

13-17 RED LION SQUARE LLP

**13 RED LION SQUARE,
HOLBORN**

**FLOOD RISK STATEMENT AND DRAINAGE
STRATEGY**

REPORT REF. Y740-003

PROJECT NO. Y740

DECEMBER 2015

13 RED LION SQUARE

**FLOOD RISK STATEMENT AND SURFACE WATER
DRAINAGE STRATEGY**

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**REPORT REF. Y740-03
PROJECT NO. Y740
DECEMBER 2015**

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DOCUMENT CONTROL SHEET

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
-	Draft	CC	CC	BC	23.11.15
A	Final	CC	CC	BC	26.11.15
B	Comments from client	CC	CC	BC	03.12.15
C	Updates to unit numbers	CC	CC <i>cc</i>	BC <i>BC</i>	21.12.15

1. INTRODUCTION

- 1.1 Ardent Consulting Engineers (ACE) has been appointed by 13-17 Red Lion Square LLP to provide a Flood Risk Statement to support the planning application for a refurbishment of an existing residential building at 13 Red Lion Square, WC1R 4QT (hereafter referred to as the 'Site') in the London Borough of Camden (LBC).
- 1.2 This Flood Risk Statement (FRS) has been prepared in accordance with the National Planning Policy Framework (NPPF) and the relevant Planning Practice Guidance (PPG).
- 1.3 During the preparation of the FRS, consultation with Thames Water (TW) has been undertaken. Please refer to **Appendix A** for correspondence with Thames Water.

Site Location

- 1.4 The Site is located at 13 Red Lion Square which is currently occupied by a 12 residential units in a single building. The Site is bound by Red Lion Square to the north, Dane Street to the west and existing development to the south and east.
- 1.5 Access to the Site is via Red Lion Square. The site location is shown in **Figure 1-1** below. The Site area equates to 0.07 ha.

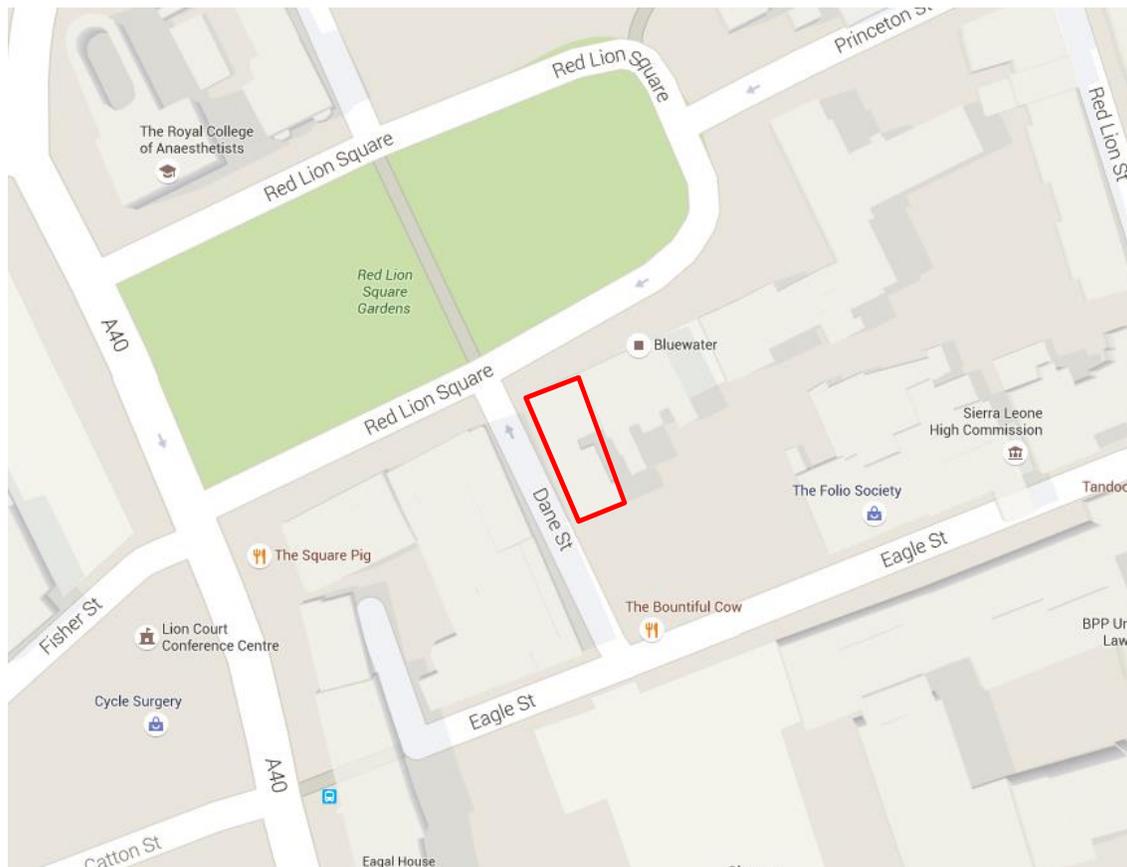


Figure 1-1 Site Location

Proposed Development

- 1.6 The proposed development is for a refurbishment of the existing building to create 13 residential units. The building is currently occupied by 12 residential units.
- 1.7 **Figure 1-2** below shows the ground floor plan for the proposed building. Floor plans for the different levels are included in **Appendix B**.



Figure 1-2 Site Ground Floor Layout Plan

2. POLICY CONTEXT

National Planning Policy Framework

- 2.1 The National Planning Policy Framework (NPPF) was enacted on 27 March 2012; paragraph 100 to 108 inclusive, establishes the Planning Policy relating to flood risk management. The Technical Guide to the NPPF has been superseded by the Planning Practice Guidance (PPG) in March 2014. However, there are no changes to any policies relating to flood risk.
- 2.2 The main focus of the policy is to direct development towards areas of the lowest practicable flood risk and to ensure that all development is safe, without increasing flood risk elsewhere.

The London Plan & Supplementary Planning Guidance (SPG)

- 2.3 London Plan policy 5.13 outlines the Mayor's approach to sustainable drainage, stating that, "Development should utilise sustainable urban drainage systems (SuDS) unless there are practical reasons for not doing so, and should aim to achieve greenfield run-off rates and ensure that surface water run-off is managed as close to its source as possible". In addition, on previously developed sites, runoff rates should not be more than three times the calculated greenfield rate.
- 2.4 The London Plan's Supplementary Planning Guidance (Sustainable Design and Construction, 2006, latest revision updated in April 2014) states that new developments should use SuDS where practicable and as a minimum, should achieve a 50% attenuation of the undeveloped site's surface water run off at peak times. The preferred standard is to achieve 100% attenuation of the undeveloped site's surface water runoff at peak times.

