FERNBROOK

SALAMANDER QUAY, HAREFIELD

FLOOD RISK ASSESSMENT

REPORT NO. 25030-FCE-XX-XX-RP-D-0001
PROJECT NO. 25030
FEBRUARY 2025

Prepared by
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FERNBROOK

DOCUMENT CONTROL

REV	ISSUE PURPOSE	AUTHOR	CHECK	APPROVE	DATE
P01	For information	AR	CR	DR	24.02.25

DISTRIBUTION

1.0 INTRODUCTION

1.1. Fernbrook Consulting Engineers (FCE) has been instructed by *Mountley Group Ltd* (the Applicant) to prepare a Flood Risk Assessment (FRA) in support of the development proposals at Salamander Quay, Harefield.

Site Details

1.2. Refer to **Table 1-1** below for the site characteristics and **Figure 1-1** for the site location plan.

Table 1-1: Site Characteristics

Site Address	Salamander Quay, Park Lane, Harefield, UB9 6NZ
Grid reference	504094mE, 191051mN (TQ 04094 91051)
Site Access	Park Lane
Local Planning Authority	LB Hillingdon
Lead Local Flood Authority	LB Hillingdon

Figure 1-1: Site Location Plan

Development Proposals

1.3. The development proposals are comprised of the residential conversion of existing office floor space of the West Quay situated within the site of Salamander Quay, to provide 34no. residential units. Refer to **Appendix A** for the proposed development plans.

2.0 BASELINE CONDITIONS

Hydrology

2.1. The Grand Union Canal flows along the site's west boundary and the River Colne is approximately 35m west of the site at the closest point, in addition to a number of lakes further west of the site. Refer to **Figure 2-1** below.

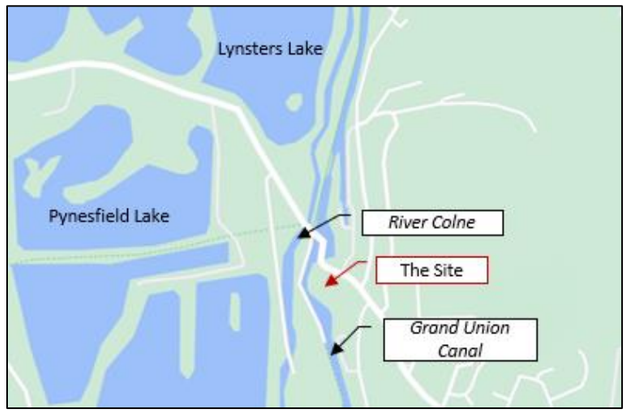


Figure 2-1 Hydrology

Geology

2.2. Based on the British Geological Survey (BGS) online dataset the site appears to be underlain by Chalk with no superficial deposits. Refer to **Figure 2-2** below.

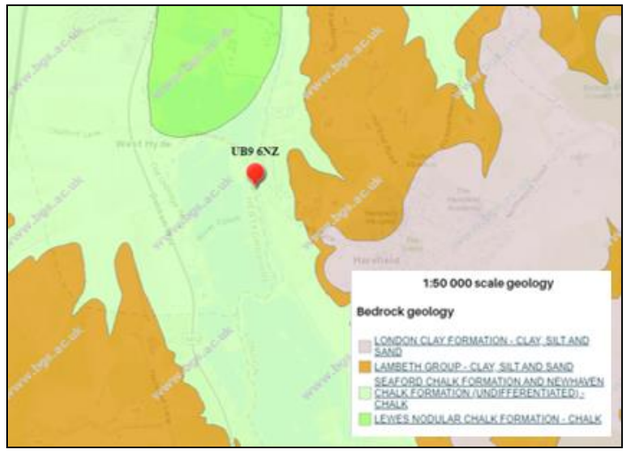


Figure 2-2 BGS Bedrock Geology

2.3. Based on Defra's MAGIC map application, the site is not located in a Groundwater Source Protection Zone.

Existing Drainage Infrastructure

2.4. Based on Thames Water sewer records, there appears to be a number public sewers in close proximity to the site. There appears to be a surface water sewer north of the site conveying flows in a north easterly direction in Park Lane, before an outfall to the Grand Union Canal.

