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FLOOD RISK ASSESSMENT

AT

48 CHURCHWAY, EUSTON, LONDON.

REF: 217420 – MAY 2018

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Report prepared by:

R. James

Richard James
BEng (Hons) IEng MICE

Associate Director

1. INTRODUCTION

1.1. Mason Navarro Pledge Ltd have been appointed by their client Moorgarth Living to prepare a Flood Risk Assessment Report in support of the Planning Application for the proposed office development at Churchway, London.

1.2. The proposed works comprise the partial demolition of existing single storey building followed by the erection of a new ground plus three storey building facing Churchway to provide 457sq.m (GIA) of office floorspace (Use Class B1(a)) plus refurbishment throughout of the retained building including replacement of the existing roof structure, and associated works.

1.3. Based on the guidance in the National Planning Policy Framework (NPPF, March 2012) and associated Planning Practice Guidance (PPG, amended April 2015), developments should include an appropriate Flood Risk Assessment if any or all of the following criteria are met:

- Site is greater than 1 hectare
- Potentially located in Flood Zone 2 or 3
- Considered a major planning application (as defined by local planning authority)

1.4. In this case, the as the development is located in a critical drainage area, a flood risk and drainage assessment should be prepared, to accompany the planning application.

1.5. This report has been prepared in accordance with the NPPF and the accompanying Technical Guidance.

1.6. This report has been prepared by Richard James BEng (Hons) IEng MICE.

2. POLICY CONTEXT

NATIONAL PLANNING POLICY FRAMEWORK (NPPF)

2.1 The NPPF was adopted in March 2012, superseding national planning policy statements and guidance. One of the overarching objectives of the NPPF is the encouragement of growth and acknowledgement that decision-makers should adopt a presumption in favour of sustainable development. Paragraph 14 of the document states:

> *"At the heart of the National Planning Policy Framework is a **presumption in favour of sustainable development**, which should be seen as a golden thread running through both plan-making and decision-taking.*
> ...
> *For **decision-taking** this means:*
>
> - *approving development proposals that accord with the development plan without delay; and*
> - *where the development plan is absent, silent or relevant policies are out of date, granting permission unless:*
>
> - *any adverse impacts of doing so would significantly and demonstrably outweigh the benefits, when assessed against the policies in this Framework taken as a whole; or*
> - *specific policies in this Framework indicate development should be restricted"*

2.2 The Government expects the planning system to deliver the homes, business, infrastructure and thriving local places that the country needs, while protecting and enhancing the natural and historic environment. Paragraph 17 sets out the Core Planning Principles; it includes the requirement that planning should "proactively drive and support sustainable economic development to deliver the homes, business and industrial units, infrastructure and thriving local places that the country needs."

2.3 Section 10 of the NPPF seeks to address the issues of climate change, flooding and coastal change. In paragraph 100 it states: "Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk, but where development is necessary, making it safe without increasing flood risk elsewhere."

PLANNING PRACTICE GUIDANCE TO THE NATIONAL PLANNING POLICY FRAMEWORK

2.4 The Planning Practice Guidance (PPG) was first published in March 2014 and at the same time the Technical Guidance to the NPPF was withdrawn. The key difference with the new PPG is that it is a web-based resource, and each section is updated as needed.

2.5 Section 7 covers "Flood Risk and Coastal Change" and was last updated in April 2015.

2.6 The assessment of flood risk is based on the definitions in Table 1 of the PPG. This information is replicated below for ease of reference.

TABLE 1: FLOOD ZONE DEFINITIONS

Flood Zone	Annual probability of river or sea flooding
Zone 1 *Low Probability*	■ Land having less than 1 in 1000 annual probability of river or sea flooding (<0.1%)
Zone 2 *Medium Probability*	■ Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or ■ Land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding.
Zone 3a *High Probability*	■ Land having a 1 in 100 or greater annual probability of river flooding; or ■ Land having a 1 in 200 or greater annual probability of sea flooding.
Zone 3b *The Functional Floodplain*	■ This zone comprises land where water has to flow or be stored in times of flood. ■ Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency.

2.7 The NPPF classifies the Flood Risk Vulnerability of various land uses in Table 2 (reproduced below). The More Vulnerable Classification encompasses usages such as hospitals and buildings used for dwellings. Less Vulnerable applies to buildings used for general industry, storage and distribution.

TABLE 2: LAND USE CLASSIFICATION

Classification	Land Use
Essential Infrastructure	■ Essential transport infrastructure (including mass evacuation routes) which has to cross the area at risk. ■ Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations; and water treatment works that need to remain operational in times of flood.

Classification	Land Use
	■ Wind turbines.
Highly Vulnerable	■ Police stations, ambulance stations and fire stations and command centres and telecommunications installations required to be operational during flooding. ■ Emergency dispersal points. ■ Basement dwellings. ■ Caravans, mobile homes and park homes intended for permanent residential use. ■ Installations requiring hazardous substances consent (Where there is a demonstrable need to locate such installations for bulk storage of materials with port or other similar facilities, or such installations with energy infrastructure or carbon capture and storage installations, that require coastal or water-side locations, or need to be located in other high flood risk areas, in these instances the facilities should be classified as “essential infrastructure”).
More Vulnerable	■ Hospitals. ■ Residential institutions such as residential care homes, children’s homes, social services homes, prisons and hostels. ■ Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels. ■ Non-residential uses for health services, nurseries and educational establishments. ■ Landfill and sites used for waste management facilities for hazardous waste. ■ Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.

Classification	Land Use
Less Vulnerable	■ Buildings used for shops; financial, professional and other services, restaurants and cafes, hot ■ food takeaways, offices, general industry, storage and distribution and assembly and leisure. ■ Land and buildings used for agriculture and forestry. ■ Waste treatment (except landfill and hazardous waste facilities). ■ Minerals working and processing (except for sand and gravel working). ■ Water treatment plants and sewage treatment plants (if adequate pollution control measures are in place).

2.8 The overall aim is to steer new development to Flood Zone 1. Where there are no reasonably available sites within Flood Zone 1, local planning authorities allocating land in local plans or determining planning applications for development at any particular location should take into account the flood risk vulnerability of land uses and consider reasonably available sites in Flood Zone 2, applying the Exception Test if required. The table below, replicated from Table 3 of the PPG, indicates which Flood Zones are considered to be appropriate for different land uses based upon the Sequential Test.

TABLE 3: FLOOD RISK VULNERABILITY CLASSIFICATION

Flood Zone	Essential Infrastructure	Water Compatible	Highly Vulnerable	More Vulnerable (Residential)	Less Vulnerable
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	✓	Exception Test Required	✓	✓
Zone 3a	Exception Test Required	✓	×	Exception Test Required	✓
Zone 3b Functional Floodplain	Exception Test Required	✓	×	×	×

✓ Development is appropriate

× Development should not be permitted

2.9 The sequential approach requires the application of the Sequential Test whereby, in addition to the requirements of Table 3, development should first be directed to Flood Zone 1, then Flood Zone 2 and lastly Flood Zone 3.

2.10 Where the Exception Test is required it is necessary to demonstrate, partly through a site-specific flood risk assessment, that:

- The development will provide extensive sustainability benefits to the community
- And that these benefits outweigh the flood risk
- When considering the vulnerability of its users, the development will be safe for its lifetime
- Flood risk is not increased elsewhere, and reduced overall where possible

2.11 Further detail on the lifetime of development is also given in the PPG, which advises for residential development that a period of 100 years should be considered whilst for non-residential this is dependent upon the development characteristics.

