



Ashley House & Cannon Factory, Ashley Road South, Tottenham Hale, London

Remediation Strategy

May 2023

Waterman Infrastructure & Environment Limited

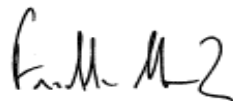
Pickfords Wharf, Clink Street, London, SE1 9DG
www.watermangroup.com

Client Name: Notting Hill Genesis
Document Reference: WIE16248-100-S-1-2-1-RMS
Project Number: WIE16248

Quality Assurance – Approval Status

This document has been prepared and checked in accordance with
Waterman Group's IMS (BS EN ISO 9001: 2015, BS EN ISO 14001: 2015 and BS EN ISO 45001: 2018)

Issue	Date	Prepared by	Checked and approved by
1-1-3	September 2022	Ben Greenfield Associate Director	Freddie Alcock Senior Associate
1-2-1	May 2023	Jon Coates Senior Consultant	Freddie Alcock Technical Director



Comments

Second Issue – Updated with findings of 2023 Ground Investigation

Disclaimer

This report has been prepared by Waterman Infrastructure & Environment Limited, with all reasonable skill, care and diligence within the terms of the Contract with the client, incorporation of our General Terms and Condition of Business and taking account of the resources devoted to us by agreement with the client.

We disclaim any responsibility to the client and others in respect of any matters outside the scope of the above.

This report is confidential to the client and we accept no responsibility of whatsoever nature to third parties to whom this report, or any part thereof, is made known. Any such party relies on the report at its own risk.

Contents

1.	Introduction	1
1.1	Objectives	1
1.2	Proposed Development	1
1.3	Development Constraints	2
1.4	Planning Context	2
2.	Environmental Site Setting	4
2.1	Ground Investigation Results	5
2.2	Conceptual Model	9
3.	Remediation Strategy	10
3.1	Site Clearance	10
3.1.1	Above Ground Structures	10
3.1.2	Below Ground Structures – Tanks and Associated Infrastructure	10
3.2	Remediation of TPH Contamination at Cannon Factory	11
3.2.1	Delineation Investigation	11
3.2.2	Source Removal	12
3.2.3	Watching Brief	12
3.3	Excavation	12
3.3.1	Formation Levels	12
3.3.2	Asbestos Containing Materials in Soils	13
3.3.3	Buried Services	13
3.3.4	Soil Treatment Process	13
3.4	Protection of Workers and the General Public	14
3.5	Materials Re-use	14
3.5.1	Reuse Protocols	14
3.6	Soils Chemical Criteria	15
3.6.1	Imported Materials	15
3.7	Cover Layer Thickness and Marker Layer	15
3.8	Waste	16
3.9	Stockpiles	16
3.10	Watching Brief and Discovery Strategy	16
3.11	Odour Management	17
3.12	Environmental Monitoring	17
3.13	Archaeology	17
3.14	Statutory Approvals	18
3.15	New Services	18

4. Groundwater	19
4.1 Groundwater in Excavations	19
4.2 Monitoring Well Decommissioning	19
5. Development Mitigation Measures	22
5.1 Piled Foundations	22
6. Verification Report	23

Figures

Figure 1: Location of Victoria Line	2
---	---

Tables

Table 1: Geological strata encountered – Cannon Factory	4
Table 2: Geological strata encountered – Ashley House	5
Table 3: Monitoring wells to decommission	19

Appendices

- A. Site Plans
- B. Imported Material
- C. Existing Monitoring Well Details – Borehole Logs

Contents

1. Introduction

1.1 Objectives

Notting Hill Genesis (the Client) instructed Waterman Infrastructure & Environment Limited (Waterman) to prepare a Remediation Strategy related to the redevelopment of Ashley House & Cannon Factory, Ashley Road South, Tottenham Hale, London.

A Site plan and Site location plan are included in Appendix A.

The Remediation Strategy's purpose is to set out the mitigation measures required to break the pollutant linkages, so post development there will be no valid pollutant linkages remaining.

This Remediation Strategy is supported by the following documents;

- Ashley House & Cannon Factory, Ashley Road South, Tottenham Hale, London. Supplementary Ground Investigation - Interpretive Report. Ref. WIE16248-100.R.3.1.2.SGI, May 2023, Waterman;
- Ashley House & Cannon Factory, Ashley Road South, Tottenham Hale, London. Factual and Interpretive Report on Ground Investigation. Ref. D8061-18, August 2019. Socotec UK Limited;
- Ashley Road Regeneration – Ashley Gardens. Preliminary Risk Assessment – Land Quality. Ref. 70022931-GB1, April 2017. WSP Parsons Brinckerhoff;
 - Land subject to report located off-site, immediately to the north;
- Ashley House, Tottenham Hale. Geo-Environmental Site Assessment. Ref. 27663 R01 (00), February 2015. RSK Environment Ltd;
- Cannon Factory, Ashley Road, Tottenham Hale, London N17 9LH. Environmental Site Assessment. Ref. 27782R01 (00), April 2015. RSK Environment Limited;

1.2 Proposed Development

The proposed Development aims to regenerate two existing brownfield sites in Tottenham Hale as three high quality, mixed use buildings.

The development will produce a new commercial and residential destination, which will provide more jobs and housing for locals and the wider community. The project looks to improve and increase the efficiency of the site by offering the following:

- 255 units for housing;
- 3,100 square metres of commercial space;
- 1,500 square metres of residential amenity space within the buildings;
- Childrens Play Space;
- 19 Car Parking Spaces.

The development comprises a total Residential NIA of 17,313m².

Both sites have an approximate plan area of 1.03 Hectares.

Building 2, adjacent to Down Lane Park to the west of the Ashley House Site, is four storeys above ground and includes commercial space at Ground Floor with three storeys of residential over.

Building 2A, between Building 2 and Ashley Road is between four and seven storeys above ground. The

Ground Floor includes commercial space, plant rooms, bin stores, bike stores and residential areas. Above ground floor the building is residential with a shared roof terrace and green/brown roof areas.

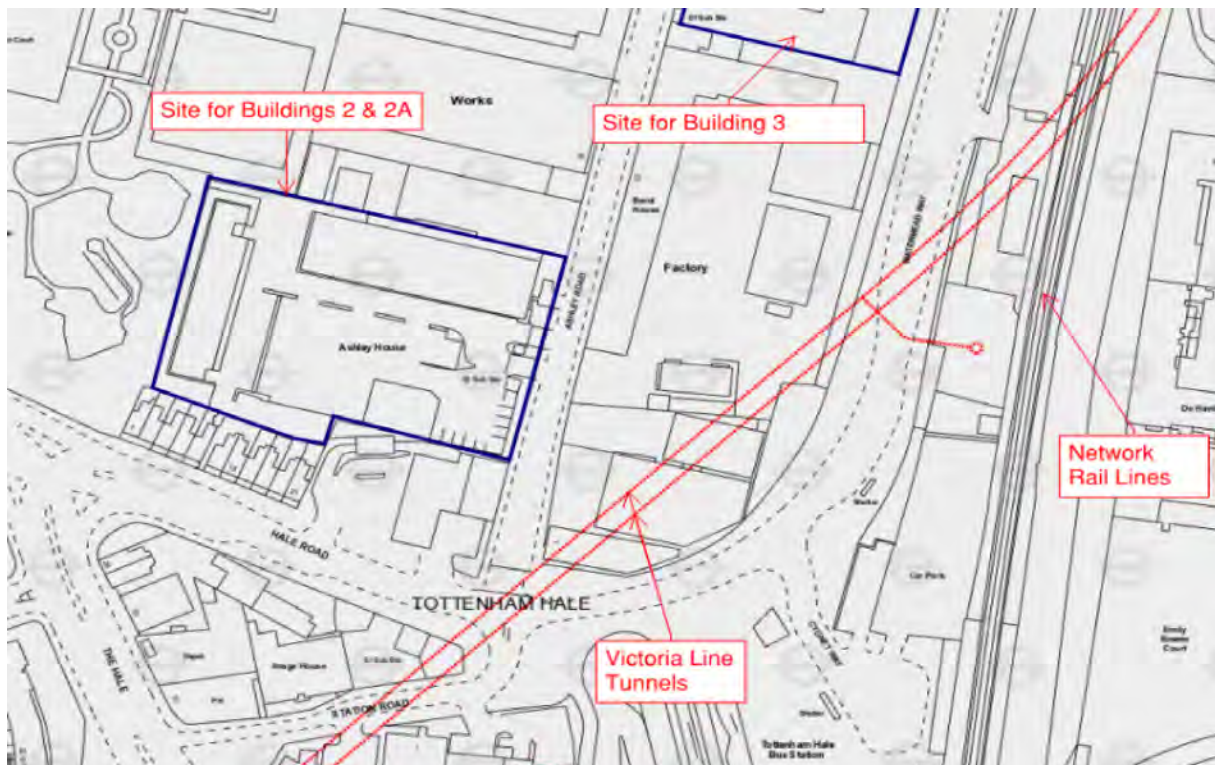
Building 3, located at the Cannon Factory Site is between nine and seventeen storeys above ground. The Ground Floor includes commercial space, plant rooms, bin stores, bike stores, car parking and residential entrances. The First Floor is primarily commercial space, with a shared external residential amenity space, including a children's play park. Above first floor the building is residential with a shared roof terrace and green/brown roof areas.

Proposed landscape parameters are presented in Appendix A.

1.3 Development Constraints

Development constraints identified include existing Thames Water Sewers on both the Ashley House and Cannon Factory Site, and the Victoria Line (below ground rail line) close to both land parcels (Figure 1).

Figure 1: Location of Victoria Line



1.4 Planning Context

Outline planning permission (ref. HGY/2016/4165) was granted May 2018 for demolition of the existing buildings at Ashley House and Cannon Factory and erection of three buildings to provide up to 3,600sqm of commercial floorspace (GEA) (Class A1/A3/B1/D1), up to 265 residential units (Class C3), new public realm, landscaped amenity space, car and cycle parking and all associated works. (Outline planning application).

Planning permission HGY/2016/4165 included the following contaminated land planning condition.

PRE COMMENCEMENT - Land Contamination – Part A and B Land Contamination – Part A and B

Before development commences other than for investigative work: Using the information from Chapter L of the Environmental Statement dated December 2016) a land contamination site investigation shall be designed for the site. This shall be submitted to, and approved in writing by the Local Planning Authority prior to that investigation being carried out on site.

The investigation must be comprehensive enough to enable:-

- 1. a risk assessment to be undertaken,*
- 2. refinement of the Conceptual Model, and*
- 3. the development of a Method Statement detailing the remediation requirements.*

The risk assessment and refined Conceptual Model shall be submitted, along with the site investigation report, to the Local Planning Authority.

B) If the updated risk assessment and refined Conceptual Model indicate any risk of harm, a Method Statement detailing the remediation requirements, using the information obtained from the site investigation and the potential effects set out in Section L5 of the Environmental Statement dated December 2016, and also detailing any post remedial monitoring shall be submitted to, and approved in writing by, the Local Planning Authority prior to that remediation being carried out on site.

This Remediation Strategy has been prepared to facilitate the discharge of Condition 25 Part B.

2. Environmental Site Setting

The two pieces of land (Ashley House, and Cannon Factory) are located 200 – 250m north/north west of Tottenham Hale Railway Station at National grid reference (TQ344987).

The Ashley House Site is generally level at 9.0mAOD and is occupied by a two-storey building along the western boundary, warehouse along the northern boundary, and the remainder of the land used as a yard. The Site is currently vacant. Previous walkovers reported two underground diesel tanks, a fuel pump, an effluent tank, waste oil tank, and an electrical sub-station at the Site.

Historically the Ashley House Site was a farm between 1850 – 1898 prior to becoming occupied by multiple factories in 1913 (braid and bootlace factory, woollen factory, and a pencil factory). In 1936 the Ashley House Site was occupied by a printing ink and varnish factory which included various tanks chimneys and a water-cooling tower. From 1972 to present there has been little change to the Site layout.

The Cannon Factory Site is generally level at 8.80mAOD and is occupied by a two-storey building along the western boundary, adjoining warehouses along the northern and eastern boundaries, and the remainder of the Site surfaced with hardstanding. The Site is currently vacant. A small electrical sub-station is present in the south-west.

The Cannon Factory Site was undeveloped until the 1940's when warehouses and a rubber factory occupied the site. From 1970 to present partial redevelopment to the large warehouse in the northern Site portion has occurred.

The general geological strata encountered at the Ashley House and Cannon Factory Sites are summarised in Tables 1 and 2.

Table 1: Geological strata encountered – Cannon Factory

Soil Type	Thickness (m)	Typical Description
Hardstanding	0.13 – 0.30	Reinforced concrete with medium gravel inclusions of quartzite
Made Ground	0.25 – 2.17	Sand and gravel of varying proportions. With quartzite, brick, and concrete. Locally silty and clayey.
Enfield Silt Member	0.60 – 1.60	Sandy gravelly silt and/or clay.
Kempton Park Gravel Member	3.20 – 4.60	Sand and gravel of varying proportions. Locally silty and clayey.
London Clay Formation	15.80 – 16.30	Grey and dark brown CLAY

Hardstanding covers about 20% of the Cannon Factory Site, with the rest of the Site occupied by a two-storey office building along the western boundary, adjoining warehouses along the northern and eastern boundaries.

Table 2: Geological strata encountered – Ashley House

Soil Type	Thickness (m)	Typical Description
Hardstanding	0.20 – 0.24	Reinforced concrete with medium gravel inclusions of quartzite
Made Ground	0.46 - 2.27 (where proven)	Gravelly sand. With quartzite, brick, and concrete. Locally silty and clayey.
Enfield Silt Member	Absent to 1.27	Sandy silt and/or clay. Locally gravelly.
Kempton Park Gravel Member	1.14 – 3.50	Sand and gravel of varying proportions. Locally clayey.
London Clay Formation	15.00	Grey and dark brown CLAY

Hardstanding covers about 60% of the Ashley House Site with the remaining areas occupied by a two-storey office building along the western boundary and warehouse along the northern boundary. Perimeter planting is present around the east and south of the two-storey office building and numerous raised planter beds are present in the central portion of the Site.

Made Ground is a non-aquifer. The Enfield Silt Member is classified as Unproductive Strata and the Kempton Park Gravel Member is a Secondary A Aquifer. The London Clay Formation is Unproductive Strata. The London Clay Formation is underlain by the Lambeth Group Secondary A Aquifer, the Thanet Formation Secondary A Aquifer, then the Chalk Group Principal Aquifer.

The Site is within a groundwater Source Protection Zone II. It is understood this relates to abstractions to the aquifer underlying the London Clay Formation (most likely the Chalk Group Principal Aquifer at depth). The London Clay Formation and cohesive upper horizons of the Lambeth Group are of sufficient thickness to be an aquiclude preventing the migration to the underlying sensitive aquifers.

Surface water receptors include the Pymmes Brook some 300m east and the River Lea Navigation beyond this. The River Lea Navigation is canalised. Surface water or groundwater abstractions are absent within 500m of the Site. Given the distance to Pymmes Brook and the intervening industrial and commercial land uses it is unlikely to be a sensitive receptor with any impact unlikely to be directly attributable to the Site.

Landfills are absent within 250m of the Site, with the closest being recorded 465m north.

2.1 Ground Investigation Results

Recorded visual and olfactory evidence of contamination

Ground investigations completed by RSK (2015), Socotec (2019), and Waterman (2023) recorded visual and olfactory evidence of contamination in both the Ashley House and Cannon Factory Sites.

Cannon Factory

- Potential asbestos containing materials in Made Ground in PH3 at 0.90 m bgl;
- Potential asbestos containing materials in Made Ground in PH3a at 0.15 m bgl;
- Asbestos cement embedded within the base of the buried concrete slab 0.40m bgl and asbestos cement fragments in Made Ground 0.40 to 0.60m bgl in WTP01;

- Chrysotile cement-board in the Made Ground in PH1 at 0.80m bgl;
- Moderate to strong hydrocarbon odours in Made Ground and Kempton Park Gravel Member in BH02 at 0.80 to 4.50 m bgl, and weak hydrocarbon odour in Kempton Park Gravel Member 4.50 to 6.80m bgl;
- Black staining adjacent to electricity substation in SW part of the Site;
- Moderate hydrocarbon odour in WWS02 at 2.20 to 3.00m bgl, and dark grey staining 2.80 to 3.00m bgl;
- Moderate hydrocarbon odour with dark grey staining in WWS10 at 2.10 to 2.40m bgl and 3.70 to 4.00m bgl;
- Moderate hydrocarbon odour in WWS11 at 2.30 to 2.60m bgl;
- Localised areas of multicoloured clay in WTP11 at 0.55m bgl.

Ashley House

- Fibrous material (possibly asbestos) in Made Ground at 1.00m bgl;
- Slight hydrocarbon odour in Made Ground in WWS09 at 1.30 to 1.50m bgl;
- Moderate hydrocarbon odour in Made Ground in WTP04 at 0.60 to 1.80m bgl;
- Hydrocarbon odour in Made Ground in PH1a at 0.65 to 2.90 m bgl;
- Black staining and oil in Made Ground in WS101 at 1.20 to 1.80m bgl;
- Black staining and strong odour in Made Ground in WS102 at 0.80 to 1.00m bgl;
- Strong hydrocarbon odour in the Kempton Park Gravel Member in WS103 at 2.50 to 3.10m bgl;
- Slight hydrocarbon odour in the Kempton Park Gravel Member in WS105 at 3.00 to 4.00m bgl;
- Slight organic odour in the Kempton Park Gravel Member in WS107 at 3.00 to 4.00m bgl;
- Slight organic/hydrocarbon odour in the Kempton Park Gravel Member WS109 at 3.20 to 4.00m bgl.

Soils Chemical Analysis

Soil samples from the RSK, Socotec, and Waterman investigations have been analysed for metals, BTEX (benzene, ethyl benzene, toluene, xylene), TPH-CWG (C5-44) (petroleum hydrocarbons), asbestos (ID and quantification), Volatile Organic Compounds (VOC), Semi-Volatile Organic Compounds (SVOCs), polychlorinated biphenyls (PCBs), and cyanides.

The soil laboratory results were assessed against Generic Assessment Criteria (GAC) relevant for a residential land use without plant uptake (1% Soil Organic Matter (SOM) content). The assessments have identified several contaminants in exceedance of the GAC. Summaries of contaminant exceedances are presented below.

Cannon Factory

- Metals – isolated exceedances of lead in Made Ground;
- PAHs – isolated exceedances of dibenzo(a,h)anthracene in Made Ground;
- TPHs – several exceedances of TPH Aromatic C21-35 in the Kempton Park Gravel Member;
- Asbestos fragments and fibres in Made Ground.

Ashley House

- Metals – isolated exceedances of arsenic and nickel, and several exceedances of lead in Made Ground;
- PAHs – several exceedances of dibenzo(a,h)anthracene, benzo(a)anthracene, benzo(a)pyrene, and benzo(b)fluoranthene and isolated exceedances of naphthalene in Made Ground;
- TPHs – isolated exceedances of TPH Aliphatic C10-12 and C12-16, and TPH Aromatic C10-12, C12-16, C16-21, and C21-C35 in Made Ground and isolated exceedances of TPH Aliphatic C10-C12, and C12-16 in the Kempton Park Gravel Member;
- VOC - an isolated marginal exceedance of trichloroethene in Made Ground;
- Asbestos fragments and fibres in Made Ground.

Groundwater

Levels and Flow Direction

Monitored groundwater levels in the Kempton Park Gravel Member at Cannon Factory ranged from 2.43m bgl (BH02) to 2.80m bgl (WWS03). Groundwater elevations ranged from 6.19m AOD (BH01) to 6.49m AOD (WWS10).

Monitored groundwater levels in the Kempton Park Gravel Member Ashley House ranged from 2.52m bgl (BH103) to 2.78m bgl (WS101). Groundwater elevations ranged from 6.36m AOD (WWS06) to 6.62m AOD (WS109).

Groundwater elevation contour plotting indicates groundwater at the Cannon Factory and Ashley House Sites is flowing east to west.

Chemical Analysis

Groundwater chemical analysis was screened against Environmental Quality Standards (EQS) for freshwater. Isolated exceedances of metals (dissolved chromium and dissolved lead) and speciated PAHs (anthracene and fluoranthene) were recorded at the Cannon Factory Site and exceedances of several PAHs (anthracene, fluoranthene, benzo(a)pyrene, benzo(b)fluoranthene, and benzo(k)fluoranthene) were reported at the Ashley House Site. These exceedances were concluded to be a low risk to controlled waters.

TPH Contamination at Cannon Factory

Elevated concentrations of TPH were reported in groundwater samples from WWS02 and WWS10 in the east of the Cannon Factory Site. Reported concentrations of total TPH-CWG (C5-44) in these samples were 25mg/l and 160mg/l respectively. Furthermore, hydrocarbon odours and dark staining were identified in the groundwater smear zone in WWS02, WWS10, and WWS11. TPH-CWG (C5-44) analysis of soils in the groundwater smear zone in WWS02, WWS10, WWS11, and WTP03, reported concentrations of between 9,800mg/kg (WWS11 at 3.00m bgl) to 15,300mg/kg (WWS02 at 2.80m bgl).

