Flood Risk Assessment

Proposed ancillary workshop and associated infrastructure for the maintenance of waste collection vehicles on land to the south of SUEZ Waste Transfer Station (WTS), Rigby Lane, Hayes, UB3 1ET

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Basis of Report

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Acronyms and Abbreviations

FRA	Flood Risk Assessment
SWDS	Surface Water Drainage Strategy
PPG	Planning Practice Guidance
NPPF	National Planning Policy Framework
LLFA	Lead Local Flood Authority
EA	Environment Agency
LiDAR	Light Detection and Ranging
DTM	Digital Terrain Model
m aOD	Meters above Ordnance Datum
AEP	Annual Exceedance Probability
NGR	National Grid Reference
CIRIA	Construction Industry Research and Information Association
SuDS	Sustainable Drainage System
WTS	Waste Transfer System
SLR	SLR Consulting Limited
SUEZ	SUEZ Recycling and Recovery UK Limited

1.0 Introduction

1.1 Background

SLR Consulting Limited (SLR) has been appointed by SUEZ Recycling and Recovery UK Limited (SUEZ; "the Client") to provide a Flood Risk Assessment (FRA) for a proposed development located on land to the south of SUEZ Waste Transfer Station (WTS), Rigby Lane, Hayes, Greater London, UB3 1ET ("the site").

The proposed development comprises the construction of an ancillary workshop and associated infrastructure for the maintenance of waste collection vehicles. The associated infrastructure includes a cycle shelter for 6No. cycles.

A site layout plan of the development proposal is included as Appendix A.

This FRA has been prepared under the direction of a Technical Director of Hydrology at SLR who specialises in flood risk, drainage and associated planning matters. Reporting has been completed in accordance with guidance presented within the National Planning Policy Framework[1] (NPPF) and its associated Planning Practice Guidance[2] (PPG), taking due account of current best practice documents relating to the assessment of flood risk published by the British Standards Institution BS8533[3] and local planning policies.

1.2 Site Location

The red line application boundary (hereafter referred to as the 'Site Boundary') comprises two areas: to the north (cycle shelter) and to the south (vehicle workshop), both set within the wider WTS Site. The site is approximately 0.0565ha in area centred at National Grid Reference (NGR) TQ (51) 08266 79761. The proposed vehicle workshop is centred at NGR TQ 08250 79705.

The WTS is situated immediately south of Rigby Lane with access into the northeast of the site. Rigby Lane provides direct access to A437 (Dawley Road) around 620m east of the site and the A437 connects to the M4 Motorway at Junction 4, approximately 1.3km south of the site.

The site is located within an established industrial estate and has operated as a waste facility for many decades. It is bound to the northeast, east and west by commercial and industrial units. To the north of the site is the Grand Union Canal and to the south is the Great Western Main Line and Heathrow Link Line, leading from the Hayes and Harlington railway station.

The site is located approximately 1.3km southwest of Hayes town centre. The closest residential land use is approximately 110m south of the site, beyond the railway line.

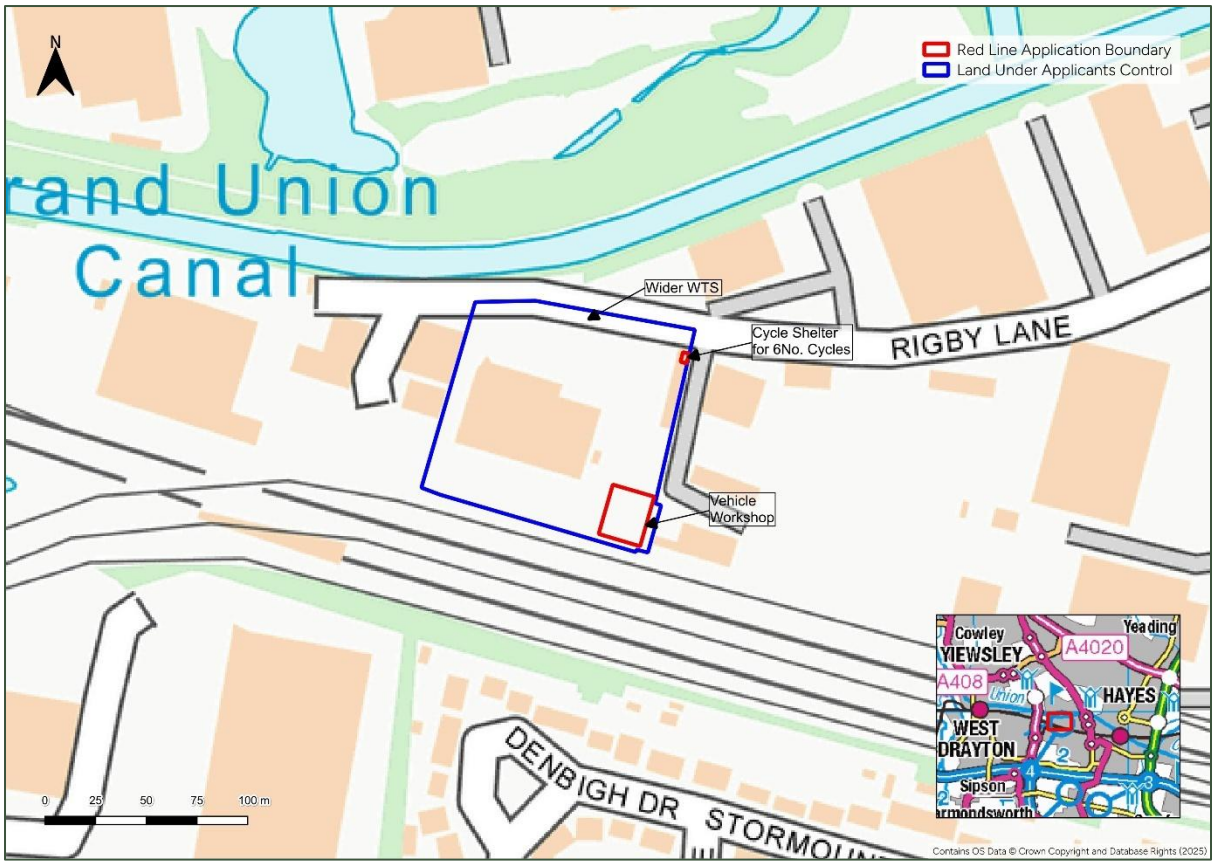
A site location plan is provided overleaf as Figure 1-1.

1 National Planning Policy Framework: Communities and Local Government (last updated February 2025)

2 Planning Practice Guidance: Communities and Local Government (last updated September 2025)

3 BS8533:2017, Assessing and managing flood risk in development: Code of Practice (December 2017)

Figure 1-1: Site Location Plan



1.3 Administrative Context

The site falls under the planning jurisdiction of the London Borough of Hillingdon (LBH) who are responsible for the determination of this application. Greater London Authority (GLA) are the Lead Local Flood Authority (LLFA) for the area, responsible for dealing with localised flood risk and drainage issues.

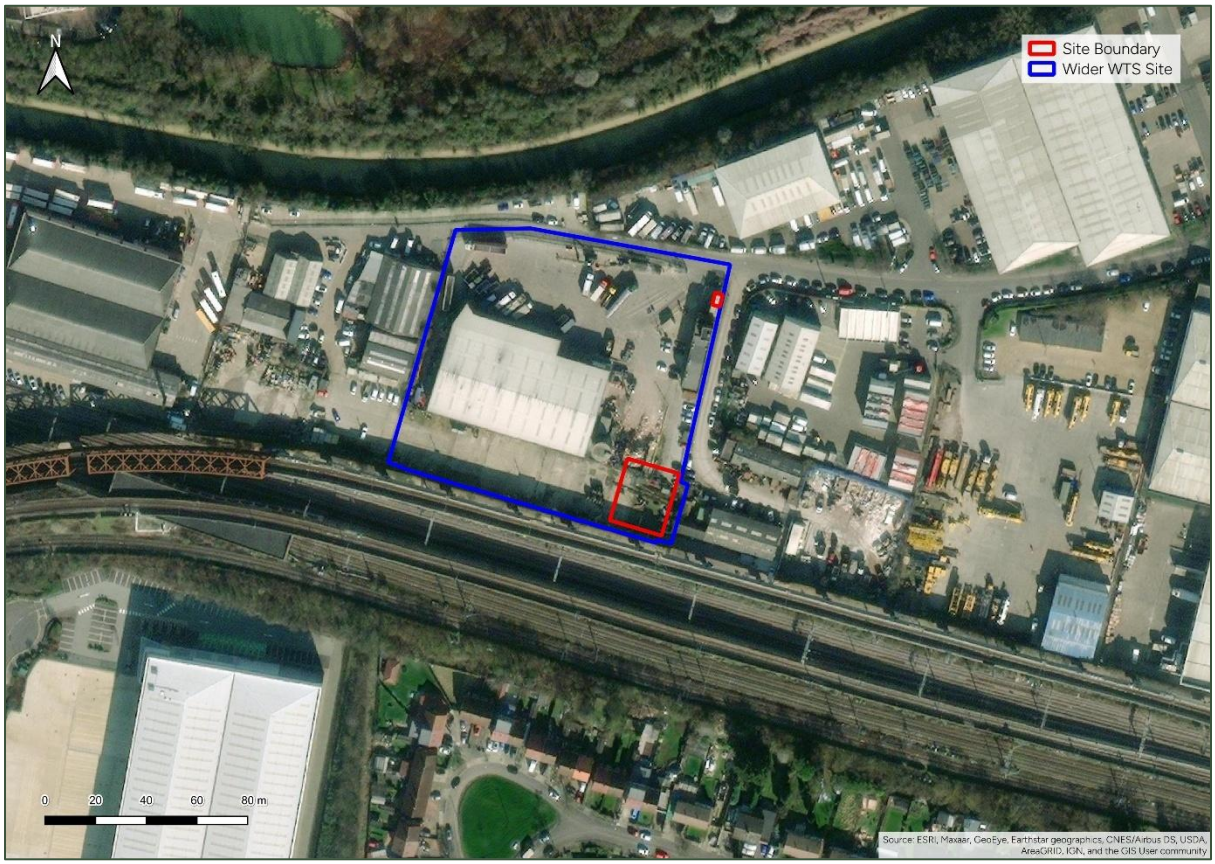
2.0 Baseline Site Appraisal

2.1 Existing Site Description

The site, as depicted in Figure 2-1, is located within an established industrial estate and has operated as a waste facility for many decades.

The wider site includes a depot parking area for waste collection vehicles, an office building, car parking, external waste bays, weighbridge and weighbridge office, refuelling area, vehicle wash and the WTS building and associated water tank and pump station[4].

Figure 2-1: Existing Site



2.2 Topography

Topographic data from on and around the site, gathered using Light Detection and Ranging (LiDAR) aerial photogrammetric techniques, has been downloaded from the Environment Agency (EA) open data website[5]. The LiDAR data presented in Figure 2-2 is a plot of the Digital Terrain Model (DTM), which is a bare earth model and as such excludes features such as built development and vegetation where these are present.