2.12 The use of sustainable drainage systems is considered by the PPG to offer the following benefits:

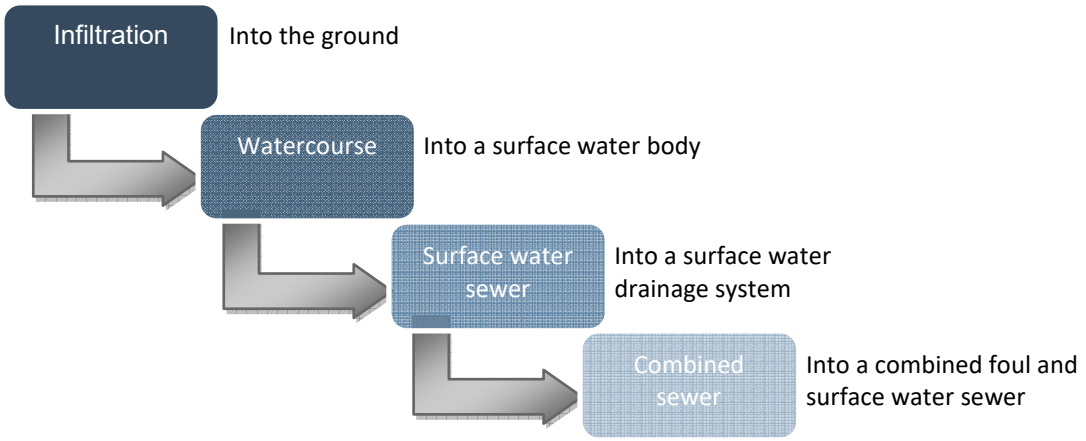
- Reduce the causes and impacts of flooding
- Remove pollutants from urban run-off at source
- Combine water management with green space with benefits for amenity, recreation and wildlife

2.13 In the consideration of major developments, sustainable drainage should be provided unless it can be demonstrated that this would be inappropriate. Major developments are defined in the Town and Country Planning Order 2015; some of these definitions encompass the following:

- Development site area of 1 hectare or more
- Provision of 10 or more residential dwellings
- Development of residential dwellings on a site having an area of 0.5 hectares or more and where the proposed no. of dwellings is not known to fall into the above criterion or not
- Provision of buildings where the floor space to be created by the development is 1,000m^2 or greater

2.14 The aim of sustainable drainage systems is to dispose of surface water using the following hierarchy were reasonably practicable.

TABLE 4: SURFACE WATER DISPOSAL HIERARCHY



2.15 The assessment of what is considered to be reasonably practicable in terms of sustainable drainage system provision should consider the costs associated with the design, construction, operation and maintenance of the system, and whether these are economically proportionate in relation to the consumer costs for an effective drainage system that instead connects directly to a public sewer.

LONDON BOROUGH CAMDEN - STRATEGIC FLOOD RISK ASSESSMENT (SFRA)

2.16 The main purpose of the SFRA is to provide sufficient flood risk information to enable an update of any flooding policies within the Borough. In achieving this, the SFRA will achieve the objectives of:

- Influencing Council policy regarding decisions that are made
- Aiding the Council's response to proposed developments
- Recognising means of reducing flood risk
- Inform the emergency flood plans

2.17 The London Borough Camden Strategic Flood Risk Assessment was prepared by URS in July 2014.

ADDITIONAL POLICY / GUIDANCE

2.18 The following documents were consulted to inform the drainage strategy for the site:

- LB Camden Strategic Flood Risk Assessment 2014
- London Plan (2011, amended 2015)
- Camden Local Plan 2017
- Supplementary Planning Guidance (SPG)
- Camden Planning Guidance

2.19 Consideration of the following is also addressed in this report, where applicable:

I. The presence of constraints that must be considered prior to planning infiltration SuDS.

II. The drainage potential of the ground.

III. Potential for ground instability when water is infiltrated.

IV. Potential for deterioration in groundwater quality as a result of infiltration.

2.20 The London Plan **Policy 5.13: Sustainable Drainage** promotes the use of sustainable drainage systems within new development, and effectively adds further detail to the drainage hierarchy in Part H of Building Regulations 2010.

2.21 **Part 6: Policy DM D2 – Design consideration in all developments** – sets out requirements for all extensions beyond the original footprint of the existing building require a sustainable drainage system to be implemented, to reduce flood risk. This is particularly important for basement construction.

2.22 **Part 8 Policy DM F1 and F2 of the Sites and Policies Plan** essentially set out the aims to minimise the risk of flooding within the borough and to incorporate SuDS into developments to reduce surface water flood risk. **Policy DM F2** also states a requirement to justify why a development cannot infiltrate to ground or a watercourse, i.e. the need to discharge to a sewer.

2.23 The drainage assessment in this report will ensure that any proposals for additional drainage are assessed and mitigated, against flood risk, and incorporate good SUDS practices where possible.

3. DEVELOPMENT DESCRIPTION

3.1 The site is located at 48 Churchway in the London borough of Camden NW1.The approximate National Grid Reference is 529800E 182807N.

3.2 The site is currently a single storey workshop that extends from behind 41 Chalton Street to Churchway. A single storey basement extends under the entire footprint of the site.

3.3 The footprint of the existing building extends across the entire site. The western boundary aligns with the mansion blocks located either of the site, and faces directly onto Churchway.

3.4 The site is a rectangular shaped piece of land with an area of approximately 300m^2. The length runs east to west and the site is approximately 35m long and 8m wide.

3.5 Refer to Figure 1 for site location plan and Appendix A for the existing site layout.

3.6 The proposals are for the partial upgrading of office space at basement level, with construction of a new office building at ground, first, second and partial third floor within the 'gap site' on Churchway. The part replacement of the low industrial roof to the rear of the new Churchway block is also proposed.

3.7 Refer to Appendix B for a copy of the proposed site layout.

4 GEOLOGY & HYDROLOGY

4.1 At the time of reporting, a full geotechnical site investigation report has not been commissioned and therefore the geotechnical information below has been obtained from freely available information of the local area.

4.2 British Geological Society Borehole records for the surrounding area show that the local underlying geology comprises up to 2m of made ground comprising soft, silty clay and organic material, overlying firm silty clay to some 7m before becoming grey, stiff London Clay to a depth of at least 150m. This is typical for the area.

4.3 Given the nature of underlying ground conditions at the site it is unlikely that groundwater will be encountered during the works on site.

5 FLOOD RISK

5.1 The NPPF and the SFRA identifies several potential sources of flooding that must be considered when assessing flood risk, these are considered below in the following order:-

- Flooding from rivers (fluvial flooding)
- Flooding from the sea (tidal flooding)
- Flooding from land
- Flooding from sewers
- Flooding from groundwater
- Flooding from reservoirs, canals, and other artificial sources

FLODING FROM RIVERS (FLUVIAL FLOODING) & SEA (TIDAL FLOODING)

5.2 The indicative flood maps published by the Environment Agency (EA) identify that the entirety of the site is outside an area at risk of fluvial/tidal flooding i.e. located in Flood Zone 1.

5.3 According to the Strategic Flood Risk Assessment there are no historic fluvial flooding events near to the site.

FLOODING FROM LAND & SEWERS

5.4 Thames Water have confirmed that there have been no recorded instances of flooding in the area as a result of sewer surcharging. A copy of the records is included in Appendix C.

5.5 Maps Contained in the SFRA and Maps published by the Environment Agency indicate that the site is at low risk of flooding from Surface Water. Refer to Appendix D for a copy of the SFRA surface water food map data

5.6 The site is located in a Critical Drainage Area as defined by the LBC SFRA.

FLOODING FROM GROUNDWATER

5.7 The SFRA mapping in Figure 4e indicates the site is not susceptible to groundwater flooding.

FLOODING FROM RESERVOIRS, CANALS & OTHER ARTIFICIAL SOURCES

5.8 Environment Agency Reservoir Flood Mapping shows that flooding from reservoir failure in this area would not extend into the development site.