Most of the TPH in soils was reported in aliphatic carbon bands, mainly in aliphatic carbon bands C21-35. All of the TPH in groundwater sampled from WWS02 and WWS10 was reported in aliphatic carbon bands, mostly in carbon bands C21-35. Laboratory interpretation suggested the TPH is from lubricating oil.

Chemical analysis of groundwater at BH02 and BH01 downgradient of these locations indicates significant migration of the TPH contamination is not occurring. BH02 is about 12m west of WWS02. Both BH01 and BH02 reported total TPH-CWG (C5-44) below the laboratory limit of detection (<10ug/l (0.01mg/l)).

Detailed assessment of the contamination also does not indicate significant impact at a 50m compliance point. The TPH contamination present is known to have very low mobility.

The apparent absence of current potential sources of the TPH, such as tanks or gross contamination in soils overlying the Kempton Park Gravel Member, indicates the contamination is from a historic source, potentially relating to the Site's former use for rubber manufacturing around the mid-1900s. Furthermore, potential small tanks are indicated in the north-east of the Site on historical mapping of 1961 and 1977.

Whilst no obvious L-NAPL was recorded in groundwater during monitoring, the concentrations of TPH in the groundwater along with staining and TPH reported in the smear zone indicate hydrocarbon contamination may be present. Although assessment of the contamination in the context of the site model confirmed the contamination does not pose a risk to controlled water receptors remedial measures are proposed to achieve a betterment of the subsurface site condition.

TPH Contamination at Ashley House

A localised elevated concentration of total TPH-CWG (C5-44) was reported in groundwater sampled from WWS06. All of the TPH (4mg/l) in was reported in aliphatic carbon bands and most of the TPH (3.1mg/l) was reported in carbon bands C21-35. The TPH contamination present is known to have very low mobility and analysis of groundwater for electron acceptors and metabolic by-products indicates biodegradation is taking place. Furthermore, detailed assessment of the contamination also does not indicate significant impact at a 50m compliance point.

The localised nature of the contamination was further demonstrated by a second round of groundwater analysis which reported TPH-CWG (C5-44) as below the laboratory limit of detection (<10ug/l (0.01mg/l)).

The risk to controlled waters from the TPH contamination in WWS06 is demonstrated as low and remedial measures are not required.

The sensitive Secondary A Aquifers in the Lambeth Group and Thanet Sands, and the Principal Aquifer in the Chalk Formation are protected from the vertical migration of contaminants by the London Clay Formation which forms an aquiclude.

Ground Gas

A detailed ground gas assessment presented in the Waterman Supplementary Ground Investigation – Interpretive Report (Ref. WIE16248-100.R.3.1.2.SGI) concluded that a significant ground gas regime is not present at the Cannon Factory and Ashley House Sites and ground gas protection measures are not required.

Vapour

A significant vapour regime has not been identified at the Cannon Factory and Ashley House Sites and vapour protection measures would not be required in built structures.

2.2 Conceptual Model

Pollutant linkages which require breaking through application of remedial/mitigation measures based on the results of the previous ground investigations include the following;

- In areas of soft landscaping a risk to future Site users exists due to elevated contaminants and asbestos within the Made Ground. A clean cover system is required in all areas of soft landscaping of sufficient thickness and quality to prevent future Site users coming into direct contact with these soils and thereby breaking the pollutant linkage;
- Elevated TPH in the groundwater and smear zone of the Kempton Park Gravel Member in the east of the Cannon Factory Site will be removed to create betterment of subsurface conditions;
- Underground diesel tanks and fuel lines that remain in-situ at the Ashley House Site are an existing potential source of contamination to shallow groundwater and vapours to future Site users. Therefore, these require decommissioning and removal;
- Due to the elevated contaminants and asbestos recorded on-site a risk to surrounding human health receptors exists where the contaminants become mobile during construction works. To mitigate the risk dust suppression methods and appropriate stockpile management will be required throughout construction to minimise dust creation and migration;
- Construction workers should wear the appropriate Personal Protective Equipment (PPE) to the contaminants recorded, adhere to good hygiene and safety measures, confined space regulations 1997, and the Control of Asbestos Regulations 2012;
- Barrier supply pipes should be used for the installation of all new potable water supply pipes.

3. Remediation Strategy

This Remediation Strategy sets out mitigation measures required to ensure the contaminant linkages identified in the Conceptual Site Model are broken and a risk to receptors post Development completion is not present.

3.1 Site Clearance

3.1.1 Above Ground Structures

The Contractor will demolish all existing above ground structures including foundations, and associated services. Prior to demolition the Contractor will undertake a Refurbishment and Demolition Survey (in accordance with CAR 2012) to identify all asbestos containing materials (ACMs). Where ACMs are present within the buildings the Contractor will remove dispose of them to a suitably licensed facility.

3.1.2 Below Ground Structures – Tanks and Associated Infrastructure

Ashley House

The Ashley House Site includes two below ground diesel tanks and associated fuel lines, fill points, and a nearby oil water interceptor. The approximate location of the fuel tanks, fuel lines, fill points, and oil water interceptor is presented in Appendix A. Historical above ground tanks were also present at the Ashley House Site. A plan showing their approximate locations is presented in Appendix A.

The below ground tanks on the Ashley House Site will be decommissioned and removed. Prior to their removal they will be investigated for the presence of liquids prior to disturbance. Any liquids will be appropriately pumped out prior to removal of the infrastructure or disposed to an appropriately permitted facility.

Post tank and cradle structure removal the excavation sides and base will be reviewed, and any gross hydrocarbon contamination¹ encountered chased out.

Photographs demonstrating the tank sides and base are free of evidence of gross hydrocarbon contamination and confirmation that the contamination has been removed will be included in the Verification Report.

Fuel lines and other infrastructure associated with the below ground fuel tanks will be decommissioned, with all liquids removed prior to removal. Following removal of the fuel lines and associated infrastructure the excavation sides and base should be reviewed, and any visual evidence of gross hydrocarbon contamination encountered chased out.

Photographs demonstrating the excavation sides and base are free of evidence of gross hydrocarbon contamination and confirmation that the contamination has been removed will be included in the Verification Report.

The excavation and removal of tanks and associated infrastructure should be supervised by an appropriately qualified independent environmental consultant.

Brick, concrete, and metal obstructions will be removed to a depth agreed prior to commencement of the works. Obstructions left in the ground greater than this depth will be surveyed to National Grid co-ordinates and reduced levels recorded and the information presented in the Verification Report.

The approach detailed above will also apply to any other below ground tank infrastructure (including any

¹ For the Purpose of this Remediation Strategy, gross contamination is defined as soils containing hydrocarbon sheens/abundant oily residue within the soil matrix and/or a free draining hydrocarbon liquid phase.

bulk storage tanks and oil water interceptors) encountered during enabling works.

Cannon Factory

Below ground tanks have not been identified on the Cannon Factory, however potential remains for them to be present along with associated infrastructure (i.e., slabs and cradles) given the Site's former use. The approximate location of a historical potential tank in the east of the Cannon Factory Site is presented in Appendix A.

Any below ground tank infrastructure (including any bulk storage tanks and oil water interceptors) encountered during enabling works will be investigated for the presence of liquids prior to disturbance. Any residual liquids will be pumped out prior to removal of the infrastructure or disposed of at an appropriately permitted facility.

Post tank and associated infrastructure removal the excavation sides and base will be reviewed, and any gross hydrocarbon contamination encountered chased out. Photographs demonstrating the tank sides and base are free of evidence of gross hydrocarbon contamination and confirmation that the contamination has been removed will be included in the Verification Report.

Fuel lines and other infrastructure associated with the below ground fuel tanks will be decommissioned, with all liquids removed prior to removal. Following removal of the fuel lines and associated infrastructure the excavation sides and base should be reviewed, and any visual evidence of gross hydrocarbon contamination encountered chased out. Photographs demonstrating the excavation sides and base are free of evidence of gross hydrocarbon contamination and confirmation that the contamination has been removed will be included in the Verification Report.

The excavation and removal of tanks and associated infrastructure should be supervised by an appropriately qualified independent environmental consultant.

Brick, concrete, and metal obstructions will be removed to a depth agreed prior to commencement of the works. Obstructions left in the ground greater than this depth will be surveyed to National Grid co-ordinates and reduced levels recorded and the information presented in the Verification Report.

3.2 Remediation of TPH Contamination at Cannon Factory

TPH contamination has been identified in the groundwater smear zone and groundwater of the Kempton Park Gravel Member in the east of the Cannon Factory Site. Remedial measures are required to remove the source of contamination and create betterment of subsurface conditions.

3.2.1 Delineation Investigation

Delineation of the impacted area is required in the first instance to inform the programme, any temporary works, phasing, and potential treatment and/or disposal options.

Following demolition of above ground structures, trial pits will be completed on a 10m x 10m grid across the TPH remediation area (see Figure 9 in Appendix A). Each trial pit will extend until groundwater is encountered in the Kempton Park Gravel Member (about 2.5 – 3.0m bgl) and will record visual and olfactory evidence of contamination encountered during advancement of each trial pit. The observations made will be used in combination with existing ground investigation records to determine the impacted area requiring excavation.

3.2.2 Source Removal

Following delineation of the impacted area, works will progress to remove impacted soils in the smear zone of the Kempton Park Gravel Member Secondary A Aquifer.

Excavations will advance down to the top of groundwater level in the Kempton Park Gravel Member (about 2.5 – 3.0m bgl). Soils in the groundwater smear zone exhibiting dark staining, hydrocarbon sheens, and/or an oily residue will be excavated.

Validation criteria at the sides and base of the excavation are not proposed as the detailed assessment confirmed the contamination is not causing a risk to off-site groundwater receptors therefore criteria generated using RTM would very likely confirm that soil with high concentrations of contamination would be permissible, thereby contradicting the betterment goal. Although validation criteria will not be determined the base and sides of the excavation will be sampled and tested for TPH-CWG C5 to C44 and BTEX.

The base of the excavation will be sampled on a 5m grid while sides will be sampled every 5 liner meters. The results of analysis will demonstrate considerable betterment has been achieved. Should the results indicate that considerable hydrocarbon contamination remains such that genuine betterment was not achieved additional material will be removed.

Soils excavated from the smear zone will be replaced with WRAP compliant aggregate (either imported or site-won) that complies with criteria set out in Section 3.6 (for site-won) or Section 3.7 (for imported). Alternatively, the excavation will be backfilled with primary aggregate that complies with criteria set out in Section 3.7.

There is potential for treatment of TPH contaminated excavation arisings to render them chemically/geotechnically suitable for reuse. However, this will be subject to feasibility assessment based on space, programme, and logistical considerations in due course.

3.2.3 Watching Brief

A contamination watching brief will be maintained during the works in accordance with Section 3.11, which details the approach for dealing with previously unidentified or unforeseen contamination.

Should any tank related infrastructure be encountered during the TPH remediation work, this will be dealt with in accordance with Section 3.1.2.

3.3 Excavation

3.3.1 Formation Levels

The Contractor will excavate the Site to the formation levels agreed prior to the commencement of the development works.

The excavation of material will be undertaken in a controlled and phased manner, to ensure contamination where encountered is contained.

If there is a considerable period of time before the follow-on development starts, control measures will be placed to protect against dust generation and deterioration of the formation surface.

3.3.2 Asbestos Containing Materials in Soils

The ground investigation has recorded asbestos fibres in the Made Ground across the Cannon Factory and Ashley House Site. Fragments of ACMs have also been observed in Made Ground. Plans showing locations where visual evidence of ACMs was recorded is presented in Appendix A.

Where identifiable bulk ACM material is encountered the Contractor will remove and dispose of these materials in accordance with CAR 2012, including the completion of an Asbestos Plan of Work. Where the removal of asbestos falls under licensable work the Contractor will ensure licensed asbestos contractors are employed to supervise/remove the ACM.

The Contractor will employ the appropriate mitigation and protection measures during removal and disposal of ACM to ensure asbestos fibres are not liberated from the material, construction workers removing the asbestos fibres are protected and members of the public are protected. It will be the Contractors responsibility to ensure suitable mitigation and protective measures are employed. These will be detailed in an Asbestos Plan of Work.

3.3.3 Buried Services

The Contractor will remove redundant services not required in the proposed Development. The Contractor will ensure services are disconnected by the relevant company/authority prior to removal. The redundant services will be capped at the Site boundaries. The cap installed will prevent the service runs becoming preferential pathways for the migration of contaminants.

The services due to be retained in the proposed Development will be protected by the Contractor throughout the duration of their works to ensure they remain usable post remediation.

Where services are encountered during the works which are not recorded on the service plans the Contractor will inform the wider project team who with the Contractor will determine whether the service is to be protected and retained or can be removed and capped at the Site boundaries.

3.3.4 Soil Treatment Process

Soil remediation will primarily comprise the provision of clean cover layers in areas of soft landscaping and the use of hardstanding to break the direct contact pollutant linkage. Therefore, the anticipated soil treatment activities will likely be restricted to the processing of excavated material generated during the required earthworks, or through the excavation/remediation of contamination hotspots encountered during the enabling works.

Anticipated soil treatments are likely to comprise the following;

- Careful segregation at the point of the excavation into the different material types including geotechnical and chemical properties;
- The excavation and removal of encountered contamination hotspots;
- Where possible concrete and brick will be recovered and crushed to generate a potential geotechnical fill material for re-use on-site. The use of crushers or screeners would be subject to the relevant permits. The production of secondary aggregates will be through an environmental permit or in accordance with the WRAP Quality protocol for the production of aggregates from inert waste.

ACMs were encountered during the ground investigations completed on both sites. Therefore, visible ACMs should be removed and disposed of at an appropriately permitted facility prior to processing and

re-use of site-won soils and aggregates.

A proportion of excavated material may require disposal off-site due to its geotechnical unsuitability and/or presence of contamination. As much material as possible will be sent to a reclamation/recycling centre to maximise the sustainable off-site re-use of material. Where necessary the material due to be disposed off-site should be subject to segregation/screening/processing to reduce the quantum of mixed wastes.

3.4 Protection of Workers and the General Public

The health and safety of all construction workers will be managed appropriately during the works providing appropriate welfare facilities, decontamination facilities and personal protective equipment (PPE) and respiratory protective equipment (RPE) commensurate with the contaminants present on the Site and the activities being undertaken.

During construction the Contractor will undertake all required and appropriate protective and mitigation measures to reduce the risk to construction workers from asbestos within the soil matrix. This will include but not limited to an Asbestos Risk Assessment and Plan of Work in accordance with the Control of Asbestos Regulations 2012 (CAR 2012).

Appropriate mitigation measures and segregation of the works (including hoardings, damping down, odour suppression and road sweeping) will be undertaken to ensure the general public are protected throughout the duration of the works. The details of the dust suppression methodologies employed will be set out in an associated Construction Environmental Management Plan (CEMP).

3.5 Materials Re-use

3.5.1 Reuse Protocols

The Contractor will where possible reuse excavated soils providing, they are chemically and geotechnically suitable for their intended location. The Contractor will be responsible for determining the most appropriate framework through which the soils are re-used.

This may include the CL:AIRE document The Definition of Waste Code of Practice (DoWCoP) and/or an appropriate waste exemption will be registered such as a U1 waste exemption: use of waste in construction.

Where the DoWCoP route is followed the Contractor will prepare a Materials Management Plan (MMP) which will collate all the relevant information to demonstrate the soils are not waste (quantities, quality, and certainty of use) and will include details of the tracking system, contingency, and verification requirements. The MMP will also state what works are due to be undertaken, how they have been assessed and who will be carrying them out. The MMP will be signed off by a Qualified Person (QP) who is not part of the design team.

Should reuse of soils under a U1 waste exemption be proposed, the exemption will be registered online with the Environment Agency. A U1 waste exemption allows for up to 1,000 tonnes of non-hazardous soils and stones to be reused.

Secondary aggregates generated on-site for reuse will be either:

- Shown to have been produced in accordance with the WRAP Quality Protocol for the production of aggregates from inert waste and confirmed free of visual and olfactory evidence of contamination,

including (but not limited to) the visual presence of asbestos containing materials, bituminous materials containing coal-tar, and hydrocarbon staining and odours;

- Re-used under a U1 waste exemption: use of waste in construction, allowing up to 5,000 tonnes of non-hazardous concrete, bricks, tiles and ceramics or a mixture of these.

3.6 Soils Chemical Criteria

3.6.1 Imported Materials

Soil imported onto Site will comply with the requirement set out in Appendix B.

Supplier certificates will be obtained prior to delivery of each material to confirm they are suitable for use. Samples will also be submitted for chemical analysis following delivery to Site to confirm absence of cross contamination.

Material imported for use on-site will either be used in the Cover Layer or as General Fill including below hardstanding, roads, or buildings.

Imported material will also be subject the following limitations;

- Free of visual/olfactory evidence of contamination (oil staining or odours, discolouration of soil, free product);
- Free of visually identifiable ACM such as chrysotile cement sheets; and
- Free of vegetation.

For cover Layer material, a minimum of three samples will be submitted for analysis to confirm its suitability. Samples shall be submitted for the chemical analysis listed in Appendix B and will comply with the listed limits. If the volume exceeds 750m³, samples at a rate of one sample per 250m³ over and above 750m³ should be submitted to confirm suitability.

Prior to use the soil will be assessed to ensure it is a suitable growing medium, free from obvious contamination, is not odorous, is free from invasive species such as Japanese Knotweed, or Giant Hogweed, has no obvious signs of asbestos containing material, and is free from of vegetation.

Material used within the cover layer must also meet the following requirements in soft landscaping areas;

- BS3882 (2015) – Specification for topsoil and requirements for use, and BS8601 (2013) – Specification for subsoil and requirements for use; and
- Requirements of the landscape specification.

Material imported as general fill will either be from a natural source such as a quarry, or a recycled aggregate product (such as WRAP Quality Protocol aggregate). Where primary aggregates are imported, testing will not be required if certificates are provided which prove the material's source.

Where a WRAP Quality Protocol aggregate is imported it will be tested in accordance with the requirements is Appendix B. A minimum of three samples will be tested will be submitted for analysis per source of material, where the volume imported is greater than 750m³ one sample per 250m³ will be tested.

3.7 Cover Layer Thickness and Marker Layer

The proposed Development will comprise communal residential multi-storey blocks surrounded by

communal soft landscaping. Areas of soft landscaping will require a cover layer 0.6m minimum thickness. The Cover Layer will be underlain by a coloured marker layer (Netlon or equivalent product) demarcating where the cover layer ends and Made Ground/natural material begins.

The cover layer thickness will be confirmed through photographs taken alongside a scale to demonstrate it has met the minimum thickness required, in addition to evidence the marker layer had been installed.

3.8 Waste

Waste soils requiring removal off-site, will be subject to waste classification analysis to confirm the materials correct waste classification, and identify a suitable licensed facility to accept the waste. Copies of all relevant licenses for the disposal/treatment site will be provided and retained.

A Site Waste Management Plan (SWMP) will be prepared covering the management of excavated material and their removal off-site.

Full records of the material quantities disposed off-site and the receiving facilities licenses will be retained by the Contractor, in addition to the consignment notes.

3.9 Stockpiles

The generation of stockpiles of excavated material will be minimised as far as is reasonably practical. Any soils stockpiled on-site will be managed in a controlled manner, with different material types segregated and clearly labelled. Each stockpile will be identified according to assumed or confirmed categorisation, source, type, and deposition date, and details of any chemical analysis. A tracking system that can readily interrogate and issue output information is expected to be used.

Stockpiles will be physically separated to avoid cross contamination and temporary road access provided for placement and loading. Stockpiles of material which is unsuitable for re-use on-site or materials with visual or olfactory evidence of contamination will be positioned on impervious surfaces/membrane to collect drainage and prevent loss of entrained water and leachate to ground.

Mitigation measures will be employed to minimise wind whip from stockpiled materials. The Contractor will determine the methods for appropriate handling and storage of materials which may include damping down and covering of stockpiles.

3.10 Watching Brief and Discovery Strategy

For the duration of the work the Contractor will maintain a watching brief and discovery strategy. The purpose of the watching brief will be twofold:

- To identify visual/olfactory evidence of gross contamination¹, and to ensure appropriate controls and mitigation measures are actioned; and
- To assist material management, segregating material at the point of excavation by its geotechnical/chemical properties.

The watching brief will include the following actions:

- The Site manager (provided by the Contractor) will have overall responsibility for delivering the watching brief and will be responsible for notifying the geo-environmental specialist;
- The Contractor will prepare inductions, risk assessments, method statements, CEMP and toolbox talks taking account of this Remediation Strategy;

- All staff should have a general asbestos in soils awareness training which will include what has previously been found on-site and what might be encountered during the works;
- The toolbox talks on-site should include a specific section on ground contamination including the findings of the ground investigation undertaken previously on-site. All staff should be aware of the possible actions to take should potential contamination be identified.

