



Utilities Statement

Jackson's Corner

For SG Capital, International House, 1-6 Yarmouth Place, W1J 7BU

April 2016

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Issue	Final				
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Job no.	8.638				

Executive Summary

The Utilities Statement has been prepared by XCO₂ Energy Ltd on behalf of SG Capital, to accompany the planning application for the Jackson's Corner development. The Development proposal includes 34 No residential and 3 No retail units.

XCO₂ Energy Ltd have identified existing services infrastructure within the vicinity of the development, produced preliminary load assessments for new connections and collaborated with the various utilities providers to establish any potential constraints and site limitations.

Water

A 400mm trunk main and a 100mm distribution main runs alongside the development. These are likely to have sufficient capacity to facilitate a connection to serve the new development (To be confirmed by Thames Water). The estimated connection size would be 100mm. As per the existing asset records, diversions may not be required but an application to Thames Water is required to verify this along-with any required disconnections. Applications for new connection will be made at a later date.

Electricity

The surrounding area is serviced by SSE and no existing connections are indicated onsite. The estimated load for the new development is 400 kVA. This load is planned to be served by installing a new sub-station to the northeast corner of the site. Disconnections & new connection applications have to be made to SSE.

Gas

A 100 CI gas main running alongside the site beneath Abbey Square is likely to have sufficient capacity to serve the new development (To be confirmed by SGN). The size of incoming gas pipes is to be confirmed by SGN with the new connections cost estimate.

Diversions of gas infrastructure may not be required as per exiting asset records. New connections applications will be made at a later date.

Foul

Records of the existing site show no connection within the site boundary. The existing foul sewer may be used to serve the new development. The existing sewer point will need to be capped of during excavation works. An application for build-over may be required post planning based on the approved plans.

Note:

Where detailed site investigations at the post planning stage indicate that diversions within the site boundary or upgrades to connecting infrastructure will be required this would become part of the project cost and programme.

An analysis of existing services infrastructure within the vicinity of the proposed development (including the site itself) has been undertaken and demonstrates that there are no constraints relating to such infrastructure, which would prevent delivery of the proposal.

1. Introduction

1.1 Background

This Utilities Statement has been prepared by XCO₂ Energy Ltd for SG Capital. It accompanies a planning application for a mixed-use development at Jackson's Corner, Reading. The development consists of 18 No dwellings housed in a refurbished building, 16 No dwellings in a new building and 3 No retail units. The site location is shown on Figure 1.1 below. A detailed site plan is attached in the Appendices.

