environmental data report in Section 3.3 for full details)*	There are no environmentally sensitive land uses within 500 m of the Site.		No relevant environmentally designated sites/receptors have been identified.	**NEGLIGIBLE**	
Human receptors	Proposed residents/users of the Site plus neighbouring residences.		Human receptors are proposed to be present on Site.	**SEVERE**	

2. Land quality assessment

2.4 Regulator perspective		
Consultation date	19th August 2020	London Borough of Haringey
GeoSmart consultant	Jessica Bayliff	Kenny Abere
Consultation outcome	The council were contacted and a chargeable contaminated land enquiry was purchased which included the following information (full response can be found in Section 3.6): Having given adequate consideration to our record on land contamination; kindly find our response beside each of your questions below highlighted in red. 1. My reason for e-mailing is that as part of the report writing process we like to have a short 2-3 minute conversation with the contaminated land officer in order to establish whether they have any specific information or concerns relating to the Site (e.g. is the Site on the list of sites of potential concern with regards to contaminated land which may be prioritised for investigation? - We can confirm that; neither the study site nor any surrounding area is on our list of prioritised sites under Part 2A for investigation. Therefore, we have no specific concerns relating to the site in question. 2. Are you aware of any previous investigations of this site or any neighbouring Sites? – We are not aware of any previous site investigations on this site whilst such assertion as per the neighbouring sites will be dependent on how far from this site the applicant have in mind. However, of the 11 planning applications from 1995 – 2016 on the site reviewed, none of it actually required undertaking a site investigation going by the nature of such development. Albeit, with the nature of the proposed development i.e. residential development, we will be looking to see at least a phase 1 (Desktop Study and Site Walkover) contaminated land investigation just in case, there is likely to be a need for an intrusive site investigation or not. 3. Do you have any local knowledge about the Site that may not necessarily appear on a search of commercial databases (Envirocheck) – From our contaminated land record, we are not aware of any pollution source at the site but can confirm there is an un-specified garage and laundry within 90metres of the site.	

2. Land quality assessment

2.5 Site inspection (see photographs in section 3.2)			
Inspection date	17th August 2020	General site description	Almshouses together with associated chapel and laundry building, sitting in extensive grounds
GeoSmart consultant	Martin Lucass	Site contact (position)	Mohammad Khan (Manager)
Topography	The Site overall slopes down to the north east	Ground cover	Building cover (25%), Hardstanding (15%), 60% grass
Current site land use	Almshouses together with associated chapel and laundry building, sitting in extensive grounds.	On-Site structures	All of the on-Site structures are brick built with tiled roofs.
Visual / olfactory evidence of contamination	No visual or olfactory evidence of any on-Site contamination was observed during the site walkover.	On-Site drainage	No direct evidence of any on-Site drainage infrastructure was observed during the Site walkover. The Site is known to be connected to the mains sewer.
Bulk storage tanks (fuel and chemical storage)	No direct evidence of any bulk fuel or chemical storage was observed during the Site walkover.	Invasive species	No direct evidence of any invasive species was observed during the Site walkover.

2. Land quality assessment

2.5 Site inspection (see photographs in section 3.2)				
Neighbouring land uses	North	Block of flats	Off-Site contaminant sources	No visual or olfactory evidence of any off-Site contamination was observed during the Site walkover.
	South	Residential		
	East	Church & buildings		
	West	Residential		
Local water features	No evidence of any surface water features was observed within the immediate vicinity of the Site during the site walkover.		Distance to nearest residential property	The nearest residential accommodation is currently located on Site boundary.
Comments	Access was not permitted to any of the internal area or the rear gardens where the existing laundry building and the proposed developments are located.			

