

Thorney Lane Data Centre Emergency Back-Up Generation Facility

Environmental Permit Application EPR/SP3224LP
Site Condition Report

Amazon Data Services UK Limited

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Glossary

Glossary/ Abbreviation	Term
ACM	Asbestos Containing Material
AFFF	aqueous film forming foams
AGI	Above Ground Installation
AoD	Above Ordnance Datum
BGL	Below ground level
BGS	British Geological Survey
BS	British Standards
BTEX	Benzene, Toluene, Ethylbenzene & Xylene
CAS	Chemical Abstracts Service
CFA	Continuous Flight Auger
CoPC	Contaminants of Potential Concern
CRT	Canal and Rivers Trust
CS	Characteristic Situation
CSM	Conceptual Site Model
DAA	Directly Associated Activity
DOC	Dissolved organic carbon
DQRA	Detailed Quantitative Risk Assessment
DWS	Drinking Water Standard
EA	Environment Agency
EC	European Commission
ECHA	European Chemicals Agency
EMS	Environmental Management System
EPR	Environmental Permitting Regulations
EQS	Environmental Quality Standard
ER	Ecological Receptor
6:2-FTAB	6:2 fluorotelomer sulfonamide alkylbetaine
6:2-FTS	6:2-fluorotelomersulfonic acid
GAC	Generic Assessment Criteria
GI	Ground Investigation
GQEA	Generic Quantitative Risk Assessment
HR	Human Receptor
HWOL	HazWasteOnLine
ID	Identity
IED	Industrial Emissions Directive
LCRM	Land Contamination Risk Management
LLP	Limited Liability Partnership
LOD	Limit of Detection
MAGIC	Multi-Agency Geographic Information for the Countryside
MCP	Medium Combustion Plant
MeFOSAA	Methylperfluorooctane sulfonamidoacetic acid
mOD	Metres Above Ordnance Datum

MSA	Mineral Safeguarding Area
MSDS	Material Safety Data Sheet
MW	Megawatts
MWth	Megawatts thermal
NVZ	Nitrate Vulnerability Zones
OS	Ordnance Survey
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated Biphenyls
PFA	Paraformaldehyde
PFAS	Per- and Polyfluoroalkyl Substances
PFBA	Perfluorobutane Acid
PFBS	Perfluorobutane Sulfonate
PFHxA	Perfluorohexanoic Acid
PFHxS	Perfluorohexanesulfonic Acid
PFNA	Perfluorononanoic Acid
PFNS	Perfluorononanesulfonic Acid
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctane Sulfonate
PFPeS	Perfluoropolyethers
RHS	Relevant Hazardous Substance
SAC	Special Area of Conservation
SCR	Selective Catalytic Reduction
SPA	Special Protection Area
SPZ	Source Protection Zone
SSSI	Site of Special Scientific Interest
SVOC	Semi-Volatile Organic Compounds
TDS	Total Dissolved Solids
TOC	Total Organic Carbon
TPH	Total Petroleum Hydrocarbons
VOC	Volatile Organic Compounds
WAC	Waste Acceptance Criteria
WFD	Water Framework Directive
WQS	Water Quality Standards

1. Report Context

1.1 Introduction

AECOM Limited ('AECOM') has been commissioned by Amazon Data Services UK Ltd ('the Operator') to prepare a new bespoke application for an Environmental Permit for the emergency back-up generation facility for the proposed data centre at Thorney Business Park, Thorney Lane North, Iver in Buckinghamshire. The environmental permit will be for the emergency backup generators and associated fuel storage and handling ('Proposed Installation')

This report has been prepared to support the permit application and details the Site Condition Report for the site. This report should be read in conjunction with other supporting application information. Records of the historic land use of the site and surrounding areas have been reviewed in order to describe the condition of the site and, in particular, to identify any substance in, on or under the land that may constitute a pollution risk to the land from historic activities. The pollution prevention measures have been identified where relevant.

1.2 Proposed Installation

The Environmental Permit application will be made for the combustion activities (including fuel storage and handling) associated with emergency backup generators only and not the wider data centre operations. The installation boundary for the Environmental Permit will include the areas covered by these activities only.

The wider data centre development consists of the construction of commercial buildings to comprise data centres, ancillary offices, associated plant, equipment and emergency backup generators and associated fuel storage, landscaping, sustainable drainage systems and parking.

A bank of emergency generators will be provided to support the data centre operation in the event of a power outage. Each individual generator will be classed as medium combustion plant (MCP) with an aggregated thermal input for the site which will exceed 50 megawatt thermal (MWth).

The installation will include 36 containerised generators to provide backup power supply for the two main data centre buildings, a smaller 'house' generator for each building to cover non critical operations in an emergency such as offices, the proposed generator fuel storage and handling areas, and associated emission points only.

It should be noted when reading this report that the Groundsure Report (Reference Number: GS-DHH-8CV-593-QJF) and the various site investigations cover the wider Data Centre Campus. The emergency generators and associated fuel loading and storage will be classed as the Proposed Installation throughout this report and is located within a central area within the wider Data Centre Campus.

2. Site Details

2.1 The Site

The details of the site are summarized in the table 1 below:

Table 1. Details of the Installation

Requested Details	Applicant Details
Name of the applicant	Amazon Data Services UK Ltd
Name of the Installation	Thorney Lane Data Centre Emergency Back-Up Generation facility
Activity address	Thorney Business Park, Thorney Lane North, Iver, Buckinghamshire SL0 9EE, United Kingdom
National grid reference	TQ 02987 8006

2.2 Application Document References

Table 2. Document References

Document Reference	Dates	Location
Drawing Figure 1 Site Location and Installation Boundary Plan	26 February 2026	Site Condition Report, Appendix A
Drawing Figure 2 Overall Site Layout and Emission Points Plan	26 February 2026	Site Condition Report, Appendix A
C-12000 Site Foul Water Drainage	15 October 2025	Site Condition Report, Appendix A
Groundsure Report (Reference Number: GS-S4B-X4B-3JZ-GSX & S-DHH-8CV-593-QJF)	19 th June 2025	Site Condition Report, Appendix B
MAGIC Search	June 2025	Site Condition Report, Appendix C
Ground Contamination Desk Study and Preliminary Risk Assessment (Reference Number ARP-276894-24-XX-XX-LQ-RP-00005)	08 December 2025	Site Condition Report, Appendix D
Ground Contamination Assessment – Eastern Site Area (Reference Number: 276894-24-ARP-XX-XX-RP-EC-00001)	04 December 2025	Site Condition Report, Appendix E
Material Safety Data Sheets (MSDS)	Various	Site Condition Report, Appendix F

2.3 Site Location

The Thorney Lane Data Centre Campus occupies approximately 9.54 hectares within Thorney Business Park in Iver, Buckinghamshire. The Proposed Installation is centred at E502987, N180006 in the centre of the data centre campus and is approximately 0.8 hectares.

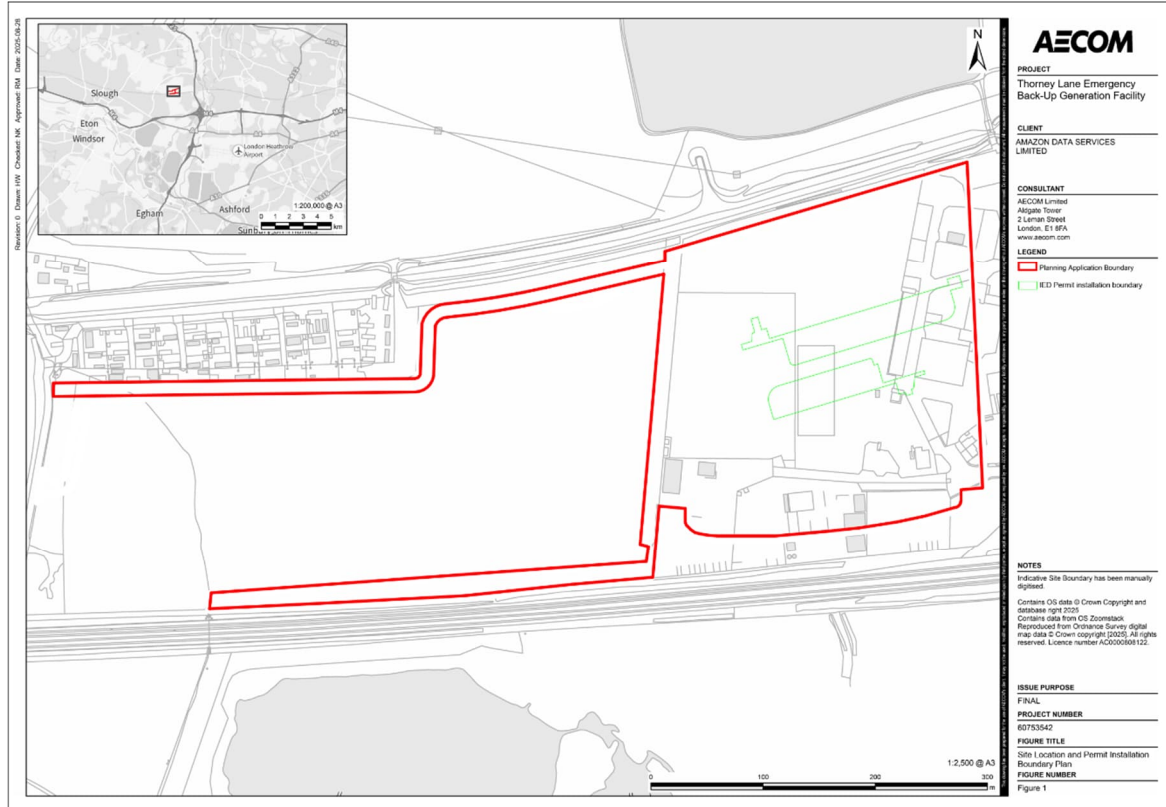
There is an extant planning permission (PL/22/1775/FA dated 29th May 2024) for data centre use at this site. The operator is seeking some amendments to this planning permission to reflect its specific design and layout requirements via a new full planning application

The data centre site is located approximately 1.2km south of Iver Town centre, 27km of London City Centre and 5km east of Slough. Heathrow airport is approximately 6km south-east. Grand Union Canal Slough arm borders the data centre site immediately to north, with the Great

Western Rail Line immediately south. The site is currently accessible by car via Thorney Lane North Road.

The Data Centre Location is shown in Plate 1 below.

Plate 1. Data Centre Location



2.4 Site Description

2.4.1 Existing Site

The eastern part of the proposed Data Centre lies within the western end of Thorney Business Park. This area was previously a mixed commercial and industrial complex occupied by multiple tenants split between several different storage yards, as well as temporary offices, a concrete batching plant, fuel points, and storage of filming support and accommodation trailers. The business park is now vacant and has mostly been cleared to ground level.

A summary of the previous site uses for the wider data centre site as confirmed in the Ground Contamination Desk Study and Preliminary Risk Assessment¹ produced by Arup is provided in Table 3 and shown on Plate 2.

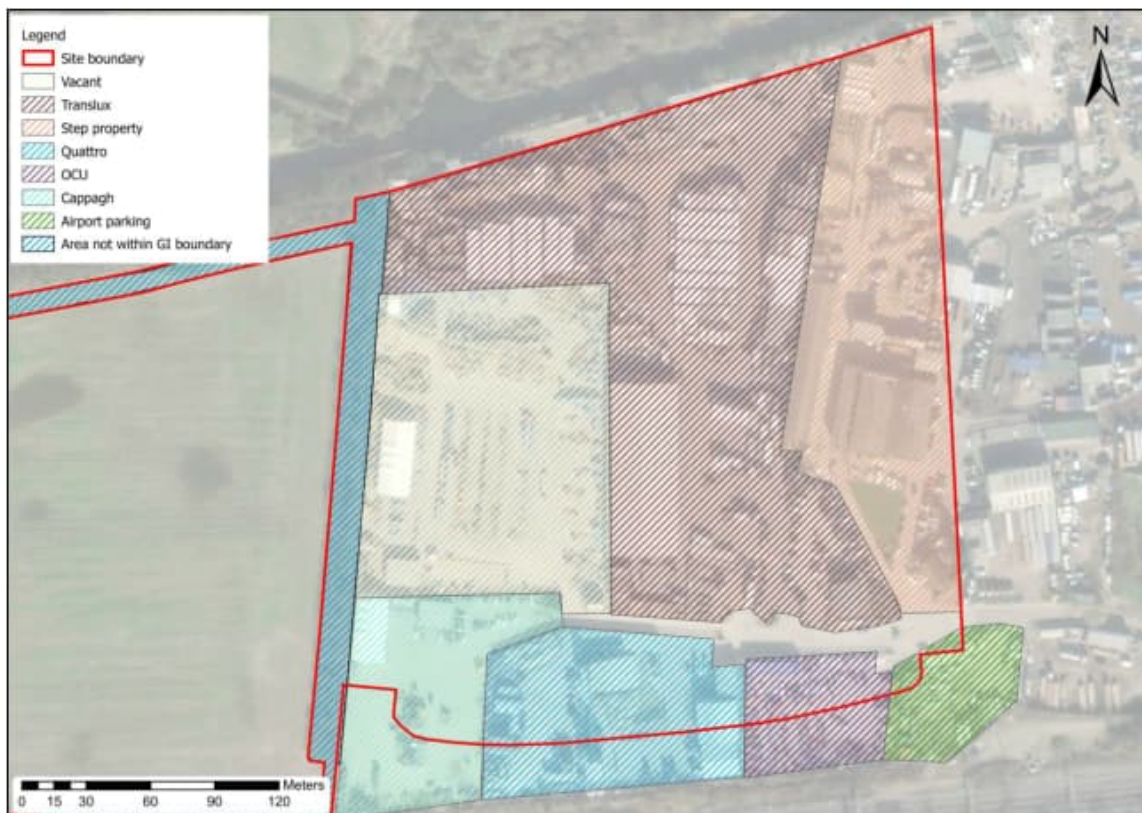
Table 3. Summary of previous site users

Site user	Land-use
Quattro (Waste Management & Concrete Mix Plant)	This area comprised a concrete batching plant and an associated storage yard. The concrete plant is not in regular operation and serves primarily as a contingency facility for other sites. The site is mainly utilised for the overnight parking and maintenance of lorries. Along the eastern boundary, three large sheds are located, which were used for vehicle servicing and fuel storage.

¹ ARUP, Ground Contamination Desk Study and Preliminary Risk Assessment, December 2025

Site user	Land-use
Cappagh (Construction, Skips, Aggregates & Utility Connections)	Used as a storage depot for vehicles and materials. A temporary unit was located in the northern section of the site was being utilised as office space. The remainder of the site was occupied by stored materials, aggregates, and a selection of chemicals, including petroleum-based lubricants. Fuel tanks were situated centrally and were used for refuelling Cappagh lorries and onsite plant.
Translux (Film & TV - Suppliers of Trailers and Campervans) and Vacant plot	The vacant plot, formerly occupied by a ground engineering company, was operated by Translux. This area, along with the northern section of the Translux site, was utilised for storing and servicing film industry trailers. The southern portion of the Translux area included their former servicing sheds and was temporarily used for the storage of Quattro cement lorries. A pumping station and a disused substation were located within the eastern area of the plot.
Step Property (Multi Tennant Licenced Area)	The southern portion of this area consists of demolished structures (numerous small units and two large buildings), while the northern section was previously operated by Speedy Fuels for refuelling their fuel tankers.
Airport Parking	This area was utilised as overflow parking in support of Heathrow Airport operations.
OCU formerly Instalcom - (utility service providers)	The area was previously utilised for storage but was vacated to provide supplementary parking for the Quattro offices, in addition to serving as a storage zone for materials and aggregates.

Plate 2. Summary of Previous Site Uses and Features Within Thorney Business Park

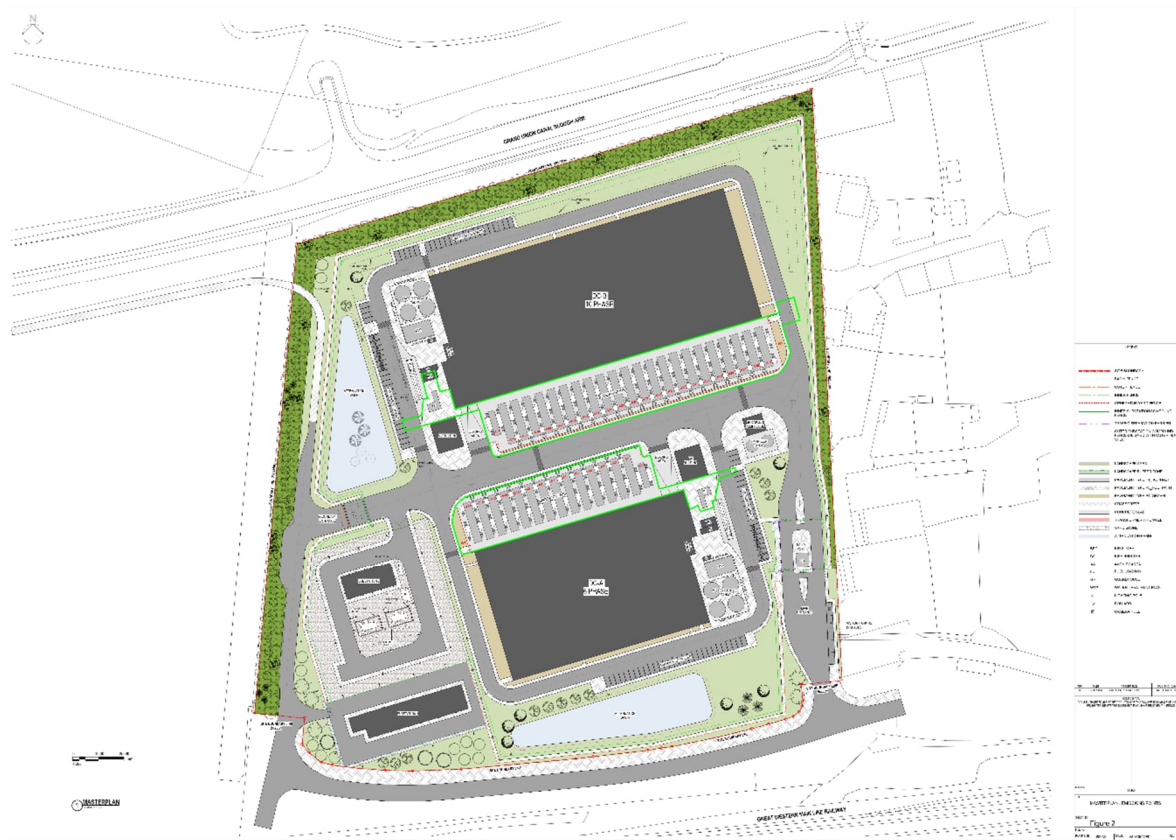


Source: "Ground Contamination Desk Study and Preliminary Risk Assessment (Reference Number ARP-276894-24-XX-XX-LQ-RP-00005)

2.4.2 Proposed Installation

The Environmental Permit application will apply solely to combustion activities associated with the emergency backup generators, including fuel storage and handling, and will not extend to the wider data centre operations. The Proposed Installation boundary will be limited to the areas encompassing these specific activities as shown by the green installation boundary in Plate 3 below.

Plate 3. Proposed Installation



The broader data centre development comprises the construction of commercial buildings accommodating data centres, ancillary office space, associated plant and equipment, emergency backup generators with fuel storage infrastructure, landscaping, sustainable drainage systems, and parking facilities.

The data centre operations will be served by a direct connection to the national electricity grid. In case of a break in supply, back-up generation will be provided by emergency diesel generators.

A dedicated bank of emergency generators will be installed to provide power continuity during outages. Each generator will qualify as a Medium Combustion Plant (MCP), and the combined thermal input across the site will exceed 50 megawatts (MWth). This constitutes a Schedule 1, Section 1.1 Part A(1)(a) activity under the Environmental Permitting (England and Wales) Regulations 2016 (as amended), which covers the combustion of any fuel in appliances with a rated thermal input of 50 MW or more.

2.4.3 Site Setting

Within the immediate surroundings of the Proposed Installation:

- Grand Union Canal Slough Arm is situated approximately 137m to the north of the installation boundary.
- Great Western Rail Line and Elizabeth Line are approximately 160m to the south of the installation boundary.
- Thorney Business Park East borders the installation boundary immediately to the east
- Agricultural fields are approximately 60m to the west of the installation boundary.

The closest residential receptors comprise Richings Park, located approximately 300m south-east of the Proposed Installation (on the opposite side of the railway line), and Grand Union Place halting / caravan site, located approximately 300m to the north west of the installation boundary.