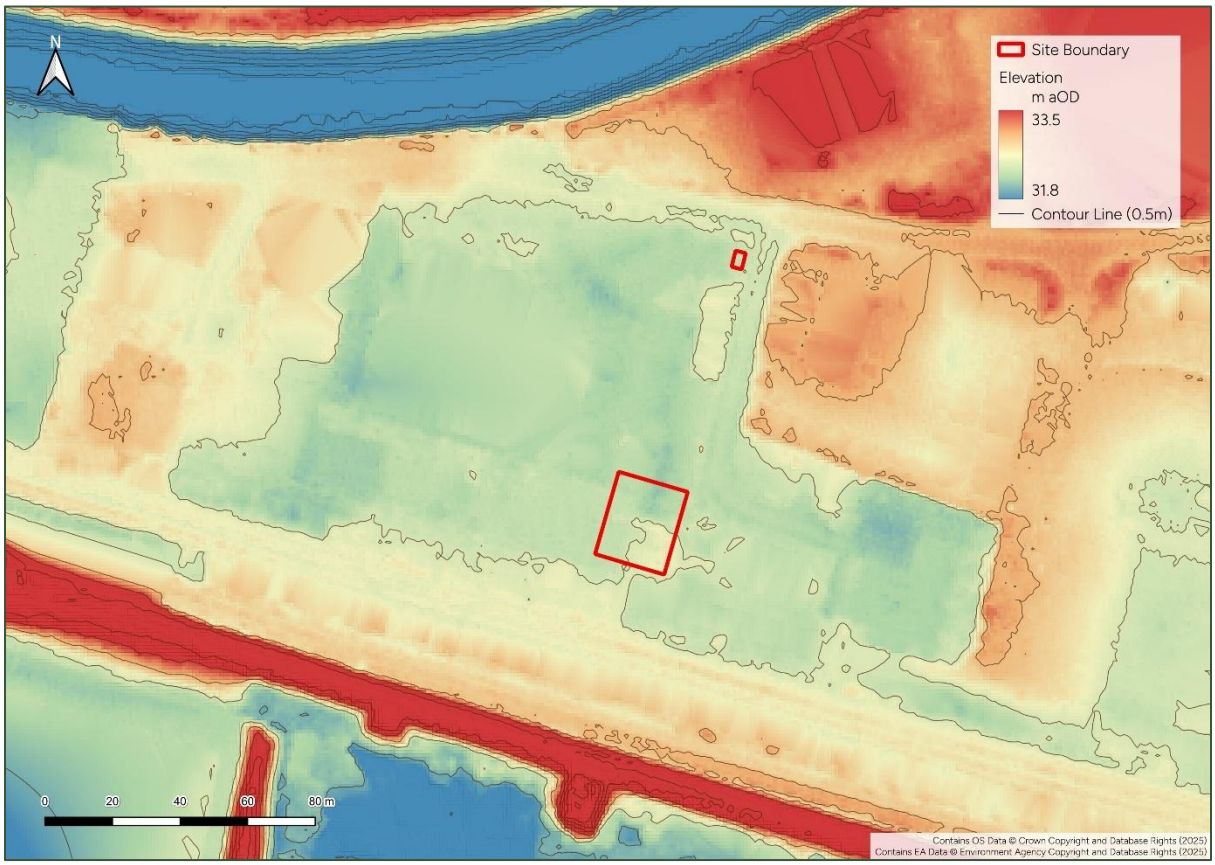
A topographic survey covering the site and surrounding area relevant to flood risk is contained in Appendix B. This survey was undertaken by SUEZ in August 2025. The

4 SUEZ Recycling and Recovery UK (2024) Rigby Lane Waste Transfer Station. Proposed partial re-build of fire damaged Waste Transfer Station Building (retrospective).

5 Environment Agency open data (2022) Defra Survey Data Download

topographic survey indicates that the LiDAR provides a relatively reasonable representation of the elevations.

Figure 2-2: Local Topography



Elevation data, as presented in Figure 2-2, indicates that the land surrounding the wider WTS slopes gently towards the site. Raised features in the surrounding area include the railway line (south) and industrial units (north), while lower-lying areas comprise the Grand Union Canal (north) and residential land use (south).

Land levels across the WTS are generally flat, ranging between 32.7m above Ordnance Datum (aOD) and 32.1m aOD. Two banded areas of topographic low are present across the wider WTS (outside the red line application boundary but under the applicant's control), to the west and east, both elevated at a minimum of 32.1m aOD.

Land comprising the proposed vehicle workshop slopes northwards. With a topographic dip at a minimum of 32.16m aOD towards the north. This represents the eastern low-lying band, which extends from the northern boundary of the proposed vehicle workshop towards a point approximately 40m west of the cycle shelter.

Additionally, a separate low point comprising access and parking for an adjacent industrial unit (Leemark Engineering) is located approximately 60m east of the site. Ground levels here decrease from 32.4m aOD to 32.0m aOD.

2.3 Hydrology

Department for Environment Food & Rural Affairs (Defra) catchment mapping[6] shows the site to be located within the Pinn catchment and, at its closest, the Pinn statutory Main River[7] lies approximately 2.7km northwest of the site.

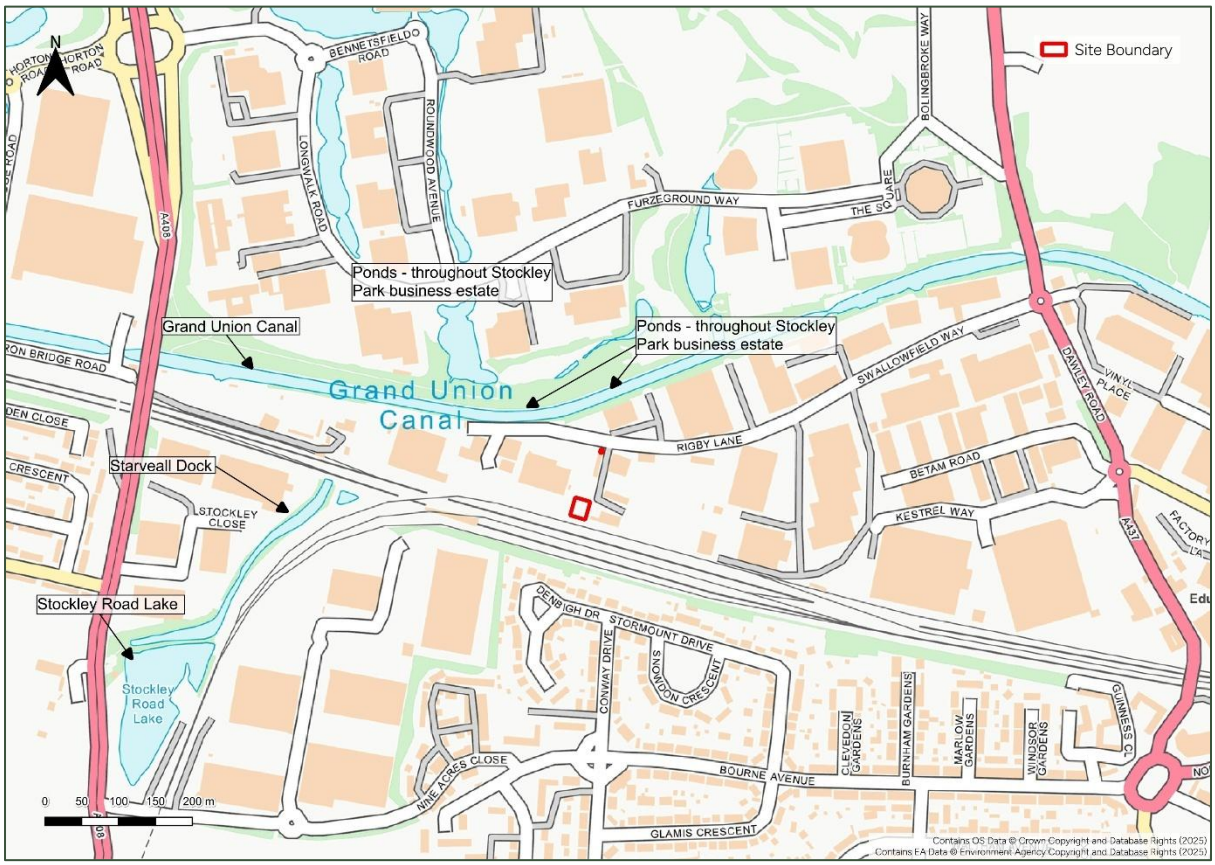
Hydrology surrounding the site is depicted in Figure 2-3. The Grand Union Canal is approximately 100m north of the proposed location of the vehicle workshop. Large ponds are located further north of the canal, integrated throughout Stockley Park business estate.

Stockley Road Lake is located about 600m southwest of the site, beyond the railway line. Surface Water Management Plan maps from the London Borough of Hillingdon[8] indicate an Ordinary Watercourse (Starveall Dock) to be located approximately 350m west of the site, connecting Stockley Road Lake to the Grand Union Canal. This is a manmade canal arm.

Rivers and Watercourses mapping by the London Borough of Hillingdon[9] indicate two Thames Water Outfalls (Outfalls 4 and 237) to the Grand Union Canal near to the site.

Local hydrology features are shown on Figure 2-3.

Figure 2-3: Hydrology surrounding site



6 Defra (last updated 17 March 2025) Catchment Data Explorer. England | Catchment Data Explorer

7 Environment Agency (2015; last updated 17 April 2025) Main river map for England: proposed changes and decisions. Main river map for England: proposed changes and decisions - GOV.UK

8 London Borough of Hillingdon (2011) Surface Water Management Plan maps. Surface Water Management Plan maps - Hillingdon Council

9 London Borough of Hillingdon (2023) Rivers and Watercourses - WM LBH Public Maps. Rivers and Watercourses

2.4 Geology and Hydrogeology

2.4.1 Geology

The National Soil Resources Institute, Soilscapes website[10], indicates that the soils at the site are "*Freely draining slightly acid loamy soils*".

British Geology Survey (BGS) mapping[11] indicates that the site is underlain by clay, silt and sand bedrock of the London Clay Formation. These are overlain by superficial sand and gravel deposits of the Lynch Hill Gravel Member. Superficial clay and silt deposits of the Langley Silt Member are situated south of the site, beyond the railway line.

BGS records for three boreholes (TQ07NE20) located at the site support the mapping, showing broadly consistent stratigraphy although may indicate a thin layer of Langley Silt Member extending into the site, with topsoil and made ground overlying gravel and firm brown clay. The borehole with the greatest depth and detail is summarised below in Table 2-1.