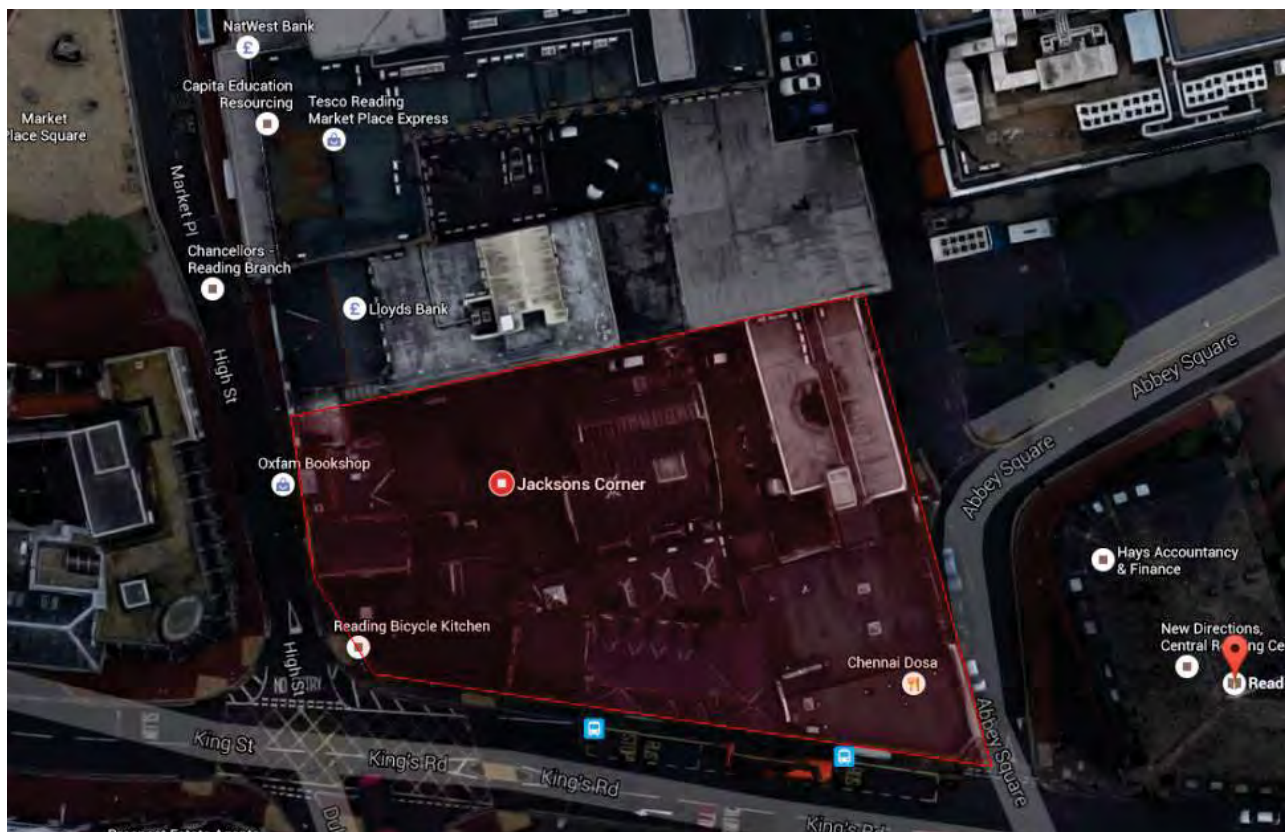


Figure 1.1: Location plan

1.2 Purpose of report

The purpose of this report is to assess the likely demand that the proposed development will have on the local utility networks and infrastructure. Furthermore, it highlights any likely significant enhancements, diversions, new equipment and/or provision for future works to satisfy the local authority's requirements.

XCO₂ Energy Ltd has consulted with the various service providers to assess available information within the utilities network and wherever available, to obtain indicative budget cost estimates for new connection or upgradation works.

1.3 Limitations

The scope of this statement is limited to a desktop study and is reliant on information received from third parties. The accuracy of information received from them cannot be guaranteed and XCO₂ Energy Ltd accepts no liability for errors or omissions in the supplied data.

The exact location and depth of services described in this report will need to be confirmed by an investigation prior to the commencement of any works on site.

1.4 Structure

The report is structured as follows:

- Section 2 presents the existing infrastructure networks in the vicinity of the site.
- Section 3 provides information on new utilities connections.
- Section 4 provides a summary and concludes the report.

