

Croydon Custody Centre

784-B065014

Flood Risk Assessment

For Planning

Version 002

Hamilton Architects

February 2024

**Document prepared on behalf of Tetra Tech Limited. Registered in England number:
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1.0 INTRODUCTION

1.1 PURPOSE OF THIS REPORT

1.1.1 Tetra Tech Ltd has been commissioned by Hamilton Architects (the 'Client') to prepare a Flood Risk Assessment to support the planning application for the proposed installation of an air source heat pump at Croydon Custody Centre, 90 Windmill Road, Croydon, CR0 2XP (the 'site').

1.2 REQUIREMENTS OF THIS REPORT

1.2.1 According to the EA online Flood Map for Planning, the site is wholly located within Flood Zone 1, The EA Long Term Surface Water Flood Map indicates the site is at a very low risk of surface water. However, pre-Application engagement with the Local Authority has identified that the site is located within an area at risk of surface water flooding therefore a FRA is required to support the planning application.

1.3 SCOPE OF THE REPORT

1.3.1 The Flood Risk Assessment will consider all potential sources of flood risk including 'Main River', 'Ordinary Watercourses', tidal, surface water and overland flow routes, groundwater, sewers, and reservoirs. It will identify the level of risk and, where necessary, recommend appropriate mitigation to reduce the overall risk of flooding.

1.3.2 The assessment will be undertaken in accordance with the National Planning Policy Framework (NPPF) (Chapter 14), Planning Practice Guidance (PPG) (Flood Risk and Coastal Change), Environment Agency (EA) guidance and the London Borough of Croydon local planning and development guidance documents relating to development and flood risk.

1.4 LIMITATIONS OF THIS REPORT

1.4.1 This report has been prepared by Tetra Tech Ltd on behalf of Hamilton Architects in connection with the scope of the report as described in Section 1.3 above and taking into account the particular instructions and requirements set out in Tetra Tech's fee proposal and the Client's acceptance. It is not intended for and should not be relied on by any third party and no responsibility is undertaken to any third party.

1.4.2 Tetra Tech Ltd accepts no duty or responsibility (including in negligence) to any party other than the client and disclaims all liability of any nature whatsoever to any such party in respect of this report.

1.4.3 This report cannot be reproduced without Tetra Tech's written consent.

2.0 EXISTING SITE

2.1 SITE LOCATION

2.1.1 The site is located at Croydon Custody Centre off Windmill Road, Croydon, CR0 2XP. The site is located within the existing car park serving the Custody Centre, as shown in Figure 1 below, and measures 0.014 hectares (ha) in size.



Figure 1 Site Location Plan

2.2 SITE DESCRIPTION

2.2.1 The application site currently comprises an existing car park associated with the Croydon Custody Centre. Access to the site is provided to the North via Windmill Road (A213).

2.3 SITE TOPOGRAPHY

2.3.1 A review of 1 m resolution Environment Agency (EA) LiDAR data has been undertaken to determine existing ground levels within the site. Typically LiDAR is accurate to +/-150 mm. Ground levels within the site are generally flat, ranging from between 51.30 m Above Ordnance Datum (m AOD) to 51.65 m AOD.

2.4 HYDROLOGICAL SETTING

2.4.1 A review of Ordnance Survey (OS) mapping indicates the nearest EA Main River is the Norbury Brook which is located approximately 980 m to the northeast of the site at its nearest point. No Canals and other watercourses are located within the close vicinity of the site.

2.5 EXISTING DRAINAGE

Public Sewers

2.5.1 A review of Thames Water Asset Search, included as Appendix A, indicates the following public sewers within the vicinity of the site:

- A public surface water and public foul sewer is located beneath Windmill Road (A213) to the north of the site and is shown to flow in South-westerly direction;
- A public surface water and public foul water sewer is located beneath Union Road to the east of the site and is shown to flow in North-easterly direction; and
- A public foul water sewer is located beneath Willis Road to the south of the site and is shown to flow in South-easterly direction.

Private Sewers

2.5.2 Based on the nature of the existing site, which forms part of a wider car parking area, it is anticipated that existing private drainage is present on site. No further information has been provided regarding this at this stage.

2.6 HYDROGEOLOGICAL SETTING

Soils

2.6.1 A review of Defra's online 'Magic' mapping indicates that the underlying soils are classified as freely draining slightly acid loamy soils.

Geology

- 2.6.2 A review of the British Geological Survey BGS online geological mapping (1:50,000 scale) indicates the site is underlain by superficial deposits of Lynch Hill Gravel Member which is described as comprising sand and gravel.
- 2.6.3 The site is shown to be further underlain by bedrock deposits from London Clay Formation which is described as comprising clay and silt.
- 2.6.4 A review of BGS borehole records indicate there are no publicly available boreholes within the site.

Hydrogeology

- 2.6.5 A review of Defra's online 'Magic' mapping indicates that the underlying superficial deposits are classified as a Secondary A aquifer. Secondary A aquifers comprise permeable layers that can support local water supplies and may form an important source of base flow to rivers.
- 2.6.6 The bedrock deposits are classified as an Unproductive Strata. These are defined as layers that are generally unable to provide usable water supplies and are unlikely to have surface water and wetland ecosystems dependent upon them.

Source Protection Zones (SPZ)

- 2.6.7 A review of DEFRA's online 'Magic' mapping indicates that the site is not located within a groundwater Source Protection Zone (SPZ).

3.0 PROPOSED DEVELOPMENT

- 3.1.1 The Proposed development comprises installation of an air source heat pump to support decarbonisation works. Proposed development plans are included as Appendix B.
- 3.1.2 The proposed development will be installed upon elevated platform within the existing car park. The platform will be raised 3 m above existing ground on a series of columns which will be placed to allow continued use of the existing car park.
- 3.1.3 There will be no increase in hardstanding as a result of the proposed development.

4.0 FLOOD RISK

4.1 FLUVIAL AND TIDAL FLOOD RISK

4.1.1 Fluvial flood risk is the risk arising from Main Rivers and Ordinary Watercourses. A floodplain is the area that would naturally be affected by flooding if a river rises above its banks or as a result of tidal inundation. In England, floodplains of Main Rivers are divided into flood zones for planning purposes. These show the extent of the natural floodplain area at risk of inundation if there were no flood defences or certain other manmade structures and channel improvements. They are defined as follows:

- Flood Zone 1 is land assessed as having an annual probability of flooding of less than 1 in 1000 (<0.1%). The risk of flooding is low.
- Flood Zone 2 is land assessed as having an annual probability of fluvial flooding of between a 1 in 1000 (0.1%) and 1 in 100 (1%) or between a 1 in 1000 (0.1%) and 1 in 200 (0.5%) annual probability of tidal flooding. The risk of flooding is medium.
- Flood Zone 3 is land assessed as having an annual probability of fluvial flooding of 1 in 100 or greater (>1%) or a greater than 1 in 200 (>0.5%) annual probability of tidal flooding. The risk of flooding is high.