2. Land quality assessment

2.6 Preliminary Risk Assessment

Nr	Sources	Pathways	TYPE	Receptors	Consequence	Probability	Risk classification	Comments
On-Site sources - Pond in the north eastern corner (no longer mapped and potentially infilled in 1895) - Residential (1895 - present) - Buildings currently used as a laundry constructed in 1981.								
1	Potential for **inorganic** and low volatility organic contaminants to be present within the subsurface **soils**	Dermal contact, ingestion & inhalation of soils & soil dust	HH	Current/future Site occupants	**MEDIUM**	**LOW LIKELIHOOD**	**MODERATE/LOW RISK**	Given the potential presence of Made Ground beneath the Site, associated with the potential infill of the pond in north eastern corner of the Site in 1895, any residual contamination associated with this material has the potential to impact on future site users particularly in garden areas associated with the proposed development in this area of the Site. Given the underlying geology in this area is London Clay Formation with no superficial geology, it is considered unlikely that any potential contaminants would migrate and subsequently affect other areas of the Site.
2		Consumption of home grown produce	HH		**MEDIUM**	**LOW LIKELIHOOD**	**MODERATE/LOW RISK**	
3		Ingress into water supply pipework and subsequent water ingestion	HH		**MEDIUM**	**LOW LIKELIHOOD**	**MODERATE/LOW RISK**	
4		Building materials in direct contact with aggressive ground	PROP	Current/future Site buildings	**MILD**	**UNLIKELY**	**VERY LOW RISK**	Aggressive ground conditions are not anticipated to be present.
5		Dissolution into pore water/shallow groundwater and subsequent migration	CW	Taplow Gravel Member (3% in the north west of the Site) (a Secondary (A) Aquifer)	**MEDIUM**	**UNLIKELY**	**LOW RISK**	Despite the likelihood of localised contaminants on Site, as this is within an area where there is no superficial deposits and the bedrock geology is likely to have low permeability, it is considered unlikely that any underlying groundwater would be impacted.
6		Dissolution into pore water/shallow groundwater and subsequent migration	CW	London Clay Formation (Unproductive Strata)	**MILD**	**UNLIKELY**	**VERY LOW RISK**	
7		Dissolution into pore water/shallow groundwater and subsequent lateral migration	CW	Pond (c. 210 m north west)	**MILD**	**UNLIKELY**	**VERY LOW RISK**	The risk classification reflects the reasonable distance to the nearest surface water feature.
8		Dissolution into aqueous phase and preferential migration via drainage structures	CW		**MILD**	**UNLIKELY**	**VERY LOW RISK**	

2. Land quality assessment

2.6 Preliminary Risk Assessment

Nr	Sources	Pathways	TYPE	Receptors	Consequence	Probability	Risk classification	Comments
9	Potential for **volatile organic** contaminants to be present within the subsurface **soils**	Dermal contact, ingestion & inhalation of soils & soil dust	HH	Current/future Site occupants	**MEDIUM**	**UNLIKELY**	**LOW RISK**	The risk classification reflects the likely absence of any significant sources of volatile organic contamination.
10		Consumption of home grown produce	HH		**MEDIUM**	**UNLIKELY**	**LOW RISK**	
11		Ingress into water supply pipework and subsequent water ingestion	HH		**MEDIUM**	**UNLIKELY**	**LOW RISK**	
12		Migration of vapours to surface; inhalation indoors	HH		**MEDIUM**	**UNLIKELY**	**LOW RISK**	
13		Migration of vapours to surface; inhalation outdoors	HH		**MEDIUM**	**UNLIKELY**	**LOW RISK**	
14		Building materials in direct contact with aggressive ground	PROP	Current/future Site buildings	**MILD**	**UNLIKELY**	**VERY LOW RISK**	Aggressive ground conditions are not anticipated to be present.
15		Dissolution into pore water/shallow groundwater and subsequent migration	CW	Taplow Gravel Member (3% in the north west of the Site) (a Secondary (A) Aquifer)	**MEDIUM**	**UNLIKELY**	**LOW RISK**	The risk classification reflects the likely absence of any significant sources of volatile organic contamination.
16		Dissolution into pore water/shallow groundwater and subsequent migration	CW	London Clay Formation (Unproductive Strata)	**MILD**	**UNLIKELY**	**VERY LOW RISK**	
17		Dissolution into pore water/shallow groundwater and subsequent migration	CW	Pond (c. 210 m north west)	**MILD**	**UNLIKELY**	**VERY LOW RISK**	The risk classification reflects the reasonable distance to the nearest surface water feature.
18		Dissolution into aqueous phase and preferential migration via drainage structures	CW		**MILD**	**UNLIKELY**	**VERY LOW RISK**	

