

CONSULTANCY, SITE INVESTIGATION
CONSTRUCTION MATERIALS TESTING,
CONTAMINATED LAND SURVEYS, DESK
STUDIES, RISK ASSESSMENT.



DESK STUDY & STAGE I RISK ASSESSMENT

FOR

97 CAMDEN MEWS,

LONDON,

NW1 9BU.

DATE: July 2017

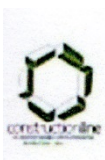
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- A. Historic Map Extracts
- B. Schedule of Contaminative Uses
- C. Groundsure EnviroInsight Report
- D. Photographs

1. INTRODUCTION.

1.1 Client Site Details.

1.1.1 Location.

The client site is located on the northern side of Camden Mews, approximately 80m to the south-west of the junction with Camden Park Road.

The site is currently occupied by a disused single storey terrace building, formerly operating as a vehicle repair garage.

The site is situated at an elevation of approximately 45m above Ordnance Datum, and covers an area of approximately 0.01ha within the boundary of the London Borough of Camden.

1.1.2 Grid Reference.

Landranger Reference: TQ 29728478

National Grid Reference: 529716E, 184777N

1.1.3 Proposed Development.

Proposals involve the demolition of the current building and construction of a new three storey development containing 2 residential properties.

1.2 Client Commission.

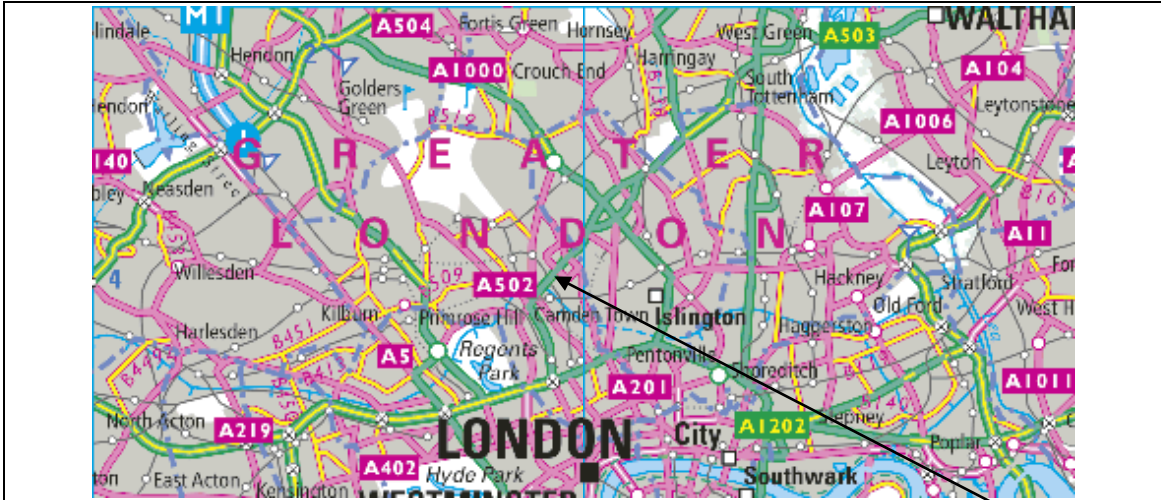
This report was commissioned by: Paul Simon Developments Limited
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Report produced by:



Steven Brooks BEng.(Hons)
MRH Geotechnical Limited
Date July 2017.

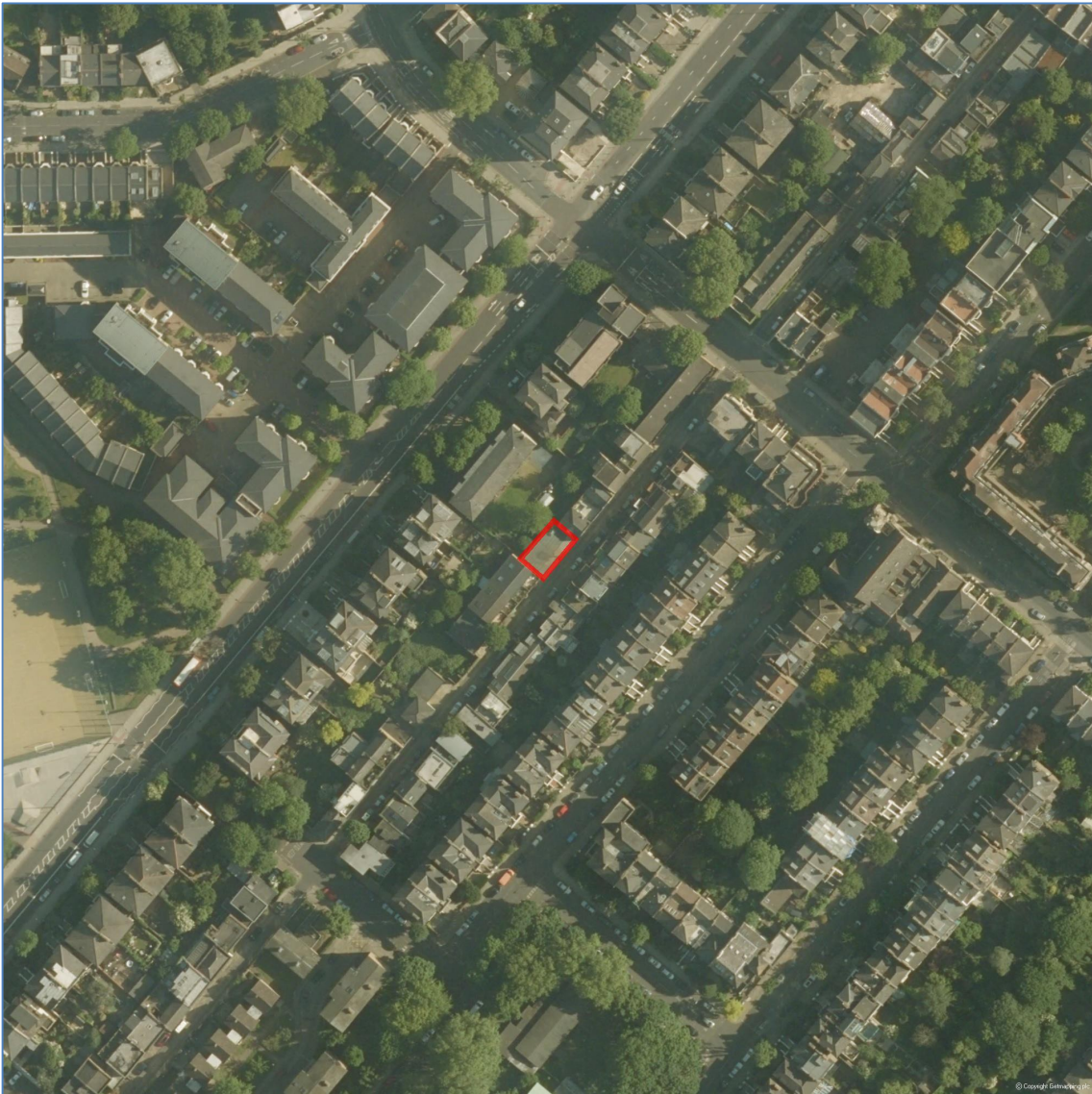
Figures 1 & 2. Site Location Plans.



Client Site



Figure 3. Aerial Photograph.