London Borough of Camden Surface Water Management Plan (SWMP), July 2011

- 2.5 The SWMP outlines the preferred surface water management strategy for flooding from sewers, drains, groundwater and runoff from land, ordinary watercourse and ditches, that occurs as a results of heave rainfall.
- 2.6 Critical Drainage Areas (CDAs) were identified as part of the risk assessment however, these are all located to the north of the Site.

2.7 London Borough of Camden Strategic Flood Risk Assessment (SFRA), July 2014

- 2.8 The SFRA for LBC was prepared together with six other North London Boroughs.
- 2.9 The London Borough of Camden is shown to be entirely located within Flood Zone 1 and therefore the most significant source of flood risk is surface water.
- 2.10 The SFRA shows that the north of the borough is most at risk from sewer, overland flow and groundwater flooding associated with superficial gravel deposits. However, the Site is shown to be located outside of areas of 'Increased Susceptibility to Elevate Groundwater'.

Sequential and Exception Tests

- 2.1 Residential use for the proposed development is classified as 'More Vulnerable' according to the Flood Risk Vulnerability Classification in accord with Table 2 (Flood risk vulnerability classification) of the Planning Practice Guidance (PPG).
- 2.11 The Sequential and Exception Tests are not required for 'More Vulnerable' sites located in Flood Zone 1, where development of all uses is considered appropriate.

3. BASELINE CONDITIONS

Existing Site

- 3.1 The existing site is currently occupied by a single building containing 12 residential units.

Topography

- 3.2 No topographical data is available for the proposed development, however, given that the Site is entirely occupied by a single building is expected that the site is relatively flat. The existing and proposed developments include a basement level.

Existing Sewer Infrastructure

- 3.3 Thames Water has provided sewer record plan as shown in **Figure 3-1**.
- 3.4 The plan indicates that there is a 1295x762mm combined sewer located under Red Lion Square to the north and a 1118x610mm combined sewer on Dane Street to the west. It is anticipated that the existing development connects to one of these combined sewers.

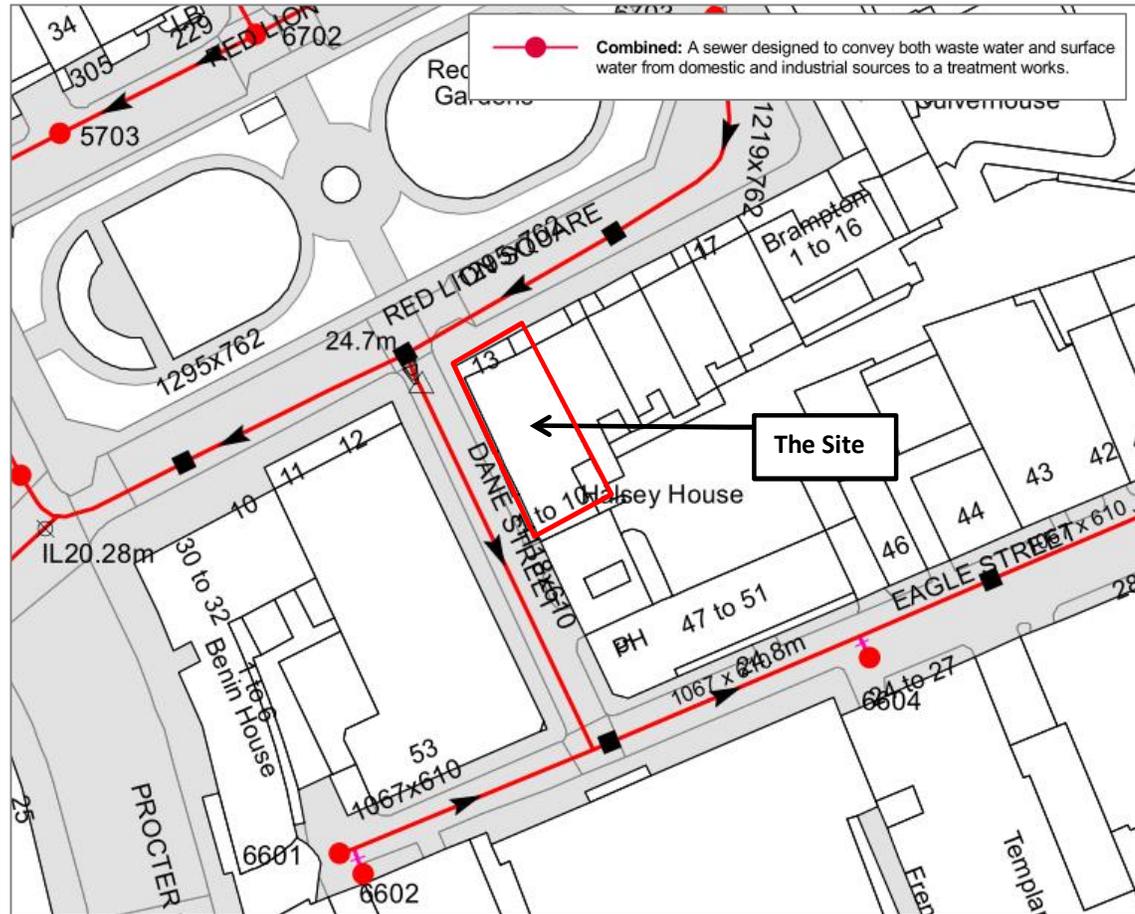


Figure 3-1: Thames Water Asset Location Sewer Map

Ground Conditions

- 3.5 According to the British Geological Society (BGS) online datasets, the bedrock geology is the London Clay Formation (clay and silt) overlain by superficial deposits of Lynch Hill Gravel Member (sand and gravel).
- 3.6 The Site is not located a Groundwater Source Protection Zones (SPZ).

Hydrology

- 3.7 The nearest watercourse is the River Thames located 1 km to the south of the Site.

4. SOURCES OF FLOODING

Fluvial and Tidal Flooding

- 4.1 The Environment Agency's online Flood Maps (**Figure 4-1**) indicate that the site is located within in Flood Zone 1 ("Low" probability of flooding), identified as comprising land assessed as having a less than 0.1% (1 in 1000 year) chance of flooding in any given year from river sources.