2.5. There also appears to be foul sewer east of the site, conveying flows southbound in Jacks Lane. along Jacks Park Lane, adjacent to the Site's east boundary. Refer to **Figure 2-3** below for an extract of the map and **Appendix B** for the full records.

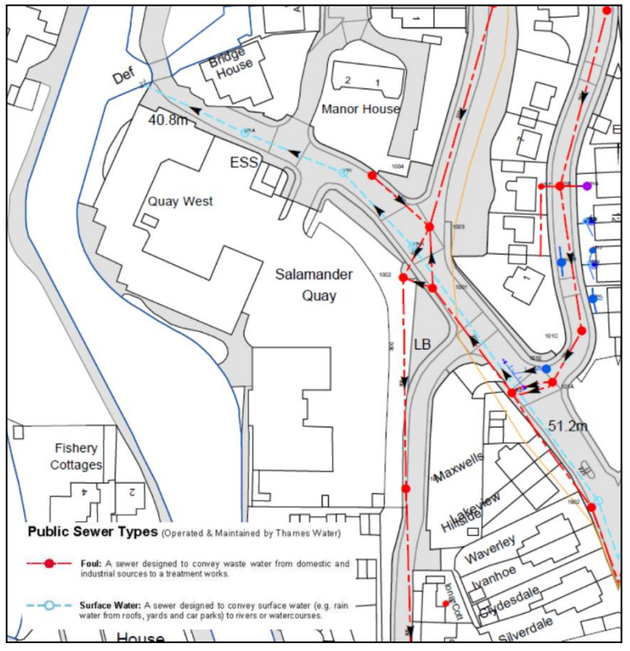


Figure 2-3 Thames Water Map

3.0 FLOOD RISK ASSESSMENT

Fluvial/Tidal Flooding

3.1. Based on the Environment Agency's (EA) Flood map for planning the site appears to be located in Flood Zone 1. Refer to **Figure 3-1** below.

Figure 3-1: EA Flood map for planning

3.2. Areas within Flood Zone 1 are considered to have a less than 1 in 1,000 year annual probability of flooding (0.1%). Therefore, the risk of tidal/fluvial flooding is assessed as low.

Pluvial Flooding

3.3. Based on the EA long term flood risk information, the majority of the site appears to be at very low risk of surface water flooding, with a small area at medium to high risk of flooding in the car park. Refer to **Figure 3-2** below.

Figure 3-2: Environment Agency's Flood risk from surface water

3.4. This pluvial flood risk will be managed by the existing drainage system and gullies in this area. Therefore, the risk of surface water flooding is assessed as low.

Groundwater Flooding

3.5. Based on Defra's MAGIC Map application, the site appears to have a High vulnerability to groundwater, based on the permeable chalk bedrock. Refer to **Figure 3-3** below.

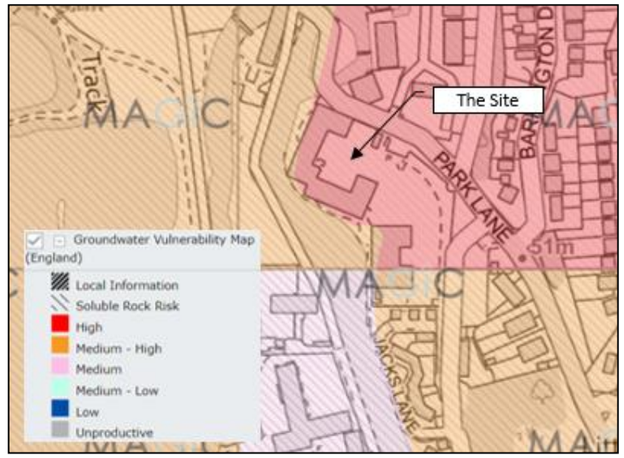


Figure 3-3: Groundwater Vulnerability Map

3.6. As part of this permitted development application, the proposals are comprised primarily of internal modifications, with no significant groundworks. Therefore, the risk of groundwater flooding is assessed as low.