2. Existing Utilities Infrastructure

2.1 Site description

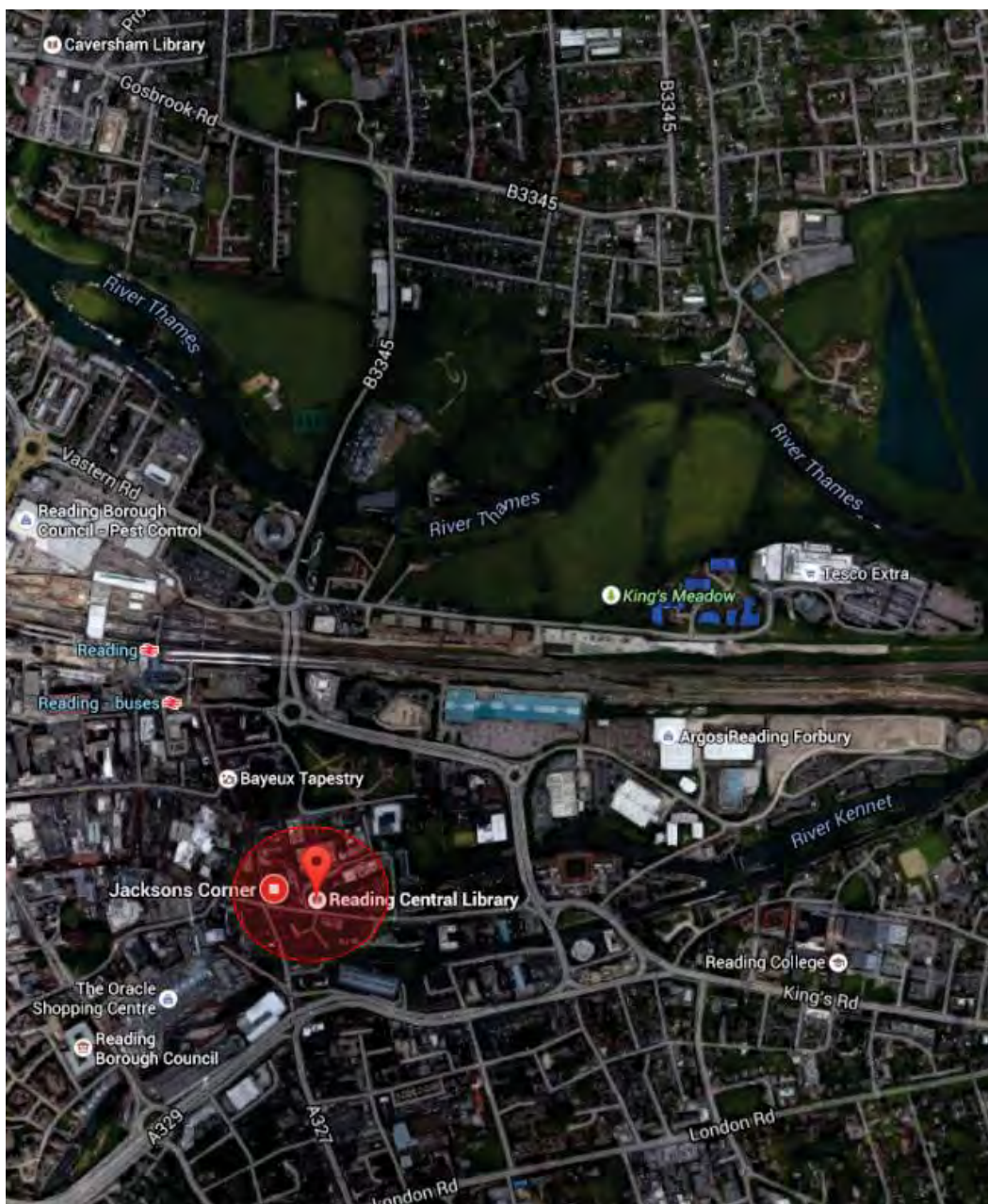


Figure 2.1: Satellite photo of the site surroundings

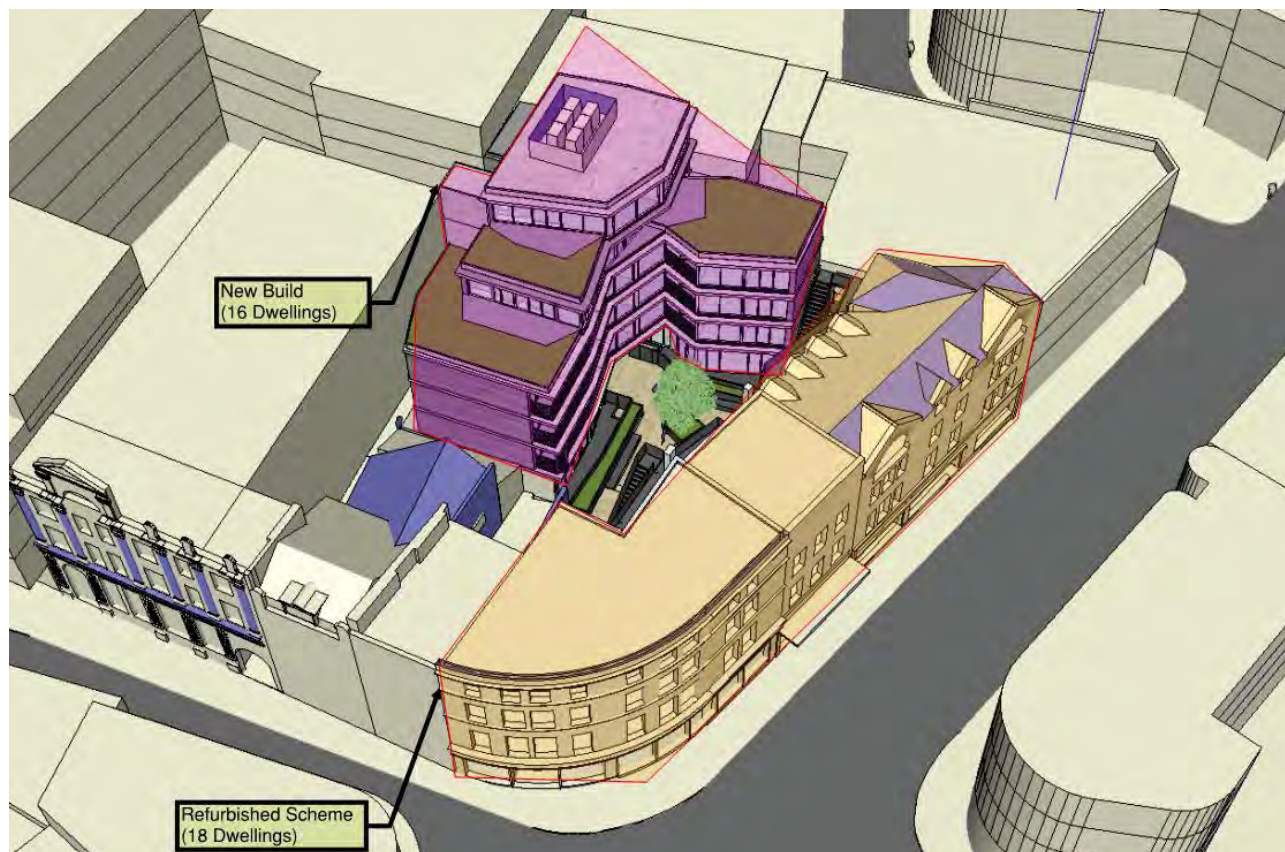


Figure 2.2: Planned Site and Context

The site is located on the east side of the A329 passing through Reading, at the junction of High Street and King's Road. Reading Station is situated approximately 800m northwest of the site. Residential and commercial establishments lie in the vicinity of the site. Presently the site space is home to a few residential and commercial units.