2. Land quality assessment

2.6 Preliminary Risk Assessment

Nr	Sources	Pathways	TYPE	Receptors	Consequence	Probability	Risk classification	Comments
19	Potential for **asbestos** containing materials within the subsurface **soils**	Liberation of sub surface ACMs and inhalation of asbestos fibres	HH	Current/future Site occupants	**MEDIUM**	**LOW LIKELIHOOD**	**MODERATE/LOW RISK**	Given the age of the existing building structures asbestos-containing material may be present within the building fabric and surrounding subsoils.
20	Potential for **dissolved phase** contaminants to be present within **shallow groundwater**	Lateral and vertical groundwater movement via natural or artificial flow paths	CW	Taplow Gravel Member (3% in the north west of the Site) (a Secondary (A) Aquifer)	**MEDIUM**	**UNLIKELY**	**LOW RISK**	Despite the likelihood of localised contaminants on Site, as this is within an area where there is no superficial deposits and the bedrock geology is likely to have low permeability, it is considered unlikely that any underlying groundwater would be impacted.
21		Lateral and vertical groundwater movement via natural or artificial flow paths	CW	London Clay Formation (Unproductive Strata)	**MILD**	**UNLIKELY**	**VERY LOW RISK**	
22		Lateral and vertical groundwater movement via natural or artificial flow paths	CW	Pond (c. 210 m north west)	**MILD**	**UNLIKELY**	**VERY LOW RISK**	The risk classification reflects the reasonable distance to the nearest surface water feature.
23	Potential for elevated **methane** to be present within the sub-surface **soils**	Lateral and vertical migration into on-Site buildings; potential to cause an explosion	HH	On-Site properties and their occupants	**SEVERE**	**UNLIKELY**	**MODERATE/LOW RISK**	Despite the former pond being present on Site and potentially infilled, given the small scale of the feature and the time elapsed since any potential infilling occurred (~125 years) and the likely low permeability of the underlying geology (no superficial geology within potentially infilled area), it is considered unlikely that there would be appreciable gas source which would impact the Site. The risk classification is a reflection of the severity of consequences rather than the likelihood of occurrence.
24		Lateral migration towards off-Site buildings; potential to cause an explosion	HH	Off-Site properties and their occupants	**SEVERE**	**UNLIKELY**	**MODERATE/LOW RISK**	
25	Potential for elevated **carbon dioxide** to be present within the subsurface **soils**	Lateral and vertical migration into on-Site buildings; potential to cause asphyxiation	HH	Occupants of on-Site buildings	**SEVERE**	**UNLIKELY**	**MODERATE/LOW RISK**	
26		Lateral migration towards off-Site buildings; potential to cause asphyxiation	HH	Occupants of off-Site buildings	**SEVERE**	**UNLIKELY**	**MODERATE/LOW RISK**	
27	Potential for **radon** within the subsurface	Lateral migration towards on-Site buildings; potential to cause long term health effects	HH	Occupants of on-Site buildings	**MEDIUM**	**UNLIKELY**	**LOW RISK**	The Site lies in an area where <1% of homes are at or above the UK radon action level (200 Bq/m3).
						OVERALL RISK RATING	**MODERATE/LOW RISK**	