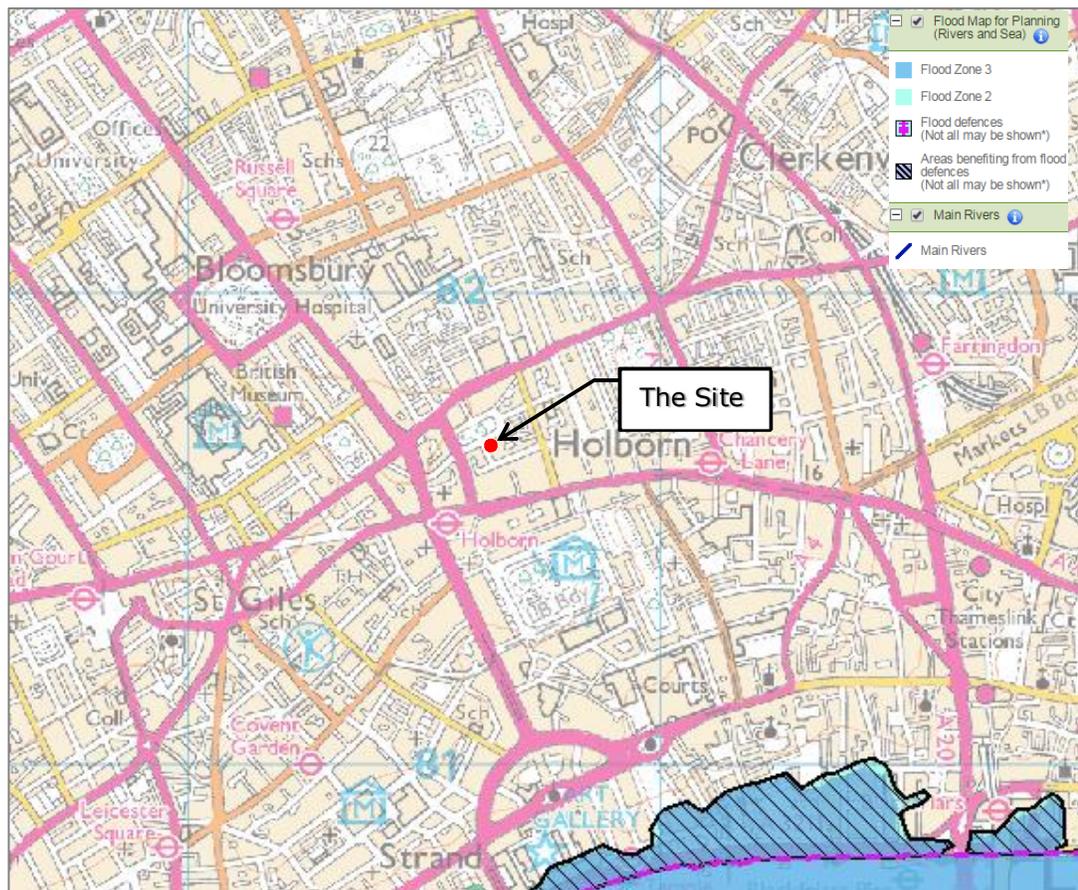


Figure 4-1 EA Online Flood Maps

Surface Water Flooding

- 4.2 The EA Surface Water Flood Map shows that the site has a "Very Low" risk of surface water flooding. This area has a chance of flooding of less than 1 in 1000 (0.1%).

Groundwater Flooding

- 4.3 Mapping within the SFRA show the site to be located outside of areas of 'Increased Susceptibility to Elevate Groundwater'.

- 4.4 There is no record to show that the Site has been affected by this source of flooding in the past. The risk from groundwater flooding to the Site is therefore considered very low.

Sewer Flooding

- 4.5 Thames Water has confirmed that there have been no incidents of flooding in the requested area as a result of surcharging public sewers according to Thames Water flood incident records. Refer to Thames Water correspondence in **Appendix A**.

Flooding from Artificial Sources

- 4.6 The EA flood map shows that the site does not fall within the maximum extent of flooding from the reservoir.

5. SURFACE WATER MANAGEMENT

- 5.1 It is anticipated that surface water runoff from the existing development currently discharges into the Thames Water combined sewer on Red Lion Square or Dane Street. An indicative foul and surface water drainage strategy is shown in **Appendix C**.
- 5.2 As the proposals are for conversion of existing building, the building footprint will not be altered. Therefore, the hardstanding area would remain the same as existing and there would be no increase in surface water runoff as a result of the conversion of the development. There is no space within the development to incorporate additional SuDS features to manage the surface water runoff from the development.

Flood Risk Management

- 5.3 As the risk of flooding to the Site is generally low, the basement and ground level is deemed suitable for sleeping accommodation.
- 5.4 Safe access and egress is available to the north via Red Lion Square if needed.

6. SUMMARY AND CONCLUSIONS

- 6.1 This Flood Risk Statement has been prepared to accompany the application for a residential refurbishment at 13 Red Lion Square, WC1R 4QT to provide 13 residential units. The document has been prepared in accordance with the National Planning Policy Framework, PPG and the London Plan.
- 6.2 The Site is in Flood Zone 1 ("Low" probability of tidal and river flooding) and, as a result, the Sequential and Exception Test are not required.
- 6.3 The Site is in an area with 'Very Low' risk of surface water flooding according to the EA surface water flood map.
- 6.4 The site has a very low risk of flooding from sewer, groundwater and from artificial sources as shown on the EA Flood Map.
- 6.5 The proposed site will utilise existing connections to discharge surface water into Thames Water combined network.
- 6.6 Sleeping accommodation can be located on within the basement and on the ground floor as the site is within Flood Zone 1.
- 6.7 Safe access and egress is available to the north via Red Lion Square if needed.
- 6.8 In conclusion, this assessment demonstrates that the proposals are consistent with the aims of the NPPF and the relevant Planning Practice Guidance along with the aims of the Strategy Flood Risk Assessment (including the broader strategic planning requirements of Camden Council). The Site will not be at significant risk of flooding, or increase the flood risk to others.

Appendix A

Thames Water Asset Plan and Correspondence

Asset Location Search



Search address supplied: Halsey House, 13, Red Lion Square, London, WC1R 4QF

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 0845 070 9148, 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

Asset Location Search



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

Asset Location Search



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.