2.2 Statutory services

In order to identify the type and approximate location of existing below ground infrastructure, asset location plans have been obtained from statutory undertakers.

It should be noted that all locations of existing infrastructure are approximate and should be used only for information purposes. Actual positions should be identified by an on-site investigation prior to commencement of any site-related works and should be undertaken as per the utility company's requirements.

2.3 Water

Thames Water is the public/clean water supplier for the site area. Water is provided in the area via pipework running beneath High Street & King's Road. Mains water pipes run adjacent to the proposed development, and continue south beneath Duke Street & East beneath Abbey Square.

A review of the water infrastructure map provided by Thames Water demonstrates no existing water mains connections within the site's boundaries. However, a survey needs to be carried out to confirm if any diversions are required. Applications for disconnections and diversions of these services, if required, will be made to Thames Water at a later date.

2.4 Electricity

Scottish & Southern Energy (SSE) is the electricity distributor of the area. Following the assessment of the drawings provided by SSE, it is evident that there is sufficient electrical infrastructure around the site location. A sub-station is present on the north-east side of the site.

As per the information provided by SSE, electrical cables do not pass through the site and hence may not need any diversions. However, an onsite survey needs to be carried out to confirm this. An application for disconnections will have to be made to SSE. Serial numbers of electricity meters on site will need to be provided to SSE to complete the disconnections application. As advised by SSE, a new substation will be required to serve the proposed development.

2.5 Gas

Scotia Gas Networks (SGN) operates the gas distribution network in the area. A 63mm PE gas main pipe runs beneath King's Road and High Street. In addition, there is also a 100mm CI gas main running beneath Abbey Square adjacent to the proposed development. Asset records provided by SSE indicate that there is 1 No existing gas-supply connections of size 63mm, on the southern site boundary along King's Road. XCO2 have sent a confirmation request regarding the existing connections and affected infrastructure to SGN, the response to which is expected in 15 working days.

2.6 Sewer

Thames Water Utilities Ltd is the public sewer services provider in the area. Sewer lines serve the area around the site and run beneath King's Road & High Street.

Asset records provided by Thames Water indicate no sewer connections within the site boundary. Hence no disconnections or diversions may be necessary. However, this needs to be confirmed by conducting an on-site survey.

2.7 Telecoms

Openreach (BT) asset records indicate no presence of BT apparatus within the boundary of the site. Therefore no diversions are necessary for BT apparatus. However, BT has advised to carry out a survey to identify the number of disconnections. Furthermore, the proposed development needs to be registered with the BT NewSites team. The disconnections survey and the registration can be carried out post planning

Virgin Media asset records indicate no presence of their apparatus within the site boundary. However, a confirmation regarding the same is awaited from Virgin Media in the coming weeks.

Vodafone apparatus is present within the site boundary and diversions are required for plant protection. A budget estimate for these works has been provided by Vodafone.

2.8 Summary of existing services

Table 2.8.1 Affected Utilities

Utility Company	Category	Response
Thames Water	Water	Public/ Clean water mains provider in the area - No existing mains connections within site boundary. Disconnections required. However, this must be checked via an onsite survey prior to demolition. Applications for disconnections/diversions may be required at a later date.
Scottish & Southern Energy	Electric	Electricity distributor of the area – No Existing mains cables running within the site boundary. The exact number and type of connections must be checked via an onsite survey prior to demolition. Diversions not necessary. Disconnections application will be made at a later date.
SGN	Gas	Gas provider in the area – 1 No existing connections on the southern site boundary. Further information regarding affected services awaited from SGN. As per current records, diversions may not be necessary. However, this must be checked via an onsite survey prior to demolition. Disconnections may be required. Disconnections application will be made at a later date.