Table 2-1: Borehole (TQ07NE20) Summary

Approximate Depth (m) bgl	Approximate Thickness (m)	Approximate Depth (ft)	Typical Geology
0 – 1.0	1.0	0 – 3	Made Ground & Topsoil
1.0 – 1.5	0.5	3 – 5	Firm brown silty clay
1.5 – 6.7	5.2	5 – 22	Gravel
6.7 – 7.6	0.9	22 – 25	Stiff blue fissured clay (sand in fissures)

2.4.2 Hydrogeology

The London Clay Formation is classified as an "Unproductive[12]" aquifer defined as having "*negligible significance for water supply or baseflow to rivers, lakes and wetlands. They consist of bedrock or superficial deposits with low permeability that naturally offer protection to any aquifers that may be present beneath"*.

The Lynch Hill Gravel Member is classified as a "Principal[12]" aquifer defined as "*rocks that provide significant quantities of water and can support water supply and/or baseflow to rivers, lakes and wetlands on a strategic scale. They typically have a high intergranular and/or fracture permeability, meaning they usually provide a high level of water storage"*.

The boreholes at the site (TQ07NE20) completed in June 1960 encountered water at approximate depths of 4.9m (16ft) and 3.4m (11ft) bgl. Land at the site is elevated above 32.1m aOD and assuming that ground levels are the same as in 1960 the groundwater at approximately between 28.7m aOD and 27.2m aOD.

2.5 Existing Drainage Regime

The site comprises of generally flat hardstanding surfaces. Surface water generated on the site is collected by a by local surface water gullies. This system discharge to the northeast into a Thames Water surface water sewer network.

10 Cranfield Environment Centre (CEC) Soilscapes Viewer. LandIS - Land Information System - Soilscapes soil types viewer

11 British Geological Survey, Geoindex onshore (2020). GeoIndex (onshore) - British Geological Survey

12 Natural England (2024) Magic Map. MAGIC

Thames Water Asset Plans (Appendix C) indicate a surface water sewer to the northeast of the site progressing north towards the canal.

3.0 Planning Policy and Guidance

3.1 Development Proposals

SUEZ are proposing to develop an ancillary workshop and associated infrastructure for the maintenance of waste collection vehicles. The associated infrastructure includes a cycle shelter for 6No. cycles.

As detailed in Annex 3 of the NPPF, the proposed vehicle workshop and cycle shelter are classified as a "*less vulnerable*" development type associated "*Buildings used for … general industry, storage and distribution*".

3.2 Planning Policy

3.2.1 National Planning Policy

This FRA has been completed in accordance with the guidance presented in the NPPF[1] and with reference to PPG[2].

3.2.2 Local Planning Policy

Determination of planning applications at Rigby Lane WTS, Hayes, Greater London, are the responsibility of the London Borough of Hillingdon. The Local Plan, which comprises of two parts, provides the foundation for how planning will be controlled in Hillingdon. Together, this forms the council's future development strategy for the borough. It sets out a framework and detailed policies to guide planning decisions and it's the starting point for considering whether planning applications should be approved.

The **Hillingdon Local Plan: Part 1- Strategic Policies**[13], adopted in November 2012, sets out the overall level and broad locations of growth up to 2026. It comprises a spatial vision and strategy, strategic objectives, core policies and a monitoring and implementation framework with clear objectives for achieving delivery. Consideration of flood risk is embedded throughout the plan and policies of key relevance are reproduced below:

> "Policy EM6: Flood Risk Management
>
> *The Council will require new development to be directed away from Flood Zones 2 and 3 in accordance with the principles of the National Planning Policy Framework (NPPF).*
>
> *The subsequent Hillingdon Local Plan: Part 2 -Site Specific Allocations LDD will be subjected to the Sequential Test in accordance with the NPPF. Sites will only be allocated within Flood Zones 2 or 3 where there are overriding issues that outweigh flood risk. In these instances, policy criteria will be set requiring future applicants of these sites to demonstrate that flood risk can be suitably mitigated.*
>
> *The Council will require all development across the borough to use sustainable urban drainage systems (SUDS) unless demonstrated that it is not viable. The Council will encourage SUDS to be linked to water efficiency methods. The Council may require developer contributions to guarantee the long term maintenance and performance of SUDS is to an appropriate standard."*

The London Borough of Hillingdon Local Plan Part 2 comprises Development Management Policies, Site Allocations and Designations and the Policies Map. It delivers the detail of the strategic policies set out in the Local Plan Part 1. Adopted in January 2020, the **London**

13 London Borough of Hillingdon. Planning Policy Article 4 Directions. Article 4 Directions - Hillingdon Council

Borough of Hillingdon Local Plan: Part 2- Development Management Policies[13] provides an updated consideration of flood risk and drainage. From which, policies of key relevance are reproduced below:

"Policy DMEI 9: Management of Flood Risk

A) *Development proposals in Flood Zones 2 and 3a will be required to demonstrate that there are no suitable sites available in areas of lower flood risk. Where no appropriate sites are available, development should be located on the areas of lowest flood risk within the site. Flood defences should provide protection for the lifetime of the development. Finished floor levels should reflect the Environment Agency's latest guidance on climate change.*

B) *Development proposals in these areas will be required to submit an appropriate level Flood Risk Assessment (FRA) to demonstrate that the development is resilient to all sources of flooding.*

C) *Development in Flood Zone 3b will be refused in principle unless identified as an appropriate development in Flood Risk Planning Policy Guidance. Development for appropriate uses in Flood Zone 3b will only be approved if accompanied by an appropriate FRA that demonstrates the development will be resistant and resilient to flooding and suitable warning and evacuation methods are in place.*

D) *Developments may be required to make contributions (through legal agreements) to previously identified flood improvement works that will benefit the development site.*

E) *Proposals that fail to make appropriate provision for flood risk mitigation, or which would increase the risk or consequences of flooding, will be refused.*

Policy DMEI 10: Water Management, Efficiency, and Quality

A) *Applications for all new build developments (not conversions, change of use, or refurbishment) are required to include a drainage assessment demonstrating that appropriate sustainable drainage systems (SuDS) have been incorporated in accordance with the London Plan Hierarchy (Policy 5.13: Sustainable drainage).*

B) *All major new build developments, as well as minor developments in Critical Drainage Areas or an area identified at risk from surface water flooding must be designed to reduce surface water run-off rates to no higher than the pre-development greenfield run-off rate in a 1:100 year storm scenario, plus an appropriate allowance for climate change for the worst storm duration. The assessment is required regardless of the changes in impermeable areas and the fact that a site has an existing high run-off rate will not constitute justification.*

C) *Rain Gardens and non householder development should be designed to reduce surface water run-off rates to Greenfield run-off rates.*

D) *Schemes for the use of SuDS must be accompanied by adequate arrangements for the management and maintenance of the measures used, with appropriate contributions made to the Council where necessary.*

E) *Proposals that would fail to make adequate provision for the control and reduction of surface water run-off rates will be refused.*

F) *Developments should be drained by a SuDs system and must include appropriate methods to avoid pollution of the water environment. Preference should be given to utilising the drainage options in the SuDS hierarchy which remove the key pollutants that hinder improving water quality in Hillingdon. Major development should adopt a 'treatment train' approach where water flows through different SuDS to ensure resilience in the system.*

Water Efficiency

G) All new development proposals (including refurbishments and conversions) will be required to include water efficiency measures, including the collection and reuse of rain water and grey water.

H) All new residential development should demonstrate water usage rates of no more than 105 litres/person/day.

I) It is expected that major development proposals will provide an integrated approach to surface water run-off attenuation, water collection, recycling and reuse.

Water and Wastewater Infrastructure

J) *All new development proposals will be required to demonstrate that there is sufficient capacity in the water and wastewater infrastructure network to support the proposed development. Where there is a capacity constraint the local planning authority will require the developer to provide a detailed water and/or drainage strategy to inform what infrastructure is required, where, when and how it will be delivered*."

The London Plan is also of relevance to development at the site. The London Plan 2021[14] is the Spatial Development Strategy for Greater London. It sets out a framework for how London will develop over the next 20-25 years and the Mayor's vision for Good Growth. Key policies relevant to flood risk and drainage are reproduced below:

"Policy SI 12 Flood risk management

*A Current and expected flood risk from all sources (as defined in **paragraph 9.2.12**) across London should be managed in a sustainable and cost-effective way in collaboration with the Environment Agency, the Lead Local Flood Authorities, developers and infrastructure providers.*

B Development Plans should use the Mayor's Regional Flood Risk Appraisal and their Strategic Flood Risk Assessment as well as Local Flood Risk Management Strategies, where necessary, to identify areas where particular and cumulative flood risk issues exist and develop actions and policy approaches aimed at reducing these risks. Boroughs should cooperate and jointly address cross-boundary flood risk issues including with authorities outside London.

C Development proposals should ensure that flood risk is minimised and mitigated, and that residual risk is addressed. This should include, where possible, making space for water and aiming for development to be set back from the banks of watercourses.

D Developments Plans and development proposals should contribute to the delivery of the measures set out in Thames Estuary 2100 Plan. The Mayor will work with the Environment Agency and relevant local planning authorities, including authorities outside London, to safeguard an appropriate location for a new Thames Barrier.

E Development proposals for utility services should be designed to remain operational under flood conditions and buildings should be designed for quick recovery following a flood.

F Development proposals adjacent to flood defences will be required to protect the integrity of flood defences and allow access for future maintenance and upgrading. Unless exceptional circumstances are demonstrated for not doing so, development proposals should be set back from flood defences to allow for any foreseeable future maintenance and upgrades in a sustainable and cost-effective way.

14 Greater London Authority (2021) The London Plan 2021. The London Plan | London City Hall

G *Natural flood management methods should be employed in development proposals due to their multiple benefits including increasing flood storage and creating recreational areas and habitat."*

3.3 Flood Risk and Planning

3.3.1 Flood Zone Classification

The definition of EA flood zones is provided in PPG *Table 1: Flood Zones:*

- *Zone 1 - Low Probability* (Flood Zone 1): Land having a less than 0.1% annual probability of river or sea flooding. (Shown as 'clear' on the Flood Map for Planning – all land outside Zones 2, 3a and 3b).
- *Zone 2 - Medium Probability* (Flood Zone 2): Land having between a 1% and 0.1% annual probability of river flooding; or land having between a 0.5% and 0.1% annual probability of sea flooding. (Land shown in light blue on the Flood Map).
- *Zone 3a - High Probability* (Flood Zone 3a): Land having a 1% or greater annual probability of river flooding; or Land having a 0.5% or greater annual probability of sea. (Land shown in dark blue on the Flood Map).
- *Zone 3b - The Functional Floodplain* (Flood Zone 3b): This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise:
    - land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or
    - land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding).

Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the EA. (Not separately distinguished from Zone 3a on the Flood Map).

Note: The Flood Zones do not take into account the possible impacts of climate change. However, the EA also provide a "Flood Zones with climate change" output which shows areas that may fall into the flood zones due to the impacts of climate change. This is based on the UKCP18 uplifts and an assumption that there are no changes to flood defences or land use.