Other notable land uses in the vicinity of the Proposed Installation include Ridgeway Industrial Estate (approximately 365m to the north-east on the opposite side of the Grand Union Canal), Court Lane Business Park (approximately 1km to the east), the Cemex Langley asphalt mixing plant (approximately 650m to the south), Richings Park Sports Park (approximately 840m to the south east), Grand Union Place caravan/halting approximately 300m to the west of the site, Hollow Hill Lane caravan / halting site approximately 650m north west of the site, and High Lane Yachting Boatyard (to the west of Mansion Lane).

2.4.4 Site Access Arrangements

Vehicular access for the Proposed Installation will be via a dedicated access road to the east (there is an extant permission -planning application ref. PL/22/1710/FA and live planning application ref. PL/24/2751/FA).

3. Condition of the Land at Permit Issue

The following sections detail the sources of desk study information searched in order to describe the condition of the site and, in particular, to determine the potential for substances to be present in, on or under the land associated with present and past uses of the site and its surrounding areas at the date of permit issue.

3.1 Environmental Consents, Permits and Designations

A Groundsure Report (Reference Number: GS-DHH-8CV-593-QJF) for the Data Centre Campus is reproduced in Appendix B. This report provides extensive information and details on:

- waste management licenses;
- environmental permits;
- discharge consents;
- groundwater vulnerability;
- trade effluent consents;
- records of any land pollution incidents associated with the site; and
- sensitive land uses

The Multi-Agency Geographic Information for the Countryside (MAGIC) website was searched to provide details of any:

- European Nature Conservation Sites;
- Special Protection Areas (SPAs);
- Special Areas of Conservation (SACs);
- Ramsar sites; and
- Sites of Special Scientific Interest (SSSIs).

The results of the MAGIC search are presented in Appendix C.

3.2 Environmental Setting

3.2.1 Geology

According to the publicly available data from the BGS Geology Viewer and Groundsure Report (Ref. GS-S4B-X4B-3JZ-GSX, dated 19th June 2025), the Proposed Installation sits on the edge of the London Basin and is considered worked ground (i.e. has been artificially lowered through anthropogenic activity). Superficial deposits of Lynch Hill Gravel are underlain by a bedrock succession of London Clay.

A summary of the geological succession across the site is presented in the Table 4 below.

Table 4. Summary of Anticipated Geology

Geology	Description (according to the BGS Lexicon of Named Rock Units)	Expected Location
Artificial and made ground		
Worked Ground	Worked Ground is an area where the land surface (natural or artificial) has been lowered as a result of man-made excavations. The purpose of the excavation is unspecified. Composition: void.	Present across the whole Proposed Installation area associated with the gravel quarry.
Superficial Deposits		

Geology	Description (according to the BGS Lexicon of Named Rock Units)	Expected Location
Lynch Hill Gravel Member - Sand and Gravel	The Lynch Hill Gravel Formation, now commonly referred to by its updated classification, comprises predominantly sand and gravel deposits, occasionally interspersed with lenses of silt, clay, or peat. These sediments rest unconformably atop the underlying bedrock geology, marking a clear stratigraphic boundary. Geographically, the formation is confined to the Thames Valley and its associated tributaries, where fluvial processes historically shaped its distribution and composition.	Present across the whole P-proposed Installation area.
Bedrock		
London Clay Formation	The London Clay Formation is characterised by bioturbated or poorly laminated deposits of blue-grey to grey-brown silty to very silty clay, clayey silt, and occasional silt, with interbedded layers of sandy clay. Its composition includes thin horizons of carbonate concretions—commonly referred to as cementstone nodules—and scattered pyrite. The unit also features minor beds of shells, fine sand partings, and localized pockets of sand, which tend to increase both at the base and near the top of the succession. Notably, thin beds of black rounded flint gravel occur at the basal level and at discrete intervals. Glauconite appears in several sandy layers and clay beds, while white mica is present at specific stratigraphic levels. Geographically, the London Clay extends across the London Basin, East Anglia, and the Hampshire Basin.	Present across the whole Proposed Installation area.

ARUP undertook further ground investigation (GI) work in 2025 across the wider Data Centre Campus and the typical succession of geological strata detailed in the ARUP 2025 Ground Contamination Assessment Report² is summarised in Table 5. The ground conditions detailed by ARUP are consistent with the ground conditions encountered during previous GIs at the site.

It is noted that the Harwich Formation was not identified in the previous investigations, potentially because it was not differentiated from the London Clay Formation due to similarities in the soil description towards the base of London Clay Formation.

Table 5 Summary of ground conditions encountered at Thorney Business Park (Arup, 2025)

Stratum	Typical Description	Average Thickness (m)
Hardstanding / Concrete	Grey CONCRETE.	0.3
Made Ground	Grey or brown sandy sometimes clayey GRAVEL / brown gravelly SAND. AND/OR Soft to firm, grey or brown slightly gravelly slightly sandy silty CLAY.	1.70

² Proposed Data Centre at Thorney Business Park, Ground Contamination Assessment Report – Eastern Site Area, Document Reference 276894-24-ARP-XX-XX-RP-EC-00001, Issue 4, 04 December 2025.

Stratum	Typical Description	Average Thickness (m)
Lynch Hill Gravel Member	Medium dense, orangish brown, sandy sometimes silty GRAVEL / very dense, orangish brown, gravelly SAND.	0.94
London Clay Formation	Firm to stiff, fissured, grey or brown, sandy silty occasionally gravelly CLAY with rare to occasional pyrite nodules, with occasional bioturbation.	23.3
Harwich Formation – Swanscombe Member	Firm to very stiff, dark grey to grey, silty occasionally gravelly CLAY with occasionally to frequent off-white and brown shell fragments.	1.75
Lambeth Group	Stiff to very stiff, grey to brown mottled reddish brown or grey, silty CLAY.	24.5**
White Chalk Sub-Group	Chalk with flints.	Not proven.

* Geological data within the Groundsure Report is taken from the BGS.

** The base of the Lambeth Group or the top of the Chalk Group were not encountered during the most recent GIs and therefore his data has been taken from BGS borehole data.

The thickness and nature of the Made Ground was found to be highly variable across the site (thickness ranges from 0.15m to 2.75m), and the presence of the Lynch Hill Gravel Member and Harwich Formation were found to be inconsistent.

3.2.2 Mining and Ground Workings

3.2.2.1 Mine Workings

According to Mining Remediation Authority Map Viewer³, the landside infrastructure areas within the Proposed Installation boundary are not within a Coal Mining Reporting Area or within a Development High Risk Area.

The Groundsure Report does not identify any underground workings or further mining areas within 500m of the site boundary including coal mining, non-coal mining and other materials.

The Proposed Installation has been classified as a Very Low risk for collapsible ground stability hazards and Negligible for ground dissolution hazards and has been classified as a Very Low risk associated with landslide ground stability hazards.

3.2.2.2 Mineral Workings

The Groundsure Report identifies 1 No. BritPit (abbreviation of British Pits) on site known as Iver Gravel Pit which was associated with historical sand and gravel extraction. Two further BritPits are located within 100m of the Data Centre Campus boundary including Hollow Hill Land Gravel Pit 49m south of the proposed emergency access road for sand and gravel extraction and Richings Park Gravel Pit 92m south of the Thorney Business Park site for sand and gravel extraction. Additional BritPits beyond 100m of the Data Centre Campus boundary are detailed in the Groundsure Report in Appendix B.

The Groundsure Report identifies surface ground workings on site including gravel pits, brick works, cuttings, unspecified disused workings, a refuse heap and an adjacent canal and wharf. Surface workings are further discussed in Section 6.1 during review of historical Ordnance Survey mapping.

The Groundsure report identified 2 No. Historical Mineral Planning Areas which includes boundaries of mineral planning permissions. One area is listed as West of Thorney Lane for sand and gravel extraction (dated 10th July 1968) and another area is listed as Hollow Hill Lane for sand and gravel extraction (dated 30th June 1966).

³ Mining Remediation Authority Map Viewer, <https://datamine-cauk.hub.arcgis.com/>, accessed 10th July 2025

3.2.3 Hydrogeology

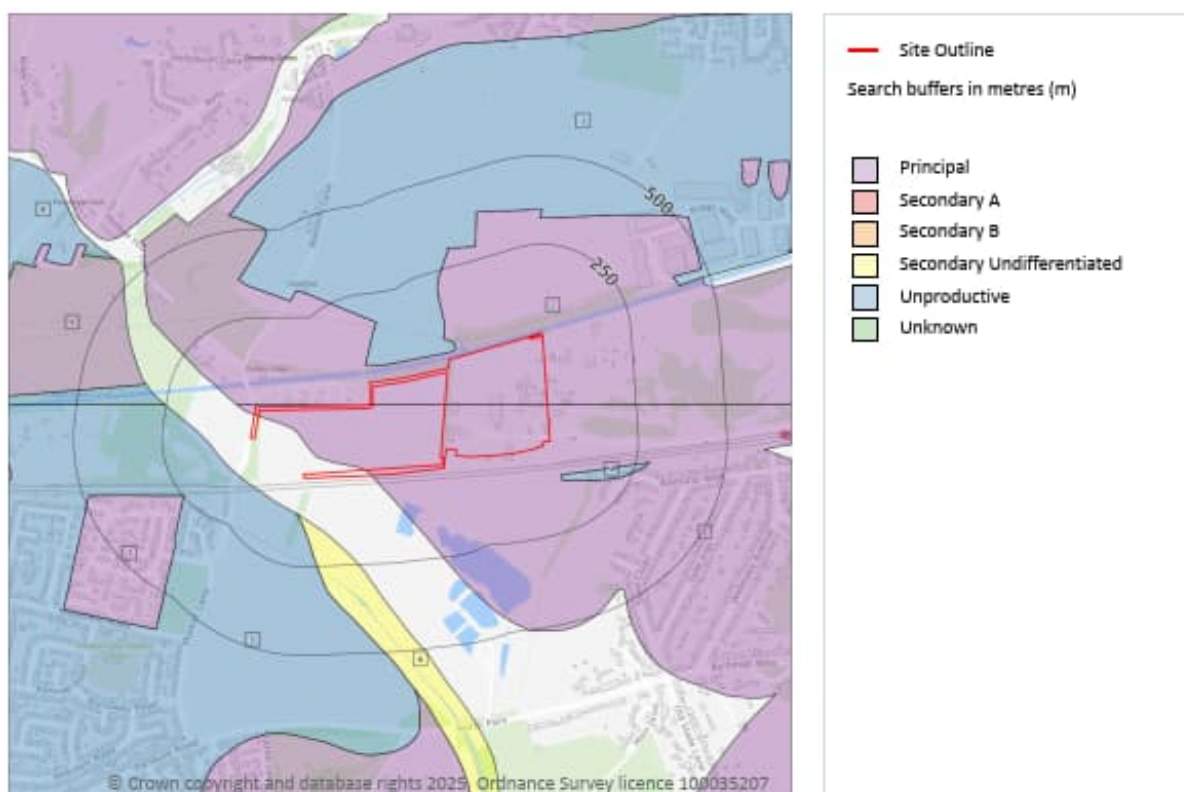
3.2.3.1 Aquifer Classification

The EA Groundwater Protection Policy adopts aquifer designations consistent with the Water Framework Directive, namely:

- Principal Aquifer: 'layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale'.
- Secondary A: 'permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers.'
- Secondary undifferentiated: 'layers previously designated as both minor and non-aquifer in different locations due to the variable characteristics of the rock type'.

According to the Groundsure Report, the superficial deposits of the Lynch Hill Gravel Member - Sand and Gravel is classed as Principal aquifer and the underlying bedrock of the London Clay Formation is classed as unproductive aquifer.

Plate 4. Aquifer Locations



3.2.3.2 Groundwater Vulnerability

The definition of the groundwater vulnerability to pollution is as follows:

- High: 'Areas able to easily transmit pollution to groundwater. They are characterised by high leaching soils and the absence of low permeability superficial deposits'.
- Medium: 'Areas that offer some groundwater protection. Intermediate between high and low vulnerability'.
- Low: 'Areas that provide the greatest protection to groundwater from pollution. They are likely to be characterised by low leaching soils and/or the presence of low permeability superficial deposits'.

Mapping provided by the BGS included within the Groundsure Report (Ref: GS-DHH-8CV-593-QJF, dated 19th June 2025) outlines the combined vulnerability of groundwater to pollution and has classified the Lynch Hill Gravel Member Principal Aquifer as high vulnerability.

3.2.3.3 Groundwater Source Protection Zones

The Proposed Installation is not located in a Groundwater source protection zone (SPZ). The nearest SPZ (Zone 3, total catchment) is located approximately 232m to the west.

3.2.3.4 Groundwater Quality

According to Groundsure Report (Ref: GS-DHH-8CV-593-QJF, dated 19th June 2025), the Proposed Installation overlies the Lower Thames Gravels groundwater body, which was classified as being 'poor' overall quality in 2019.

3.2.3.5 Groundwater Abstractions

The closest active groundwater abstraction licences are located approximately:

- 510m to the south of the Data Centre Campus site and is related to the abstraction of Thames Groundwater (maximum daily volume of 3608m³) by Cemex UK Material Limited at their Langley Quarry, Richings Park for the purposes of general washing, process water, mineral washing and dust suppression.
- 438m to the northwest of the Data Centre Campus site and is related to the abstraction of Thames Groundwater from borehole at Iver Golf Course for the purposes of spray irrigation (maximum daily abstraction of 70 m³).
- 891m to the north of the Data Centre Campus site and is related to the abstraction of Thames Groundwater from borehole at Shredding Green Farm for the purposes of general farming and domestic (maximum daily abstraction of 1226.9 m³).
- 948m to the northwest of the Data Centre Campus site and is related to the abstraction of Thames Groundwater at Terrace Deposits at Cherry Orchard Nursery for the purposes of trickle irrigation (maximum daily abstraction of 151 m³).
- 949m to the north of the Data Centre Campus site and is related to the abstraction of Thames Groundwater at Shredding Green Farm for the purposes of transfer between sources maximum daily abstraction of 655 m³).
- 952 m to the north of the Data Centre Campus site and is related to the abstraction of Thames Groundwater from pond at Shredding Green Farm for the purposes of spray irrigation (maximum daily abstraction of 1226.9 m³).
- According to BGS GeoIndex Onshore⁴, there is one groundwater abstraction well (BGS Ref: TQ07NW430) and it is located approximately 25m to the southeast of the Data Centre Campus site. This abstraction well was constructed in 1935 for Rail and Road Aggregates Ltd, at Gravel Pits, adjoining Iver Station. According to the Ground contamination assessment report¹ it is likely that the groundwater was abstracted from the chalk for the purposes of gravel washing. The well was constructed after gravel extraction had ceased at the site and was linked to gravel extraction to the east of the site. The gravel extraction appears to be extended below the water table without any significant water abstraction. It is possible that the gravel extraction (and localised shallow water pumping) may locally draw groundwater from the site (and adjacent landfill to the west) in a more southerly direction, as opposed a more south-easterly direction. The BGS historical borehole records indicate that there are no other deep wells close to the site.

3.2.3.6 Groundwater Levels

According to Thorney Lane, Ground Contamination Desk Study and Preliminary Risk Assessment¹ Groundwater is present in the Lynch Hill Gravel member at levels of around

⁴ British Geological Survey GeoIndex Onshore Viewer, <https://mapapps2.bgs.ac.uk/>, accessed 10th July 2025

28.2m OD to 31.3mOD. Water is also widely present in the Made Ground and appeared to be at similar levels to the Lynch Hill Gravel Member. Therefore, it appears there may be a degree of connectivity between the shallow groundwater and Made Ground perched water. This is to be expected given the significant disruption to the shallow ground conditions from the gravel extraction which has truncated the superficial deposits across large parts of the site.

During the 2024 monitoring on the main site, several installations purged dry, while during the 2025 monitoring only two locations purged dry. This together with the variability in the recorded thickness of the Lynch Hill Gravel Member, suggests there may be areas where the shallow groundwater aquifer may be locally discontinuous rather than a continuous unit with high conductivity.

The groundwater monitoring data suggested groundwater flow is in a southerly direction. There is an active quarry 100m to the south of the site which is excavating the Lynch Hill Gravel Member. Aerial imagery shows water ponded in the excavations, so some localised pumping is likely, which may be drawing groundwater to the south. There is an active abstraction licence located 500m south of the site boundary in the quarry for process washing. The record does not list which aquifer the abstraction is from though does mention freshwater lagoon in the name, which supports the potential for pumping from the lagoons / ponds on site.

There is likely an element of groundwater flow from the landfill in the western field onto the main site, which has the potential to impact the groundwater quality especially the southwest area of the main site. There is limited groundwater monitoring results available for the western site area. Groundwater strikes were recorded in the Made Ground at depths below 4mbgl (approximately 31mAOD) and Lynch Hill Gravel around 8mbgl (26.5m OD). A groundwater level was recorded in the landfill material at approximately 3.3mbgl (29.2m OD). At this location 'landfill' directly overlies the London Clay, the gravels presumably having been removed following mineral extraction. Groundwater was also recorded in the Lynch Hill Gravels in the southwest of the western area at approximately 24m OD.

Groundwater is expected to be present in the deeper Chalk aquifer. Groundwater has been recorded in both the London Clay and Lambeth Group during monitoring in the eastern and western sites though at depths of around 26m to 30m OD.

3.2.4 Hydrology

3.2.4.1 Surface water Courses

The site is within the Horton brook water body catchment. There are no surface water features on Proposed Installation area or the wider Data Centre Campus site.

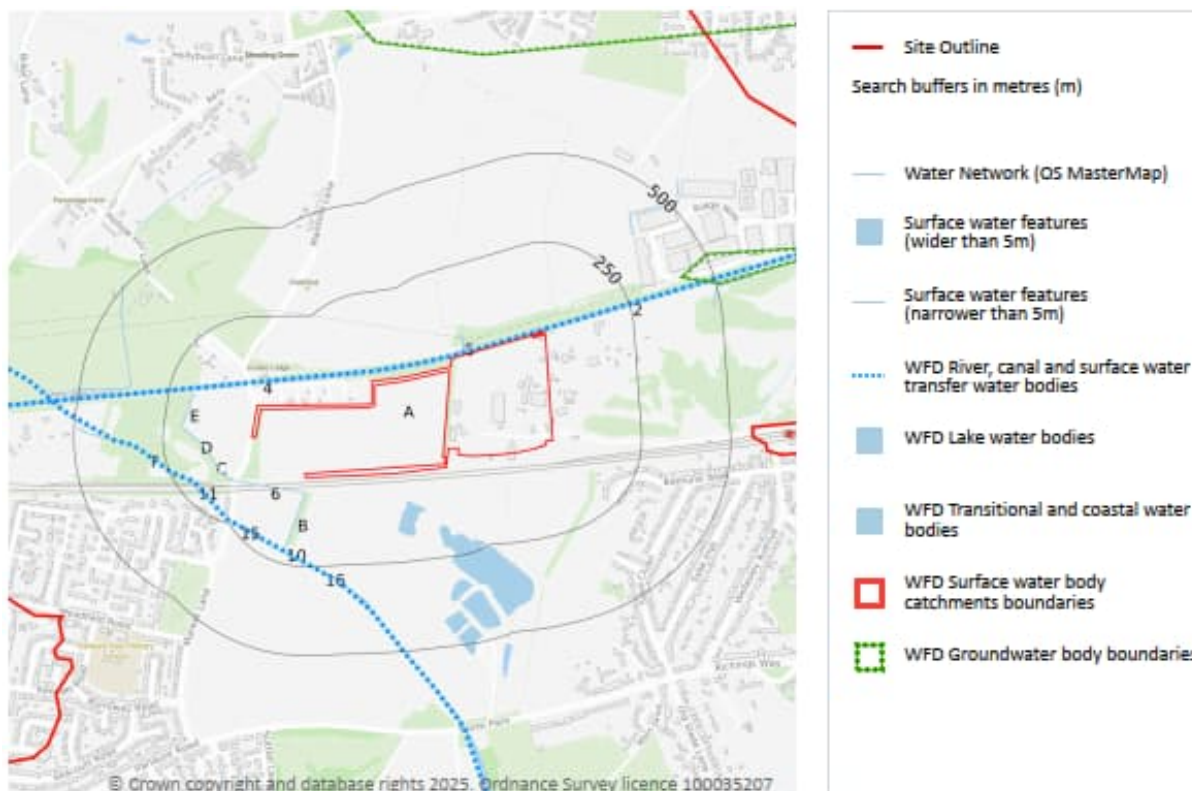
There are numerous surface water features located in close proximity to the Proposed Installation area and the wider data centre site. These are presented in Table 6 and shown on Plate 5 below.