4.1.2 A review of the EA online Flood Map for Planning, included as Figure 2, indicates the site is wholly located within Flood Zone 1.

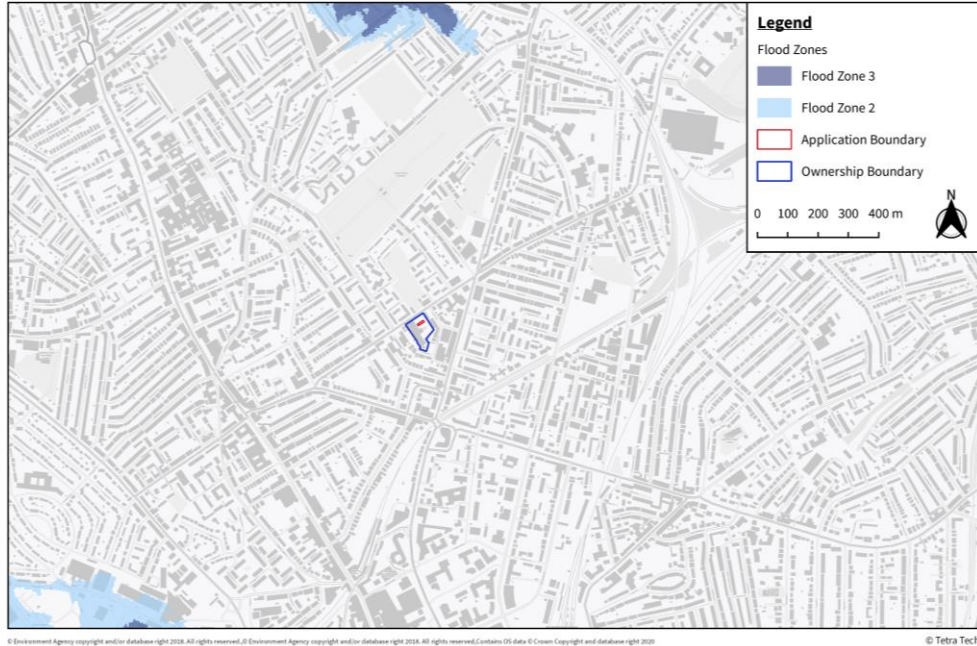


Figure 2 EA Flood Map for Planning

4.1.3 The EA Flood Map for Planning indicates nearest flood extent is approximately 980 m north-east of the site. A review of ground elevation indicates the site is raised approximately 5.5 m above the land within the nearest flood extent. It is therefore anticipated that the site will remain free from flooding considering the impacts of climate change.

4.1.4 Based on the above, the site is considered to be at a **low** risk of fluvial flooding.

4.1.5 The site is located inland at a minimum elevation of 51.30 m AOD. The risk of tidal flooding is therefore considered to be **negligible**.

4.2 SURFACE WATER AND OVERLAND FLOWS

4.2.1 Surface water flooding can occur during high intensity rainfall events as sheet runoff from fields or hard paved areas. It is particularly prevalent in areas with significant hard standing or poorly permeable soils (i.e., clay). This is because the grounds capacity for infiltration is reduced. In addition, the inability to enter local drainage systems also contributes to risk from this source. The risk of surface water flooding is divided as follows, as defined by the EA:

- Very low risk means that the annual probability of flooding is less than 1 in 1000 (<0.1%).
- Low risk means that the annual probability of flooding is between 1 in 1000 (0.1%) and 1 in 100 (1%).
- Medium risk means that the annual probability of flooding is between 1 in 100 (1%) and 1 in 30 (3.3%).
- High risk means that the annual probability of flooding of greater than 1 in 30 (3.3%).

4.2.2 According to the EA Long Term Surface Water Flood Map (Figure 3), the Application Site is shown to be at a very low risk of surface water flooding. The Long-Term Surface Water Flood Map indicates the area of low to medium surface water flood risk within Windmill Road to the north of the site. However, the extent of surface water flooding appears to be limited to the road network and does not appear to ingress into the site.

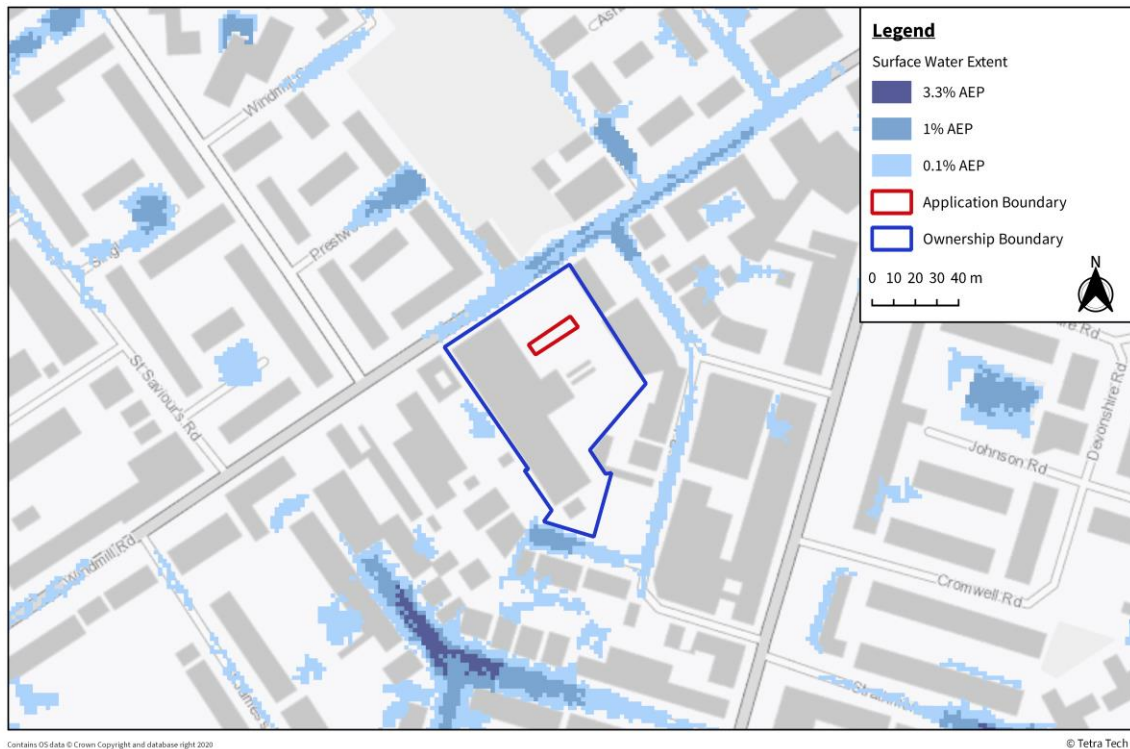


Figure 3 EA Long Term Surface Water Flood Map

4.2.3 According to the London Borough of Croydon Strategic Flood Risk Assessment (SFRA) dated September 2022, no surface water flooding is reported within the site.