1.3 Scope and Objectives.

- 1.3.1 The objective of the report is to determine whether contaminative uses are/have potentially been present on or near to the client site. It is also to identify potential receptors and pathways and to determine if any significant pollutant linkages exist. This information is then used to prepare a conceptual model for the site which in turn may be used to set the objectives for a physical site investigation.
- 1.3.2 A schedule of contaminative uses can be found in Appendix B.
- 1.3.3 “Contaminative use” is defined as “any use of land which may cause it to be contaminated with noxious substances.”

- 1.3.4 “Land”, is defined as “any ground, soil or earth, houses or other buildings, or air space above it; but excludes all mines or minerals beneath it. It also includes land used for integral, partial or ancillary processes which form part of the primary use”. (See Annex C of the Department of the Environment (DoE) Consultation Paper - “Public Registers of Land which may be Contaminated”).
- 1.3.5 The information sources referenced in the compilation of this report are those outlined by the DoE in the consultation paper entitled: “The Public Registers of Land which may be Contaminated”, published in May 1991.
- 1.3.6 The report outlines potentially contaminative uses which have been registered in publicly available records.
- 1.3.7 This search covers a period from 1834 to date. The date of this report reflects the date that the research was completed and is therefore as up to date as the records accessed.
- 1.3.8 The desk study report cannot guarantee to uncover every potentially contaminative use on the client site. There may be contaminative uses that the search has failed to uncover and it should not therefore be relied upon as indicative of the actual state of the land and a physical investigation of the site is recommended.

2. HISTORICAL RECORD.

2.1 Historical Map Extracts.

2.1.1 The following list of Historical Map extracts are contained within Appendix A of this report;

	Date	OS Scale	Series
Extract A	1873	1:1,056	Town Plan.
Extract B	1879-82	1:10,560	County Series.
Extract C	1877-79	1:2,500	County Series.
Extract D	1894	1:10,560	County Series.
Extract E	1896	1:10,560	County Series.
Extract F	1896	1:2,500	County Series.
Extract G	1896	1:1,056	Town Plan.
Extract H	1916	1:2,500	County Series.
Extract I	1920	1:10,560	County Series.
Extract J	1938	1:10,560	County Series.
Extract K	1948-52	1:10,560	Provisional.
Extract L	1952	1:2,500	National Grid.
Extract M	1952	1:1,250	National Grid.
Extract N	1957-62	1:10,560	Provisional.
Extract O	1955-60	1:1,250	National Grid.
Extract P	1965-68	1:10,560	Provisional.
Extract Q	1967-68	1:2,500	National Grid.
Extract R	1969-73	1:1,250	National Grid.
Extract S	1971-75	1:10,000	National Grid.
Extract T	1975-78	1:1,250	National Grid.
Extract U	1979-82	1:1,250	National Grid.
Extract V	1989-94	1:10,000	National Grid.
Extract W	1991-92	1:1,250	National Grid.
Extract X	2002	1:10,000	Raster.
Extract Y	2010	1:10,000	National Grid.
Extract Z	2014	1:10,000	National Grid.

2.1.2 Please note that within the electronic copy of this report the maps of Appendix A are reproduced at A4 size for ease of viewing on a computer screen. The disc copy of the report includes a pdf of the maps suitable for printing at A3 should that be required.

2.2 Summary of Historical Maps.

2.2.1 The first detailed Town Plan map of the area was published, at 1:1,056 scale, in 1873. A search for maps earlier than this date has located earlier surveys which are described in the text although not reproduced in this report.

2.2.2 Various historical maps have been consulted during the examination of the client sites history and extracts of the County Series and later Ordnance Survey sheets are included in Appendix A of this report. Descriptions of the information recovered from each reference are detailed below;

The **Topographical Survey of the Borough of St Marylebone, dated 1834**, shows the eastern boundary of the Parish which corresponds with Maiden Lane (the present day A5200 York Way) with New Road to Tottenham

through Holloway (Camden Road) to the north of the client site. The area of the site at this time remains undeveloped as field enclosures.

The **Ordnance Survey Town Plan at 1:5,280 scale published in 1850** identifies Camden Road, and Camden Mews is also shown on the plan. No buildings are shown on the plan but the Metropolitan Cattle Market is shown approximately 250m to the east of the site, along with the North London Railway Cattle Depot approximately 500m to the south.

Kelly's Post Office Directory Map of London dated 1857 shows more detail in the area of the client site and properties are shown directly to the north, fronting on to Camden Road. Buildings are also shown to the south fronting on to Camden Square although the garden areas of the properties have not been divided suggesting that construction may not have been completed at the time of the survey.

No buildings are shown in Camden Mews.

A Reservoir is shown approximately 125m to the east of the site.

Cross' New Plan of London 1861 shows a similar layout to Kelly's map of 1857 with no significant changes.

Stanford's Library Map of London and its Suburbs 1864 is the first map to show buildings in Camden Mews, although curiously there are no buildings to the south and the area between Canteloves Road and Camden Park Road is described as 'Pasture Fields laid out for Building'. This suggests that the survey may pre-date the publication of the map by some time and that the mews buildings were constructed at around the same time as the properties fronting onto Camden Road.

The building of the client site is shown on the map and a proposed underground railway line is shown to the north-east.

The **1:1,056 scale Town Plan of 1873** shows a mews building covering just over half of the client site and adjoining a similar building on the adjoining site to the north-east.

A large residential property fronts on to Camden Road to the north-west of the client site and the garden area links it with the client site. The area is predominantly residential in nature.

The **1:10,560 scale Ordnance Survey of 1879-82** shows more of the surrounding area and the Metropolitan Cattle Market can be seen 250m to the east of the site, while the Midland Railway line lies a similar distance to the west. A Coal Depot lies 500m to the south of the site.

The **1:2,500 scale Ordnance Survey of 1877-79** shows no changes within the site boundary. Camden Road Station can be seen 250m to the south-west of the site.

The **1894 1:10,560 scale Ordnance Survey** shows no significant changes from the previous survey at the same scale.

The **1:10,560 scale Ordnance Survey of 1896** shows no significant changes in the vicinity of the client site.

The **1896 1:2,500 scale Ordnance Survey** shows no changes within the curtilage of the site which continues to contain the mews building relating to the property on Camden Road. A small addition is shown to the rear of the the mews building within the garden of the main property.

An Organ Works is shown approximately 260m to the north-east of the client site.

The **1:1,056 scale Town Plan of 1896** shows a similar layout in the vicinity of the site with no significant changes.

The **1916 1:2,500 scale Ordnance Survey** shows no significant changes in the vicinity of the site.

The **1:10,560 scale Ordnance Survey of 1920** shows no significant changes in the surrounding area of the client site.

The **1938 1:10,560 scale Ordnance Survey** shows a similar layout within the site curtilage and no notable changes are evident in the immediate vicinity.

The **1948-52 Ordnance Survey at 1:10,560 scale** shows no changes within the immediate vicinity of the site.

The **1:2,500 scale Ordnance Survey of 1952** shows a new or extended building which now covers the whole of the client site and is identified as 97 Camden Mews. A small portion of the building, in the northern corner, is shown as having a glass roof. A small glasshouse also adjoins the building with the garden area of 248 Camden Road.

A Warehouse is shown 80m to the east of the site and a further Depository and Warehouse are shown 200m to the north-east. A Printing Works can be seen 150m to the north along with an Electricity Sub-Station, and a further Sub-Station is identified within the Camelot House development 150m to the east.