5.9 Also, with reference to the OS Map of the area, there are no canals or other artificial sources likely to cause flooding at the site.

6 SURFACE AND FOUL WATER DRAINAGE

EXISTING

6.1 A 1168mmx711mm Thames Water public combined sewer runs along Chalton Street and a 305mm diameter combined sewer runs along Churchway. A copy of the proposed public sewer records is included in Appendix C.

6.2 A drainage survey undertaken at the site confirms that the site currently drains to the combined public sewer in Chalton Street. A copy of the existing drainage layout is included in Appendix E

PROPOSED

6.3 The proposed development will continue to utilise the existing drainage outfall from the site and the basement drainage layout remains unchanged from the existing situation.

6.4 Policy 5.13 of the London Plan states that development should aim to achieve greenfield runoff rates, and where this is not possible, runoff rates post-development should not exceed those pre-development, as per the NPPF.

6.5 As the site results in no increase in hardstanding there is no increase in the surface water runoff rate from the site post development and therefore the proposed scheme complies with requirements of NPPF.

6.6 The scheme includes for the provision of approximately 58m^2 of green / blue roof on the areas of new flat roof (please see attached the proposed roof layout in Appendix F)

8. RECOMMENDATIONS AND CONCLUSIONS

8.1 The risk of flooding from rivers, seas, groundwater, sewers and reservoirs is considered to be low.

8.2 The entire site is located within Flood Zone 1 and is classed as "More Vulnerable" development. In accordance with the NPPF, the proposed development is suitable in this location.

8.3 Thames water have confirmed that there have been no recorded instances of flooding in the area as a result of sewer surcharging.

8.4 Any foul drainage required in the basement will be protected from sewer flooding through the installation of a suitable pumped device in accordance with the requirements of Camden Council planning guidance for basements clause 6.16.

8.5 There is no increase in hardstanding as a result of the development and the proposed scheme includes an area of approximately 58m^2 of green / blue roof and therefore there is no increase in the surface water discharge rate and volume from the site post development.

8.6 The proposed surface water drainage design principles set out in this document will ensure that the development does not increase the risk of flooding to surrounding area.