Table 6. Surface Water Features

Surface Water Feature	Closest Distance to the Data Centre Site and Direction	Closest Distance to Proposed Installation Boundary and Distance
Grand Union Canal	5m north	137m north
Horton Brook	Approximately 204m southwest	Approximately 365m southwest
Unnamed ponds (Cemex)	Approximately 200m south	Approximately 400m south
Unnamed land drain	Approximately 630 m west	Approximately 675 m west
Unnamed land drain	Approximately 380 m southwest	Approximately 485m southwest

Surface Water Feature	Closest Distance to the Data Centre Site and Direction	Closest Distance to Proposed Installation Boundary and Distance
Attenuation pond	Approximately 150 m east	Approximately 200 m east
Unnamed ponds	Approximately 700 m southwest	Approximately 760 m east

Plate 5. Surface Water Features



Grand Union Canal is listed as having the following River Quality classification:

- Moderate – Overall
- Fail – Chemical
- Moderate – Ecological.

Horton Brook is listed as having the following River Quality classification:

- Moderate – Overall
- Fail – Chemical
- Moderate – Ecological.

3.2.4.2 Surface Water Abstractions

According to the Groundsure Report (Ref: GS-DHH-8CV-593-QJF, dated 19th June 2025), there are no surface water abstractions points within 1km of the Proposed Installation.

3.2.4.3 Nitrate Vulnerable Zones

According to the Groundsure Report (Ref: GS-DHH-8CV-593-QJF, dated 19th June 2025), no Nitrate Vulnerability Zones (NVZ) exist within 250m of the Proposed Installation.

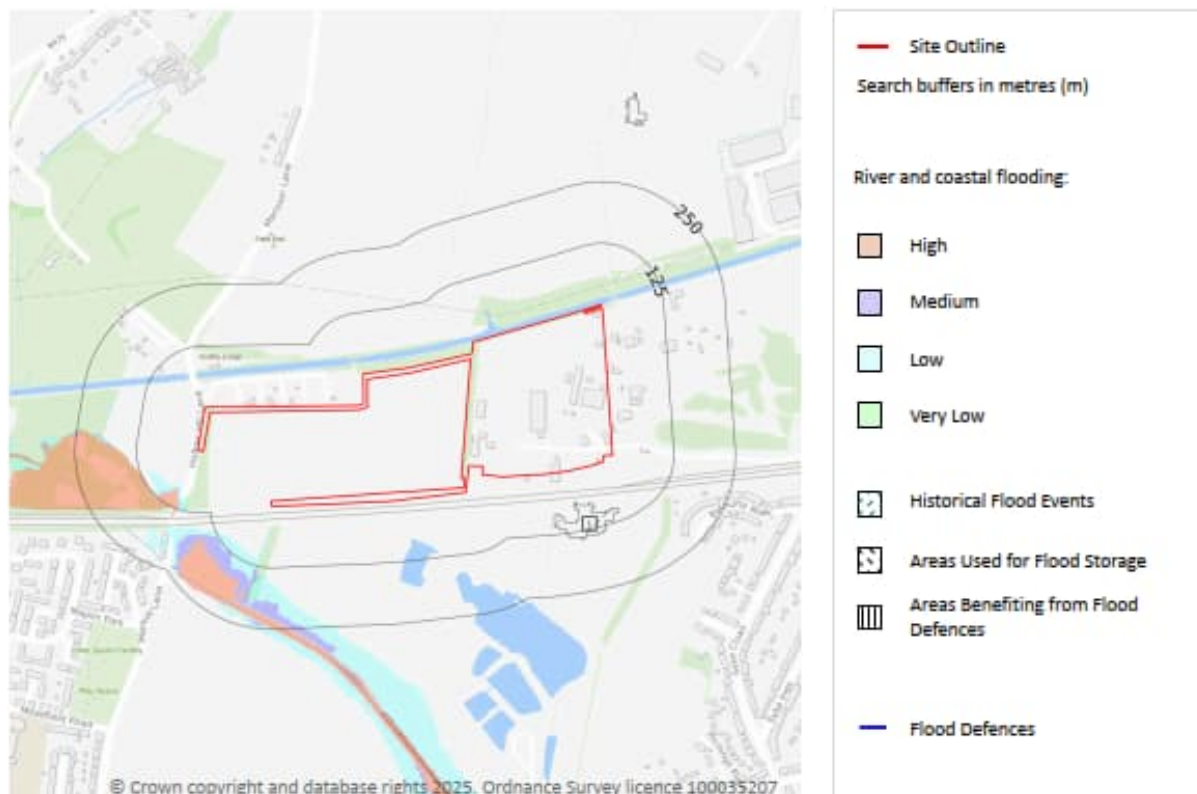
3.2.4.4 Drinking Water Protected Areas

According to the Groundsure Report (Ref: GS-DHH-8CV-593-QJF, dated 19th June 2025), a Source Protection Zone 3 is located approximately 232m west of the Data Centre Campus site.

3.2.5 Flood Risk

The Proposed Installation is located inland a considerable distance from the sea such that the risk of tidal flooding is considered to be negligible. The Proposed Installation sits within a Flood Zone 1 for risk of flooding from rivers.

Plate 6. Flood Zones



The Grand Union Canal bounds the northern Data Centre campus site and is approximately 137m to the north of the Proposed Installation boundary at its closest point. The Water levels of the Canal are controlled by the Canal & River’s Trust (CRT).

The Environment Agency’s Flood Map for Planning⁵ indicates that the Proposed Installation lies outside the designated Flood Zone.

According to the Groundsure Report (Ref: GS-DHH-8CV-593-QJF, dated 19th June 2025), a single flood event occurred between 30th January and 10th February 2014, approximately 66m south of the Data Centre site.

3.3 Sensitive Land Uses

The nearest human receptors (“HR”) are residential properties situated immediately to the west and south of the Data centre Campus. Details of the human receptors are presented in Table 7 below along with the distance from the Proposed Installation Boundary.

According to the MAGIC report and Groundsure Report (Ref. no. GS-DHH-8CV-593-QJF) within 2km of the Data Centre Campus are two sensitive ecological receptors (“ER”): Richings Park and Billet Lane Woodland, both designated as Ancient Woodland areas. Details of the sensitive ecological receptors are presented in Table 7 below along with the distance from the Proposed Installation Boundary.

⁵ Environment Agency’s Flood Map for Planning, <https://flood-map-for-planning.service.gov.uk>, accessed 11th July 2025

Table 7. Sensitive receptor details

Receptor ID	Receptor details	Approximate Distance from the Proposed Installation Boundary At The Closest Point	National Grid Reference	
			X	Y
HR1	97 Bathurst Walk	240m	503235	179783
HR2	Unnamed road	521m	502543	180057
HR3	Dudley Lodge	747m	502316	180080
HR4	Dudley Wharf Caravan Site	866m	502200	180107
HR5	1 Market Lane	903m	502169	179736
HR6	7b Ruscombe House	661m	503250	179308
HR7	32 North Park	842m	503024	179097
HR8	123 Sutton Lane	1,178m	502249	179074
HR9	4 Field End Mansion Lane	767m	502383	180317
HR10	148 Mansion Lane	851m	502396	180484
HR11	80 Thorney Lane North	1,058m	503923	180544
HR12	22 Barnes Way	1,128m	503798	180788
HR13	Grange Farmhouse	802m	503354	180683
ER1	Richings Park (Ancient Woodland)	1,624m	503237	178325
ER2	Billet Lane Woodland (Ancient Woodland)	2,228m	501660	181683

The closest designated site is Southwest London Waterbodies, Special Protection Area (SPA), and Site of Special Scientific Interest (SSSI) which lies approximately 6km to the south.

The Proposed Installation is surrounded by the London Green Belt with agricultural lands located to the north across the Grand Union Canal Slough Arm, to the west and southwest and the scrub lands located directly to the east designated as Green Belt lands. The London Green Belt, officially known as the Metropolitan Green Belt, is a protected zone of countryside surrounding Greater London. Its primary purpose is to prevent urban sprawl, preserve natural landscapes, and maintain open space for recreation and biodiversity. The London Green Belt is not a designated area by the EA.

3.3.1 Pollution History

3.3.1.1 Pollution Incidents Which May have affected the Land

There are seven entries detailed with the Groundsure report (Ref.no. GS-DHH-8CV-593-QJF, dated 19th June 2025) associated with pollution incidents located within 250m of the Data Centre Campus and its associated emergency access road:

- A pollution incident was recorded on 22nd April 2003 associated with general biodegradable materials and wastes and located approximately 28m south of the Data Centre emergency access boundary at Hollow Hill Lane. This was approximately 600m east from the Proposed Installation boundary. The water and air impact were recorded as Category 4 (No Impact) and the land impact was recorded as Category 3 (Minor).
- A pollution incident was recorded on 2nd May 2007 associated with oil and fuel and located approximately 32m east of the Data Centre Campus boundary on Thorney Business Park.

This was approximately 90m east from the Proposed Installation boundary. The air impact was recorded as category 4 (No Impact) and the land and water impact was recorded as Category 2 (Significant).

- A pollution incident was recorded on 30th May 2003 associated with waste materials located approximately 128m southeast of the Data Centre emergency access boundary near Hollow Lane and rail line. This was approximately 710m southwest from the Proposed Installation boundary.. The air and water impact were recorded as Category 4 (No Impact) and the land impact was recorded as Category 3 (Minor).
- A pollution incident was recorded on 7th June 2002 associated with waste materials located approximately 178m south of the Data Centre Campus boundary near Market lane and rail line. This was approximately 700m south west from the Proposed Installation boundary. The air and water impact were recorded as Category 4 (No Impact) and the land impact was recorded as Category 4 (No Impact).
- A pollution incident was recorded on 17th November 2002 associated with waste materials located approximately 180m southeast of the Data Centre emergency access boundary near Market lane and rail line. This was approximately 704m south west from the Proposed Installation boundary. The air, land and water impact were recorded as Category 4 (No Impact).
- A pollution incident was recorded on 15th October 2001 located approximately 188m southeast of the Data Centre emergency access boundary near Market lane and rail line. This was approximately 710m south west from the Proposed Installation boundary. The air and land impact were recorded as category 4 (No Impact) and water impact was recorded as Category 2 (Significant). Pollutant was not identified.
- A pollution incident was recorded on 23rd March 2003 associated with materials and wastes located approximately 231m northeast of the Data Centre emergency access boundary near Mansion Lane. This was approximately 575m north west from the Proposed Installation boundary. The air and water impact were recorded as Category 4 (No Impact) and land impact was recorded as Category 3 (Minor).

3.3.1.2 Historical Land Uses

Historical mapping has been reviewed to evaluate the potential for past activities, both on and adjacent to the Proposed Installation site, to have impacted upon its environment and land quality. Historical Ordnance Survey (OS) maps of the Site were obtained from Groundsure Insights (Report Ref: GS-BRE-TW6-N69-2R5) and are presented in Table 8 below. The available mapping dates were between 1897 – 2025. Where dates are given in the text, these refer to dates of maps on which the features appear, and do not necessarily refer to exact dates of construction, or operation of any facility. The historical land uses within the installation boundary and immediate area are summarised in Table 8 below.

Table 8. Summary of Historical Land Uses

Period	Land Use Activity
Up to Circa (c) 1878	Historical mapping indicates that the proposed installation remained as undeveloped agricultural land, delineated by field boundaries. A railway line is shown running along the southern edge of the proposed installation on a raised embankment, with a small gravel pit situated further beyond.
c. 1884 to c.1932	Gravel extraction took place across the majority of the proposed installation, beginning in the southwest and west, and gradually extending eastwards - though it did not cross the original eastern boundary, which remained intact. Historical mapping depicts a canal running along the northern site boundary, likely constructed in a cutting. Notably, in the northwest corner, where the gravel pit adjoined the canal, no level changes were apparent. By 1924, partial restoration of the gravel pit had occurred, with vegetated areas emerging in the western section and embankments still visible along the western and southern boundaries. A railway siding is also shown extending into the gravel pit from the eastern edge of the site.

Period	Land Use Activity
c. 1945 to c.2007	<p>Site levels appear to have been slightly elevated prior to the construction of a concrete plant associated with Bison Concrete (as visible in Google Earth Pro imagery). The facility underwent significant expansion during the late 1960s and early 1970s, incorporating travelling cranes, workshops, engineering infrastructure, and an electrical substation. Two areas containing above-ground tanks are identified - likely used for fuel oil storage. Along the eastern site boundary, these tanks were situated near 'petrol pumps', which were most likely intended for diesel refuelling of lorries and may have been connected by a short length of underground pipework.</p> <p>Gravel extraction activity began to the west of the site in the late 1960s or early 1980s, progressively advancing eastward but not reaching the site boundary. The excavated area was subsequently utilised as a domestic waste landfill. By 1987, this western zone was labelled as 'disused workings'. Historical records suggest the landfill operated under a dilute and disperse regime prior to the introduction of formal licensing in the late 1970s, making it unlikely that the landfill was lined.</p> <p>To the east of the site, aerial mapping from 1970 depicts vegetation and a builder's yard, suggesting that restoration - and possible landfilling - had taken place. By 1987, the entire former gravel pit in this area had been infilled. Ground investigation data does not indicate that the landfill extended onto the subject site or received domestic waste. This area is similarly identified as a local authority landfill not captured by the late - 1970s licensing framework. It is understood that the waste is most likely construction and demolition waste associated with the M25 construction.</p> <p>From the 1970s onward, the site layout has remained largely unchanged, with the exception of a possible building addition near the eastern boundary (associated with Speedy Fuels) in the mid-1990s</p>
c. 2002 to c. 2015	<p>Bison Concrete Limited was granted planning consent in 2002 for the development of a waste transfer station which was located in the southern part of the data centre site (approximately 60m south of Proposed Installation) . From the mid - 2000s onward, a large gravel pit operated by Cemex was active to the south of the site, beyond the railway embankment, with water visibly present in the pits according to aerial imagery. Around 2005, Cappagh Public Works Ltd began using part of the site for material recycling. On 2nd May 2007, a pollution incident involving oil/fuel occurred in the eastern area of the Thorney Business park outside the installation boundary, resulting in Category 2 (Significant) impacts on both water and land.</p> <p>By 2008, the concrete works had ceased operations, and aerial photographs show that the laydown areas had been cleared. By 2010, most of the site had been demolished, excluding a portion adjacent to the eastern boundary that included the Speedy Fuels building. Demolition stockpiles were visible across the site. From 2010, part of the site was repurposed as a vehicle dismantling yard. In 2011, planning permission was granted for redevelopment, introducing a storage and maintenance compound complete with office and maintenance buildings.</p> <p>In April 2010, a major fire severely damaged a building in the northeast of the site, which was clad with asbestos cement sheeting. In 2015, additional planning approval was granted for the operation of a wood recycling facility. Between 2013 and 2015, multiple waste management licences were issued, including to Quattro (UK) Limited for material recycling, waste treatment, and vehicle depollution activities.</p>
c. 2016 to present	<p>Site has been occupied by Thorney Business Park, which hosts a range of commercial operations listed in trade directories. These include car breakers and dismantlers, concrete manufacturing and distribution, garage services, oil fuel distribution (e.g. Speedy Fuels), packaging supply businesses, and road haulage firms.</p> <p>In addition, the site has supported various waste-exempt activities, such as the storage and treatment of waste materials, the use of waste in construction, the screening and</p>

Period	Land Use Activity
	blending of waste, the processing of waste wood and plant matter, and the recovery of scrap metal.

3.3.1.3 Historical Land Uses and Possible Associated Contaminants

Historical land uses are detailed in the Section 3.3.1.2. Table 9 summarizes the potential on-site and off-site sources of contamination identified in the Thorney Lane Ground Contamination Assessment Report¹, along with the possible contaminants associated with each source.

Table 9. Potential Sources of Contaminants

Potential Source	Associated Contaminants of Potential Concern (CoPC)
Gravel extraction occurred across all/most of the site	Made Ground of unknown origin as part of any partial restoration.
Concrete plant construction, operation. Construction of a waste transfer station	Potential for fuel oils, with metals, other hydrocarbons/organic compounds and asbestos and placement of fill of unknown origin
Landfill sites	Potential for a range of inorganic and organic contaminants including but not limited to heavy metals, acids, organic compounds, inorganic compounds, asbestos, TPH, PAH, VOC, SVOC, solvents, lubricants, fuel oils, alkalis, PCB. Potential for ground gases including methane, hydrogen sulphide and carbon dioxide.
In April 2010, a large fire badly damaged a building in the northeast of the site. The building was clad in asbestos cement sheeting.	Contamination from the fire, including spread of asbestos fibres and PFAS.

3.3.1.4 Visual And Olfactory Evidence of Existing and Historic Contamination

Visual and olfactory evidence of existing and historic contamination across the Data Centre Campus site is detailed in Thorney Lane Ground Contamination Assessment Report¹.

Visual or olfactory indicators of contamination were identified at 27 of the 97 locations across the main Data Centre Campus investigated during the Delta-Simons and Concept ground investigations. Table 10, outlines the specific locations where such evidence was observed. Despite these findings, the results of soil and groundwater analysis suggest that hydrocarbon contamination does not pose a significant risk across the site.

There were localised pockets of hydrocarbon contamination, these are found in BH24-10, DS25-07, DS25-10, DS105, DS120, CP105 and DS201. It should be noted that none of these pockets lie within the Proposed Installation boundary.

Table 10. Summary of contamination observations based on the Delta-Simons and Concept Ground Investigations

Location	Depth (mbgl)	Contamination observations	Within Proposed Installation Boundary
<i>Delta-Simons ground investigation observations</i>			
DS105	0.55-0.65	Hydrocarbon odour	No
DS116	0.90-1.30	Slight hydrocarbon odour	No
DS120	1.40-1.50	Hydrocarbon odour and staining	
CP105	1.45	Slight sheen on groundwater during the first monitoring visit	No

Location	Depth (mbgl)	Contamination observations	Within Proposed Installation Boundary
DS201	1.60-1.70	Slight hydrocarbon odour and staining	No
Spare 2	0.30-0.40	Very strong hydrocarbon odour	No
TP204	0.25-0.30	Hydrocarbon odour	No
TP307, DS304 and DS306	0.55-1.80	Slight hydrocarbon odour	Yes for DS304 and DS306
<i>Concept 2024 ground investigation observations</i>			
BH24-07	0.70-1.20	Hydrocarbon odour and oily residue at 0.70m, and weak to moderate odour at 0.90m	No
BH24-10	0.30-0.90	Strong hydrocarbon odour	No
DS24-01	0.90-1.20	Hydrocarbon odour and staining	No
DS24-07	0.25-1.00	Strong hydrocarbon odour	No
<i>Concept 2025 ground investigation observations</i>			
BH25-02	0.24-1.2	Mild hydrocarbon odour	No
BH25-04	1.0-1.8	Mild hydrocarbon odour	No
BH25-05	3.00	Strong ammonia odour	No
DS25-01	1.50	Slight peat/ tarmac odour	No
DS25-01	2.00	Mild hydrocarbon odour	No
DS25-02	1.00-1.20	Tar-like odour with oily sheen in water	No
BH25-05, S25-01, DS25-02, DS25-07, DS25-08, DS25-10, DS25-11 and DS25-15A	0.30-2.82	Slight hydrocarbon odour	No
DS25-13	1.20-1.56	Mild hydrocarbon odour	Yes
DS25-13	2.00-3.00	Low hydrocarbon odour	Yes
DS25-13	1.20-1.56	Mild hydrocarbon odour	Yes
DS25-13	2.00-3.00	Low hydrocarbon odour	Yes
DS25-14	1.20-1.50	Black staining	No
DS25-15A	0.80-1.52	Very strong hydrocarbon odour. Water also had a very strong hydrocarbon odour	No
DS25-17	0.30-0.80	Slight hydrocarbon odour with oily sheen on the gravel	No
Drainage 1	-	Free product within drainage	No

The location of the observations for odours and visual contamination during the Concept investigations are presented on Plate 7.