2. Land quality assessment

2.6 Preliminary Risk Assessment

Nr	Sources	Pathways	TYPE	Receptors	Consequence	Probability	Risk classification	Comments
Off-Site sources - Garage c. 55 m west (1955 - present) and Laundry c. 55 m west (1955 - present)								
28	Potential for both inorganic and volatile organic contaminants to be present within the subsurface soils	Dermal contact, ingestion & inhalation of soils & soil dust	HH	Current/future Site occupants	**MEDIUM**	**UNLIKELY**	**LOW RISK**	Despite the close proximity and the similar elevation of the sources to the Site, given the topography of the surrounding area, it is considered unlikely that migration onto Site of any contaminants from off-Site sources will have occurred, with the exception of vapours for which the probability is Low and if present would be confined to the far north western corner of the Site due to the geology.
29		Consumption of home grown produce	HH		**MEDIUM**	**UNLIKELY**	**LOW RISK**	
30		Ingress into water supply pipework and subsequent water ingestion	HH		**MEDIUM**	**UNLIKELY**	**LOW RISK**	
31		Migration of vapours to surface; inhalation indoors	HH		**MEDIUM**	**LOW LIKELIHOOD**	**MODERATE/LOW RISK**	
32		Migration of vapours to surface; inhalation outdoors	HH		**MEDIUM**	**UNLIKELY**	**LOW RISK**	
33		Dissolution into pore water/shallow groundwater and subsequent migration	CW	Taplow Gravel Member (a Secondary (A) Aquifer)	**MEDIUM**	**UNLIKELY**	**LOW RISK**	
34		Dissolution into pore water/shallow groundwater and subsequent migration	CW	London Clay Formation (Unproductive Strata)	**MILD**	**UNLIKELY**	**VERY LOW RISK**	

2. Land quality assessment

2.5 Preliminary Risk Assessment

Nr	Sources	Pathways	TYPE	Receptors	Consequence	Probability	Risk classification	Comments
Off-Site sources - Pond adjacent to the north eastern corner (no longer mapped and potentially infilled in 1955)								
35	Potential for elevated **methane** to be present within the sub-surface **soils**	Lateral and vertical migration into on-Site buildings; potential to cause an explosion	HH	On-Site properties and their occupants	**SEVERE**	**UNLIKELY**	**MODERATE/LOW RISK**	Given the small scale of the feature, the time elapsed since any potential infilling occurred (~65 years) and the likely low permeability of the underlying geology, it is considered unlikely that there would be appreciable gas source which would impact the Site. The risk classification is a reflection of the severity of consequences rather than the likelihood of occurrence.
36	Potential for elevated **carbon dioxide** to be present within the subsurface **soils**	Lateral and vertical migration into on-Site buildings; potential to cause asphyxiation	HH	Occupants of on-Site buildings	**SEVERE**	**UNLIKELY**	**MODERATE/LOW RISK**	
Off-Site sources - Pond c. 25 m south (no longer mapped and potentially infilled in 1913)								
37	Potential for elevated **methane** to be present within the sub-surface **soils**	Lateral and vertical migration into on-Site buildings; potential to cause an explosion	HH	On-Site properties and their occupants	**SEVERE**	**UNLIKELY**	**MODERATE/LOW RISK**	Given the time elapsed since any potential infilling occurred (~107 years) and the likely low permeability of the underlying geology, it is considered unlikely that there would be appreciable gas source which would impact the Site. The risk classification is a reflection of the severity of consequences rather than the likelihood of occurrence.
38	Potential for elevated **carbon dioxide** to be present within the subsurface **soils**	Lateral and vertical migration into on-Site buildings; potential to cause asphyxiation	HH	Occupants of on-Site buildings	**SEVERE**	**UNLIKELY**	**MODERATE/LOW RISK**	