FIGURES

FIGURE 1

Site Location

FIGURE 2

Risk of Flooding from Rivers or Sea

Environment Agency Website

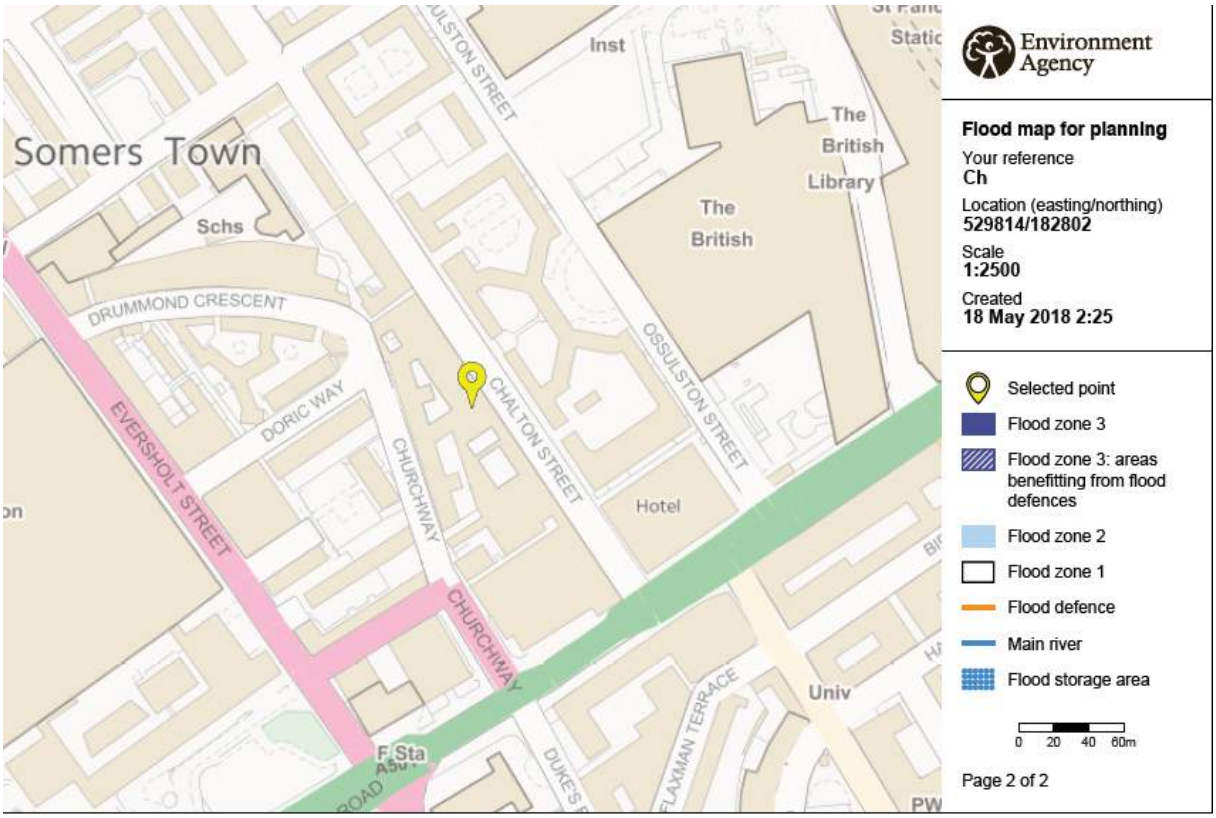


FIGURE 3

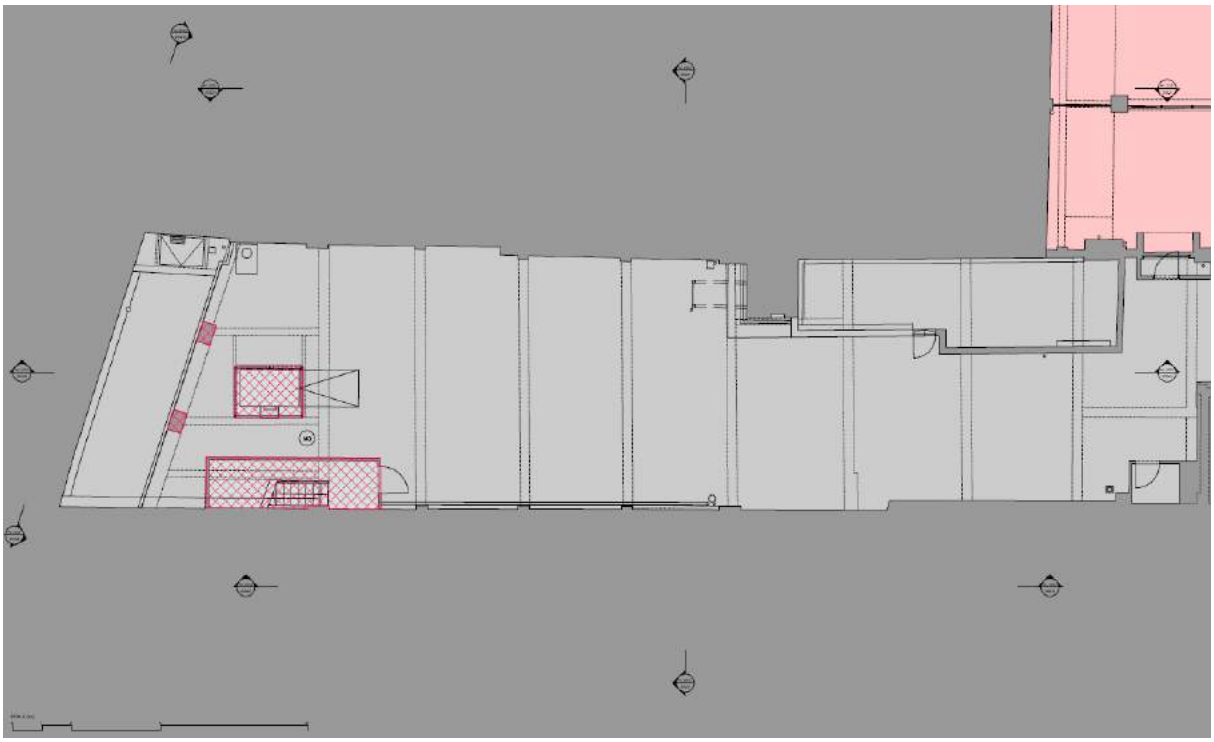
Surface water flood risk

Environment Agency Website

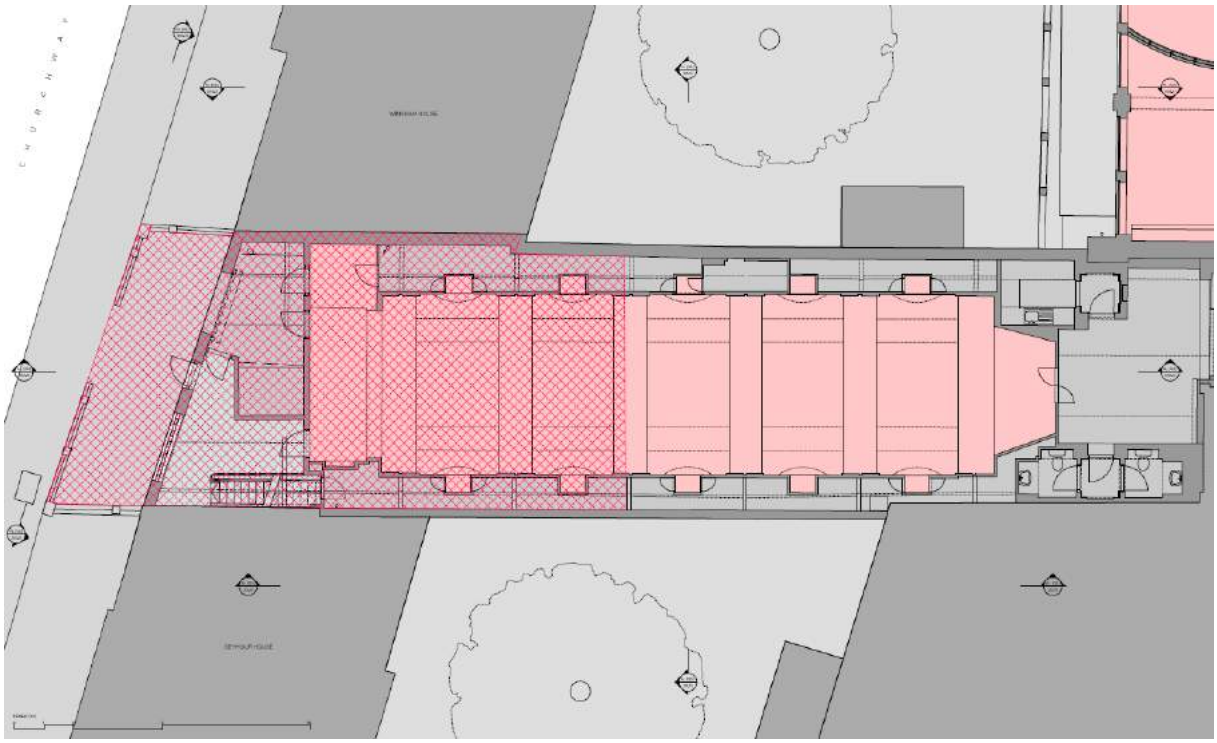
APPENDICIES

APPENDIX A

Existing Site Layout



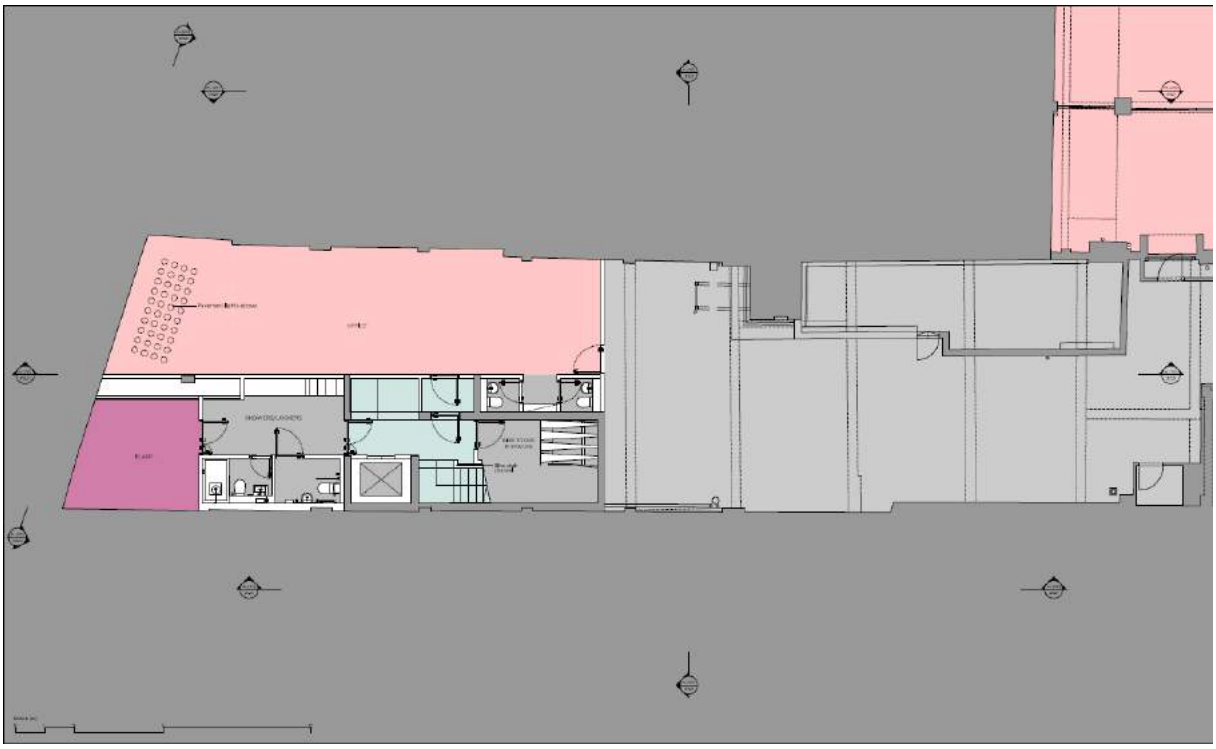
Basement Layout



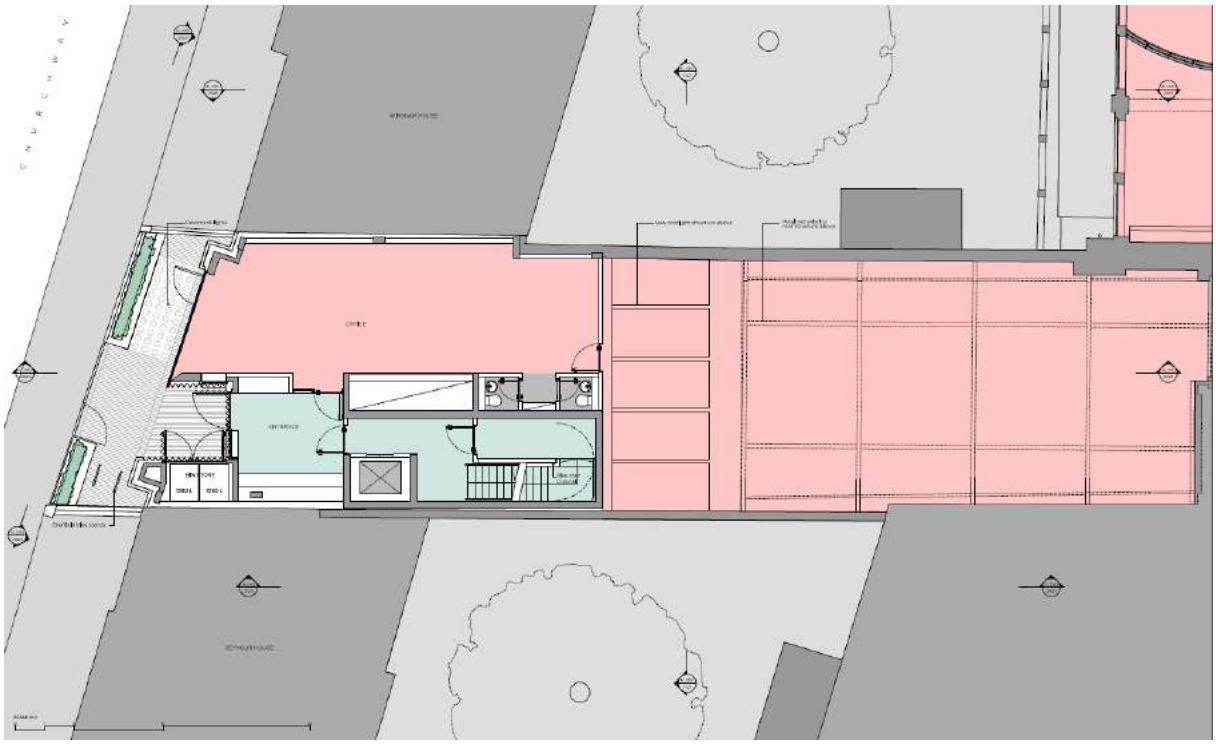
Ground Floor Layout

APPENDIX B

Proposed Site Layout



Proposed Basement Layout



Proposed Ground Floor Layout

APPENDIX C

Thames Water Sewer Flooding Records and Sewer Records

Sewer Flooding
History Enquiry

Property Searches

Mason Navarro Pledge Ltd

Bancroft Court

Search address supplied	Stanley Davis Group Ltd 41 Chalton Street London NW1 1JD
Your reference	Churchway
Our reference	SFH/SFH Standard/2018_3787050
Received date	**2 May 2018**
Search date	**2 May 2018**