4.2.4 As described in Section 3, the proposed development comprises the installation of an air source heat pump. The development will be situated on a platform raised 3 m above existing ground levels and will therefore be inherently raised above any potential surface water flooding.

4.2.5 Based on the nature of the proposed development, there will be no change or amendments at ground level which will continue to comprise car parking. The site will continue to drain as per the existing situation and there will be no increase in surface water runoff.

4.2.6 Based on the above, the overall risk of surface water flooding is considered to be **low**.

GROUNDWATER FLOODING

- 4.2.7 Groundwater flooding occurs when water levels in the ground rise above the land surface. This type of flooding is most likely to occur in areas above an aquifer. The occurrence of groundwater flooding is usually local and does not generally pose a significant risk to life due to the slow rate at which the water level rise.
- 4.2.8 According to the London Borough of Croydon 2022 SFRA there are no known incidents of groundwater flooding within the site. Groundwater susceptibility mapping contained within the SFRA indicates the site is located within an area where there is potential for groundwater flooding to occur within property situated below ground level.
- 4.2.9 The proposed development will be situated on a platform raised 3 m above existing ground levels. The platform will be raised on a series of columns that will allow the continued use of existing car parking spaces.
- 4.2.10 Based on the above, the overall risk of groundwater flooding is considered to be **low**. Temporary dewatering of excavations may be required in the event groundwater is encountered during the construction phase.

4.3 SEWER FLOODING

- 4.3.1 Sewer flooding occurs when intense rainfall overloads the sewer system capacity and/or when sewers cannot discharge properly to watercourses due to high water levels. Sewer flooding can also be caused when problems such as blockages, collapses or equipment failure occur in the sewerage system.
- 4.3.2 Thames Water Asset Search indicates the locations of public sewers within the vicinity of the site. Thames Water sewer flooding history records, included as Appendix C, indicates that there have been no recorded incidents of sewer flooding within the site.
- 4.3.3 The proposed development will be situated on a platform raised 3 m above existing ground levels and will therefore be inherently raised in the event of sewer flooding.
- 4.3.4 Based on the above, the overall risk of sewer flooding is considered to be **low**.

4.4 RESERVOIR FLOODING

- 4.4.1 Flooding from reservoirs occurs when a reservoir dam is overtopped or breaches due to structural failure. The consequence of such an event would be severe, however, the probability of a catastrophic dam failure is considered to be extremely low due to the management and maintenance required under the Reservoirs Act 1975.
- 4.4.2 According to Long Term Reservoir Flood Map, the site is shown to be located within an area that is not at risk of flooding in the event of reservoir failure.

4.4.3 Based on the above, the overall risk of reservoir flooding is considered to be **negligible**.

4.5 CANAL FLOODING

4.5.1 Flooding from a canal occurs when the canal is overtopped or breaches due to failure.

4.5.2 There are no canals within close proximity to the site, therefore the overall risk of canal flooding is considered to be **negligible**.

5.0 POLICY, DEVELOPMENT AND FLOOD RISK

5.1 PLANNING POLICY AND GUIDANCE

National Planning Policy Framework

5.1.1 The National Planning Policy Framework (NPPF) sets out the Government’s planning policies for England and how these should be applied with a presumption in favour of sustainable development. Chapter 14 ‘Meeting the challenge of climate change, flooding and coastal change’ sets out the Government’s policies in relation to flood risk and drainage. The NPPF aims to guide development away from areas at the highest risk of flooding during the present day and future climate change scenarios. Where development is necessary in high-risk areas, the NPPF requires development to be made safe for its lifetime without increasing flood risk elsewhere. The NPPF is supported by relevant technical guidance which provides advice on how to take account of and address the risk associated with flooding in the planning process.

Sequential and Exception Tests

Sequential Test

5.1.2 The aim of the Sequential Test is to steer new development to areas with the lowest risk of flooding from any source. 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.

Exception Test

5.1.3 Where it is not possible for development to be located in areas with a lower risk of flooding, the Exception Test may not need to be applied. To pass the Exception Test, it should be demonstrated that:

- a) The development would provide wider sustainability benefits to the community that outweigh 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.

Local Policy Documents

5.1.4 The site is located within the administrative boundary of London Borough of Croydon. The Croydon Local Plan was adopted in March 2018 and Revised in 2021 and contains the following planning and policy documents in relation to flood risk.

“Policy DM25: Sustainable Drainage Systems and reducing food risk.

DM25.1 The Council will ensure that development in the borough reduces food risk and minimises the impact of flooding by:

- a. *Steering development to the areas with a lower risk of flooding;*
- b. *Applying the Sequential Test and Exception Test in accord with Table 8.1;*
- c. *Taking account of all sources of flooding from fluvial, surface water, groundwater, sewers, reservoirs and ordinary watercourses; and*
- d. *Applying the sequential approach to site layout by locating the most vulnerable uses in parts of the site at the lowest risk of flooding.*

DM25.2 In areas at risk of flooding development should be safe for the lifetime of development and should incorporate food resilience and resistant measures into the design, layout, and form of buildings to reduce the level of food risk both on site and elsewhere.

DM25.3 Sustainable drainage systems are required in all development and should:

- a. *Ensure surface run-off is managed as close to the source as possible;*
- b. *Accord with the London Plan Sustainable Drainage Hierarchy;*
- c. *Achieve better than greenfield runoff rates;*
- d. *Be designed to be multifunctional and incorporate sustainable drainage into landscaping and public realm to provide opportunities to improve amenity and biodiversity;*
- e. *Achieve improvements in water quality through a sustainable drainage system management train; and*
- f. *Be designed with consideration of future maintenance.”*

5.2 DEVELOPMENT AND FLOOD RISK

Flood Risk to the Development

5.2.1 As assessed in Section 4.0, the site is considered to be at negligible to low risk of flooding from all sources therefore no site-specific mitigation is considered necessary. Notwithstanding, the proposed plant will be situated on a platform 3 m above existing ground levels and will therefore be inherently raised above any potential flooding.

Flood Risk Arising from the Development

5.2.2 The proposed development is located within Flood Zone 1 and as such there will be no displacement of flooding and no requirement to consider floodplain compensation.

5.2.3 The proposed development will be located on a platform raised above the existing car parking which will be retained. There will be no increase in hardstanding and no increase in runoff as a result of the proposed development.

Sequential and Exception Test

5.2.4 The proposed development comprises the installation of an air source heat pump to support wider decarbonisation works at Croydon Custody Centre and cannot be sequentially located elsewhere. Notwithstanding, the development is located within Flood Zone 1 and is considered to have a negligible to low risk of flooding from all sources. The site is considered to be sequentially acceptable without the requirement to apply the Exception Test.

