

IDM LAND LTD

1A HIGHGATE ROAD, LONDON, NW5 1JY

FLOOD RISK STATEMENT

REPORT REF. Z180-07A

PROJECT NO. Z180

SEPTEMBER 2016

1A HIGHGATE ROAD, LONDON, NW5 1JY

FLOOD RISK STATEMENT

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DOCUMENT CONTROL SHEET

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
-	Final Issue	KC	SJH	BC	02.03.16
A	Updated with revised masterplan	FY	 SJH	 BC	21.09.16

1. INTRODUCTION

- 1.1 Ardent Consulting Engineers (ACE) has been appointed by IDM Land Ltd to provide a Flood Risk Statement to support a planning application for a permitted development to convert the existing B8 warehouse to residential usage comprising 13 self-contained residential dwellings at 1A Highgate Road, London, NW5 1JY (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), the Planning Practice Guidance (PPG) and The Town and County Planning (General Permitted Development) (England) 2015.
- 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.

Planning Status

- 1.4 The Site has been subject to a previous full planning application for the demolition of existing buildings and redevelopment to provide 5 residential units and 195sqm commercial (B1) floor space, planning application no. 2014/1689/P. The application was refused by London Borough of Camden in April 2015.

Site Location

- 1.5 **Table 1-1** describes the general site characteristics whilst a site location plan is shown in Figure 1-1.

Table 1.1 – Characteristics of the Site

Area	Extent of existing B8 warehousing for redevelopment 0.0432ha. Overall Site boundary 0.068ha	
Existing Surfacing	Pitched Roofing – 100% impermeable. The surrounding area comprises of hardstanding features and is 100% impermeable	
Current Use	Brown Field – B8 Usage	
Boundaries	North	Mixed use properties and Foresters Hall
	South	Bull and Gate Public House
	East	Mixed use properties and the Bull and Gate Public House
	West	Kentish Town Junction rail line

Access	Access to Highgate Road via an existing track between the mixed use properties and the Bull and Gate
Site Postcode and Grid Reference	NW5 1JY/TQ289852

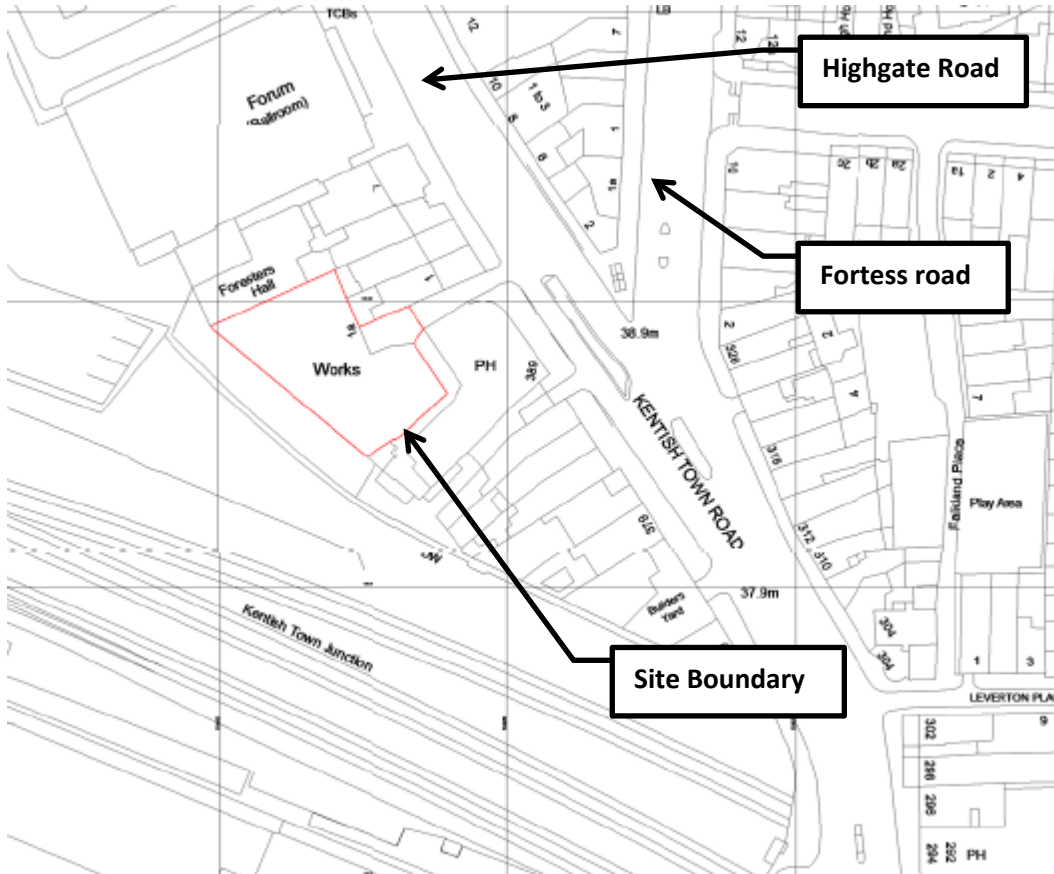


Figure 1-1 Site Location

Proposed Development

- 1.6 The proposal is for a permitted development to convert an existing B8 warehouse to residential usage comprising 13 self-contained residential dwellings.
- 1.7 Floor plans for the different levels are included in **Appendix B**.

2. POLICY CONTEXT

The Town and County Planning (General Permitted Development) (England) 2015

- 2.1 Permitted Development consists of a change of use of a building and any land within its curtilage from a use falling within Class B8 (storage or distribution centre) of the Schedule to the Use Classes Order to a use falling within Class C3 (dwelling houses) of that Schedule.
- 2.2 Development is permitted by subject to the condition that before beginning the development, the developer must apply to the local planning authority for a determination as to whether the prior approval of the authority will be required associated with flooding risks in relation to the building.

National Planning Policy Framework

- 2.3 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.
- 2.4 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)

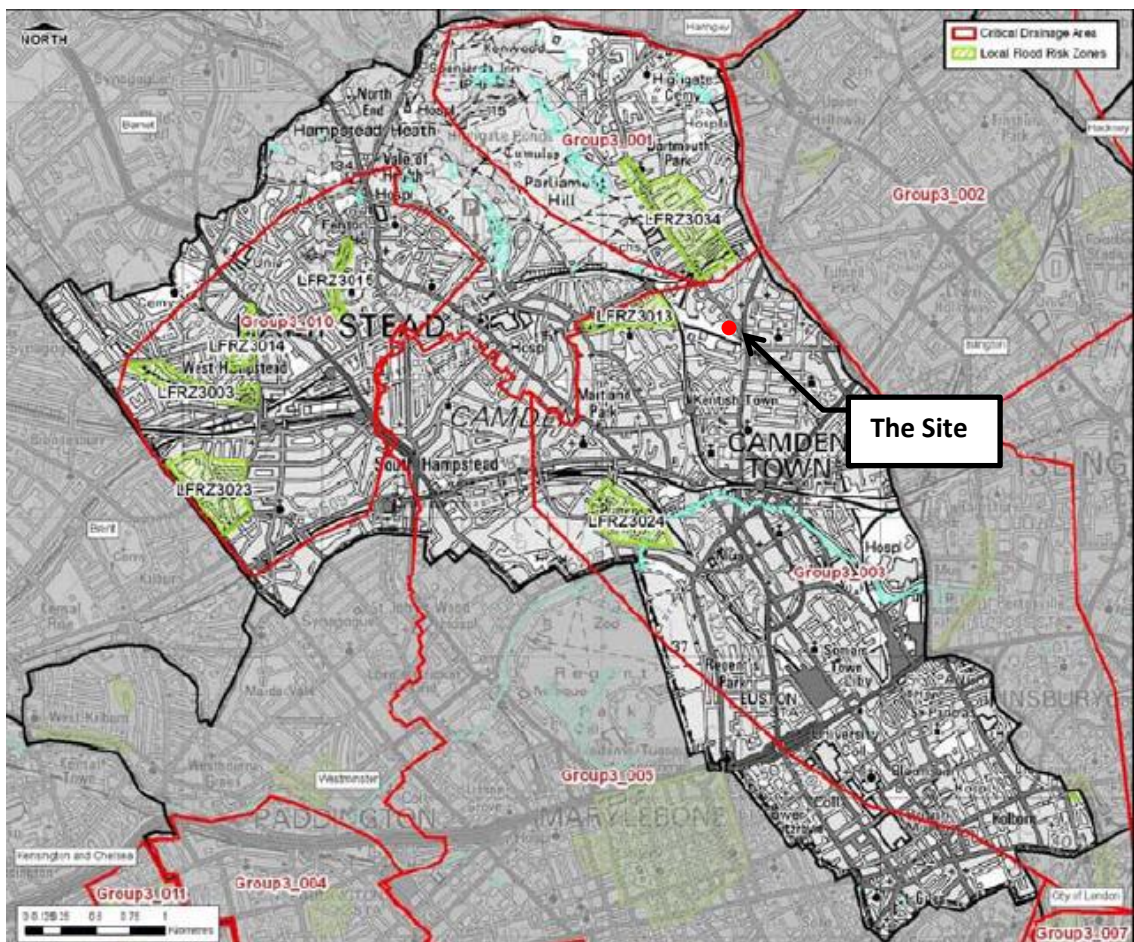
- 2.5 London Plan policy 5.13 outlines the Mayor's approach to sustainable drainage, stating that, "Development should utilise sustainable urban drainage systems (SuDS) unless there are practical reasons for not doing so, and should aim to achieve greenfield run-off rates and ensure that surface water 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.
- 2.6 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

- 2.7 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 result of heavy rainfall.
- 2.8 Critical Drainage Areas (CDAs) and Local Flood Risk Zones were considered as part of the risk assessment however, the Site does not fall either of these designations. **Refer to Figure 2-1 below.**

Figure 2-1 SWMP CDAs and Local Flood Risk Zones



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

- 2.9 The SFRA for LBC was prepared together with six other North London Boroughs.
- 2.10 The London Borough of Camden is shown to be located within Flood Zone 1, therefore the Site is at low risk of flooding from fluvial sources.
- 2.11 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 'Surface Water Flood Risk' and 'Increased Susceptibility to Elevate Groundwater'. Refer to **Figures 2-2 and 2-3** below for details.