Thames Water Utilities Ltd
Property Searches, PO Box 3189, Slough SL1 4WW
DX 151280 Slough 13

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

0845 070 9148

Sewer Flooding
History Enquiry

Property Searches

Search address supplied: Stanley Davis Group Ltd,41,Chalton Street,London,NW1 1JD

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
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0845 070 9148

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:

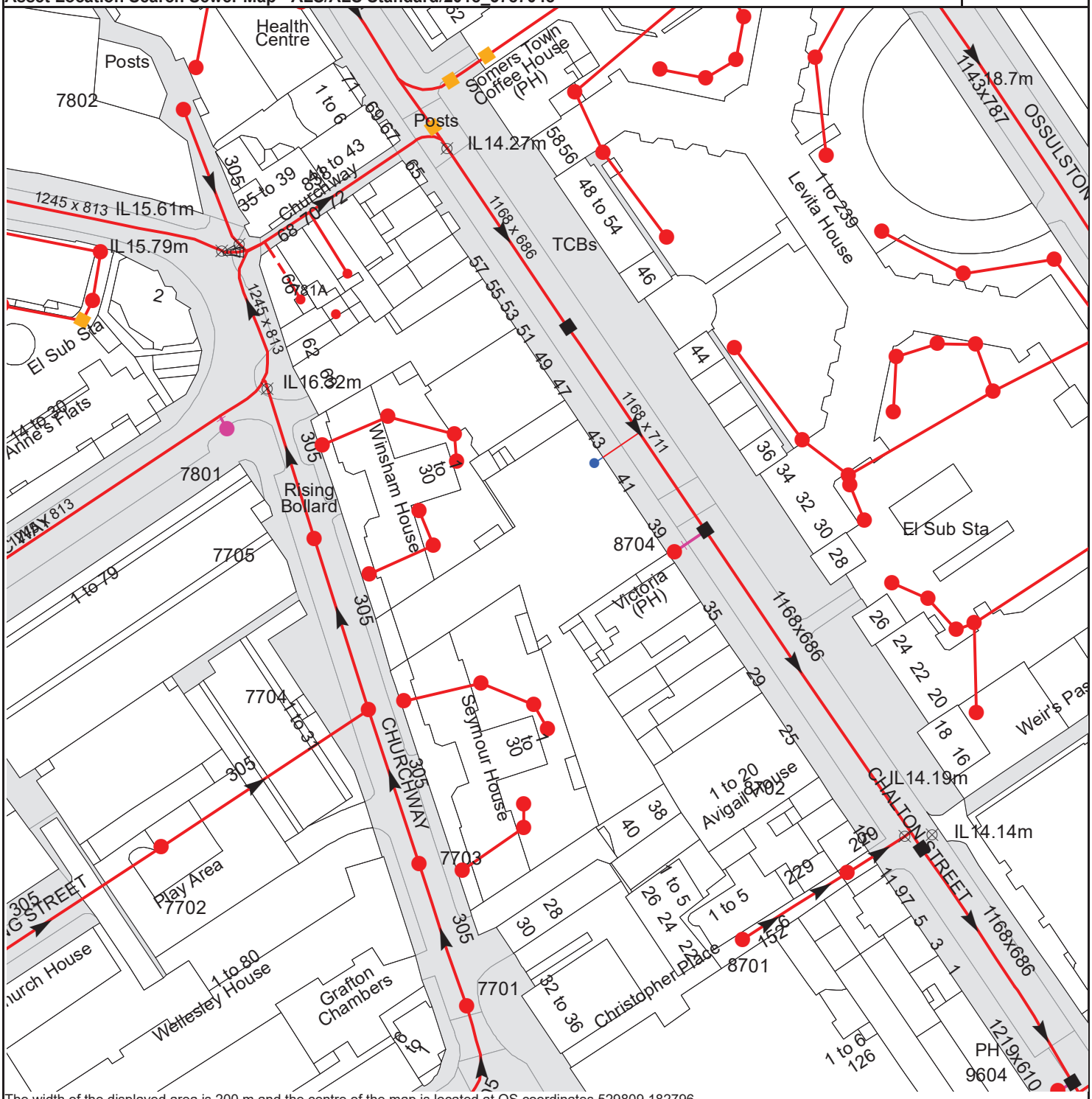
- A sewer is "overloaded" when the flow from a storm is unable to pass through it due to a permanent problem (e.g. flat gradient, small diameter). Flooding as a result of temporary problems such as blockages, siltation, collapses and equipment or operational failures are excluded.
- "Internal flooding" 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, PO Box 3189, Slough SL1 4WW
DX 151280 Slough 13