Sewer surcharge

3.7. Based on the Thames Water Sewer Flooding History, there no records of sewer flooding at the site. Refer to **Appendix B** for Thames Water records.

Artificial Sources

3.8. Based on the EA Long term flood risk information part of the site along the west boundary is located in an area at risk of flooding from reservoirs or artificial sources. Refer to **Figure 3-4** below.

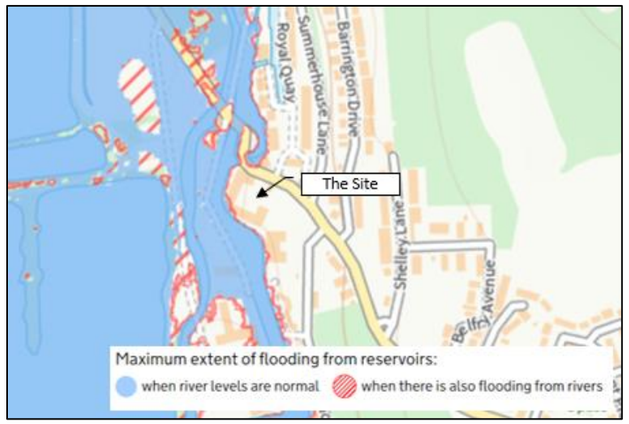


Figure 3-4 Flood risk from artificial sources

3.9. Primary access to the buildings will be from the main car park outside the floodplain. The existing flood mitigation measures including raised thresholds along the west boundary will reduce the risk of flooding. Refer to **Figure 3-5** below.

Figure 3-5 Flood risk mitigation measures

3.10. Flooding from reservoirs is extremely unlikely, and there has been no loss of life in the UK from reservoir flooding since 1925. Therefore, the risk of flooding from reservoirs, canals and artificial sources is assessed as low.

4.0 CONCLUSIONS

4.1. Fernbrook Consulting Engineers (FCE) has been instructed by *Mountley Group Ltd* (the Applicant) to prepare a Flood Risk Assessment (FRA) in support of the of a proposed Change of use from offices to residential use to provide 34no. residential units at West Quay, Salamander Quay, Park Lane, Harefield, UB9 6NZ.

4.2. Based on the Environment Agency's (EA) Flood map for planning the site appears to be located in Flood Zone 1. Land in Flood Zone 1 is defined as having a 1 in 100 or greater annual probability of river flooding (≥1%) or having a 1 in 200 or greater annual probability of sea flooding (≥0.5%).

4.3. The Site is assessed as being at "Low" risk of flooding from surface water, groundwater, sewer surcharge, and artificial sources. Refer to **Table 4-1** below for a summary.