The **1:1,250 scale Ordnance Survey of 1952** shows a similar layout to the 1:2,500 scale survey of the same date.

The **1:10,560 scale Ordnance Survey of 1957-62** shows no significant new information in the vicinity of the client site.

The **1955-60 Ordnance Survey at 1:1,250 scale** shows no significant changes within the immediate vicinity of the site. The area on the northern side of Camden Road has been redeveloped as a school.

The **1965-68 Ordnance Survey at 1:10,560 scale** shows no detailed changes in the immediate vicinity of the site.

The **1:2,500 scale Ordnance Survey of 1967-68** shows no changes within the site boundary from the earlier survey of 1955-60, although some new properties have been constructed in the mews.

The **1969-73 Ordnance Survey at 1:1,250 scale** shows no significant changes within the immediate vicinity of the site.

The **1971-75 Ordnance Survey at 1:10,000 scale** shows few detailed changes in the vicinity of the site. The site on the corner of Camden Road and Camden Park Road has been cleared of buildings at this time, and the Cattle Market area to the east has been redeveloped.

The **1:1,250 scale Ordnance Survey of 1975-78** shows no changes within the curtilage of the site, however the residential properties which lay to the north of the site have been redeveloped as a block of flats. The adjoining properties to the south-west have also been remodelled or redeveloped.

The Warehouse building continues to be shown 80m to the east along with the Depository to the north-east and Works (formerly Printing Works) to the north. A Garage is shown 250m to the south-west above the line of the Railway Tunnel.

The **1979-82 Ordnance Survey at 1:1,250 scale** shows no changes to the client site building. New properties have been constructed on the opposite side of Camden Mews.

The **1:10,000 scale Survey of 1989-94** shows no significant detailed changes in the area of the client site.

The **1:1,250 scale Ordnance Survey of 1991-92** shows no changes within the curtilage of the site but the adjoining buildings to the south-west have been replaced with new residential properties.

The **1:10,000 scale survey of 2002** shows no detailed changes in the area of the site.

The **2010 and 2014 1:10,000 scale surveys** show less detail in the vicinity of the client site.

2.2.3 From the Historical Map evidence, Camden Mews and the client site appear to have been developed around 1850.

Buildings are shown fronting on to Camden Road on Kelly's map of 1857 and Stanford's map of 1864 also shows buildings in the mews.

The original mews building covered just over half of the site and was positioned to the right hand side.

Between 1920 and 1952 the original building was rebuilt or extended to cover the whole of the site and no further changes are evident on the Ordnance Surveys of the area.

Prior to its development the site lay in a field boundary within the Parish of Marylebone.

2.2.4 Within the vicinity of the site (0-500m) the following potential sources of contamination have been identified from the historical map extracts; Cattle Market, Railway (Lines, Station, Tunnels, Cattle Depot, Goods Yard), Organ Works, Printing Works, Warehouses, Depository, Garage and Electricity Sub-Stations.

2.2.5 Of the above list of potential sources of contamination only the Warehouse has been identified within 100m of the site.

2.3 Historic Trade Directory Records.

2.3.1 Searches of Historic Trade Directories for the area have located various entries for the area of the site which are listed below.

2.3.2 The earliest directory found to hold information relevant to the area of the client site, is dated 1851. No entry for Camden Road is included in the 1841 Post Office Directory.

2.3.3 The **Post Office Directory of London, 1851**, includes some entries for Camden Road Villas but they only extend as far north along the road as Rochester Square, approximately 500m south-west of the client site.

2.3.4 The **Post Office Directory of London 1856** provides listings for the area of the site, and the relevant entries are detailed below;

Camden Road Villas, Camden Town.

Here Camden Park Road Intersects...

69	Wessel Henry William, esq.
70	Riley Benjamin, esq.
71	Golding John Horatio, esq.
72	Morgan Robert, esq.
73	Vorley William, esq.
74	Hammond William, esq.
75	Luxmore William Thomas, esq.
76	Bogue David, esq.
77	West William, esq.
78	McCallan Robert, esq.
79	Smith Henry Goodenough, esq.
80	Briggs George, esq.

Continues towards Murray Street.

The property of 73 Camden Road Villas appears to relate to the main house of which the client site contained the mews property.

2.3.5 The **Post Office Directory of London, 1882** includes entries for the area of the site and those relevant to the area of the site are detailed below;

Camden Road, Camden Town from High Street to Holloway Road.

Here is Cantelowes Road...

228 Whitworth Benjamin.
Whitworth John Budibent.
230 Titford Mrs.
232 Mager George.
234 Briggs Mrs.
236 Brown Thomas Marshall.
238 Morgan John.
240 Patey Henry Horne.
242 Pedley Miss.
244 James Charles James.
246 Goodall Jonathon Charles.
248 Vorley William Sharp.
250 Nelson Edward.
252 Ridley Samuel Edward.
254 Unoccupied.
256 Spall John.

Here is Camden Park Road...

Camden Road has been renumbered since the directory of 1856 but the property relating to the client site remains the residency of the Vorley family.

2.3.6 The **Post Office Directory of London, 1895** includes entries for Camden Road and those relevant to the area of the site are detailed below;

Camden Road, Camden Town from High Street to Holloway Road.

Here is Cantelowes Road...

228 Rogerson Arthur, Veterinary Surgeon.
232 Mastan Mrs.
234 Briggs Miss.
236 Brown Thomas Marshall.
238 Dean Edward William.
240 Jacobi George.
242 Pedley Miss.
244 Donaldson George.
246 Wootten Mrs.
248 MacLarty Duncan, Physician.
250 Adams Henry.
252 Dutch Meyer, Surgeon.
254 Chetham Henry.
256 Spall John.

Here is Camden Park Road...

248 Camden Road is now the residency of Physician, Duncan MacLarty.

There is one entry under Camden Mews in the directory which is for Chimney Sweeper, John Bridges at 94 Camden Mews.

2.3.7 The **Post Office London Directory, 1899**, provides listings for Camden Road, and the surrounding area, and entries relating to the vicinity of the client site are detailed below;

Camden Road, Camden Town from High Street to Holloway Road.

Here is Cantelows Road...

228	Rogerson Arthur,	Veterinary Surgeon.
230	Newbery Frederick.	
232	Mastin Mrs.	
234	Briggs Miss.	
	Briggs Alfred Herbert.	
236	Brown Thomas Marshall.	
238	Slaughter Walter.	
240	Jacobi George.	
242	Popham Robert Brooks,	Surgeon.
244	Jordan Mrs.	
246	Wootten Mrs.	
248	Latta William.	
250	Adams Mrs.	
252	Dutch Meyer,	Physician & Surgeon.
254	Chetham Henry.	
256	Pedley Miss.	

Here is Camden Park Road...

248 Camden Road is now the residency of William Latta.

Although Camden Mews is listed in the directory, there are no entries between Cantelows Road and Camden Park Road.

2.3.8 The **Post Office Directory of London, 1910**, includes entries for Camden Road and the surrounding area. Those relating to the vicinity of the client site are detailed below;

Camden Road, Camden Town from High Street to Holloway Road.

Here is Cantelows Road...