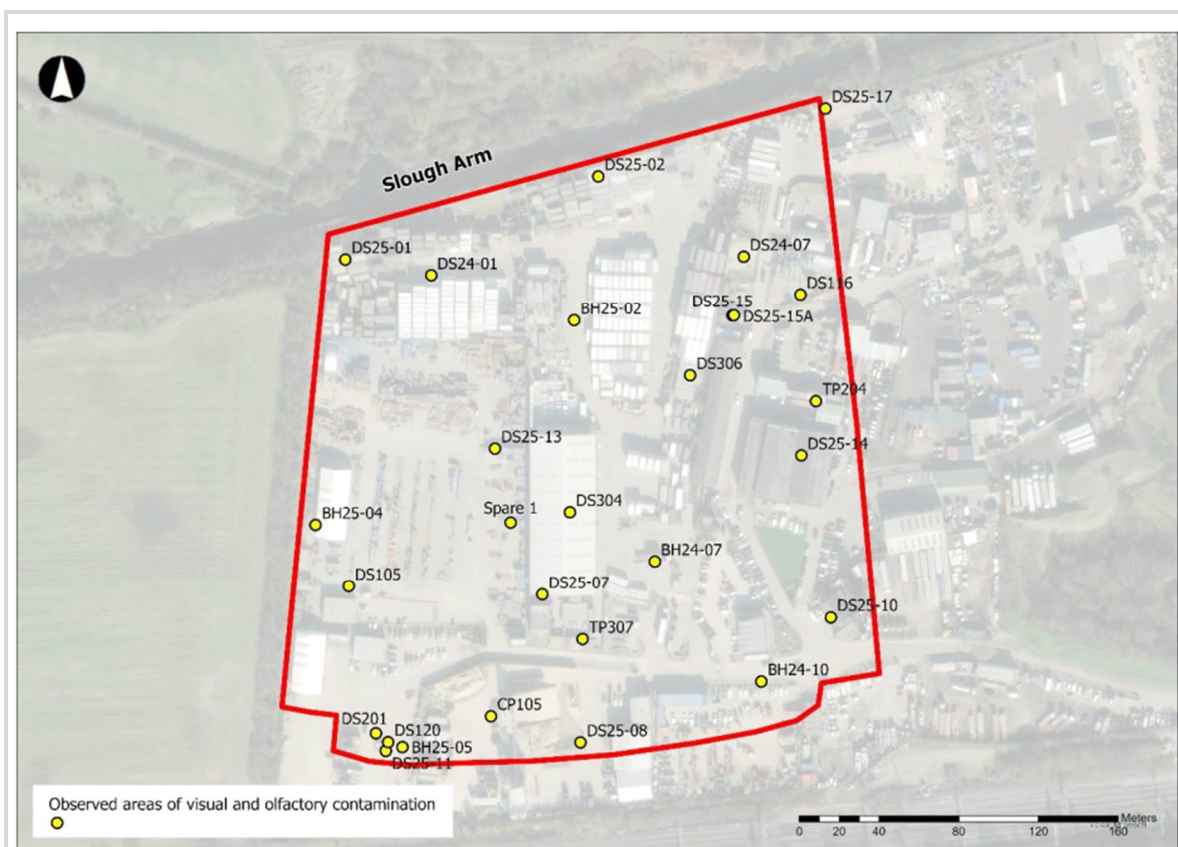


Plate 7. Locations with visual or olfactory contamination observed

3.3.2 Other Regulated Processes

3.3.2.1 Licenced Discharges to Controlled Waters and Pollutant Release

Groundsure report (Ref.no. GS-DHH-8CV-593-QJF, dated 19th June 2025) confirms there are no licenced discharges to controlled water within the Data Centre Campus boundary There are however, 4 records of licenced discharges within 250 m of the Data Centre Campus.

- One active consent for miscellaneous discharges into a reinjection well, located 480m west of the Data Centre Campus;
- One revoked consent for surface water discharge into the Grand Union Canal, located approximately 76m northwest of the Data Centre Campus.
- One lapsed consent for final/treated discharge into Boyn Hill Gravel, located approximately 178m northwest of the Data Centre Campus.
- One revoked consent for miscellaneous surface water discharge into the Horton Brook, located 244m southwest of the Data Centre Campus.

3.3.2.2 Historical Licenced Industrial Activities

According to the Groundsure report (Ref.no. GS-DHH-8CV-593-QJF, dated 19th June 2025), no records of historical licenced industrial activities have been identified on or within 500 m of the Proposed Installation.

3.3.2.3 Current Licenced Industrial Activities

According to the Groundsure report (Ref.no. GS-DHH-8CV-593-QJF, dated 19th June 2025), no records of licenced industrial activities have been identified on or within 500 m of the Proposed Installation.

3.3.2.4 Historical Industrial Land Uses

The Groundsure report (report (Ref.no. GS-DHH-8CV-593-QJF, dated 19th June 2025) includes historical industrial land uses present on and within 250m of the Data Centre Campus and these are summarised in Table 11 below.

Table 11. Summary of Historical Industrial Land Uses

Category	Located Within Data Centre Site	Located within 250m of Data Centre Boundary
Unspecified Wharf	Was recorded in 1960	<ul style="list-style-type: none"> • 1897 – 1923 21m E, • 1897, 1923 and 1938 - 81m N • 1923 – 452m E • 1932, 1938 - 21m E, • 1960 - 56m NW,
Gravel Pit	Was recorded in 1897, 1923 – 1932, 1938, 1960, 1974	<ul style="list-style-type: none"> • 1897 70m S, • 1932, 1938 and 1960 90m N • 1932 – 293m N and 499 m NW • 1974 – 419m NW
Brick Works	Was recorded in 1897	<ul style="list-style-type: none"> • 1897 - 15N • 1897 – 242m SW
Unspecified Works	Was recorded in 1973 -1974, 1988, 1987 - 1988	<ul style="list-style-type: none"> • 1960, 1965 – 256m SW • 1973, 1987 – 282m SW
Railway Sidings	Was recorded in 1923, 1932, 1938, 1960 - 1965, and 1973 -1987	<ul style="list-style-type: none"> • 1897 - 25 m S • 1897, 1923, 1973 & 1987 – 464m W • 1960 - 281m SW • 1965 – 283m SW
Cuttings	Was recorded in 1897 – 1923, 1938, 1965	<ul style="list-style-type: none"> • 1897 - 46m SE, • 1932 - 2m S, • 1960 - 147m E
Unspecified Disused Workings	Was recorded in 1987	None
Refuse Heap	Was recorded in 1973	<ul style="list-style-type: none"> • 1974 - 45m N and 268m NW • 1923 – 454m SE • 1923 & 1938 – 499 NW • 1938 72m S and 292m N • 1965 69m S,
Unspecified Heap	Was recorded in 1932	<ul style="list-style-type: none"> • 1923, 1932 & 1938 – 264 to 266m W
Unspecified Pit	None	<ul style="list-style-type: none"> • 1897, 1923, 1932, 1938 at 33 – 38 m N • 1923 - 73m S • 1923 – 246m SW • 1932 & 1938 – 261 – 263 m SW • 1932 – 481m SW
Old Gravel Pit	None	<ul style="list-style-type: none"> • 1974 – 428m E
Building Yard	None	<ul style="list-style-type: none"> • 1974 & 1988 – 225m E
Tile works	None	<ul style="list-style-type: none"> • 1923 – 292m E • 1932 494m NE • 1938 – 282m NE
Unspecified Commercial / Industrial	None	<ul style="list-style-type: none"> • 1960 – 283m E • 1974 – 301m E
Sand Pit	None	<ul style="list-style-type: none"> • 1960 – 292m N

Category	Located Within Data Centre Site	Located within 250m of Data Centre Boundary
Tramway Sidings	None	• 1897 – 301m W
Unspecified Factory	None	• 1974 – 349m E
Unspecified Warehouse	None	• 1974 – 383m NE

3.3.2.5 Recent Industrial Land Uses

The Groundsure report (Ref.no. GS-DHH-8CV-593-QJF, dated 19th June 2025) includes recent industrial land uses present on and within 250m of the Data Centre Campus site and these are summarised in the Table 12 below.

Table 12. Summary of Recent Industrial Land Uses On Data Centre Campus

Category	Location
Travelling Cranes & Gantries	Three located on-site
Tanks (Generic)	One located on-site
Waste Storage, Processing and Disposal	One located on-site
Office and Shop Equipment	One located on-site
Vehicle Repair, Testing and Servicing	One located on-site
Distribution and Haulage	One located on-site
Business Parks and Industrial Estates	One located on-site
Hopper	One located on-site
Civil Engineers	Two located on site
Fuel Distributors and Suppliers	One located on-site
Electrical Sub Station	One located on-site
Water Towers	One located off-site approximately 18m south of the Data Centre Campus Site.
Pylons	Three off-site located approximately 34m north, 98m northeast and 153m northeast of the Data Centre Campus Site
Pit (Disused)	One located off-site approximately 104m south of the Data Centre Campus Site
Marine Equipment Including Boats and Ships	One located off-site approximately 106m northwest of the Data Centre Campus Site
Disability and Mobility Equipment	One located off-site approximately 106m northwest of the Data Centre Campus Site
Construction and Tool Hire	One located off-site approximately 128m east of the Data Centre Campus Site
Moorings and Unloading Facilities	Two off-site located approximately 128m and 158m northwest of the Data Centre Campus Site.

2.4.4.1 Waste Management Facilities

Table 13 summarises information on licensed and historical waste management facilities present on and within 500m of the Data Centre Campus Site from the Groundsure report (Ref.no. GS-DHH-8CV-593-QJF, dated 19th June 2025).

Table 13. Waste Management Processes

Subject	Number present in relation to the Site		Details
	On-site	0-250m	
Historical Landfill Site (BGS records)	0	1	<ul style="list-style-type: none"> Hollow Hill Lane – located approximately 430m north of the Data Centre Campus Site. No further details are provided.
Historical landfill sites (Local Authority recorded landfills)	0	3	<ul style="list-style-type: none"> Hollow Hill Lane – located approximately 55m southeast of the Data Centre Campus Site. No further details are provided. Refuse tip – located approximately 255m northwest of the Data Centre Campus Site. No further details are provided. Refuse tip – located approximately 396m northwest of the Data Centre Campus Site. No further details are provided.
Historical landfill sites (EA/NRW recorded landfills)	3	4	<p><i>On The Data Centre Site:</i></p> <ul style="list-style-type: none"> Iver Landfill is located primarily to the west of the Data Centre Campus Site, with parts of the landfill potentially extending into its western boundaries. According to the Arup 2025 Ground Contamination Assessment Report, Iver Landfill was used as a domestic waste landfill. This is based on previous GI undertaken by Richard Jackson Limited. Thorney Lane Landfill South is located primarily to the east of the Data Centre Campus Site across the wider Thorney Lane Business Park, with parts of the landfill potentially extending into its eastern boundaries. No further details are provided on operating dates or waste type although it is understood to accept construction and demolition waste only. <p><i>Off-site:</i></p> <ul style="list-style-type: none"> Mansion Lane Landfill located approximately 200m north of the Data Centre Campus Site and is identified as having accepted inert, industrial, commercial, household waste. First input was in 1940, and last in 1966. No further details are provided. Landfill located at Langley Park Road, Middle Green located approximately 137m northwest of the Data Centre Campus Site was identified as having accepted inert, commercial, household waste. Licence holder was London Ballast Company Limited. First input was in 1976, and last input was recorded in 1980. Waste licence was surrendered in 1993. No further details are provided. Landfill located at Langley Park Road, Shredding Green located approximately 253m northwest of the Data Centre Campus Site, identified as having accepted inert, commercial and household waste. Licence holder was Slough Borough Council. First waste input was in 1971, and last waste input was in 1974. No further details are provided. Hollow Hill Lane Tip located approximately 256m northwest of the Data Centre Campus Site occupying the western extent of the field to the west. The landfill is recorded to have accepted inert and industrial waste between 1st January 1960 and 31st December 1969.
Historical waste sites	0	1	<ul style="list-style-type: none"> Bison Concrete Ltd located approximately 71m east of the Data Centre Campus Site. The scheme comprises the construction of a waste transfer station, for which a Detailed Planning application was submitted to South Buckinghamshire District Council 2002.
Licensed waste sites	4	7	<p><i>On The Data Centre Campus Site:</i></p> <ul style="list-style-type: none"> The Quattro (UK) Limited materials recycling treatment facility located on the southern edge of the Data Centre Campus Site. A licence was issued in 2013 for more than 75,000 tonnes of waste and was subsequently surrendered in 2023.

Subject	Number present in relation to the Site		Details
	On-site	0-250m	
			<ul style="list-style-type: none"> The Quattro (UK) Limited materials recycling treatment facility located in the eastern part of the Data Centre Campus Site. A licence was issued in 2013 for 25,000 tonnes of waste. The Quattro (UK) Limited – site classified as treatment of waste to produce soil 75,000 tonnes per year, located in the eastern part of the Data Centre Campus Site. A licence was issued in 2013 for 25,000 tonnes of waste. Seras Energy Limited was classified as a waste wood treatment site, located in the eastern part of the Data Centre Campus Site. A licence was issued in 2015 for 25,000 tonnes of waste, but it was later surrendered, with no exact details available regarding the date. <p>Off-site:</p> <ul style="list-style-type: none"> Hitchings Terence 75kte vehicle depollution facility located approximately 130m east of the Data Centre Campus Site. A licence was issued in 2013 for 25,000 tonnes of waste. Global Recycling Corporation Limited 75kte vehicle depollution facility located approximately 130m east of the Data Centre Campus Site boundary. A licence was issued in 2013 for 75,000 tonnes of waste. Cappagh Public Works Ltd inert and excavation waste treatment site with treatment located approximately 197m east of the Data Centre Campus Site boundary. A licence was issued in 2012 for 25,000 tonnes of waste and then varied in the same year to allow 75,000 tonnes of waste.. Ramadan Mikail 75kte vehicle depollution facility located approximately 198m east of the Data Centre Campus Site boundary. A licence was issued in 2011 for 25,000 tonnes of waste. Henry Okafor 75kte vehicle depollution facility located approximately 202m east of the Data Centre Campus Site boundary. A licence was issued in 2011 for 25,000 tonnes of waste. Cemex UK Materials Limited was classified as a deposit of waste to land under a recovery operation, located approximately 332 m south of the Data Centre Campus Site boundary. A licence was issued in 2022 for 25,000 tonnes.
Waste exemptions	21	7	Certain waste-related activities - such as storage, treatment, use, or disposal—are exempt from permitting requirements. These exemptions are subject to specific limits and conditions which must be strictly followed. For detailed information, please refer to the Groundsure report (Ref.no. GS-DHH-8CV-593-QJF, dated 19th June 2025) Section 3.7.

3.3.2.6 Hazardous Substances Storage

There are no entries associated with Hazardous Substance Storage for the Proposed Installation.

3.3.2.7 Radioactive Substance Authorisations

There are no entries associated with Radioactive Substance Authorisations for the Proposed Installation.

3.3.2.8 Control of Major Accidents Hazards

There are no entries associated with Control of Major Accidents Hazards for the Proposed Installation.

3.3.3 Historical Tanks

According to the Groundsure report (Ref. No. GS-DHH-8CV-593-QJF), there are six historical tanks located within the Proposed Installation boundary.

The following historical tanks were identified within the Data Centre Campus Boundary but outside the Proposed Installation boundary:

- One historical tank to northeast of the Proposed Installation
- Two historical tanks to south of the Proposed Installation.

3.3.4 Evidence of Damage to Pollution Prevention Measures

A site reconnaissance of the Data Centre Campus Site was undertaken by an AECOM Engineer on 27th March 2025. The following observations were made during the site reconnaissance:

- The standard of housekeeping observed during the walkover was generally good. There were no visual or olfactory evidence of contamination along the visited route, including evidence of ground staining, hydrocarbon impact, odours or hazardous materials.
- The location of the fire damaged building in the northeast of the Thorney Business Park site was included in the site reconnaissance however; the building had since been demolished and there was no visual or olfactory evidence of contamination present.
- The majority of buildings in the Thorney Business Park site have been demolished to the ground, with the exception of a large warehouse-type building in the centre of the site. The southwestern corner plot is operational and the buildings remain.
- The central building is vacant and contains two workshops, one formerly used for painting and one for cleaning.
- A water pumping station and an electrical substation were located to the east of the central building.
- Concrete pavements and concrete floor slabs remain across the site. Hardstanding coverage is the entire site, with the exception of gravel patches/strips in the northwestern corner of the site.
- The existing/demolished buildings are likely to be founded on concrete pads rather than piling (based on conversations with the Landowner). The concrete floor slabs are likely to be ground bearing.
- There is a retaining wall along the western boundary of the Thorney Business Park site and the Western Field is raised approximately 2m above the ground level of the Thorney Business Park site. There were no notable signs of distress, leaning or misalignment of the retaining wall.
- Pre-cast wall units form the northern boundary however; these are not retaining earth. There are signs of cracking, stress and leaning. The ground drops steeply onto the canal path located approximately 5m beyond the wall to the north.
- Land to the southeast of the Thorney Business Park site (along the access road) shows signs of vegetation clearance, fly-tipping and ponding filled with debris. Also noted within this area were white flags potentially for ecological surveying purposes.

3.3.5 Evidence Of Historic Contamination

The wider Data Centre Site has been subject to multiple intrusive ground investigations and assessments and a summary is presented in Table 14.

Table 14. Summary of phases of ground investigation

Contractor	Date	Main objectives and scope
Richard Jackson	2008	<p>The report was prepared to support the land sale ahead of planned redevelopment within the Thorney Business Park, covering areas both west and east of the site.</p> <p>The GI which comprised four separate areas; Area A occupied the Western Field and land to the west of Hollow Hill Lane, Area B occupied the Thorney Business Park site, Area C occupied the remainder of Thorney Business Park (to the east of the Thorney Business Park site) and Area D occupied the area of scrubland to the east of Thorney Business Park. The GI comprised 23No. mechanically excavated trial pits and 39No. window sampler boreholes.</p> <p>Ground conditions comprised Made Ground, of significant depth, overlying in turn, Lynch Hill Gravels and London Clay Formation. It was stated that Made Ground represents soils used to backfill the site after gravel extraction. Groundwater was encountered at between 1.7m and 1.8m depth in Area A and 1m depth in Area B.</p> <p>Ground gas monitoring standpipes were installed in 6No. locations however, these were limited to Areas C and D. Richard Jackson plc stated that gas monitoring standpipes were not installed in Area A and it is anticipated that, due to the ground conditions encountered, significant quantities of landfill gases are likely to be being generated in this area.</p> <p>General domestic refuse was encountered in numerous locations in Made Ground from Area A. A slight hydrocarbon odour was noted in Made Ground at one location from Area B. Laboratory analysis was undertaken on 67No. soil samples for heavy metals, pH, sulphate, phenols, cyanide sulphide, PAH, TPH, asbestos screen (19No. samples only) and VOCs (11No. samples only).</p> <p>Soil analytical results were screened against published soil guideline values (SGVs) for a commercial/industrial land use for Areas B, C and D and allotment land use for Area A given the agricultural use. Elevated levels of numerous contaminants, namely arsenic, cadmium, chromium, copper, nickel, lead, mercury zinc, PAH and TPH were recorded at various locations and depths throughout Area A. In comparison, no significantly elevated levels of contaminants, above the proposed screening levels, have been recorded in Areas B. Richard Jackson plc considered the source of the contamination in Area A to be the Made Ground and that the composition of the Made Ground varied between Area A and the remaining Areas B, C and D.</p>
Environ	2015	<p>Environ UK Limited undertook a GI in the northwestern corner of the Thorney Business Park site. The GI comprised 5No. hollow stem auger boreholes and 6No. trial pits. All 5No. borehole locations were installed with monitoring wells for gas and groundwater monitoring.</p> <p>Ground conditions comprised Made Ground and limited superficial deposits of the Lynch Hill Gravel Member, which was found to overlie the London Clay Formation at approximately 1.5m depth. Environ stated that as a former gravel pit the site appears to have been largely stripped of superficial deposits of sand and gravel with the land subsequently infilled with demolition material. Groundwater was encountered between 0.51m and 0.80m depth.</p> <p>Visual and/or olfactory evidence of potential ground contamination was identified during the GI, including localised hydrocarbon odour at shallow depth in the Made Ground at one location in the northeastern corner of the site.</p> <p>A total of 11No. soil and 5No. groundwater samples were analysed for TPH, PAH, volatile organic compounds (VOCs), polychlorinated biphenyls (PCBs), phenols, cyanide, metals and asbestos screening (soil only). Soil analytical results were screened against Environ derived generic assessment criteria (GAC) for a commercial land use. Elevated TPH, PAH and metal concentrations were identified at the site, with TPH concentrations being above the adopted GAC which was consistent with the visual and/or olfactory observations recorded. Asbestos was identified in 3No. out of 8No. samples analysed which Environ consider is to be expected for a brownfield site.</p> <p>Groundwater results were screened against the Drinking Water Standards (DWS) and Environmental Quality Standards (EQS). TPH, PAH, metal and inorganic</p>