2. Land quality assessment

2.5 Preliminary Risk Assessment

Nr	Sources	Pathways	TYPE	Receptors	Consequence	Probability	Risk classification	Comments
Off-Site sources - Nursery c. 205 m north west (1867 - 1913) and Garage c. 165 m north west								
39	Potential for both inorganic and volatile organic contaminants to be present within the subsurface soils	Dermal contact, ingestion & inhalation of soils & soil dust	HH	Current/future Site occupants	**MEDIUM**	**UNLIKELY**	**LOW RISK**	Given the distance from the Site and as the topography of the surrounding area, it is considered unlikely that migration onto Site of any contaminants from off-Site sources will have occurred.
40		Consumption of home grown produce	HH		**MEDIUM**	**UNLIKELY**	**LOW RISK**	
41		Ingress into water supply pipework and subsequent water ingestion	HH		**MEDIUM**	**UNLIKELY**	**LOW RISK**	
42		Migration of vapours to surface; inhalation indoors	HH		**MEDIUM**	**UNLIKELY**	**LOW RISK**	
43		Migration of vapours to surface; inhalation outdoors	HH		**MEDIUM**	**UNLIKELY**	**LOW RISK**	
44		Dissolution into pore water/shallow groundwater and subsequent migration	CW	Taplow Gravel Member (a Secondary (A) Aquifer)	**MEDIUM**	**UNLIKELY**	**LOW RISK**	
45		Dissolution into pore water/shallow groundwater and subsequent migration	CW	London Clay Formation (Unproductive Strata)	**MILD**	**UNLIKELY**	**VERY LOW RISK**	
						OVERALL RISK RATING	**MODERATE/LOW RISK**	

2. Land quality assessment

2.7 Next steps			
✓	**No immediate action but observe a watching brief**	GeoSmart Information	Given the known history of the Site it is considered unlikely that significant contamination is present within the sub-surface. The preliminary risk assessment suggests that the risks posed by in situ land quality are therefore likely to be **low to moderate/low.** The majority of the Site is deemed to be low risk, with the areas with the highest potential for contamination being very localised to the north east and north western corners of the Site. It is recommended that the potential inclusion of asbestos material in the existing laundry building is investigated prior to demolition and removed from Site using appropriate methods / contractors. It is noted that whilst a limited intrusive site investigation (including appropriate laboratory testing of soil samples) could be adopted in order to validate the preliminary risk assessment conclusions, a watching brief during all proposed redevelopment activities and associated ground works (which would include a thorough inspection of any exposed sub surface soils/Made Ground) will likely be sufficient. The watching brief should be maintained throughout the entire development phase of works and any possible evidence of contamination encountered during the redevelopment works should be alerted to the Local Authority. Appropriate actions would then be required to further inspect, sample and analyse any suspect materials, and formulate an appropriate remediation plan, as necessary.

3. Supporting information

The following supporting information is contained in this section:

Section	Content
3.1	Referenced materials used in the EnviroSmart reporting
3.2	Site photographs
3.3	Published environmental data records (Landmark Envirocheck report Edmansons Close, Bruce Green, Tottenham, London, N17 6XD. REF: 248500425_1_1) including: • Aerial photographs and site map • Environmental permits, incidents and registers • Landfill and other waste sites • Current land use information • Geology • Hydrogeology and hydrology • Flooding • Designated environmentally sensitive sites • Other environmental factors
3.4	Risk assessment methodology
3.5	Historical land use maps
3.5	Data supplied by London Borough of Haringey

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This report has been prepared by GeoSmart in its professional capacity as soil and water specialists, with reasonable skill, care and diligence within the agreed scope and terms of contract and taking account of the manpower and resources devoted to it by agreement with its client, and is provided by GeoSmart solely for the internal use of its client.