6.0 SUMMARY AND CONCLUSIONS

6.1 CONCLUSIONS

- 6.1.1 The Proposed development comprises installation of an air source heat pump to wider support decarbonisation works at Croydon Custody Centre.
- 6.1.2 According to the EA Flood Map for Planning, the site is wholly located within Flood Zone 1. The site is considered to be at a negligible to low risk of flooding from all sources.
- 6.1.3 The proposed development will be situated on a platform raised 3 m above existing ground levels. The proposed development will therefore be inherently raised above any potential flooding.
- 6.1.4 The proposed development will be raised above the existing car parking which will be retained as existing. There will be no increase in hardstanding and no increase in surface water runoff as result of the proposed development.
- 6.1.5 The proposed development is considered to meet the requirements of the Sequential and Exception Test.

APPENDIX A: THAMES WATER PUBLIC SEWER RECORDS

Asset location search



Property Searches

Tetra Tech Ltd
TETRA TECH TETRA TECH

MANCHESTER
M2 2AW

Search address supplied Croydon Traffic Garage
90
Windmill Road
Croydon
CR0 2XP

Your reference 001

Our reference ALS/ALS Standard/2024_4935111

Search date 18 January 2024

Notification of Price Changes

From 1st April 2023 Thames water Property Searches will be increasing the prices of its CON29DW, CommercialDW Drainage & Water Enquiries and Asset Location Searches. Historically costs would rise in line with RPI but as this currently sits at 14.2%, we are capping it at 10%.

Customers will be emailed with the new prices by January 1st 2023.

Any orders received with a higher payment prior to the 1st April 2023 will be non-refundable. For further details on the price increase please visit our website at www.thameswater-propertysearches.co.uk



Thames Water Utilities Ltd
Property Searches, PO Box 3189, Slough SL1 4WW



searches@thameswater.co.uk
www.thameswater-propertysearches.co.uk



0800 009 4540

Search address supplied: Croydon Traffic Garage, 90, Windmill Road, Croydon, CR0 2XP

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, 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 address below:

Thames Water Utilities Ltd
Property Searches
PO Box 3189
Slough
SL1 4WW

Email: searches@thameswater.co.uk

Web: www.thameswater-propertysearches.co.uk

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.

This report 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.

Enclosed is a map showing the approximate positions of our water mains and associated apparatus. Please note that records are not kept of the positions of individual domestic supplies.

For your information, there will be a pressure of at least 10m head at the outside stop valve. If you would like to know the static pressure, please contact our Customer Centre on 0800 316 9800. The Customer Centre can also arrange for a full flow and



pressure test to be carried out for a fee.

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.

Payment for this Search

A charge will be added to your suppliers account.

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. For further information please contact our Customer Centre on Tel: 0845 920 0800. Alternatively, a survey can be arranged, for a fee, through our Customer Centre on the above number.

If you have any questions regarding sewer connections, budget estimates, diversions, building over issues or any other questions regarding operational 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

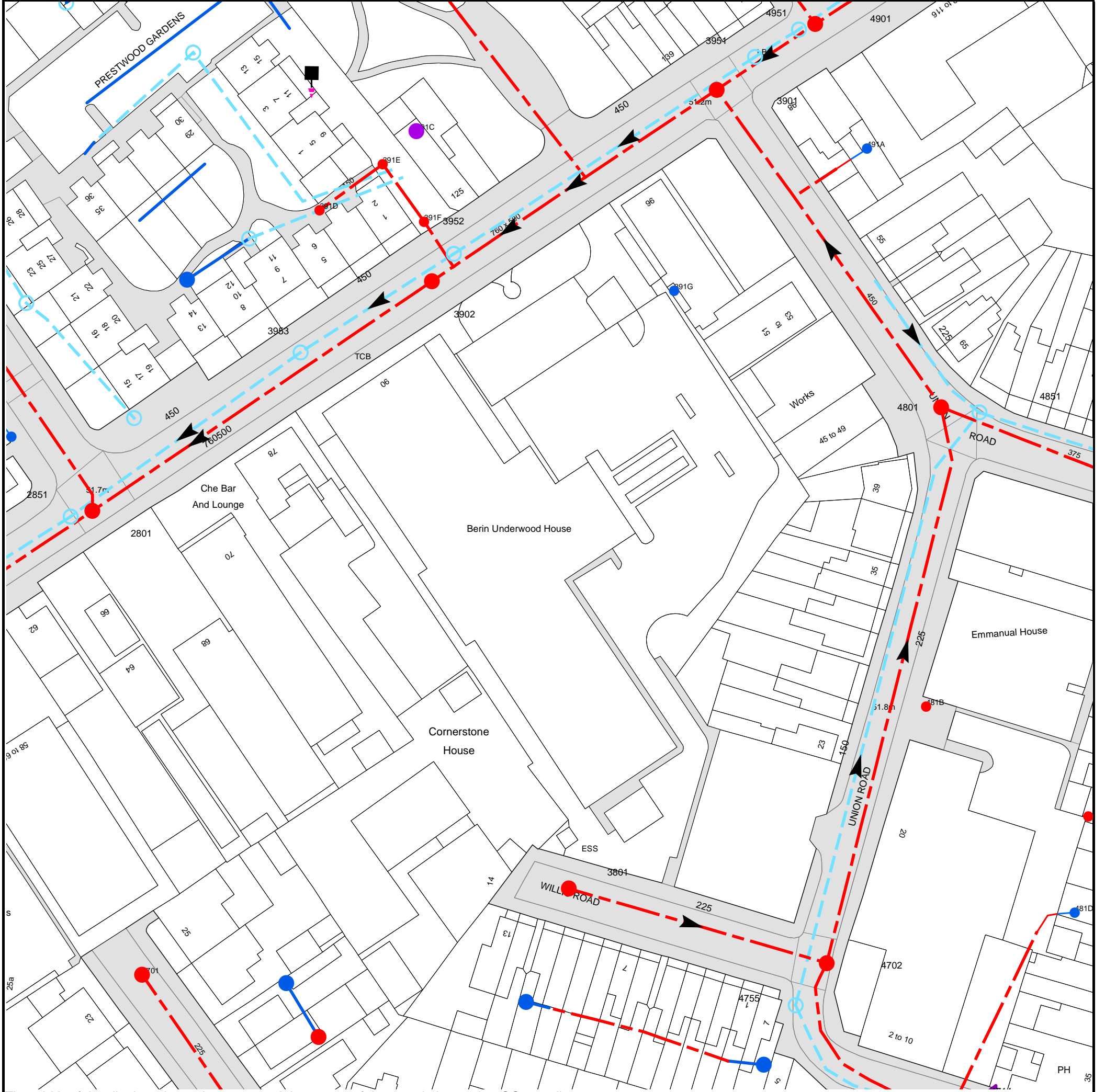
Clean Water queries

Should you require any advice concerning clean water operational issues or 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/2024 4935111



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 532362,166869
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.

Based on the Ordnance Survey Map (2020) with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.