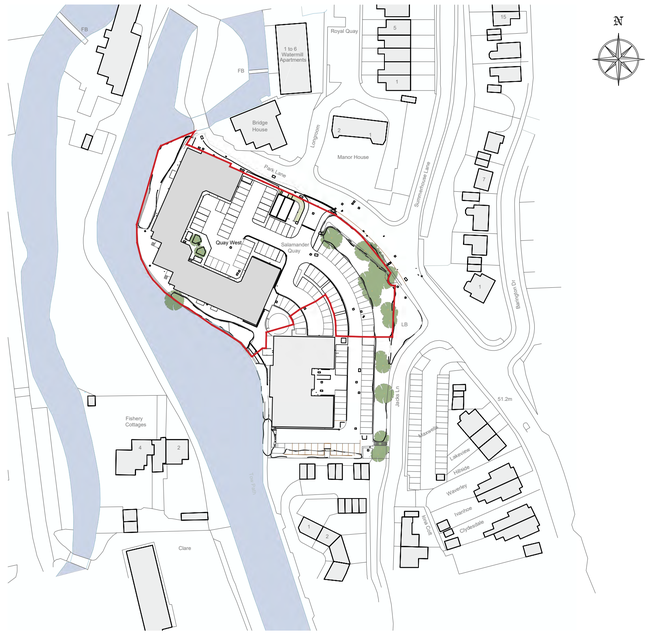
Table 4-1 Flood Risk Summary

Source	Source	Risk
Tidal / Fluvial	River Colne	Low
Pluvial	Surface water runoff	Low
Groundwater	Aquifer /Chalk bedrock	Low
Sewer surcharge	Thames Water sewers	Low
Artificial sources	Grand Union Canal / Lakes	Low

4.4. In conclusion, this FRA demonstrates that the proposals are consistent with the aims of the NPPF and the Planning Practice Guidance to the NPPF along with the aims of the Local Flood Risk Management Strategy. The Site will not be at significant risk of flooding or increase the flood risk to others.

APPENDIX A – PROPOSED DEVELOPMENT PLANS

Existing Block Plan 1:500



Existing Site Location Plan 1:250

N

1:500 0m 5m 10m 25m 50m

1:1250 10m 20m 50m 100m 125m

Notes:

do not scale:
detailed drawings and larger scale drawings take precedence. Figured dimensions only are to be taken from this drawing.

dimensions:
All building and site dimensions, levels and sewer invert levels at connection points are to be checked and verified on site by the contractor before the commencement of works. All dimensions are to be checked prior to the placement of orders for materials or the fabrication of work and any discrepancy, omission or error is to be reported to the Architect immediately for verification.

specification:
The Contractor is to comply with current Building Legislation, British Standard Specifications, Building Regulations etc. whether or not specifically stated on this drawing. This drawing must be checked against and read in conjunction with any structural or other relevant specialist and design documentation provided.

revisions:

client:
H Schneck

project:
Salamander Quay
Harefield
Uxbridge
UB9 6NZ

description:
Existing site plans

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the old stone masons, 10 st johns st, abergavenny, monmouthshire. np7 5rt
*tel: **01873 851125** fax: **01873 851127***