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3. Supporting information

Important consumer protection information

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The Search Code

• provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom
• sets out minimum standards which firms compiling and selling search reports have to meet
• promotes the best practice and quality standards within the industry for the benefit of consumers and property professionals
• enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.
By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code's core principles

Firms which subscribe to the Search Code will:
• display the Search Code logo prominently on their search reports
• act with integrity and carry out work with due skill, care and diligence
• at all times maintain adequate and appropriate insurance to protect consumers
• conduct business in an honest, fair and professional manner
• handle complaints speedily and fairly
• ensure that products and services comply with industry registration rules and standards and relevant laws
• monitor their compliance with the Code

Complaints

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award compensation of up to £5,000 to you if he finds that you have suffered actual loss as a result of your search provider failing to keep to the Code.
Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.

TPOs contact details:

The Property Ombudsman scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Website: www.tpos.co.uk
Email: admin@tpos.co.uk

You can get more information about the PCCB from www.propertycodes.org.uk.

Please ask your search provider if you would like a copy of the search code

3. Supporting information

A key commitment under the Code is that firms will handle any complaints both speedily and fairly

If you want to make a complaint, we will:

- Acknowledge it within 5 working days of receipt.
- Normally deal with it fully and provide a final response, in writing, within 20 working days of receipt.
- Keep you informed by letter, telephone or e-mail, as you prefer, if we need more time.
- Provide a final response, in writing, at the latest within 40 working days of receipt.
- Liaise, at your request, with anyone acting formally on your behalf.

Complaints should be sent to:
Martin Lucass
Commercial Director

GeoSmart Information Limited
Suite 9-11, 1st Floor
Old Bank Buildings, Bellstone
Shrewsbury
SY1 1HU

Tel: 01743 298100
martinlucass@geosmartinfo.co.uk

If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman Scheme (TPOs): Tel: 01722 333306, E-mail: admin@tpos.co.uk

We will co-operate fully with the Ombudsman during an investigation and comply with his final decision.

3. Supporting information

3.1 References

The following references were used to inform the conceptual site model and preliminary risk assessment:

British Geological Survey, 2020a. Geology of Britain viewer (http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html)

British Geological Survey, 2020b. GeoIndex Onshore (http://mapapps2.bgs.ac.uk/geoindex/home.html)

British Standards Institute, 2011. Investigation of potentially contaminated sites – code of practice. BS10175:2011+A1:2013.

CIRIA, 2001. Contaminated land risk assessment. A guide to good practice. Publication C552. CIRIA London. ISBN 0-86017-552 9

Environment Agency, 2004. Publication CLR 11. Model Procedures for the Management of Land Contamination.

GeoSmart Information Limited, 2020. National Groundwater Flood Risk Map (GW5)

Health Protection Agency, 2000. Spring 2000 Newsletter featuring; Radon: Guidance on Protective Measures for New Dwellings (BR 211).

Landmark, 2020. Landmark Envirocheck report Edmansons Close, Bruce Green, Tottenham, London, N17 6XD. REF: 248500425_1_1

3. Supporting information

3.2 Site photographs

Photograph 1: View facing east from the north western entrance to the Site.

Photograph 2: View facing north west along the northern terrace.

Photograph 3: View facing south east from the north western corner of the Site.

Photograph 4: View facing north east of the garden areas of the northern terrace.

Photograph 5: View facing south east across the lawn located in the west of the Site.

Photograph 6: View of the chapel building located in the centre of the eastern row.

Photograph 7: View of a plaque located in the centre of the Site.

Photograph 8: View facing north of the lawn located in the west of the Site.

Photograph 9: View of the rear of the south eastern terrace.

Photograph 10: View facing west of the southern corner of the Site.

Photograph 11: View facing north from the southern corner of the Site.

Photograph 12: View facing north from the south eastern entrance of the Site.

3. Supporting information

3.3 Environmental data report

Readily available environmental information relating to the Site and its surrounding area has been provided by Landmark.

3. Supporting information

3.4 Risk assessment methodology

The method of risk evaluation adopted in this document is consistent with CIRIA C552 (2001). Hence, risk is considered to be a function of both the probability (likelihood) of contamination occurring at the study site and also the potential severity (consequence) of the environmental impacts associated with this contamination.

