

Nolan Associates

consulting civil and structural engineers

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Bennet Court Reading LLFA Response

Project No.	2022-124	
Checked by:	JG	Pages:
Date:	April 2023	
Issued to:		
Issued by:		



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LLFA Comments

1. It is proposed that the site will discharge to the public sewer at a greenfield runoff rate of 5l/s in accordance with the UK Suds website however, the applicant is required to fully calculate what that greenfield run off rate would be given that this would be different for each site. In addition to this the applicant would be required to calculate what the existing brownfield run off rate would be, both of these calculations would allow for the Flood Authority to confirm whether the proposal results in a reduced run off rate from the site.
2. The proposed SuDs layout can also not be formally agreed at this time given that the applicant has only assumed the location of the main sewer which may not be accurate. A detailed drainage design would therefore be required which would form part of a condition.
3. The applicant has specified that there is insufficient space in which to provide any swales / ponds / basins etc however the building line is currently set back at least 9m from the back edge of the footway and therefore this could have been considered as part of the initial design process but has not. In addition, the drainage design should fully address the infiltration element of the hierarchy given the Geo-Environmental Assessment states the following:

Given the generally cohesive nature of the shallow soils, the construction of soakaways is unlikely to be suitable however depending on the requirements of the Local Lead Flood Authority/ EA then in-situ soakaways tests and seasonal groundwater monitoring may be required to assess the viability of soakaway construction.

This would therefore confirm that some element of infiltration may be possible and requires further investigation.

4. The proposal also does not address Policy EN14 or EN18 of the Reading Borough Local Plan which states the following:

Wherever possible, SuDS provision should maximise ecological benefits, link into the existing Green Network, incorporate tree planting and landscaping and avoid damage to existing significant trees, including through changes to the site hydrology.

This has not been included within the SuDs proposal with the green space, which is also being reduced in area across the site.

Comments Response

1. The existing impermeable area is circa 6210m². using the industry accepted method of 50mm/hr for a brownfield calculation would equate to a discharge rate of $6210 \times 50/3600 = 86.25\text{l/s}$. The existing Qbar for the development is 0.3l/s which is an unfeasible discharge rate for the development and the proposal of 5l/s is a dramatic reduction from the existing discharge rate. The Qbar Calculation can be seen in Appendix A.

2. Sewer record has been purchased to confirm sewer locations within Bennet Road and we are undertaking a CCTV survey to confirm the existing connections from the site.

3. The distance from the proposed office element to the boundary is 5.39m, and from the footway to the boundary is 3.8m therefore meaning there is insufficient space available for a swale or pond. The comment that there is at least 9m would be more suited to the existing layout.

The Geo-Environmental Assessment states that given the generally cohesive nature of the shallow soils, the construction of soakaways is unlikely to be suitable. However, we will get some soakaway testing undertaken when on site and send the results across when available.

4. We have proposed SuDS where possible. The proposed development is largely impermeable due to the requirements of the development and therefore the only viable SuDS solution would be porous paving. The existing trees to remain will drain as they currently do as will the remaining green network. we would not propose to discharge water away from the existing green network as this provides benefit to the green network for growth purposes.

Jamie Glynn

B.Eng. M.Sc.

For Nolan Associates

Appendix A

QBar Calculations

Nolan Associates Ltd		Page 1
54 Hagley Road Birmingham West Midlands B16 8PE		
Date 12/04/2023 15:55 File	Designed by j.glynn Checked by	
Causeway		Source Control 2020.1.3
<u>ICP SUDS Mean Annual Flood</u> Input Return Period (years) 100 Soil 0.150 Area (ha) 0.621 Urban 0.000 SAAR (mm) 700 Region Number Region 6 Results 1/s QBAR Rural 0.3 QBAR Urban 0.3 Q100 years 0.8 Q1 year 0.2 Q30 years 0.6 Q100 years 0.8		
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Appendix B

Sewer Record

Asset location search



Property Searches

Nolan Associates
54 Hagley Road
Birmingham
BIRMINGHAM
B16 8PE

Search address supplied Reflex Ltd
Unit 1
Bennet Court
Bennet Road
Reading
RG2 0QX

Your reference Bennett Court

Our reference ALS/ALS/24/2023_4813698

Search date 14 April 2023

Notification of Price Changes

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

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

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



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



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



0800 009 4540

Search address supplied: Reflex Ltd, Unit 1, Bennet Court, Bennet Road, Reading, RG2 0QX

Dear Sir / Madam

An Asset Location Search is recommended when undertaking a site development. It is essential to obtain information on the size and location of clean water and sewerage assets to safeguard against expensive damage and allow cost-effective service design.