Thames Water	Surface Water and/or Sewer	Public sewer owner - No existing connections within site boundary. The current connection will need to be capped of during excavation. No need to apply for disconnection to Thames Water.
Openreach (BT)	Telecom	One of the telecommunication provider in the area – No existing plant infrastructure within the site boundary. A survey regarding existing connections is needed. Based on the survey disconnections may be required. Development registration with BT NewSites tem required.
Virgin Media	Telecom	One of the telecommunication provider in the area – No existing plant infrastructure within the site boundary as per current records. Confirmation of the same awaited. Diversions/Disconnections may not be necessary. However, this must be checked via an onsite survey prior to demolition.
Vodafone	Telecom	One of the telecommunication provider in the area – Plant present within the site boundary. Diversions are necessary. Vodafone has provided budget estimate for the works which is attached is the Appendix.
KCOM	Telecom	One of the telecommunication provider in the area – No infrastructure within the site boundary as per records. However, confirmation regarding the same is expected in the coming weeks.
Reading Borough	Council	Details regarding affected services awaited from the council. A response is expected in the coming weeks.
Zayo Group	Telecom	Details regarding affected services awaited. A response is expected in 28 working days.
Environment Agency	Other	Consent from EA may not be required as the proposed development is not within 8m of the Thames or within 16m of tidal Thames. However, a confirmation regarding the same is awaited from EA.

Table 2.8.2: Not-Affected utilities

Utility	Category	Response
BSKYB Telecommunications Services	Telecom	Not affected
CityFibre	Telecom	Not affected
C.A. Telecom UK - [Colt Technology Services]	Telecom	Not affected
Energetics	Gas, Electric, Water	Not affected
euNetworks	Other	Not affected
Fulcrum Pipelines	Gas	Not affected
GTC	Telecom, Gas, Electric, Water	Not affected
High Speed 1 (HS1)	Rail	Not affected
Instalcom	Telecom	Not affected
Interoute Vtesse	Telecom	Not affected
Network Rail	Rail	Not affected
Plancast - [Interoute]	Telecom	Not affected
Telent - [TeliaSonera]	Telecom	Not affected
Trafficmaster	Other	Not affected
Verizon	Telecom	Not affected

XCO2 Energy Ltd considers the above tables to be complete based on the information received for the services present in the area. However, due care should be taken during future works on site or adjacent to site, in case non-identified services are present.

Table 2.8.3: Awaited responses from Services Providers

Utility	Category
McNicholas – [KPN International]	Telecom
McNicholas – [TATA Communications]	Telecom
Turner & Townsend – [MBNL]	Other

3. New Utilities

3.1 Development Proposal

The development proposal includes 34 No residential units and 3 No retail units. Vehicular and pedestrian access to the site will be via King's Road and High Street in locations indicated on the architectural backgrounds. XCO2 Energy Ltd have consulted with the various utilities providers regarding new connections to the proposed development and the feedback provided is presented in the following sections.

3.2 Water

Preliminary load calculations indicate a total demand of approximately 3100 DU for the residential development. This translates to approximately 6.5 l/s of cold water supply demand. Preliminary load calculations indicate that a 100mm pipe will be required to meet the water demand of the residential development. The retail unit No.1 will need a 32mm water connection. Unit No. 2 will need a 32mm water connection with 0.5l/s at 2 bar pressure. Unit No. 3 will need a 35mm water connection at 3 bar pressure. Should the utility provider not be able to provide the required flow rate/pressure to the retail units, the retail units should install a break tank and booster pumpset as required.

Boosted Cold Water route will be from the break tank in plantroom located in the basement of the new build to the water-meters located in the plantroom. The boosted domestic water pipes from each of the water meters will serve the flats in the new build through the risers as indicated on the architectural drawings. For the refurbished scheme, the boosted domestic water pipes from the water-meters will be routed up-to the ground floor and through the floor build-up in the central courtyard between the new build and the refurbished scheme and via the risers as indicated on the architectural drawings to serve the flats.

Following the information received regarding the existing water infrastructure and based on the water load assessment for the new development, the existing 400mm Trunk main running beneath King's Road or the 100 mm distribution main running beneath Abbey Square, would have sufficient capacity to meet the estimated load. The connection would be available at the site boundary to connect to the plantroom. Furthermore, it is evident that no diversions are required for the new development, as the drawings provided by Thames Water do not indicate mains services routed across the site boundary. However, this needs to be confirmed by making a diversions application to Thames Water. An application requesting for new water connection has to be made to Thames Water.

3.3 Electricity

Preliminary load assessment indicates a 400 kVA, 3 Phase, electricity demand for the entire development. Following the assessment provided by SSE, electrical services are present in the immediate surrounding area of the proposed development. The estimated load for the proposed development will be served by installing a new substation on the north-eastern corner of the site. The distribution cables to serve the flats will follow routes similar to the boosted cold water pipes. Budget estimate for new connections have been received and are attached in the Appendix. Furthermore, XCO2 has also requested for a formal quote to assess if the site can be served by substations existing in the surrounding area. The formal quote from SSE is expected in the coming weeks.