Asset Location Search



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: 0845 850 2777
Email: developer.services@thameswater.co.uk

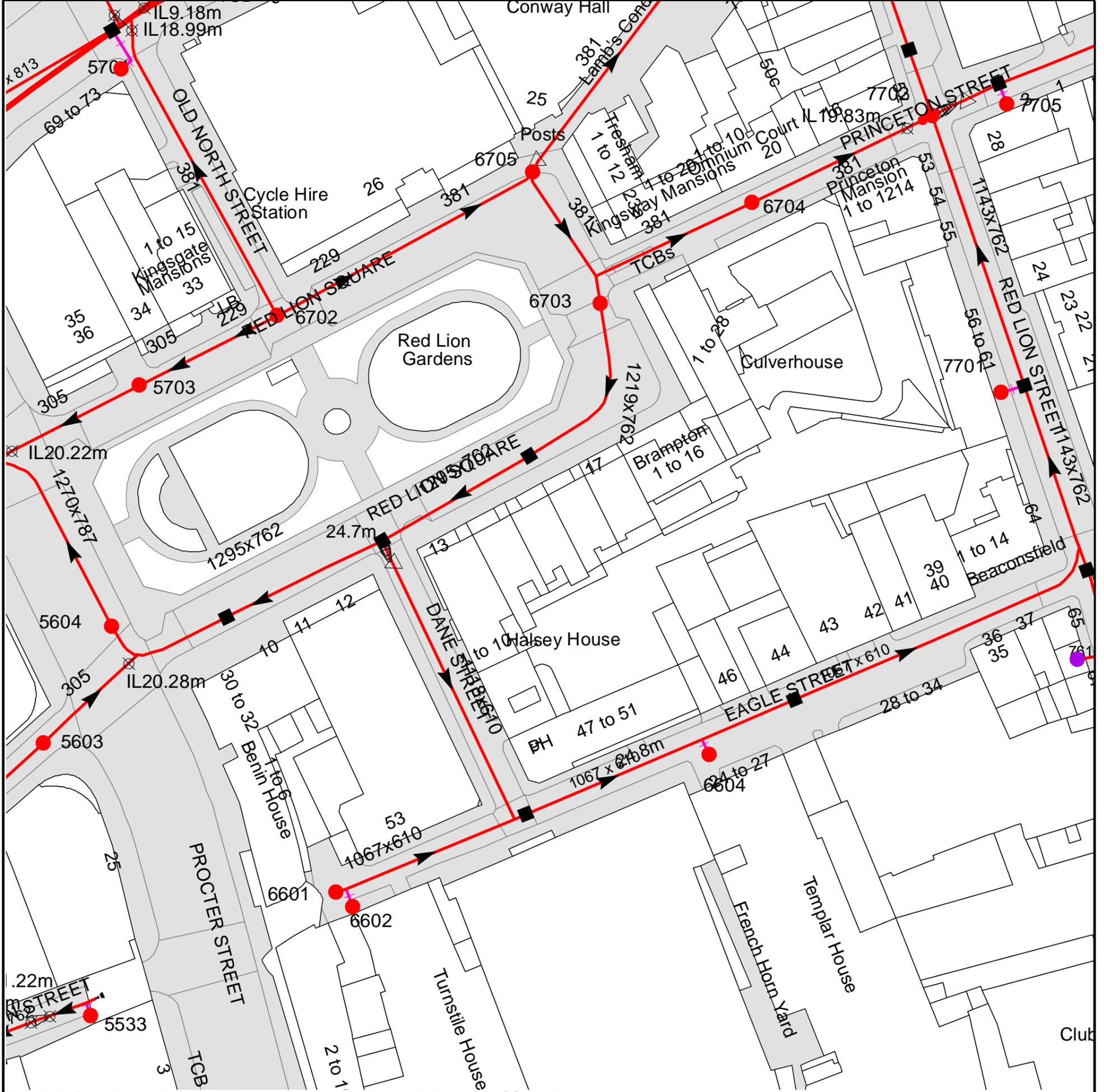
Clean Water queries

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: 0845 850 2777
Email: developer.services@thameswater.co.uk

Asset Location Search Sewer Map - ALS/ALS Standard/2015 3195052



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 530652,181685

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 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
7702	24.67	17.8
7705	n/a	n/a
5603	24.89	20.42
5604	24.89	20.1
5701	n/a	n/a
5703	24.77	20.5
6702	24.83	21.52
6705	24.57	20.23
6703	24.67	20.7
6604	24.71	n/a
6704	24.63	20.02
7701	n/a	n/a
761A	n/a	n/a
5533	25.19	n/a
6601	25.09	20.83
6602	n/a	n/a

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.

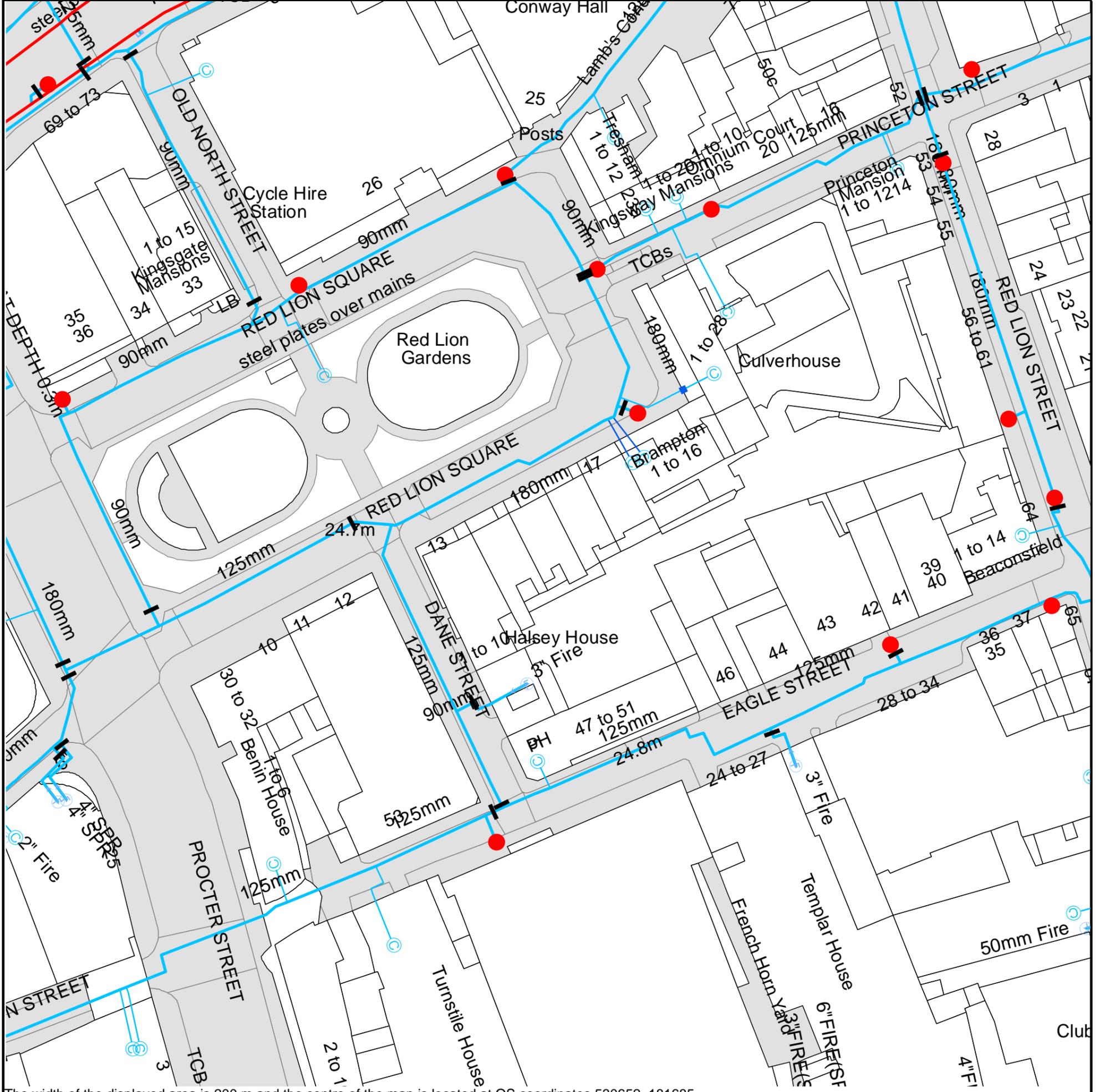
-  Agreement
-  Operational Site
-  Chamber
-  Tunnel
-  Conduit Bridge