Based on the Flood Map for Planning[15] provided as Figure 3-1 the site lies wholly in an area designated as Flood Zone 1 (i.e., low probability of flooding).

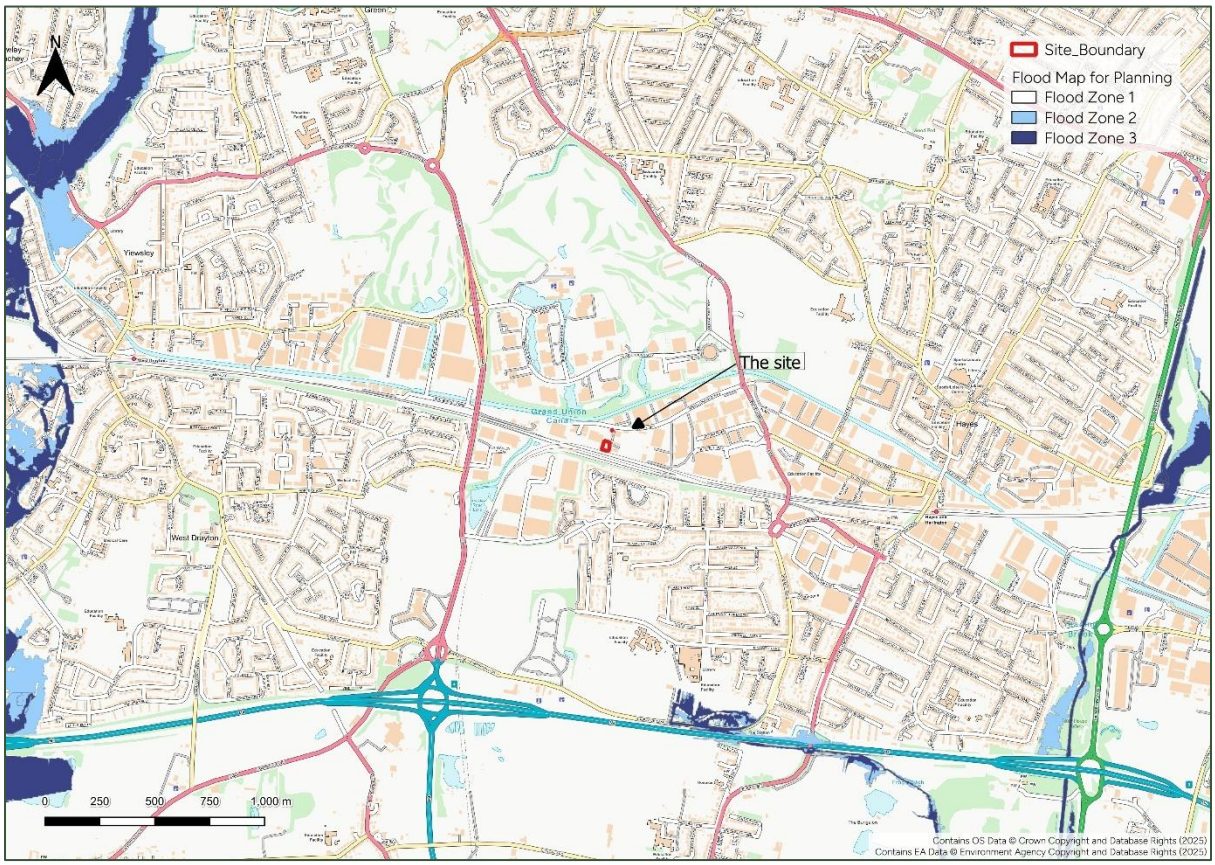
Land to the west of the site, within the wider WTS, is designated as Flood Zone 3a (Surface Water) in the Policy Map of the West London Strategic Flood Risk Assessment[16] (SFRA). Section 3.11.1. of this assessment defines this as '*Land within EA modelled surface water flood risk extents predicted for up to and including 1 in 100 year return period events*'. This Section also clarifies that '*in line with nationally defined responsibilities for management of*

15 Environment Agency (2025) Flood Map for Planning Service. Flood map for planning - GOV.UK

16 West London Strategic Flood Risk Assessment. West London Strategic Flood Risk Assessment - West London SFRA

flood risk, applications will be assessed by the Local Planning Authority only' - in this case, the London Borough of Hillingdon.

Figure 3-1: Extract of the Flood Map for Planning



3.3.2 Flood Risk Incompatibility

As outlined in Table 2 of the PPG Guidance[2] (reproduced as Table 3-1) "*less vulnerable*" development types are considered appropriate within Flood Zone 1 and the Exception Test does not need to be applied.

Table 3-1: Flood Risk Vulnerability and Flood Zone 'Incompatibility'

Flood Risk Vulnerability Classification (PPG Table 2)		Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Flood Zones (PPG Table 1)	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	Exception Test Required	✓	✓	✓
	Zone 3a†	Exception Test Required	x	Exception Test Required	✓	✓
	Zone 3 b* (functional floodplain)	Exception Test Required	x	x	x	✓*

Key: ✓ Development is appropriate x Development should not be permitted

† In Flood Zone 3a essential infrastructure should be designed and constructed to remain operational and safe in times of flood.

* In Flood Zone 3b (functional floodplain) essential infrastructure that has passed the Exception Test, and water-compatible uses, should be designed and constructed to:

- remain operational and safe for users in times of flood;
- result in no net loss of floodplain storage;
- not impede water flows and not increase flood risk elsewhere.

3.3.3 Sequential Test

With reference to the NPPF, the Sequential Test gives preference to locating new development in areas that are at lowest risk of flooding (i.e., Flood Zone 1). The Flood Map for Planning (Figure 3-1) and Strategic Flood Risk Assessment (SFRA[16]) are geared to providing the basis for applying this test.

In paragraph 174 of the NPPF, the Sequential Test sets out that:

> *"Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower risk of flooding."*

Paragraph 172 confirms that this process should take into account:

> *"all sources of flood risk and the current and future impacts of climate change."*

Paragraph 175 of NPPF confirms that:

> *"The sequential test should be used in areas known to be at risk now or in the future from any form of flooding, except in situations where a site-specific flood risk assessment demonstrates that no built development within the site boundary, including access or escape routes, land raising or other potentially vulnerable elements, would be located on an area that would be at risk of flooding from any source, now and in the future (having regard to potential changes in flood risk)."*

Recent updates to PPG (Paragraph: 027 Reference ID: 7-027-20220825) have also clarified that:

> *"In applying paragraph 175 a proportionate approach should be taken. Where a site-specific flood risk assessment demonstrates clearly that the proposed layout, design, and mitigation measures would ensure that occupiers and users would remain safe from current and future surface water flood risk for the lifetime of the development (therefore addressing the risks identified e.g. by Environment Agency flood risk mapping), without increasing flood risk elsewhere, then the sequential test need not be applied."*

The site is entirely in an area designated as Flood Zone 1. The flood risk screening summarised in Section 4.3 and technical assessment in Section 5.0 indicates that all other potential sources of flooding are low and manageable at the development, both now and throughout the development lifetime considering changes associated with climate change. Whilst there are areas identified at risk of surface water flooding the development can be designed around these and they do not pose a significant risk nor would the development alter offsite flood risk.

Given that the site is situated within an established industrial estate, comprising hardstanding surfaces, risk at potential sites within the vicinity would be the same or lower at this site compared to alternative locations. The site itself has been sequentially designed placing vulnerable land uses in the areas of lowest surface water flood risk. On this basis we would conclude that the Sequential Test (which as a 'less vulnerable' development type located in Flood Zone 1) can be passed.

3.3.4 Exception Test

The Exception Test, as set out in paragraph 178-179 of NPPF states that:

> *"To pass the exception test it should be demonstrated that:*
>
> *(a) the development would provide wider sustainability benefits to the community that outweigh the flood risk; and*
>
> *(b) the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall.*
>
> *Both elements of the exception test should be satisfied for development for be allocated or permitted."*

As outlined in Table 3-1, PPG identifies that 'less vulnerable' development located within Flood Zone 1 does not need to pass the Exception Test.

3.4 Climate change

In February 2016, the EA issued guidance on the impacts of climate change on flood risk in the UK to support the NPPF. This was most recently updated in May 2022[17]. This advice sets out that peak rainfall intensity, sea level, peak river flow, offshore wind speed and extreme wave heights are all expected to increase in the future because of climate change.

Consideration of the changes to these parameters should use the allowances outlined below based on the anticipated lifetime of the development. The site is located entirely within Flood Zone 1, is not close to any areas of fluvial or tidal flooding and is elevated to over 32.1m aOD. Therefore, changes to peak rainfall intensity (solely) are of relevance to this assessment.

3.4.1 Anticipated Lifetime of Development

In absence of further information and in line with PPG[2] the lifetime of non-residential development depends on the characteristics of the development, but a period of at least 75 years is likely to form a starting point for assessment (i.e. until 2100).

3.4.2 Peak Rainfall Intensity

For peak rainfall intensity, PPG guidance states that flood risk assessments for development with a lifetime between 2061 and 2100 should take the same approach (as for development with a lifetime beyond 2100) but use the 'central' allowance for the 2070s epoch (2061 to 2125). For both the 1% and 3.3% annual exceedance probability (AEP) events for the 2070's epoch (2061 to 2125), as detailed in Table 3-2, these equate to uplifts of 25%.

Table 3-2: Colne Management Catchment peak rainfall allowances

Management Catchment	Allowance Category	AEP (%)	Total potential change anticipated for 2050s	Total potential change anticipated for 2070s
Colne	Upper End	3.3	35%	35%
	Central		20%	25%

17 Environment Agency (last updated May 2022) Flood risk assessments: climate change allowances. Flood risk assessments: climate change allowances - GOV.UK

Management Catchment	Allowance Category	AEP (%)	Total potential change anticipated for 2050s	Total potential change anticipated for 2070s
	Upper End	1	40%	40%
	Central		20%	25%

4.0 Potential sources of Flooding

4.1 Methodology and Best Practice

This FRA report has been prepared in accordance with the advice and requirements prescribed in current best practice documents relating to management of flood risk in development published by the Construction Industry Research and Information Association (CIRIA)[18], and British Standard BS8533[3].

A screening study has been completed to identify whether there are any potential sources of flooding at the site which may warrant further consideration. If required, any potential significant flooding issues identified in the screening study are then considered in subsequent sections of this assessment.

4.2 Screening Study

Potential sources of flooding include:

- Flooding from the sea or tidal flooding;
- Flooding from rivers or fluvial flooding;
- Flooding from surface water and overland flow;
- Flooding from groundwater;
- Flooding from sewers;
- Flooding from reservoirs, canals, and other artificial sources; and
- Flooding from infrastructure failure.

The flood risk from each of these potential sources is discussed below and summarised in Section 4.3.