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

0845 070 9148

Asset Location Search Sewer Map - ALS/ALS Standard/2018_3787048



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 529809,182796

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
78FB	n/a	n/a
78EI	n/a	n/a
7802	18.62	16.39
78CH	n/a	n/a
88CG	n/a	n/a
88CH	n/a	n/a
88AC	n/a	n/a
88CI	n/a	n/a
78CJ	n/a	n/a
781A	n/a	n/a
78DE	n/a	n/a
88AE	n/a	n/a
88BG	n/a	n/a
88CF	n/a	n/a
88AF	n/a	n/a
88BI	n/a	n/a
88CB	n/a	n/a
88CA	n/a	n/a
88CC	n/a	n/a
88CE	n/a	n/a
88CD	n/a	n/a
7705	19.28	16.61
78ED	n/a	n/a
7704	20.29	16.86
77AH	n/a	n/a
78EC	n/a	n/a
77BB	n/a	n/a
7703	21.08	17.39
78EF	n/a	n/a
77AG	n/a	n/a
78EB	n/a	n/a
78EA	n/a	n/a
77BC	n/a	n/a
7701	21.92	18.07
77BA	n/a	n/a
87DA	n/a	n/a
87CJ	n/a	n/a
87CI	n/a	n/a
87CH	n/a	n/a
881A	n/a	n/a
8704	n/a	n/a
8701	19.53	18.27
88AD	n/a	n/a
8702	20.21	17.28
88BD	n/a	n/a
88BF	n/a	n/a
88BE	n/a	n/a
87BH	n/a	n/a
87BI	n/a	n/a
87BJ	n/a	n/a
88BH	n/a	n/a
87CB	n/a	n/a
88CJ	n/a	n/a
87CA	n/a	n/a
88DA	n/a	n/a
98BA	n/a	n/a
9604	n/a	n/a
7702	20.59	17.47
7801	19.03	n/a

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.

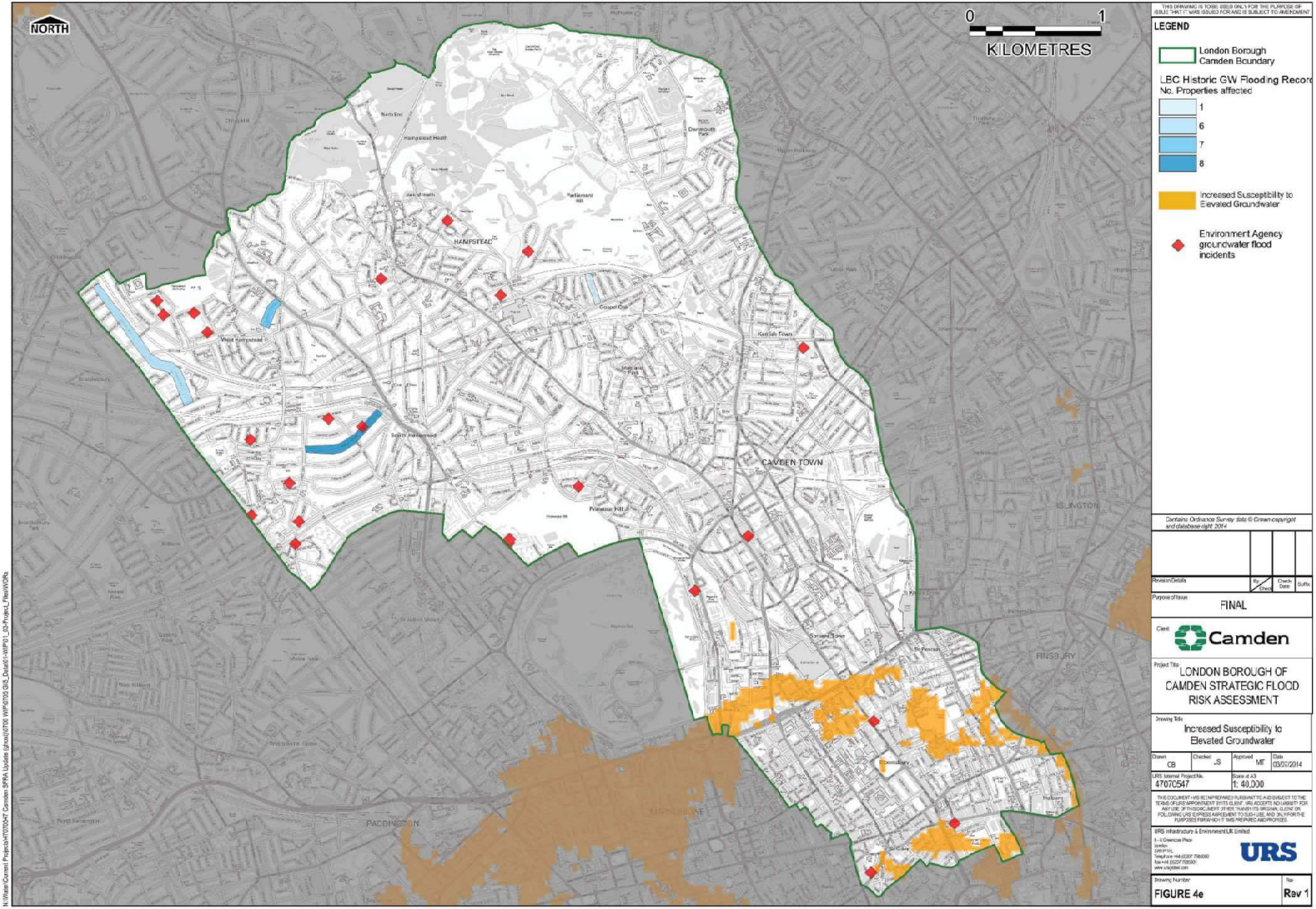
4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.

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 Insight on 0845 070 9148.

Appendix D

SFRA Flood Maps



Revision Details	By / Check	Check Date	Suffix

Purpose of Issue: FINAL

Client: Camden

Project Title: LONDON BOROUGH OF CAMDEN STRATEGIC FLOOD RISK ASSESSMENT

Drawing Title: Increased Susceptibility to Elevated Groundwater

Drawn	Checked	Approved	Date
CB	JS	MT	03/07/2014

URS Internal Project No.	Scale at A3
47070547	1: 40,000

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Drawing Number	No.
FIGURE 4e	Rev 1