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

-  Foul Sewer
-  Surface Water Sewer
-  Combined Sewer
-  Gully
-  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 millimetres. 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 Insight on 0845 070 9148.



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 530652, 181685.
 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.

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ALS Water Map Key

Water Pipes (Operated & Maintained by Thames Water)

- 4"** **Distribution Main:** The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.
- 16"** **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.
- 3" SUPPLY** **Supply Main:** A supply main indicates that the water main is used as a supply for a single property or group of properties.
- 3" FIRE** **Fire Main:** Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.
- 3" METERED** **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

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.

Sewer Flooding

History Enquiry



Search address supplied: 13 RED LION SQUARE,13,Red Lion Square,London,WC1R 4QH

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

DX 151280 Slough 13

T 0118 925 1504

E searches@thameswater.co.uk

I www.thameswater-propertysearches.co.uk

Registered in England and Wales
No. 2366661, Registered office
Clearwater Court, Vastern Road
Reading RG1 8DB

Sewer Flooding

History Enquiry



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

DX 151280 Slough 13

T 0118 925 1504

E searches@thameswater.co.uk

I www.thameswater-propertysearches.co.uk

Registered in England and Wales
No. 2366661, Registered office
Clearwater Court, Vastern Road
Reading RG1 8DB

Appendix B
Proposed Plans

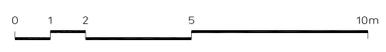
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NOTES

- KEY
- Studio
 - 1 Bedroom
 - 2 Bedroom
 - 3 Bedroom
 - 4 Bedroom



1 Proposed Lower Ground
110 SCALE 1:100



Revisions No	Date	By
A	19-Nov-2015	IA
B	23-Nov-2015	CM
C	27-Nov-2015	IA
D	16-Dec-2015	CM
E	18-Dec-2015	CM
F	18-Dec-2015	CM

Client
13-17 Red Lion Square LLP

Stage
Planning

HWO Architects
407-8 ScreenWorks
22 Highbury Grove
London N5 2ER
T +44 (0)20 7566 0006
E info@hwo-architects.com

Job title
**13 Red Lion Square
London, WC1R 4QH**

Drawing title
**Proposed Floor Plans
Basement**

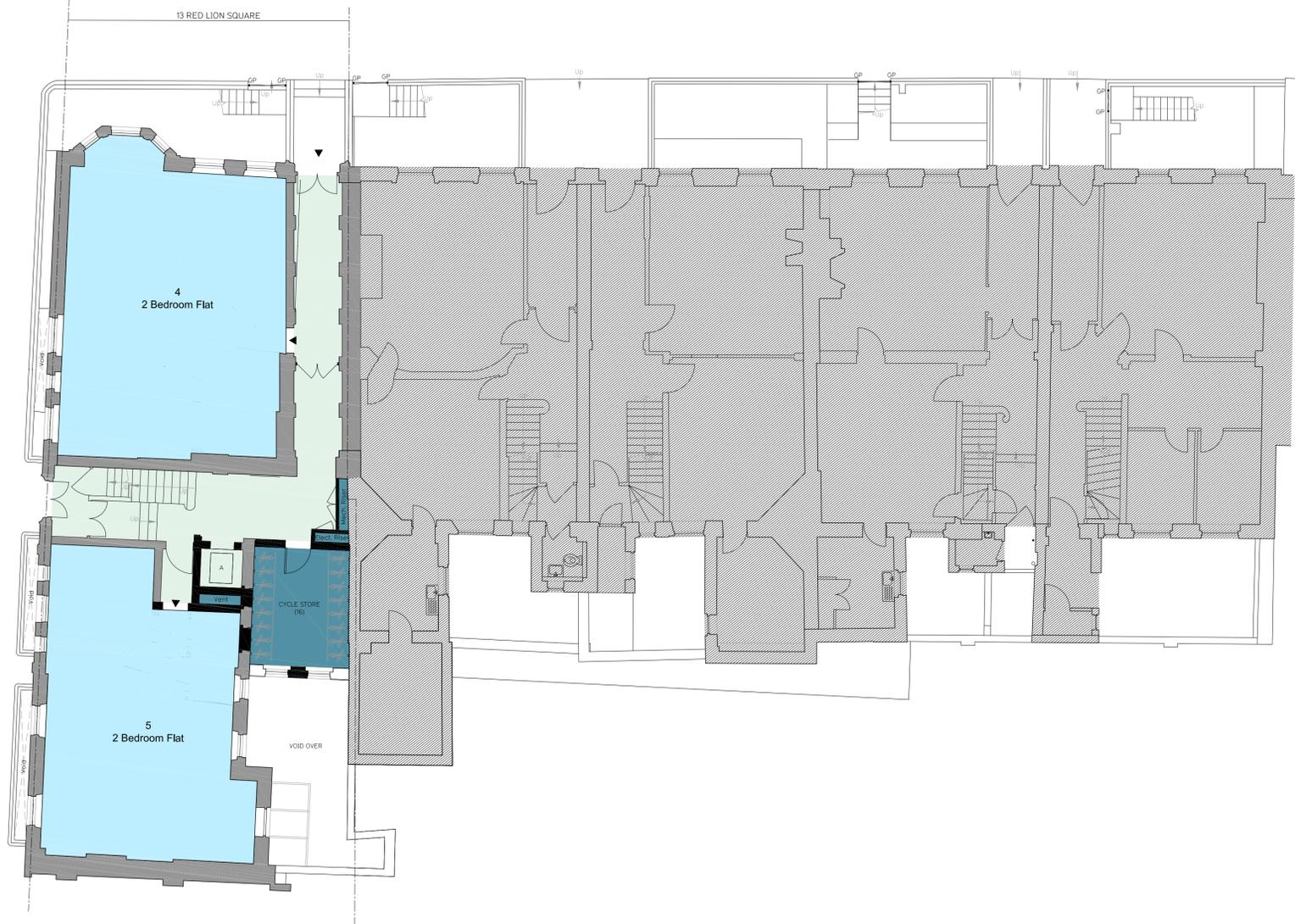
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Job	Stage	Drawing	Revision
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NOTES