Figure 2-2 SFRA Surface Water Flood Risk Mapping

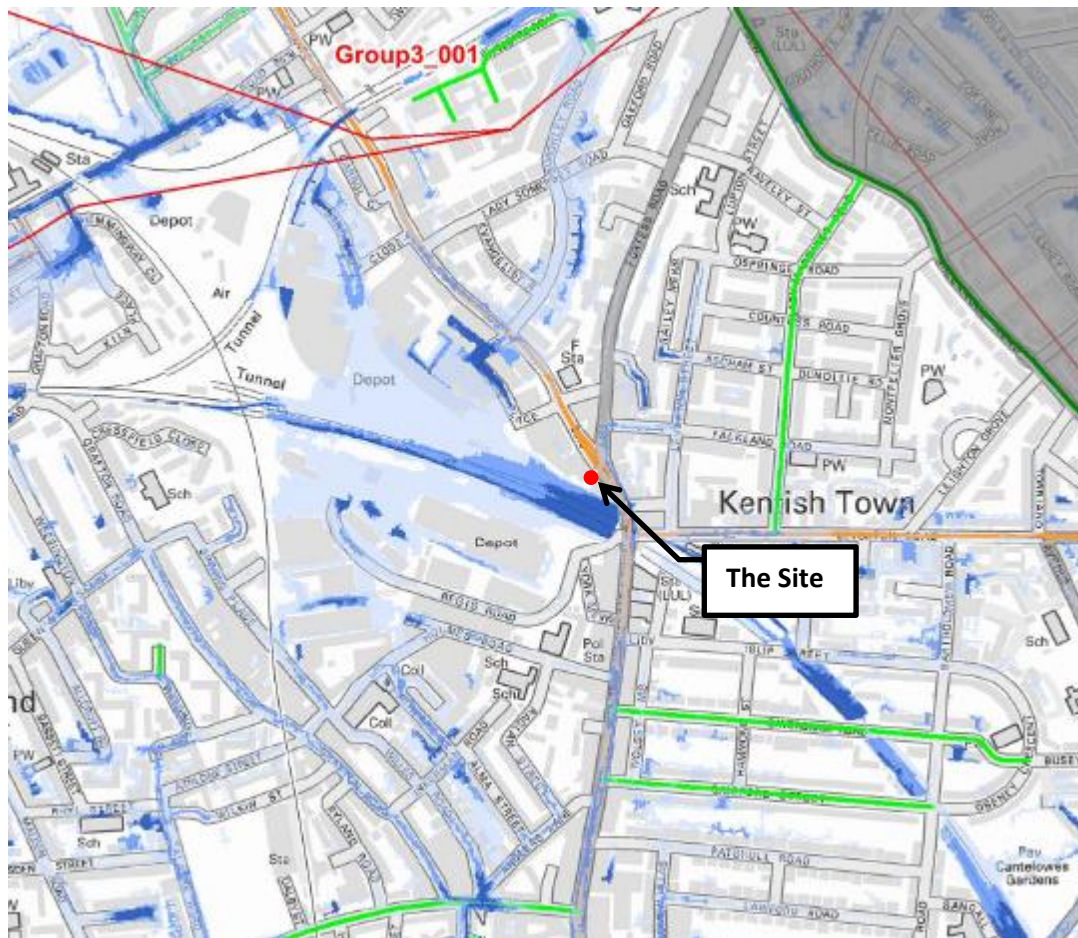


Figure 2-3 SFRA Groundwater Susceptibility Mapping



Sequential and Exception Tests

- 2.12 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).
- 2.13 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.

Adopted London Borough of Camden Core Strategy 2010-2025

- 2.14 The following applicable flood risk and drainage policies for the Site are as follows:
- Policy CS 13 (Tackling climate change through promoting higher environmental standards);
 - Policy DP 22 (Promoting sustainable design and construction); and
 - Policy DP 23 (Water).

3. BASELINE CONDITIONS

Existing Site

3.1 The existing Site is currently occupied by a single building containing B8 warehousing.

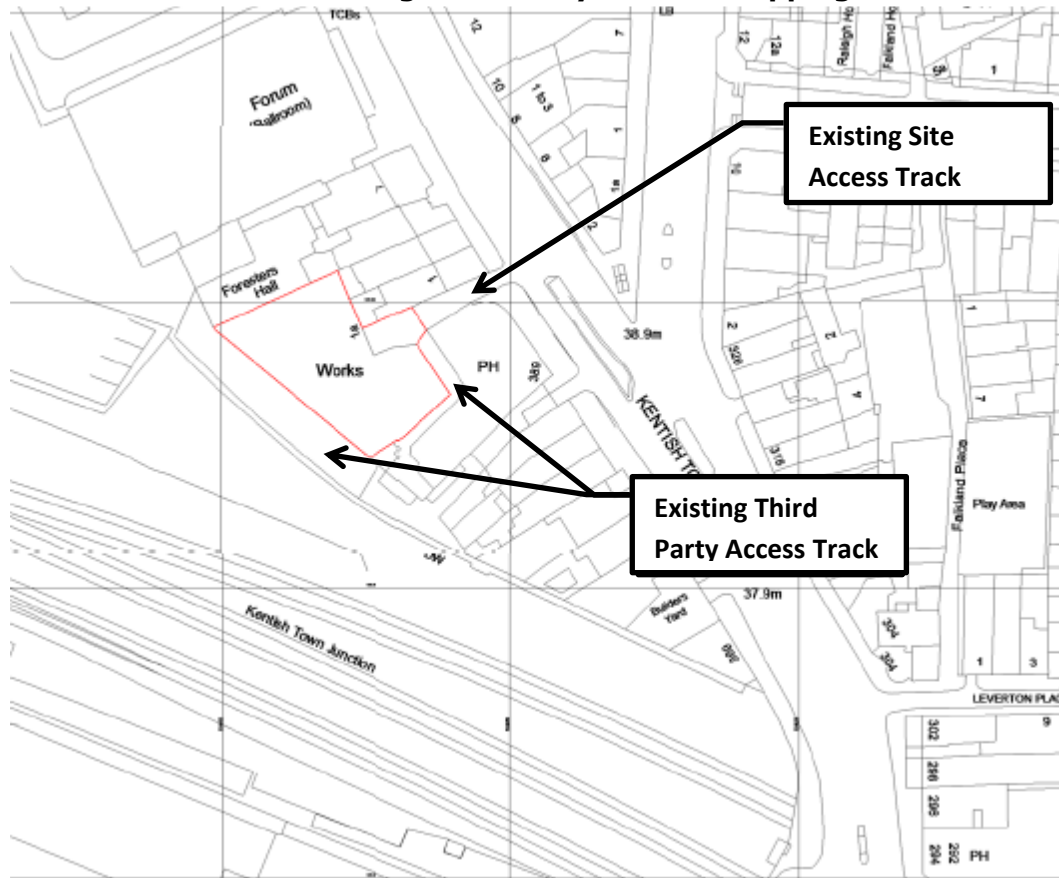
Topography

3.2 A topographical survey for the Site to local datum was procured by Green Architecture in January 2012. An annotated survey complete with high and low points can be viewed within **Appendix C** and Key Feature Map can be viewed in **Figure 3-1** below.

3.3 The following information from the survey is summarised below:

- Highgate Road to the east of the Site falls in a southerly direction away from the site access;
- The access track incorporates a highpoint within the alignment between the Bull and Gate (Public House) and existing residential development of approximately 10.412m. From the highpoint the track falls towards Highgate Road and the existing third party access track with forms the immediate eastern and southern boundary of the site;
- The third party access track has a low point along its alignment of 9.989m. This low point incorporates a highway gully to manage flows. The track rises to a level of 10.130m to the south of the site whereby it is assumed to join the existing third party access track alongside the railway;
- Part of the aforementioned track has been surveyed immediately west of the site with levels falling in a northerly direction to a level of 9.125m;
- The existing internal courtyard of the site ranges in level between 10.283m – 10.146m and falls towards the existing third party access track; and
- The existing warehousing finished floor levels range between 10.080m and 10.275m.

Figure 3-1 Key Feature Mapping



Existing Sewer Infrastructure

- 3.4 Thames Water has provided a sewer record plan as shown in **Figure 3-2**.
- 3.5 The plan indicates that there is a 1549x991mm combined sewer located within Highgate Road which flows in a southerly direction. The depth of this sewer is currently unknown.
- 3.6 There is also a 1219mm diameter surface water flood relief sewer located in Highgate Road at an approximate depth of 14mbgl. The flood relief details/mechanism of the sewer are unknown at this stage.
- 3.7 Following review of the topographical survey, the Site is served by an existing private combined sewer network, the details of this network will be confirmed via a drainage connectivity survey post planning. However, it is anticipated that the existing onsite drainage connects to the public combined sewer within Highgate Road.