Unforeseen Contamination

Where unforeseen contamination or unexpected ground conditions² are encountered it shall be reported immediately, and the working methods and control measures reviewed. As required alternative methods of working will be reported to the regulatory authorities for approval.

If unforeseen contamination including gross visual or olfactory contamination is encountered the following steps should be taken:

- Works should cease in the affected area and cordoned off;
- A specialist should be consulted, who will advise on the next steps specific to the contamination encountered and prepare a method statement detailing these measures. The details of the additional remedial measures where required will be shared and agreed with the regulatory authorities prior to implementation;
- Soils should be sampled either in-situ (and left undisturbed whilst the samples are tested) or if safe to do so the soils should be excavated and stockpiled separately in an appropriate manner;
- Measures should be taken to restrict dust generation and surface water run-off;
- On receipt of the results, if deemed necessary the soils should be remediated and/or disposed off-site to a suitably licensed facility.

The watching brief shall be documented in the Verification Report. Where no unforeseen or unidentified gross contamination is encountered a written statement from a competent individual confirming the brief was implemented and no significant contamination was encountered will be provided.

3.11 Odour Management

Odour management measures will be implemented during the remedial works. These may include damping down, boundary mist sprays, curtains, and use of odour suppression sprays. The details of the odour management mitigation measures employed will be set out in an Environmental Management Plan.

3.12 Environmental Monitoring

The Site is in a relatively high populated area surrounded by potentially sensitive receptors, during the remedial work the following will be monitored; noise, vibration, dust, and odour. The threshold levels for each monitored parameter will be agreed with the regulatory authorities prior to works commencing. The details of the mitigation measures employed will be set out in an Environmental Management Plan.

3.13 Archaeology

The Contractor will undertake all works in accordance with the requirements of archaeological consultant including completion of an archaeological watching brief where required.

² For the purpose of this Remediation Strategy unforeseen and unexpected ground conditions including encountering contamination of a nature not envisaged given the historical site uses. This would include encountering abundant brightly coloured soils, coal tar impacted soils, large caches of buried waste materials including ACMs/putrescible materials/oil drums/tyres/vehicle parts/household waste.

3.14 Statutory Approvals

All necessary approvals from the statutory authorities will be obtained by the Contractor for the duration of their work. Statutory consultees may include Haringey Council, Environment Agency, Network Rail, and Thames Water.

3.15 New Services

Thames Water should be consulted regarding the appropriate pipe material specification of potable water supply pipes and precautions to mitigate the effects associated with contamination may be required.

New below ground services, laid into residual Made Ground in which there is a reasonable chance maintenance activity will be required, should be laid in material which would not pose a contamination risk to future workers undertaking maintenance of the services.

4. Groundwater

4.1 Groundwater in Excavations

The Contractor will ensure groundwater/surface water is managed throughout the construction works. Where groundwater/surface water is discharged off-site via the foul sewer the Contractor will undertake sufficient treatment and verification testing as required to ensure they meet the requirements of Thames Water and/or the Environment Agency prior to discharge.

Details of the agreed discharge consent, and relevant testing as required will be included in Verification Report.

4.2 Monitoring Well Decommissioning

There are numerous monitoring wells installed across the Ashley House and Cannon Factory Sites. Most of the monitoring wells have been installed to the Kempton Park Gravel Member. However, the RSK investigation at Cannon Factory installed a monitoring well which extends through the London Clay Formation and screens the underlying Lambeth Group. If not appropriately decommissioned in advance of earthworks, the monitoring wells screening the Kempton Park Gravel Member and Lambeth Group may provide preferential pathways for shallow contamination to migrate to the Secondary A Aquifer in the Kempton Park Gravel Member and to aquifers at depth underlying the London Clay Formation.

Best endeavours will be made to locate the monitoring wells listed in Table 3 and decommissioning these in accordance with the 2012 EA Guidance – Good Practice for Decommissioning Redundant Boreholes and Wells. Copies of the borehole logs, showing monitoring well installation details, are presented in Appendix D. Ground Investigation locations are presented in Appendix A.

Table 3: Monitoring wells to decommission

Monitoring Well	Ground Investigation	Installation Details
Cannon Factory		
WWS02	Waterman 2023	Screening Enfield Silt Member and Kempton Park Gravel Member 1.00 – 3.00m bgl
WWS03		Screening Kempton Park Gravel Member 2.00 – 3.00m bgl
WWS10		Screening Kempton Park Gravel Member 2.00 – 4.00m bgl
WWS11		Screening Kempton Park Gravel Member 2.00 – 3.00m bgl
BH01	Socotec 2019	Screening Kempton Park Gravel Member 2.10 – 5.50m bgl
BH02		Screening Kempton Park Gravel Member 2.10 – 5.50m bgl 2.60 – 7.00m bgl
PH1	RSK 2015	Screening Made Ground, Enfield Silt Member and Kempton Park Gravel Member 1.00 – 3.00m bgl
PH3		Screening Enfield Silt Member and Kempton Park Gravel Member 1.00 – 3.00m bgl

Monitoring Well	Ground Investigation	Installation Details
PH5		Screening Made Ground, Enfield Silt Member and Kempton Park Gravel Member 1.00 – 3.00m bgl
Ashley House		
WWS04	Waterman 2023	Screening Kempton Park Gravel Member 2.00 – 3.50m bgl
WWS06		Screening Kempton Park Gravel Member 2.00 – 3.50m bgl
WWS07		Screening Made Ground and Kempton Park Gravel Member 1.00 – 3.00m bgl
WWS08		Screening Kempton Park Gravel Member 2.00 – 3.50m bgl
BH03	Socotec 2019	Screening Enfield Silt Member and Kempton Park Gravel Member 2.00 – 5.30m bgl
BH04		Screening Kempton Park Gravel Member 2.00 – 3.50m bgl 2.50 – 4.50m bgl
WS101		Screening Made Ground and Kempton Park Gravel Member 1.00 – 3.80m bgl
WS104		Screening Made Ground, Enfield Silt Member and Kempton Park Gravel Member 1.00 – 4.00m bgl
WS107		Screening Made Ground, Enfield Silt Member and Kempton Park Gravel Member 1.00 – 4.00m bgl
WS108		Screening Made Ground, Enfield Silt Member and Kempton Park Gravel Member 1.00 – 2.70m bgl
WS109		Screening Made Ground, Enfield Silt Member and Kempton Park Gravel Member 1.00 – 4.00m bgl
BH101	RSK 2015	Dual installation - 2No. Monitoring wells. 1. Screening Kempton Park Gravel Member 3.00 – 7.00m bgl. 2. Screening the London Clay Formation 19.00 – 20.00m bgl
BH102		Dual installation - 2No. Monitoring wells. 1. Screening Made Ground, Enfield Silt Member, and the Kempton Park Gravel Member 1.00 – 7.00m bgl 2. Screening the London Clay Formation 19.00 – 20.00m bgl
BH103A		Dual installation - 2No. Monitoring wells. 1. Screening Made Ground, Enfield Silt Member, and the Kempton Park Gravel Member 1.00 – 6.00m bgl 2. Screening the Lambeth Group 29.00 – 30.00m bgl

The general methodology through which the boreholes will be decommissioned will include the following;

- Where possible the removal of the full standpipe length as part of the decommissioning process;
- The use of a bentonite/cement grout in a 3:1 ratio as determined by the contractor, which will be mixed at the surface before being pumped to the base of the borehole via a tremie pipe which is withdrawn as the borehole fills;
- Once backfilled the tremie pipe will be fully withdrawn and the headworks removed.

The contractor undertaking the borehole decommissioning will ensure the following information is recorded which will be included in the Verification Report for the proposed Development;

- The groundwater level prior to decommissioning;
- The type and quantity of the bentonite /cement grout used to backfill each monitoring well;
- Any problems encountered during the decommissioning procedure;
- Pictures of the monitoring well prior to and post completion of the decommissioning procedure;

The location of the decommissioned monitoring wells will be included in the completed development's CDM Health and Safety File.

5. Development Mitigation Measures

5.1 Piled Foundations

Piled foundations which penetrate the London Clay Formation risk creating preferential pathways for the migration of contaminants between the superficial deposits and the sensitive aquifers underlying the London Clay Formation. Where piles are proposed which penetrate the London Clay Formation a Foundation Works Risk Assessment (FWRA) will be prepared detailing the assessment of the risk posed by piled foundations and the mitigation measures required to prevent future preferential pathways being created.

6. Verification Report

General Contents

The Verification Report will include the following information:

- Details of the parties involved, a summary of the works including; works methodology, specific health and safety measures and environmental controls;
- Evidence of communication with the regulatory authorities where required, and compliance with any permit consent/license required;
- Details for imported materials including: sources, volumes, chemical analysis, and as-built drawings showing placement locations of imported materials;
- Details for re-used materials including the protocols for their reuse, source and placement locations, volumes, and chemical analysis;
- Waste management details and records including; volumes, destinations, waste disposal permit details (haulage contractors and disposal sites), and consignment notes;
- Details of the location and type of water supply pipes;
- Details of the below ground tanks/interceptors removed, and the location entrained liquids were disposed of;
- Details of any ongoing monitoring required;
- Records demonstrating redundant boreholes have been appropriately decommissioned in accordance with the procedure detailed in this Remediation Strategy, or photographs prior to works commencing detailing the boreholes which could not be decommissioned due to damage occurring prior to works commencing;
- Description of final conditions.

The verification report should form part of the health and safety file in accordance with the Construction Design and Management (CDM) Regulations 2015 and the development operations & maintenance (O&M) manual or maintenance plan. This will allow the future building management to protect against any residual ground contamination risks associated with future operations and maintenance.

Buried Tank/Interceptor Removal

For any buried tanks/interceptors that are removed, the Verification will include:

- Photographs and a description of the tanks/interceptors, and drawing showing locations and depth;
- Photographs and a description of the associated fuel lines, and drawings showing locations and depths;
- A description and record of the removal works undertaken. Including photographs, and drawings showing vertical and lateral extents of excavation;
- Locations and extents of any gross contamination encountered during/after removal of the tank/interceptor infrastructure;
- A photographic record of soils remaining in-situ following removal of the tanks/interceptors and any surrounding gross contamination demonstrating tank/interceptor and gross contamination has been effectively removed;

- Waste records and duty of care information (as described under General Contents).

Cannon Factory TPH Remediation

The following records will be collated for the TPH remediation works at Cannon Factory:

- Findings of the TPH delineation exercise and drawings showing the extent of impacted soils requiring removal;
- Vertical and lateral extents of impacted soils that were removed as part of the remediation exercise;
- Total volume of impacted soils removed;
- Records of any treatment undertaken on-site for excavated impacted soils (nature of treatment, results of any trials, chemical analysis of treated soils to confirm suitability for reuse);
- As-built drawings showing location of any treated soils reused on-site;
- As-built drawings showing final remediated area;
- Waste records and duty of care information (as described under General Contents).

Unexpected/Unforeseen Contamination

If unexpected contamination is identified, the following information will be reported in the Verification Report:

- A general description of the situation including the background, location, depth, the events resulting in the find and the immediate steps taken to make the area safe in accordance with this Remediation Strategy;
- A location plan showing the impacted area;
- Photographs of the suspected contamination;
- Details of sampling and testing carried out. This should include details of sampling and laboratory analysis, accredited laboratory certificates and associated information;
- A record of the assessment carried out and the proposed actions;
- Records of consultation with the planning/regulatory authority and additional measures agreed with the planning authority;
- Records of the implementation of the agreed actions and lines of evidence confirming it was dealt with.

Records should be maintained throughout the excavation works confirming the watching brief was implemented. This will include:

- Details of the responsible site manager;
- Level of attendance by the Environmental Consultant ;
- Confirmation of inductions, tool box talks and briefings;
- Confirmation of asbestos awareness training;
- In the area(s) where no unexpected contamination was encountered, a written confirmation that the brief was undertaken and that nothing was identified.

Cover Layers

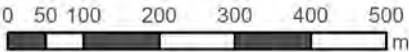
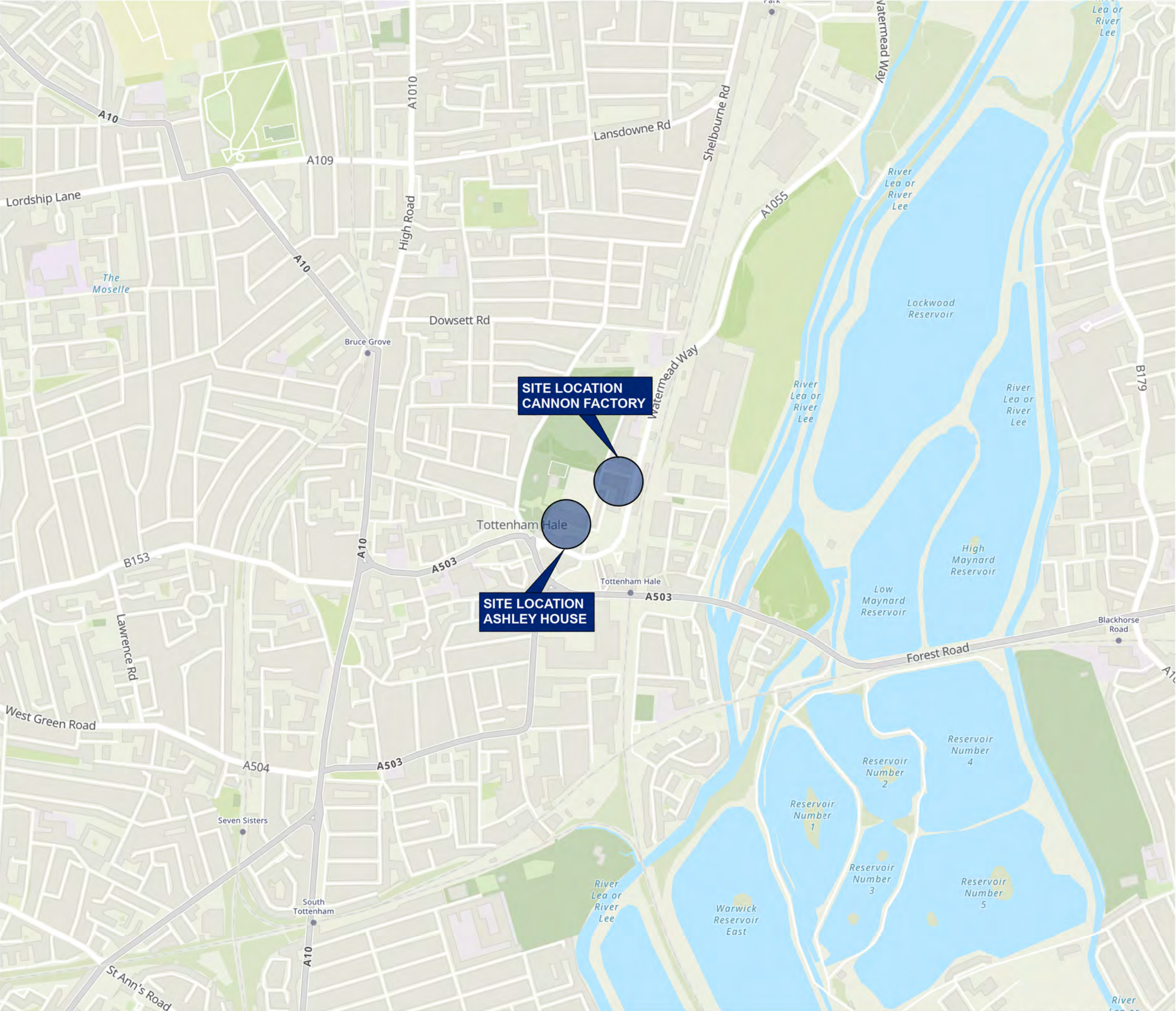
The Verification Report shall provide evidence confirming the placement of cover layers including;

- Photographs (with a scale) and plans demonstrating the thickness of soils placed.
- The volumes and chemical testing, with assessment against the relevant criteria.
- As-built survey plans (pre and post placement).

APPENDICES

A. Site Plans

- Figure 1: Site Location Plan
- Figure 2: Cannon Factory – Ground Investigation Locations
- Figure 3: Ashley House – Ground Investigation Locations
- Figure 4: Ashley House – Approximate Locations of Below Ground Diesel Tanks and Fuel Lines Remaining in-situ
- Figure 5: Ashley House – Approximate Locations of Tanks at the Historical Printing Ink and Varnish Factory (Circa 1930s to 1960s)
- Figure 6: Cannon Factory – Approximate Location of Potential Tanks (Circa 1960s to 1970s)
- Figure 7: Ashley House – Locations of Asbestos Containing Materials Visually Identified During Ground Investigations
- Figure 8: Cannon Factory – Locations of Asbestos Containing Materials Visually Identified During Ground Investigations
- Figure 9: Cannon Factory – TPH Remediation Area
- Landscape Parameters: Ground Level



Project Details	Figure: WIE16248-100: Cannon Factory and Ashley House
Figure Title	Figure 1: Site Location Plan
Figure Ref	WIE16248-100_GIS_RS_1A
Date	May 2023
File Location	N:\Projects\Figure\9_GIS\WIE16248-100_GIS_LQD



Site Boundary

Waterman GI Locations

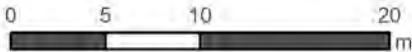
- Trial Pit
- Window Sample

RSK GI Locations

- Probe Hole

Socotec GI Locations

- Borehole
- Window Samples



Project Details	Figure: WIE16248-100: Cannon Factory
Figure Title	Figure 2: Ground Investigation Locations – Cannon Factory (Waterman - 2023, Socotec -2019, and RSK - 2015)
Figure Ref	WIE16248-100_GIS_RS_2A
Date	May 2023
File Location	N:\Projects\Figure\9_GIS\WIE16248-100_GIS_LOD



Site Boundary

Waterman GI Locations

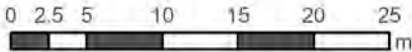
- Trial Pit
- Window Sample

RSK GI Locations

- Deep Borehole Location
- Shallow Window Sample Location

Socotec GI Locations

- Borehole
- Window Sample



Project Details	Figure: WIE16248-100: Ashley House
Figure Title	Figure 3: Ground Investigation Locations – Ashley House (Waterman - 2023, Socotec -2019, and RSK - 2015)
Figure Ref	WIE16248-100_GIS_RS_3A
Date	May 2023
File Location	N:\Projects\Figure9_GIS\WIE16248-100_GIS_LOD



- Site Boundary
- Approximate Area of Below Ground Diesel Tanks and Fuel Lines Remaining in-situ
- Approximate Location of Oil Water Interceptor

Waterman GI Locations

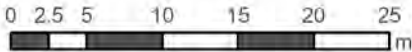
- Trial Pit
- Window Sample

RSK GI Locations

- Deep Borehole Location
- Shallow Window Sample Location

Socotec GI Locations

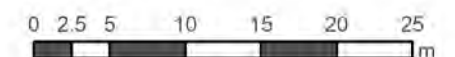
- Borehole
- Window Sample



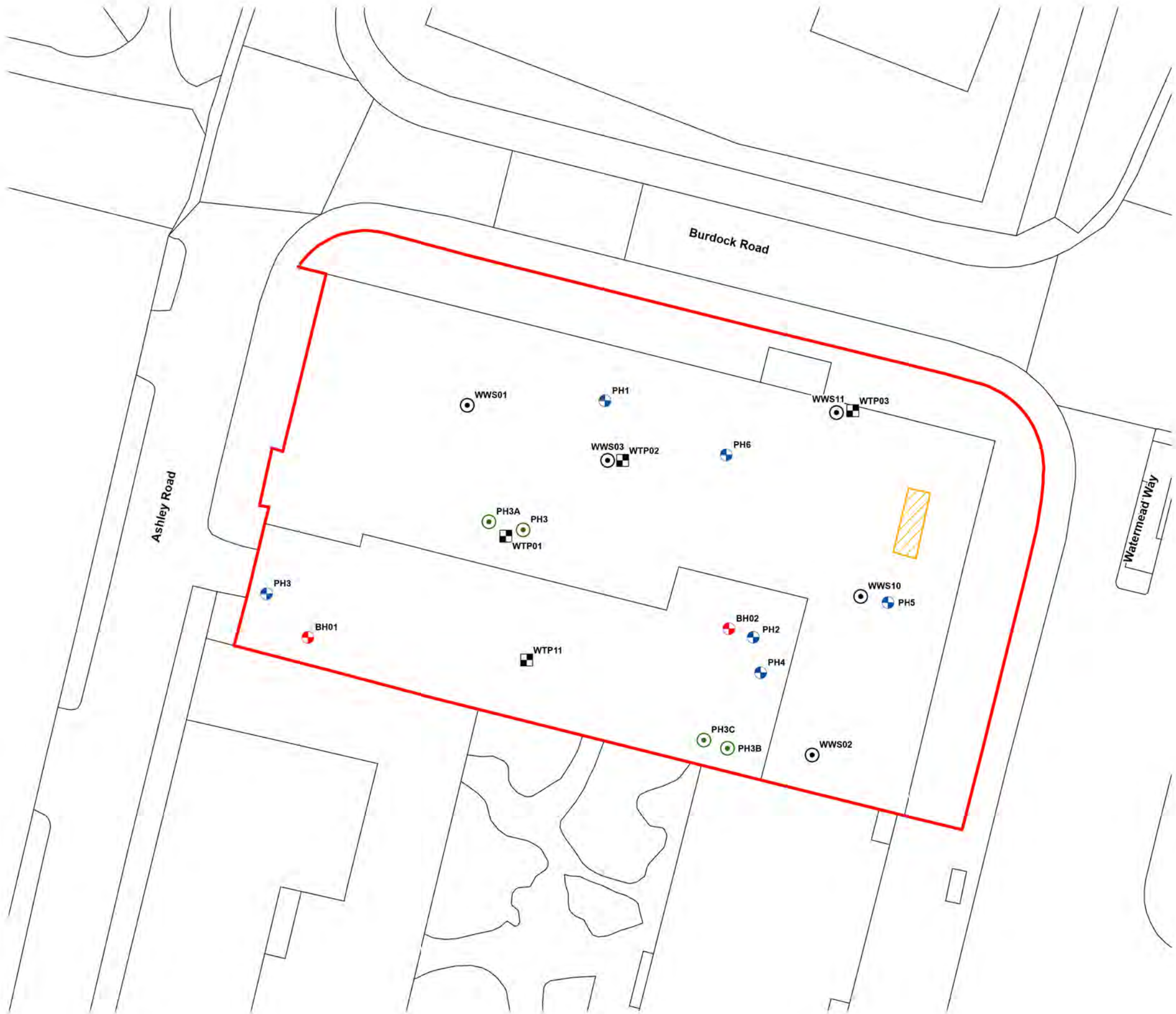
Project Details	Figure: WIE16248-100: Ashley House
Figure Title	Figure 4: Approximate Location of Below Ground Diesel Tanks and Fuel Lines Remaining in-situ
Figure Ref	WIE16248-100_GIS_RS_4A
Date	May 2023
File Location	N:\Projects\Figure9_GIS\WIE16248-100_GIS_LOD