The following records were searched in compiling this report: - the map of public sewers & the map of waterworks. Thames Water Utilities Ltd (TWUL) holds all of these.

This search provides maps showing the position, size of Thames Water assets close to the proposed development and also manhole cover and invert levels, where available.

Please note that none of the charges made for this report relate to the provision of Ordnance Survey mapping information. The replies contained in this letter are given following inspection of the public service records available to this company. No responsibility can be accepted for any error or omission in the replies.

You should be aware that the information contained on these plans is current only on the day that the plans are issued. The plans should only be used for the duration of the work that is being carried out at the present time. Under no circumstances should this data be copied or transmitted to parties other than those for whom the current work is being carried out.

Thames Water do update these service plans on a regular basis and failure to observe the above conditions could lead to damage arising to new or diverted services at a later date.

Contact Us

If you have any further queries regarding this enquiry please feel free to contact a member of the team on 0800 009 4540, or use the address below:

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

Email: searches@thameswater.co.uk

Web: www.thameswater-propertysearches.co.uk

Waste Water Services

Please provide a copy extract from the public sewer map.

Enclosed is a map showing the approximate lines of our sewers. Our plans do not show sewer connections from individual properties or any sewers not owned by Thames Water unless specifically annotated otherwise. Records such as "private" pipework are in some cases available from the Building Control Department of the relevant Local Authority.

Where the Local Authority does not hold such plans it might be advisable to consult the property deeds for the site or contact neighbouring landowners.

This report relates only to sewerage apparatus of Thames Water Utilities Ltd, it does not disclose details of cables and or communications equipment that may be running through or around such apparatus.

The sewer level information contained in this response represents all of the level data available in our existing records. Should you require any further Information, please refer to the relevant section within the 'Further Contacts' page found later in this document.

For your guidance:

- The Company is not generally responsible for rivers, watercourses, ponds, culverts or highway drains. If any of these are shown on the copy extract they are shown for information only.
- Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an 'as constructed' record. It is recommended these details be checked with the developer.

Clean Water Services

Please provide a copy extract from the public water main map.

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

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

pressure test to be carried out for a fee.

For your guidance:

- Assets other than vested water mains may be shown on the plan, for information only.
- If an extract of the public water main record is enclosed, this will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

Payment for this Search

A charge will be added to your suppliers account.

Further contacts:

Waste Water queries

Should you require verification of the invert levels of public sewers, by site measurement, you will need to approach the relevant Thames Water Area Network Office for permission to lift the appropriate covers. This permission will usually involve you completing a TWOSA form. For further information please contact our Customer Centre on Tel: 0845 920 0800. Alternatively, a survey can be arranged, for a fee, through our Customer Centre on the above number.

If you have any questions regarding sewer connections, budget estimates, diversions, building over issues or any other questions regarding operational issues please direct them to our service desk. Which can be contacted by writing to:

Developer Services (Waste Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

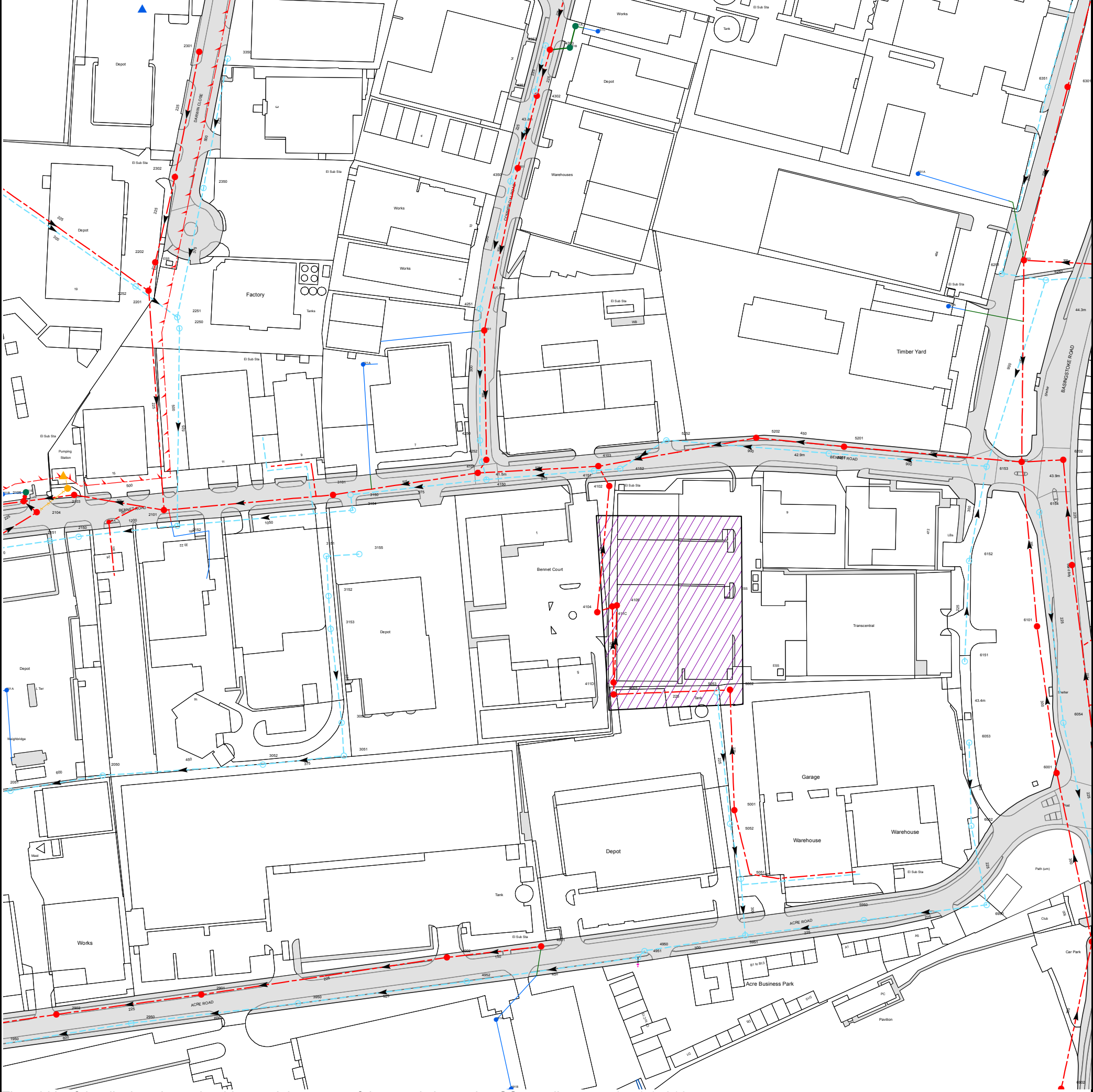
Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk

Clean Water queries

Should you require any advice concerning clean water operational issues or clean water connections, please contact:

Developer Services (Clean Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0800 009 3921
Email: developer.services@thameswater.co.uk



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 471451,170164
The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