Contractor	Date	Main objectives and scope
		<p>compounds were recorded in exceedance of the DWS and EQS however, Environ consider that a significant risk to Controlled Waters does not exist.</p> <p>Ground gas monitoring showed elevated methane concentrations and depleted oxygen. Gas screening values were calculated in accordance with CIRIA C665 and the site was deemed to be Characteristic Situation (CS) CS2: low risk.</p>
ESI	2018	<p>ESI Consulting undertook a GI across the full Thorney Business Park (named Zone 2) including the area of scrubland adjacent to the east (named Zone 1). The ESI report encompassed the broader site, extending eastward to Thorney Lane South, and incorporated findings from a 2008 ground investigation carried out by Richard Jackson.</p> <p>The GI comprised 25No. trial pits, 16No. windowless sampler boreholes and 5No. cable percussive boreholes. Twelve boreholes were installed with standpipes for groundwater and ground gas monitoring.</p> <p>Ground conditions comprised Made Ground up to 3.2m thickness, above the Lynch Hill Gravel Member up to 2.25m thickness, above the London Clay Formation, encountered from 1.2m to 4.7m depth. Groundwater was encountered in Zone 2 between 1.0m and 1.9m depth.</p> <p>Hydrocarbon odours were identified at one location in Zone 2 which was in the northwestern corner of Thorney Business Park site. Suspected ACM was identified in numerous locations however; these were limited to Zone 1.</p> <p>A total of 45No. Made Ground soil samples, 7No. soil leachate samples and 9No. groundwater samples were analysed for a comprehensive suite including metals, non-metals, inorganics, organics, TPH and PAH.</p> <p>Asbestos was not identified in any soil samples collected from Zone 2.</p> <p>On-site sample testing revealed no exceedances of commercial Generic Assessment Criteria (GAC), although localized exceedances of arsenic, lead, and PAHs were observed relative to residential thresholds. No asbestos was detected in any of the six submitted samples.</p> <p>Ground gas monitoring, conducted across three rounds, generally indicated Characteristic Situation 1 conditions. However, due to the limited monitoring data, Characteristic Situation 2 mitigation measures were recommended, alongside further gas monitoring.</p> <p>Six groundwater samples, taken from three site locations during two sampling visits, showed exceedances of chromium, mercury, and phenols during the first round, and arsenic, selenium, and nitrite during the second. Drinking water standards were applied for screening purposes.</p>
Savilla Plc	2020	<p>The EIA Scoping Report for the wider site, completed in August 2020, highlighted topographical variations, noting that the site lies approximately 2.5 metres below the adjacent land to the west - supported by a retaining wall - and about 3.0 metres above the towpath along the Grand Union Canal Slough Arm to the north. It also referenced a 2018 ground investigation by ESI, which involved trial pits, boreholes, soakaway testing, soil and groundwater sampling, and ground gas monitoring. However, the investigation report itself was not included, limiting the opportunity for independent review.</p> <p>The investigation revealed varying depths of Made Ground, including landfilled demolition waste, with evidence of localised hydrocarbon contamination and occasional asbestos fragments both within the Made Ground and on the surface. It concluded that mitigation measures would likely be necessary to safeguard future residential and commercial land uses, though the risk to controlled waters was assessed as very low to moderate.</p>

Contractor	Date	Main objectives and scope
		According to a report by Savills, findings from the 2018 investigation were being used to develop a remediation strategy aimed at making the ground suitable for development, particularly in areas affected by past mineral extraction and infilling.
Waterman Infrastructure & Environment Limited	2020	In November 2020, Waterman carried out a desk-based assessment for the proposed data centre site, reviewing prior investigations undertaken by ENVIRON in 2015 and ESI in 2018. The report advised that additional site investigations be conducted to address previously unexplored areas and to validate existing findings. Recommendations also included undertaking geotechnical investigations, as well as further ground gas and vapour monitoring, to determine any necessary protection measures for the site.
Delta Simons	2021	To support the site's redevelopment and the associated planning application, a geo-environmental assessment was commissioned. As part of the investigation, six cable percussive boreholes and twenty-one dynamic sampler boreholes were installed across the site.
Delta Simons	2022	<p>A geo-environmental assessment was commissioned to support the broader development of Thorney Business Park. Three exploratory boreholes were positioned immediately south of the site boundary.</p> <p>The ground investigation included six deep cable percussive boreholes and 21 shallow dynamic sampler boreholes, alongside groundwater and ground gas monitoring completed across two periods in 2021 and 2022. Groundwater was found within the Made Ground and underlying Lynch Hill Gravel Member, with levels indicating hydraulic continuity.</p> <p>Made Ground was present to depths of up to 2.70 m and consisted of gravelly clay and sand with various construction materials but no landfill-type waste. The Lynch Hill Gravel Member and London Clay Formation lay beneath, with the Lambeth Group observed at three locations, though its depth was not fully determined.</p> <p>Contamination findings included hydrocarbon odours and staining in three samples, and minor hydrocarbon sheen in groundwater. Asbestos was found in four of 26 Made Ground samples and will be mitigated during construction. No soil samples exceeded commercial land use thresholds, though marginal exceedances of arsenic and nickel were recorded in groundwater but deemed low risk. Localised TPH and PAH concentrations exceeded relevant criteria in several locations but were not considered significant given the lack of sensitive receptors. Further delineation of hydrocarbons is recommended before construction.</p> <p>Ground gas monitoring showed elevated carbon dioxide and methane at several locations, but most installations indicated low risk (CS1), with three locations categorised as CS2 due to elevated gas screening values.</p>
Hughes Craven	2022	Hughes Craven completed a mineral assessment for the LHR042 site in 2022, recognising its location within a designated Mineral Safeguarding Area (MSA). The assessment, informed by the 2021 Delta-Simons investigation, determined that only residual gravel deposits remain, which are not considered economically viable. As such, the proposed redevelopment aligns with applicable mineral safeguarding policies.
Stantec	2022	<p>Stantec conducted an infiltration testing investigation across Thorney Lane Business Park in March 2022, including three trial pits on the LHR042 site. A total of 11 No. trial pits were excavated across the site to a maximum depth of 3.5m, for the purpose of conducting infiltration testing. Three of the trial pits were located within the Thorney Business Park site (SA07, SA09 and SA10).</p> <p>The Made Ground encountered was up to 1.5 m thick and contained various construction materials comprising gravelly sand or gravelly sandy clay, with gravels comprising concrete, brick, tarmac, plastic, ceramic, glass and wood. The Lynch Hill Gravel Member was present only at one location (SA07), while the London Clay Formation was recorded at the other two pits (SA09 and SA10). Thin layers of black stained sand / clay with a slight hydrocarbon odour were noted at 1.4m within the Made Ground at SA07. Hydrocarbon staining and odour were noted in SA07, which also revealed groundwater at 1.5 m depth.</p> <p>Groundwater was only encountered within SA07, at a depth of 1.5m within the Lynch Hill Gravel Member. Locations SA09 and SA10 were dry but were terminated at 1.1m</p>

Contractor	Date	Main objectives and scope
		<p>and 0.9mbgl respectively. The report noted that groundwater was generally closer to the ground surface within exploratory holes situated towards the southwest of the wider site, which would cover the Thorney Business Park site however, the majority of the soakaway test pits were located to the east of Thorney Business Park.</p> <p>Soakaway tests showed poor infiltration across the site, with SA07 yielding a low infiltration rate typical of fine-grained soils, and insufficient effective volumes observed in SA09 and SA10. Groundwater appeared elevated and near-surface in parts of the wider site, saturating the gravel stratum.</p> <p>The report concluded that the site is unsuitable for infiltration drainage due to failed testing results, saturated conditions, and limited presence of permeable strata following historical gravel extraction.</p>
Delta Simons	2022	<p>Delta-Simons prepared a factual geotechnical report and an interpretive environmental assessment for intrusive ground investigations carried out between 7th and 16th November 2022 across the wider area. This included three exploratory holes positioned within the proposed access road area to the south of the LHR042 site.</p> <p>The investigation comprised three cable percussive boreholes to depths of up to 8.50 m below ground level (bgl), one deeper borehole reaching 25 m bgl, and one foundation pit excavated to 0.95 m bgl. The exploratory locations - CP302, CP303, and FIP301.</p> <p>Made Ground thickness ranged from 0.10 m at CP303 to 2.5 m at CP302, typically overlying the Lynch Hill Gravel Member, which was recorded up to 3.1 m thick at CP303. The London Clay Formation was present below, though its full depth and extent were not confirmed.</p> <p>Groundwater was encountered within the Lynch Hill Gravel Member at depths between 1.80 m and 3.20 m bgl, corresponding to elevations of 28.83 mOD to 27.94 mOD.</p> <p>Key findings included:</p> <ul style="list-style-type: none"> • No visible or olfactory signs of contamination were observed. • Chrysotile asbestos fibres were identified in one sample (CP302 at 0.5 m bgl) from a total of 11 tested. • All soil samples returned contaminant concentrations below commercial/industrial generic assessment criteria (GAC).
Delta Simons	2024	<p>A supplementary geoenvironmental assessment was undertaken to fill data gaps identified in the 2021 ground investigation.</p> <p>Delta-Simons completed a two-phase geo-environmental assessment at the LHR042 site in 2023 to investigate contamination linkages and gather geotechnical data. The study included 13 trial pits, 4 cable percussive boreholes, and 10 dynamic sampler boreholes, with groundwater and gas monitoring conducted in May, October, and November.</p> <p>Made Ground was encountered at depths up to 2.8 m, underlain by the Lynch Hill Gravel Member, London Clay Formation, and Lambeth Group. Groundwater was found within all three strata, with continuity between the Lynch Hill Gravel Member and Made Ground likely due to historic quarrying.</p> <p>Key findings:</p> <ul style="list-style-type: none"> • Hydrocarbon odours and staining were identified in multiple exploratory holes. • Asbestos was detected in 2 of 16 Made Ground samples. • All soil samples were below commercial/industrial GAC levels, posing no human health risk. • Groundwater contamination was limited and localized, with elevated PAHs, TPH, and metals near a fuel tank in the southwest. The Lynch Hill Gravel Member was not considered a viable groundwater resource. • Gas monitoring revealed elevated methane and carbon dioxide at several locations, but overall conditions aligned with Characteristic Situation 1, with one CS2 classification.

Contractor	Date	Main objectives and scope
Concept	2024	A geoenvironmental assessment was commissioned by the Operator to support the potential acquisition and redevelopment of the site for data centre use. The investigation included ten cable percussive boreholes and eight dynamic sampler boreholes. A secondary objective was to address potential data gaps highlighted by Arup in the updated Conceptual Site Model (CSM), with a specific focus on PFAS testing.
Concept	2025	A supplementary geoenvironmental assessment was commissioned by the Operator to support the proposed acquisition and redevelopment of the site for datacentre use. The investigation comprised five cable percussive boreholes and eighteen dynamic sampler boreholes. Its primary purpose was to further evaluate PFAS concentrations and gather sufficient data to inform the contamination assessment. This included provision for potential detailed risk assessment and development of a remediation strategy in anticipation of future planning condition requirements.

Based on the above ARUP prepared a Ground Contamination Assessment Report¹ which is summarised below.

Arup, Thorney Lane Ground Contamination Assessment Report - East Site (reference 276894-24-ARP-XX-XX-RP-EC-00001, Issue 3), September 2025

Arup undertook a generic quantitative risk assessment (GQRA) at the Thorney Business Park site based on 2 No. GIs undertaken by Concept in 2024 and 2025. The GI undertaken in 2024 comprised 10 No. cable percussive boreholes and 8 No. dynamic sample boreholes. The 2025 GI comprised 5 No. cable percussive boreholes and 18 No. dynamic sample boreholes.

The key findings taken from the report are summarised below:

- Arup consider there to be an overall low contamination potential associated with the site soils, with the majority of concentrations below commercial end-use criteria. There were two locations which had lead concentrations above the commercial end-use criteria. However, Arup note the low end-use commercial sensitivity across the site which is likely to offer an inherent level of protection in building and hardcover areas where there will be no plausible contaminant pathway. Localised hydrocarbon impacted soils as well as asbestos impacted soils were identified across the site however, Arup note that mitigation measures will be defined within a Remediation Strategy for the proposed development. PFAS was identified in site soils however, concentrations were not detected above the commercial end-use criteria.
- Groundwater had relatively low concentrations for most contaminants, indicative of natural background conditions except for nickel and more widespread PFAS and ammoniacal nitrogen. Arup consider the source of these contaminants are likely from the Historical Landfill underlying the agricultural field to the west of the site. TPH was also identified in groundwater at the site which, along with PFAS, will be subject to further investigation and mitigation measures if required will be defined within a Remediation Strategy for the proposed development.
- Free phase hydrocarbons were identified within part of the existing drainage at the site. This product was identified as diesel-based hydrocarbons. Arup do not consider this to pose a significant risk to identified receptors as the existing drainage network will be decommissioned during the proposed development works.
- The ground gas assessment undertaken during the GQRA assessed the potential for ground gas to be low risk (characteristic situation (CS) 1), where due to low gas flows and the inherent protection offered by the proposed development, no specific additional gas protection (e.g., gas membrane) is warranted for the main data centre campus..
- Arup undertook a preliminary waste classification using HazWasteOnline™ (HWOL) on a total of soil samples. Five soil samples and three sediment samples (collected from the drainage network) were classified as hazardous for carcinogenic, mutagenic, ecotoxic and toxic for reproduction hazard properties.

- Arup state that it is anticipated that most of the excavated soil will be chemically suitable for re-use on site as part of the earthworks design under the CL:AIRE Definition of Waste: Code of Practice (DoWCoP) with the exception of any PFAS contaminated soils which cannot be reused under the UK Persistent Organic Pollutants (POPs) Regulations.

Additional GI is ongoing currently to understand the risks and need for additional mitigation especially regarding PFAs. The findings of the additional GI and the proposed remediation approach will reviewed and agreed with the Local Planning Authority (LPA) and EA in accordance with the site planning permission.

3.3.6 Baseline Soil and Groundwater Reference Data

3.3.6.1 Introduction

Concept carried out phased ground investigations at the Data Centre Campus Site across 2024 and 2025. Initial intrusive works took place from July to August 2024, followed by groundwater and gas monitoring from mid-August to early September. Due to early detection of PFAS in groundwater, additional monitoring rounds were completed in October and November 2024 at 11 site installations and three canal locations, alongside hydraulic conductivity testing at five points. A second phase of intrusive works was undertaken in February 2025, with further surface water, groundwater, and gas monitoring conducted between late March and early April 2025.

Across the various site investigations, monitoring installations were implemented as follows: 20 of 27 boreholes from the 2021 - 2022 Delta-Simons investigation and 9 of 27 boreholes from the 2023 Delta-Simons investigation included wells. In the 2024 investigation, 17 of 18 boreholes were installed with monitoring wells, along with 15 of 23 boreholes in the 2025 phase - resulting in 32 installations in total. Additionally, during the Concept 2024 investigation, 22 historic boreholes were targeted for groundwater monitoring; however, access was only achieved for 13. Groundwater monitoring also extended to installations initially established for gas monitoring purposes.

Groundwater monitoring across eight rounds conducted between 2024 and 2025 confirmed the presence of shallow groundwater within the Made Ground, typically encountered at depths up to 1.5 m below ground level. This shallow groundwater was deemed part of the underlying aquifer system rather than perched water, with levels ranging from 28.24 to 31.29 m above ordnance datum (mOD), though absent in select locations.

The 2025 monitoring round provided the most comprehensive dataset, indicating a southerly flow direction - likely influenced by an active quarry located 100 m south of the site, where water-filled pits suggest localised groundwater drawdown. Groundwater migration from an adjacent landfill to the east also poses potential quality concerns, particularly in the southwestern portion of the site.

Dry purging events occurred more frequently in 2024 than 2025, hinting at possible local truncation or compartmentalisation of the shallow aquifer due to superficial geology variability. Groundwater was also encountered in deeper formations during the 2024 investigation, including the London Clay Formation and Lambeth Group. Observed water levels in these units suggest either sub-artesian pressure or partial hydraulic connectivity with the shallow aquifer; however, the low permeability nature of the clays may restrict this interaction.

Ground gas monitoring was carried out during ground investigations by Delta-Simons (2021–2023) and Concept (2024–2025) at the LHR042 site. While some elevated methane and carbon dioxide levels were detected—largely in flooded wells—concentrations remained generally low and gas flow rates were negligible. Carbon dioxide exceeded 5% in isolated instances, but methane rarely surpassed 1.4% in non-flooded wells. Nine confirmatory lab samples aligned with field data. The site was assessed as Characteristic Situation 1 (CS1) under BS 8485, indicating a low gas risk. This is supported by the limited thickness and age of the Made Ground, absence of substantial organic waste, historic landfill degradation, and the mitigating design features of the proposed data centre, including deep concrete slabs and

enhanced ventilation. Consequently, it was concluded, an increase in gas protection classification was deemed unnecessary.

During the 2025 ground investigation, 25 samples were submitted for Waste Assessment Criteria (WAC) and leachability analysis. While the testing primarily targeted Made Ground materials, shallow samples from the Lynch Hill Gravel Member and London Clay Formation were also analysed. Notably, no WAC testing had been undertaken prior to the 2025 investigation.

During the 2025 investigation, eight sediment samples were collected from the attenuation pond and surrounding drainage points and subsequently analysed for PFAS contamination.

Eleven surface samples were collected during the 2024 Concept ground investigation for asbestos analysis. All samples returned non-detect results, indicating no presence of asbestos.

To support the in-situ ground gas monitoring, a total of nine confirmatory gas samples were submitted for laboratory analysis - three during the 2025 ground investigation and six during the 2024 investigation.

3.3.6.2 Soil Chemical Analysis

Soil chemical analysis for the 2025 ground investigation primarily targeted the Made Ground, with limited testing undertaken within shallow natural soils due to their higher potential for contamination and likelihood of being encountered during future development. Similarly, the 2024 investigation focused on the Made Ground, but included a broader sampling set from deeper strata - specifically the River Terrace Deposits and London Clay Formation. Table 15 presents the aggregated number of tests conducted for each contaminant, combining results from both the 2024 and 2025 investigations.

Table 15. Summary of Soil Analysis by determinant

Type	Determinant	No. of samples		Comment/ Rationale
		Concept investigations	Delts-Simons investigations	
General suite	Arsenic, Cadmium, Chromium (total and hexavalent), Copper, Lead, Mercury, Nickel, Selenium and Zinc Antimony, Beryllium, Boron, Cyanide (total) Molybdenum and Vanadium	107	73	General suite of contaminants typically encountered, including in Made Ground of unknown origin.
	pH, total organic carbon (TOC)	107	73	
	Cyanide speciation	8	0	
	Asbestos identification	78	73	Potential contaminant in Made Ground. Quantification testing in soil only undertaken if asbestos was identified.
	Asbestos quantification	2	6	
		Ammoniacal nitrogen	1	0
Organics	Speciated total petroleum hydrocarbons (TPH) by GC-FID with aliphatic/aromatic class separation with criteria working group (CWG) banding	108	70	Based on contamination commonly encountered including Made Ground of unknown origin. Previous uses on Site (e.g., Speedy Fuels yard), mainly associated with the storage of oil and fuel.
	Benzene, toluene, ethylbenzene, m,p-xylene and o-xylene (BTEX)	107	86	
	Polycyclic aromatic hydrocarbons (PAH) (USEPA16)	108	70	

Type	Determinant	No. of samples		Comment/ Rationale
		Concept investigations	Delts-Simons investigations	
	Polychlorinated biphenyls (PCB) WHO 12 congeners	11	3	
	VOC and SVOC	16	24	
	PFAS	41	0	No testing for PFAS was carried out prior to the 2024 ground investigation. PFAS testing was undertaken to address this gap.
Waste Acceptance Criteria (WAC)	Solid: TOC, BTEX, PCB (7 congeners), Mineral oil (C10–C40), PAH (17 No.)	25	0	WAC data to assist with potential offsite disposal of material. Leachability testing was undertaken in line with BS EN 12457 Part 2. This is extraction at liquid to solid ratios of 10:1 (reported in mg/l). The WAC results are expressed in terms of final calculated liquid/solid ratio of 10:1 (mg/kg). Leachability data to support controlled waters assessment
	Leachability: Arsenic, Barium, Cadmium, Chromium, Copper, Mercury, Molybdenum, Nickel, Lead, Antimony, Selenium, Zinc, Chloride, Fluoride, Sulphate, Total dissolved solids (TDS), Phenol Index, Dissolved organic carbon (DOC)	25	0	

Permeability

Hydraulic conductivity testing was carried out during the additional 2024 ground investigation using rising and falling head methods at selected installations (DS24-03, DS24-04, DS24-07, BH24-09, BH24-10). The Concept Factual Report applied the Basic Time Lag method to derive permeability values, while Arup completed an independent assessment using the modified Hvorslev method from the withdrawn BS 5930:1995 standard. Arup incorporated an adjusted shape factor to reflect the impermeable sections of the piezometers used.