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*e: mail: **info@jdwarchitects.co.uk***
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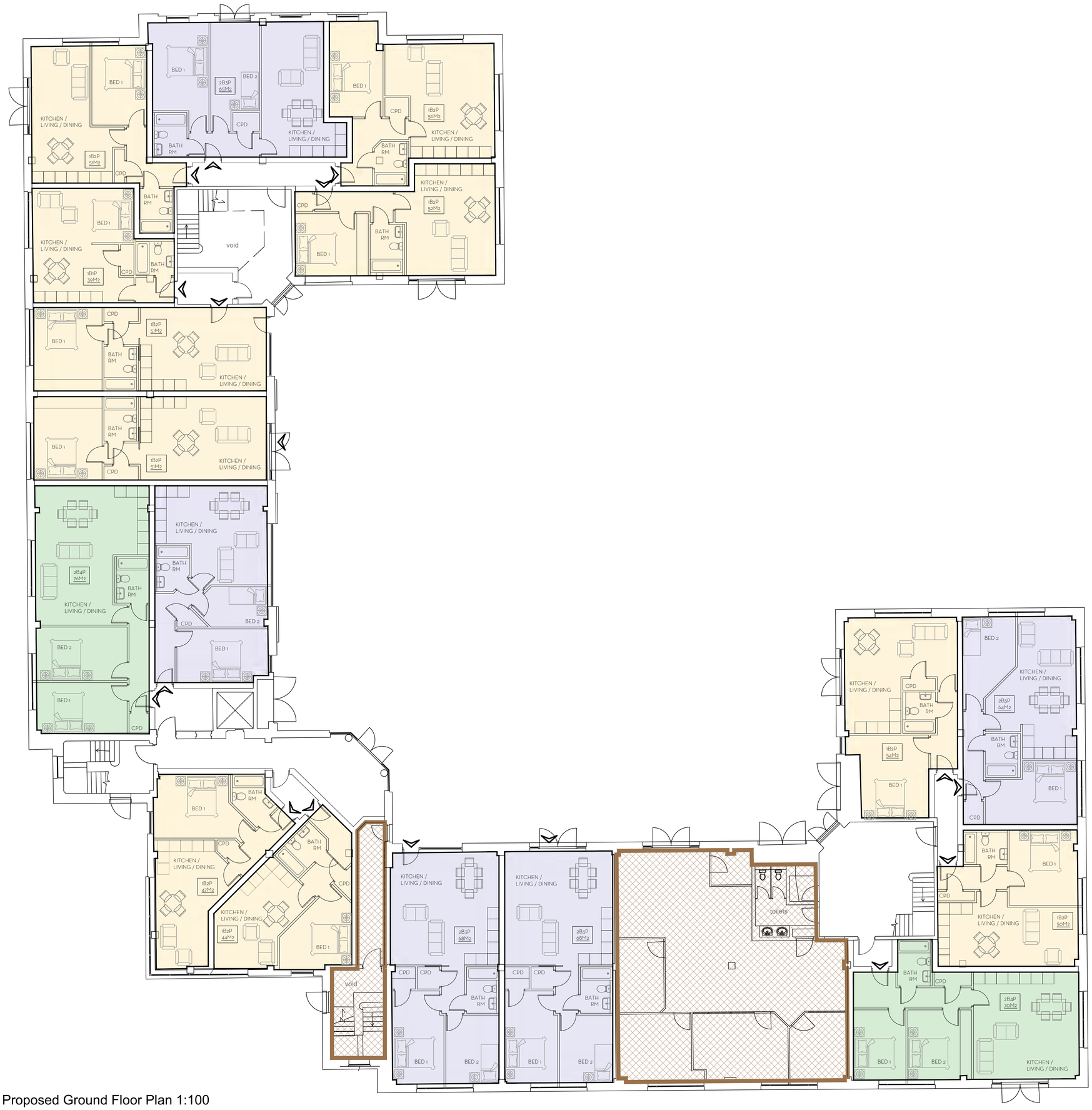
drawn: jw
date: Dec '24
scale: 1:100 @A1
sheet of:
job drwg. no: jw1216-100
rev: -



Proposed Ground Floor Plan 1:100

	1B2P	2B3P	2B4P	total
GROUND	10	5	2	17
FIRST	11	4	2	17
total	21	9	4	**34**

Retained offices

1:100 0m 1m 2m 5m 10m

Notes:

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client:
H Schneck

project:
Salamander Quay
Harefield
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description:
Proposed ground floor plan