228	Wyborn Walter Edward,	Physician & Surgeon.
230	Newbery Frederick.	
234	Briggs Miss.	
236	Brown Mrs.	
238	Wedekind Alfred Christian.	
248	Wright Mrs Henrietta,	Christmas Card Publisher.
250	Bishop Frederick.	
252	Isaacs Isidor.	
254	Holt Arthur Ernest.	
256	Veal Mrs.	

Here is Camden Park Road...

248 Camden Road is now the residency of Christmas Card Publisher Henrietta Wright.

Although Camden Mews is listed in the directory, there are no entries between Cantelows Road and Camden Park Road.

2.3.9 The **Post Office Directory of London, 1915**, includes entries for Camden Mews and Road. Those relating to the vicinity of the client site are detailed below;

Camden Mews, *From 28 Rochester Square to 169 York Road.*

North-West Side.

39	Paine Thomas & Sons,	Pianoforte Key Manufacturers.
41	Arnold George Edward,	Saddler.
58	Rosevear Alfred Henry,	Marqueterie Cutter.
102	Bridges John Alfred & Son,	Chimney Sweepers.

Camden Road, *Camden Town from High Street to Holloway Road.*

Here is Canteloves Road...

234	Briggs Miss.	
236	Brown Mrs.	
238	Wedekind Alfred Christian.	
248	Wright Mrs Henrietta,	Christmas Card Publisher.
250	Bishop Frederick.	
252	Isaacs Isidor.	
254	Holt Arthur Ernest.	
256	Veal Mrs.	

Here is Camden Park Road...

248 Camden Road remains the residency of Christmas Card Publisher Henrietta Wright.

2.3.10 The **Post Office Directory of London, 1934**, includes entries for Camden Mews and Road and those relating to the vicinity of the client site are detailed below;

Camden Mews, *From 28 Rochester Square to 169 York Road.*

North-West Side.

85	Oliver Cyril Louis,	Motor Engineer.
93	Pengelly Percy F.	Motor Engineer.
95	English Ernest,	Coach painter.
97	Sitton George,	Motor Repairer.
99	Adams Charles Henry,	Motor Garage.
99	Burrows & Burrows,	Printers.
101	Hudd Wm. S.	Motor Car Garage.
103	G.B. Motor Products,	Motor Car Accessories.

Camden Road, *Camden Town from High Street to Holloway Road.*

Here is Cantlowes Road...

234	Grimm Walter T.	Dentist.
236	Brown Misses.	
238	MacSorley James Joseph.	
248	Wright Mrs Henrietta,	Christmas Card Publisher.
250	Youth House Ltd.	Educational Society's Residential Hostel.
252	Macqueen Prof. James.	
254	Baptist Women's Training College.	
256	Veal Miss.	

Here is Camden Park Road...

97 Camden Mews is listed as the premises of Motor Repairer, George Sitton, and suggests that the building had been remodelled or rebuilt by this time.

248 Camden Road remains the residency of Christmas Card Publisher Henrietta Wright.

2.3.10 The Historical Trade Directories suggest that the site was first developed as part of 248 Camden Road around 1856 when the residential property was constructed.

The earliest entry for 97 Camden Mews as a separate premises is in 1934 when the Garage of George Sitton is listed.

The Garage is the only contaminative operation to have been listed at the site.

2.3.11 Additional potentially contaminative site uses identified in the vicinity of the site from the Historical Directories include; Coach Painter and Motor Garages.

2.4 British Census Records.

2.4.1 The English Census Records have been consulted to provide greater insight to the occupants of the client site.

2.4.2 The 1911 Census lists the following occupants in the vicinity of the client site;

Camden Road;

	Occupant	Occupation
244	William Idris,	Mineral Water Manufacturer.
246	Ellen Gower,	Milliner.
248	Edward Wright,	Civil Engineer.
250	Frederick Bishop,	Brewery Agent.
252	Isidor Isaacs,	Racecourse Bookmaker.

2.4.3 The 1901 Census lists the following occupants in the vicinity of the client site;

Camden Road;

	Occupant	Occupation
244	Clare Jordan.	
246	Maria Wotten,	Independent.
248	William Latta,	Secretary.
250	Mary Adams,	Living on Means.
252	Major Akiter Deiter,	Physician & Surgeon.

2.4.4 The 1891 Census lists the following occupants in the vicinity of the client site;

Camden Road;

	Occupant	Occupation
244	George Donaldson,	Turf Commission Agent.
246	Jane Goodall,	Living on Own Means.
248	William Vorley,	Clerk Insurance Broker.
250	Henry Adams,	Upholsterer.
252	Mary Wood,	Living on Own Means.

2.4.5 The 1881 Census lists the following occupants of properties in the vicinity of the client site;

Camden Road;

	Occupant	Occupation
244	Charles James,	Retired Theatrical Manager.
246	Jonathon Goodall,	Retired Card Maker.
248	William S. Vorley,	Stock Salesman.
250	Silvester Mann,	Police Constable.
252	Samuel Ridley,	Floor Cloth Manufacturer.

2.4.6 The 1871 Census lists the following occupants for the vicinity of the client site;

Camden Road;

	Occupant	Occupation
244	John Hutchinson,	Butcher.
246	Jonathon Goodall,	Retired Wholesale Stationer.
248	William Vorley,	Retired Cattle Salesman.
250	Isaac Ridgeway.	
252	William Manning,	Broker.

2.4.7 The 1861 Census lists the following occupants for the vicinity of the client site;

Camden Road Villas;

	Occupant	Occupation
75	George Murphy,	Pianoforte Manufacturer.
74	William Hammond,	Merchant.
73	William Vorley,	Cattle Salesman.
72	Robert Morgan,	Salesman.
71	John Golding,	Stock Broker.

2.4.8 The 1851 Census lists the following occupants for the vicinity of the client site;

Camden Road Villas;

	Occupant	Occupation
75	William Luxmore,	Gentleman Fundholder.
74	William Hammond,	Merchant Foreign.
73	William Caley,	Salesman.
72	Robert Morgan,	Fund Holder.
71	John Golding,	Stock Broker.

Whereas the 1851 Post Office Directory did not extend as far north as the client site, the 1851 Census does list 73 Camden Road Villas suggesting that development had taken place around 1850.

2.4.9 The Census records show that the building on Camden Road, related to the client site, was constructed around 1850.

2.5 Aerial Photographs.

- 2.5.1 An aerial image from 1921 showing 'Camden Road, York Road and Environs, Camden Town' is the earliest located to show the site. The image does not show much fine detail in the area of the site, but residential properties can be seen fronting onto Camden Road with garden areas to the rear. There are indications of some buildings in the vicinity of the site within Camden Mews to the rear.
- 2.5.2 An image from 1945 also shows the area of the site. However, the resolution is not sufficient to provide clear detail. Bright patches indicate the presence of buildings directly to the south-west of the site and a slightly darker patch may relate to the building of the client site.
- 2.5.3 A 1999 image shows the client site along with a terrace of four residential properties directly to the south-west. The original Camden Road building has been replaced by a block of flats and some trees are shown directly to the rear of the client site building.
- 2.5.4 A 2002 Aerial Image shows no significant changes in the area of the site.
- 2.5.5 No changes are obvious on any of the later images.