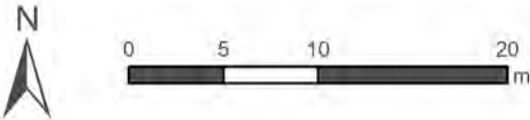
-  Site Boundary
-  Approximate Location of Tanks at the Historical Printing Ink and Varnish Factory (Circa 1930s to 1960s)
- Waterman GI Locations**
-  Trial Pit
-  Window Sample
- RSK GI Locations**
-  Deep Borehole Location
-  Shallow Window Sample Location
- Socotec GI Locations**
-  Borehole
-  Window Sample



Project Details	Figure: WIE16248-100: Ashley House
Figure Title	Figure 5: Approximate Location of Tanks at the Historical Printing Ink and Varnish Factory (Circa 1930s to 1960s)
Figure Ref	WIE16248-100_GIS_RS_5A
Date	May 2023
File Location	N:\Projects\Figure\9_GIS\WIE16248-100_GIS_LOD



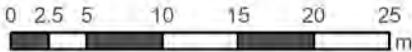
- Site Boundary
- Approximate Location of Potential Historical Tanks (Circa 1960s to 1970s)
- Trial Pit
- Window Sample
- Probe Hole
- Borehole
- Window Samples



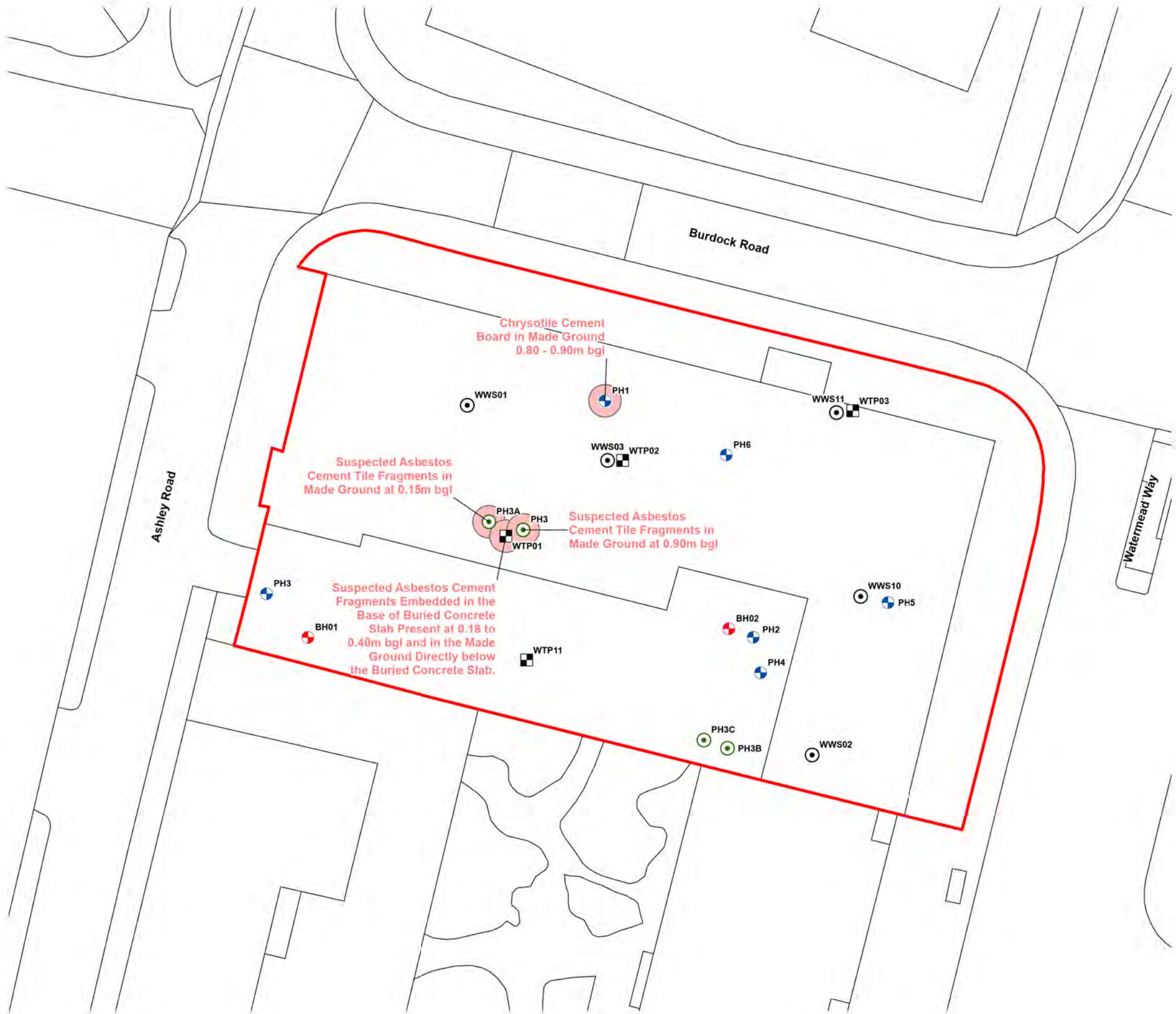
Project Details	Figure: WIE16248-100: Cannon Factory
Figure Title	Figure 6: Approximate Location of Potential Historical Tanks (Circa 1960s to 1970s)
Figure Ref	WIE16248-100_GIS_RS_6A
Date	May 2023
File Location	N:\Projects\Figure9_GIS\WIE16248-100_GIS_LOD



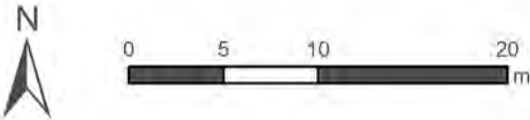
- Site Boundary
- Locations of Visually Identified Asbestos During Ground Investigations
- Trial Pit
- Window Sample
- Deep Borehole Location
- Shallow Window Sample Location
- Borehole
- Window Sample



Project Details	Figure: WIE16248-100: Ashley House
Figure Title	Figure 7: Locations of Asbestos Containing Materials Visually Identified During Ground Investigations
Figure Ref	WIE16248-100_GIS_RS_7A
Date	May 2023
File Location	N:\Projects\Figure9_GIS\WIE16248-100_GIS_LOD



- Site Boundary
- Locations of Visually Identified Asbestos During Ground Investigations
- Trial Pit
- Window Sample
- Probe Hole
- Borehole
- Window Samples



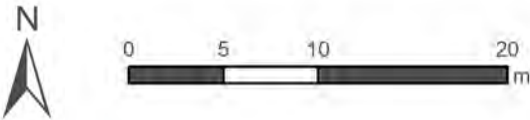
Project Details	Figure: WIE16248-100: Cannon Factory
Figure Title	Figure 8: Locations of Asbestos Containing Materials Visually Identified During Ground Investigations
Figure Ref	WIE16248-100_GIS_RS_8A
Date	May 2023
File Location	N:\Projects\Figure9_GIS\WIE16248-100_GIS_LOD



- Site Boundary
- 10m x 10m Grid
- Trial Pit
- Window Sample
- Probe Hole
- Borehole
- Window Samples
- Approximate TPH Source Remediation Area.

Visual evidence of TPH contamination in the Kempton Park Gravel Member smear zone to be excavated.

Trial Pits on a 10m x 10m grid to undertaken in this area in advance of the remediation works to confirm the extent of the remedial excavations



Project Details	Figure: WIE16248-100: Cannon Factory
Figure Title	Figure 9: TPH Remediation Area
Figure Ref	WIE16248-100_GIS_RS_9A
Date	May 2023
File Location	N:\Projects\Figure9_GIS\WIE16248-100_GIS_LQD



B. Imported Material

Cover layer material could include for example:

- Topsoil and subsoil in landscape area.
- Tree pits.
- Topsoil and subsoil placed in planters
- General fill

All imported material must conform to the following general requirements:

- Be free of anthropogenic and deleterious material, including visible asbestos and gross contamination, such as oil free product, staining and odours.
- Meet the project landscaping specification requirements and conform to BS3882:2015 Specification for topsoil, including specific criteria for phytotoxic metals or geotechnical specification requirement where material is used as fill below the cover layer or paved area.
- Any recycled material should meet the WRAP Quality Protocol Aggregates from inert waste: End of waste criteria for the production of aggregates from inert waste, dated October 2013. As a minimum, the material should be tested for asbestos.
- Material imported to site shall be confirmed as not being hazardous waste in accordance with EA guidance.

Table B1. Imported Material Criteria

Determinand	Dry Soil		Source
	units	Maximum Acceptable Concentration # * (mg/kg unless stated)	
Asbestos	%	General Fill - No visible fragments and <0.001% by quantification Cover Layer Material – No visible fragments and 0 fibres detected by the laboratory	Waterman in-house criteria
Metals			
Arsenic	mg/kg	40	DEFRA C4SLs
Antimony	mg/kg	550	CL:AIRE 2009
Barium	mg/kg	1300	CL:AIRE 2009
Beryllium	mg/kg	1.7	LQM S4ULs 2015
Boron (Water Soluble)	mg/kg	931	Non-hazardous waste threshold for Boron (diboron trioxide; boric oxide)
Cadmium	mg/kg	150	DEFRA C4SLs
Chromium (Total)	mg/kg	684	Non-hazardous waste threshold for Chromium (chromium III compounds)
Chromium (VI)	mg/kg	21	DEFRA C4SLs
Copper	mg/kg	General Fill – 798	Non-hazardous waste threshold for

Determinand	Dry Soil		Source
	units	Maximum Acceptable Concentration # * (mg/kg unless stated)	
		Cover Layer - 200	Copper (copper (II) oxide) BS3882: 2015 (Soil pH >7.0)
Lead	mg/kg	310	DEFRA C4SLs
Mercury	mg/kg	1.2	LQM S4ULs 2015
Molybdenum	mg/kg	670	CL:AIRE 2009
Nickel	mg/kg	General Fill – 180 Cover Layer - 110	LQM S4ULs 2015 BS3882: 2015 (Soil pH >7.0)
Selenium	mg/kg	430	LQM S4ULs 2015
Vanadium	mg/kg	1200	LQM S4ULs 2015
Zinc	mg/kg	General Fill – 803 Cover Layer - 300	Non-hazardous waste threshold for Zinc (zinc oxide) BS3882: 2015 (Soil pH >7.0)
TPH			
Total of TPH-CWG (C5-C44)	mg/kg	500	Inert WAC threshold for mineral oil C10-C40
Aliphatic EC5 - EC6	mg/kg	42	LQM S4ULs 2015
Aliphatic EC6 - EC8	mg/kg	100	LQM S4ULs 2015
Aliphatic EC8-EC10	mg/kg	27	LQM S4ULs 2015
Aliphatic EC10-EC12	mg/kg	130	LQM S4ULs 2015
Aromatic C5-C7	mg/kg	370	LQM S4ULs 2015
Aromatic C8-C10	mg/kg	47	LQM S4ULs 2015
Aromatic C10-C12	mg/kg	250	LQM S4ULs 2015
BTEX			
Sum of BTEX	mg/kg	6	Inert WAC threshold for BTEX
Benzene	mg/kg	0.38	LQM S4ULs 2015
PAH			
Sum of PAHs (16)	mg/kg	100	Inert WAC threshold for PAHs
Naphthalene	mg/kg	2.3	LQM S4ULs 2015
Benzo(a)anthracene	mg/kg	11	LQM S4ULs 2015
Chrysene	mg/kg	30	LQM S4ULs 2015
Benzo(b)fluoranthene	mg/kg	3.9	LQM S4ULs 2015
Benzo(a)pyrene	mg/kg	3.2	LQM S4ULs 2015
Indeno(1,2,3-cd)pyrene	mg/kg	45	LQM S4ULs 2015
Di-benzo(a,h.)anthracene	mg/kg	0.31	LQM S4ULs 2015

Determinand	Dry Soil		Source
	units	Maximum Acceptable Concentration # * (mg/kg unless stated)	
Other Organics			
Sum of 7 Congener PCBs	mg/kg	1	Inert WAC for PCBs (Sum of 7 Congeners)

LQM S4ULs 2015, DEFRA C4SLs, and CL:AIRE values are based on residential (without plant uptake) soils with 1% soil organic matter (SOM). The lowest value from GAC, non-hazardous waste threshold, and inert WAC has been selected for the chemical test criteria.

*Exceedances of the criteria will be subject to additional risk assessment and/or waste classification assessment. The additional assessment will consider the proposed placement location of the material and plausible contaminant pathways. Additional waste classification assessment will utilise EA Technical Guidance WM3: Waste Classification - *Guidance on the classification and assessment of waste (1st Edition v1.2.GB)*, and WRAP Quality Protocol: *Aggregates from inert waste*.

C. Existing Monitoring Well Details – Borehole Logs

Appendices

Tottenham Hale, London
Document Reference: WIE16248
WIE16248-100-S-1-2-1-RMS



GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

WWS02

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON FACTORY

Project No.
GRO-23113

Co-ords: 534472.41 - 189746.01

Hole Type
WS

Location: TOTTENHAM

Level: 9.05

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.13			0.13	8.92		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	1
		0.23			0.23	8.82		MADE GROUND: Brown grey gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick, concrete and sandstone.	
		0.38			0.38	8.67		MADE GROUND: Grey rebar reinforced concrete with medium gravel inclusions of quartzite.	
		0.40	ES	PID=0				MADE GROUND: Brown grey gravelly fine to coarse sand with low cobble content of brick. Gravel is angular to subangular fine to coarse of brick, concrete and sandstone.	2
		0.50	ES	PID=0					
		1.00	ES	PID=0					
		1.20		N=12 (1,1/2,3,3,4)	1.30	7.75		Soft brown sandy gravelly silty CLAY. Gravel is subangular to subrounded fine to coarse of quartzite and flint. Sand is fine to medium.	3
		1.50	ES	PID=0					
		2.00		N=15 (4,4/5,4,4,2)	2.20	6.85		Brown silty fine to medium SAND with moderate hydrocarbon odour. <i>Moderate Hydrocarbon odour and dark grey staining from 2.8m to 3.0m bgl.</i>	
		2.50	ES	PID=0					4
		2.80	ES	PID=0	2.80	6.25		Dark grey silty fine to medium SAND. Moderate hydrocarbon odour.	
		3.00		N=11 (1,1/3,2,3,3)	3.00	6.05		Light brown very gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of quartzite. Sand is fine to medium.	
		3.50	ES	PID=0					5
		4.00		N=35 (7,7/8,9,9,9)					
		4.50	ES	PID=0					
		5.00		N=39 (8,7/6,8,12,13)	5.00	4.05		End of borehole at 5.00 m	5

Remarks

1. Area cleared by specialist utility clearance company. 2. Hand dug pit to 1.2m bgl. 3. Borehole cleared by UXO supervision. 4. Groundwater encountered at 2.8m bgl. 5. Borehole terminated at 5.0m bgl. 6. Borehole installed to 3.0m bgl using 1.0m plain and 2.0m slotted.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

WWS03

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON
FACTORY

Project No.
GRO-23113

Co-ords: 534454.49 - 189773.86

Hole Type
WS

Location: TOTTENHAM

Level: 9.04

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
		0.20			0.20	8.84		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	
		0.30	ES	PID=0					
		0.50	ES	PID=0				MADE GROUND: Brown sandy angular to subangular fine to coarse gravel of concrete and brick with low cobble content of brick. Sand is fine to coarse.	
		1.00			1.00	8.04		Soft orange brown very sandy gravelly CLAY. Gravel is angular to subrounded fine to coarse of flint and quartzite. Sand is fine to medium.	1
		1.80			1.80	7.24		Orange brown clayey gravelly fine to medium SAND. Gravel is angular to subrounded fine to coarse of flint and quartzite.	2
		2.60	ES						
		3.00		N=50 (11,11/50 for 290mm)	3.00	6.04		End of borehole at 3.00 m	3
									4
									5

Remarks

1. Area cleared by specialist utility clearance company. 2. Borehole drilled through backfill of WTP02. 3. Borehole cleared by UXO supervision. 4. Groundwater encountered at 3.0m bgl. 5. Borehole terminated at 3.0m bgl due to refusal on dense sand. 6. Falling Head Test conducted in borehole at 3.0m bgl. 7. Borehole installed to 3.0m bgl using 2.0m plain and 1.0m slotted.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

WWS10

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON
FACTORY

Project No.
GRO-23113

Co-ords: 534477.00 - 189761.00

Hole Type
WS

Location: TOTTENHAM

Level:

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.25			MADE GROUND: Grey rebar reinforced concrete with medium gravel inclusions of quartzite.	1
		0.30	ES	PID=0	0.40			MADE GROUND: Red brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick.	
		0.50	ES	PID=0				MADE GROUND: Dark grey clayey gravelly fine to coarse sand. Gravel is angular to subangular of brick.	
		1.00	ES	PID=0					
		1.20		N=7 (1,1/1,1,1,4)					2
		1.60	ES	PID=0	1.50			Soft to firm brown silty sandy CLAY. Sand is fine to medium.	
		2.00		N=46 (5,9/10,12,12,12)	2.10				
		2.20	ES	PID=3	2.40			Dark grey gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of flint and quartzite. Moderate hydrocarbon odour with dark grey staining.	
		2.50	ES	PID=0				Brown gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of flint and quartzite.	3
		3.00		N=21 (3,3/4,4,6,7)					
		3.50	ES	PID=0	3.70				
		3.80	ES	PID=2				Dark grey gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of flint and quartzite. Moderate hydrocarbon odour with dark grey staining.	
		4.00		N=50 (12,12/50 for 255mm)	4.00			End of borehole at 4.00 m	4
									5

Remarks

1. Area cleared by specialist utility clearance company. 2. Hand dug pit to 1.2m bgl. 3. Borehole cleared by UXO supervision. 4. Groundwater encountered at 3.0m bgl. 5. Borehole terminated at 4.0m bgl due to refusal on dense sand. 6. Borehole installed to 4.0m bgl using 2.0m plain and 2.0m slotted.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

WWS11

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON
FACTORY

Project No.
GRO-23113

Co-ords: 534476.25 - 189778.56

Hole Type
WS

Location: TOTTENHAM

Level: 9.05

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.30	8.75		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	1
					1.30	7.75		MADE GROUND: Dark grey sandy angular to subangular fine to coarse gravel of brick and concrete.	
					2.30	6.75		Soft orange brown sandy gravelly fine to medium SILT. Gravel is angular to subrounded fine to coarse of flint and quartzite. Sand is fine to medium.	2
		3.00	ES	PID=0	3.50	5.55		Brown sandy angular to subrounded fine to coarse GRAVEL of flint and quartzite. Sand is fine to medium. <i>Between 2.3m and 2.6m bgl moderate hydrocarbon odour.</i>	3
								End of borehole at 3.50 m	4
									5

Remarks

1. Area cleared by specialist utility clearance company. 2. Borehole drilled through backfilled WTP03. 3. Borehole cleared by UXO supervision. 4. Groundwater encountered at 3.0m bgl. 5. Borehole terminated at 3.0m bgl in dense gravel. 6. Borehole installed to 3.0m bgl using 2.0m plain and 1.0m slotted.