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
491A	n/a	n/a
391D	n/a	n/a
391E	n/a	n/a
391C	n/a	n/a
391F	n/a	n/a
3901	51.3	46.04
3951	n/a	n/a
4951	51.34	49.28
4901	51.29	46.36
29FI	n/a	n/a
29BE	n/a	n/a
39BI	n/a	n/a
28BI	n/a	n/a
29BI	n/a	n/a
2851	51.8	49.95
2801	51.8	45.93
28AH	n/a	n/a
29CD	n/a	n/a
37EC	n/a	n/a
3953	51.44	49.72
3902	51.39	46.05
3952	51.34	49.58
37DI	n/a	n/a
3801	n/a	n/a
391G	n/a	n/a
481D	n/a	n/a
37DH	n/a	n/a
37EG	n/a	n/a
4755	51.83	50.73
2701	n/a	n/a
4702	n/a	n/a
4856	n/a	n/a
481B	n/a	n/a
4851	51.78	50.4
4801	51.89	46.64

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.









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

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.

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

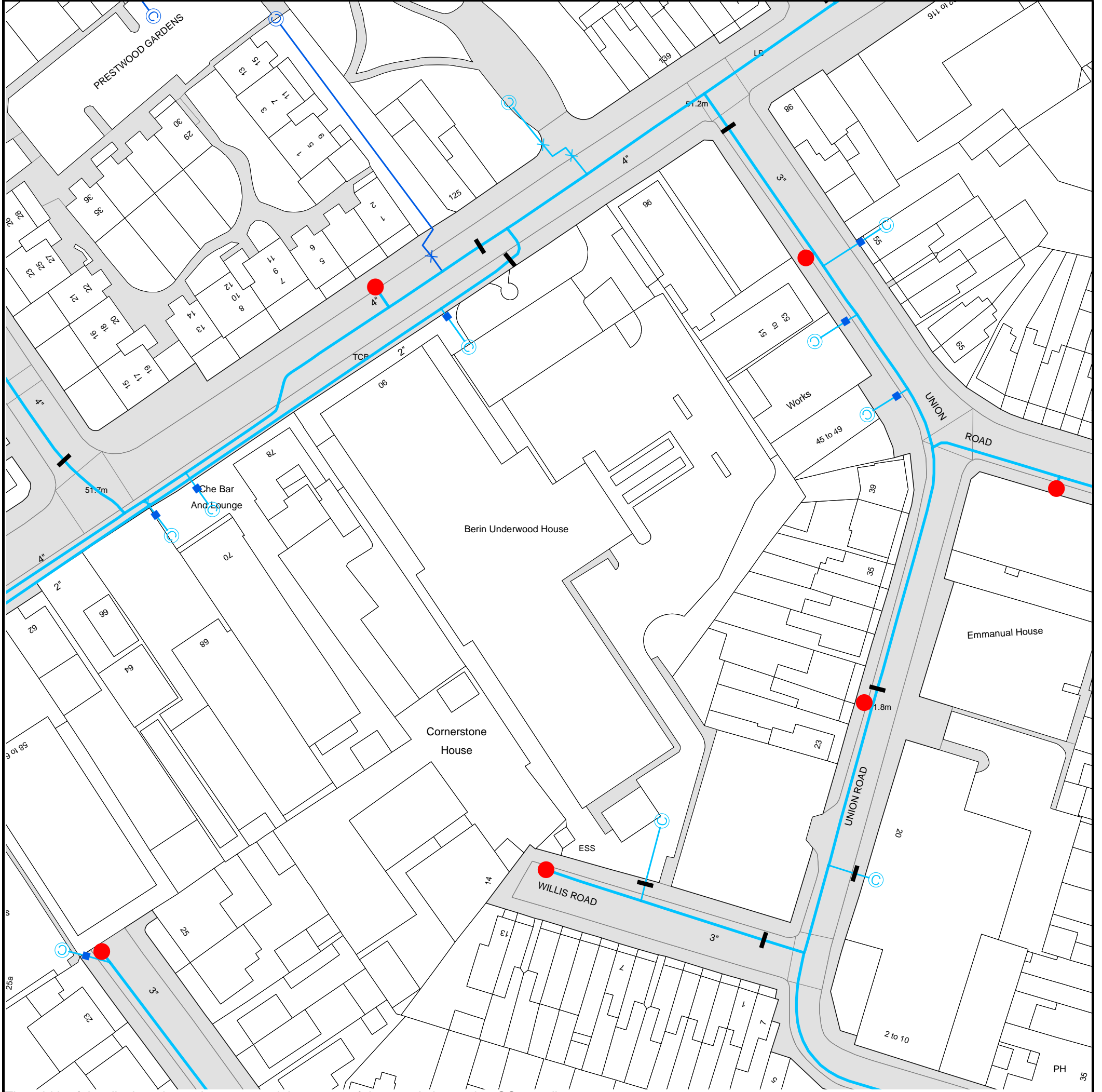
Ducts or Crossings

-  Casement
 -  Conduit Bridge
 -  Subway
 -  Tunnel
- Ducts may contain high voltage cables. Please check with Thames Water.

5) 'na' or 'of' 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.

Asset Location Search Water Map - ALS/ALS Standard/2024 4935111



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 532362, 166869.








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.

Based on the Ordnance Survey Map (2020) with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.



Asset Location Search - Water Key

Water Pipes (Operated & Maintained by Thames Water)

-  **Distribution Main:** The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.
-  **Trunk Main:** A main carrying water from a source of supply to a treatment plant or reservoir, or from one treatment plant or reservoir to another. Also a main transferring water in bulk to smaller water mains used for supplying individual customers.
-  **Supply Main:** A supply main indicates that the water main is used as a supply for a single property or group of properties.
-  **Fire Main:** Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.
-  **Metered Pipe:** A metered main indicates that the pipe in question supplies water for a single property or group of properties and that quantity of water passing through the pipe is metered even though there may be no meter symbol shown.
-  **Transmission Tunnel:** A very large diameter water pipe. Most tunnels are buried very deep underground. These pipes are not expected to affect the structural integrity of buildings shown on the map provided.
-  **Proposed Main:** A main that is still in the planning stages or in the process of being laid. More details of the proposed main and its reference number are generally included near the main.

PIPE DIAMETER	DEPTH BELOW GROUND
Up to 300mm (12")	900mm (3')
300mm - 600mm (12" - 24")	1100mm (3' 8")
600mm and bigger (24" plus)	1200mm (4')

Valves

-  General Purpose Valve
-  Air Valve
-  Pressure Control Valve
-  Customer Valve

Hydrants

-  Single Hydrant

Meters

-  Meter

End Items



Symbol indicating what happens at the end of a water main.

-  Blank Flange
-  Capped End
-  Emptying Pit
-  Undefined End
-  Manifold
-  Customer Supply
-  Fire Supply



Operational Sites

-  Booster Station
-  Other
-  Other (Proposed)
-  Pumping Station
-  Service Reservoir
-  Shaft Inspection
-  Treatment Works
-  Unknown
-  Water Tower

Other Symbols

-  Data Logger
-  **Casement:** Ducts may contain high voltage cables. Please check with Thames Water.

Other Water Pipes (Not Operated or Maintained by Thames Water)

-  **Other Water Company Main:** Occasionally other water company water pipes may overlap the border of our clean water coverage area. These mains are denoted in purple and in most cases have the owner of the pipe displayed along them.
-  **Private Main:** Indicates that the water main in question is not owned by Thames Water. These mains normally have text associated with them indicating the diameter and owner of the pipe.