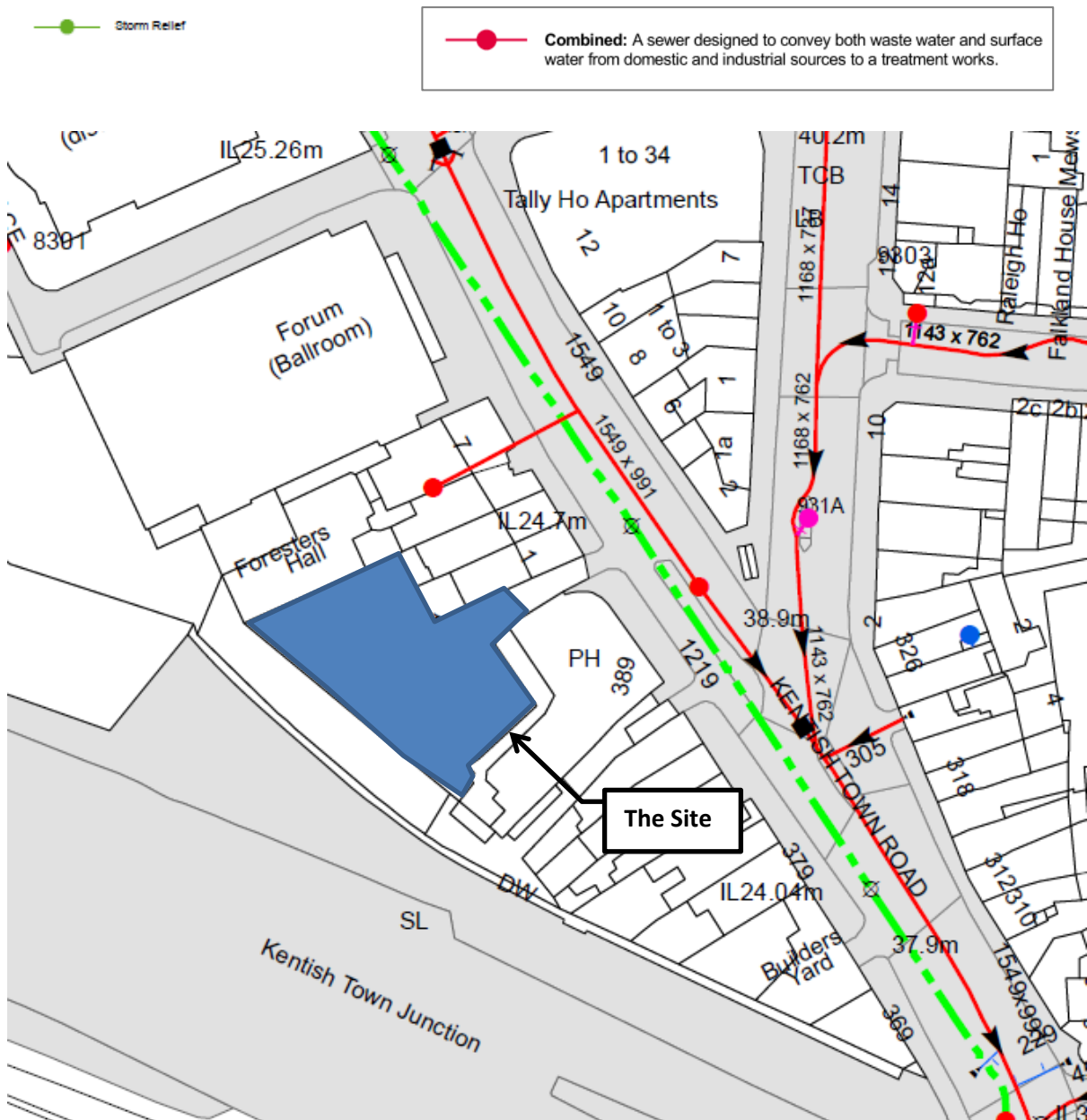
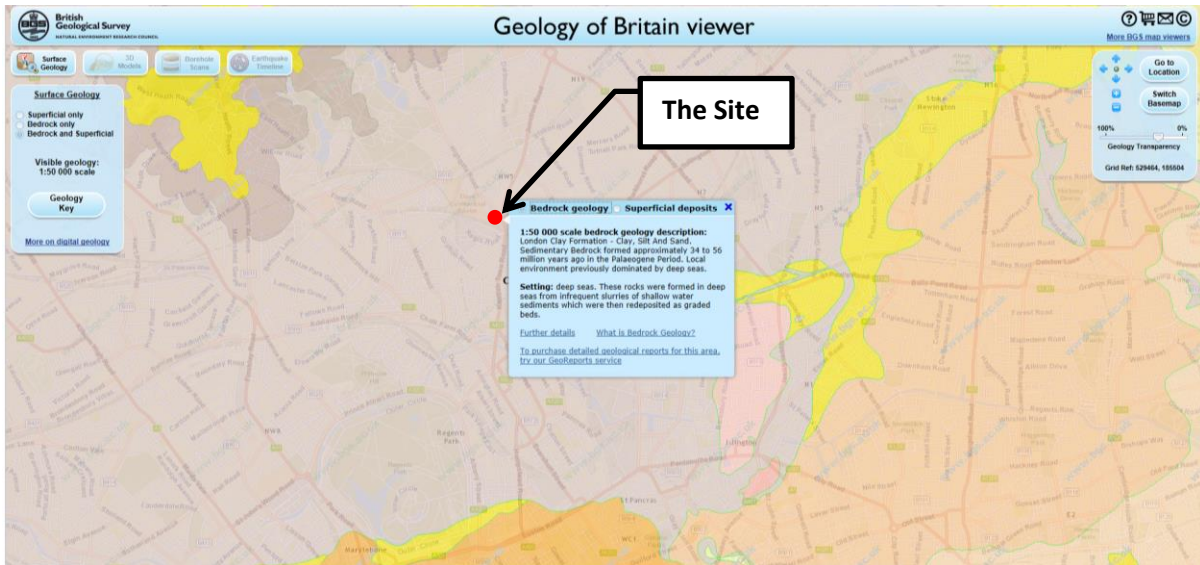


Figure 3-2: Thames Water Asset Location Sewer Map

Ground Conditions

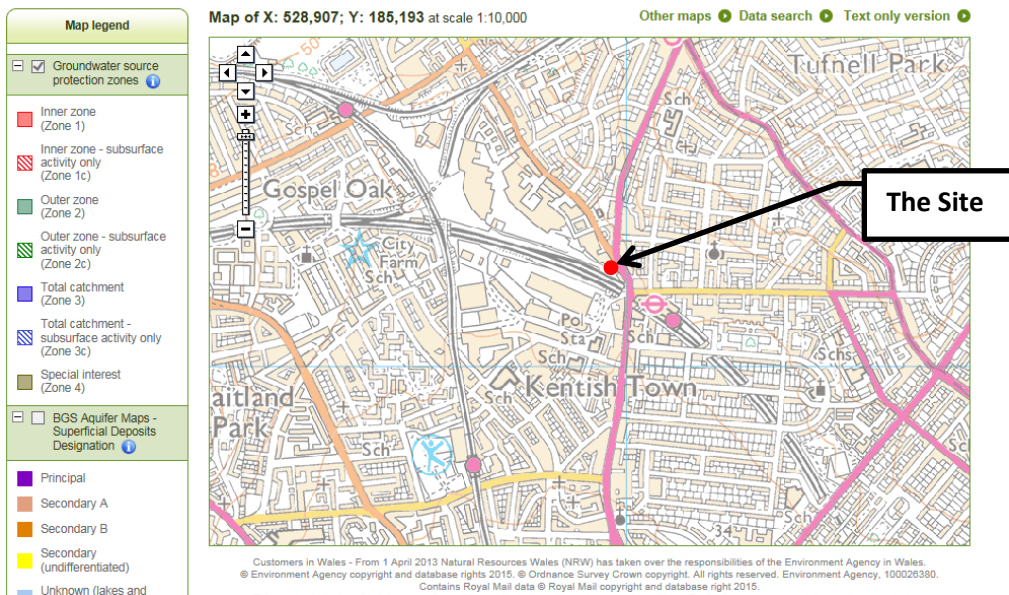
3.8 According to the British Geological Society (BGS) online datasets, the bedrock geology is London Clay Formation (clay and silt). There are no recorded superficial soil deposits. Refer to **Figures 3-3** for details:

Figure 3-3: BGS Records – Bedrock Data



3.9 The Site is not located within a Groundwater Source Protection Zones (SPZ). Refer to **Figure 3-4** for details:

Figure 3-4: Environment Agency SPZ Mapping



Hydrology

3.10 The nearest watercourse is the River Thames located 2 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.

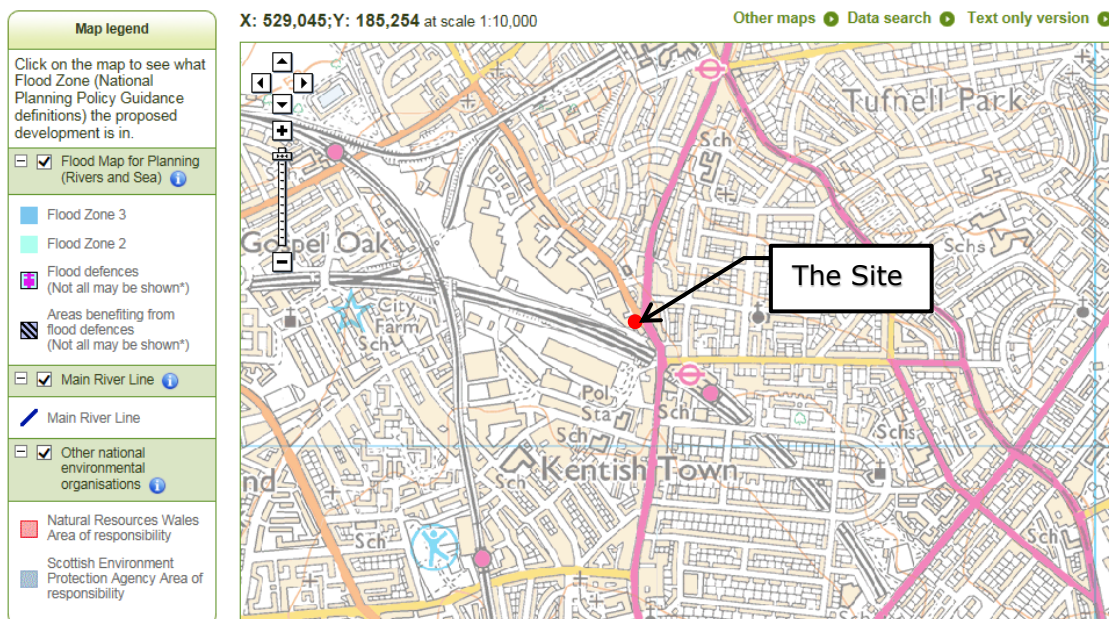
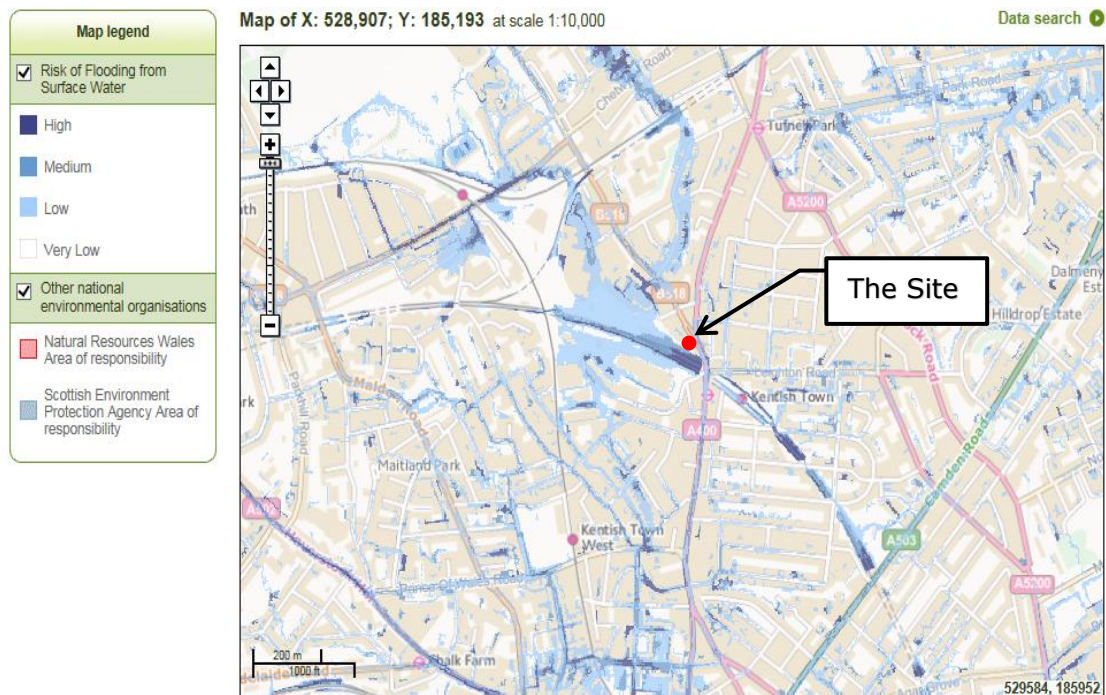


Figure 4-1 EA Online Fluvial Flood Mapping

Surface Water Flooding

- 4.2 The EA Surface Water Flood Map and London Borough of Camden Surface Water Management Plan mapping 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%). Refer to **Figures 2-2 and 4-2**.