4.2.1 Flooding from the Sea and Tidal Flooding

The site is remote from the coast and elevated to over 32.1m aOD.

On this basis, the risk of flooding from the sea and tidal sources is **negligible** and not assessed further.

4.2.2 Flooding from Rivers and Fluvial Flooding

The Flood Map for Planning reproduced as Figure 3-1 indicates that the site lies entirely within Flood Zone 1.

The ordinary watercourse near to the site (Starveall Dock) is an arm of the canal and therefore considered in Section 4.2.6.

On this basis, the risk of flooding from rivers and fluvial flooding is **negligible** and not assessed further.

18 CIRIA Report C624 (2004) Development and flood risk - guidance for the construction industry

4.2.3 Flooding from Surface Water and Overland Flow

Long Term Flood Risk Information (LTFRI)[19] provided by the Environment Agency includes mapping of the Risk of Flooding from Surface Water (RoFSW)[20]. Surface water modelling has been undertaken to establish areas at risk of surface water flooding based upon the latest hydrological techniques and surface terrain data. This is not representative of any surface water drainage and therefore likely overestimates the flood risk.

An extract of the map for the site and surrounding area is presented in Figure 4-1, where the EA define the surface water flood risk categories as:

- **Very Low:** less than 1 in 1,000 (0.1% AEP) chance of flooding in any given year;
- **Low:** less than 1 in 100 (1% AEP) but greater than or equal to 1 in 1,000 (0.1% AEP) chance of flooding in any given year;
- **Medium:** between 1 in 100 (1% AEP) and 1 in 30 (3.3% AEP) chance of flooding in any given year; and
- **High:** greater than 1 in 30 (3.3% AEP) chance of flooding in any given year.

Figure 4-1: Extract of Surface Water Flood Map

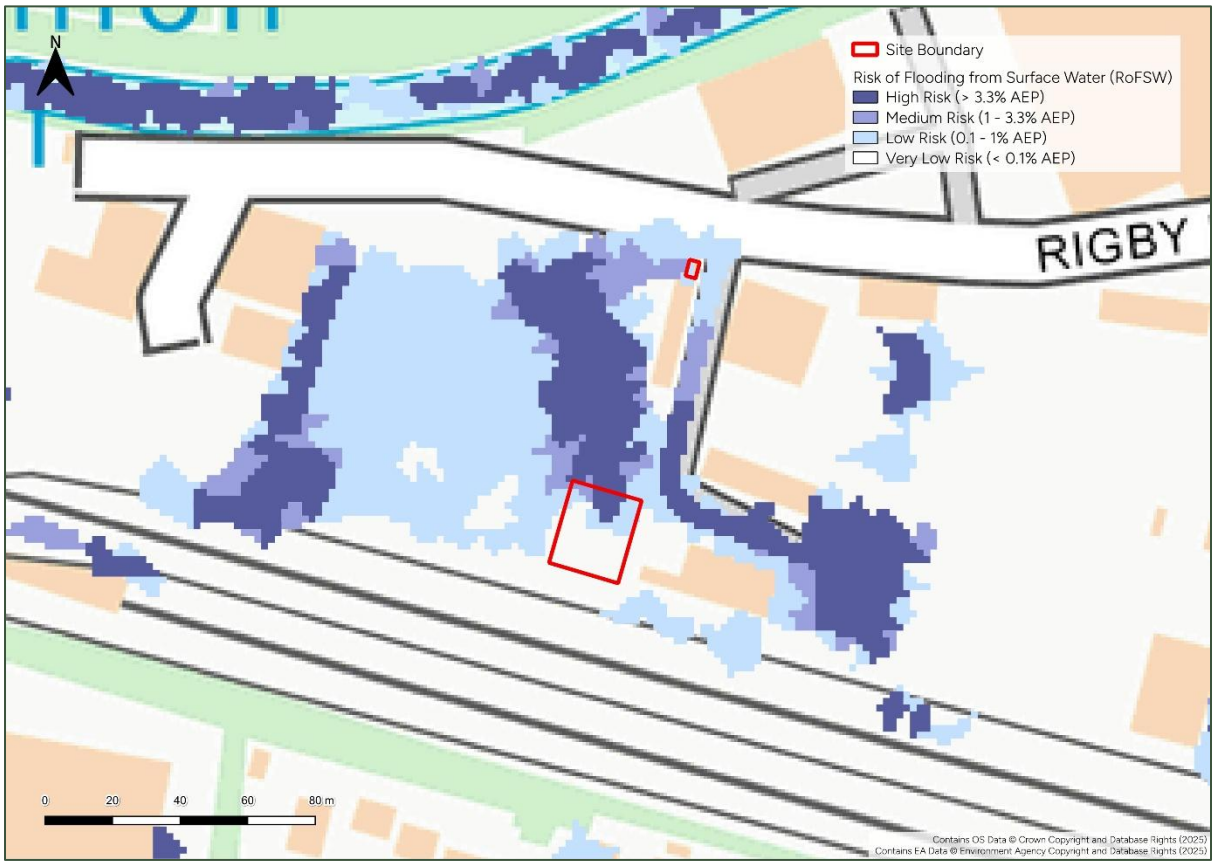


Figure 4-1 shows that parts of the site are at up to high (AEP > 3.3%) RoFSW. Therefore, technical assessment of surface water flood risk is undertaken in Section 5.0.

19 Environment Agency (2024) Long Term Flood Risk Information Service. Check the long term flood risk for an area in England - GOV.UK

20 Environment Agency (2025) Risk of flooding from surface water – understanding and using the map. Technical map - Check your long term flood risk - GOV.UK

4.2.4 Flooding from Groundwater

The site is underlain by geology of the London Clay Formation which does not provide sufficient groundwater flow or storage to result in groundwater flooding.

Groundwater could be perched within the Lynch Hill Gravel Member and could reach close to the surface. However, groundwater would emerge first in surrounding lower lying areas and likely flow into Stokley Road Lake and be managed with water within the canal. Additionally, there is no historical records of groundwater emerging from the site.

The site already consists of, and would be maintained, with impermeable coverage, which would prevent the emergence of groundwater at the development area. The proposed building would be raised above the surrounding ground levels so if extreme groundwater levels would occur, flooding within the building would be very unlikely.

Whilst the risk of flooding from groundwater cannot be entirely excluded it is considered **low** and not assessed further.

4.2.5 Flooding from Sewers and Water Mains

Sewers and Water Mains infrastructure locally are routed beneath Rigby Lane, beneath the railway line and the access track adjacent to the east of the site (Appendix C).

In the event of failure or burst from any network near to the site, flows would be assumed to discharge in line with the local topography (Section 2.2) and within the site these would primarily pond across the areas of lower topography. These comprise non-operational areas on the site and ponding would be assumed to be collected by on-site drainage. The ponding would not be expected in the location of the proposed vehicle workshop.

In the event of excessive water or drainage blockages, water would overtop the topographic lows and flow eastwards, following the natural topography towards the lower-lying access track and parking area of the adjacent industrial unit.

Defra's Overland Flow Pathway modelling[21] indicates similar flow mechanisms, directed away from the site to the east and south.

Flow routes for water from sewers and water mains would be in line with the surface water flood routes assessed further in Section 5.0. Given this would be greater than any flooding from sewers and water mains, the mitigations for surface water flooding would inherently provide protection from sewers and water mains.

On this basis, the risk of flooding from sewers and water mains is **low** and not assessed further.

4.2.6 Flooding from Reservoirs, Canals and Other Artificial Sources

With reference to EA Reservoir Breach Mapping[22], the site does not lie in an area considered to be at risk of flooding following reservoir failure. This is true for when "*river levels are normal*" (i.e., dry-day) and for "*when there is also flooding from rivers*" (i.e., wet-day).

While the Grand Union Canal is located at the vicinity of the site, it is elevated below the site. In the event of canal flooding near to the site flows are assumed to progress preferentially north towards the series of ponds within Stockley Park.

The ordinary watercourse near to the site (Starveall Dock) is an arm of the canal. Flood water from a failure in this section would flow north towards the Grand Union Canal and it is

21 Defra (2024) Data Services Platform. Overland Flow Pathways. Overland Flow Pathways

22 Environment Agency (2021) Reservoir flood maps: when and how to use them. Reservoir flood maps: when and how to use them - GOV.UK

separated from the site to its east by the raised railway network. No water would be anticipated to progress towards the site. The risk of flooding from canals, and other artificial sources is **low** and not assessed further.

4.2.7 Flooding from Infrastructure Failure

The site is not afforded protection from flood defences nor are there any pumping stations in the vicinity of the site by which failure could result in flooding.

The risk of flooding from infrastructure failure is **negligible** and not assessed further.

4.3 Summary of Flood Screening

A summary of the flood screening is provided below.

Table 4-1: Summary of Potential Flood Sources

Potential Source	Potential Significant Flood Risk at Site?
Sea or Tidal Flooding	No
Rivers or Fluvial Flooding	No
Surface Water and Overland Flow	Yes – assessed in Section 5.0
Groundwater	No
Sewers and Water Mains	No
Reservoirs, Canals and other Artificial Sources	No
Infrastructure Failure	No

5.0 Technical Assessment

5.1 Flood History

The EA's Historic Flood Map[23] indicates that the site is not known to previously been subjected to flooding.

Furthermore, the West London SFRA[17] and LBH Flood Incident and Investigation Reports[24] indicate no historic flooding at or near to the site.