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

NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available

Manhole Reference	Manhole Cover Level	Manhole Invert Level
3101	40.83	37.82
321A	n/a	n/a
4001	n/a	n/a
411D	41.9	39.82
4104	41.39	39.33
411C	42.4	39.57
4105	42.41	39.62
4102	41.64	39.11
4103	41.49	38.53
201A	n/a	n/a
2101	40.05	37.21
5002	42.64	40.24
631A	n/a	n/a
621A	n/a	n/a
6153	43.95	41.16
6251	43.69	42.03
6201	43.95	41.31
6203	43.91	41.51
6252	43.89	41.89
6351	44.74	42.88
6202	n/a	n/a
6301	n/a	n/a
4951	41.53	39.71
4950	41.24	39.66
5053	n/a	n/a
5052	41.42	40.56
5001	42.38	40.77
5051	42.33	40.31
5951	41.71	40.19
5950	42.25	40.72
6151	43.45	42.31
6053	43.27	41.75
6152	43.74	42.17
6052	43.24	41.48
6950	n/a	n/a
6101	44.2	40.07
6154	43.78	42.7
6001	43.66	40.23
6902	42.82	40.5
6054	43.76	42.47
6102	43.8	40.64
4150	41.28	39.54
4101	41.32	38.22
4151	41.46	39.77
4152	41.5	39.8
4252	41.29	39.74
4202	41.31	n/a
5251	42.79	40.53
5201	43.03	39.79
5252	41.71	39.9
4250	41.35	40.01
5202	42.34	39.71
4201	41.69	40.15
4251	n/a	n/a
4350	42.92	40.88
4301	43.13	n/a
4302	44.1	41.96
4351	44.16	42.59
4303	44.76	42.93
431B	n/a	n/a
4352	44.81	43.49
431C	n/a	n/a
431A	n/a	n/a
3052	n/a	n/a
3950	40.11	38.87
3051	n/a	n/a
4902	40.59	38.52
4952	40.64	39.29
491A	n/a	n/a
491B	n/a	n/a
4901	40.99	38.99
3350	43.67	41.38
3050	40.21	38.43
3153	39.93	38.85
3152	39.95	38.96
3151	40.31	39.17
3155	40.78	39.44
2151	39.89	38.04
2150	40.11	38.24
2152	40.37	38.6
211A	n/a	n/a
2104	39.25	35.81
3154	41.04	39.22
2105	39.61	35.18
3150	40.85	39.25
2103	n/a	n/a
211B	n/a	n/a
211E	n/a	n/a
2252	41.65	39.52
2201	n/a	n/a
2202	41.96	39.23

Manhole Reference	Manhole Cover Level	Manhole Invert Level
2302	42.28	40.02
2251	41.69	39.32
2250	41.64	39.25
2301	43.61	41.01
2350	42.33	40.48
2051	n/a	n/a
2902	39.34	37.39
2050	n/a	n/a
2950	39.72	38.47
2901	39.88	37.78
6002	43.65	40.79
711A	n/a	n/a
6901	43.49	40.41
6051	43.65	42.3
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Asset Location Search - Sewer Key

Public Sewer Types (Operated and maintained by Thames Water)

	Foul Sewer: A sewer designed to convey waste water from domestic and industrial sources to a treatment works.
	Surface Water Sewer: A sewer designed to convey surface water (e.g. rain water from roofs, yards and car parks) to rivers or watercourses.
	Combined Sewer: A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.
	Storm Sewer
	Sludge Sewer
	Foul Trunk Sewer
	Surface Trunk Sewer
	Combined Trunk Sewer
	Foul Rising Main
	Surface Water Rising Main
	Combined Rising Main
	Vacuum
	Thames Water Proposed
	Vent Pipe
	Gallery

Other Sewer Types (Not operated and maintained by Thames Water)

	Sewer		Culverted Watercourse
	Proposed		Decommissioned Sewer
	Content of this drainage network is currently unknown		Ownership of this drainage network is currently unknown

Notes:

- 1) All levels associated with the plans are to Ordnance Datum Newlyn.
- 2) All measurements on the plan are metric.
- 3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate the direction of flow.
- 4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.

Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

	Air Valve		Meter
	Dam Chase		Vent
	Fitting		

Operational Controls

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

	Ancillary		Drop Pipe
	Control Valve		Weir

End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol. Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

	Inlet		Outfall
	Undefined End		

Other Symbols

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

	Change of Characteristic Indicator		Public / Private Pumping Station
	Invert Level		Summit

Areas

Lines denoting areas of underground surveys, etc.