Payment Terms and Conditions

All sales are made in accordance with Thames Water Utilities Limited (TWUL) standard terms and conditions unless previously agreed in writing.

1. All goods remain in the property of Thames Water Utilities Ltd until full payment is received.
2. Provision of service will be in accordance with all legal requirements and published TWUL policies.
3. All invoices are strictly due for payment within 14 days of the date of the invoice. Any other terms must be accepted/agreed in writing prior to provision of goods or service or will be held to be invalid.
4. Penalty interest may be invoked by TWUL in the event of unjustifiable payment delay. Interest charges will be in line with UK Statute Law 'The Late Payment of Commercial Debts (Interest) Act 1998'.
5. Interest will be charged in line with current Court Interest Charges, if legal action is taken.
6. A charge may be made at the discretion of the company for increased administration costs.

A copy of Thames Water's standard terms and conditions are available from the Commercial Billing Team (cashoperations@thameswater.co.uk).

We publish several Codes of Practice including a guaranteed standards scheme. You can obtain copies of these leaflets by calling us on 0800 316 9800.

If you are unhappy with our service, you can speak to your original goods or customer service provider. If you are still not satisfied with the outcome provided, we will refer the matter to a Senior Manager for resolution who will provide you with a response.

If you are still dissatisfied with our final response, and in certain circumstances such as you are buying a residential property or commercial property within certain parameters, The Property Ombudsman will investigate your case and give an independent view. The Ombudsman can award compensation of up to £25,000 to you if he finds that you have suffered actual financial loss and/or aggravation, distress, or inconvenience because of your search not keeping to the Code. Further information can be obtained by visiting www.tpos.co.uk or by sending an email to admin@tpos.co.uk.

If the Goods or Services covered by this invoice falls under the regulation of the 1991 Water Industry Act, and you remain dissatisfied you can refer your complaint to Consumer Council for Water on 0300 034 2222 or write to them at Consumer Council for Water, 1st Floor, Victoria Square House, Victoria Square, Birmingham, B2 4AJ.

Ways to pay your bill

Credit Card	BACS Payment	Telephone Banking
Please Call 0800 009 4540 quoting your invoice number starting CBA or ADS	Account number 90478703 Sort code 60-00-01 A remittance advice must be sent to: Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW. or email ps.billing@thameswater.co.uk	By calling your bank and quoting: Account number 90478703 Sort code 60-00-01 and your invoice number

Thames Water Utilities Ltd Registered in England & Wales No. 2366661 Registered Office Clearwater Court, Vastern Rd, Reading, Berks, RG1 8DB.

APPENDIX B: PROPOSED DEVELOPMENT PLANS

WINDMILL ROAD

CAR PARK

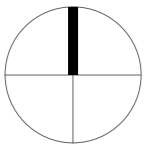
CUSTODY CENTRE

SERVICE YARD

PROPOSED PLANT PLATFORM

25280

7026



- Notes:
1. Contractor to check all dimensions and report omissions and errors to the Architect.
 2. Hamilton Architects LLP accepts no liability for use of this drawing by parties other than the party for whom it was prepared or for purposes other than those for which it was prepared.
 3. If this drawing is issued in dwg/pdf format as an uncontrolled version to enable the recipient to prepare their own documents/drawings/models for which they are solely responsible. This drawing is based on project information current at the time of issue.
 4. Hamilton Architects LLP accepts no liability for any alterations or additions to or discrepancies arising out of any change to such project information that occurs after it is issued by Hamilton Architects LLP. This drawing does not contain shared coordinates and is not issued for coordination purposes.

Project No. & Title
MPS Croydon CC PSDS
Drawing Title
PROPOSED SITE PLAN

Scale: A1 @ 1 : 200 Date: 06.06.23

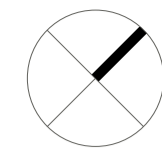
Status Code
S2 - Suitable for Information
Drawing Number
23025-HAM-XX-XX-DR-A-1001 P2



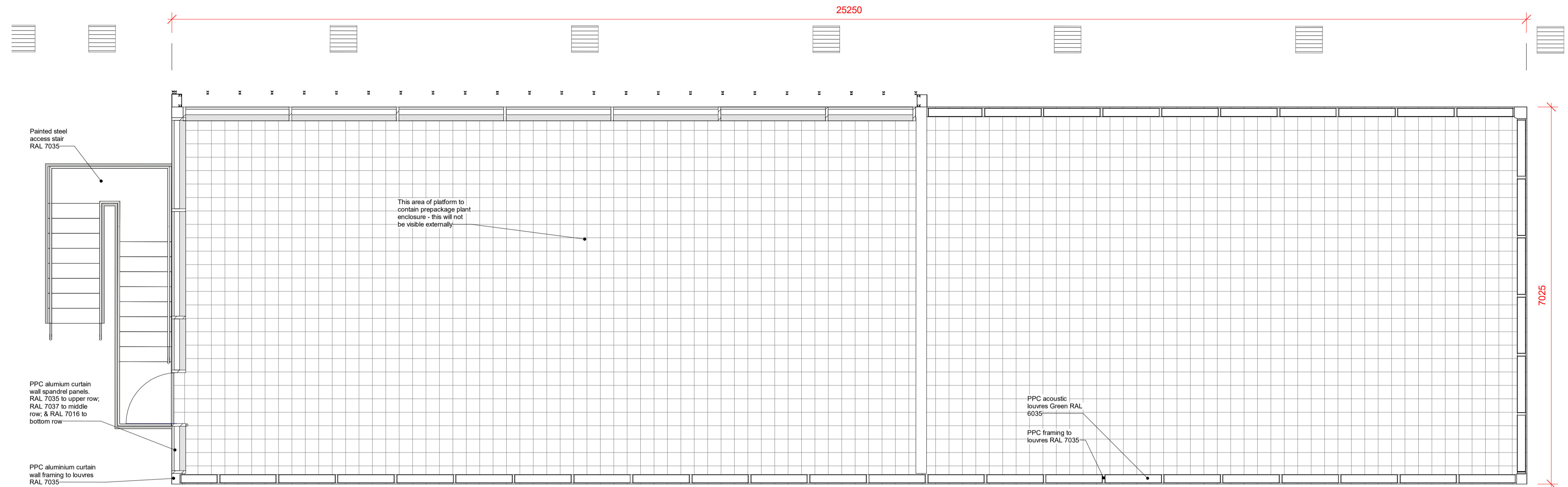
P2 Plant platform Revised
P1 Initial Issue