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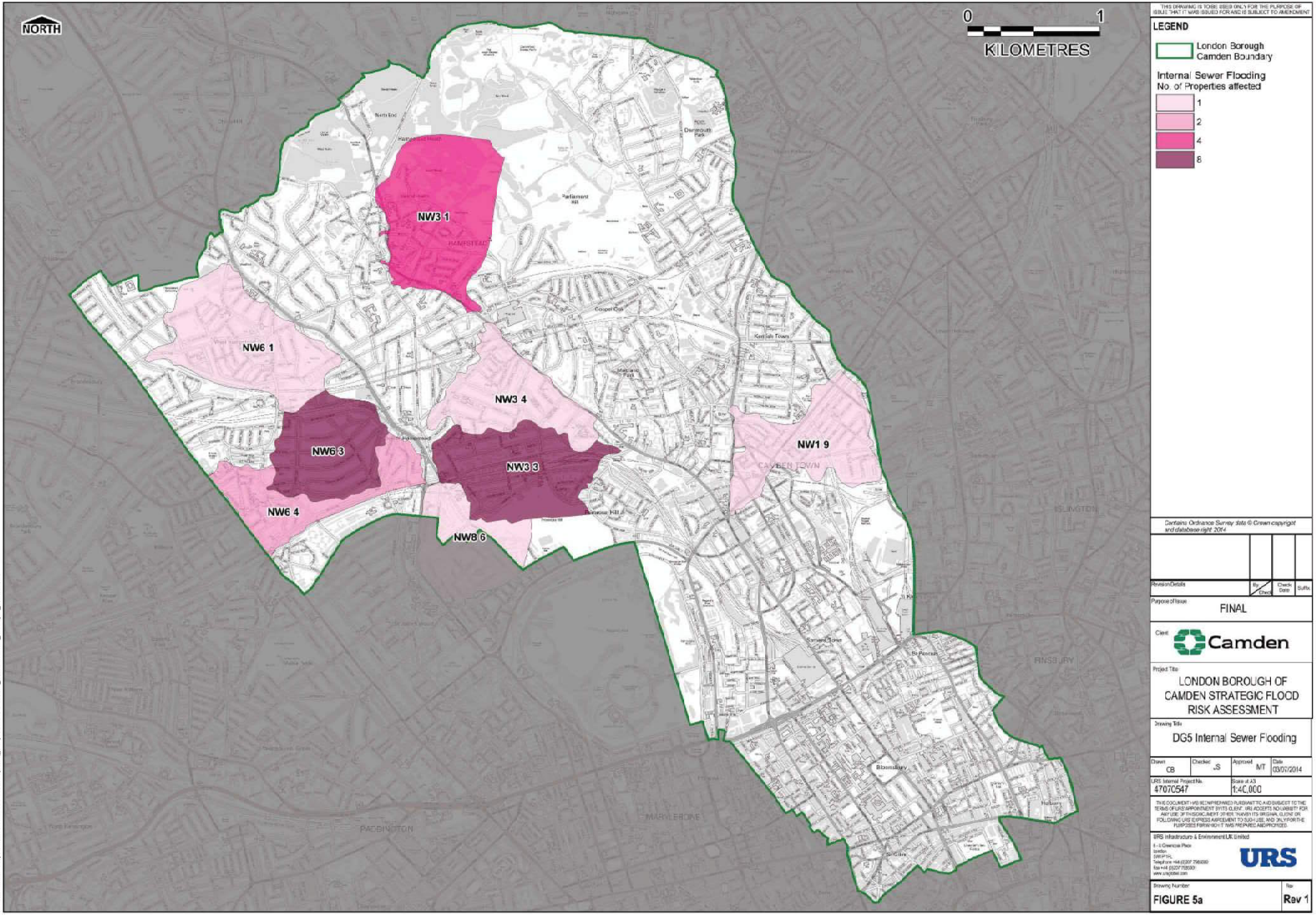
NORTH
0
1
KILOMETRES
NW3 1
NW6 1
NW3 4
NW6 3
NW3 3
NW1 9
NW6 4
NW8 6
HAMPSTEAD
CAMDEN TOWN
PADDINGTON
MARYLEBONE
ISLINGTON
LEGEND
London Borough Camden Boundary
Internal Sewer Flooding
No. of Properties affected
1
2
4
8
Contains Ordnance Survey data © Crown copyright and database right 2014
Revision Details
By
Check
Check Date
Suffix
Purpose of Issue
FINAL
Client
Camden
Project Title
LONDON BOROUGH OF CAMDEN STRATEGIC FLOOD RISK ASSESSMENT
Drawing Title
DG5 Internal Sewer Flooding
Drawn
CB
Checked
JS
Approved
MT
Date
03/07/2014
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47070547
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1:40,000
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Drawing Number
FIGURE 5a
Rev
Rev 1
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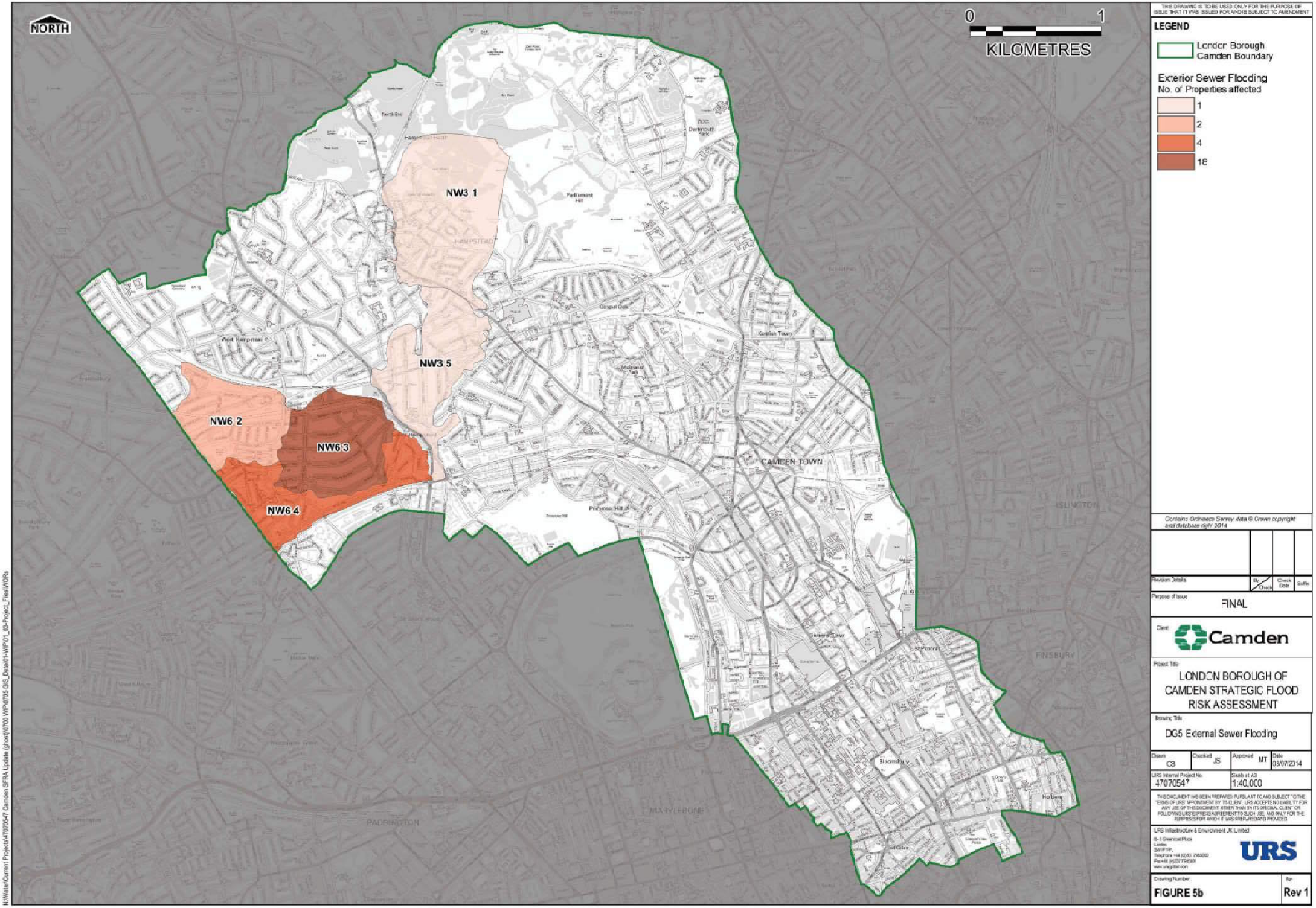