Drilled	RB/KS	Start	Equipment, Methods and Remarks				Depth from	to	Diameter	Casing Depth	Ground Level	8.86 mOD	
Logged	LSP	05/02/2019	Dando 3000 Hand dug inspection pit from GL to 1.20m. Cable percussion drilling from 1.20m to 40.40m.				(m)	(m)	(mm)	(m)	Coordinates (m)	E 534424.67	
Checked	EC	End					12.00	30.50	250	5.50	National Grid	N 189757.12	
Approved	MM	19/02/2019					30.50	40.40	150	39.80			
Samples and Tests							Strata Description						
Depth	Type & No.	Records	Date	Time	Main	Detail	Depth, Level	Legend	Backfill				
			Casing	Water			(Thickness)						
			06/02/19	0808	(MADE GROUND) Light grey reinforced CONCRETE. 40% aggregate of angular to rounded fine to coarse siliceous gravel with up to 10% small to medium voids.		(0.50)						
0.50 - 0.70	B 1	PID=0.0 ppmv		Dry	(MADE GROUND) Yellowish dark brown gravelly fine to coarse SAND with low cobble content. Gravel is angular to rounded fine to coarse of brick, concrete and siliceous material. Cobbles are very angular to subangular of brick and concrete.	1.20-1.50 Occasional pockets (up to 15mm) of black plastic amorphous peat.	0.50 +8.36						
0.60	ES 2						(0.30)						
0.60							0.80 +8.06						
0.80 - 1.00	B 3	PID=0.0 ppmv					(0.70)						
0.90	ES 4												
0.90	D 5												
1.00													
1.20 - 1.65	SPTS	N=6 (1,0/1,1,1,3)		Dry	(MADE GROUND) Very soft reddish brown slightly gravelly sandy CLAY. Sand is fine to medium. Gravel is very angular to rounded fine to coarse of siliceous material and clinker.	2.00 Gravelly clayey fine to coarse sand. 2.20-2.50 Clayey with low cobble content. Cobbles are subangular to rounded of siliceous material.	(0.70)						
1.20 - 1.65	D 6												
1.50	ES 7	PID=0.0 ppmv					1.50 +7.36						
1.50	B 8						(0.70)						
1.50 - 1.70													
2.00	D 9												
2.20 - 2.65	SPTS	N=17 (2,2/3,4,4,6)		Dry	Very soft reddish brown slightly sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to rounded fine to coarse of siliceous material. Occasional pockets (up to 30mm) of dark grey plastic clayey amorphous peat.		2.20 +6.66						
2.20 - 2.65	D 10		06/02/19	1735	(ENFIELD SILT MEMBER) Medium dense orangish brown sandy very angular to rounded fine to coarse GRAVEL of siliceous material. Sand is fine to coarse. (KEMPTON PARK GRAVEL MEMBER)								
2.20 - 2.50	D 11	PID=0.0 ppmv	2.50	0.95									
2.50	ES 12		07/02/19	0747									
2.50			2.50	0.95									
2.90 - 3.10	B 13												
3.50 - 3.95	SPTC	N=28 (1,3/4,5,8,11)	3.50	0.65									
3.50 - 3.80	B 14						(3.20)						
4.50 - 4.95	SPTC	N=14 (4,5/5,4,2,3)	4.50	1.20									
4.50 - 4.80	B 15												
5.40 - 5.80	B 16				Firm to stiff dark grey slightly silty CLAY. (LONDON CLAY FORMATION)	5.40-5.80 Soft to firm slightly gravelly and slightly sandy. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of siliceous material and claystone with low cobble content. Cobbles are subangular of claystone. 6.00-6.45 Soft.	5.40 +3.46						
6.00 - 6.45	SPTS	N=14 (1,2/2,3,4,5)	5.50	Damp									
6.00	D 17												
6.00 - 6.45	D 18												
7.00	D 19						(3.60)						
7.50 - 7.95	UT 20	29 blows 22% rec	5.50	Dry									
8.00 - 8.45	SPTS	N=17 (1,1/3,4,4,6)	5.50	Dry									
8.00	D 21												
8.00 - 8.45	D 22												
9.00 - 9.50	UT 24	51 blows 84% rec	5.50	Dry	Firm to stiff dark greyish brown silty CLAY. Occasional micaceous pockets (up to 4mm). (LONDON CLAY FORMATION)		9.00 -0.14						
9.00	D 23												
9.50	D 25												
Groundwater Entries					Depth Related Remarks			Hard Boring					
No.	Depth	Strike (m)	Remarks	Depth Sealed (m)	Depths (m)	Remarks	Depths (m)	Duration (mins)	Tools used				
					1.20 - 40.00	SPT Hammer ID TH01 (Er= 70%)	0.00 - 0.50	195					
					2.20 - 19.00	Water added to assist drilling.							
Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project Site investigation at Ashley House & Cannon Factory, Ashley Road South, Tottenham Hale, London			Borehole					
© Copyright SOCOTEC UK Limited					Project No. D8061-18			BH01					
Scale 1:50					Carried out for Notting Hill Home Ownership Ltd			Sheet 1 of 5					

Borehole Log



Drilled	RB/KS	Start	Equipment, Methods and Remarks	Depth from (m)	to (m)	Diameter (mm)	Casing Depth (m)	Ground Level	8.86 mOD
Logged	LSP	05/02/2019	Dando 3000 Hand dug inspection pit from GL to 1.20m. Cable percussion drilling from 1.20m to 40.40m.	0.00	12.00	250	5.50	Coordinates (m)	E 534424.67
Checked	EC	End		12.00	30.50	200	30.40	National Grid	N 189757.12
Approved	MM	19/02/2019		30.50	40.40	150	39.80		

Samples and Tests					Strata Description				
Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
10.00 - 10.45 10.00 10.00 - 10.45	SPTS D 26 D 27	N=28 (3,4/5,8,7,8)	5.50	Dry	Firm to stiff dark greyish brown silty CLAY. Occasional micaceous pockets (up to 4mm). (LONDON CLAY FORMATION)				
11.00	D 28								
11.50 - 11.95	UT 29	45 blows 100% rec	5.50	Dry			(5.00)		
12.00	D 30		07/02/19 5.50	1706 Dry					
13.00 - 13.45 13.00 13.00 - 13.45	SPTS D 31 D 32	N=29 (5,5/7,7,7,8)	5.50	Dry		13.00-13.45 Occasional silt filled bioturbations (up to 25mm).			
14.00	D 33				Dark brown sandy clayey SILT. Sand is fine to medium. Occasional pockets (up to 25mm) of fine to medium light greyish brown sand. (LONDON CLAY FORMATION)		14.00 -5.14		
14.50 - 14.95	UT 34	39 blows 96% rec	5.50	Dry			(2.00)		
15.00	D 35								
16.00 - 16.45 16.00 16.00 - 16.45	SPTS D 36 D 37	N=34 (5,7/8,8,9,9)	5.50	Dry	Firm to stiff dark greyish brown slightly sandy silty CLAY. Sand is fine. Occasional fine to medium sand partings (up to 3mm). (LONDON CLAY FORMATION)		16.00 -7.14		
17.00	D 38								
17.50 - 17.95	UT 39	50 blows 100% rec	5.50	Dry			(3.00)		
18.00	D 40					18.00 Very stiff. Occasional fine sand and clay filled bioturbations (up to 2mm across).			
19.00 - 19.45 19.00 19.00 - 19.45	SPTS D 41 D 42	N=38 (7,7/8,9,10,11)	08/02/19 18.00 11/02/19 18.00	1658 Dry 1237 11.70	Firm to stiff dark greyish brown sandy silty CLAY. Sand is fine to medium. (LONDON CLAY FORMATION)	19.00 Slightly sandy and slightly micaceous with occasional pockets (up to 5mm) of fine to medium sand. 1No. pyritised wood fragment (19x5x3mm).	19.00 -10.14		

Groundwater Entries			Depth Related Remarks		Hard Boring		
No.	Depth Strike (m)	Remarks	Depth Sealed (m)	Depths (m) Remarks	Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.	Project Site investigation at Ashley House & Cannon Factory, Ashley Road South, Tottenham Hale, London	Borehole BH01
Scale 1:50 © Copyright SOCOTEC UK Limited 12/03/2019 10:47:07	Project No. D8061-18 Carried out for Notting Hill Home Ownership Ltd	Sheet 2 of 5

Borehole Log



Drilled	RB/KS	Start	Equipment, Methods and Remarks				Depth from	to	Diameter	Casing Depth	Ground Level	8.86 mOD		
Logged	LSP	05/02/2019	Dando 3000 Hand dug inspection pit from GL to 1.20m. Cable percussion drilling from 1.20m to 40.40m.				(m)	(m)	(mm)	(m)	Coordinates (m)	E 534424.67		
Checked	EC	End					0.00	12.00	250	5.50	National Grid	N 189757.12		
Approved	MM	19/02/2019					12.00	30.50	200	30.40				
							30.50	40.40	150	39.80				
Samples and Tests							Strata Description							
Depth	Type & No.	Records	Date	Time			Main		Detail	Depth, Level (Thickness)	Legend	Backfill		
20.00	D 43						Firm to stiff dark greyish brown sandy silty CLAY. Sand is fine to medium. (LONDON CLAY FORMATION)		20.00 Slightly gravelly. Gravel is angular to subangular fine of claystone.	(2.70)				
20.50 - 20.95	UT 44	62 blows 100% rec	18.00	Damp					20.00-20.95 Occasional pockets (up to 8mm) of fine to medium sand and rare partings of fine sand and silt.					
21.00	D 45								20.96-20.99 Firm bluish dark grey. Occasional shell fragments (up to 15mm).					
21.70	D 46		11/02/19	1701			Stiff to very stiff multicoloured dark brown, greenish grey and light brown slightly gravelly silty CLAY. Gravel is rounded fine to medium of flint. (LAMBETH GROUP)		21.70 Slightly sandy. 1No. pyritised wood fragment (15x14x10mm).	21.70 -12.84				
22.00 - 22.45	SPTS D 47	N=65 (11,13/13,15,16,21)	23.00	Damp						(0.75)				
22.00 - 22.45	D 48		12/02/19	0738										
			23.00	Damp			Stiff to very stiff bluish grey mottled yellowish brown CLAY. (LAMBETH GROUP)			22.45 -13.59				
23.00	D 49								23.00-23.95 Mottled red.					
23.50 - 23.95	UT 50	50 blows 100% rec	22.50	Damp										
24.00	D 51													
25.00 - 25.45	SPTS D 52	N=60 (12,13/13,15,15,17)	25.00	Damp					25.00 Locally mottled red.	(4.95)				
25.00 - 25.45	D 53													
26.00	D 54								26.00 Firm to stiff whitish grey and light yellowish brown mottled becoming sandy and silty. Sand is fine to medium.					
26.50 - 26.80	UT 55	75 blows 60% rec	24.00	Damp					26.50-26.80 Very soft light greenish grey with light yellowish brown mottling.					
26.90	D 56								26.90-27.40 Very stiff whitish grey with white mottling clayey silt (possible calcrete).	27.40 -18.54				
27.40	D 57		12/02/19	1700			Very dense greenish grey to greenish brown silty fine to coarse SAND. (LAMBETH GROUP)		27.40-28.00 Light reddish brown mottling.					
28.00 - 28.30	SPTS D 58	100 (14,11 for 35mm/26,45,29 for 45mm)	27.40	Damp					28.00-28.45 Multicoloured greenish grey, yellowish brown, white and reddish brown. Occasional pockets (up to 5mm) of reddish brown silt.					
28.00 - 28.45	D 59		14/02/19	0737										
29.00	D 60													
29.50 - 29.80	SPTS D 61	100 (17,8 for 15mm/29,41,30 for 55mm)	29.50	Damp					29.50-29.80 Yellowish brown, white and reddish brown. Occasional pockets (up to 5mm) of reddish brown silt.	(5.10)				
29.50 - 29.80														
Groundwater Entries							Depth Related Remarks					Hard Boring		
No.	Depth	Strike (m)	Remarks	Depth Sealed (m)			Depths (m)	Remarks			Depths (m)	Duration (mins)	Tools used	
												26.80 - 27.40	65	
												28.00 - 30.10	130	
Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.							Project Site investigation at Ashley House & Cannon Factory, Ashley Road South, Tottenham Hale, London					Borehole		
© Copyright SOCOTEC UK Limited							Project No. D8061-18					BH01		
Scale 1:50							Carried out for Notting Hill Home Ownership Ltd							
12/03/2019 10:47:07												Sheet 3 of 5		

BH01

Sheet 3 of 5

Borehole Log

Drilled	RB/KS	Start	Equipment, Methods and Remarks		Depth from	to	Diameter	Casing Depth	Ground Level	8.86 mOD
Logged	LSP	05/02/2019	Dando 3000 Hand dug inspection pit from GL to 1.20m. Cable percussion drilling from 1.20m to 40.40m.		0.00	12.00	250	5.50	Coordinates (m)	E 534424.67
Checked	EC	End			12.00	30.50	200	30.40	National Grid	N 189757.12
Approved	MM	19/02/2019			30.50	40.40	150	39.80		

Samples and Tests					Strata Description				
Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
30.10 - 30.40	B 62		14/02/19 30.40	1716 Damp	Very dense greenish grey to greenish brown silty fine to coarse SAND. (LAMBETH GROUP)	30.10-30.40 Slightly silty and slightly gravelly. Gravel is subangular to rounded fine to coarse of siliceous material and claystone.			
			15/02/19 30.40	0727 19.60		31.00-32.00 Black mottling.			
31.00 - 31.26 31.00 - 31.20	SPTC B 63	50 (19,6 for 65mm/27,23 for 48mm)	31.00	19.60					
31.50 - 32.00	B 64								
32.50 - 32.95 32.50 - 32.95 32.50 - 32.80	SPTS D 65 B 66	N=90 (12,13/18,25,24,23)	32.50	18.70	Very dense dark brown silty fine to coarse SAND. (LAMBETH GROUP)	32.50-32.80 Black mottling and sandy clay pockets (up to 120mm). 32.50-32.95 2No. light grey sand partings (up to 10mm thick).	32.50 -23.64		
33.00	D 67						(1.95)		
34.00 - 34.43 34.00 34.00 - 34.45	SPTS D 68 D 69	N=99 (10,15 for 55mm/19,24,27,29)	15/02/19 34.00 19/02/19 34.00	1542 18.60 0730 16.00		34.00-34.45 Frequent light grey fine to coarse sand partings (up to 4mm thick).	34.45 -25.59		
35.00	D 70				Soft to firm dark brown slightly clayey sandy SILT. Sand is fine to coarse. Occasional pockets (up to 12mm) of fine to coarse sand. (LAMBETH GROUP)		(1.35)		
35.50 - 35.70 35.50 - 35.80	SPTS D 71	100 (23,2 for 5mm/52,48 for 40mm)	35.50	19.00					
35.80 - 36.10	B 72				Very dense dark brown silty fine to coarse SAND. (LAMBETH GROUP - UPNOR FORMATION)		35.80 -26.94		
36.80 - 37.00 37.00 - 37.40 37.00 - 37.45 37.10	B 73 SPTS D 74 D 75	100 (15,10 for 40mm/18,24,37,21 for 55mm)	37.00	19.00		36.80-37.00 Slightly clayey, slightly gravelly. Gravel is angular to subangular fine to coarse of claystone. 37.00-37.45 Stiff to very stiff dark brown slightly sandy silty clay with frequent sand partings (up to 5mm thick). 37.80-38.00 Slightly clayey, Slightly gravelly. Gravel is rounded fine to coarse of black flint.	(4.60)		
37.80 - 38.00	B 76								
38.50 - 38.71 38.50 - 38.80	SPTS D 77	50 (15,10 for 15mm/27,23 for 45mm)	38.50	19.00					
39.50 - 39.80	B 78					39.50-39.80 Slightly clayey and slightly gravelly. Gravel is subangular fine to medium of claystone.			

Groundwater Entries			Depth Related Remarks		Hard Boring			
No.	Depth Strike (m)	Remarks	Depth Sealed (m)	Depths (m)	Remarks	Depths (m)	Duration (mins)	Tools used

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:50 © Copyright SOCOTEC UK Limited 12/03/2019 10:47:07	Project Project No. Carried out for	Site investigation at Ashley House & Cannon Factory, Ashley Road South, Tottenham Hale, London D8061-18 Notting Hill Home Ownership Ltd	Borehole BH01 Sheet 4 of 5
---	---	---	---

[illegible]

Borehole Log

Drilled RB/JS Logged LP/JE/ME Checked EC Approved MM	Start 17/01/2019 End 04/02/2019	Equipment, Methods and Remarks Dando 3000 Hand dug inspection pit from GL to 1.20m. Cable percussion drilling from 1.20m to 39.95m.	Depth from (m) 0.00 7.00 29.00	to (m) 7.00 29.00 39.95	Diameter (mm) 250 200 150	Casing Depth (m) 7.00 24.50	Ground Level 8.75 mOD Coordinates (m) E 534464.60 National Grid N 189758.45		
Samples and Tests			Strata Description						
Depth	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
0.30 0.30 0.30 - 0.50 0.60 - 0.80 0.70 0.70 0.80 - 1.10 0.90 0.90 1.20 - 1.65 1.20	ES 1 B 2 B 4 ES 3 B 5 ES 6	PID=0.0 ppmv PID=0.2 ppmv PID=0.3 ppmv N=29 (2,3/6,10,7,6)	17/01/19	1130 Dry	(MADE GROUND) Light grey CONCRETE. (MADE GROUND) Brown slightly silty gravelly fine to coarse SAND with low cobble content. Gravel is angular to subrounded fine to coarse of siliceous material, brick, clinker and concrete. Cobbles are angular to subrounded of brick and concrete. (MADE GROUND) Very soft dark brown mottled black slightly sandy locally sandy, gravelly locally very gravelly CLAY. Gravel is very angular to subrounded fine to coarse of brick, clinker, siliceous material and chert. Driller notes ash.	0.60-0.80 Rare cobbles of very angular to subangular concrete and brick. 0.80-1.10 Occasional black organic matter and moderate hydrocarbon odour. 1.20 Strong hydrocarbon odour.	(0.30) 0.30 (0.20) 0.50 (1.60)		
1.60 1.60 2.10 - 2.20 2.20 2.20	ES 8 B 9 ES 10	PID=0.4 ppmv PID=0.3 ppmv	17/01/19 2.20	1646 Dry	Brown with dark grey mottled brown slightly silty gravelly fine to coarse SAND. Gravel is subangular to subrounded fine to coarse of siliceous material. Moderate to strong hydrocarbon odour. Driller notes contamination. (KEMPTON PARK GRAVEL MEMBER)	2.50-4.50 Moderate to strong hydrocarbon odour.	2.10 (0.10) 2.20 +6.65 +6.55		
2.50 - 2.95 2.50 2.50 2.50 2.50	SPTC ES 11 EW 12 B 13	N=19 (3,4/5,4,5,5) PID=0.0 ppmv	18/01/19 2.50 18/01/19 2.20 2.50 25/01/19 2.50	1715 0.95 0812 Dry 1.70 0806 1.30	Medium dense greyish brown mottled orangish brown sandy subangular to well rounded fine to coarse GRAVEL of siliceous material with low cobble content. Cobbles are subangular to well rounded of siliceous material. Driller notes oily contamination. (KEMPTON PARK GRAVEL MEMBER)				
3.50 - 3.95 3.50 3.50 3.50 - 3.70	SPTC ES 14 B 15	N=27 (3,4/5,7,7,8) PID=0.1 ppmv	3.50	2.80			(2.50)		
4.50 - 4.95 4.50 4.50 4.50 - 4.70	SPTC ES 17 B 16	N=27 (2,3/5,6,7,9) PID=0.2 ppmv	4.50	2.70		4.50-6.80 Weak hydrocarbon odour.	4.70 +4.05		
5.50 - 5.95 5.50 5.50 5.50 - 5.70	SPTC ES 18 B 19	N=18 (2,5/6,4,3,5) PID=0.0 ppmv	5.50	1.90			(2.00)		
6.70 - 7.00 6.80 6.80 7.00 - 7.45	B 20 ES 21 UT 22	PID=0.0 ppmv 24 blows 100% rec	6.90	Damp	Firm dark greyish brown slightly sandy slightly gravelly CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine to medium of siliceous material. Occasional lenses (up to 40mm) of yellowish brown medium to coarse sand. (LONDON CLAY FORMATION)	6.70-7.00 Locally thinly laminated.	6.70 +2.05		
7.50	D 23		25/01/19 7.00	1645 Dry			(1.30)		
8.00	D 24		28/01/19 7.00	0751 Dry			8.00 +0.75		
8.50 - 8.95 8.50	SPTS D 25	N=15 (2,2/3,3,4,5)	8.00	Dry	Stiff locally thinly laminated bluish grey slightly sandy CLAY. Sand is fine to coarse. (LONDON CLAY FORMATION)				
9.00	D 26								
9.50 - 9.95	UT 27	48 blows 31% rec	9.00	Dry					
Groundwater Entries			Depth Related Remarks			Hard Boring			
No.	Depth Strike (m)	Remarks	Depth Sealed (m)	Depths (m)	Remarks	Depths (m)	Duration (mins)	Tools used	
				1.20 - 39.50	SPT Hammer ID TH01 (Er= 70%)	0.00 - 0.30	80		
				2.20 - 6.70	Water added to assist drilling.	0.30 - 1.20	70		
				6.50 - 7.50	Bentonite seal.				
				7.50 - 17.00	Water added to assist drilling.				
Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column. Scale 1:50 © Copyright SOCOTEC UK Limited 12/03/2019 10:47:08			Project Site investigation at Ashley House & Cannon Factory, Ashley Road South, Tottenham Hale, London Project No. D8061-18 Carried out for Notting Hill Home Ownership Ltd			Borehole BH02 Sheet 1 of 4			