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 - 4 Bedroom



SEE SEPARATE APPLICATION

1 Proposed Ground Floor
SCALE 1:100



Revisions No		Date	By
A	General Revision	23-Nov-2015	IA
B	General Revision	27-Nov-2015	IA
C	General Revision	16-Dec-2015	CM
D	General Revision	18-Dec-2015	CM
E	General Revision	18-Dec-2015	CM

Client
13-17 Red Lion Square LLP

Stage
Planning



Job title
**13 Red Lion Square
London, WC1R 4QH**

Drawing title
**Proposed Floor Plans
Ground Floor**

Created by	Checked by	Scale	Date
IA	NK	1:100@ A1	3-NOV-2015

Job	Stage	Drawing	Revision
432	- S2 -	111	E

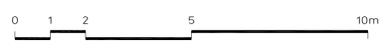
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 - 1 Bedroom
 - 2 Bedroom
 - 3 Bedroom
 - 4 Bedroom



1 Proposed First Floor
112 SCALE 1:100



Revisions No		Date	By
A	General Revision	23-Nov-2015	IA
B	General Revision	27-Nov-2015	IA
C	General Revision	16-Dec-2015	CM
D	General Revision	18-Dec-2015	CM
E	General Revision	18-Dec-2015	CM

Client
13-17 Red Lion Square LLP

Stage
Planning



Job title
**13 Red Lion Square
London, WC1R 4QH**

Drawing title
**Proposed Floor Plans
First Floor**

Created by	Checked by	Scale	Date
IA	NK	1:100@ A1	3-NOV-2015

Job	Stage	Drawing	Revision
432	- S2 -	112	E

ALL DIMENSIONS, SETTING-OUT INFORMATION AND LEVELS MUST BE CHECKED ON SITE BEFORE ANY MATERIALS ARE ORDERED OR WORK COMMENCES ON SITE. COPYRIGHT HWO LTD.

NOTES

- KEY
- Studio
 - 1 Bedroom
 - 2 Bedroom
 - 3 Bedroom
 - 4 Bedroom



1 Proposed Second Floor
113 SCALE 1:100



Revisions No		Date	By
A	General Revision	20-Nov-2015	IA
B	General Revision	27-Nov-2015	IA
C	General Revision	16-Dec-2015	CM
D	General Revision	18-Dec-2015	CM

Client
13-17 Red Lion Square LLP

Stage
Planning



Job title
**13 Red Lion Square
London, WC1R 4QH**

Drawing title
**Proposed Floor Plans
Second Floor**

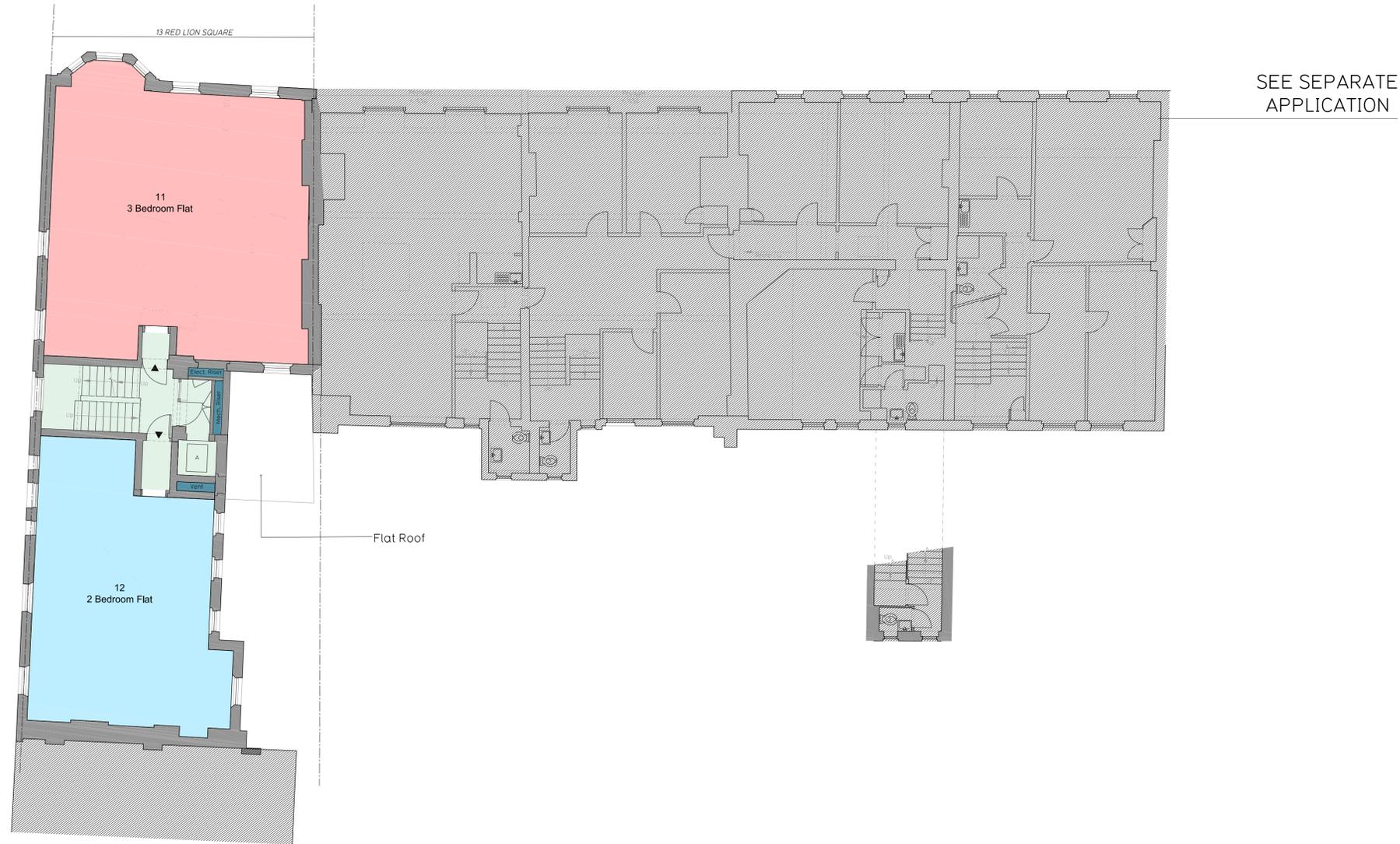
Created by	Checked by	Scale	Date
IA	NK	1:100@ A1	3-NOV-2015