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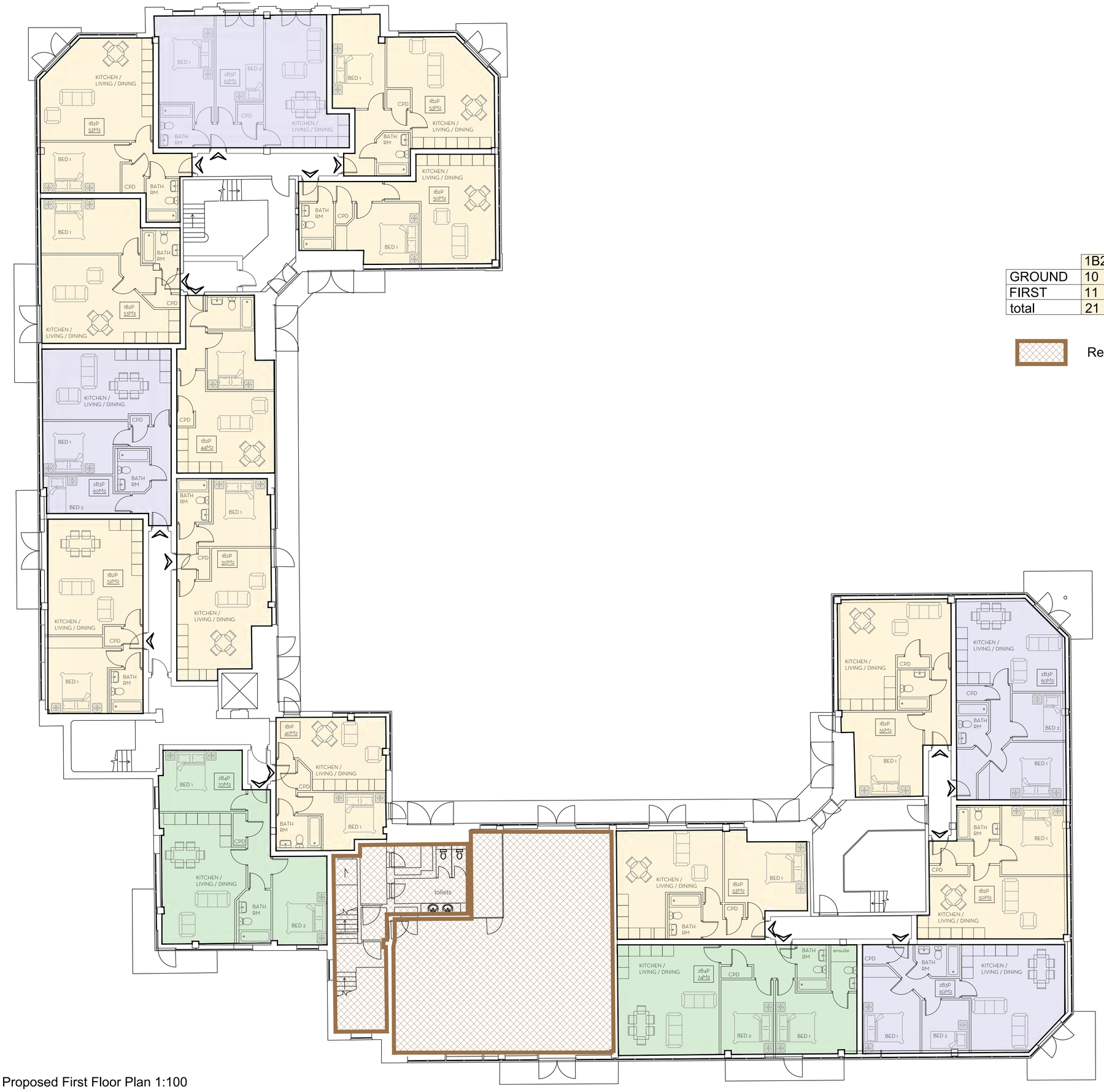
drawn: jw
scale: 1:100 @A1
date: Dec '24
sheet of:
job drwg. no: jw1216-110
rev: -



Proposed First Floor Plan 1:100

	1B2P	2B3P	2B4P	total
GROUND	10	5	2	17
FIRST	11	4	2	17
total	21	9	4	**34**

Retained offices

1:100 0m 1m 2m 5m 10m

Notes:

do not scale:
detailed drawings and larger scale drawings take precedence. Figured dimensions only are to be taken from this drawing.

dimensions:
All building and site dimensions, levels and sewer invert levels at connection points are to be checked and verified on site by the contractor before the commencement of works. All dimensions are to be checked prior to the placement of orders for materials or the fabrication of work and any discrepancy, omission or error is to be reported to the Architect immediately for verification.