Drilled	RB/JS	Start	Equipment, Methods and Remarks			Depth from	to	Diameter	Casing Depth	Ground Level	8.75 mOD
Logged	LP/JE/ME	17/01/2019	Dando 3000 Hand dug inspection pit from GL to 1.20m. Cable percussion drilling from 1.20m to 39.95m.			(m)	(m)	(mm)	(m)	Coordinates (m)	E 534464.60
Checked	EC	End				7.00	29.00	250	7.00	National Grid	N 189758.45
Approved	MM	04/02/2019				29.00	39.95	150	24.50		
Samples and Tests						Strata Description					
Depth	Type & No.	Records	Date	Time	Main	Detail	Depth, Level (Thickness)	Legend	Backfill		
			Casing	Water							
10.00	D 28				Stiff locally thinly laminated bluish grey slightly sandy CLAY. Sand is fine to coarse. (LONDON CLAY FORMATION)						
10.50 - 10.95 10.50 - 10.95	SPTS D 29	N=25 (4,5/5,6,6,8)	9.00	Dry							
11.00	D 30										
11.50 - 11.95	UT 31	49 blows 31% rec	9.00	Dry							
12.00	D 32										
12.50 - 12.95 12.50 - 12.95	SPTS D 33	N=23 (3,4/4,5,6,8)	9.00	Dry							
13.50	D 34										
14.50 - 14.95 14.50	UT 35 D 36	50 blows 31% rec	9.00	Dry							
15.00	D 37										
15.50 - 15.95 15.50 - 15.95	SPTS D 38	N=21 (3,4/4,5,6,6)	9.00	Dry							
16.00	D 39				Firm to stiff brownish grey to dark grey sandy CLAY. Occasional pockets (up to 5mm) of fine to medium sand. (LONDON CLAY FORMATION)	16.00-16.00 occasional pockets (up to 5mm) of fine sand.	(9.50)				
17.00 - 17.45	UT 40	50 blows 100% rec	9.00	Dry							
17.50	D 41		28/01/19 9.00	1705 Dry							
18.00	D 42		29/01/19 9.00	0800 Damp							
18.50 - 18.95 18.50 - 18.95	SPTS D 43	N=43 (6,8/8,10,11,14)	15.00	Dry							
19.00	D 44				18.00 Occasional pockets (up to 6mm) of lignite.	18.50 Thinly laminated.	(2.50)				
							20.00	-11.25			
Groundwater Entries					Depth Related Remarks			Hard Boring			
No.	Depth	Strike (m)	Remarks	Depth Sealed (m)	Depths (m)	Remarks	Depths (m)	Duration (mins)	Tools used		
Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project Site investigation at Ashley House & Cannon Factory, Ashley Road South, Tottenham Hale, London			Borehole			
Scale 1:50					Project No. D8061-18			BH02			
© Copyright SOCOTEC UK Limited					Carried out for Notting Hill Home Ownership Ltd			Sheet 2 of 4			
12/03/2019 10:47:08											

Drilled	RB/JS	Start	Equipment, Methods and Remarks			Depth from	to	Diameter	Casing Depth	Ground Level	8.75 mOD
Logged	LP/JE/ME	17/01/2019	Dando 3000 Hand dug inspection pit from GL to 1.20m. Cable percussion drilling from 1.20m to 39.95m.			(m)	(m)	(mm)	(m)	Coordinates (m)	E 534464.60
Checked	EC	End				0.00	7.00	250	7.00	National Grid	N 189758.45
Approved	MM	04/02/2019				7.00	29.00	200	24.50		
Samples and Tests						Strata Description					
Depth	Type & No.	Records	Date	Time	Main	Detail	Depth, Level	Legend	Backfill		
			Casing	Water			(Thickness)				
20.00 - 20.45 20.00	UT 46 D 45	50 blows 100% rec	18.00	Dry	Stiff dark greyish brown silty CLAY. (LONDON CLAY FORMATION)						
20.50	D 47					20.50 Becoming slightly sandy and bioturbation.	(1.30)				
21.30	D 48						21.30	-12.55			
21.50 - 21.95 21.50 - 21.95	SPTS D 49	N=48 (8,10/10,11,12,15)	18.00	Dry	Stiff fissured dark greyish brown gravelly silty CLAY. Gravel is angular to subrounded fine to coarse of siliceous material. Fissures are randomly orientated and extremely closely spaced. (LONDON CLAY FORMATION)			(1.20)			
22.50 - 23.00	B 50					22.50-23.00 Slightly gravelly. Gravel is subrounded to rounded fine to coarse of siliceous material.	22.50	-13.75			
23.00 - 23.45	UT 51	74 blows 95% rec	18.00	Damp	Very stiff fissured light greenish grey mottled red and dark brown CLAY. Fissures are randomly orientated and extremely closely spaced. (LAMBETH GROUP - LOWER MOTTLED BEDS)						
23.50	D 52					23.50 Grey mottled yellowish brown and reddish brown.					
24.00	D 53										
24.50 - 24.95 24.50 - 24.95	SPTS D 54	N=43 (7,9/9,10,11,13)	29/01/19 24.50	1718 Damp				(4.50)			
25.00	D 55		30/01/19 24.50	0748 Damp		25.00-26.00 Light greenish grey. 25.00-27.00 Becoming silty.					
26.00 - 26.45 26.00 26.00 - 26.50	UT NR D 56 B 57	75 blows No Recovery	24.50	Damp							
27.00	D 58					27.00 Rare pockets (up to 20mm) of light grey clay.	27.00	-18.25			
27.50 - 27.65 27.50 - 27.70	SPTS D 59	50 (25 for 72mm,0 for 0mm/43,7 for 5mm)	24.50	Damp	Firm to stiff fissured light whitish grey silty CLAY. Fissures are randomly orientated extremely closely spaced. (LAMBETH GROUP - LOWER MOTTLED BEDS)			(0.50)			
28.00	D 60					27.50 Firm to stiff greenish grey to grey with mottled light brown slightly clayey sandy SILT. Sand is fine to coarse. (LAMBETH GROUP - LOWER MOTTLED BEDS)	27.50	-18.75			
28.70 28.70 - 29.00	EW 61 B 62		30/01/19 24.50	1402 Damp		28.00 Rare pocket (up to 40mm) of white silt.	28.00	-19.25			
29.00 - 29.45 29.00 - 29.45	SPTS D 63	N=85 (6,6/17,20,22,26)	31/01/19 24.50	0723 Damp		28.70 Grey.					
						29.00 Rare orangish brown mottling.		(2.00)			
							30.00	-21.25			
Groundwater Entries					Depth Related Remarks			Hard Boring			
No.	Depth Strike (m)	Remarks	Depth Sealed (m)		Depths (m)	Remarks	Depths (m)	Duration (mins)	Tools used		
1	28.70	Rose to 27.10 m after 20 minutes.									
Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.					Project Site investigation at Ashley House & Cannon Factory, Ashley Road South, Tottenham Hale, London			Borehole			
Scale 1:50					Project No. D8061-18			BH02			
© Copyright SOCOTEC UK Limited					Carried out for Notting Hill Home Ownership Ltd			Sheet 3 of 4			



WINDOW SAMPLE LOG

Contract: Cannon Factory			Client: Nottingham Hill Housing		Window Sample: PH1
Contract Ref: 27782	Start: 18.04.15 End: 18.04.15	Ground Level: ---	Co-ordinates: ---	Sheet: 1 of 1	

Progress		Samples / Tests			Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
							MADE GROUND: Concrete slab.	0.20	
							MADE GROUND: Sand/membrane.	0.30	
							MADE GROUND: Concrete slab.	0.50	
							Zone core loss.	(0.30)	ZCL
								0.80	
							MADE GROUND: Chrysotile cement board.	0.90	
	0.90	ES1	ES				MADE GROUND: Brown sandy clay with occasional brick fragments.	(0.30)	
	0.90	1	PID	<0.1ppm				1.20	
	1.00-1.45		SPT	N=13					
	1.20	ES2	ES				Firm yellow brown sandy CLAY.	(0.30)	
	1.20		PID	<0.1ppm			(ENFIELD SILT MEMBER)	1.50	
	1.60	ES3	ES				Orange brown/yellow brown with dark brown mottling very sandy CLAY with fine to coarse angular to subrounded flint.	(0.60)	
	1.60		PID	<0.1ppm			(ENFIELD SILT MEMBER)	2.10	
	2.00-2.45	2	SPT	N=36					
							Yellow brown SAND and GRAVEL with rare small pockets of sandy clay. Gravel is fine to coarse rounded to angular flint.		
	2.50	ES4	ES				(KEMPTON PARK GRAVEL)		
	2.50		PID	<0.1ppm					
	3.00-3.45	3	SPT	N=31					
								(2.40)	
	3.50	ES5	ES						
	3.50		PID	<0.1ppm					
	4.00-4.45	4	SPT	N=44					
								4.50	
							End of borehole at 4.50m.		

Drilling Progress and Water Observations						General Remarks	
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)		
						1. No groundwater encountered. 2. Sand and gravel moist at 4.00m.	
						All dimensions in metres	Scale: 1:28
Method Used: Tracked window sampling	Plant Used: Archway Competitor			Drilled By: MBD	Logged By: CLarkin	Checked By:	



WINDOW SAMPLE LOG

Contract: Cannon Factory			Client: Nottingham Hill Housing		Window Sample: PH3
Contract Ref: 27782	Start: 18.04.15 End: 18.04.15	Ground Level: ---	Co-ordinates: ---		Sheet: 1 of 1

Progress		Samples / Tests			Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
							MADE GROUND: Concrete (reinforced).	0.20	
							MADE GROUND: Soft yellow brown sandy CLAY with slate and concrete fragments.	(0.40)	
	0.40 0.40	ES1	ES PID	<0.1ppm				0.60	
							Soft yellow brown very sandy CLAY with occasional medium subrounded gravel.	0.80	
	0.80 0.80	ES2	ES PID	<0.1ppm			(ENFIELD SILT MEMBER)		
	1.00-1.45	1	SPT	N=5			Firm orange brown very sandy CLAY with occasional dark mottling. (ENFIELD SILT MEMBER)	(0.80)	
								1.60	
	1.50 1.50	ES3	ES PID	<0.1ppm			Orange brown very clayey SAND and GRAVEL. Sand is coarse. Gravel is fine to coarse subrounded to subangular flint. (KEMPTON PARK GRAVEL)	(0.70)	
	2.00-2.45	2	SPT	N=17				2.30	
							Orange brown coarse SAND and GRAVEL fine to coarse subrounded to angular flint. (KEMPTON PARK GRAVEL)		
	2.50 2.50	ES5	ES PID	<0.1ppm				(1.70)	
	3.00-3.45	3	SPT	N=28				4.00	
	4.00-4.45	4	SPT	N=23			End of borehole at 4.00m.		

Drilling Progress and Water Observations						General Remarks						
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)							
						1. No groundwater encountered.						
						All dimensions in metres		Scale:	1:28			
Method Used:	Tracked window sampling			Plant Used:	Archway Competitor		Drilled By:	???	Logged By:	C Larkin	Checked By:	AGS



WINDOW SAMPLE LOG

Contract: Cannon Factory		Client: Nottingham Hill Housing		Window Sample: PH5
Contract Ref: 27782	Start: 18.04.15 End: 18.04.15	Ground Level: ---	Co-ordinates: ---	Sheet: 1 of 1

Progress		Samples / Tests			Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
							MADE GROUND: Concrete slab.	0.20	
							MADE GROUND: Bounded layer.	0.30	
							MADE GROUND: Concrete.	0.50	
							MADE GROUND: Yellow brown sand and concrete.	0.60	
	0.60 0.60	ES1	ES PID	<0.1ppm			MADE GROUND: Yellow brown sand with occasional brick fragments and fine to medium subrounded to angular flint.	0.85	
	1.00-1.45	1	SPT	N=5			MADE GROUND: Brown grey sand with rare concrete and glass fragments.	(0.35) 1.20	
							Firm reddish brown/light brown/brown slightly clayey SAND. (ENFIELD SILT MEMBER)	1.40	
	1.50 1.50	ES3	ES PID	<0.1ppm			Stiff yellow brown sandy CLAY with fine to coarse rounded to angular flint. (ENFIELD SILT MEMBER)	(0.50) 1.90	
	2.00-2.45	2	SPT	N=36			Light brown and brown orange medium SAND with some fine to medium subrounded to angular flint. (KEMPTON PARK GRAVEL)	(0.90) 2.80	
	3.00-3.45	3	SPT	N=19			Light yellow brown fine to medium SAND and GRAVEL. Gravel is fine to medium subrounded to angular flint. (KEMPTON PARK GRAVEL)	(1.20) 4.00	
	4.00-4.45	4	SPT	N=37			End of borehole at 4.00m.		

Drilling Progress and Water Observations						General Remarks			
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)				
						1. No groundwater encountered.			
						All dimensions in metres		Scale:	1:28
Method Used:	Tracked window sampling			Plant Used:	Archway Competitor		Drilled By:	MBD	Logged By: CLarkin
							Checked By:		



GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

WWS04

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON
FACTORY

Project No.
GRO-23113

Co-ords: 534354.43 - 189678.19

Hole Type
WS

Location: TOTTENHAM

Level: 9.25

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.23	9.02		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	1
		0.30	ES	PID=0	0.33	8.92		MADE GROUND: Brown grey sandy angular to subangular fine to coarse gravel of concrete and brick.	
		0.55	ES	PID=0	0.54	8.71		MADE GROUND: Brown concrete with medium to coarse gravel inclusions of quartzite.	
					0.80	8.45		MADE GROUND: Brown grey sandy angular to subangular fine to coarse gravel of concrete and brick. Sand is fine to coarse.	
		1.00	ES	PID=0				MADE GROUND: Dark grey clayey gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick.	
		1.20		N=2 (1,0/1,0,1,0)	1.30	7.95			2
		1.40	ES	PID=0				Soft brown clayey sandy SILT. Sand is fine to medium.	
		2.00		N=37 (5,7/7,10,10,10)	2.10	7.15			
		2.20	ES	PID=0				Brown sandy angular to subrounded fine to coarse GRAVEL of flint and quartzite. Sand is fine to coarse.	
		3.00		N=50 (10,9/11,15,12,12)					
		3.20	ES	PID=0					3
					3.50	5.75			
								End of borehole at 3.50 m	
									4
									5

Remarks

1. Area cleared by specialist utility clearance company. 2. Hand dug pit to 1.2m bgl. 3. Borehole cleared by UXO supervision. 4. Groundwater encountered at 3.4m bgl. 5. Borehole terminated at 3.5m bgl due to refusal on dense gravel. 6. Falling Head Test conducted in borehole at 3.5m bgl. 7. Borehole installed to 3.5m bgl using 2.0m plain and 1.5m slotted.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

WWS06

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON
FACTORY

Project No.
GRO-23113

Co-ords: 534291.55 - 189665.78

Hole Type
WS

Location: TOTTENHAM

Level: 8.92

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.22	8.70		MADE GROUND: Grey rebar reinforced concrete with medium gravel inclusions of quartzite.	1
		0.30	ES	PID=0				MADE GROUND: Grey brown sandy angular to subangular fine to coarse gravel of brick and concrete. Sand is fine to coarse.	
		0.50	ES	PID=0					
					0.80	8.12		MADE GROUND: Brown silty gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick.	2
		1.00	ES	PID=0					
		1.20		N=0 (0,0/0,0,0,0)					
					1.30	7.62		Brown sandy SILT. Sand is fine to coarse.	3
		1.50	ES	PID=0					
					2.00				
				N=16 (3,4/4,4,5,3)	2.10	6.82		Brown gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of quartzite and flint.	4
		2.50	ES	PID=0					
		3.00		N=23 (4,4/3,7,7,6)					
									5
		3.50	ES	PID=0					
		4.00		N=40 (25 for 140mm/11,11,10,8)					
		4.30		50 (11,11/50 for 220mm)					5
		4.50	ES	PID=0					
					5.00	3.92		End of borehole at 5.00 m	

Remarks

1. Area cleared by specialist utility clearance company. 2. Hand dug pit to 1.2m bgl. 3. Borehole cleared by UXO supervision. 4. Groundwater encountered at 2.5m bgl. 5. Borehole terminated at 5.0m bgl. 6. Borehole installed to 3.5m bgl using 2.0m plain and 1.5m slotted.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

WWS07

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON
FACTORY

Project No.
GRO-23113

Co-ords: 534348.34 - 189660.84

Hole Type
WS

Location: TOTTENHAM

Level: 9.14

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.20	8.94		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	1
		0.30	ES	PID=0				MADE GROUND: Brown grey clayey gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick and concrete.	
		0.50	ES	PID=0	0.70	8.44		MADE GROUND: Orange gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick and quartzite.	
		0.90	ES	PID=0				MADE GROUND: Soft brown silty sandy clay. Sand is fine to coarse.	
		1.20	ES	N=3 (2,3/1,1,0,1)	1.30	7.84		MADE GROUND: Red brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick.	2
		1.20	ES	PID=0				Brown gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of quartzite and flint.	
		1.40	ES	PID=0	1.80	7.34		Grey gravelly fine to coarse SAND. Gravel is angular to subrounded fine to coarse of quartzite and flint.	
		1.90	ES	PID=0	2.00	7.14		End of borehole at 3.00 m	
		2.00	ES	N=34 (4,7/7,7,8,12)					3
		2.10	ES	PID=0	2.50	6.64			
		2.60	ES	PID=0	3.00	6.14			4
		3.00		N=50 (5,8/50 for 235mm)					5

Remarks

1. Area cleared by specialist utility clearance company. 2. Hand dug pit to 1.2m bgl. 3. Borehole cleared by UXO supervision. 4. Groundwater encountered at 2.8m bgl. 5. Borehole terminated at 3.0m bgl due to refusal on dense sand. 6. Borehole installed to 3.0m bgl using 1.0m plain and 2.0m slotted.





GROUNDTECH
CONSULTING

Borehole Log

Borehole No.

WWS08

Sheet 1 of 1

Project Name: ASHLEY HOUSE AND CANNON
FACTORY

Project No.
GRO-23113

Co-ords: 534356.85 - 189643.57

Hole Type
WS

Location: TOTTENHAM

Level: 9.11

Scale
1:25

Client: NOTTING HILL GENESIS

Dates: 20/04/2023 -

Logged By
MB

Well	Water Strikes	Samples and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description	
		Depth (m)	Type	Results					
					0.23	8.88		MADE GROUND: Grey reinforced concrete with medium gravel inclusions of quartzite.	1
		0.40	ES	PID=0				MADE GROUND: Brown red gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of brick, concrete, flint and quartzite.	
		0.60	ES	PID=0					
		1.00	ES	PID=0	0.80	8.31		MADE GROUND: Dark brown gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of flint, quartzite, brick and concrete.	
		1.20		N=5 (1,0/1,1,2,1)					
		1.50	ES	PID=0	1.30	7.81		MADE GROUND: Dark brown clayey gravelly fine to coarse sand. Gravel is angular to subangular fine to coarse of flint, quartzite, brick and concrete.	2
		2.00			1.80	7.31		MADE GROUND: Soft to firm brown grey sandy gravelly clay. Gravel is angular to subangular fine to coarse of brick and concrete. Sand is fine to coarse.	
		2.00	ES	N=12 (1,2/5,3,3,1) PID=0					
		2.50	ES	PID=0	2.50	6.61		Brown sandy angular to subrounded fine to coarse GRAVEL of flint and quartzite. Sand is fine to coarse.	3
		3.00		50 (25 for 10mm/50 for 10mm)					
				3.50	5.61	End of borehole at 3.50 m			4

Remarks

1. Area cleared by specialist utility clearance company. 2. Hand dug pit to 1.2m bgl. 3. Borehole cleared by UXO supervision. 4. Groundwater encountered at 2.5m bgl. 5. Borehole terminated at 3.5m bgl due to refusal in dense gravel. 6. Borehole installed to 3.5m bgl using 2.0m plain and 1.5m slotted.