2.6 Historical Industrial Sites from Groundsure EnviroInsight Report.

- 2.6.1 The Groundsure EnviroInsight Report contained in Appendix C of this report includes listings of Historical Land Use within 500m of the site boundary. It should be noted that the same site can be present on a number of plans and may therefore be included more than once in the listings.
- 2.6.2 The following potentially contaminative past land uses are identified from the 1:10,000 scale mapping;

Distance	Land Use
0-50m	None Listed.
50-250m	Railway Station, Sidings & Tunnel.
250-500m	Cattle Market, Railway Sidings & Land, Unspecified Works, Biscuit Works, Unspecified Factory, Coal Depot, Goods Depot.

Full details and a location map of the features are included in Section 1 of the Groundsure EnviroInsight Report contained in Appendix C.

- 2.6.3 Nine records of Historical Tanks are recorded within 500m of the client site. It should be noted that the same Tank can be present on a number of plans and may therefore be included more than once in the listings.

The entries appear to relate to 3 Tanks at distances between 149m and 427m from the site.

2.6.4 There are 79 records of Historical Energy Features lying within 500m of the site boundary. The locations are detailed in Section 1.3 of the Groundsure report.

It should be noted that the same feature can be present on a number of plans and may therefore be included more than once in the listings.

The entries appear to relate to 18 different Sub-Station at distances of between 150m and 496m from the site.

2.6.5 There are twenty-eight records of Historical Garage and Motor Vehicle Repair sites within 500m of the site. The records relate to thirteen sites between 196m and 498m of the site. Details are shown in Section 1.5 of the Groundsure Report contained in Appendix C.

2.6.6 There are ten records of Potentially In-filled Land at distances of between 115m and 225m from the client site and relate to a Reservoir / Pond and Railway Tunnels; these are detailed in Section 1.6 of the Groundsure Report.

2.7 Historical Document Summary.

2.7.1 The Historical Record of the site shows the client site appears to have been first developed as a mews building forming part of the residential property 248 Camden Road (originally 73 Camden Road Villas) around 1850.

2.7.2 By 1934 the client site had been separated from the Camden Road property and was operating as a Motor Vehicle Repair Workshop. The building had been rebuilt to encompass the whole of the site by 1952 and probably as early as 1934.

2.7.3 The property has remained essentially unchanged since the 1950s.

2.7.4 No further changes are identified on the Ordnance Surveys.

2.7.5 Prior to its development the site lay in an area of fields within the Parish of Marylebone.

2.7.6 Within the vicinity of the site (0-500m) the following potential sources of contamination have been identified from the historical documentation; Motor Vehicle Repair Workshops, Coach Painters, Cattle Market, Railway (Lines, Station, Tunnels, Cattle Depot, Goods Yard), Organ Works, Printing Works, Warehouses, Depository, Garage and Electricity Sub-Stations.

2.7.7 Of the above list the following potential sources of contamination; the Garages, Coach Painter and Warehouse have been identified within 100m of the site.

3. ENVIRONMENTAL SETTING.

3.1 Geology.

- 3.1.1 The British Geological Survey map of the area shows the client site to be located on Bedrock Deposits from the London Clay Formation.
- 3.1.2 The Bedrock Deposits of the London Clay Formation are typically described as 'bioturbated or poorly laminated, blue-grey or grey-brown, slightly calcareous, silty to very silty clay, clayey silt and sometimes silt, with some layers of sandy clay. It commonly contains thin courses of carbonate concretions ('cementstone nodules') and disseminated pyrite. It also includes a few thin beds of shells and fine sand partings or pockets of sand, which commonly increase towards the base and towards the top of the formation. At the base, and at some other levels, thin beds of black rounded flint gravel occur in places. Glauconite is present in some of the sands and in some clay beds, and white mica occurs at some levels.' (BGS Lexicon of Named Rock Units). The deposits are up to 150m thick in the eastern part of the London Basin in Essex.
- 3.1.3 The London Clay Formation strata were formed in deep seas from infrequent slurries of shallow water sediments which were then redeposited as graded beds. The sediments were deposited during the Ypresian Age of the Palaeocene Period (47.8-56 million years ago).
- 3.1.4 There are no records of Artificial Ground or Made Ground within 50m of the site.

3.2 Hydrogeology.

- 3.2.1 The Bedrock Deposits of the London Clay Formation are classified by the Environment Agency as an Unproductive Strata. These are layers of rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow.
- 3.2.2 The Aquifer Designation maps for the area are shown in Figures 6a & 6b of the Groundsure EnviroInsight Report included in Appendix C of this report.
- 3.2.3 According to Environment Agency data, the client site does not lie within the Catchment of a Groundwater Source Protection Zone for a Potable Water Abstraction point in the area.
- 3.2.4 No Groundwater Abstraction Licences / Points are located within 500m of the client site.
- 3.2.5 The Groundwater Vulnerability Map of the Environment Agency identifies the client site to lie within a 'Non-Aquifer' area.

3.3 Hydrology.

- 3.3.1 No surface water features have been identified within 250m of the site.
- 3.3.2 There are no records of Detailed River Networks within 500m of the site.
- 3.3.3 According to Environmental Agency data, the client site does not lie within a Flood Risk Zone.
- 3.3.4 The Environment Agency Flood Zone map is shown in Figures 7a & 7b of the Groundsure Envirolnsight Report contained in Appendix C.
- 3.3.5 The Risk of Flooding from Rivers and the Sea is rated as Very Low.
- 3.3.6 According to British Geological Survey data the site does not lie within 50m of an area potentially susceptible to Groundwater Flooding.

3.4 Mining.

- 3.4.1 Information supplied by the Coal Authority indicates that the area within 500m of the client site is not within a coal mining area.
- 3.4.2 There are no records of Non-Coal Mining within 50m of the site.

3.5 Ground Stability.

- 3.5.1 The British Geological Survey makes assessments of the following Natural Hazards;
- 3.5.2 Shrink Swell – The site is assessed as having a Moderate Risk of Shrinkage or Swelling of the underlying strata due to changes in moisture content.
- 3.5.3 Landslides – There is considered a Very Low Risk of the site being affected by Landslides.
- 3.5.4 Soluble Rocks – The site is considered to be at Negligible Risk of instability due to the solution of the underlying strata.
- 3.5.5 Compressible Ground – The site is considered to be at Negligible Risk of instability due to compressible ground.
- 3.5.6 Collapsible Rocks – The site is assessed as being at Very Low Risk of instability due to collapsible strata.
- 3.5.7 Running Sand – There is considered to be a Negligible Risk of running sand conditions on site.

3.6 Radon Risk.

- 3.6.1 BRE publication BR211, 'Radon: Guidance on protective measures for new buildings' identifies the site to lie within an area where No Protective Measures are required.

3.7 Sites of Environmental Sensitivity.

- 3.7.1 The site does not lie within an area of Special Scientific Interest.
- 3.7.2 The site does not lie within a designated Special Area of Conservation or an area of Ancient Woodland.
- 3.7.3 The site does not lie within an area of Nitrate Vulnerability.
- 3.7.4 The site does not lie within an area of designated Greenbelt.

4. REGULATORY AUTHORITIES.

4.1 Landfill & Other Waste Sites.

- 4.1.1 According to Environment Agency data, the site does not lie within 500m of a Historic Landfill Site.
- 4.1.2 No Active Landfill Sites are identified within 500m of the client site.
- 4.1.3 There are no records of a Waste Transfer, Treatment or Disposal Sites within 500m of the client site
- 4.1.4 There are no records of Environment Agency Licensed Waste Sites within 500m of the client site.
- 4.1.5 Figure 3 of the Groundsure EnviroInsight Report, contained in Appendix C, identifies the location of recorded Historic and Active Landfill Sites in the vicinity of the client site.