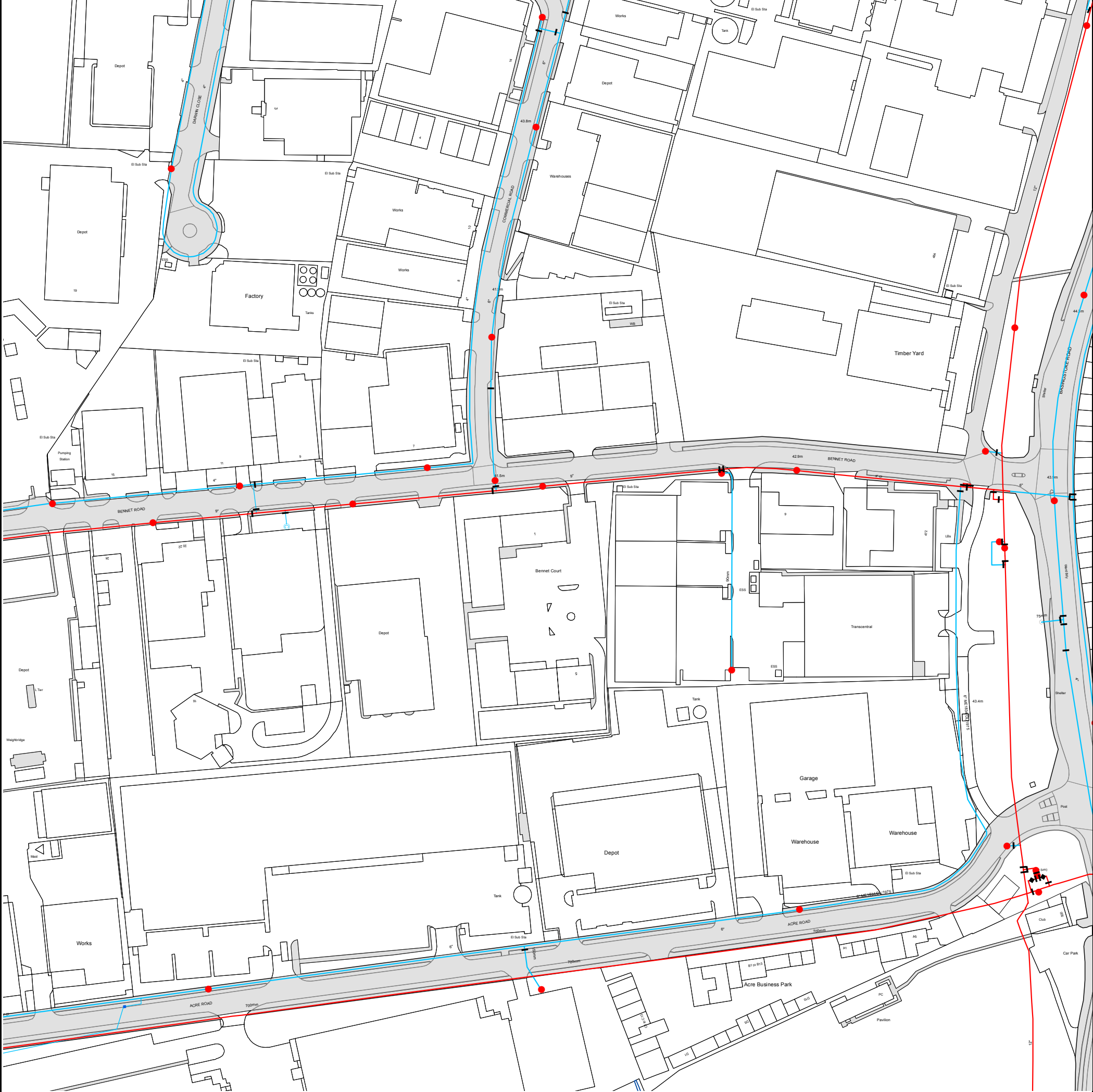
	Agreement
	Chamber
	Operational Site

Ducts or Crossings

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

5) 'na' or '0' on a manhole indicates that data is unavailable.

6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimeters. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology, please contact Property Searches on 0800 009 4540.



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 471451, 170164.
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Asset Location Search - Water Key

Water Pipes (Operated & Maintained by Thames Water)

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

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

Valves

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

Hydrants

- Single Hydrant

Meters

- Meter

End Items

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

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

Operational Sites

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

Other Symbols

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

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

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

Payment Terms and Conditions

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

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

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

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

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

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

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

Ways to pay your bill

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

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