Borehole Log

Drilled	TL/BH	Start	Equipment, Methods and Remarks		Depth from	to	Diameter	Casing Depth	Ground Level	8.95 mOD	
Logged	LSP	31/01/2019	Dando 150 Hand dug inspection pit from GL to 1.20m. Cable percussion drilling from 1.20m to 8.00m.		0.00	8.00	150	5.60	Coordinates (m)	E 534292.59	
Checked	EC	End								National Grid	N 189666.98
Approved	MM	19/02/2019									

Samples and Tests					Strata Description				
Depth	Type & No.	Records	Date	Time	Main	Detail	Depth, Level	Legend	Backfill
			Casing	Water			(Thickness)		
			13/01/19	1715	(MADE GROUND)		(0.30)		
0.30	ES 1	PID=0.1 ppmv	31/01/19	1525	Strong light grey CONCRETE. 40-50% aggregate of angular to subrounded fine to coarse siliceous gravel with 10% small to medium voids.		0.30 (0.10) +8.65		
0.30	B 2						0.40 (0.10) +8.55		
0.30 - 0.40	ES 3	PID=0.0 ppmv		0745	(MADE GROUND)		(0.30)		
0.40	B 4				Yellowish brown gravelly fine to coarse SAND. Gravel is angular to rounded fine to coarse of siliceous material, brick and concrete.		0.70 (0.15) +8.25		
0.40							0.85 (0.15) +8.10		
0.40 - 0.60	ES 5	PID=0.0 ppmv	01/02/19	1545	(MADE GROUND)		(0.35)		
0.90			1.20	Dry	Dark brown to black gravelly clayey fine to coarse SAND. Gravel is very angular to subrounded fine to coarse of brick and concrete.		1.20 +7.75		
0.90					(MADE GROUND)				
1.50 - 1.95	SPTS	N=5 (1/1,1,1,2)	19/02/19	0730	CONCRETE.		(1.10)		
1.50	ES 7	PID=1.3 ppmv	1.20	Dry	(MADE GROUND)				
1.50 - 1.60	D 6				(MADE GROUND)				
1.50 - 1.95	B 8				Very soft dark brown slightly sandy gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is angular to rounded of siliceous material, concrete, brick and clinker. Cobbles are angular to subangular of concrete.	2.10-2.20 Gravel is subangular to rounded fine to coarse of siliceous material.	2.30 +6.65		
1.50 - 2.00					Very soft orangish brown slightly gravelly sandy CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine to medium of siliceous material.	2.50-2.95 Slightly clayey.			
2.10 - 2.20	D 9				Occasional pockets (up to 5mm) of black plastic clayey amorphous peat.				
2.30	ES 11	PID=2.5 ppmv	2.40	1.20	(ENFIELD SILT MEMBER)				
2.30 - 2.50	B 10				Medium dense to dense orangish brown sandy subangular to well rounded fine to coarse GRAVEL of siliceous material. Sand is fine to coarse.	3.50-3.95 Low cobble content. Cobbles are subrounded of siliceous material.	(3.00)		
2.30 - 2.50	SPTC	N=12 (2,5/3,3,1)			(KEMPTON PARK GRAVEL MEMBER)				
2.50 - 2.95	B 12								
2.50 - 2.95									
3.00 - 3.10	D 13								
3.50 - 3.93	SPTC	50 (4,7/10,15,13,12 for 55mm)	3.40	2.50					
3.50 - 3.95	B 14								
4.00 - 4.10	D 15								
4.50 - 4.95	SPTC	N=39 (4,4/6,8,10,15)	4.40	3.30					
4.50 - 4.95	B 16								
5.00 - 5.10	D 17								
5.30 - 5.50	B 18								
5.50 - 5.95	SPTS	N=9 (1,2/2,2,2,3)	5.40	Dry	Soft to firm dark greyish brown to dark brown slightly gravelly CLAY. Gravel is angular to subangular fine to coarse of claystone.	5.30-5.50 Sandy. Sand is fine to coarse and. Gravel is angular to rounded fine to coarse of siliceous material.	5.30 +3.65		
5.50 - 5.95	D 19				(LONDON CLAY FORMATION)		(1.20)		
6.00 - 6.10	D 20								
6.30 - 6.40	D 21								
6.50 - 6.95	SPTS	N=11 (1,2/2,2,3,4)	5.60	Dry	Firm to stiff dark brown CLAY.	6.30-6.40 Weak light grey claystone band recovered as gravel.	6.50 +2.45		
6.50 - 6.95	D 22				(LONDON CLAY FORMATION)				
7.00 - 7.10	D 23								
7.50 - 7.95	UT 24	35 blows 100% rec	5.60	Dry		7.00-7.10 Slightly gravelly. Gravel is angular to subangular fine to medium of claystone.	(1.50)		
7.95 - 8.00	D 25		19/02/19	1700		7.95-8.00 Sheared. Shears are extremely closely spaced and randomly orientated.	8.00 +0.95		
			5.60	Dry	END OF EXPLORATORY HOLE				

Groundwater Entries			Depth Related Remarks		Hard Boring		
No.	Depth Strike (m)	Remarks	Depth Sealed (m)	Depths (m)	Remarks	Depths (m)	Duration (mins) Tools used
				1.50 - 6.50	SPT Hammer ID BHDS01 (Er= 70%)		
				2.30 - 5.30	Water added to assist drilling.		

Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.	Project	Site investigation at Ashley House & Cannon Factory, Ashley Road South, Tottenham Hale, London		Borehole
Scale 1:50	Project No.	D8061-18		BH03
© Copyright SOCOTEC UK Limited	Carried out for	Notting Hill Home Ownership Ltd		
12/03/2019 10:47:09				Sheet 1 of 1

Borehole Log



Drilled TL/JS Logged LP Checked EC Approved MM	Start 29/01/2019 End 31/01/2019	Equipment, Methods and Remarks Dando 3000 Hand dug inspection pit from GL to 1.20m. Cable percussion drilling from 1.20m to 8.20m.	Depth from (m) 0.00	to (m) 8.20	Diameter (mm) 200	Casing Depth (m) 8.10	Ground Level 9.02 mOD Coordinates (m) E 534352.71 National Grid N 189649.18		
Samples and Tests			Strata Description						
Depth (m)	Type & No.	Records	Date Casing	Time Water	Main	Detail	Depth, Level (Thickness)	Legend	Backfill
0.30	ES 1	PID=0.0 ppmv	29/01/19	0730	(MADE GROUND)		(0.30)		
0.30	B 2		0.00	Dry	Strong light grey CONCRETE, 40-50% aggregate of angular to subrounded fine to coarse siliceous gravel with 10% small to medium voids.		0.30 (0.10) +8.72		
0.30 - 0.40	ES 3	PID=0.0 ppmv			(MADE GROUND)		0.40 (0.10) +8.62		
0.40	B 4				Yellowish brown gravelly fine to coarse SAND. Gravel is angular to rounded fine to coarse of siliceous material, concrete and brick.		(0.40)		
0.40					(MADE GROUND)		0.80 (0.10) +8.22		
0.40 - 0.80	ES 5	PID=0.0 ppmv	29/01/19	1730	(MADE GROUND)		0.90 (0.10) +8.12		
0.90	B 6		0.00	Dry	Dark brown to black gravelly silty fine to coarse SAND. Gravel is very angular to subrounded fine to coarse of brick and concrete. Occasional brick fragments (up to 90mm).	1.20 Occasional pockets (up to 4mm) of black plastic clayey amorphous peat.	(0.30)		
0.90 - 1.20	SPTS	N=8 (1,1/2,1,2,3)	30/01/19	0745	(MADE GROUND)		1.20 +7.82		
1.20 - 1.65	ES 8	PID=0.0 ppmv	0.00	Damp	CONCRETE.	1.60-2.20 Becoming slightly sandy with dark brown mottling.	(1.00)		
1.20	D 7			Dry	(MADE GROUND)				
1.20	B 9				Very soft dark brown slightly sandy gravelly CLAY with low cobble content. Sand is fine to coarse. Gravel is angular to rounded fine to coarse of siliceous material, concrete, brick and clinker. Cobbles are angular to subrounded of concrete. Occasional tile fragments (up to 60mm).	2.20-2.60 Slightly silty.	2.20 +6.82		
1.20 - 1.60	ES 10	PID=0.0 ppmv			(MADE GROUND)				
1.60	B 11				Soft orangish brown slightly gravelly sandy CLAY. Sand is fine to medium. Gravel is angular to subrounded fine to coarse of siliceous material.				
1.60 - 1.80	D 12				(ENFIELD SILT MEMBER)	3.20-3.70 Dark greyish brown.	(2.50)		
1.90	ES 13				Medium dense becoming very dense dark brown gravelly fine to coarse SAND. Gravel is very angular to rounded fine to coarse of siliceous material.				
2.10	SPTS	PID=0.0 ppmv	2.20	Dry	(KEMPTON PARK GRAVEL MEMBER)				
2.10	ES 15								
2.20 - 2.65	D 14	N=22 (5,5/5,5,6,6)							
2.20	B 16	PID=0.0 ppmv							
2.20	ES 17								
2.20 - 2.60	D 18								
2.70		PID=0.1 ppmv							
2.70									
2.70	SPTS		3.20	2.20					
3.20 - 3.60	ES 20	50 (11,8/14,14,16,6 for 20mm)							
3.20	D 19								
3.20	B 21	PID=0.0 ppmv							
3.20	W 22								
3.20 - 3.60	D 23								
3.60									
3.70									
4.20 - 4.63	SPTS	50 (6,6/12,14,13,11 for 55mm)	4.20	2.80					
4.20	D 24								
4.20 - 4.60	B 25								
4.70	D 26				Very dense dark brown sandy angular to well rounded fine to coarse GRAVEL of siliceous material. Sand is fine to coarse. (KEMPTON PARK GRAVEL MEMBER)	4.70 Clayey.	4.70 +4.32		
5.20 - 5.62	SPTC	50 (9,10/12,13,13,12 for 50mm)	5.20	4.00		5.20-5.60 Medium cobble content. Cobbles are subangular to rounded of siliceous material.	(1.00)		
5.20 - 5.60	B 27					5.70-6.60 Slightly sandy.			
5.70	D 28								
5.70 - 6.00	B 29				Soft dark grey slightly gravelly silty CLAY. Gravel is angular to well rounded fine to coarse of siliceous material and possible clastone. (LONDON CLAY FORMATION)		5.70 +3.32		
6.20 - 6.60	UT 30	45 blows 100% rec	6.10	5.00					
6.50	D 31		30/01/19	1745					
			6.10	5.10					
6.90	D 32		31/01/19	0800					
			6.10	2.30					
7.20 - 7.65	SPTS	N=19 (2,3/3,5,5,6)	6.10	4.00		7.20 Slightly sandy.	(2.50)		
7.20	D 33					7.20-8.10 Locally thinly laminated.			
7.60 - 8.10	UT 34	50 blows 89% rec	6.10	5.00					
8.10	D 35		31/01/19	1500		8.10 Becoming firm to stiff.	8.20 +0.82		
			8.10	Dry	END OF EXPLORATORY HOLE				
Groundwater Entries			Depth Related Remarks			Hard Boring			
No.	Depth Strike (m)	Remarks	Depth Sealed (m)	Depths (m)	Remarks	Depths (m)	Duration (mins)	Tools used	
				1.20 - 7.20	SPT Hammer ID TH05 (Er= 75%)				
				2.50 - 5.70	Water added to assist drilling.				
Notes: For explanation of symbols and abbreviations see Key to Exploratory Hole Records. All depths and reduced levels in metres. Stratum thickness given in brackets in depth column.			Project Site investigation at Ashley House & Cannon Factory, Ashley Road South, Tottenham Hale, London			Borehole			
Project No.			D8061-18			BH04			
Carried out for			Notting Hill Home Ownership Ltd			Sheet 1 of 1			





WINDOW SAMPLE LOG

Contract: Ashley House, Tottenham Hale			Client: Nottinghill Housing Trust		Window Sample: WS101
Contract Ref: 27663	Start: 31.01.15 End: 31.01.15	Ground Level: 9.16	National Grid Co-ordinate: E:534277.9 N:189642.0		Sheet: 1 of 1

Progress		Samples / Tests			Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
							MADE GROUND: Strong grey REINFORCED CONCRETE. (MADE GROUND)	0.20	
							MADE GROUND: Light brown coarse sandy GRAVEL. Gravel is fine angular to subrounded flint and brick. (MADE GROUND)	(0.40)	
	0.50 0.50	1	ES PID	<0.01ppm			MADE GROUND: Very soft black brown silty CLAY with some fine angular to rounded gravel. (MADE GROUND)	0.60 (0.60)	
	1.00 1.00	2	ES PID	<0.01ppm			MADE GROUND: Soft black very silty slightly sandy CLAY. Black oil congregated in the sandy pockets. (MADE GROUND)	1.20 (0.60)	
	1.50 1.50	3	ES PID	<0.01ppm			MADE GROUND: Black fine to medium angular to subrounded GRAVEL. Gravel is mainly ash but some flint. (MADE GROUND)	1.80 2.00	
	2.00 2.00	4	ES PID	<0.01ppm			Grey fine slightly sandy GRAVEL. Gravel is fine angular to rounded flint of mixed lithology. (KEMPTON PARK GRAVEL)	(1.80)	
	3.00 3.00	5	ES PID	<0.01ppm				3.80	

Drilling Progress and Water Observations						General Remarks						
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)							
						1. Hand dug inspection pit to 1.20mbgl. 2. Backfilled with shingle between 1.0mbgl and 3.80mbgl. Bentonite pellets were used to back fill between ground level and 1mbgl. 3. Installation plain pipe to 1mbgl with 3m of slotted screen.						
						All dimensions in metres	Scale:	1:25				
Method Used:	Tracked window sampling			Plant Used:	Archway Competitor		Drilled By:	PJD	Logged By:	ALanders	Checked By:	AGS

WINDOW SAMPLE LOG

Contract: Ashley House, Tottenham Hale			Client: Nottinghill Housing Trust		Window Sample: WS104
Contract Ref: 27663	Start: 31.01.15 End: 31.01.15	Ground Level: 9.22	National Grid Co-ordinate: E:534329.7 N:189667.4		Sheet: 1 of 1

Progress		Samples / Tests			Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
							MADE GROUND: Strong grey REINFORCED CONCRETE. (MADE GROUND)	0.21	
	0.50 0.50	1	ES PID	<0.01ppm			MADE GROUND: Black sandy very gravelly CLAY. Gravel is fine ash, clinker and some broken bricks. (MADE GROUND)	(0.79)	
	1.00 1.00	2	ES PID	<0.01ppm			MADE GROUND: Dark brown slightly sandy gravelly CLAY. Gravel is fine to medium brick fragments. (MADE GROUND)	1.00 (0.50)	
							Very soft light brown very sandy CLAY with frequent orange mottling, black mottling and rare white fine flint of gravel. (ENFIELD SILT)	1.50 (0.50)	
	2.00 2.00	3	ES PID	<0.01ppm			Soft orange very sandy CLAY with rare white flint of gravel. Sand is coarse. (ENFIELD SILT)	2.00 (0.50)	
	2.50 2.50	4	ES PID	<0.01ppm			Orange very sandy GRAVEL. Sand is coarse. Gravel is fine to medium angular to rounded flint of mixed lithology. (KEMPTON PARK GRAVEL)	2.50 (0.50)	
	3.00 3.00	5	ES PID	<0.01ppm			Orange very gravelly coarse SAND. Gravel is fine to medium angular to subrounded flint. (KEMPTON PARK GRAVEL)	3.00 (1.00)	
	3.50 3.50	6	ES PID	<0.01ppm					
	4.00 4.00	7	ES PID	<0.01ppm				4.00	

Drilling Progress and Water Observations						General Remarks			
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)				
						1. Hand dug inspection pit to 1.20mbgl. 2. Backfilled with shingle between 1.0mbgl and 4.0mbgl. Bentonite pellets were used to back fill between ground level and 1mbgl. 3. Installation plain pipe to 1mbgl with 3m of slotted screen.			
						All dimensions in metres		Scale:	1:25
Method Used:	Tracked window sampling		Plant Used:	Archway Competitor		Drilled By:	PJD	Logged By:	ALanders
						Checked By:			



WINDOW SAMPLE LOG

Contract: Ashley House, Tottenham Hale			Client: Nottinghill Housing Trust		Window Sample: WS107
Contract Ref: 27663	Start: 02.02.15 End: 02.02.15	Ground Level: 9.06	National Grid Co-ordinate: E:534343.7 N:189651.0		Sheet: 1 of 1

Progress		Samples / Tests			Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
							MADE GROUND: Strong grey REINFORCED CONCRETE. (MADE GROUND)	(0.30) 0.30	
	0.40	ES1	ES				MADE GROUND: Dark grey to black ashy silty sandy GRAVEL. Sand is fine to coarse. Gravel is angular to rounded fine to coarse of brick, mortar, concrete and flint with rare ceramic. (MADE GROUND)	(0.90)	
	0.85	ES5	ES						
	1.10	ES2	ES					1.20	
	1.50	ES3	ES				Firm orangish brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine of flint. (ENFIELD SILT)	(0.90)	
	1.70	D1	D					2.10	
	2.40	D2	D				Orangish brown, grey and cream sandy to very sandy GRAVEL. Sand is fine to coarse. Gravel is well rounded to angular fine to medium of flint. (KEMPTON PARK GRAVEL)	(0.90)	
	3.20	D3	D					3.00	
	3.50	ES4	ES				Dark grey sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subrounded fine to medium flint. Slight organic odour. (KEMPTON PARK GRAVEL)	(1.00)	
								4.00	
							End of borehole at 4.00m.		

Drilling Progress and Water Observations						General Remarks						
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)							
						1. Hand dug inspection pit to 1.20mbgl. 2. Backfilled with shingle between 1.0mbgl and 4.0mbgl. Bentonite pellets were used to back fill between ground level and 1mbgl. 3. Installation plain pipe to 1mbgl with 3m of slotted screen.						
						All dimensions in metres	Scale:	1:25				
Method Used:	Tracked window sampling			Plant Used:	Archway Competitor		Drilled By:	PJD	Logged By:	TJohnson	Checked By:	AGS



WINDOW SAMPLE LOG

Contract: Ashley House, Tottenham Hale			Client: Nottinghill Housing Trust		Window Sample: WS108
Contract Ref: 27663	Start: 02.02.15 End: 02.02.15	Ground Level: ---	National Grid Co-ordinate: ---		Sheet: 1 of 1

Progress		Samples / Tests			Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
							MADE GROUND: Strong grey REINFORCED CONCRETE. (MADE GROUND)	(0.30) 0.30	
	0.40	ES1	ES				MADE GROUND: Yellowish brown gravelly fine to coarse SAND. Gravel is angular to well rounded fine to medium occasionally coarse of flint. (MADE GROUND)	(0.80)	
	0.60	D1	D						
	0.80	ES2	ES					1.10	
	1.30	ES3	ES				MADE GROUND: Firm dark greyish brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is angular to subrounded fine to medium of flint with occasional red brick and concrete. (MADE GROUND)	(0.40) 1.50	
	1.80	ES4	ES				Soft to firm orangish brown locally speckled black slightly sandy silty CLAY. Sand is fine to coarse. (ENFIELD SILT)	(1.00)	
	2.10	D2	D				... at 2.30m becoming sandy to very sandy	2.50	
	2.70	D3	D				Orangish brown silty sandy GRAVEL. Sand is fine to coarse. Gravel is well rounded to angular fine to medium of flint with occasional quartz. (KEMPTON PARK GRAVEL) End of borehole at 2.70m.	2.70	

Drilling Progress and Water Observations						General Remarks						
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)							
						1. Hand dug inspection pit to 1.20mbgl. 2. Backfilled with shingle between 1.0mbgl and 2.7mbgl. Bentonite pellets were used to back fill between ground level and 1mbgl. 3. Installation plain pipe to 1mbgl with 1.7m of slotted screen. 4. Borehole dry.						
						All dimensions in metres	Scale:	1:25				
Method Used:	Tracked window sampling			Plant Used:	Archway Competitor		Drilled By:	PJD	Logged By:	TJohnson	Checked By:	AGS

WINDOW SAMPLE LOG

Contract: Ashley House, Tottenham Hale		Client: Nottinghill Housing Trust		Window Sample: WS109
Contract Ref: 27663	Start: 02.02.15 End: 02.02.15	Ground Level: 9.22	National Grid Co-ordinate: E:534355.1 N:189661.2	Sheet: 1 of 1

Progress	Samples / Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Window Run	Depth	No	Type	Results					
	0.30	ES1	ES				MADE GROUND: Strong grey REINFORCED CONCRETE. (MADE GROUND)	(0.30)	
							MADE GROUND: Greyish brown sandy to very sandy GRAVEL. Sand is fine to coarse. Gravel is angular to well rounded fine to coarse of flint and red brick with rare concrete. (MADE GROUND)	0.30	
							MADE GROUND: Firm dark brown sandy gravelly CLAY. Sand is fine to coarse. Gravel is angular to rounded fine to medium occasionally coarse of flint, brick, coal, concrete and rare granite. Occasional pockets of ashy sand. (MADE GROUND)	0.50	
	1.00	ES2	ES					(0.95)	
								1.45	
	1.60	ES3	ES				Soft to firm brown occasionally speckled reddish brown and grey slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine occasionally medium of flint. (ENFIELD SILT)		
	1.90	D1	D					(1.05)	
							... at 2.00m becoming grey with local brown mottling		
	2.30	D2	D					2.50	
							Yellowish brown gravelly fine to coarse SAND. Gravel is angular to subrounded fine to medium flint. (KEMPTON PARK GRAVEL)		
	2.80	D3	D					(0.70)	
								3.20	
	3.40	ES4	ES				Grey locally brown gravelly fine to coarse SAND. Gravel is angular to subrounded fine to medium flint. Slight organic/hydrocarbon odour. (KEMPTON PARK GRAVEL)		
	3.60	D4	D					(0.80)	
								4.00	
							End of borehole at 4.00m.		