4.2 Industrial Pollution.

- 4.2.1 There are no records of Historic IPC Authorisations within 500m of the client site.
- 4.2.2 There are no records of Part A(1) or IPPC Authorised Activities within 500m of the client site.
- 4.2.3 There are no records of Red List Discharge Consents (potentially harmful discharges to controlled waters) within 500m of the client site.
- 4.2.4 There are no records of List 1 Dangerous Substances Inventory Sites within 500m of the client site.
- 4.2.5 There are no records of List 2 Dangerous Substances Inventory Sites within 500m of the client site.
- 4.2.6 There are seven records of a Part A(2) and Part B Activity and/or Enforcement within 500m of the client site;

Name: Empire Professional Dry Cleaners, 173 York Way, N7 9LN.
Process: Dry Cleaning.
Status: Historical
Permit Type: Part B
Distance: 205m North-East

Name: Empire Professional Dry Cleaners, 173 York Way, N7 9LN.
Process: Dry Cleaning.
Status: Current
Permit Type: Part B
Distance: 205m North-East

Name: Fairways Camden, 139-143 Camden Road, NW1 4NR.
Process: Unloading of Petrol into Storage.
Status: Historical
Permit Type: Part B
Distance: 228m South-West

Name: Universal Dry Cleaners, 112 Camden Road, NW1 9EE.
Process: Dry Cleaning.
Status: Historic
Permit Type: Part B
Distance: 239m North

Name: Universal Dry Cleaners, 9-11 Brecknock Road, N7 0BL.
Process: Dry Cleaning.
Status: Current
Permit Type: Part B
Distance: 239m North

Name: Tesco Express Filling Station, 196 Camden Road, NW1 9HG.
Process: Unloading of Petrol into Storage
Status: Historic
Permit Type: Part B
Distance: 247m South-West

Name: Tesco Stores Ltd, 196 Camden Road, NW1 9HG.
Process: Unloading of Petrol into Storage
Status: Current
Permit Type: Part B
Distance: 249m South-West

No Enforcement operations have been recorded at the above sites.

4.3 Sites Licensed for Radioactive Substances.

4.3.1 According to Environment Agency data there are no sites licensed by the Environment Agency for the storage and use of Radioactive Substances within 500m of the client site.

4.4 Licensed Discharge Consents.

4.4.1 There are no records of Licensed Discharge Consents within 500m of the site.

4.4.2 There are no records of Water Industry Referrals (Potentially harmful discharges to the public sewer) within 500m of the site.

4.5 Pollution Incidents.

4.5.1 According to Environment Agency records, there has been one Recorded Pollution Incidents within 500m of the client site;

Date: 20 July 2001
Incident No: 1790912
Pollutant: Atmospheric Pollutants & Effects
Description: Smoke
Water Impact: None
Land Impact: None
Air Impact: Minor
Distance: 343m South-West.

4.6 Current Industrial Land Use.

4.6.1 Section 4.1 of the Groundsure EnviroInsight Report lists 4 current potentially contaminative sites within 250m of the site. The data is summarised below.

Distance	Potentially Contaminative Activity
0-100m	Oil & Gas Extraction, Refinery & Product Manufacture, Fuel Distribution & Supply. (Appears to relate to Company Offices).
100-250m	Electricity Sub-Stations, Vehicle Repair, Testing & Servicing, Unspecified Works or Factories, Container & Storage, Petrol & Fuel Stations, Clearance & Salvage.

4.7 Fuel Sites.

4.7.1 There are two active fuel filling stations located within 500m of the client site.

Address: Camden Express, 196-206 Camden Road, NW1 9HG.
Company: Esso
Status: Open
Distance: 224m South-West

Address: Shell Camden Town, 109-113 York Way, N7 9QE.
Company: Shell
Status: Open
Distance: 258m East

4.7.2 There is one obsolete fuel site recorded within 500m of the client site;

Address: Fairways Garage, 139-143 Camden Road, NW1 9HA.
Company: Total.
Status: Obsolete.
Distance: 243m South-West

5. WALKOVER SURVEY.

5.1 General Site Description.

- 5.1.1 The site comprises a single-storey workshop building which is divided into two connected working areas with a small w/c towards the rear right hand corner.
- 5.1.2 The site is approximately flat, with a small step of around 200mm between the two workshop areas. There is a similar step down from pavement level into the main workshop.
- 5.1.3 The boundaries of the site are formed by the outer walls of the building.
- 5.1.4 The adjoining sites to the east, north and west are residential in nature.

5.2 Topography.

- 5.2.1 The site itself is approximately level with a small step down into the main workshop space.
- 5.2.2 There are no obvious valley bottoms or depressions that may have been filled during the past.
- 5.2.3 There are no indications of any excavations at the base of any sloping ground or significant amounts of overburden on sloping ground.
- 5.2.4 There are no significant retaining walls on site.
- 5.2.5 There are no signs of landslip on site.

5.3 Soils and Rocks.

- 5.3.1 There is no exposed topsoil on site due to the concrete floor slab of the building. However, some trial pits exposing the adjoining foundations have been excavated on the party walls. Most of the pits expose clay strata beneath the slab. The rear left hand corner of the site however does show an increased depth of made ground with some brick being exposed.
- 5.3.2 There is no evidence of peat or other highly compressible material at or immediately below the surface.
- 5.3.3 The exposed soils on site suggest that the underlying soils are likely to be susceptible to shrinkage/swelling due to moisture content variations.
- 5.3.4 There is no evidence of changes in soil type evident on site.

5.4 Visible Evidence of Contamination.

- 5.4.1 The site is a former garage workshop with an intact concrete floor with the exception of the recently excavated trial pits.
- 5.4.2 There are no areas of obviously discoloured ground, odours or discoloured liquid on site.
- 5.4.3 There are no natural bodies of surface water on the site.
- 5.4.4 Gas Protection Measures are not evident in or around the site.
- 5.4.5 A full asbestos survey has not been carried out as part of the desk study.
- 5.4.6 There are no Electricity Sub-Stations present on the site.
- 5.4.7 There is a small waste oil storage tank on the site.
- 5.4.8 There are no signs of fly-tipped material on site. Some scrap metal is present within the main workshop along with some drums of oil, paint and Sodium Hypochlorite (Bleach).

5.5 Vegetation.

- 5.5.1 There is no vegetation on site due to the concrete slab and building covering the whole of the site.
- 5.5.2 The boundaries of the site are formed by the outer building walls to the adjacent properties.
- 5.5.3 There is a tree visible to the rear of the site.
- 5.5.4 There is no evidence of trees being recently removed from the site.
- 5.5.5 There is no evidence of invasive plants such as Japanese Knot-weed or Himalayan Balsam within the site boundary.

5.6 Surface Water Bodies.

- 5.6.1 There are no water courses or natural bodies of water within the site.
- 5.6.2 There are no signs of flooding on site.
- 5.6.3 There is no evidence of reeds or other water loving plants.
- 5.6.4 There is no evidence of dis-coloured water within the site.