Test results indicated permeability values ranging from 10^{-5} to 10^{-7} m/s, with an overall mean of 1.1×10^{-5} m/s. Although at the lower end for gravel aquifers, the values are considered representative of the site's varying shallow geology. The lowest readings were recorded in BH24-09, which encountered clayey Made Ground, typical of reduced permeability.

Arup's adjusted calculations yielded slightly higher results within 30% of the contractor's values - suggesting they may more accurately reflect in-situ conditions. A detailed summary of response zones and associated permeability outcomes is provided in Table 16.

Table 16. Summary of permeability results

Borehole	Response zone (mbgl)	Stratum in response zone	Avg. permeability (m/s)	Test type	Test date	Test number	Calculated permeability value (m/s)
DS24-03	1.0 to 3.0	Made Ground and Lynch Hill Gravel	4.2×10^{-6}	RHT	29/10/2024	1	3.1×10^{-7}
				RHT	29/10/2024	2	8.0×10^{-6}
DS24-04	1.0 to 3.0	Made Ground, Lynch Hill Gravel and London Clay	1.3×10^{-5}	RHT	31/10/2024	1	1.0×10^{-5}
				FHT	31/10/2024	2	2.0×10^{-5}
				RHT	31/10/2024	3	7.5×10^{-6}
				RHT	31/10/2024	4	1.5×10^{-5}

Borehole	Response zone (mbgl)	Stratum in response zone	Avg. permeability (m/s)	Test type	Test date	Test number	Calculated permeability value (m/s)
DS24-07	0.75 to 1.6	Lynch Hill Gravel and London Clay	3.4×10^{-6}	RHT	30/10/2024	1	5.7×10^{-7}
				FHT	30/10/2024	2	6.3×10^{-6}
BH24-09	1.0 to 3.0	Made Ground	2.8×10^{-7}	FHT	31/10/2024	1	2.5×10^{-7}
				RHT	31/10/2024	2	3.1×10^{-7}
BH24-10	1.0 to 4.0	Made Ground, Lynch Hill Gravel and London Clay	1.5×10^{-5}	RHT	30/10/2024	1	5.6×10^{-6}
				RHT	30/10/2024	2	5.9×10^{-6}
				RHT	30/10/2024	3	Test failed
				FHT	30/10/2024	4	1.7×10^{-5}
				FHT	30/10/2024	5	2.0×10^{-5}
				RHT	30/10/2024	6	1.8×10^{-6}
				RHT	12/11/2024	7	1.6×10^{-5}
				RHT	12/11/2024	8	1.9×10^{-5}
				FHT	12/11/2024	9	1.8×10^{-5}
				FHT	12/11/2024	10	1.9×10^{-5}
				FHT	12/11/2024	11	1.9×10^{-5}
				RHT	12/11/2024	12	1.6×10^{-5}

Source: LHR042 Thorney Lane Ground Contamination Assessment Report

Chemical Analysis

The ground investigation data was evaluated using a risk assessment approach based on Land Contamination Risk Management (LCRM)¹⁵ and CIRIA C552⁶ guidance. As part of this generic assessment, contaminant concentrations in soil, leachate, and water were compared against established generic assessment criteria (GAC). Where concentrations exceeded these criteria, this did not automatically indicate a risk; rather, it triggered the need for further consideration and, if warranted, a more detailed risk evaluation.

Human health risk from soil contamination at the site was assessed by comparing soil chemical results to generic assessment criteria (GAC) protective of chronic exposure through ingestion, skin contact, and inhalation. The assessment considered the entire site in the context of future commercial land use. Arup derived GAC values using CLEA 1.07 software, based on toxicological and physical data from sources such as the Environment Agency and LQM/CIEH⁷⁸.

Where relevant, adjustments were made for site-specific conditions - e.g., exclusion of certain exposure pathways beneath hardstanding areas. Organic contaminant criteria were conservatively derived assuming 1% soil organic matter. Asbestos and PFAS were assessed using CL:AIRE guidance^{9,10} due to the absence of published UK GAC. PCBs, dioxins, and

⁶ CIRIA DETR, CIRIA 552: Contaminated land risk assessment, a guide to good practice, 2001.

⁷ Contaminated Land: Applications in Real Environments, Soil Generic Assessment Criteria for Human Health Risk Assessment, 2010

⁸ N. C.P., M. C., G. A.G., O. R.C. and N. J.F., The LQM/CIEH S4ULs for Human Health Risk Assessment, 2015

⁹ CLAIRE and JIWG, Control of Asbestos Regulations 2012, Interpretation for Managing and Working with Asbestos in Soil and Construction and Demolition Materials, Industry Guidance CAR-SOILTM, 2016

¹⁰ CL:AIRE, Interim Category 4 Screening Levels for per- and polyfluoroalkyl substances (PFAS): perfluorooctanoic acid (PFOA), perfluorononanoic acid (PFNA), perfluorohexane sulfonic acid (PFHxS) and perfluorooctane sulfonic acid (PFOS), 2024

furans were screened against national median urban concentrations from the UK Soil and Herbage Pollutant Survey¹¹.

The interpretation drew on multiple lines of evidence and was guided by best practice standards including CAR-SOIL⁹ and CIRIA C733¹².

The Thorney Lane Ground Contamination Assessment Report identifies the Water Framework Directive freshwater Environmental Quality Standards (EQS) as the appropriate benchmarks for assessing water quality, given the site's proximity to the Slough Arm of the Grand Union Canal. The canal's lining and hydraulic connection to groundwater remain uncertain, though a site drainage outfall discharges to the canal near the northeast corner.

While the Lynch Hill Gravel is designated as a principal aquifer, its limited extent and absence of nearby potable abstractions reduce its sensitivity. In cases where EQS values are unavailable, drinking water standards and other statutory or advisory thresholds have been applied, as outlined in Appendix C of the ARUP Ground Contamination Assessment report¹.

For PFAS compounds, EQS-equivalent criteria were derived using relative potency factors from RIVM¹³ due to limited established standards. Instances where laboratory detection limits exceed very low WQS values (e.g. fluoranthene) were excluded from risk consideration, as they are not indicative of exceedances.

The soil screening assessment for the proposed commercial development involved testing 180 soil samples for a wide range of contaminants, including metals, TPH, VOCs, BTEX, PCBs, PAHs, phenols, asbestos, and PFAS. Except for lead and asbestos, all contaminant concentrations were below commercial generic assessment criteria (GAC), indicating minimal human health risk from site soils. These findings are in line with previous investigations undertaken by Delta-Simons and others in 2007, 2015, and 2018.

Two soil samples from the 2025 ground investigation recorded lead concentrations exceeding commercial GAC: DS25-04 (8200 mg/kg at 1.8 m depth) and DS25-10 (3700 mg/kg at 0.3 m depth). DS25-04 contained black ash with ceramic fragments, potentially glazed with lead, as well as elevated (but sub-GAC) copper and zinc levels - suggesting the high lead may be linked to those materials. DS25-10 exhibited a slight hydrocarbon odour. The next highest concentration was 1200 mg/kg at BH25-03 (0.3 m depth).

Statistical analysis of the Made Ground, excluding DS25-04, showed the 95th percentile was well below the GAC, indicating low risk to human health. DS25-04 was assessed separately due to its unique composition and depth, which limits exposure pathways. The lead concentrations and statistical analysis (excluding sample DS25-04) have been summarised in Table 17 below.

Table 17. Summary of Lead Exceedances

Contaminant	Range (mg/kg)	Standard deviation	Mean (mg/kg)	95 th Percentile (mg/kg)	Commercial GAC (mg/kg)
Lead	0.3 to 3700	299	100	198	2,300

Total petroleum hydrocarbon (TPH) concentrations in soil were all below commercial generic assessment criteria (GAC), indicating limited risk to human health. However, several samples recorded TPH levels above saturation limits, suggesting the potential for free-phase hydrocarbons and limiting the applicability of CLEA algorithms. Saturation screening results,

¹¹ Environment Agency, UK Soil and Herbage Pollutant Survey, UKSHS Report No. 8: Environmental concentrations of polychlorinated biphenyls (PCBs) in UK soil and herbage., 2007.

¹² CIRIA C733, Asbestos in Soil and Made Ground: A guide to understanding and managing risks.,2014.

¹³ National Institute for Public Health and the Environment (RIVM), "Mixture Exposure to PFAS: A Relative Potency Factor Approach," Bilthoven, 2018.

presented in Table 18, showed exceedances across widespread areas, particularly in zones historically associated with fuel storage, transfer, and former tank locations - most notably in the site's southwest corner.

Table 18. Soil Samples where the Saturation limit for TPH is exceeded

Contaminant	Saturation limit (mg/kg)	No. of samples exceeding saturation limit	Max. concentration (mg/kg)
Aromatics >EC12-EC16	169	2	320 at DS201
Aliphatics >C10-C12	47.5	10	180 at BH24-10
Aliphatics >C12-C16	23.7	30	1,200 at BH24-10
Aliphatics >C16-C21	8.48	68	1,400 at BH24-10
Aliphatics >C21-C35	8.48	79	1,400 at DS25-14

PFAS analysis was conducted during both the 2024 and 2025 ground investigations. In 2024, 18 soil samples were tested for 40 PFAS compounds, with six samples showing detections above the laboratory limit of detection (LOD). Concentrations of key compounds (PFOS, PFOA, PFHxS, and PFNA) were below their respective C4SLs and hazard index¹⁰ thresholds, indicating no human health risk.

In 2025, 23 Made Ground samples were analysed for 41 PFAS compounds. All samples contained detectable PFAS, but levels of the same key compounds remained below health-based screening thresholds. Most detected concentrations were under 1 µg/kg, including a peak of 1.5 µg/kg for summed PFOS in sample DS25-15 - still below the commercial GAC and not considered harmful.

A total of 141 soil samples were analysed for asbestos across 95 locations during the Delta-Simons and Concept ground investigations. Asbestos was detected in nine samples, but findings suggest it is infrequent and present in small quantities. Table 19 summarises the results, which indicate a low risk to human health. This risk can be effectively mitigated through appropriate construction-phase controls.

Table 19. Asbestos encountered

Location	Sample depth (mbgl)	Concentration	Type
DS111	1.10	Not quantified	Chrysotile – bitumen
DS115	0.35	Not quantified	Amosite – loose fibres
DS120	1.45	Not quantified	Amosite – loose fibres
CP105	1.75	Not quantified	Chrysotile – loose fibres
CP302	0.50	Not quantified	Chrysotile – loose fibres
DS303	0.30	Not quantified	Chrysotile – loose fibres
DS304	0.30	Not quantified	Chrysotile – asbestos cement
BH24-09	1.2	<0.001	Chrysotile – fibres / clumps
DS25-18	0.4	0.001	Chrysotile – fibres / clumps

According to the Thorney Lane Ground Contamination Assessment Report¹, chemical results have been received for six of the eight sediment samples to date. While none exceeded

commercial generic assessment criteria (GAC), elevated concentrations of aromatic and aliphatic hydrocarbons - specifically >EC12 - EC16 aromatics and >C12 - C35 aliphatics - were recorded above saturation limits in Drainage 1. These findings suggest the potential presence of free-phase hydrocarbons in that area.

PFAS analysis was undertaken on six drainage sediment samples and two attenuation pond samples. All recorded PFAS concentrations were above the laboratory detection limit (LOD), though key compounds - PFOS, PFOA, PFHxS, and PFNA—remained below the respective C4SL thresholds and hazard index, indicating minimal risk to human health. The highest recorded concentration was 1.1 µg/kg total PFOS in a sample from drainage point 2 on 25 March, which was also below the commercial GAC.

Moreover, the PFAS profiles in the attenuation pond and drainage sediments differed from those observed in site soils and groundwater, suggesting a separate source. Compounds such as 6:2 fluorotelomer sulfonic acid (6:2 FTS) and MeFOSE were identified in the drainage sediment but not in soils; MeFOSE was absent from both groundwater and drainage water. Given MeFOSE’s historical use in textiles, potential cross-contamination is suspected and is further explored in the DQRA Error! Bookmark not defined.

Overall, contaminant concentrations in the soil are low and do not suggest a significant risk to controlled waters. However, isolated areas of hydrocarbon contamination were identified, which could have had a localised impact on groundwater quality.

Leachate analysis from 25 samples collected during the 2025 ground investigation was used to conservatively assess potential risks from soil leaching. The methodology - designed to simulate worst-case conditions - involved aggressive sample preparation to maximise substance release into the dissolved phase.

Results, detailed in Table 20, showed that copper and lead consistently exceeded water quality standards (WQS) in leachate. However, corresponding groundwater testing confirmed that these metals are not migrating into the shallow aquifer and therefore pose no significant risk to controlled waters at the site.

Table 20. Summary of leachability results

Contaminant	WQS (µg/l)	Maximum concentration (µg/l)	No. of samples above the WQS	Location of max. con. Above the WQS
<i>Metals</i>				
Antimony	0.005	0.0064	2	DS25-10, 0.3m
Arsenic	0.01	0.012	1	DS25-01, 0.8m
Barium	No GAC	0.024	-	-
Cadmium	0.00008	<0.00011	0	-
Chromium	0.0047	0.0064	4	BH25-05, 0.3m
Copper	0.001	0.025	25	DS25-01, 0.8m
Lead	0.0012	0.025	11	DS25-01, 0.8m
Mercury	0.001	0.00013	0	-
Nickel	0.004	0.0048	5	DS25-15A, 0.3m
Selenium	0.01	0.012	1	DS24-01, 1.6m
Zinc	0.0123	0.019	6	DS25-07, 1.3m
<i>Inorganics0.01236</i>				
Chloride	250	6.6	0	-
Fluoride	1	1.4	1	DS24-07, 0.3m

Contaminant	WQS (µg/l)	Maximum concentration (µg/l)	No. of samples above the WQS	Location of max. con. Above the WQS
Sulphate	250	100	0	-

3.3.6.3 Groundwater

Table 21 provides a summary of groundwater aggregated number of tests conducted for each contaminant, combining results from both the 2024 and 2025 investigations. This includes the additional PFAS monitoring undertaken in 2024. To support data validation during the 2025 investigation, three duplicate samples and field blanks were collected, though these have been excluded from the reported totals.

Table 21. Groundwater Chemical analysis

Type	Determinant	No. of samples		Comment / Rationale
		Concept investigations	Delta-Simons investigations	
Metal / metalloids	Arsenic, Cadmium, Chromium (total and hexavalent), Copper, Lead, Mercury, Nickel, Selenium and Zinc Antimony, Beryllium, Boron, Cyanide (total) Molybdenum and Vanadium	66	31	Common contaminants.
Organics	Speciated total petroleum hydrocarbons (TPH) by GC-FID with aliphatic/aromatic class separation with criteria working group (CWG) banding	66	13	Based on previous uses on Site (e.g., Speedy Fuels yard), mainly associated with the storage of oil and fuel.
	Benzene, toluene, ethylbenzene, m,p-xylene and o-xylene (BTEX)	66	13	
	Polycyclic aromatic hydrocarbons (PAH) (USEPA16)	66	13	
	VOC and SVOC	8	18	
	PFAS	78	0	No testing for PFAS was carried out prior to the 2024 ground investigation. PFAS testing was undertaken to address this gap.
General water quality	pH, hardness, alkalinity, DOC, Ammoniacal nitrogen, Chloride, Cyanide, and carbon (DOC)	66	31	General water quality parameters.
	Calcium, Iron, Manganese, Magnesium, Sodium, Potassium, Sulphates, Sulphides, Nitrate, and Nitrite	66	31	

Source: LHR042 Thorney Lane Ground Contamination Assessment Report

Groundwater testing results from the Thorney Lane Ground Contamination Assessment Report¹, detailed in Appendix C of the Arup Ground Contamination Assessment Report¹ and summarised in Table 22, include analysis of 75 samples screened against Environmental Quality Standards (EQS) or Drinking Water Standards (DWS) where EQS were unavailable.

Most metal contaminants had limited exceedances of water quality standards (WQS). However, nickel showed more widespread elevations, and manganese levels also exceeded relevant GAC values. These elevated concentrations were not reflected in soil or leachate

testing, suggesting limited overall mobility. One field blank also showed elevated nickel, possibly indicating minor contamination during sampling.

Given the absence of sensitive receptors and broader context of supporting data, nickel and manganese are not considered to pose a significant risk to controlled waters at the site.

Table 22. Summary of metal concentrations in groundwater

Contaminant	GAC (mg/l)	Total no. of samples above GAC	Max. conc. (mg/l) / location of max. conc.
Cadmium	0.000008	6	0.00034 / DS122
Copper	0.01	1	0.00182 / BH24-05
Manganese	0.123	43	5.2 / DS24-03
Nickel	0.008	34	0.033 / DS25-10
Selenium	0.01	2	0.17 / CP105
Vanadium	0.02	2	0.29 / CP105

Groundwater concentrations of PAHs were screened against applicable water quality standards - preferring EQS where available and defaulting to DWS where EQS were absent. Out of 75 samples analysed (Table 23 and Appendix E, Thorney Lane Ground Contamination Assessment Report^{Error! Bookmark not defined.}), PAH detections were minimal and only present in a small subset, with fluoranthene's GAC falling below the laboratory detection limit (LOD). Overall, PAH concentrations are very low and do not present a significant risk to the site.

Volatile and semi-volatile organic compound (VOC/SVOC) testing was performed on five samples. All VOCs were below the LOD except in BH25-05, where chlorobenzene and 4-isopropyltoluene were detected. These compounds, commonly linked to oil-based products, were recorded at low concentrations. Considering the presence of stored oil lubricants nearby, the impacts are believed to be localised.

Table 23. Summary of PAH concentrations within groundwater

Contaminant	GAC (mg/l)	Total no. of samples above GAC	Max. conc. (mg/l) / location of max. conc.
Fluoranthene	0.0000063	15	0.00064 / DS202
Naphthalene	0.002	5	0.00863 / DS202
Benzo(a)pyrene	0.00000017	1	0.00003 / DS25-04
Chlorobenzene	-	0	0.0023 / BH25-05
4-iso-propyltoluene	-	0	0.00288 / BH25-05

Elevated concentrations of certain petroleum hydrocarbon fractions have exceeded saturation limits in the soil, indicating the possible presence of residual free-phase hydrocarbons in specific areas. Where such conditions exist, there is an increased likelihood of future hydrocarbon migration into the groundwater system. Summary of TPH results in groundwater is presented in Table 24 below.

Previous investigations identified elevated soil contaminant levels above commercial thresholds in the southwest and central areas of the site—specifically at DS105, DS120, DS201, DS202, and DS304. More recent assessments in 2024 and 2025 recorded exceedances above generic assessment criteria (GAC) at BH24-10, DS25-07, and DS25-10. Soils at BH24-10 and DS25-10 were above saturation limits, indicating the presence of free-phase hydrocarbons. Although DS25-07 was below saturation, strong odours suggested residual hydrocarbons remain.

In terms of groundwater quality, exceedances above GAC were concentrated in the south and southeast. Samples from the southwest were mostly below commercial GAC, with only BH25-05 showing detections above the limit of detection. A 2024 sample from DS105 returned no detectable concentrations.

Collectively, these findings suggest there may be isolated areas where hydrocarbons are migrating from soil to groundwater.

Table 24. Summary of TPH results in groundwater

TPH Band	GAC (mg/l)	Total no. of samples above GAC	Max. conc. (mg/l) / location of max. conc.
Aliphatics >C12-16	0.3	1	0.55 / BH24-10
Aromatics >C12-16	0.09	3	0.26 / BH24-10
Aromatics >C16-21	0.09	5	0.33 / DS201
Aromatics >C21-35	0.09	4	0.34 / DS201

PFAS groundwater testing, as detailed in the Thorney Lane Ground Contamination Assessment Report¹, identified elevated concentrations in the southwest and central areas of the site during earlier investigations - specifically at DS105, DS120, DS201, DS202, and DS304. More recent exceedances above the generic assessment criteria (GAC) were recorded at BH24-10, DS25-07, and DS25-10. Soil samples from BH24-10 and DS25-10 also exceeded saturation limits, suggesting the presence of free-phase hydrocarbons, while DS25-07 showed hydrocarbon odour despite concentrations falling below the saturation threshold.

In the recent Concept investigations, groundwater samples exceeding GAC were primarily found in the southern and southeastern areas. By contrast, samples from the southwest largely fell below commercial thresholds, with only BH25-05 showing detectable levels. A 2024 groundwater sample from DS105 returned results below the detection limit.