Drilling Progress and Water Observations						General Remarks	
Date	Time	Borehole Depth (m)	Casing Depth (m)	Borehole Diameter (mm)	Water Depth (m)		
						1. Hand dug inspection pit to 1.20mbgl. 2. Backfilled with shingle between 1.0mbgl and 3mbgl. Bentonite pellets were used to back fill between ground level and 1mbgl. 3. Installation plain pipe to 1mbgl with 2m of slotted screen.	
All dimensions in metres						Scale:	1:25
Method Used:	Tracked window sampling		Plant Used:	Archway Competitor		Drilled By:	PJD
						Logged By:	TJohnson
						Checked By:	AGS

Contract: Ashley House, Tottenham Hale			Client: Nottinghill Housing Trust		Borehole: BH101
Contract Ref: 27663	Start: 31.01.15 End: 31.01.15	Ground Level: 9.08	National Grid Co-ordinate: E:534311.6 N:189629.4		Sheet: 1 of 3

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.20-0.60	B1	B				MADE GROUND: Strong grey REINFORCED CONCRETE. (MADE GROUND)	0.20 0.35	
0.60-1.00	B2	B				MADE GROUND: Greyish brown sandy GRAVEL. Sand is fine to coarse. Gravel is angular to well rounded fine to medium of flint. (MADE GROUND)		
1.10 1.20-1.65 1.40	D1 1 D2	D SPT(c) D	N=2			MADE GROUND: Dark grey to black silty ashy sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subangular fine to coarse of concrete, brick and flint. (MADE GROUND) ... at 1.10m becoming clayey	(1.35) 1.70	
2.00	U1	U	35 blows			Soft to firm orangish brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is subangular to subrounded fine flint. Rare relict rootlets. (ENFIELD SILT MEMBER)	(0.80) 2.50	
2.50 2.80 3.00-3.45	D3 D4 2	D D SPT(c)	N=45			Medium dense to dense orangish brown, grey and cream slightly sandy to very sandy GRAVEL. Sand is fine to coarse. Gravel is angular to well rounded fine to medium of flint. (KEMPTON PARK GRAVEL)	(2.50)	
3.80 4.00-4.45	D5 3	D SPT(c)	N=24					
4.80 5.00-5.45	D6 4	D SPT(c)	N=19			Medium dense orangish brown slightly gravelly fine to coarse SAND. Gravel is subangular to subrounded fine occasionally medium of flint. (KEMPTON PARK GRAVEL)	5.00 (1.00)	
6.00 6.50-6.95	D7 5	D SPT(c)	N=14			Medium dense orangish brown cream and grey slightly sandy to sandy GRAVEL. Sand is fine to coarse. Gravel is subangular to subrounded fine to medium of flint. (KEMPTON PARK GRAVEL)	6.00 (0.80) 6.80	
7.50 7.50	D8 D V		c _u =195			Firm to stiff indistinctly fissured dark brownish grey silty CLAY. (LONDON CLAY FORMATION)		
8.00-8.50 8.00	B8 U2	B U	85 blows			... at 8.00 to 8.50m claystone recovered as subangular fine to coarse gravel of aggrillaceous limestone	(3.20)	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
		5.00	5.00		5.00				1. Hand dug inspection pit to 1.20mbgl. 2. Borehole progressed to 13.0m drilled in 150mm diameter casing, reduced to 100mm diameter and drilled to the final depth of 20.0mbgl. 3. Borehole backfilled with shingle between 3.0mbgl and 7mbgl and between 19mbgl and 20.0mbgl. Bentonite pellets were used to back
Method Used: Cable percussion						All dimensions in metres			Scale: 1:50
Plant Used: Dando 2000			Drilled By: DH		Logged By: TJohnson		Checked By:		



BOREHOLE LOG

Contract: Ashley House, Tottenham Hale			Client: Nottinghill Housing Trust			Borehole: BH101	
Contract Ref: 27663		Start: 31.01.15 End: 31.01.15	Ground Level: 9.08		National Grid Co-ordinate: E:534311.6 N:189629.4		Sheet: 2 of 3

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
9.00 9.00	D9	D V	$c_u=210$			Firm to stiff indistinctly fissured dark brownish grey silty CLAY. (LONDON CLAY FORMATION) <i>(stratum copied from 6.80m from previous sheet)</i>	10.00	
9.50	U3	U	50 blows					
10.00 10.00	D10	D V	$c_u=152$			Stiff to very stiff dark grey slightly sandy silty micaceous CLAY with rare specks of white fossil shell. (LONDON CLAY FORMATION)		
10.50	D11	D						
11.00-11.45	6	SPT	N=30			... at 11.00 to 13.50m occasional pockets of grey silty micaceous fine sand		
12.00	D13	D						
12.50	U4	U	55 blows					
13.00	D14	D				... at 13.00m becoming very stiff		
13.50 13.50	D15	D V	$c_u=240$					
14.00-14.45	7	SPT	N=34					
15.00 15.00	D16	D V	$c_u=240$					
15.50	U5	U	55 blows					
16.00	D17	D						
16.50	D18	D						
17.00	U6	U	55 blows					
17.50 17.50	D19	D V	$c_u=240$					

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
									fill between ground level and 3mbgl and between 7mbgl and 19mbgl. 4. Installation of the borehole includes a deep 19mm plain pipe to 19mbgl with a piezometer and a shallow 35mm plain pipe to 3mbgl with 4m of slotted screen.
									All dimensions in metres
									Scale: 1:50
Method Used: Cable percussion			Plant Used: Dando 2000			Drilled By: DH		Logged By: TJohnson	Checked By:



BOREHOLE LOG

Contract: Ashley House, Tottenham Hale			Client: Nottinghill Housing Trust			Borehole: BH101	
Contract Ref: 27663		Start: 31.01.15 End: 31.01.15	Ground Level: 9.08		National Grid Co-ordinate: E:534311.6 N:189629.4		Sheet: 3 of 3

Samples and In-situ Tests				Water	Backfill & Instru- mentation	Description of Strata	Depth (Thick- ness)	Material Graphic Legend
Depth	No	Type	Results					
18.00-18.45	8	SPT	N=40			Stiff to very stiff dark grey slightly sandy silty micaceous CLAY with rare specks of white fossil shell. (LONDON CLAY FORMATION) (stratum copied from 10.00m from previous sheet)		
19.00	D20	D				... at 19.00 to 20.00m becoming faintly laminated		
19.50	U7	U	60 blows					
20.00	D21	D				Terminated at 20.00m.	20.00	
20.00		V	c _u =240					

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks		
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)			
Method Used: Cable percussion				Plant Used: Dando 2000			Drilled By: DH		Logged By: TJohnson		Checked By: AGS

Contract: Ashley House, Tottenham Hale			Client: Nottinghill Housing Trust		Borehole: BH102
Contract Ref: 27663	Start: 07.02.15 End: 07.02.15	Ground Level: 9.04	National Grid Co-ordinate: E:534298.9 N:189699.3		Sheet: 1 of 3

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.20-0.70	B1	B				MADE GROUND: Strong light grey REINFORCED CONCRETE. (MADE GROUND)	0.20	
						MADE GROUND: Dark greyish brown sandy to very sandy GRAVEL. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of concrete, brick and flint. (MADE GROUND)	(0.50)	
0.70-1.20	B2	B					0.70	
						MADE GROUND: Dark grey to black slightly clayey sandy GRAVEL with frequent pockets of ash. Sand is fine to coarse. Gravel is subangular to subrounded fine to coarse of concrete, flint, brick and slag/clinker. (MADE GROUND)	1.10	
1.20	D1	D						
1.20	U1	U	35 blows				(1.00)	
1.20		V	$c_u=42$					
1.70	D2	D						
1.90	D3	D				Very soft to soft brown locally orangish brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is angular to rounded fine to medium of flint. (ENFIELD SILT MEMBER)	2.10	
2.00-2.45	1	SPT(c)	N=37					
						Medium dense orangish brown, grey and cream slightly sandy to sandy GRAVEL. Gravel is angular to well rounded fine to medium of flint. (KEMPTON PARK GRAVEL)		
2.80	D4	D						
3.00-3.45	2	SPT(c)	N=25					
3.80	D5	D						
4.00-4.45	3	SPT(c)	N=23				(4.30)	
4.80	D6	D						
5.00-5.45	5	SPT(c)	N=16					
6.00	D7	D						
							6.40	
6.50-6.95	6	SPT	N=18			Very stiff indistinctly fissured dark brownish grey silty CLAY. (LONDON CLAY FORMATION)		
7.50	D8	D						
7.50		V	$c_u=162$					
8.00	U2	U	50 blows					
8.50	D9	D						
8.50		V	$c_u=200$				(5.00)	

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
									1. Hand dug inspection pit to 1.20mbgl. 2. Borehole progressed to 7.0m drilled in 150mm diameter casing, reduced to 100mm diameter and drilled to the final depth of 20.0mbgl. 3. Borehole backfilled with shingle between 1.0mbgl and 7mbgl and between 19mbgl and 20.0mbgl. Bentonite pellets were used to back
Method Used: Cable percussion						All dimensions in metres			Scale: 1:50
Plant Used: Cable tool rig			Drilled By: MB			Logged By: TJohnson		Checked By:	



BOREHOLE LOG

Contract: Ashley House, Tottenham Hale			Client: Nottinghill Housing Trust		Borehole: BH102
Contract Ref: 27663	Start: 07.02.15 End: 07.02.15	Ground Level: 9.04	National Grid Co-ordinate: E:534298.9 N:189699.3		Sheet: 2 of 3

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
9.00 9.00	D10	D V	$c_u=210$			Very stiff indistinctly fissured dark brownish grey silty CLAY. (LONDON CLAY FORMATION) (stratum copied from 6.40m from previous sheet)		
9.50-9.95	7	SPT	N=23					
10.50 10.50	D11	D V	$c_u=180$					
11.00	U3	U	50 blows					
11.50 11.50	D12	D V	$c_u=175$			Very stiff dark grey slightly sandy silty micaceous CLAY with rare specks of white fossil shell fragments. (LONDON CLAY FORMATION)	11.40	
12.00	D13	D						
12.50-12.95	8	SPT	N=26					
13.50 13.50	D14	D V	$c_u=210$					
14.00	U4	U	55 blows					
14.50	D15	D						
15.00 15.00	D16	D V	$c_u=210$					
15.50-15.95	9	SPT	N=29				(8.60)	
16.50	D17	D						
17.00	U5	U	60 blows					
17.50 17.50 17.80	D18 D19	D V D	$c_u=210$					

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
									fill between ground level and 1mbgl and between 7mbgl and 19mbgl. 4. Installation of the borehole includes a deep 19mm plain pipe to 19mbgl with a piezometer and a shallow 35mm plain pipe to 1mbgl with 6m of slotted screen.
									All dimensions in metres
									Scale: 1:50
Method Used: Cable percussion			Plant Used: Cable tool rig			Drilled By: MB		Logged By: TJohnson	Checked By:



BOREHOLE LOG

Contract: Ashley House, Tottenham Hale			Client: Nottinghill Housing Trust			Borehole: BH102	
Contract Ref: 27663		Start: 07.02.15 End: 07.02.15	Ground Level: 9.04		National Grid Co-ordinate: E:534298.9 N:189699.3		Sheet: 3 of 3

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
18.00-18.45	10	SPT	N=29			Very stiff dark grey slightly sandy silty micaceous CLAY with rare specks of white fossil shell fragments. (LONDON CLAY FORMATION) (stratum copied from 11.40m from previous sheet)		
19.00	D20	D						
19.50	U6	U	60 blows					
20.00	D21	D	$c_u=210$			End of borehole at 20.00m.	20.00	
20.00		V						

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		
									</	



BOREHOLE LOG

Contract: Ashley House, Tottenham Hale			Client: Nottinghill Housing Trust		Borehole: BH103A
Contract Ref: 27663	Start: 02.02.15 End: 03.02.15	Ground Level: 9.07	National Grid Co-ordinate: E:534362.3 N:189625.8		Sheet: 1 of 4

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
0.20-0.70	B1	B				MADE GROUND: Strong light grey REINFORCED CONCRETE. (MADE GROUND)	0.20	
0.70-1.20	B2	B				MADE GROUND: Greyish brown clayey sandy GRAVEL with low cobble content. Sand is fine to coarse. Gravel is angular to subrounded fine to coarse of concrete, brick and flint. (MADE GROUND)	(1.50)	
1.20-1.65	1	SPT(c)	N=12			... at 0.20 to 0.70m occasional pieces of timber	1.70	
1.90	D1	D				Soft to firm orangish brown slightly sandy slightly gravelly silty CLAY. Sand is fine to coarse. Gravel is angular to subangular fine flint. (ENFIELD SILT MEMBER)	(0.50)	
1.90	D2	D	$c_u=60$				2.20	
2.00	D2	D				Slightly sandy orangish brown, grey and cream to sandy GRAVEL. Sand is fine to coarse. Gravel is angular and well rounded fine to medium of flint. (KEMPTON PARK GRAVEL)		
2.00	U1	U	55 blows					
3.00-3.45	2	SPT(c)	N=42					
3.80	D3	D						
4.00-4.45	3	SPT(c)	N=43				(3.60)	
4.80	D4	D						
5.00-5.45	4	SPT(c)	N=21				5.80	
6.00	D5	D				Stiff indistinctly fissured dark brownish grey silty CLAY. (LONDON CLAY FORMATION)		
6.50-6.95	5	SPT	N=20					
7.50	D6	D						
7.50	D6	V	$c_u=172$					
8.00	U2	U	45 blows				(4.70)	
8.50	D7	D						
8.50	D7	V	$c_u=102$					

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
		5.00 29.50	5.00 26.00		5.00 29.00				1. Hand dug inspection pit to 1.20mbgl. 2. Borehole progressed to 13.5m drilled in 200mm diameter casing, reduced to 150mm diameter and to 22.5mbgl and then reduced to 100mm diameter casing and drilled to the final depth of 30mbgl. 3. Borehole backfilled with shingle between
Method Used: Cable percussion						All dimensions in metres			Scale: 1:50
Plant Used: Dando 2000			Drilled By: DH			Logged By: TJohnson		Checked By:	



BOREHOLE LOG

Contract: Ashley House, Tottenham Hale			Client: Nottinghill Housing Trust			Borehole: BH103A	
Contract Ref: 27663		Start: 02.02.15 End: 03.02.15	Ground Level: 9.07	National Grid Co-ordinate: E:534362.3 N:189625.8		Sheet: 2 of 4	

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
9.00 9.00	D8	D V	$c_u=195$			Stiff indistinctly fissured dark brownish grey silty CLAY. (LONDON CLAY FORMATION) <i>(stratum copied from 5.80m from previous sheet)</i>		
9.50-9.95	6	SPT	N=20					
10.50	D9	D				Stiff to very stiff dark grey slightly sandy silty micaceous CLAY with rare specks of white fossil shell fragments. (LONDON CLAY FORMATION)	10.50	
11.00	U3	U	50 blows					
11.50	D10	D						
12.00	D11	D						
12.50-12.95	7	SPT	N=29					
13.50	D12	D						
14.00	U4	U	50 blows					
14.50	D13	D						
15.00	D14	D						
15.50-15.95	8	SPT	N=33					
16.50	D15	D					(11.60)	
17.00	U5	U	55 blows					
17.50	D16	D						

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)	
									1.0mbgl and 6mbgl and 29mbgl and 30mbgl. Bentonite pellets were used to back fill between ground level and 1mbgl and between 6mbgl and 29mbgl. 4. Installation of the borehole includes a deep 19mm plain pipe to 29mbgl with a piezometer and a shallow 35mm plain pipe to 1mbgl with 5m
									All dimensions in metres
									Scale: 1:50
Method Used: Cable percussion			Plant Used: Dando 2000			Drilled By: DH		Logged By: TJohnson	Checked By:



BOREHOLE LOG

Contract: Ashley House, Tottenham Hale			Client: Nottinghill Housing Trust			Borehole: BH103A	
Contract Ref: 27663		Start: 02.02.15 End: 03.02.15	Ground Level: 9.07		National Grid Co-ordinate: E:534362.3 N:189625.8		Sheet: 3 of 4

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend
Depth	No	Type	Results					
18.00	D17	D				Stiff to very stiff dark grey slightly sandy silty micaceous CLAY with rare specks of white fossil shell fragments. (LONDON CLAY FORMATION) <i>(stratum copied from 10.50m from previous sheet)</i>		
18.50-18.95	9	SPT	N=29					
19.50	D18	D						
20.00	U6	U	60 blows					
20.50	D19	D						
21.00	D20	D				... at 20.50m becoming sandy		
21.50-21.95	10	SPT	N=38					
22.10							22.10	
22.50	D21	D						
23.00	U7	U	60 blows				(2.50)	
23.50	D22	D				Very stiff indistinctly fissured multicoloured mottled silty CLAY. (LAMBETH GROUP - UPPER MOTTLED BEDS)		
24.00	D23	D						
24.50-24.88	11	SPT	15/10,12,14 for 75mm				24.60	
25.50	D24	D						
26.00	U8	U	60 blows				(2.90)	
26.50	D25	D				Very stiff bluish grey slightly sandy silty laminated CLAY. (LAMBETH GROUP - LAMINATED BEDS)		

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks										
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)											
									of slotted screen.										
Method Used:		Cable percussion		Plant Used:		Dando 2000		Drilled By:		DH		Logged By:		TJohnson		Checked By:		AGS	
												All dimensions in metres				Scale: 1:50			



BOREHOLE LOG

Contract: Ashley House, Tottenham Hale			Client: Nottinghill Housing Trust			Borehole: BH103A	
Contract Ref: 27663		Start: 02.02.15 End: 03.02.15	Ground Level: 9.07		National Grid Co-ordinate: E:534362.3 N:189625.8		Sheet: 4 of 4

Samples and In-situ Tests				Water	Backfill & Instrumentation	Description of Strata	Depth (Thickness)	Material Graphic Legend		
Depth	No	Type	Results							
27.00	D26	D	N=50			Very stiff bluish grey slightly sandy silty laminated CLAY. (LAMBETH GROUP - LAMINATED BEDS) <i>(stratum copied from 24.60m from previous sheet)</i>	27.50			
27.50-27.95	12	SPT				... at 27.00m occasional fine to medium gravel of subangular CALCRETE	(1.00)			
28.50	D27	D	N=50			Hard greenish grey locally mottled brown sandy SILT/CLAY. Sand is fine. (LAMBETH GROUP - LOWER MOTTLED BEDS)	28.50			
29.00	D28	D				Very dense bluish grey becoming dark green silty fine glaucaantic SAND. (LAMBETH GROUP - LOWER MOTTLED BEDS)	(1.50)			
29.50-30.03	13	SPT								
30.00	D29	D								

Boring Progress and Water Observations						Chiselling / Slow Progress			General Remarks	
Date	Time	Borehole Depth	Casing Depth	Borehole Diameter (mm)	Water Depth	From	To	Duration (hh:mm)		

Our vision

“Engineering a better environment for people and the planet”

Our mission

“To solve complex problems for the benefit of clients, communities and the climate”

Our values

People orientated

Individually and collectively, people are our business. We strive to create environments for everyone to flourish and thrive.

Flexible

Pragmatic by nature and dedicated to getting the job done to the highest possible standard.

Professional

Operating at pace with integrity to deliver technical and robust solutions.

Environmentally aware

We understand our responsibility to the environment, it shapes our decision making and informs our practice.

Innovative

Our forensic questioning provides the ability to deliver appropriate innovations at every stage on every project.

Relationship focused

We value individuality and the benefits of working collaboratively to achieve positive outcomes for all.