Job	Stage	Drawing	Revision
432	- S2 -	113	D

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NOTES

- KEY
- Studio
 - 1 Bedroom
 - 2 Bedroom
 - 3 Bedroom
 - 4 Bedroom



SEE SEPARATE APPLICATION

Revisions No		Date	By
A	General Revision	20-Nov-2015	IA
B	General Revision	27-Nov-2015	IA
C	General Revision	16-Dec-2015	CM
D	General Revision	16-Dec-2015	CM
E	General Revision	16-Dec-2015	CM

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E info@hwo-architects.com

Job title
**13 Red Lion Square
London, WC1R 4QH**

Drawing title
**Proposed Floor Plans
Third Floor**

Created by	Checked by	Scale	Date
IA	NK	1:100@ A1	3-NOV-2015

Job	Stage	Drawing	Revision
432	- S2 -	114	E

1 Proposed Third Floor
114 SCALE 1:100



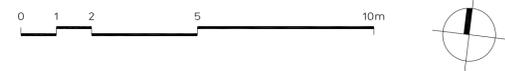
ALL DIMENSIONS, SETTING-OUT INFORMATION AND LEVELS MUST BE CHECKED ON SITE BEFORE ANY MATERIALS ARE ORDERED OR WORK COMMENCES ON SITE. COPYRIGHT HWO LTD.

NOTES

- KEY
- Studio
 - 1 Bedroom
 - 2 Bedroom
 - 3 Bedroom
 - 4 Bedroom



1 Proposed Fourth Floor
115 SCALE 1:100



Revisions No		Date	By
A	General Revision	20-Nov-2015	IA
B	General Revision	27-Nov-2015	IA
C	General Revision	16-Dec-2015	CM
D	General Revision	18-Dec-2015	CM

Client
13-17 Red Lion Square LLP

Stage
Planning

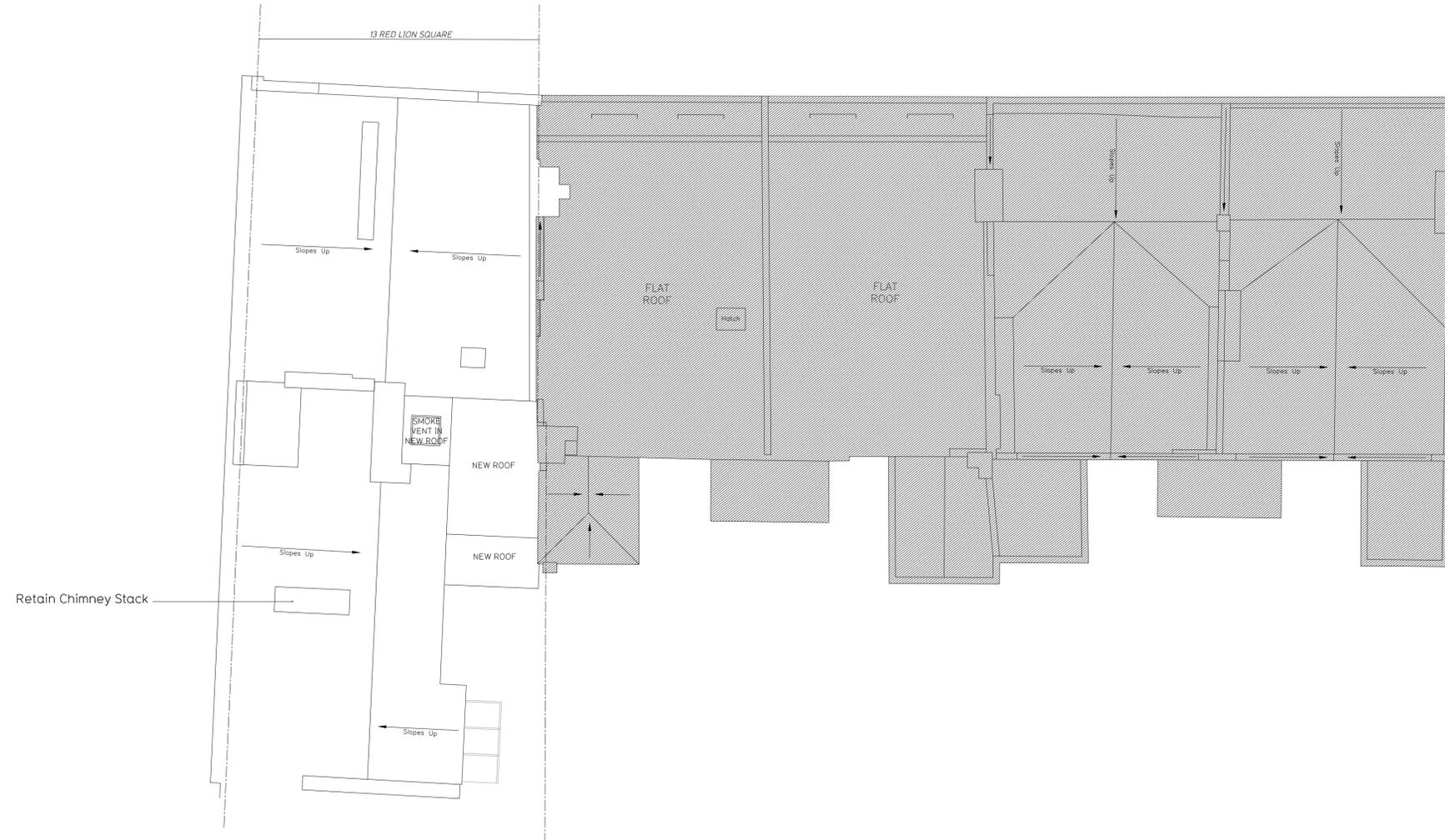
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E info@hwo-architects.com