5.2 Surface Water Flooding

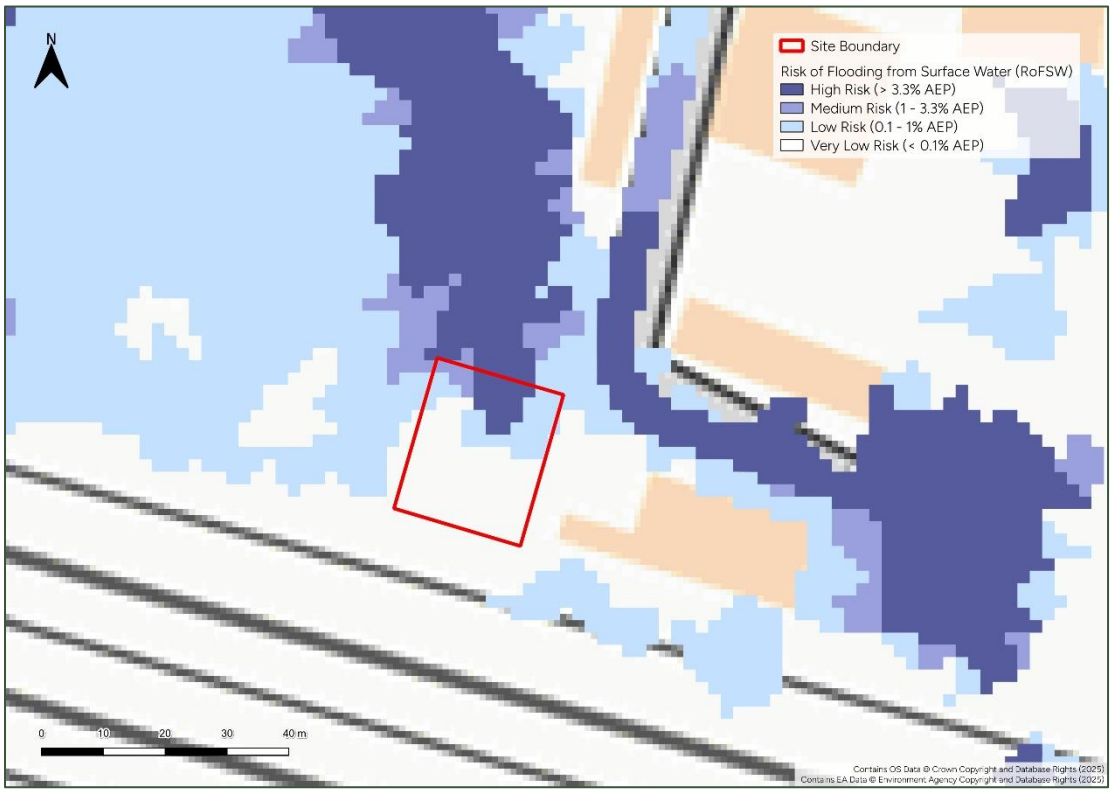
The cycle shelter (northern site) lies within an area of low surface water flood risk (0.1% < AEP ≤ 1%) with shallow predicted depths (>200mm). Accordingly, this technical assessment focuses solely on the vehicle workshop (southern site).

A copy of Figure 4-1 scaled closer to the vehicle workshop is provided below as Figure 5-1.

The RoFSW modelling broadly consists of the rainfall onto the LiDAR topography and does not inherently account for drainage across the wider WTS. In reality, flooding of this extent would only occur if the drainage was blocked. This is unlikely given that the drainage is consistently maintained across the wider WTS.

The surface water drainage in the site has been designed to collect and attenuate surface water runoff up to and including a design storm of 1 in 100-year return period (1% AEP) plus 20% climate change allowance. When the surface water system is operational the residual risk of surface water flooding is low.

Figure 5-1: Extract of Surface Water Flood Map with Vehicle Workshop



23 Environment Agency. Historic Flood Map. Historic Flood Map - data.gov.uk

24 London Borough of Hillingdon. Emergency Planning - Flood Investigations

5.2.1 Flood Mechanism

As discussed in Section 2.2, land at the wider WTS is generally flat, sloping slightly in towards two topographic low areas to the east and west outside of the application boundary but within the control of the applicant. The eastern low-lying band extends northward from the north of the proposed vehicle workshop. A topographic low comprising access and parking for an adjacent industrial unit is approximately 60m east of the site.

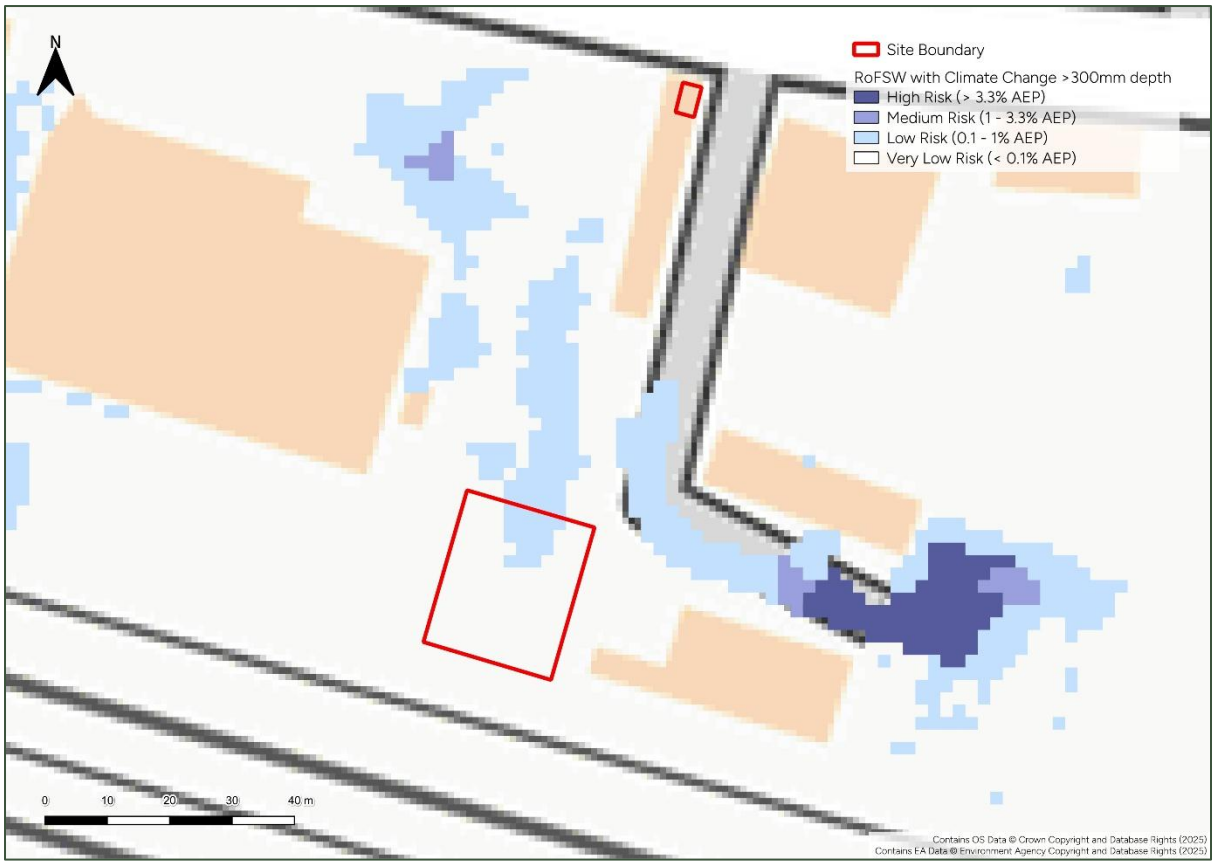
Based on the LiDAR and site topographic survey (Appendix B), the banded area of high flood risk, which includes up to 9m of the northern area of the proposed vehicle workshop site boundary, is associated with surface water ponding in low-lying ground. Current ground levels at the northern part of the where the vehicle workshop would sit are at a minimum of 32.16m aOD. The topographic survey shows the ground levels north of the proposed workshop (approximately 40m north) sit at a lower elevation of 32.11m aOD.

It is assumed that ponding across the eastern low-lying band of the wider WTS is mitigated by an existing on-site drainage system. Given that this system would be maintained and operational, the RoFSW modelling only represents an unlikely scenario of blockage or exceedance; under such conditions, surface water would conceptually flow to the east, away from both the wider WTS and proposed vehicle workshop, to the lowest-lying point locally. This is associated with the topographic low for the adjacent industrial unit, elevated at 32.0m aOD, 60m east of the site. This is represented by the high risk pathway and ponding at the east of Figure 5-1.

5.2.2 Flood Depths with Climate Change

The RoFSW mapping includes a climate change scenario, which accounts for projected increases in peak rainfall intensity based on the latest UK Climate Projections (UKCP18), using the Representative Concentration Pathway (RCP) 8.5 and the '*Central'* allowance for the 2050's epoch (2040–2060).

Figure 5-2: Extract of Surface Water Flood Map with Climate Change >300mm



Modelling of surface water flood depths with climate change (Figure 5-2) indicates that the maximum potential ponding depths in the areas of high risk at the WTS and proposed vehicle workshop are shallow, with the annual probability of flooding to depths of greater than 0.3m being less than 1 in 100 even once changes associated with climate change are accounted for.

Given a ground elevation to the north of the proposed workshop of 32.11m aOD and a flood depth of 0.3m, this would equate to a flood level of 32.4m aOD. As illustrated by the LiDAR data in Section 2.2, at this height water would drain eastwards towards the local topographic low away from the site, and further uplift in water levels would be negligible.

5.2.3 Summary

The finished floor level of the proposed vehicle workshop will be raised to a minimum of 32.55m aOD. This is raised above the flood level and therefore the flood water would not enter the building. On this basis, the risk of flooding from surface water and overland flows to the proposed vehicle workshop is assessed to be **low**.

6.0 Conclusions

SLR Consulting Limited (SLR) has been appointed by SUEZ Recycling and Recovery UK Limited (SUEZ) to provide a Flood Risk Assessment (FRA) for a proposed development located at the SUEZ Waste Transfer Station (WTS), Rigby Lane, Hayes, Greater London, UB3 1ET ("the site").

The proposed development comprises the construction of an ancillary workshop and associated infrastructure for the maintenance of waste collection vehicles. The associated infrastructure including a cycle shelter for 6No. cycles.

The flood risk posed to this development has been assessed in line with BS8533[3] and national policy and guidance, taking into account Policies EM6, DMEI 9 and DMEI 10 of the London Borough of Hillingdon Local Plan Strategic and Development Management Policies[13] respectively, as well as Policy SI12 of the London Plan 2021[14].

The assessment has concluded that:

1. As a '*less vulnerable*' development in Flood Zone 1 the Sequential Test and the Exception Test do not apply to this scheme. Irrespective of this, even if they were applied, given the context of the site and the nature of the development proposed, these would meet the pass criteria.
2. Surface water flood risk at the site is classified as low risk to the proposed cycle shelter and up to high risk at the northern part of the proposed vehicle workshop. Detailed analysis indicates that in the residual and low-likelihood event that the operational and maintained drainage across the wider WTS was blocked, water would drain over land to the local topographic low-lying point to the east of the site before affecting the proposed workshop. Detailed model outputs confirm that even during extreme and residual events including climate change, flood depths near the proposed workshop would be shallow and would be unlikely to rise above 32.4m aOD.
3. The finished floor level of the proposed vehicle workshop will be raised above the flood level to a minimum of 32.55m aOD. The risk of flooding from surface water and overland flows to the proposed vehicle workshop is assessed as low.
4. The bedrock at the site and maintained impermeable cover mean groundwater flooding is unlikely. Any potential perched groundwater in the superficial geology would emerge first in surrounding lower lying areas likely flowing into Stokley Road Lake and be managed with water within the canal. With the proposed vehicle workshop raised above surrounding ground levels, the residual groundwater flood risk is assessed as low.
5. A review of other potential flood sources, including sea or tidal, rivers or fluvial, sewers and water mains, reservoirs, canals and other artificial sources and infrastructure failure, has confirmed that the flood risk from these is all low to negligible.

The technical assessment of risk presented within this FRA demonstrates that the flood risks present at the site are **low** and that development on the site will be 'safe' in flood risk terms throughout its lifetime without increasing flood risk elsewhere.