These findings point to potential localised migration of hydrocarbons from soil to groundwater in certain areas and will be subject to further investigation. The PFAS screening summary is presented in Table 25 below.

Table 25. PFAS exceedance summary

PFAS compound	Calculated criteria (ng/l)	No. of samples above calculated criteria
Total PFAS	100	31 of 82
Total PFOS	0.65	52 of 82
PFOA	1.3	76 of 82
PFHxS	2.16	63 of 82
PFNA	0.13	49 of 82
PFHxA	130	7 of 82
PFBS	1,300	0 of 82
PFBA	26	26 of 82

Groundwater PFAS profiles show notable spatial variation across the site. In the west and southwest, samples -particularly at DS24-03 - exhibited elevated levels of PFOA (up to 0.977 µg/L), PFHpA, and PFHxA, whereas PFOA concentrations elsewhere on the site remained significantly lower (<0.04 µg/l).

In contrast, DS24-08 in the northeast recorded disproportionately high levels of 6:2 fluorotelomer sulfonamide alkylbetaine (6:2 FTAB), a compound linked to aqueous film forming foams (AFFF) used in firefighting. Although 6:2 FTAB was detected in other samples (DS24-

04, DS25-04, DS25-08, BH25-03, DS25-03), concentrations in DS24-08 were markedly higher, suggesting a localised source.

This anomaly aligns with a historical fire event in 2010, raising the likelihood that PFAS compounds - particularly 6:2 FTAB - entered groundwater via runoff from firefighting foam used during incident response.

PFAS monitoring from the deeper aquifer locations—BH24-02 (northeast), BH24-07 and CP105 (south) - included eight samples collected during the 2024 and 2025 investigations. PFAS was detected in all samples, with concentrations and compound profiles showing notable spatial variation.

- CP105 and BH24-07: These two southern wells had broadly similar PFAS profiles, though CP105 generally exhibited higher concentrations (265–745 ng/l vs. 29.7–318 ng/l). PFOA was notably elevated in CP105. The compound distribution in CP105 resembled that of nearby shallow groundwater, suggesting potential connectivity between deep and shallow aquifers—possibly in the west, where the London Clay layer thins.
- BH24-02: Located in the northeast near the site of a historic fire, this location displayed a distinct PFAS profile, dominated by 6:2 FTS—a compound absent from other deep wells. This indicates a separate source, potentially linked to firefighting foam used during the 2010 fire event. However, limited detection sensitivity in this single sample may have obscured comparable concentrations to the southern wells.

The possibility of inter-aquifer PFAS migration and source differentiation will be subject to further investigation. A summary of the main PFAS compounds detected in the deep groundwater samples is presented in Table 26.

Table 26. Summary of PFAS results for deep groundwater samples

PFAS compound	BH24-02 (ng/l)	CP105 (ng/l) [mean]	BH24-07 (ng/l) [mean]	Calculated criteria (ng/l)	Number of samples above criteria
PFBA	20	30.6 to 82.5 [59.0]	3.2 to 25.5 [14.6]	26	4 of 8
PFPeA	<20	71 to 96.7 [83.6]	6.1 to 48.3 [31.8]	-	-
PFHxA	40	8.5 to 110 [69.1]	3.6 to 20.3 [14.3]	130	0 of 8
PFHpA	<20	43.3 to 78.4 [60.6]	1.4 to 13.1 [8.9]	-	-
PFNS	<20	<1 to 61.4 [35.9]	<1 to 30.8 [11.2]	-	-
PFBS	<20	10.7 to 22.9 [18.2]	1.2 to 10.1 [6.3]	1,300	0 of 8
PFPeS	<20	6.6 to 22.1 [16.3]	<1 to 1.75 [1.3]	-	-
PFHxS	<20	20 to 61.4 [39.1]	1.8 to 30.8 [17.8]	2.16	6 of 8
6:2 FTS	120	4.1 to 70 [29.1]	<1 to 5.3 [2.4]	-	-
Total PFOA	<20	120 to 186 [147.3]	1.2 to 14.8 [8]	1.3	5 of 6
Total PFOS	<20	16.8 to 24.6 [20.6]	5.0 to 118 [61.7]	0.65	8 of 8
Sum detected PFAS	180	265 to 745 [535.8]	29.7 to 318 [179.9]	100	7 of 8

According to the Thorney Lane Ground Contamination Assessment Report¹, metal concentrations in drainage and surface water were generally low and fell below WQS. While a single sampling event at the attenuation pond showed elevated levels of nickel, chromium, zinc, copper, and antimony, subsequent testing found most metals below WQS - except for nickel and arsenic, which remained slightly elevated.

However, these concentrations were still low overall, and supporting data from drainage, soil, and groundwater testing showed no widespread exceedances for chromium, zinc, antimony, or copper. As such, the metals are not considered to present a significant risk to controlled waters.

Hydrocarbon testing from the Thorney Lane Ground Contamination Assessment Report¹ identified elevated concentrations of TPH at drainage point 1, canal sampling point 3, and the attenuation pond. PAHs were also present at high levels in drainage point 1 and the attenuation pond.

The water sample from drainage point 1 was predominantly oil-based. Product identification confirmed diesel-range hydrocarbons, estimated to be around 15 ± 2 years old. Given this location's proximity to the Speedy Fuels yard -where fuel handling and refuelling occurred - the findings suggest that surface water runoff has transported diesel into the drainage network, canal, and attenuation pond. Importantly, soil and groundwater analyses indicate that hydrocarbons have not migrated into the groundwater system.

PFAS analysis from drainage, surface water (attenuation pond), and the Slough Arm of the Grand Union Canal revealed distinct source patterns:

- Canal Samples: Several samples showed elevated PFAS levels with consistent compound profiles. PFHxDA was detected exclusively in canal water and not in site groundwater, while compounds such as PFDA, PFNS, PFHpS, 8:2 FTS, MeFOSAA, PFBSA, and 6:2 FTAB were found only in groundwater—not canal samples. This contrast suggests external contributions to canal PFAS concentrations rather than site-related discharges. No direct evidence of significant PFAS migration from the site to surface water has been identified.
- Drainage Samples: PFAS concentrations were consistently low across site drainage samples and show no indication of being impacted by PFAS in site soils or groundwater.
- Attenuation Pond: PFAS signatures were similar to those recorded at DS24-08, implying a potential link to the 2010 fire event and historic use of firefighting foams. This hypothesis is being further explored in the DQRA.

3.3.6.4 Surface Water

Table 27 presents a summary of surface water aggregated number of tests conducted for each contaminant, combining results from both the 2024 and 2025 investigations.

Table 27. Surface Water Chemical Analysis

Type	Determinant	No. of samples		Comment / Rationale
		Concept investigations	Delta-Simons investigations	
Metal / metalloids	Arsenic, Cadmium, Chromium (total and hexavalent), Copper, Lead, Mercury, Nickel, Selenium and Zinc Antimony, Beryllium, Boron, Cyanide (total) Molybdenum and Vanadium	21	0	General suite of contaminants
Organics	Speciated total petroleum hydrocarbons (TPH) by GC-FID with aliphatic/aromatic class separation	21	0	Based on potential contaminative uses of the site,

Type	Determinant	No. of samples		Comment / Rationale
		Concept investigations	Delta-Simons investigations	
	with criteria working group (CWG) banding			mainly associated with the storage and use of oil and fuel.
	Benzene, toluene, ethylbenzene, m,p-xylene and o-xylene (BTEX)	21	0	
	Polycyclic aromatic hydrocarbons (PAH) (USEPA16)	21	0	
	VOC and SVOC	3	0	
	PFAS	21	0	
General water quality	pH, hardness, alkalinity, DOC, Ammoniacal nitrogen, Chloride, Cyanide and carbon (DOC)	21	0	General water quality parameters.
	Calcium, Iron, Manganese, Magnesium, Sodium, Potassium, Sulphates, Sulphides, Nitrate, and Nitrite	21	0	

Summary of PFAS compounds in drainage and surface water is presented in Table 28 below.

Table 28. Summary of PFAS compounds in drainage and surface water

PFAS compound	Calculated criteria (ng/l)	No. of samples above calculated criteria
Total PFAS	100	2 of 14
Total PFOS	0.65	12 of 14
PFOA	1.3	12 of 14
PFHxS	2.16	12 of 14
PFNA	0.13	5 of 14
PFHxA	130	0 of 14
PFBS	1,300	0 of 14
PFBA	26	2 of 14

Ground investigations at the site have produced a robust dataset, identifying PFAS as the primary contamination concern, with elevated levels detected in both shallow and deep aquifers—particularly in the southwest, where there may be influence from an offsite landfill. PFAS profiles in other deep boreholes vary, with BH24-02 in the north showing distinct composition dominated by 6:2 FTS. The source of PFAs is subject to ongoing investigation and appropriate remediation will be identified as required to ensure the risk to controlled waters from redevelopment of the site is mitigated, Any remediation proposals will be agreed with the Local Planning Authority and EA as statutory consultee. The approvals required under the planning process will ensure that the site is remediated to a satisfactory position as part of the site re-development such that when the installation becomes operational and environmental permit comes into effect, there will be no residual risk of historic contamination

Asbestos detections were minimal and consistent with typical brownfield conditions, requiring only standard construction-phase mitigation. Hydrocarbon impacts were noted in shallow soils and groundwater, with concentrations above saturation limits and widespread odours suggesting localised free-phase product; however, migration to groundwater appears limited. Diesel-range hydrocarbons were also found in drainage infrastructure, posing isolated risks which will be addressed through excavation and other remediation measures. Ground gas monitoring indicates a CS1 regime, with low concentrations and intermittent flow, and overall risk is considered negligible - partly due to the protective nature of the proposed data centre infrastructure.

4. Permitted Activities

4.1 Site Permitted Activities

This environmental permit application is made under the Environmental Permitting (England and Wales) Regulations 2016 (as amended) ('the EP Regulations').

The activities proposed under the environmental permit (permitted activities) are summarized in Table 29.

Table 29. Permitted Activities

Activity Ref No	Activity under EPR 2016 Schedule 1	Description of specified activity	Limits of specified activity
<u>Installation Activities</u>			
A1	Burning fuel in an appliance with a rated thermal input in excess of 50 megawatts {Schedule 1 Activity – Chapter 1, Section 1.1, Part A (1) (a)}.	Operation of emergency standby generators burning diesel or HVO solely for the purpose of providing electricity to the installation in the event of a failure of supply from the National Grid including testing and maintenance. The development comprises; <ul style="list-style-type: none"> • 36 x main generators, • 2 x house generators. 	From receipt of raw material (diesel or HVO) to combustion in emergency standby generators. Emergency standby generators for electricity production to exhaust of products of combustion to atmosphere to generation, storage and dispatch of wastes. Electricity produced at the installation cannot be exported to the National Grid. With the exception of testing and maintenance, the generators shall only be operated for on-site emergencies and not for elective power generation.
<u>Directly Associated Activities (DAA)</u>			
A2	Storage of Raw Materials	Fuel for the generators and other maintenance related materials such as lubricants.	From receipt of raw materials to use within the facility.
A3	Refuelling Operations	Filling of generator fuel tanks.	Fuelling activities undertaken at designated fill points on the refuelling laybys.
A4	Foul Water Drainage	Management of generator yarded and refuelling area foul water.	Input to site foul drainage system for generator and fuel loading areas until discharge to wider site foul water drainage via interceptors.

4.2 Non-Permitted Activities

The wider data centre development consists of a number of non-permitted activities including:

- two data centre building;
- ancillary offices;
- associated plant, and equipment;
- landscaping;
- sustainable drainage systems; and
- parking.

5. Identification and Evaluation of Hazardous Substances

5.1 Potentially Hazardous Substances

Hazardous substances are defined as substances or mixtures defined in Article 3 of Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on Classification, Labelling and Packaging of substances and mixtures (the “CLP Regulations”). The determination of whether a substance is a hazardous substance is largely determined using the substance CAS Number and European Chemicals Agency (ECHA) database¹⁴.

In accordance with IED requirements, the potentially hazardous substances that may be present on site at the Proposed Installation have been identified and are presented in the list below. These materials represent raw materials used and /or products for the site and broadly comprise:

- Diesel or HVO,
- Lubricating oil,
- Coolant – ethylene glycol
- Waste lubricating oil.

Table 30 provides details of materials, expected usage or volumes produced, storage and potential environmental effects.

Table 30. materials Inventory

Raw Material	Diesel or HVO	Ethylene Glycol	Lubricating Oil	Waste Lubricating Oil
CAS Number	68334-30-5 (Diesel)	107-21-1	Various	Various
Description	Liquid fuel oil, complex combination of hydrocarbons produced by the distillation of crude oil	Liquid coolant mono-constituent substance	Refined hydrocarbon with additives	Refined hydrocarbon with additives
Hazard Properties	Health Hazard Harmful	Health Hazard Harmful	Health Hazard Harmful	Health Hazard Harmful
Hazard Identification	H227 – Combustible liquid H304 – May be fatal when swallowed and enters airways H315 – Causes skin irritation H332 – Harmful if inhaled H351 – Suspected of causing cancer H373 – May cause damage to organs through prolonged or repeated exposure (bone marrow, liver, thymus)	H304 – May be fatal when H373 – May cause damage to organs through prolonged or repeated exposure (bone marrow, liver, thymus)	H208 – may produce allergic reaction	H208 – may produce allergic reaction

¹⁴ <https://echa.europa.eu/>

Raw Material	Diesel or HVO	Ethylene Glycol	Lubricating Oil	Waste Lubricating Oil
Expected Usage	<ul style="list-style-type: none"> Testing Emergency 	Very low – used for top up.	Low – used for top up.	Low – depends on usage
Storage	<p>36 x belly tanks (1 per main generator) –gross capacity is 19,500 litres per tank and net capacity is 17,400 litres per tank.</p> <p>2 x belly tanks (1 per house generator) – gross capacity is 5,000 litres per tank and net capacity is 4,560litres per tank.</p> <p>2 x Top-up Tanks (1 per fuel loading area) – each has 40,000 litres capacity</p>	Used as an additive to coolant water there will be no routine storage on site. This substance will be present diluted within the closed loop cooling system for the engines.	No routine storage – brought to site as needed for maintenance.	No routine storage onsite, waste oil will be removed as part of maintenance contract.

Diesel/HVO will be stored in a main top-up tank for each data centre building with a capacity of approximately 40 m³

In addition, each engine will have an associated belly tank which will facilitate up to 24 hrs operation at 100% load. as follows:

- 7.57 MWth engines these will be approximately 19.5 m³ gross capacity with a net capacity of 17.4 m³.
- 3.45 MWth engine this will be approximately 5 m³ gross capacity with a net capacity of 4.56 m³.

The belly tanks will be automatically re-filled from the relevant main top-up tank. The main top-up tank will be re-filled from fuel delivery vehicles in the designated bunded fuel loading area.

The top up tanks will be integrally bunded to 110% and each is connected to a fuel delivery point in the fuel loading area of each generator yard. The tanks will be fitted with an Overfill Protection Valve (OPV) to the tank fill line and a leak detect float switch within the tank bund to alarm if a leak is detected.

Each belly tank is containerised and will be bunded to 110% of the capacity of the internal tank. The tanks will be fitted with digital OLE electronic gauges which can be read at the tank or remotely via the integrated Business Management System (BMS) and will also be equipped with leak detection alarms.

All tanks will comply with the requirements of the Control of Pollution (Oil Storage) (England) Regulations 2001.

Each generator yard will have a dedicated fuel loading area which comprises a fill point in a lockable cabinet and a fuel control panel which provides details of fuel levels in the top-up and belly tanks. The control panel is used to control the refuelling operations and provides overfill prevention controls and alarms at the cabinet. Fuel loading areas are provided with drip trays to capture minor spills and forecourt fuel interceptors at each loading ramp to prevent any spillage entering the foul drainage system.

All delivery staff and maintenance engineers will be trained and will hold contact details for the relevant employees to alert in the event of an incident. Contact details will also be held local to the filling point.

Top up of lubricants or coolant will be undertaken during scheduled maintenance where required. The maintenance contractor will be responsible for this and will be responsible for reporting any spillage incident and actions taken in accordance with Environmental Management System requirements.

The fuel loading and generator areas will be equipped with foul drainage that will direct flows to the foul water system via Class 1 Interceptors. The interceptors will be capable of holding 10,000 litres which is more than the volume of a single tanker compartment and will be monitored via the BMS for presence of hydrocarbon and automatic alarms will be triggered if hydrocarbon present and automatic isolation valves will prevent discharge of contaminated waters to the wider foul drainage system. Maintenance procedures will be in place to ensure that it remains in good working order. The discharge of this water to foul sewer is not considered to be a hazardous substance.

Stack emissions are not considered to be hazardous in relation to ground or groundwater.

5.2 Assessment Of Relevant Hazardous Substances (RHS)

RHS in relation to IED are defined as:

'those substances or mixtures defined within Article 3 of Regulations (EC) No1272/2008, which, as a result of their hazardousness, mobility, persistence and biodegradability (as well as other characteristics), are capable of contaminating soil or groundwater and are used, produced and/or released by the installation.'

The MSDS sheets for the materials on the inventory have been reviewed and are presented in Appendix E.

The RHS for the site have been identified based on the assessment are outlined below.

5.2.1 Diesel, Lubricating and Waste Oils

Diesel and lubricating oils are used by the back-up emergency generators .

Both are capable of contaminating soil and groundwater should they be released into the environment. These oil-based substances are toxic to the water environment and although they are biodegradable in particular conditions, larger volumes of these substances are likely to be relatively persistent in the environment.

Diesel is stored in sufficiently large quantities to be considered a RHS for the purposes of this assessment.

Lubricating oil will only be stored in small quantities on the site and will be brought onto the site as needed for maintenance purposes. Any waste oil generated during maintenance will be removed from site as it is produced. On this basis lubricating oil and waste lubricating oil have been discounted as RHSs for the purposes of this baseline assessment of soils and groundwater.

5.2.2 Ethylene Glycol

Ethylene glycol is used as an additive in the closed loop cooling system for the engines. This may need topping up infrequently and in small volumes but will be brought to site on an as needed basis. There will be no onsite storage of ethylene glycol, it will only be present when diluted within the cooling system. The cooling systems for each engine are enclosed within the relevant engine container which will be located on concrete hardstanding.

The potential for the substance to enter soil and groundwater is extremely limited. On this basis, ethylene glycol has been discounted as a RHS for the purpose of this baseline assessment of soil and groundwater.

5.3 Assessment of the Likelihood of land Pollution

An assessment of the potentially polluting substances identified in 5.2 taking into consideration:

- Planned emissions;
- Accidents and / or incidents; and
- Routine operations.

The only planned emissions at the site are:

- stack emissions, these were discounted as they are not considered hazardous to soils and groundwater;
- site discharge to the foul water network, this was discounted as a hazardous substance due to the controls in place.

The site will have an EMS in place that will outline the site's procedures to minimise the potential for accidents or incidents occurring and the procedures to follow in the event of a leak or spillage. The main controls are summarised below:

- Daily inspections of impermeable surfaces, tanks, bunds and pipe work will be carried out and repairs and maintenance undertaken as necessary;
- All plant and equipment will be inspected and maintained in accordance with legal requirements and the manufacturer's recommendations and maintenance records will be kept by site management;
- Any complaints received about site activities will be recorded and investigated in accordance with complaints log and investigation procedure;
- A mechanism will be in place to fully investigate any environmental incidents and non-conformances in both normal and abnormal conditions and to record any remedial actions that might be taken and how to prevent re-occurrence;
- A site-specific emergency, contingency and accident management plan will be in place; and
- All relevant staff will receive environmental training on induction and are required to follow safe working procedures.

The assessment of the RHS is presented in Table 31 along with the proposed management and control arrangements.