Job title
**13 Red Lion Square
London, WC1R 4QH**

Drawing title
**Proposed Floor Plans
Fourth Floor**

Created by	Checked by	Scale	Date
IA	NK	1:100@ A1	3-NOV-2015

Job	Stage	Drawing	Revision
432	- S2 -	115	D



1 Proposed Roof Plan
116 SCALE 1:100



Revisions No	Date	By
A	27-Nov-2015	IA

Client
13-17 Red Lion Square LLP

Stage
Planning

HWO Architects
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Job title
**13 Red Lion Square
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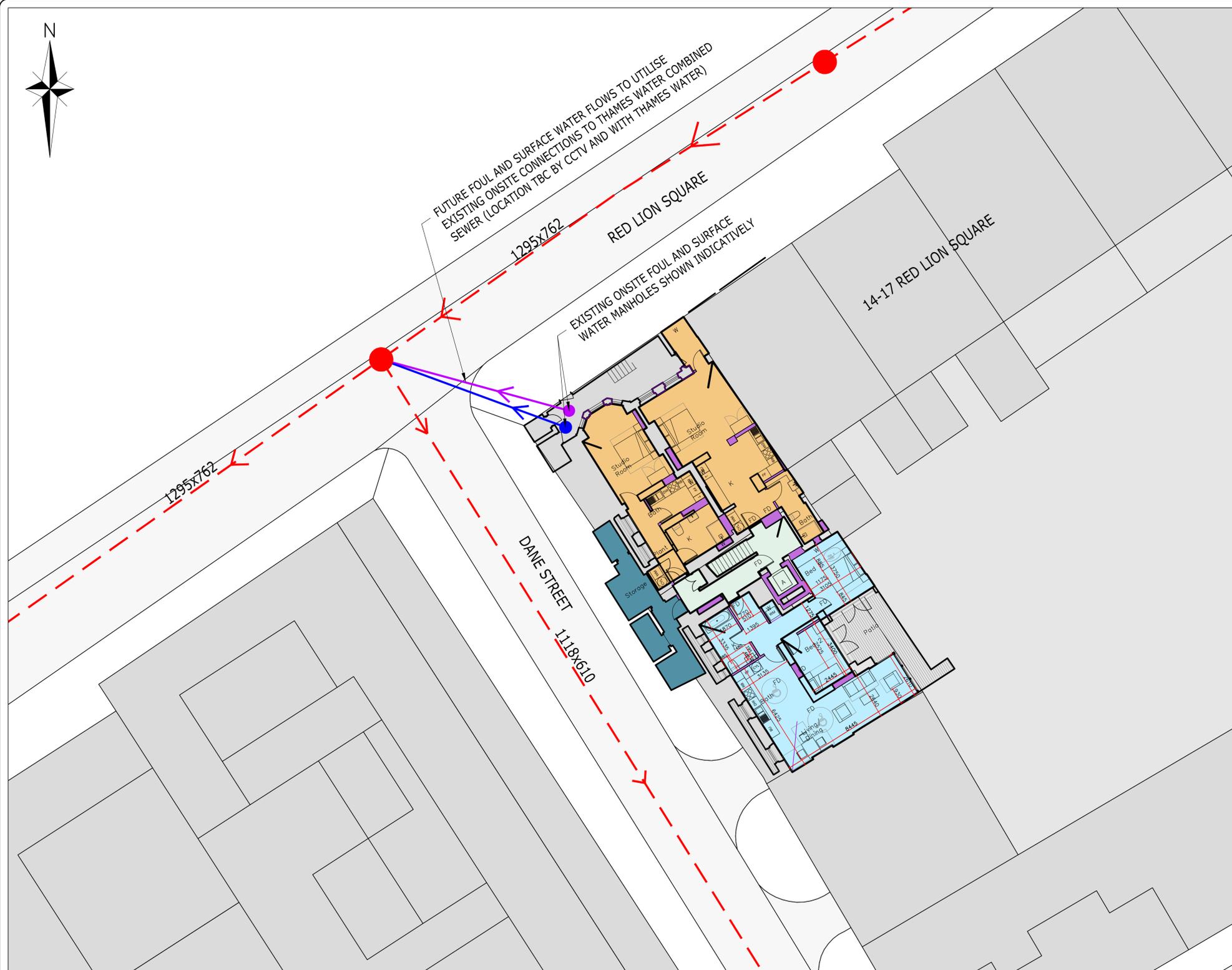
Drawing title
**Proposed Floor Plans
Roof Plan**

Created by	Checked by	Scale	Date
IA	NK	1:100@ A1	3-NOV-2015

Job	Stage	Drawing	Revision
432	- S2 -	116	A

Appendix C

Indicative Foul and Surface Water Drainage Strategy



KEY

- - - EXISTING THAMES WATER COMBINED SEWER
- - - INDICATIVE FOUL WATER CONNECTION
- - - INDICATIVE SURFACE WATER CONNECTION

NOTES :

1. PROPOSED LAYOUT IS BASED ON DRAWING (REF: 432-S2-111) RECEIVED FROM HWO ARCHITECTS IN NOVEMBER 2015.
2. THE LOCATIONS OF EXISTING FOUL AND SURFACE WATER CONNECTIONS FROM THE SITE SHOULD BE CONFIRMED USING CCTV.
3. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE STATED.
4. THE PROPOSALS ARE SUBJECT TO APPROVAL BY THAMES WATER AND THE LOCAL HIGHWAY AUTHORITY.

ISSUED FOR
INFORMATION ONLY



REV. AMENDMENTS	DRN	CHK	APP	DATE

ARDENT CONSULTING ENGINEERS

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PROJECT TITLE:
13 RED LION SQUARE

DRAWING TITLE:
**INDICATIVE FOUL AND SURFACE
WATER DRAINAGE STRATEGY**

CLIENT:
13-17 RED LION SQUARE LLP

SCALE: NTS	DATE: 26/11/15	DESIGNED: CC
DRAWN: CC	CHECKED: CC	APPROVED: BC
DRAWING NO. Y740-001		REV: -