Figure 4-2 EA Online Surface Water Flood Mapping



Groundwater Flooding

- 4.3 Mapping within the SFRA shows the site to be located outside of areas of 'Increased Susceptibility to Elevate Groundwater'. Refer to **Figure 2-3** for details.
- 4.4 From review of the BGS online borehole data the nearest publicly available borehole record is located approximately 100m north of the site (ref no. TQ28NE43). Groundwater was recorded at a level of approximately 27 ft below ground level.
- 4.5 In light of the data available at the time of writing this report there is no record to show that the Site has been affected by groundwater flooding in the past. The risk from groundwater flooding to the Site is therefore considered very low.

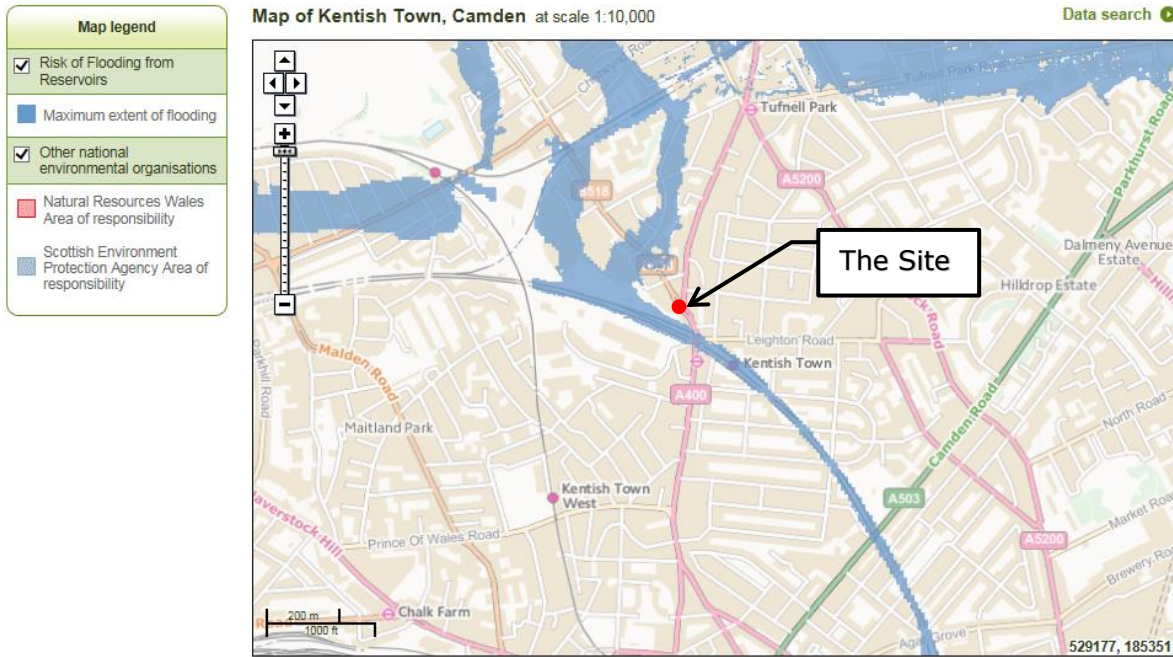
Sewer Flooding

- 4.6 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

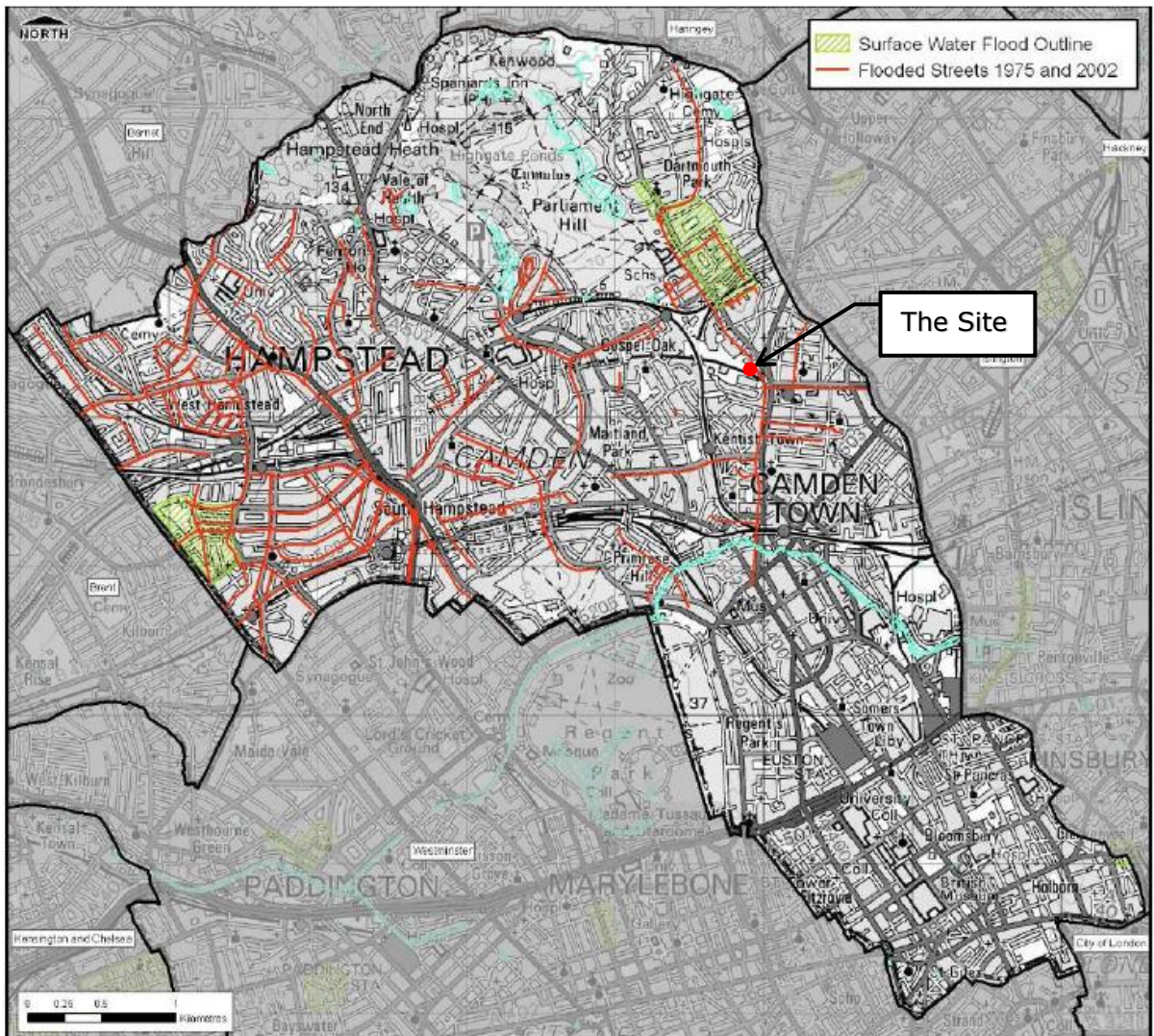
4.7 The EA flood mapping shows that the Site does not fall within the maximum extent of flooding from the reservoir. Refer to **Figure 4-3**.



Historical Flooding

4.8 The London Borough of Camden Surface Water Management Plan flood mapping shows that the Site has not been subject to any historical flooding. Refer to **Figure 4-4** below.

Figure 4-4 SWMP Historical Flood Mapping



5. SURFACE WATER MANAGEMENT

- 5.1 From review of the existing topographical survey, it is believed that surface water runoff from the existing development currently discharges into the Thames Water combined sewer in Highgate Road via an existing combined private network.
- 5.2 As the proposals are for the internal conversion of the existing warehouse, 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.
- 5.3 An assessment of incorporating SuDS within the development was undertaken in the form of permeable paving and green roofing. It is not considered reasonably practicable to incorporate such measures due to the existing roof arrangement and the spatial constraints within the existing courtyard.

Foul Water

- 5.4 The existing foul flow for B8 warehousing is estimated to be 0.16l/s based on Surveyor methodology whilst the proposed residential foul flow is estimated to be 0.60l/s based on Sewer for Adoption methodology. The permitted development will utilise the existing combined private sewer network onsite for foul water disposal.
- 5.5 The increase in peak foul flow is deemed negligible however the flows will be subject to Thames Water approval post planning.

Flood Risk Management

- 5.6 The existing internal finished floor levels of the warehouse will not be subject to variation, however the risk of flooding to the Site is considered low, therefore the current ground level is deemed suitable for sleeping accommodation.
- 5.7 Safe access and egress is available to the east via Highgate Road if needed.