PC MH 12.12.23
JH PC 06.06.23

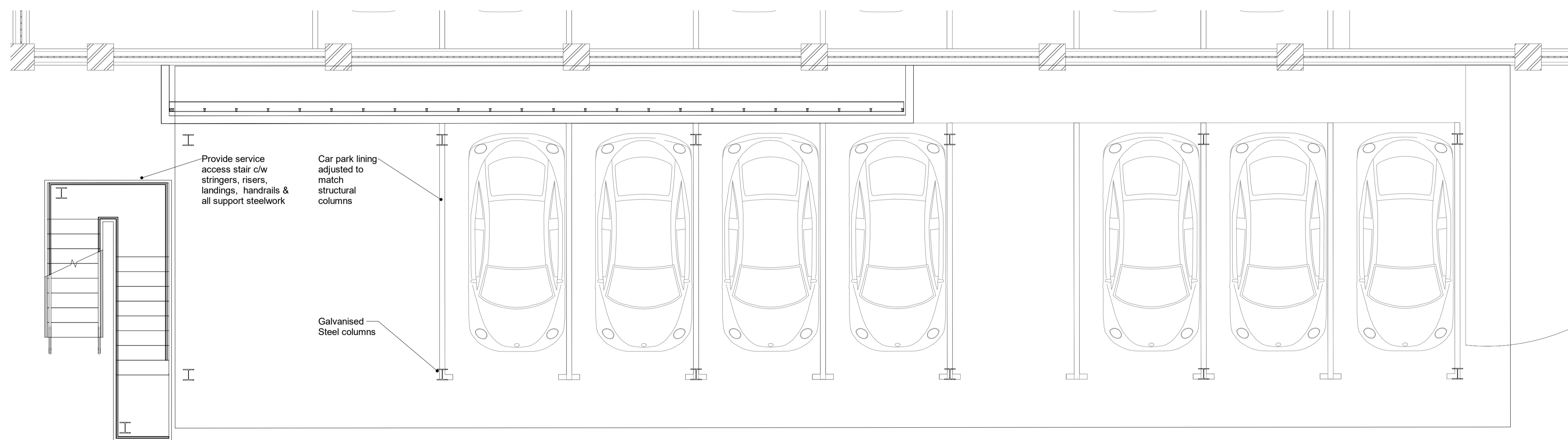
Rev/ Description Ckd/ Apr Date W: www.hamiltonarchitects.co.uk E: design@hamiltonarchitects.co.uk



Notes:
 1. Contractor to check all dimensions and report omissions and errors to the Architect.
 2. Hamilton Architects LLP accepts no liability for use of this drawing by parties other than the party for whom it was prepared or for purposes other than those for which it was prepared.
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1 Platform Level Plan
1 : 50



2 Low Level Plan
1 : 50

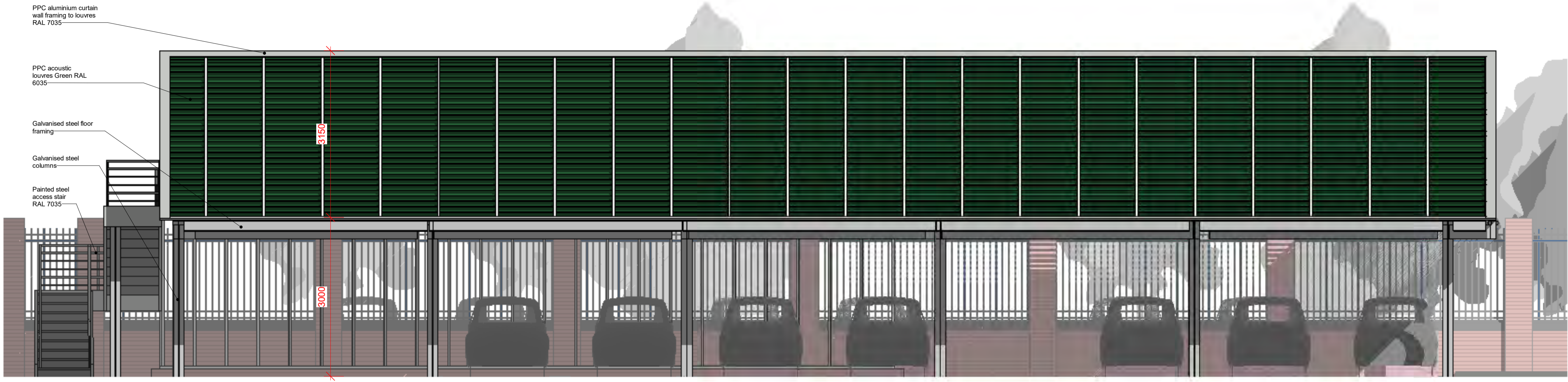


P1	Initial issue	PC	MH	09.02.24
Rev	Description	Ckd	Apr	Date
Project No. & Title				
MPS Croydon CC PSDS				
Drawing Title				
PROPOSED PLANT PLATFORM PLANS				
Scale	A1 @ 1 : 50			Date
	08/12/23			
Status Code				
S2 - Suitable for Information				
Drawing Number				
23025-HAM-XX-XX-DR-A-1202 P1				
Rev				
P1				