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revisions:

client:
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project:
Salamander Quay
Harefield
Uxbridge
UB9 6NZ

description:
Proposed first floor plan

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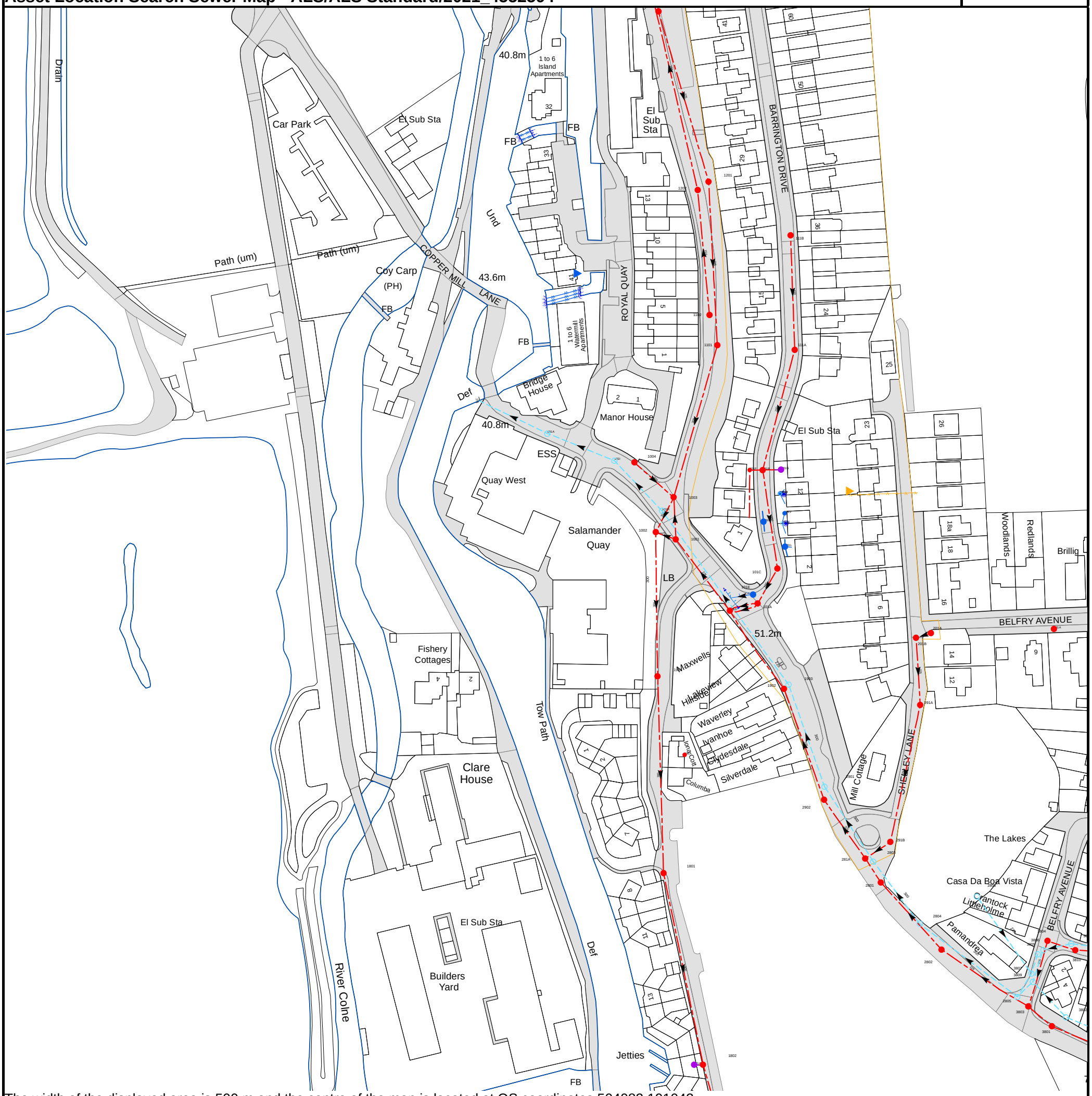
*w: **www.jdwarchitects.co.uk***

drawn: jw
scale: 1:100 @A1
date: Dec '24
sheet of:
job drwg. no: jw1216-111
rev: -