6. CONCLUSION AND RECOMMENDATIONS

- 6.1 Ardent Consulting Engineers has been appointed by IDM Land Ltd to provide a Flood Risk Statement (FRS) to support a planning application for a permitted development to convert the existing B8 warehouse to residential usage comprising 13 self-contained residential dwellings in Highgate, London Borough of Camden.
- 6.2 The Site is located wholly in Flood Zone 1 and is not considered to be at risk from any other sources of flooding, therefore demonstration of the Sequential and Exception Tests are not required.
- 6.3 The London Borough of Camden Surface Water Management Plan flood mapping shows that the site has not been subject to any historical flooding.
- 6.4 The proposed Site will utilise existing connections to discharge surface and foul flows into Thames Water combined network via the existing private drainage network. It is not considered reasonably practicable to implement additional SuDS features (i.e. install permeable paving or green roofs) due to the existing site constraints.
- 6.5 Sleeping accommodation can be located on the ground floor as the Site is within Flood Zone 1.
- 6.6 Safe access and egress is available to the east via Highgate Road if needed.
- 6.7 The permitted development will utilise the existing combined private sewer network onsite for foul water disposal. The increase in foul flow is deemed negligible but will be subject to Thames Water approval post planning.
- 6.8 In conclusion, this assessment demonstrates that the proposals are consistent with the aims of the NPPF, the relevant Planning Practice Guidance and Permitted Development along with the aims of the Strategy Flood Risk Assessment (including the broader strategic planning requirements of Camden Council). The proposed conversion will not increase the risk on Site or to others.

Appendix A

Thames Water Asset Plan and Correspondence

Asset Location Search



Ardent Consulting Engineers
Suite 207

LONDON
E1 8DE

Search address supplied 3
Highgate Road
London
NW5 1JY

Your reference Z180 Highgate Camden

Our reference ALS/ALS/24/2015_3215925

Search date 11 December 2015

You are now able to order your Asset Location Search requests online by visiting
www.thameswater-propertysearches.co.uk



Asset Location Search



Search address supplied: 3, Highgate Road, London, NW5 1JY

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

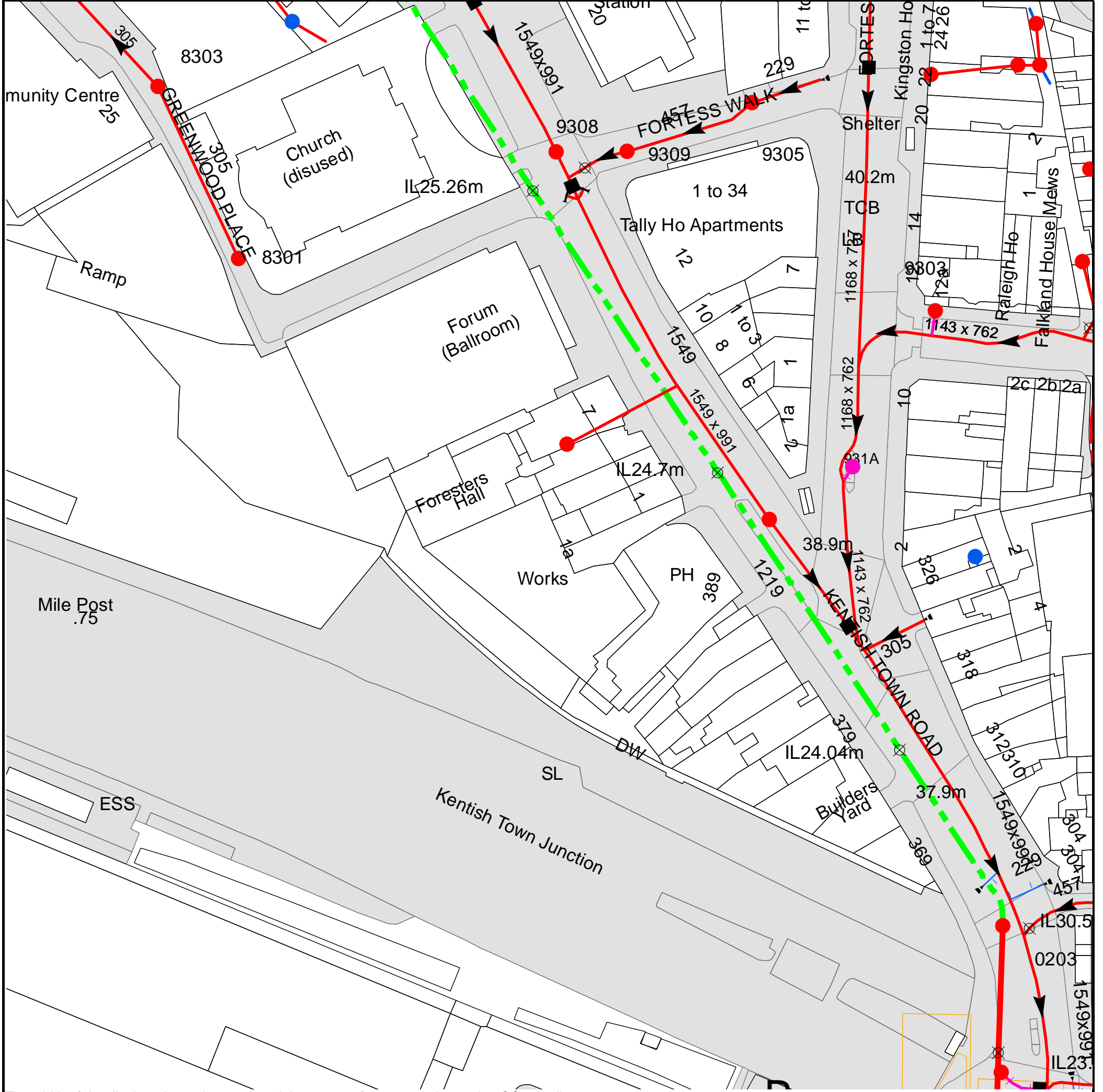
Clean Water queries

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/24/2015_3215925



The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 528922,185296

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
03FC	n/a	n/a
03DJ	n/a	n/a
0101	n/a	n/a
0203	37.35	23.64
02AG	n/a	n/a
931B	n/a	n/a
931A	38.9	n/a
93DD	n/a	n/a
9303	n/a	n/a
8301	36.97	35.34
9308	n/a	n/a
9309	n/a	n/a
9305	39.67	37.42
8303	36.54	34.92
93DA	n/a	n/a
03AG	n/a	n/a
03AH	n/a	n/a
03AI	n/a	n/a
83AG	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.

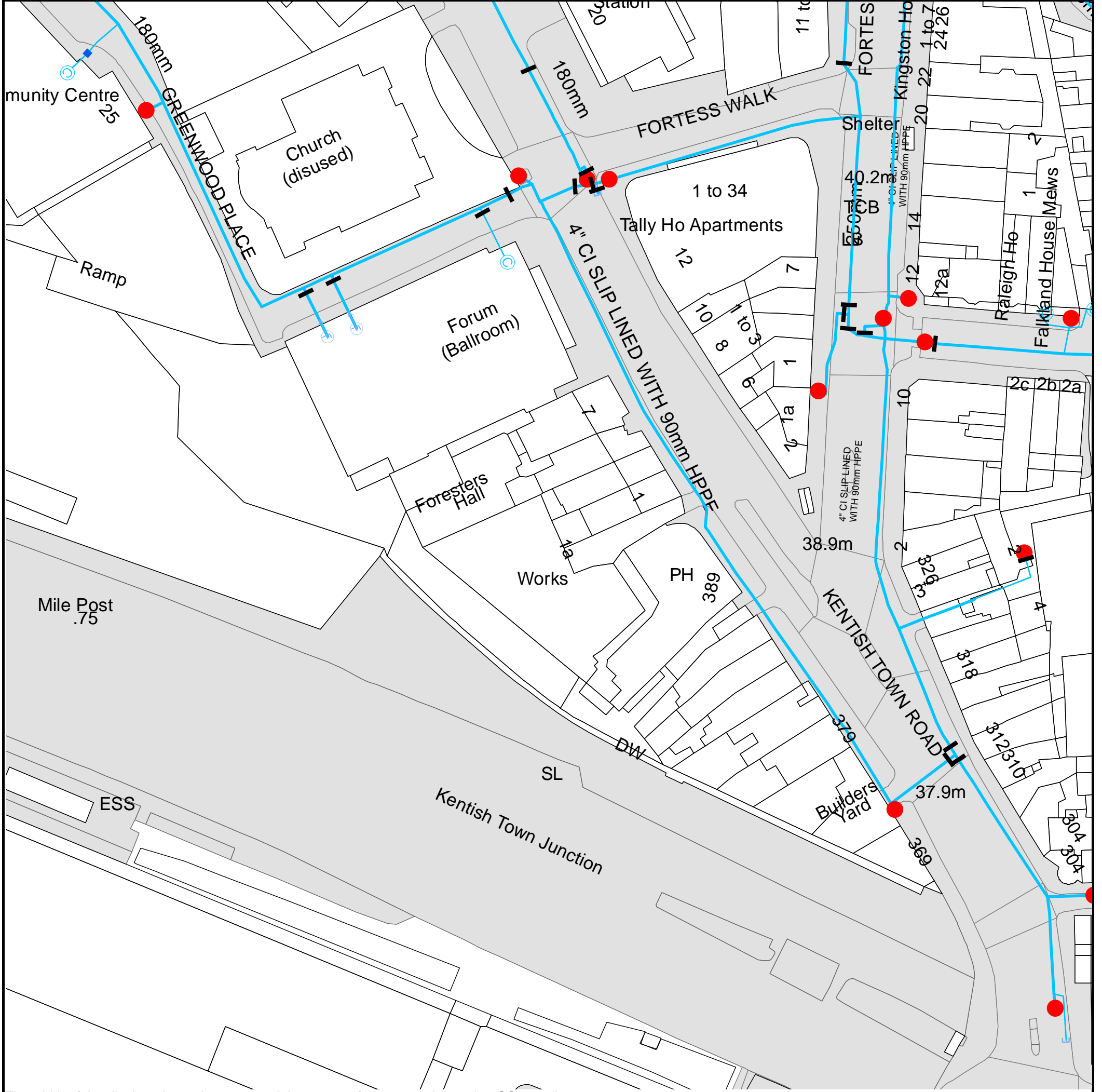
-  Agreement
-  Operational Site
-  Chamber
-  Tunnel
-  Conduit Bridge

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 528922, 185296.

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.



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.