5.7 Groundwater.

- 5.7.1 There are no wells evident on site.
- 5.7.2 There are no groundwater seepages/springs evident on site.
- 5.7.3 There are no signs of water-logged topsoil on site.
- 5.7.4 Groundwater abstraction is not carried out on site.

5.8 Presence of Wildlife.

- 5.8.1 The site does not lie within an area of ecological importance e.g. SSSI or National Park.
- 5.8.2 There is no evidence of nesting birds within the site.
- 5.8.3 There are no obvious animal burrows present within the site.

5.9 Services.

- 5.9.1 A full survey of services has not been carried out as part of the walkover survey.
- 5.9.2 Rainwater down-pipes from the flat roof run inside the building and inspection chambers are present within the workshop floors.
- 5.9.3 Electricity supply enters the building to the right hand side of the door into the main workshop.

5.10 History of Use.

- 5.10.1 The site is a former vehicle repair garage and has been for some years.

5.11 Surrounding Area.

- 5.11.1 The site is adjoined by residential properties.
- 5.11.2 Approximate distance to nearest properties.

Industrial / Commercial:	Not immediately evident.
Residential:	Adjacent to east, north and west.

6. CONCEPTUAL MODEL.

6.1 Site Summary.

- 6.1.1 The Historical Record of the site shows the client site appears to have been first developed as a mews building for a large residential property which fronted onto Camden Road.
- 6.1.2 By 1934 the site had been split from the residential property and was operating as a Motor Vehicle Repair Workshop. The site appears to have continued as such until recently.
- 6.1.3 The property has remained essentially unchanged since the 1950s.
- 6.1.4 No further changes are identified on the Ordnance Surveys.
- 6.1.5 Prior to its development the site lay within a field boundary and area of pasture.
- 6.1.6 Within the vicinity of the site (0-500m) the following potential sources of contamination have been identified from the historical documentation; Motor Vehicle Repair Workshops, Coach Painters, Cattle Market, Railway (Lines, Station, Tunnels, Cattle Depot, Goods Yard), Organ Works, Printing Works, Warehouses, Depository, Garage, Filling Stations and Electricity Sub-Stations.
- 6.1.7 Of the above list the following potential sources of contamination Garages, Coach Painter and Warehouse have been identified within 100m of the site.
- 6.1.8 The site does not lie within an Environment Agency Flood Risk Area.
- 6.1.9 The site lies upon Bedrock Deposits of the London Clay Formation which are considered an Unproductive Strata by the Environment Agency due to their low permeability. As such the underlying strata are unlikely to form a migration pathway for the movement of contaminants to and from the site.
- 6.1.10 The site does not lie within a Groundwater Catchment Zone for a groundwater abstraction point.

6.2 Surrounding Area

- 6.2.1 The surrounding area is predominantly residential in nature.

6.3 Geology

- 6.3.1 The geological map of the area shows the client site to be located upon Bedrock Deposits of the London Clay Formation.

6.4 Hydrogeology

- 6.4.1 The London Clay Formation deposits are assessed to be of negligible permeability by the Environment Agency and as such are classified as an Unproductive Strata.
- 6.4.2 The site does not lie within a Groundwater Catchment Zone for an Abstraction Point.
- 6.4.3 Groundwater Vulnerability is classified as 'Non-Aquifer'.
- 6.4.4 The low permeability of the strata immediately underlying the site makes it unlikely that any potential contamination could migrate either onto or away from the site in large quantities.

6.5 Potential Sources of Contamination

The following is based on information from the desk study:

- 6.5.1 Potential sources of contamination which are/have been located in the vicinity of the site (0-500m) include; Motor Vehicle Repair Workshops, Coach Painters, Cattle Market, Railway (Lines, Station, Tunnels, Cattle Depot, Goods Yard), Organ Works, Printing Works, Warehouses, Depository, Garage, Filling Stations and Electricity Sub-Station.
- 6.5.2 The site originally lay within a field enclosure before the sites first development as part of the residential property 248 Camden Road (originally 73 Camden Road Villas) around 1850.
- 6.5.3 By 1934 the site had been split from the residential property and was operating as a Motor Vehicle Repair Workshop. The site appears to have continued as such until recently.
- 6.5.4 The lack of permeability of the underlying London Clay Formation strata is unlikely to allow the migration of contaminants through the natural near surface strata.

6.6 Potential Receptors

The following list of potential receptors are identified for the site

- Future users of site
- Groundworkers
- Adjacent Properties & Land (Residential)
- Vegetation
- Buildings and Materials
- Underlying Strata

6.7 Potential Pathways

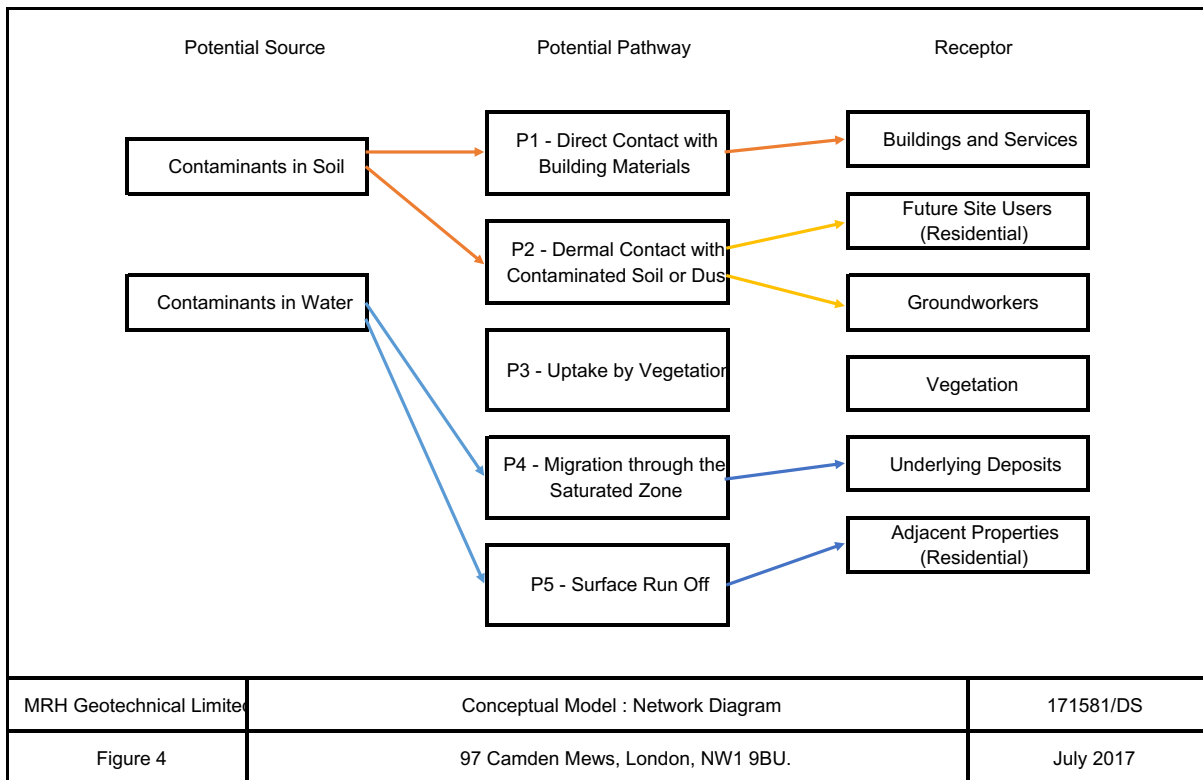
The following potential pathways are identified for the site,

- Direct contact (P1) – contaminant effect to building materials.
- Contact with soil or dust on the site (P2) – contaminants may be absorbed by dermal contact, or by inhalation of dust particles, by future site users and ground-workers.
- Uptake by Vegetation (P3) – there is no vegetation on site.
- Migration through the Saturated Zone (P4) – the site is located upon deposits identified as an Unproductive Strata i.e. rock layers or drift deposits with low permeability that have negligible significance for water supply or river base flow. Migration through the saturated zone of the natural strata is therefore unlikely.
- Surface Run Off (P5) – surface run-off of storm water containing potential soluble or mobile contaminants could affect adjacent sites.