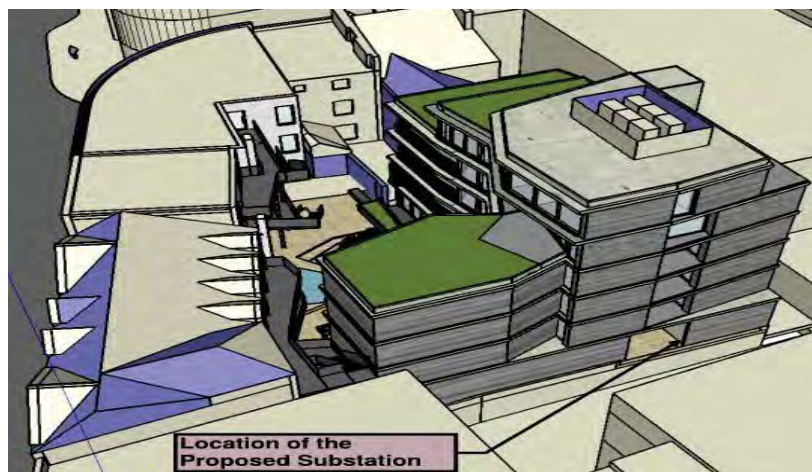


Figure 3.1: Existing and new substations locations

3.4 Gas

The peak gas load for each flat is estimated to be 30 kW. This load is a high level estimate and will be detailed in the subsequent design stages. The estimated peak load based on high level calculations for Unit No.1 is approximately 40 kW and should be confirmed by the tenant. Unit No. 2 is expected to have a peak load of 200kW and Unit No.3 a peak load of 250 kW. The loads for the retail units are based on the tenant requirements.

An application for a new gas connection is to be submitted to SGN for the proposed development. The incoming services route will be either from the eastern or the southern side of the site through to the gas meters located adjoining the sub-station. The gas pipes from individual meters will serve the flats following similar routes as the boosted cold water pipes and electrical cables.

Based on the above load assessment and the gas infrastructure in the surrounding area, the existing gas network is anticipated to have sufficient capacity to supply for the new development. This will be confirmed by the gas provider when an application for new connections is made.

As per the asset records, diversions of the gas infrastructure may not be needed within the site boundary. XCO2 is awaiting confirmation from SGN regarding details of affected areas of services within the site if any. Disconnections may be needed if confirmed. The applications for disconnections and new connections will be made at a later stage.

3.5 Foul drainage

Existing drainage infrastructure should be used wherever possible to reduce additional cost and disruption to traffic and local residents. Small feeder drains should be designed to fall away from development units towards public sewers within road alignments.

It is recommended that all foul drainage within the development should be designed to operate under gravity and drain positively wherever possible to reduce the pumping requirement to a minimum.

As per the drawings provided by Thames Water sewer drainage services routes are present in the surrounding area. The proposed development may be able to connect to the foul sewer running alongside the site, without the need of diversions or major upgrades. The connection may need to be capped off during site excavation works. There is no need to inform Thames Water about this disconnection. An application for build-over may be required post planning based on the approved plans.

3.6 Load Assessment

The Table 3.6.1 presents the current status of existing connections serving the development, and the proposed connection to the surrounding infrastructure.