Appendix A Proposed Development Plan

Flood Risk Assessment

Proposed ancillary workshop and associated infrastructure for the maintenance of waste collection vehicles on land to the south of SUEZ Waste Transfer Station (WTS), Rigby Lane, Hayes, UB3 1ET

SUEZ Recycling and Recovery UK Ltd

SLR Project No.: 425.066972.00001

10 October 2025

N

RIGBY LANE

Works

El Sub Sta

CYCLE SHELTER FOR 6No. CYCLES

PV Solar Panel Arrangement

El Sub

0 5 10 15 20m 30 40 50

Metres
1:500

Notes

1. Reproduced from the Ordnance Survey Map with the permission of the Controller of His Majesty's Stationary Office, Crown Copyright and Database Rights 2025 Ordnance Survey AC0000808122/100004910.

Land Under Applicants Control

Red Line Application Boundary

Rev	subject	date
B	PV Solar Panel Added	Oct 2025
A	Redline Boundary Amended	Sept 2025

suez

Darwen Resource Recovery Park, Lower Eccleshill Road, Darwen, BB3 0RP
Tel:(01254)819700, Fax:(01254)819749, Email: richard.bissell@suez.co.uk

Site

Rigby Lane, Hayes
Vehicle Workshop

Title

Proposed Site Layout

Scale

1:500 @ A3

Date

September 2025

Drawing Ref

Rbl-PLN-0925-03b

Drawn by

RB

Checked by

EC

Appendix B Site Topographic Survey

Flood Risk Assessment

Proposed ancillary workshop and associated infrastructure for the maintenance of waste collection vehicles on land to the south of SUEZ Waste Transfer Station (WTS), Rigby Lane, Hayes, UB3 1ET

SUEZ Recycling and Recovery UK Ltd

SLR Project No.: 425.066972.00001

10 October 2025

Notes:

1. TOPOGRAPHICAL SURVEY CARRIED OUT BY SLR CONSULTING 18th/19th AUGUST 2025.

2. THIS PLAN IS ORIENTATED TO ORDNANCE SURVEY NATIONAL GRID PLAN AND HEIGHT DATUM DERIVED FROM THE ORDNANCE SURVEY ACTIVE NETWORK. OSGB36(OSGM15/OSTN15).

3. WHILST EVERY EFFORT HAS BEEN MADE TO INCLUDE ALL ACCESSIBLE DETAIL, SOME FEATURES MAY NOT BE SHOWN IF OBSCURED AT THE TIME OF SURVEY (e.g. PARKED VEHICLES/OVERGROWN AREAS). ONLY MAJOR TREES SURVEYED IN WOODED/OVERGROWN AREAS.

4. THE ACCURACY OF THIS SURVEY IS COMMENSURATE WITH THE DRAWING SCALE SPECIFIED WITHIN THE TITLE BLOCK. ALL CRUCIAL DIMENSIONS SHOULD BE CHECKED ON-SITE.

5. TREES HAVE BEEN SURVEYED WHERE VISIBLE AND ACCESSIBLE.

6. OS DATA IS SHOWN IN GREY.

Legend:

- BANK BOTTOM
- BANK TOP
- FENCE
- DROP KERB
- KERB BOTTOM
- KERB TOP
- VERGE
- WALL BOTTOM
- CONCRETE
- 32.50 SPOT LEVEL
- ST.1 32.39 SURVEY CONTROL
- BUILDING
- SURVEYED TREE LOCATION

SURVEY ABBREVIATIONS

BB	Belisha Beacon	LR	Life Ring		
BC	Building Canopy	MH	Manhole		
BH	Borehole	MKR	Marker		
BM	Bench Mark	PO	Post		
BOY	Boundary	PTH	Door Threshold Level		
BOL	Bollard	IL	Pipe Invert		
BT	British Telecom Manhole	RE	Rodding Eye		
CCTV	Closed Circuit Television	RL	Ridge Level		
CP	Charging Point	RNP	Road Name Plate		
CTV	Cable Television Manhole	RS	Sign Post		
CUL	Culvert	SL	Spot Light		
DK	Drop Kerb	SO	Soffit Level		
DP	Drain Pipe	ST	Stop Tap		
DPC	Damp Proof Course	Stmp	Stump (Tree)		
DWB	Dog Waste Bin	SV	Stop Valve		
EB	Electricity Box	SVP	Soil Vent Pipe		
EL	Eaves Level	SW	Storm Water		
EP	Electricity Pole	SY	Stay (e.g. Pylon, TP)		
ER	Earthing Rod	TAP	Stand Pipe		
IFL	Internal Floor Level	TCB	Telephone Call Box		
INV	Invert	TCL	Tactile		
FE	Fire Point	THL	Threshold Level		
FA	Fire Alarm	TL	Traffic Light		
GB	Grit Box	TW	Top of Wall		
GV	Gas Valve	TP	Telegraph Pole		
GP	Gate Post	TPT	Trial Pit		
GRIT	Grit Bin	UIB	Under Beam		
G	Gully	UTL	Unable To Lift		
FH	Hydrant	VP	Vent Pipe		
IC	Inspection Chamber	WSL	Window Sill Level		
IT	Intercom	WHL	Window Head Level		
KO	Kerb Outlet	WL	Water Level		
LB	Life Buoy	WM	Water Meter		
LP	Lamp Post	WO	Wash Out		

Scale 1:200
0 2 4 6 8 10 12 14 16 18 20m

Rev	Amendments	Date	By	Chk	Auth
0	TOPOGRAPHICAL SURVEY	08/25	NS	AS	GH

SLR
www.slrconsulting.com

Drawing Status & Suitability Code

Client: suez

Project: RIGBY LANE WASTE TRANSFER STATION

Drawing Title: TOPOGRAPHICAL SURVEY AUGUST 2025

Scale	SLR Project No.
1:200 @ A0	401.000003.00063

Designed	Drawn	Checked	Authorised
	NS	AS	GH
Date	Date 08/25	Date 08/25	Date 08/25

Drawing Number: 001 Rev: 0

Appendix C Thames Water Asset Plans

Flood Risk Assessment

Proposed ancillary workshop and associated infrastructure for the maintenance of waste collection vehicles on land to the south of SUEZ Waste Transfer Station (WTS), Rigby Lane, Hayes, UB3 1ET

SUEZ Recycling and Recovery UK Ltd

SLR Project No.: 425.066972.00001

10 October 2025

Asset Location Search

Property Searches

SLR Consulting
CUBO WORKSPACE, 12A KING STREE
NOTTINGHAM
NG1 2AS

Search address supplied Rapid Hire Services Ltd
Rigby Lane
Hayes
UB3 1ET

Your reference Rigby Ln WTS 425.066972.00001

Our reference ALS/ALS Standard/2025_5175156

Search date 5 June 2025

Keeping you up-to-date

Notification of price changes

We're changing our report prices from 4th June 2025. The price will increase by 3.5% based on Retail Price Index (RPI).

Find our new prices on our website thameswater.co.uk/property-searches

Any Questions? We're happy to talk through the changes with you – give our Property Searches team a call on 0800 009 4540 .

Thames Water Utilities Ltd
Property Searches,
Clearwater Court, Vastern Road, Reading RG1 8DB

property.searches@thameswater.co.uk
thameswater.co.uk/propertysearches

0800 009 4540

Asset Location Search

Property Searches

Search address supplied: Rapid Hire Services Ltd, Rigby Lane, Hayes, UB3 1ET

Dear Sir / Madam

An Asset Location Search is recommended when undertaking a site development. It is essential to obtain information on the size and location of clean water and sewerage assets to safeguard against expensive damage and allow cost-effective service design.

The following records were searched in compiling this report: - the map of public sewers & the map of waterworks. Thames Water Utilities Ltd (TWUL) holds all of these.

This search provides maps showing the position and size of Thames Water assets close to the proposed development and also manhole cover and invert levels, where available.

Please note that none of the charges made for this report relate to the provision of Ordnance Survey mapping information. The replies contained in this letter are given following inspection of the public service records available to this company. No responsibility can be accepted for any error or omission in the replies.

You should be aware that the information contained on these plans is current only on the day that the plans are issued. The plans should only be used for the duration of the work that is being carried out at the present time. Under no circumstances should this data be copied or transmitted to parties other than those for whom the current work is being carried out.

Thames Water do update these service plans on a regular basis and failure to observe the above conditions could lead to damage arising to new or diverted services at a later date.

Contact Us

If you have any further queries regarding this enquiry please feel free to contact a member of the team on 0800 009 4540, or use the contact details below:

Thames Water Utilities Ltd
Property Searches
Clearwater Court
Vastern Road
Reading
RG1 8DB

Email: property.searches@thameswater.co.uk
Web: thameswater.co.uk/propertysearches

Waste Water Services

Please provide a copy extract from the public sewer map.

Enclosed is a map showing the approximate lines of our sewers. Our plans do not show sewer connections from individual properties or any sewers not owned by Thames Water unless specifically annotated otherwise. Records such as "private" pipework are in some cases available from the Building Control Department of the relevant Local Authority. Where the Local Authority does not hold such plans it might be advisable to consult the property deeds for the site or contact neighbouring landowners. The public sewer map relates only to sewerage apparatus of Thames Water Utilities Ltd, it does not disclose details of cables and or communications equipment that may be running through or around such apparatus. The sewer level information contained in this response represents all of the level data available in our existing records. Should you require any further Information, please refer to the relevant section within the 'Further Contacts' page found later in this document.

For your guidance:

- The Company is not generally responsible for rivers, watercourses, ponds, culverts or highway drains. If any of these are shown on the copy extract they are shown for information only.
- Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an ‘as constructed’ record. It is recommended these details be checked with the developer.

Clean Water Services

Please provide a copy extract from the public water main map.

With regard to the fresh water supply, this site falls within the boundary of another water company. For more information, please redirect your enquiry to the following address:

Affinity Water Ltd
Tamblin Way

Hatfield
AL10 9EZ
Tel: 0845 7823333

For your guidance:

- Assets other than vested water mains may be shown on the plan, for information only.
- If an extract of the public water main record is enclosed, this will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

Further contacts:

Waste Water queries

Should you require verification of the invert levels of public sewers, by site measurement, you will need to approach the relevant Thames Water Area Network Office for permission to lift the appropriate covers. This permission will usually involve you completing a TWOSA form. You can do this by emailing customer.feedback@thameswater.co.uk with the email subject header 'Enquiry – TWOSA', along with details of the request.