The classification system used to define contaminant probability, consequence and risk is described in the following tables.

Table A: Classification of probability

Classification	Definition
High likelihood	There is a contaminant linkage and an event that appears either 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 and in the right place, which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short term, and likely over the long term.
Low likelihood	There is a contaminant linkage and circumstances are possible under which an event could occur. However, it is by no means certain that even over a longer period such event would take place, and is less likely in the shorter term.
Unlikely	There is contaminant linkage but circumstances are such that it is improbable that an event would occur even in the long term.

Table B: Classification of consequence

Classification	Receptor	Definition	Examples
Severe	Humans	Short-term (acute) risk to human health likely to result in "significant harm" as defined in the CTL Statutory Guidance	High concentrations of cyanide on the surface of an informal recreation area
	Controlled waters	Short-term risk of pollution (note: Water Resources Act contains no scope for considering significance of pollution) of sensitive water resource	Major spillage of contaminants from site into controlled water
	Property	Catastrophic damage to buildings/property	Explosion, causing building collapse (can also equate to an acute human health risk if buildings are occupied)
	Ecology	A short-term risk to a particular ecosystem, or organism forming part of such eco-system	Potentially long term derogation of a designated site or protected species
Medium	Humans	Chronic damage to human health ("significant harm" as defined in the CTL Statutory Guidance)	Concentrations of a contaminant from a residential site exceed the site-specific assessment criteria
	Controlled waters	Pollution of sensitive water resources (note: Water Resources Act contains no scope for considering significance of pollution)	Leaching of contaminants from a site to a principal or secondary aquifer
	Property	Significant damage to crops, buildings, structures and services	Damage to building rendering it unsafe to occupy (e.g. foundation damage resulting in instability)
	Ecology	A significant change in a particular ecosystem	Death of a species within a designated nature reserve

3. Supporting information

Table B: Classification of consequence (continued)

Classification	Receptor	Definition	Examples
Mild	Humans	Contamination present although unlikely to constitute a significant chronic health risk	Concentrations of a contaminant from a public access site moderately exceed the generic assessment criteria
	Controlled waters	Pollution of non-water resources	Pollution of non-classified groundwater
	Property	Damage to sensitive buildings/structures/services	Aggressive ground conditions leading to potential for long term degradation of buried concrete
	Ecology	Damage to the environment	Localised damage to aquatic habitat causing temporary relocation of certain species
Minor	Humans	Non-permanent health effects to human health (easily prevented by means such as personal protective clothing, etc.)	The presence of contaminants at such concentrations that protective equipment is required during site works
	Controlled waters	Potential minor release of contamination to local water features	Short term or low volume release of potentially polluting material to a secondary surface water course of low existing quality
	Property	Easily reparable effects of damage to buildings, structures and services. Harm which may result in a financial loss, or expenditure to resolve	The loss of plants in a landscaping scheme. Discolouration of concrete
	Ecology	Short term, localised damage may occur; consequences are spatially and temporally limited	Short term or localised disruption to in situ flora or fauna; no lasting effects

Table C: Risk classification (comparison of consequence and probability)

Probability	Consequence (severity)			
	Severe	**Medium**	**Mild**	**Minor**
High likelihood	Very high risk	High risk	Moderate risk	Low risk
Likely	High risk	Moderate risk	Moderate/low risk	Low risk
Low likelihood	Moderate risk	Moderate/low risk	Low risk	Very low risk
Unlikely	Moderate/low risk	Low risk	Very low risk	Very low risk

3. Supporting information

3.5 Historical land use maps

Historical Ordnance Survey maps relating to the site and its surrounding area have been provided by Landmark.

3. Supporting information

3.6 Data supplied by London Borough of Haringey

A contaminated land enquiry was provided for the Site by the London Borough of Haringey