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LEGEND

- London Borough Camden Boundary

Exterior Sewer Flooding
No. of Properties affected

- 1
- 2
- 4
- 16

Revision Details	By / Check	Check Date	Suffix

Purpose of issue: FINAL

Client: Camden

Project Title:
LONDON BOROUGH OF CAMDEN STRATEGIC FLOOD RISK ASSESSMENT

Drawing Title:
DG5 External Sewer Flooding

Drawn	Checked	Approved	Date
CB	JS	MT	03/07/2014

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Drawing Number: FIGURE 5b

No: Rev 1

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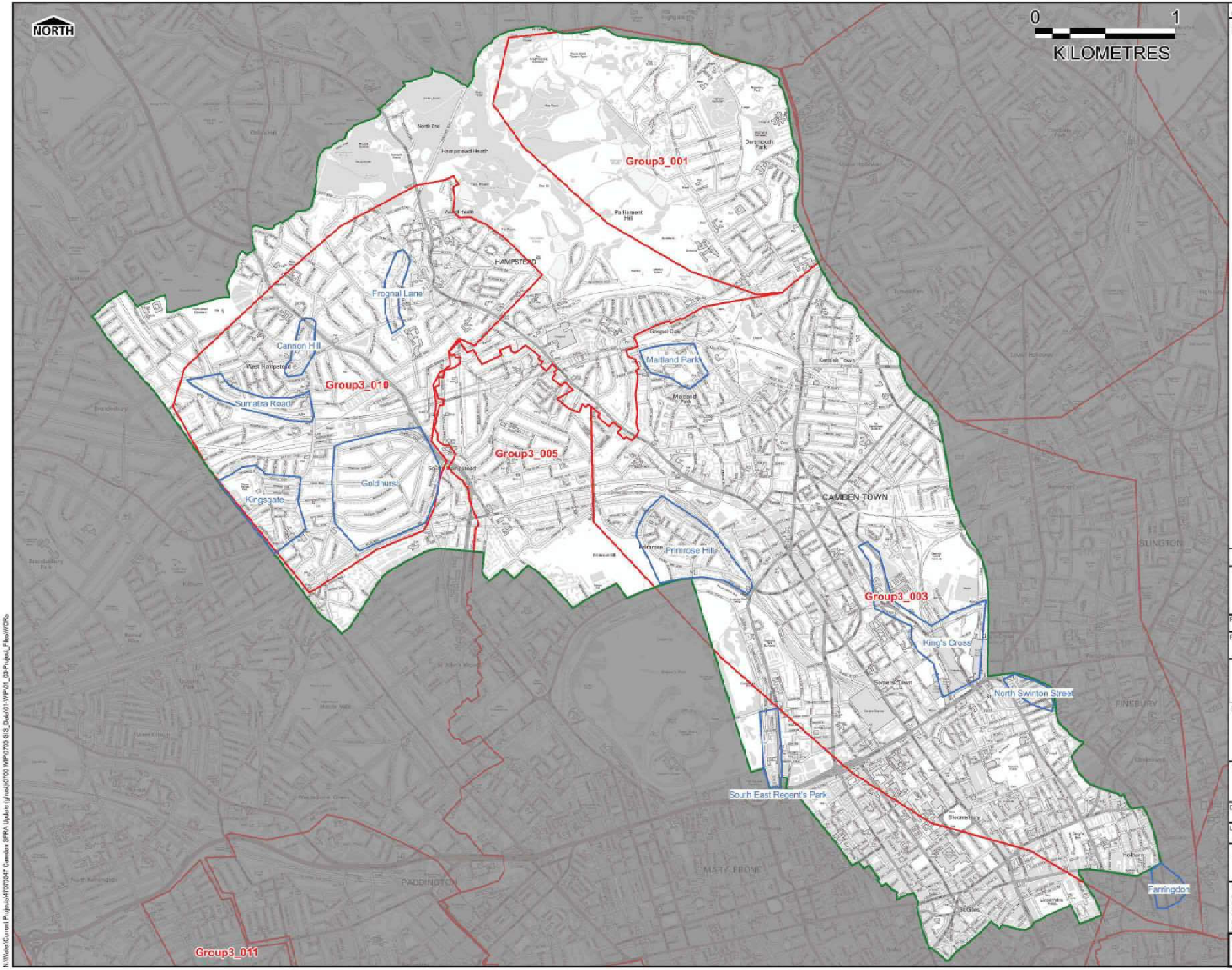

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LEGEND

- London Borough Camden Boundary
- Critical Drainage Area
- Local Flood Risk Zone

Revision Details	By / Check	Check Date	Suffix

Purpose of Issue: FINAL

Client: Camden

Project Title: LONDON BOROUGH OF CAMDEN STRATEGIC FLOOD RISK ASSESSMENT

Drawing Title: Critical Drainage Areas / Local Flood Risk Zones

Drawn	Checked	Approved	Date
CB/EB	EY	MT	04/06/2014

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Drawing Number: FIGURE 6

Rev: Rev 2

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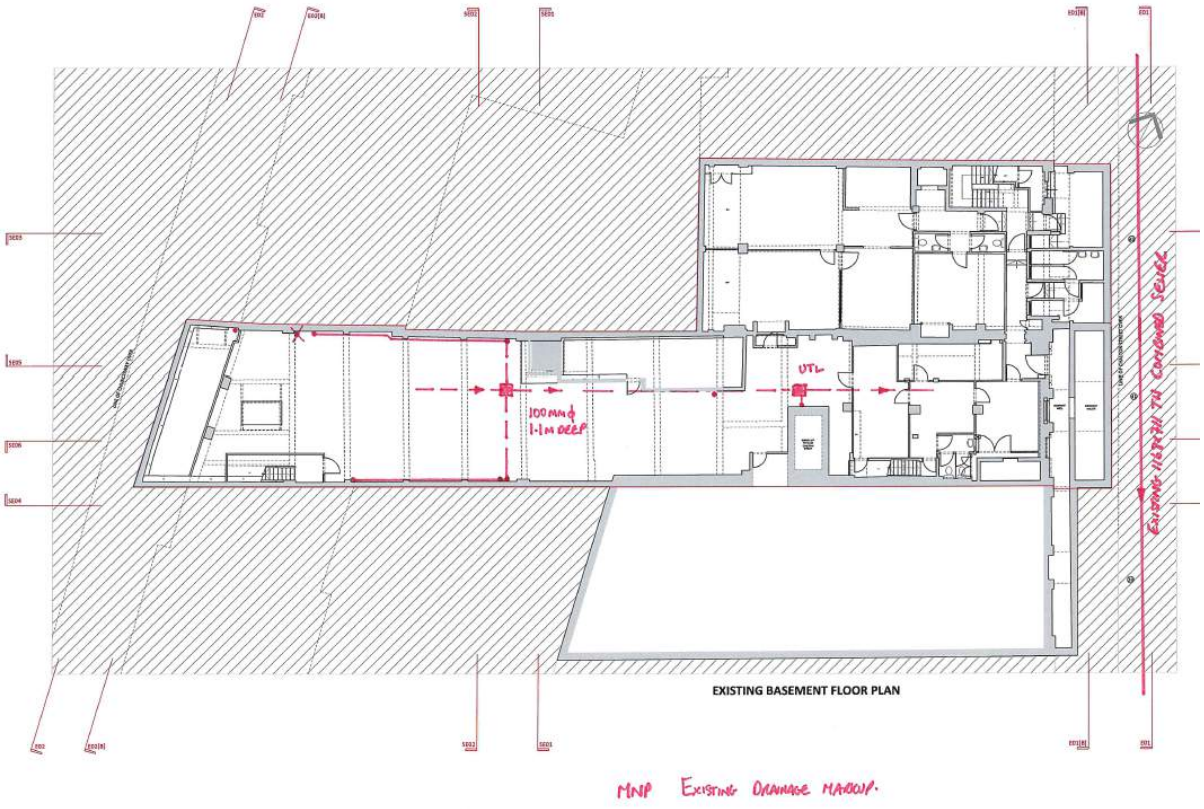
APPENDIX E

Existing Basement Drainage Layout



APPENDIX F

Proposed Roof Layout