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 14 days from due 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. Thames Water does not accept post-dated cheques-any cheques received will be processed for payment on date of receipt.
5. In case of dispute TWUL`s terms and conditions shall apply.
6. 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'.
7. Interest will be charged in line with current Court Interest Charges, if legal action is taken.
8. 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 not satisfied with the response, your complaint will be reviewed by the Customer Services Director. You can write to him at: Thames Water Utilities Ltd. PO Box 492, Swindon, SN38 8TU.

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 0121 345 1000 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	Cheque
Call 0845 070 9148 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	Made payable to ' Thames Water Utilities Ltd ' Write your Thames Water account number on the back. Send to: Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW or by DX to 151280 Slough 13

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



Search Code

IMPORTANT CONSUMER PROTECTION INFORMATION

This search has been produced by Thames Water Property Searches, Clearwater Court, Vastern Road, Reading RG1 8DB, which is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered search firms maintain compliance with the Code.

The Search Code:

- provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom
- sets out minimum standards which firms compiling and selling search reports have to meet
- promotes the best practise and quality standards within the industry for the benefit of consumers and property professionals
- enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.

By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code's core principles

Firms which subscribe to the Search Code will:

- display the Search Code logo prominently on their search reports
- act with integrity and carry out work with due skill, care and diligence
- at all times maintain adequate and appropriate insurance to protect consumers
- conduct business in an honest, fair and professional manner
- handle complaints speedily and fairly
- ensure that products and services comply with industry registration rules and standards and relevant laws
- monitor their compliance with the Code

Complaints

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award compensation of up to £5,000 to you if he finds that you have suffered actual loss as a result of your search provider failing to keep to the Code.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.

TPOs Contact Details

The Property Ombudsman scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Email: admin@tpos.co.uk

You can get more information about the PCCB from www.propertycodes.org.uk

PLEASE ASK YOUR SEARCH PROVIDER IF YOU WOULD LIKE A COPY OF THE SEARCH CODE

Sewer Flooding

History Enquiry



Ardent Consulting Engineers

Search address supplied 3
Highgate Road
London
NW5 1JY

Your reference Z180

Our reference SFH/SFH Standard/2015_3215937

Received date 11 December 2015

Search date 12 December 2015

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



Search address supplied: 3,Highgate Road,London,NW5 1JY

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

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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

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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

This drawing is the © Avebury Projects Ltd.

Do not scale from this drawing

Any discrepancies to be reported to Avebury Projects Ltd immediately.

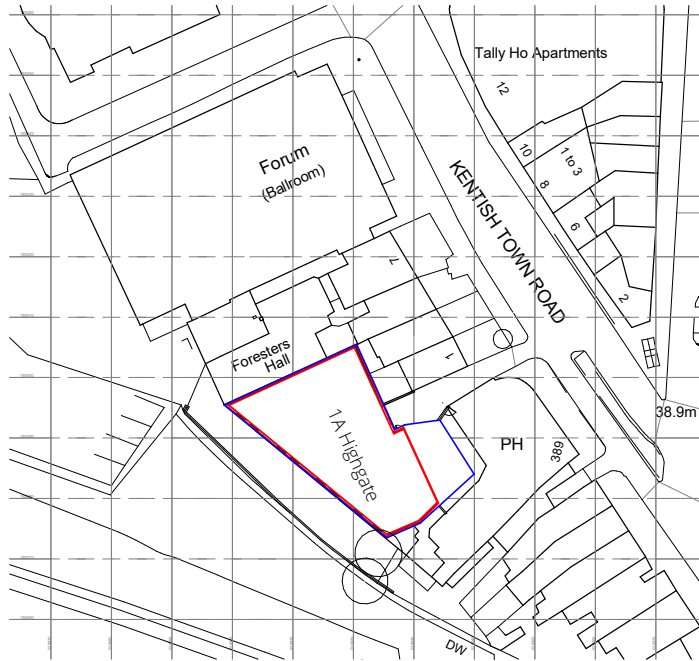
All dimensions should be checked on site.

Contractor to refer to Existing / Demolition & Proposed Architectural drawings, Supporting Information, Supplier & Specialist Information and Architectural Specification.

Unless amended by the Specification all materials and workmanship are to comply with the latest editions of relevant British Standards Institution Specifications and Codes of Practice (unless registered under previous regulations). Proprietary materials are to be used strictly in accordance with the manufacturer's recommended specifications.

All mechanical and electrical information shown on drawings is indicative. Contractor should refer to M&E Drawings & Specification for further details.

All structural information shown on drawings is indicative. Contractor should refer to SE Drawings & Specification for further details.



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3	Boundary shown	jb	09.09.16
2	Issue for Planning	jb	08.09.16
1	First Issue	jb	20.08.16

rev	description	drw	date
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AVEBURY
- 1986 2016 -

IDM Land Limited

Highgate Piano Factory
1A Highgate Road

Site Location Plan

Scale @A3 1 : 1250

Drawing number Revision
050 **P3**



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All dimensions should be checked on site.

Contractor to refer to Existing / Demolition & Proposed Architectural drawings, Supporting Information, Supplier & Specialist Information and Architectural Specification.

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All structural information shown on drawings is indicative. Contractor should refer to SE Drawings & Specification for further details.

4	Issue for Planning	jb	08.09.16
3	Boundary shown	jb	09.09.16
2	Issue for Comment	jb	06.09.16
	GIA boundary included	jb	06.09.16
	FF height adjusted	jb	06.09.16
1	First Issue	jb	31.08.16

rev	description	drw	date
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AVEBURY
- 1986 2016 -

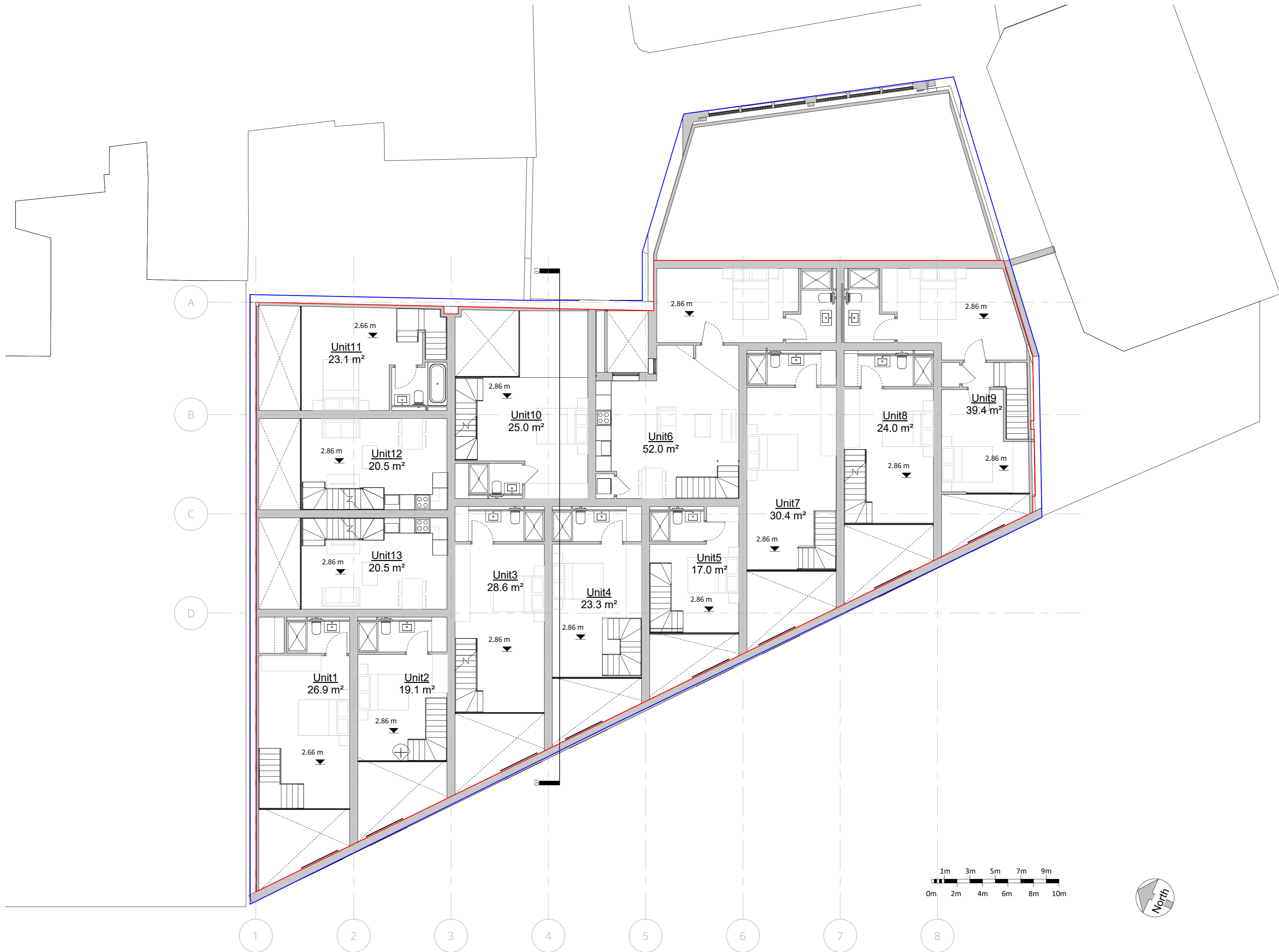
IDM Land Limited

Highgate Piano Factory
1A Highgate Road

Ground Floor Layout 13 Unit PD

Scale @A2 1 : 100
For Planning

Drawing number Revision
070 P4



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Contractor to refer to Existing / Demolition & Proposed Architectural drawings, Supporting Information, Supplier & Specialist Information and Architectural Specification.

Unless amended by the Specification all materials and workmanship are to comply with the latest editions of relevant British Standards Institution Specifications and Codes of Practice (unless registered under previous regulations). Proprietary materials are to be used strictly in accordance with the manufacturer's recommended specifications.

All mechanical and electrical information shown on drawings is indicative. Contractor should refer to M&E Drawings & Specification for further details.

All structural information shown on drawings is indicative. Contractor should refer to SE Drawings & Specification for further details.