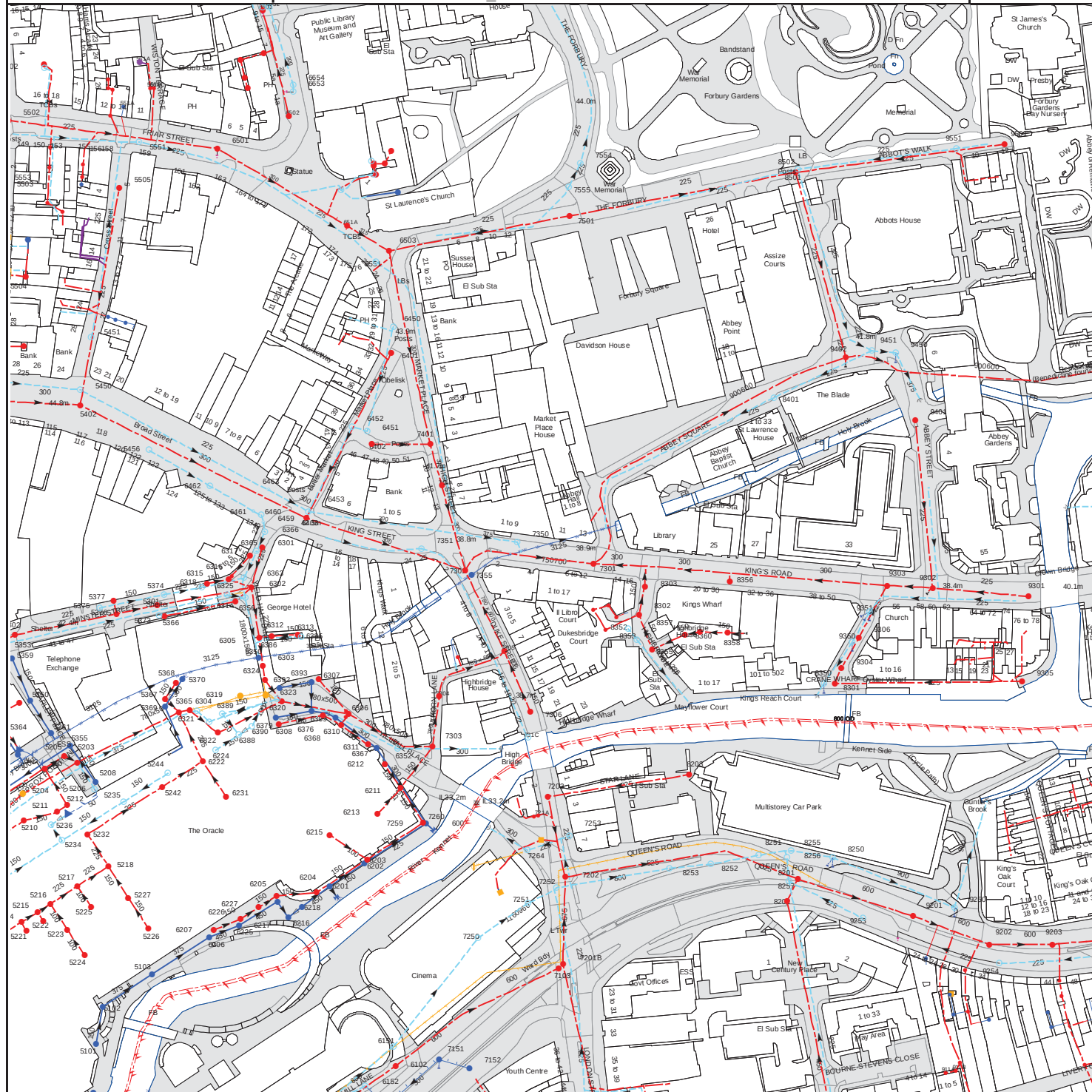
Table 3.6.1

Utility	Existing	Estimated new connection	Diversions/Disconnections
Water	400mm Trunk main or 100 mm distribution main	100 mm connection	Disconnections expected
Electricity	Information will be available with the formal quote from SSE	400 kVA - 3Phase	Disconnections expected
Gas	100mm CI main	To be confirmed by SGN	Disconnections expected
Foul	Foul sewer running along-side site	Connect to existing sewer	-----
Telecoms		New connection application required	Diversions expected