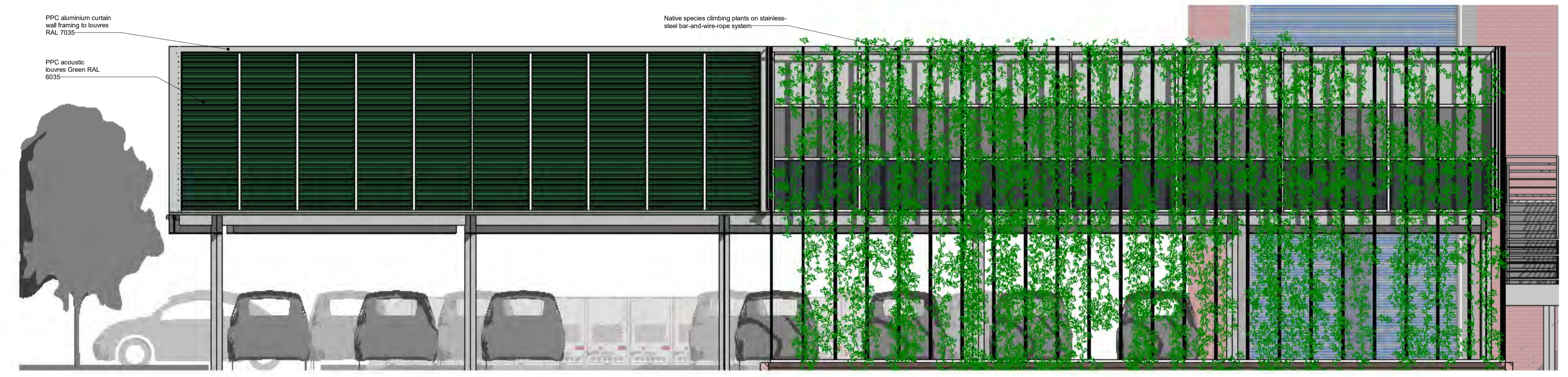
hamilton
ARCHITECTS

W: www.hamiltonarchitects.co.uk E: design@hamiltonarchitects.co.uk

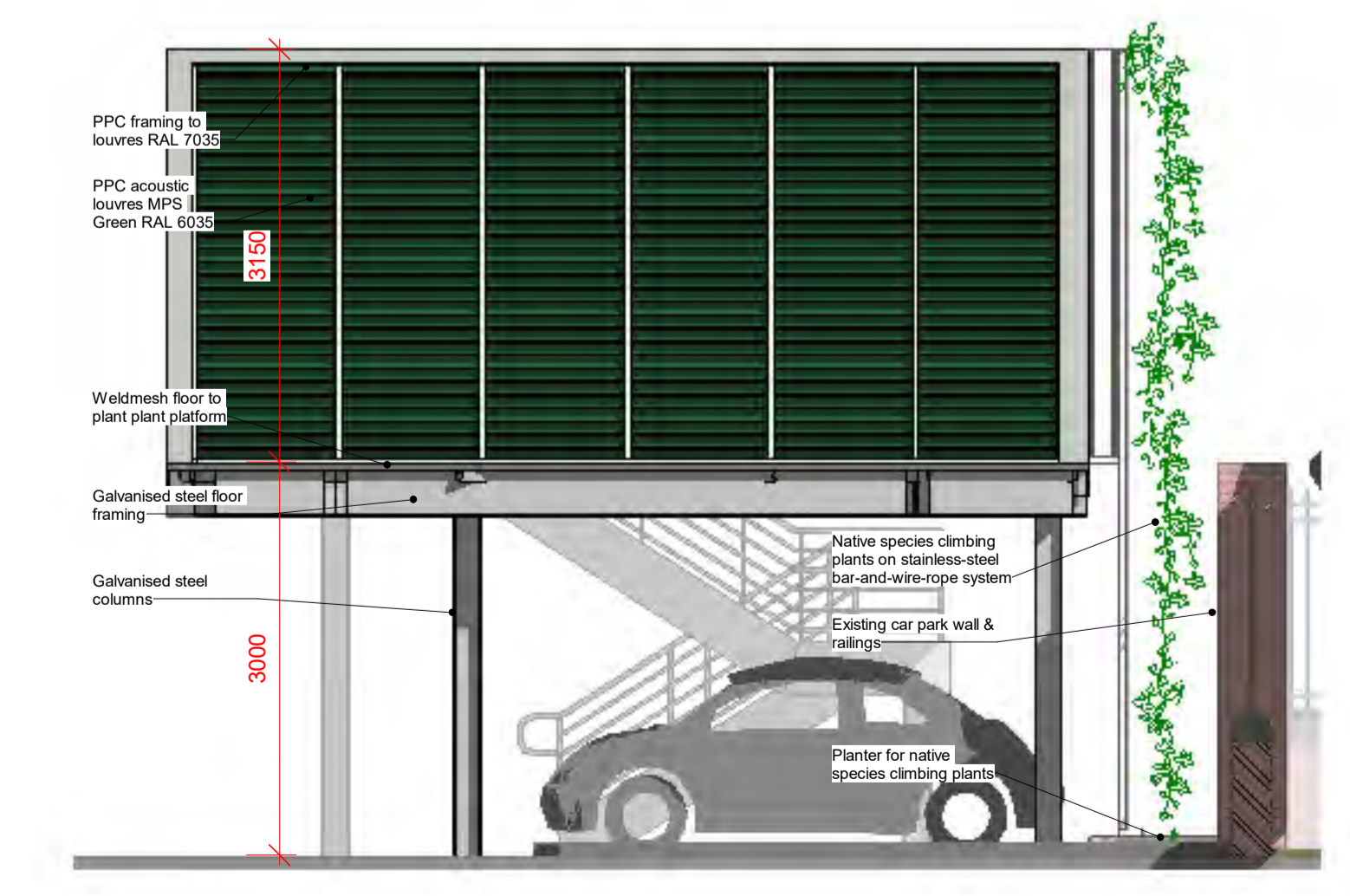
Notes:
 1. Do not scale
 2. Contractor to check all dimensions and report omissions and errors to the Architect
 3. Architect
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1 South East Elevation
 1 : 50



4 North West Elevation
 1 : 50



2 North East Elevation
 1 : 50



3 South West Elevation
 1 : 50



APPENDIX C: THAMES WATER SEWER FLOODING HISTORY

Sewer Flooding

History Enquiry



Property Searches

Tetra Tech Ltd

Search address supplied Croydon Traffic Garage
90
Windmill Road
Croydon
CR0 2XP

Your reference 001

Our reference SFH/SFH Standard/2024_4935113

Received date 18 January 2024

Search date 18 January 2024



Thames Water Utilities Ltd
Property Searches, PO Box 3189, Slough SL1 4WW



searches@thameswater.co.uk
www.thameswater-propertysearches.co.uk



0800 009 4540

Sewer Flooding

History Enquiry



Property Searches

Search address supplied: Croydon Traffic Garage,90,Windmill Road,Croydon,CR0 2XP

This search is recommended to check for any sewer flooding in a specific address or area

TWUL, trading as Property Searches, are responsible in respect of the following:-

- (i) any negligent or incorrect entry in the records searched;
- (ii) any negligent or incorrect interpretation of the records searched;
- (iii) and any negligent or incorrect recording of that interpretation in the search report
- (iv) compensation payments



Thames Water Utilities Ltd
Property Searches, PO Box 3189, Slough SL1 4WW



searches@thameswater.co.uk
www.thameswater-propertysearches.co.uk



0800 009 4540

History of Sewer Flooding

Is the requested address or area at risk of flooding due to overloaded public sewers?

The flooding records held by Thames Water indicate that there have been no incidents of flooding in the requested area as a result of surcharging public sewers.

For your guidance:

- A sewer is “overloaded” when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Flooding as a result of temporary problems such as blockages, siltation, collapses and equipment or operational failures are excluded.
- “Internal flooding” from public sewers is defined as flooding, which enters a building or passes below a suspended floor. For reporting purposes, buildings are restricted to those normally occupied and used for residential, public, commercial, business or industrial purposes.
- “At Risk” properties are those that the water company is required to include in the Regulatory Register that is presented annually to the Director General of Water Services. These are defined as properties that have suffered, or are likely to suffer, internal flooding from public foul, combined or surface water sewers due to overloading of the sewerage system more frequently than the relevant reference period (either once or twice in ten years) as determined by the Company’s reporting procedure.
- Flooding as a result of storm events proven to be exceptional and beyond the reference period of one in ten years are not included on the At Risk Register.
- Properties may be at risk of flooding but not included on the Register where flooding incidents have not been reported to the Company.
- Public Sewers are defined as those for which the Company holds statutory responsibility under the Water Industry Act 1991.
- It should be noted that flooding can occur from private sewers and drains which are not the responsibility of the Company. This report excludes flooding from private sewers and drains and the Company makes no comment upon this matter.
- For further information please contact Thames Water on Tel: 0800 316 9800 or website www.thameswater.co.uk



Thames Water Utilities Ltd
Property Searches, PO Box 3189, Slough SL1 4WW



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0800 009 4540