4	Issue for Planning	jb	08.09.16
3	Boundary shown	jb	09.09.16
2	Issue for Comment	jb	06.09.16
	GIA boundary included	jb	06.09.16
	FF height adjusted	jb	06.09.16
1	First Issue	jb	31.08.16

rev	description	drw	date
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AVEBURY
- 1986 2016 -

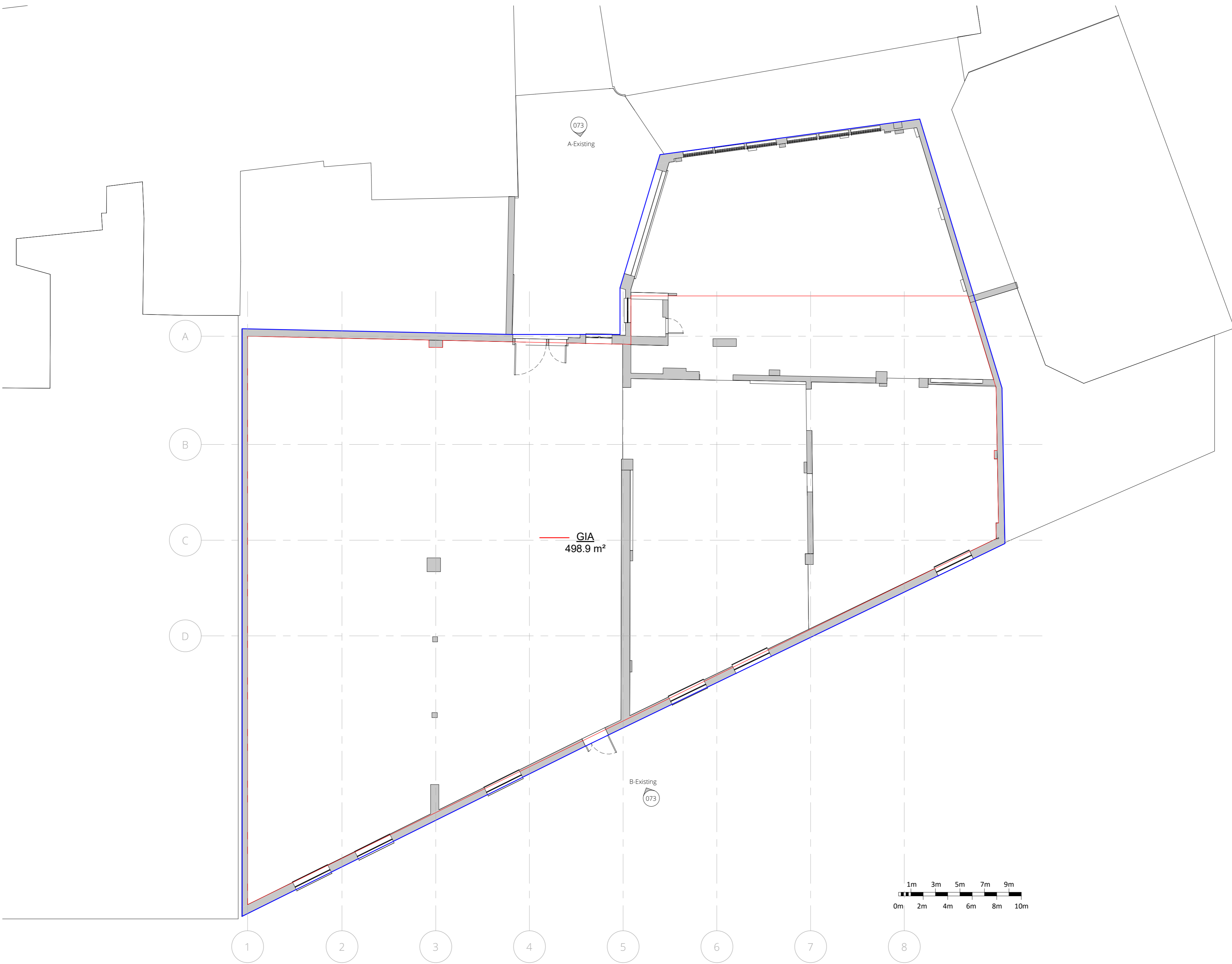
IDM Land Limited

Highgate Piano Factory
1A Highgate Road

First Floor Layout 13 Unit PD

Scale @A2 1 : 100
For Planning

Drawing number	Revision
071	P4



This drawing is the © Avebury Projects Ltd.

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All mechanical and electrical information shown on drawings is indicative. Contractor should refer to M&E Drawings & Specification for further details.

All structural information shown on drawings is indicative. Contractor should refer to SE Drawings & Specification for further details.

4	Issue for Planning	jb	08.09.16
3	Boundary shown	jb	09.09.16
2	Issue for Comment	jb	06.09.16
	GIA boundary included	jb	06.09.16
1	First Issue	jb	31.08.16

rev	description	drw	date
-----	-------------	-----	------

AVEBURY
- 1986 2016 -

IDM Land Limited

Highgate Piano Factory
1A Highgate Road

Existing Gross Internal Area

Scale @A2 1 : 100
For Planning

Drawing number Revision
072 P4

Do not scale from this drawing

Any discrepancies to be reported to Avebury Projects Ltd immediately.

All dimensions should be checked on site.

Contractor to refer to Existing / Demolition & Proposed Architectural Drawings, Supporting Information, Supplier & Specialist Information and Architectural Specification.

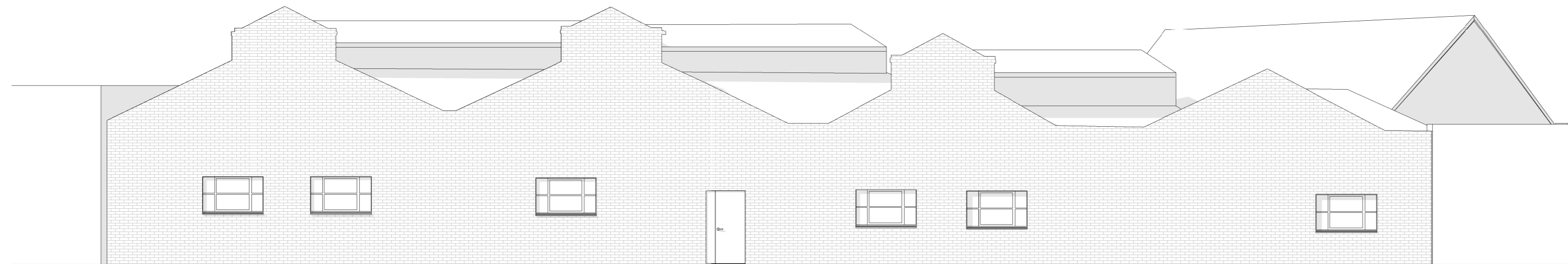
Unless amended by the Specification all materials and workmanship are to comply with the latest editions of relevant British Standards Institution Specifications and Codes of Practice (unless registered under previous regulations). Proprietary materials are to be used strictly in accordance with the manufacturer's recommended specifications.

All mechanical and electrical information shown on drawings is indicative. Contractor should refer to M&E Drawings & Specification for further details.

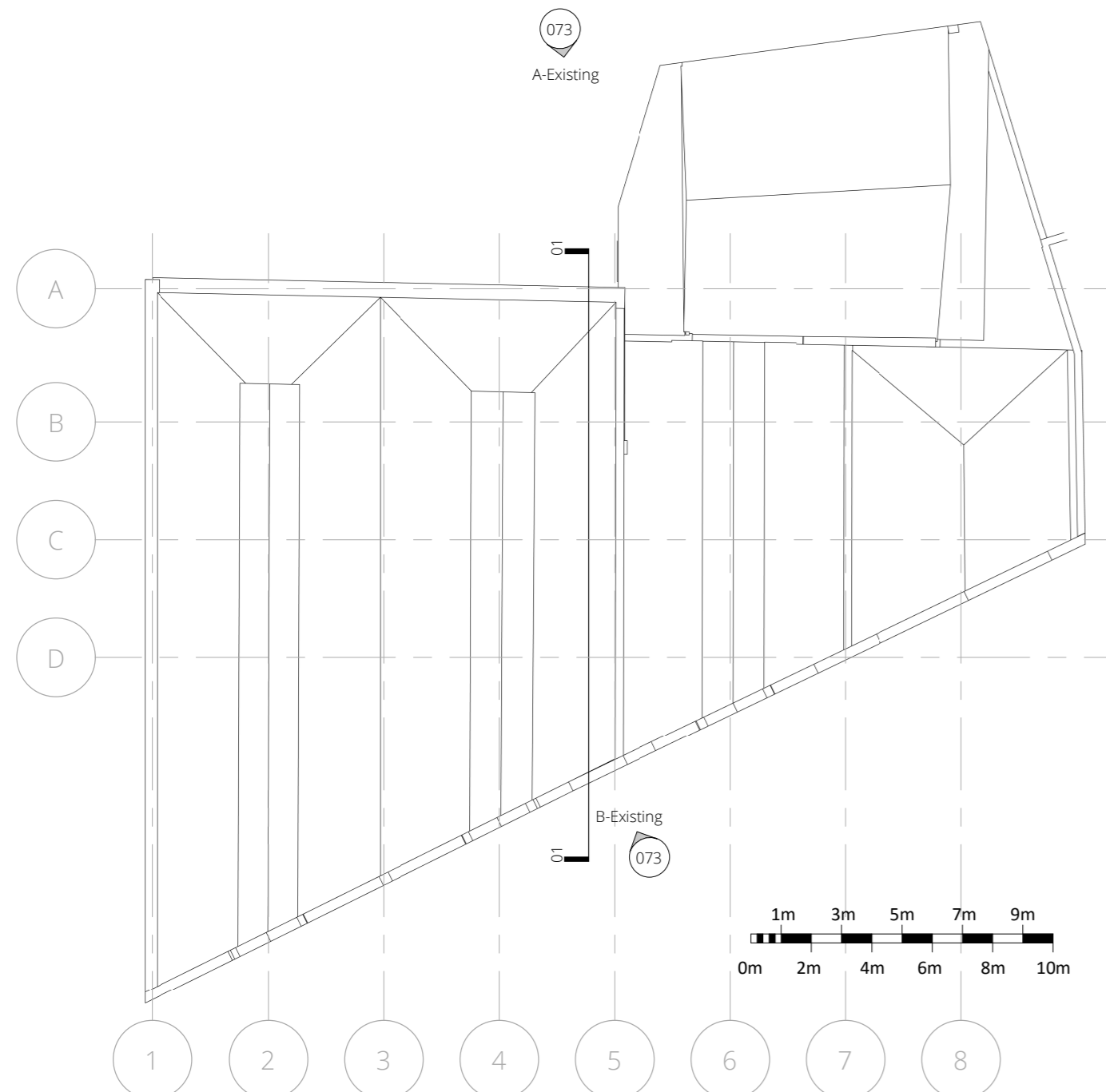
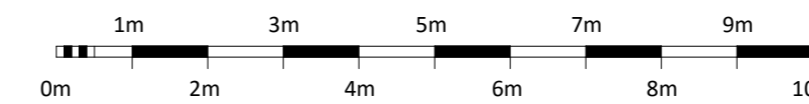
All structural information shown on drawings is indicative. Contractor should refer to SE Drawings & Specification for further details.