6.8 Limitations and Uncertainties

The following limits and uncertainties apply to the conceptual model of the site,

- Actual presence, nature and extent of any contamination.
- Presence, thickness and permeability of any Made Ground.



7. RISK ASSESSMENT.

7.1 Contamination from 'On Site Sources'

- 7.1.1 The sites first significant recorded development is as the mews building for the residential property 248 Camden Road around 1850.
- 7.1.2 By 1934 the site had been split from the residential property and was operating as a Motor Repair Workshop.
- 7.1.3 The site remains essentially unchanged from the 1950s to the present day.
- 7.1.4 The underlying strata of the London Clay Formation are of negligible permeability and as such are unlikely to allow the migration of contaminants on to or away from the site through the near surface natural deposits.
- 7.1.5 The sites use as a Vehicle Repair Workshop is the primary potentially contaminative risk to the site.
- 7.1.6 A concrete floor slab covers the surface of the site and reduces the risk of contamination affecting the underlying strata.
- 7.1.7 Areas of Made Ground beneath the floor slab are more likely to accumulate contaminants. This includes the area of brick fill evident in the rear left hand corner of the site and areas of drainage runs. Drainage runs are also susceptible to the potential uncontrolled disposal of wastes.
- 7.1.8 There is considered to be a moderate risk of contamination on the site, due to the sites previous usage and history.

7.2 Contamination from Adjoining Sites

- 7.2.1 The site is bounded to the east, west and north by residential properties and by the pavement and roadway of Camden Mews to the south.
- 7.2.2 The underlying strata of the London Clay Formation are of negligible permeability and as such are unlikely to allow the large scale migration of contaminants on to or away from the site through the near surface natural deposits.
- 7.2.3 The nature of the adjoining sites is such that the presence and migration of significant amounts of contamination is unlikely.
- 7.2.4 The site is considered to be at low risk of contamination migrating on to the site from adjoining properties.

7.3 Contamination from the Surrounding Area

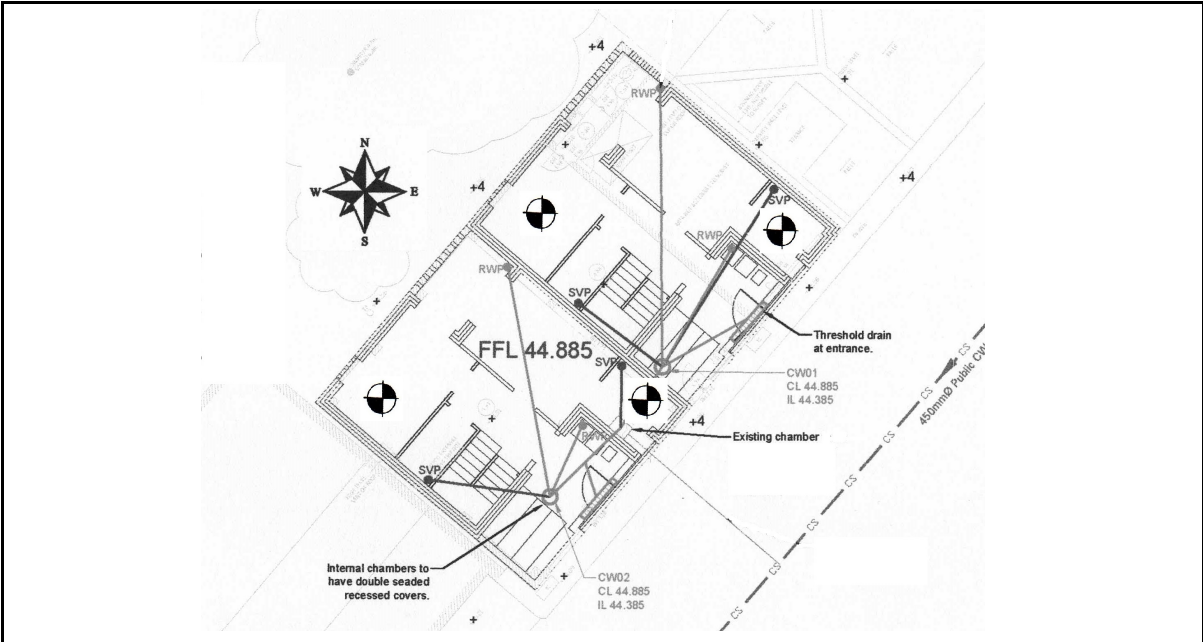
- 7.3.1 The historic data shows the area directly surrounding the site to the west and north was predominantly residential in nature.
- 7.3.2 Although operations such as Stables, Garages and a Coach Painter have been identified within 100m of the site, the underlying strata of the London Clay Formation are of negligible permeability and as such are unlikely to allow the significant migration of contaminants on to or away from the site through the near surface natural deposits.
- 7.3.3 The site is therefore considered to be at very low risk of contamination migrating on to the site from the surrounding area.

7.4 Conclusions

- 7.4.1 Overall the site is regarded as being of moderate risk in terms of contamination being present due almost exclusively to the sites previous usage as a Motor Vehicle Repair Workshop.
- 7.4.2 The underlying strata of the London Clay Formation are of negligible permeability and as such are unlikely to allow the migration of contaminants on to or away from the site through the near surface natural deposits.
- 7.4.3 Uncertainties always exist as to the *actual* presence of contamination in the vicinity of the site. This report highlights only the *potential* for contamination to be present, based on the data available at the time of research.
- 7.4.4 Although the proposed residential development does not include any garden areas or exposed soils the previous site usage as a garage does present a risk that hydrocarbon contamination could affect the underlying strata and as such water mains in particular could be at risk of permeation by hydrocarbons.
- 7.4.5 Some screening of soils (particularly any Made Ground) within the site is recommended with analysis including; a Metal Suite, Petroleum Hydrocarbons, Polycyclic Aromatic Hydrocarbons, pH and SO₄.

The Metal Suite would typically include analysis of the following elements (As,B,Cd,Cr,Cu,Ni,Pb,Hg,Se,Zn), the Hydrocarbon Suite should be split by Equivalent Carbon Weight and in to Aromatic and Aliphatic compounds. PAH analysis should be speciated.

- 7.4.6 Figure 5 shows the proposed locations for sampling on the site and samples of any Made Ground horizon and the underlying Natural Strata should be taken at each location.



MRH Geotechnical Limited	Proposed Sample Location Plan	171581/DS
Figure 5	97 Camden Mews, London, NW1 9BU.	July 2017

8. REFERENCES.

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- NHBC – Guidance for the Safe Development of Housing on Land Affected by Contamination. R&D Publication 66:2008
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