If you have any questions regarding sewer connections, budget estimates, diversions or building over issues please direct them to our service desk which can be contacted by writing to:

Developer Services (Waste Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk

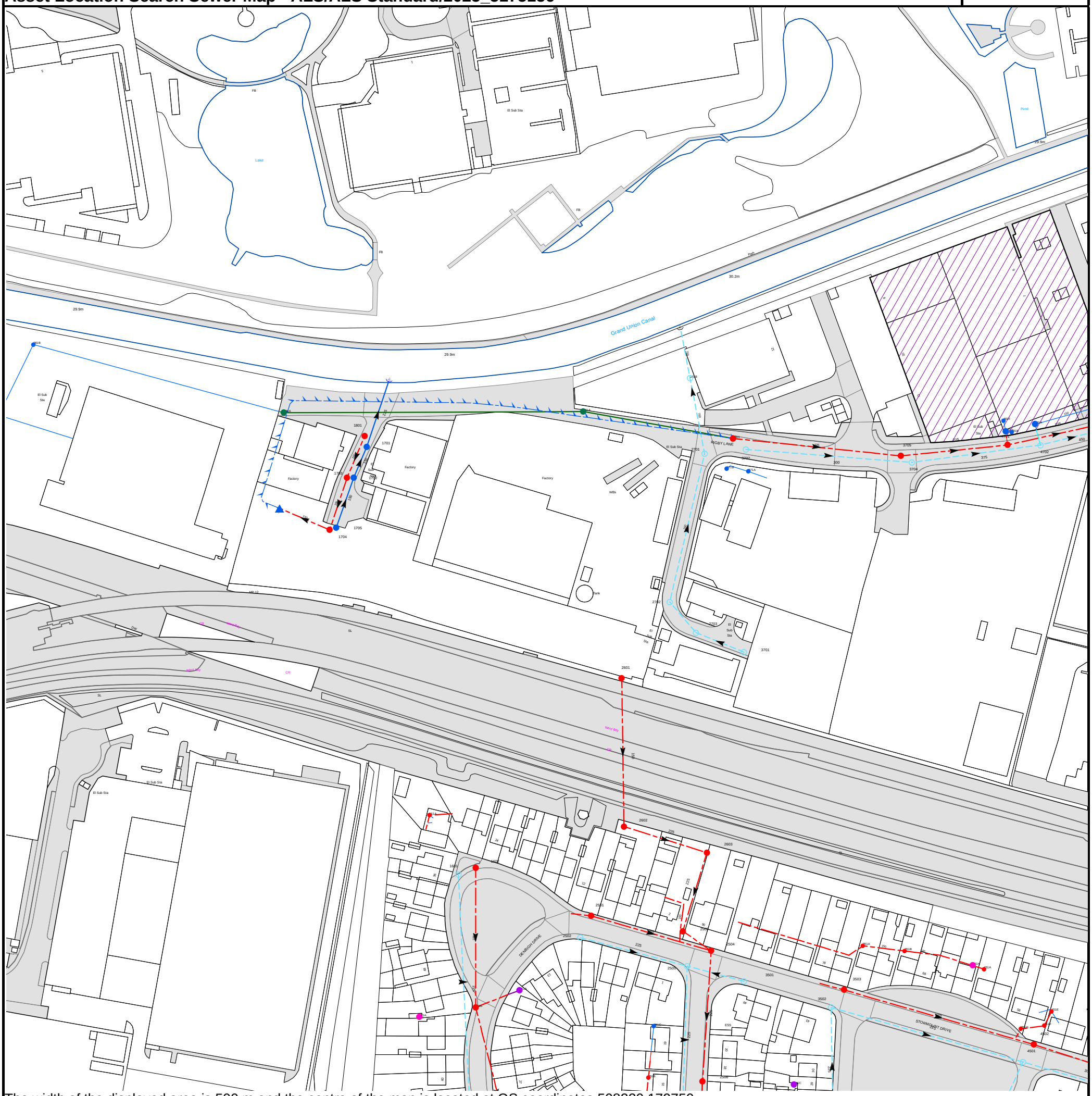
Clean Water queries

Should you require any advice concerning clean water connections, please contact:

Developer Services (Clean Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk

Asset Location Search Sewer Map - ALS/ALS Standard/2025_5175156



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 508220,179750

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
4701	n/a	n/a
4702	n/a	n/a
4501	32.8	30.88
4502	32.92	31.47
451G	n/a	n/a
451F	n/a	n/a
451E	n/a	n/a
451A	n/a	n/a
451H	n/a	n/a
351B	n/a	n/a
2504	32.49	30.35
351A	n/a	n/a
2502	32.19	30.77
2503	32.23	30.6
2501	32.11	30.62
1601	31.49	29.96
1602	31.53	29.57
2603	31.98	30.8
2602	32.36	31.06
161A	n/a	n/a
2601	32.67	31.14
3701	32.33	31.48
2703	32.31	31.22
2702	32.35	31.04
1702	32.61	31.4
1703	32.57	30.85
371A	n/a	n/a
371B	n/a	n/a
3704	n/a	n/a
3705	n/a	n/a
2701	32.6	30.58
3702	n/a	n/a
1701	n/a	n/a
3801	n/a	n/a
1801	32.61	31.07
281A	n/a	n/a
281B	n/a	n/a
1704	32.65	30.61
1705	32.66	31.58
081A	n/a	n/a
981B	n/a	n/a
151A	n/a	n/a
1501	31.4	29.29
251A	n/a	n/a
251B	n/a	n/a
251C	n/a	n/a
2505	32.37	30.51
2506	32.25	30.23
3501	32.59	30.76
351C	n/a	n/a
3502	32.76	31.4
3503	32.74	31.84

Asset Location Search - Sewer Key

Public Sewer Types (Operated and maintained by Thames Water)

Foul Sewer: A sewer designed to convey waste water from domestic and industrial sources to a treatment works.

Surface Water Sewer: A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.

Combined Sewer: A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.

- Storm Sewer
- Sludge Sewer
- Foul Trunk Sewer
- Surface Trunk Sewer
- Combined Trunk Sewer
- Foul Rising Main
- Surface Water Rising Main
- Combined Rising Main
- Vacuum
- Thames Water Proposed
- Vent Pipe
- Gallery

Other Sewer Types (Not operated and maintained by Thames Water)

- Sewer
- Culverted Watercourse
- Proposed
- Decommissioned Sewer
- Content of this drainage network is currently unknown
- Ownership of this drainage network is currently unknown

Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

- Air Valve
- Meter
- Dam Chase
- Vent
- Fitting

Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

- Ancillary
- Drop Pipe
- Control Valve
- Weir

End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol. Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

- Inlet
- Outfall
- Undefined End

Other Symbols

Symbols used on maps which do not fall under other general categories.

- Change of Characteristic Indicator
- Public / Private Pumping Station
- Invert Level
- Summit

Areas

Lines denoting areas of underground surveys, etc.

- Agreement
- Chamber
- Operational Site

Ducts or Crossings

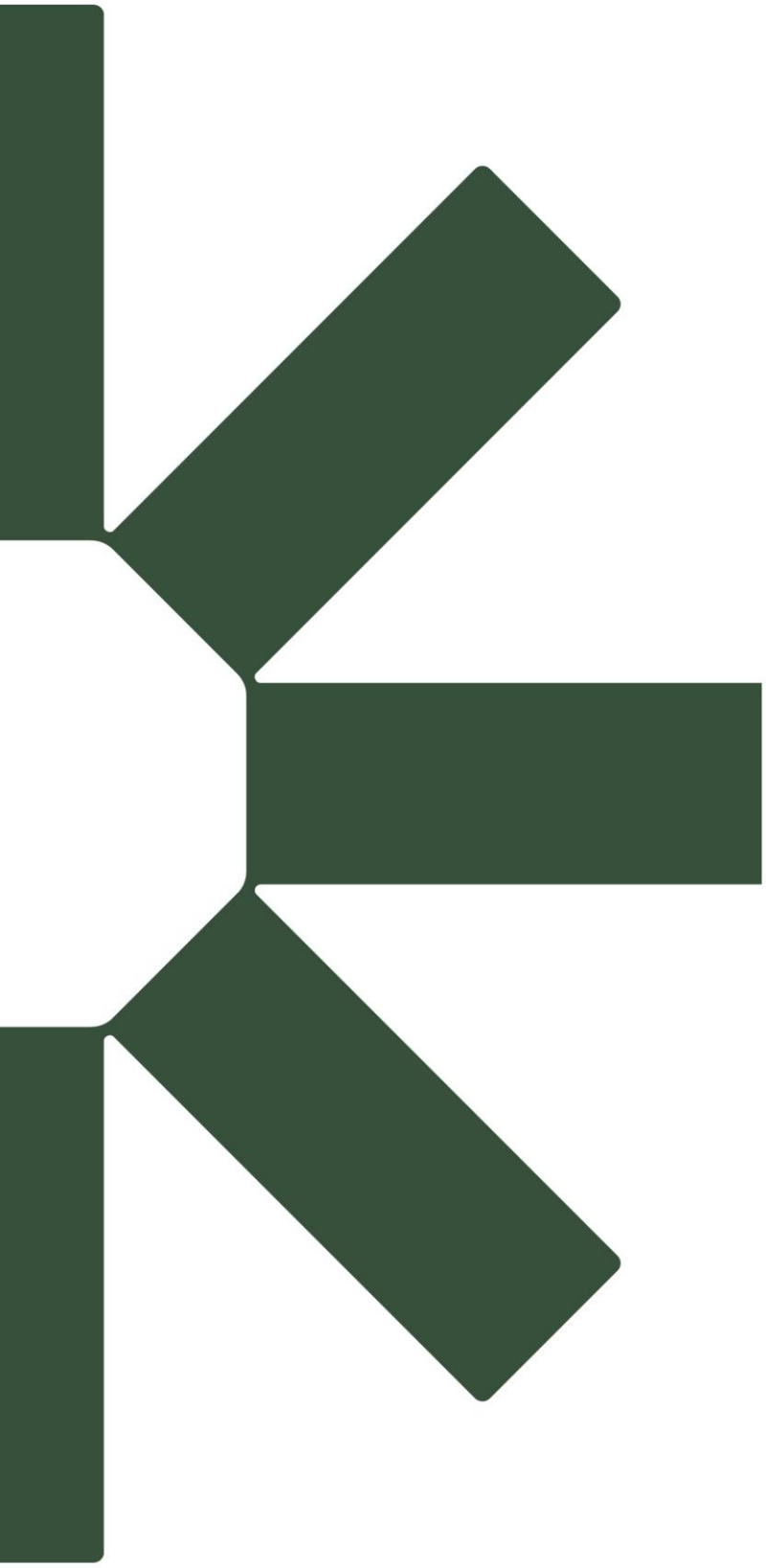
- Casement

Ducts may contain high voltage cables. Please check with Thames Water.

- Conduit Bridge
- Subway
- Tunnel

Notes:

1) All levels associated with the plans are to Ordnance Datum Newlyn.
2) All measurements on the plan are metric.
3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate the direction of flow.
4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.
5) 'na' or '0' on a manhole indicates that data is unavailable.
6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimeters. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology, please contact Property Searches on 0800 009 4540.



Making Sustainability Happen