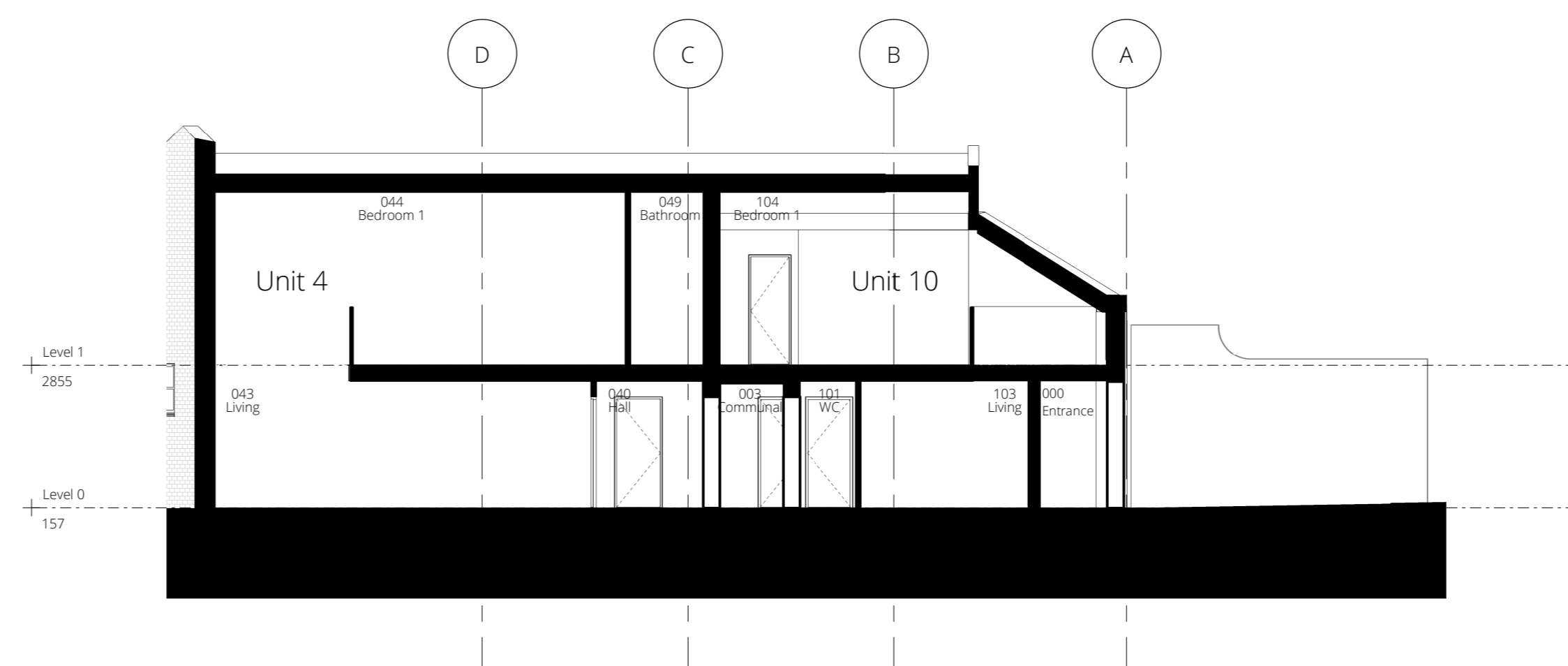
A-Existing Front Elevation
1:100



B-Existing Rear Elevation
1:100



RF Existing Roof Plan
1:200



01 Section 01
1:100

3	Issue for Planning	jb	08.09.16
2	Entrance area and bike storage amended	jb	08.09.16
1	First Issue	jb	06.09.16
rev	description	drw	date



IDM Land Limited

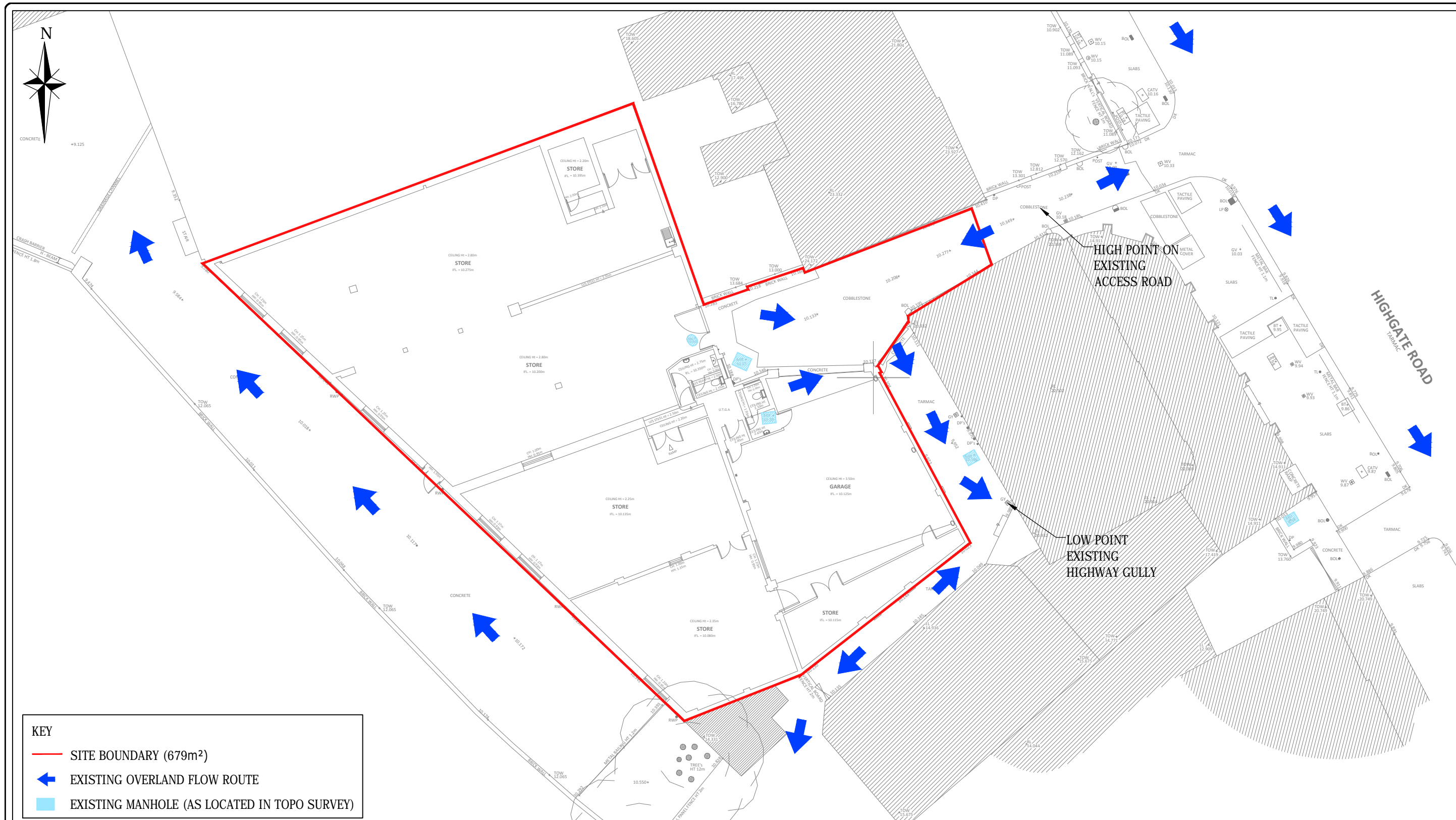
Highgate Piano Factory
1A Highgate Road

Roof Plan, Elevations and Section 01

Scale @A2 As indicated
For Planning

Drawing number Revision
073 **P3**

Appendix C
Annotated Topographical Survey



KEY	
	SITE BOUNDARY (679m ²)
	EXISTING OVERLAND FLOW ROUTE
	EXISTING MANHOLE (AS LOCATED IN TOPO SURVEY)

- NOTES:
1. TOPOGRAPHICAL SURVEY IS BASED ON DRAWING PRODUCED BY GREEN ARCHITECTURE DATED 16.11.12
 2. ALL LEVELS ARE TO LOCAL DATUM UNLESS OTHERWISE STATED

FOR PLANNING



REV.	AMENDMENTS	DRN	CHK	APP	DATE

ARDENT CONSULTING ENGINEERS

Suite 207, One Alie Street, London, E1 8DE
 t 020 7680 4088 f 020 7488 3736
 w www.ardent-ce.co.uk e enquiries@ardent-ce.co.uk

PROJECT TITLE:
**HIGHGATE ROAD
 CAMDEN**

DRAWING TITLE:
**EXISTING SITE LAYOUT
 AND LEVELS**

CLIENT:
IDM PROPERTIES LLP

SCALE: 1:200	DATE: 14/12/15	DESIGNED: -
DRAWN: KC	CHECKED: JD	APPROVED: LI
DRAWING NO. Z180-001		REV: -

Appendix D
Foul Water Loadings

FOUL LOADING CALCULATION

Project Ref No. **Z180**
 Project Title **1A Highgate Road**



Scenario EXISTING

Date 21/09/2016

Development Type	Proposed Area/Units	Hours (hrs)	Thames Water Flow Rate l/day	Peak Factor	Peaked Loading l/s	Development Loading (l/s)
Warehouse (B8)	590 sqm	10	150 per 100 sqm	6.6	0.0275 per 100 sqm	0.162

TOTAL EXISTING FOUL LOADING = 0.162

Scenario PROPOSED

Development Type	Proposed Area/Units	Hours (hrs)	Thames Water Flow Rate l/day	Peak Factor	Peaked Loading l/s	Development Loading (l/s)
Residential	13 property	24	600 per property	6.6	0.045833333 per property	0.596
Commercial	454 sqm	12	300 per property	6.6	0.045833333 per property	0.208

TOTAL PROPOSED FOUL LOADING = 0.596