APPENDIX B – THAMES WATER RECORDS

Asset Location Search Sewer Map - ALS/ALS Standard/2021_4552594



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 504082,191042

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
3806	n/a	n/a
2802	62.63	60.78
3816	n/a	n/a
3804	n/a	n/a
2804	62.63	60.78
2806	n/a	n/a
2801	n/a	n/a
2803	58.83	55.93
281A	n/a	56.6
291B	n/a	57.1
101L	n/a	n/a
101N	n/a	n/a
101K	n/a	n/a
101J	n/a	n/a
101M	n/a	n/a
101Q	n/a	n/a
3801	68.53	66.83
3802	n/a	n/a
3803	67.11	65.33
2805	n/a	n/a
3809	n/a	n/a
3807	n/a	n/a
3805	n/a	n/a
3810	n/a	n/a
1802	42.07	39.46
181A	n/a	n/a
1801	42.78	39.72
191A	n/a	n/a
1901	44.7	39.85
1001	46.47	44.94
1002	n/a	n/a
101H	n/a	n/a
1003	45.21	43.74
1004	n/a	n/a
1201	n/a	n/a
1102	n/a	n/a
1101	n/a	n/a
111B	n/a	51.3
001A	n/a	n/a
101I	n/a	n/a
1203	n/a	n/a
1202	n/a	n/a
2902	n/a	n/a
2901	n/a	n/a
291A	n/a	59.6
1902	53.59	51.83
1903	53.74	50.66
391A	n/a	n/a
201B	n/a	60.45
201A	n/a	61.65
301A	n/a	n/a
101D	n/a	47.73
101A	n/a	47.9
101E	n/a	n/a
101C	n/a	50.25
101F	n/a	n/a
101B	n/a	50.57
101G	n/a	n/a
111A	n/a	50.95

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.

ALS Sewer Map Key

Public Sewer Types (Operated & Maintained by Thames Water)

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

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

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

Trunk Surface Water

Trunk Foul

Storm Relief

Trunk Combined

Vent Pipe

Bio-solids (Sludge)

Proposed Thames Surface Water Sewer

Proposed Thames Water Foul Sewer

Gallery

Foul Rising Main

Surface Water Rising Main

Combined Rising Main

Sludge Rising Main

Proposed Thames Water Rising Main

Vacuum

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

Dam Chase

Fitting

Meter

Vent Column

Operational Controls

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

Control Valve

Drop Pipe

Ancillary

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.

Outfall

Undefined End

Inlet

Other Symbols

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

Public/Private Pumping Station

Change of characteristic indicator (C.O.C.I.)

Invert Level

Summit

Areas

Lines denoting areas of underground surveys, etc.

Agreement

Operational Site

Chamber

Tunnel

Conduit Bridge

Other Sewer Types (Not Operated or Maintained by Thames Water)

Foul Sewer

Surface Water Sewer

Combined Sewer

Gulley

Culverted Watercourse

Proposed

Abandoned Sewer

Notes:

1) All levels associated with the plans are to Ordnance Datum Newlyn.

2) All measurements on the plans are metric.

3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate 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 level indicates that data is unavailable.

6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in milimetres. 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 present on the plan, please contact a member of Property Searches on 0800 009 4540.

Sewer Flooding
History Enquiry

Property Searches

Fernbrook Consulting Engineers

40 BOWLING GREEN LN,

Search address supplied	Salamander Quay Quay West Park Lane Harefield Uxbridge UB9 6NZ
Your reference	25030
Our reference	SFH/SFH Standard/2025_5123424
Received date	**20 February 2025**
Search date	**20 February 2025**

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

Sewer Flooding
History Enquiry

Property Searches

Search address supplied: Salamander Quay,Quay West,Park Lane,Harefield,Uxbridge,UB9 6NZ

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

TWUL 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, Clearwater Court, Vastern Road, Reading RG1 8DB

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

0800 009 4540

Sewer Flooding
History Enquiry

Thames Water Property Searches

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, Clearwater Court, Vastern Road, Reading RG1 8DB

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

0800 009 4540