Table 31. Assessment of Potentially Hazardous Substances at the Proposed Installation

Substances	Relevant Activity	Potential for Pollution from the Relevant Activity	Existence of Pollution Prevention Measures	Nature of Primary Containment	Testing and Inspection of Primary Containment	Nature Of Secondary Containment	Testing And Inspection Of Secondary Containment	Nature Of Tertiary Containment	Testing And Inspection of Tertiary Containment	Adequacy of Pollution Prevention Measures Yes/No	Are the Proposed Integrity Testing of Pollution Prevention Measures Adequate Yes/No	Is there an Adequate Documented Management System to Demonstrate Operator Management and Competence with the Relevant Activity	Likelihood of Pollution
Diesel / HVO	Delivery by vehicle	Spillage during off-loading e.g. flex hose/ connection failure	Yes	Road tanker fitted with dry-break couplings. Delivery hoses are on a register that covers inspections, change frequency etc. Offloading points plugged or blanked off when not in use. Potential to install non return valve (NRV) to prevent backflow on disconnection. Tanker will offload one compartment at a time – should there be an issue during offloading the interceptor can hold the tanker compartment volume. Fill points in lockable cabinet with control panel showing tank levels. Each tank receiving fuel will be equipped with overfill protection, and high and critical high-level alarms which would automatically stop the offloading. Fill point is also equipped with leak detection – if leak detected	Visual inspection of road tanker and delivery hoses to be carried out. Deliveries via reputable supplier using vehicles which are fit for purpose	Concrete hardstanding for delivery vehicles, including kerbed area draining via a dedicated foul drainage system through a Class 1 Interceptor prior to joining the wider foul drainage network. Each interceptor will have a 10,000 litre capacity which is sufficient to hold 1 tanker compartment. Interceptors will be equipped with automatic isolation valves which will activate on detection of hydrocarbon to stop discharges from the interceptor to the wider site foul drainage network	Visual inspection of concrete hardstanding, and the drainage system to ensure they are in good working condition. Interceptors will be monitored for the presence of hydrocarbon through the BMS. Alarms will be triggered if hydrocarbon is detected and automatic isolation valves will activate to prevent releases to the wider foul drainage network.	Spill Response Plan and Spill kits to be available on site	Scheduled inspections of spill kits / containment provisions	Yes	Yes	Yes The operator has prepared a Standard Operating Procedure (SOP) for Fuel Delivery Refill of Receiver and Belly Tanks which details the steps to be followed during refuelling Fuel deliveries are conducted by trained fuel tanker drivers and supervised by a trained member of the site engineering team.	Very Low

Substances	Relevant Activity	Potential for Pollution from the Relevant Activity	Existence of Pollution Prevention Measures	Nature of Primary Containment	Testing and Inspection of Primary Containment	Nature Of Secondary Containment	Testing And Inspection Of Secondary Containment	Nature Of Tertiary Containment	Testing And Inspection of Tertiary Containment	Adequacy of Pollution Prevention Measures Yes/No	Are the Proposed Integrity Testing of Pollution Prevention Measures Adequate Yes/No	Is there an Adequate Documented Management System to Demonstrate Operator Management and Competence with the Relevant Activity	Likelihood of Pollution
				the system will automatically stop all off-loading operations.									
	Storage – main tank	Leak from bulk storage tankage by overfilling or mechanical damage to tank infrastructure (tank, pipelines, pumps)	Yes	Anticipated to be double skinned tanks (with integral 110% bund). Leak detection within interstitial area between walls (bund). Level detection and alarms (high and critical high level) to prevent overfilling. Tanks will be carbon steel to prevent corrosion and are compliant with the Oil Storage Regulations.	The tank will be subject to routine visual checks and inspection in line with manufacturer guidance. and as per defined planned preventative maintenance. Level measurement, alarms and trips will be on a routine testing regime.	The tank will be double skinned with integral bunding. The bund will have leak detection.	Regular visual inspection of bunding, and testing of the leak detection system	Site hardstanding with gravity fed foul water drainage which passes into a Class 1 interceptor. Interceptors will be monitored for the presence of hydrocarbon through the BMS. Alarms will be triggered if hydrocarbon is detected and automatic isolation valves will activate to prevent releases to the wider foul drainage network. Isolation valves in drainage system will activate automatically to isolate the interceptor from wider site foul drainage on the detection of hydrocarbon..	Concrete hardstanding and drainage are subject to scheduled inspection and maintenance / repair if required.	Yes	Yes	Yes	Very Low
	Storage – belly tanks	Leak from belly storage or tank infrastructure (tank, pipelines, pumps)	Yes	Belly tanks (with integral 110% bund). Leak detection within interstitial area between walls (bund). Level monitoring and alarms (high and critical high level) to prevent overfilling. Tanks will be carbon steel to	Each tank will be subject to routine visual checks and inspection in line with manufacturer guidance and as per defined planned preventative maintenance. Level measurement, alarms and trips	Each tank will be double skinned with integral bunding. The bund will have leak detection.	Regular visual inspection of tank, bunding, and testing of the leak detection system	Site hardstanding with gravity fed foul water drainage which. into a Class 1 interceptor. Interceptors will be monitored for the presence of hydrocarbon through the BMS. Alarms will be triggered if hydrocarbon is detected and automatic isolation	Concrete hardstanding and drainage are subject to scheduled inspection and maintenance / repair if required.	Yes	Yes	Yes	Very Low

Substances	Relevant Activity	Potential for Pollution from the Relevant Activity	Existence of Pollution Prevention Measures	Nature of Primary Containment	Testing and Inspection of Primary Containment	Nature Of Secondary Containment	Testing And Inspection Of Secondary Containment	Nature Of Tertiary Containment	Testing And Inspection Of Tertiary Containment	Adequacy of Pollution Prevention Measures Yes/No	Are the Proposed Integrity Testing of Pollution Prevention Measures Adequate Yes/No	Is there an Adequate Documented Management System to Demonstrate Operator Management and Competence with the Relevant Activity	Likelihood of Pollution
				prevent corrosion and are compliant with the Oil Storage Regulations.	will be on a routine testing regime.			valves will activate to prevent releases to the wider foul drainage network Isolation valves in drainage system will activate automatically to isolate the interceptor from wider site foul drainage on the detection of hydrocarbon...					
	Fuel system pipework	Leak from pipework	Yes	Fuel transport pipework which have a pipe-in-pipe arrangement with leak detection to minimise risk of leaks. Routing of pipework above ground so that leaks would be visible. Use of materials with anti-corrosive properties for pipework to minimize leaks. Flanges kept tot a minimum.	Pipework will be subject to routine visual checks and inspection in line with manufacturer guidance and as per defined planned preventative maintenance.	Pipework is pipe-in-pipe design with leak detection.	Regular visual inspection of pipework and testing of the leak detection system	Site hardstanding with gravity fed foul water drainage which. into a Class 1 interceptor. Interceptors will be monitored for the presence of hydrocarbon through the BMS. Alarms will be triggered if hydrocarbon is detected and automatic isolation valves will activate to prevent releases to the wider foul drainage network Isolation valves in drainage system will activate automatically to isolate the interceptor from wider site foul drainage on the detection of hydrocarbon...	Concrete hardstanding and drainage are subject to scheduled inspection and maintenance / repair if required.	Yes	Yes	Yes	Very Low

6. Initial Conceptual Model

6.1 Introduction

This section is aimed at identifying possible risks, if any, arising from substances used or deposited on the site, or from other sources of land contamination. Both past and current potentially contaminative land uses have been considered. It is based on the Proposed Installation as Thorney Lane Data Centre Campus Emergency Back-Up Generation Facility.

The risk assessment process for environmental contaminants is based on a source-pathway-receptor analysis. These terms can be defined as follows:

- source: a contaminant or pollutant that is in, on or under the land and that has the potential to cause harm or pollution; and
- pathway: a route by which a receptor is or could be affected by a contaminant: examples include ingestion of contaminated soil and leaching of contaminants from soil into watercourses; and
- receptor: something that could be adversely affected by a contaminant: examples include human occupants / users of site, water resources (surface waters or groundwater), or structures.

For a risk to be present, there must be a relevant / viable contaminant linkage; i.e. a mechanism whereby a source can reasonably impact on a sensitive receptor via a pathway.

The following sections detail the initial CSM which has been developed for the proposed installation with a view to assessing the potential risks / liabilities and constraints associated with the site in its current condition prior to the proposed installation taking place. Risks associated with the Proposed Installation have also been assessed based on an commercial future land use scenario, including any potential sources of contamination, potential receptors and potential contaminant pathways identified during this desk-based assessment.

6.2 Sources of Potential Contamination

A summary of potential contamination associated with the historic activities in the area of the proposed installation is presented in Table 32 below.

Table 32. Potential Sources

Potential Source	Associated Contaminants of Potential Concern (CoPC)
S1 - Gravel extraction and infilling and raising of levels with Made Ground of unknown origin	Metals, hydrocarbons and asbestos
S2 - Concrete works	Primarily hydrocarbons, TPH, PAH and to a lesser degree metals, solvents and PCBs.
S3 - Thorney Business Park	Primarily hydrocarbons, PAH and to a lesser degree metals, TPH and solvents.
S4 – Localised areas of hydrocarbon contamination	TPH and PAH.
S5 – Fire in the northeast of site and offsite tyre fire	PFAS contamination to soils and groundwater and surface water drainage system.
S6 – Historic offsite landfills (to west, northwest and east)	Landfill leachate, metals, TPH and PFAS. Ground gases (e.g., methane, carbon dioxide, hydrogen sulphide), depleted oxygen and vapours (from volatile organic compounds).

6.3 Potential Pathways

Potential pathways associated with the proposed installation are presented in Table 33, below.

Table 33. Potential pathways

Pathway Reference	Pathways
P1	Dermal contact, ingestion, and inhalation of soil, dust, and fibres, as well as contact with contaminated groundwater. These risks are primarily associated with soft landscaping areas and activities involving ground disturbance, where mobilised dust or fibres may also affect nearby offsite receptors.
P2	Migration of gases and vapours through the subsurface may lead to inhalation exposure both indoors and outdoors. Soil gas and vapour may also be generated as a result of contaminated groundwater migration. These substances can enter buildings via preferential pathways, such as service corridors and utility runs.
P3	Rainwater may infiltrate the ground and percolate downward under gravitational influence, leaching into the underlying groundwater.
P4	Preferential pathways and piled foundations
P5	Discharge via the drainage system
P6	Direct contact, permeation

6.4 Potential Receptors

Potential receptors associated with the proposed installation are presented in Table 34 below.

Table 34. Potential Receptors

Receptor Reference	Receptors
R1	Human health (on-site users): Site workers and visitors
R2	Human Health (off-site users): Offsite neighbours
R3	Human health (on-site users): Future site users
R4	Human health (on-site users): Maintenance/ utility workers
R5	Groundwater: superficial geology Principal aquifer with shallow groundwater in Lynch Hill Gravel Member
R6	Groundwater: bedrock geology Secondary A Aquifer associated with the Harwich Formation and Lambeth Group
R7	Building and infrastructure: located on-site and off-site
R8	Surface Waters: located on-site and off-site (Slough Arm of the Grand Union Canal)
R9	London Green Belt

7. Environmental Risk Assessment

7.1 Risk Assessment Principles

Current best practice recommends that the determination of hazards due to contaminated land is based on the principle of risk assessment, as outlined in the Environment Agency's published revised online guidance for the management of land contamination 'LCRM'¹⁵.

For a risk to be present, there must be a viable contaminant linkage; i.e. a mechanism whereby a source impacts on a sensitive receptor via a pathway.

Assessment of risks associated with each of these potential contaminant linkages are discussed in the following sections.

Using criteria broadly based on those presented in NHBC/CIEH/EA publication R&D 66¹⁶ the magnitude of the risk associated with potential contamination at the Site has been assessed. To do this, an estimate is made of:

- the magnitude of the potential consequence (i.e. severity); and
- the magnitude of probability (i.e. likelihood).

The severity of the risk is classified according to the criteria in Table 35, below.

Table 35. The Severity of Risk

Severity	Definition and Examples
Severe	<ul style="list-style-type: none"> • highly elevated concentrations likely to result in significant harm to human health. • catastrophic damage to crops, buildings or property (e.g., by explosion). • equivalent to EA Category 1 pollution incident including persistent and / or extensive effects of water quality. • major damage to aquatic or other ecosystems.
Medium	<ul style="list-style-type: none"> • elevated concentrations which could result in significant harm to human health. • significant damage to crops, buildings or property (e.g., damage to building rendering it unsafe). • equivalent to EA Category 2 pollution incident including significant effect on water quality. • significant damage to aquatic or other ecosystems
Mild	<ul style="list-style-type: none"> • exposure to human health unlikely to lead to significant harm. • minor damage to crops, buildings or property (e.g., surface spalling to concrete). • equivalent to EA Category 3 pollution incident including minimal or short-lived effect on water quality. • minor or short-lived damage to aquatic or other ecosystems.
Minor	<ul style="list-style-type: none"> • no measurable effect on humans. • repairable effects of damage to buildings, structures and services. • equivalent to insubstantial pollution incident with no observed effect on water quality of ecosystems.

The probability of the risk occurring is classified according to the criteria in Table 36, below.

Table 36. Probability of Risk

Probability	Definition and Examples
High	There is a pollutant linkage, and an event would appear very likely in the short-term and almost inevitable over the long-term, or there is evidence at the receptor of harm or pollution.

¹⁵ EA Guidance, Land contamination risk management, published 8th October 2020, updated 12th June 2025

¹⁶ NHBC, CIEH and EA. (2008). Guidance for the Safe Development of Housing on Land Affected by Contamination

Probability	Definition and Examples
Likely	There is a pollutant linkage, and all the elements are present and in the right place which means that it is probable that an event will occur. Circumstances are such that an event is not inevitable, but possible in the short-term and likely over the long-term.
Low	There is a pollutant linkage and circumstance are possible under which an event could occur. However, it is by no means certain that even over a long period such an event would take place and is less likely in the shorter term.
Unlikely	There is a pollutant linkage, but circumstances are such that it is improbable that an event would occur even in the very long-term.

An overall evaluation of the level of risk is gained from a comparison of the severity and probability, as presented in Table 37, below.

Table 37. Probability and Severity Matrix

		Severity			
		Severe	Medium	Mild	Minor
Probability	High	Very High	High	Moderate	Moderate/ low
	Likely	High	Moderate	Moderate/ low	Low
	Low	Moderate	Moderate/ low	Low	Very Low
	Unlikely	Moderate/ low	Low	Very Low	Very Low

7.2 Preliminary Risk Assessment

In accordance with the risk assessment principles outlined above, a preliminary evaluation of the potential risks associated with all the identified sources at the Data Centre Campus site Table 32, through the potential pathways (P1 to P6) to the various potential receptors (R1 to R9) is discussed and presented in Table 38, below. The level of risk is determined based on the current condition of the site (i.e. the effects of mitigation measures are not included). Mitigation is then proposed based on the level of risk. In some cases, a degree of mitigation is assumed as part of legislative requirements or standard construction practise. This is acknowledged where these assumptions are made.

Table 38. Preliminary Risk Assessment

Pathway	Receptor	Potential severity	Likelihood of occurrence	Potential risk	Linkage reference	Justification
P1: Dermal contact with soil and dust, ingestion of soil and dust and inhalation of dust and/or fibres. Exposure to contaminated groundwater. P2: Migration and inhalation of gases and vapours.	R1: Site workers and site visitors	Unlikely	Medium	Low	L1	L1/L2/L3: The levels of soil contaminants recorded on site are considered to present a low risk to the intended commercial use. Asbestos is present only in small quantities and occasional fragments, and its potential impact will be mitigated through the use of surface hardstanding and the requirement for a growth medium in landscaped areas. Future maintenance activities that involve breaking ground may encounter residual asbestos within the Made Ground, so appropriate personal protective equipment (PPE) and good working practices will be necessary. These measures will be detailed in the remediation strategy and implemented accordingly. Groundwater analysis and vapour monitoring have not identified elevated concentrations of volatile compounds, and no vapour mitigation measures are required to protect future users or nearby receptors. Additionally, the ground gas assessment detailed in Thorney Lane Ground Contamination Assessment Report ¹ has classified the site as low risk (CS1), indicating that ground gas protection measures are unnecessary.
	R2: Offsite neighbours (commercial)	Unlikely	Mild	Very Low	L2	
	R3: Future site users	Unlikely	Medium	Low	L3	
P3: Rainwater infiltration, leaching and lateral groundwater migration.	R5: Principal aquifer within Lynch Hill Gravel Member	Unlikely	Medium	Low	L4	L4: PFAS contamination at the site is considered high, with significantly elevated concentrations detected in shallow groundwater. A detailed quantitative risk assessment ^{Error! Bookmark not defined.} has been carried out to understand PFAS migration within the aquifer, and specific compounds. There's also moderate risk associated with hydrocarbons, although the evidence suggests low mobility and limited migration of dissolved phase contaminants. Any free-phase hydrocarbon product found during earthworks is expected to be removed, with requirements outlined in the development's remediation strategy ¹⁷ . Infiltration SuDS are not permitted due to the potential to mobilise contaminants, particularly PFAS and nickel. The site will predominantly be covered by buildings and hard surfaces, further limiting infiltration. Soil and groundwater data suggest that contaminant migration through the unsaturated zone is unlikely. Consistent infiltration-based drainage is excluded from the design, and general rainwater infiltration should be minimised. The existing drainage infrastructure, potentially contributing to contamination, will be decommissioned and replaced.

¹⁷ LHR042 Thorney Lane, Remediation Strategy (Reference Number: LHR042-ARP-XX-XX-RP-EC-00002-1.0), 30 May 2025

Pathway	Receptor	Potential severity	Likelihood of occurrence	Potential risk	Linkage reference	Justification
P4: Via preferential pathways such as piled foundations.	R5: Principal aquifer within Lynch Hill Gravel Member	Unlikely	Medium	Low	L5	L5/L7: The site's use isn't expected to introduce new contamination risks to groundwater. However, groundwater monitoring reveals elevated PFAS levels in the southwest (SZ1), posing a confirmed risk, with limited natural attenuation and a likely link to a nearby landfill. SZ2 shows minor PFAS exceedance, but it's not considered significant due to minimal migration. Deeper PFAS contamination suggests downward movement, though geological conditions are likely to limit its impact on deeper aquifers. Evidence of low-mobility hydrocarbons in isolated areas poses minimal risk of migration, but will be managed during remediation. A remedial strategy ¹⁷ is being developed, focusing on the PFAS plume and any free-phase hydrocarbons encountered.
	R6: Harwich / Lambeth Group Secondary A aquifer	Unlikely	Mild	Very Low	L6	
P5: Discharge via the drainage system.	R8: Surface Waters: located on-site and off-site (Slough Arm of the Grand Union Canal)	Unlikely	Medium	Low	L7	L7: The site is not expected to introduce new contamination risks through its operation. Currently, surface drainage flows to the Slough Arm of the Grand Union Canal via an offsite attenuation pond, providing a potential route for contamination. This pathway will be removed during construction and replaced by a clean, controlled system for the new development. PFAS compounds have been detected in drainage water, the attenuation pond, and the canal. While PFAS levels in the drainage were low and not linked to on-site soil or groundwater contamination, the pond's PFAS profile resembles samples near a 2010 fire, suggesting a historic source. Elevated PFAS levels in the canal differ from on-site groundwater data, and no clear evidence points to a direct discharge from the site. Instead, it is likely that other sources contribute to PFAS presence in the canal.
P7: Direct contact, permeation.	R7: Building materials and services	Likely	Mild	Moderate/Low	L8	L8: The risk to foundations and services is considered to be moderate/low based on the potential for on-site contamination within the soils, leachate and groundwater.

8. Conclusion

The assessment presented in the document has identified that:

- The site has been vacated with above ground infrastructure/buildings demolished.
- Historical landfilling has been identified on a small part of the site (non-domestic waste) and in nearby off-site locations to the east and west.
- Based on a review of current and historical mapping, as well as the identification of several potential sources, encountering ground contamination is considered likely.
- Ground investigations undertaken by Arup in 2024 and 2025 were completed without significant constraints. Combined with previous investigations, these provide a comprehensive dataset enabling a robust conceptual site model and assessment.
- Overall, the site soils exhibit a low contamination potential, with the majority of recorded concentrations below commercial end-use criteria. Two locations had lead concentrations above the criteria; however, source removal is not required due to the absence of a plausible contaminant pathway.
- Groundwater has shown relatively low concentrations for most contaminants, indicative of natural background conditions, except for nickel and more widespread PFAS. Investigation results suggest that nickel originates from an off-site source, likely the landfill to the west.
- Elevated levels of TPH were recorded within site drainage, where free product - identified as diesel-range hydrocarbons - was observed. As part of the development, the existing drainage system will be decommissioned to remove residual sources and replaced.
- Investigation of the risk associated with PFAS contamination in groundwater (including shallow groundwater, canal, and drainage infrastructure) and appropriate remedial measures will be subject to agreement and approval with the LPA and EA through the planning process. The operator will be required to develop the data centre campus in accordance with the approved remediation strategy and evidence this through verification reports. In this way remediation of the site to address the risks identified in this assessment will be completed during construction of the wider data centre development prior to first operation of the installation to which this environmental permit application relates.

Appendix A Site Plans

Appendix B Groundsure Report

Appendix C MAGIC Report

Appendix D ARUP Ground Contamination Desk Study and Preliminary Risk Assessment

Appendix E Arup Ground Contamination Assessment – East Site

Appendix F Material Safety Data Sheets