Appendices

		Project: 8_638 - Jackson's Corner Engineer: JB/BC Date: 01/04/2016		Utility Search Tracker (Through ATKINS)		Site Address: Chy: Reading Postcode: RG1		19 King's Road, High Street		Site Contact Name: John Hunt Telephone No: 07802982030 Company: SG Capital		ATKINS Utility Name: Abbey Mobile: 07464 492 169	
Utility/Agency/Organization		Project 8_638 - Jackson's Corner Engineer: JB/BC Date: 01/04/2016		Utility Search Tracker (Through ATKINS)		Site Address: Chy: Reading Postcode: RG1		19 King's Road, High Street		Site Contact Name: John Hunt Telephone No: 07802982030 Company: SG Capital		ATKINS Utility Name: Abbey Mobile: 07464 492 169	
ATKINS		18/03/2016 - Follow-up call placed to ATKINS regarding remaining utilities. A response is expected next week	22/03/2016 - Updated information received from ATKINS. Further information regarding affected utilities awaited	24/03/2016 - XCOM requested for site location plan	24/03/2016 - XCO2 followed up regarding remaining responses. Further information on remaining utilities is expected after Easter	29/03/2016 - Email with further information received from ATKINS. Information from 4 utility providers awaited	29/03/2016 - XCO2 followed-up with ATKINS regarding remaining information. Awaiting a response from ATKINS	XCO2 awaiting further response from ATKINS					
KCOM		21/03/2016 - Updated information received from ATKINS	24/03/2016 - KCOM requested for site location plan	24/03/2016 - XCO2 have provided the site location plan and are awaiting further response	24/03/2016 - XCO2 have provided the site location plan and are awaiting further response	30/03/2016 - XCO2 has forwarded the required documents to EA							
Environment Agency		21/03/2016 - Email sent to EA requesting for further steps if needed. XCO2 awaiting a response	22/03/2016 - Acknowledgement email regarding query received from EA. A response is expected within 20 days	30/03/2016 - Follow-up email sent to ZG requesting for further steps if needed. XCO2 awaiting a response	30/03/2016 - XCO2 has forwarded the required documents to EA	31/03/2016 - Email received from JSM stating that information regarding affected infrastructure and a quote is expected within 28 days.		Link to survey for disconnections: https://www.openreach.co.uk/orpg/home/submitFeedback.do?contactReason=remove_relocate_external_net_work_equipment Link to site registration: https://www.openreach.co.uk/orpg/home/contactus/connectingyourdevelopment/developnetwork.do The disconnections survey and registration can be done post planning					
BT Openreach		21/03/2016 - Email sent to BT requesting for further steps if needed. XCO2 awaiting a response, 20 days expected	31/03/2016 - Email received from BT stating that no diversions are necessary. However, survey needs to be carried out for disconnections and registration of site is required with BT Newsites team.	31/03/2016 - XCO2 has provided the requested site plans.	31/03/2016 - XCO2 has provided the requested site plans.								
Reading Borough Council		21/03/2016 - Email sent to Reading Council requesting for further steps if needed. XCO2 awaiting a response	30/03/2016 - Email sent to Reading Council requesting for further steps if needed. XCO2 awaiting a response	24/03/2016 - Budget estimate for new connections received from SSE. This has been forwarded to the architect. Sub-station required as indicated.	24/03/2016 - XCO2 has raised queries from the architect regarding sub-station to SSE. Awaiting a response.	01/04/16 - Substation query sent across to SSE by XCO2		XCO2 to discuss with architect regarding serial nos. of meters for disconnections application Budget estimate received and XCO2 are awaiting a full quote for further assessment of substation requirement					
SSE		22/03/2016 - Email received from SSE advising that the existing meters would need disconnections and that we need to provide meter serial numbers to generate a disconnections request. As informed diversions may not be necessary but advise us to carry out a cable trace with their help. XCO2 to discuss with Architect	24/03/2016 - XCO2 has also forwarded the received information regarding the disconnection application to the architect and is awaiting a response regarding the same.	30/03/16 - Response regarding queries received from SSE. These responses have been sent to the architect.	30/03/16 - Response regarding queries received from SSE. These responses have been sent to the architect.	01/04/16 - XCO2 have requested for a formal quote to assess if existing substations in the surrounding areas can be used to serve the development.							
Thames Water		21/03/2016 - Email sent to TW requesting for further steps if needed. XCO2 awaiting a response	22/03/2016 - Email sent to TW Developer services requesting for further steps	29/03/2016 - Email received from TW that the disconnections will be free of charge. However, the disconnections process takes about 6-8 Weeks so we need to advise them about the expected disconnections date	29/03/2016 - XCO2 emailed TW requesting to confirm regarding any required diversions. Awaiting response	29/03/2016 - TW informed XCO2 to fillout a separate diversions form online and submit all the required documents		XCO2 awaiting responses from the architect regarding disconnections date and required documents					
Vodafone		22/03/2016 - Email received from Vodafone requesting for plans and sections. XCO2 has forwarded the same	24/03/2016 - Email received from TW to fill-up a disconnection form. XCO2 has filled the form and applied for disconnection budget estimate.	22/03/2016 - Vodafone has requested new access details for the site. XCO2 has discussed with the architect regarding access details and are awaiting access to site mark-ups to be forwarded to Vodafone	22/03/2016 - Budget estimate regarding works received from Vodafone. This has been forwarded to the Architect.								Budget Estimate Received. Full quote to be requested at a later stage
SGN Gas Network		29/03/2016 - Response received from SGN through ATKINS, asking us to contact them with site plans and proposed work is plan for them to check regarding disconnections/diversions.	29/03/2016 - XCO2 have emailed the details as requested by SGN. A response is expected within 15 days					XCO2 Awaiting further advice					
Virgin Media		29/03/2016 - Response received from VM through ATKINS, asking us to contact them to check regarding disconnections/diversions.	31/03/2016 - Email received from VM stating the fees for producing a budget estimate and the required documents to carry out diversion works. XCO2 has forwarded the response to the architect										
		29/03/2016 - XCO2 has emailed VM regarding further steps and are awaiting a response.											

Asset Location Search Sewer Map - ALS/ALS Standard/2016 3281472



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 471769,173392

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

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ALS 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
	Bio-solids (Sludge)
	Vent Pipe
	Proposed Thames Surface Water Sewer
	Proposed Thames Foul Sewer
	Gallery
	Foul Rising Main
	Surface Water Rising Main
	Combined Rising Main
	Sludge Rising Main
	Proposed Thames Water Rising Main
	Vacuum

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.

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

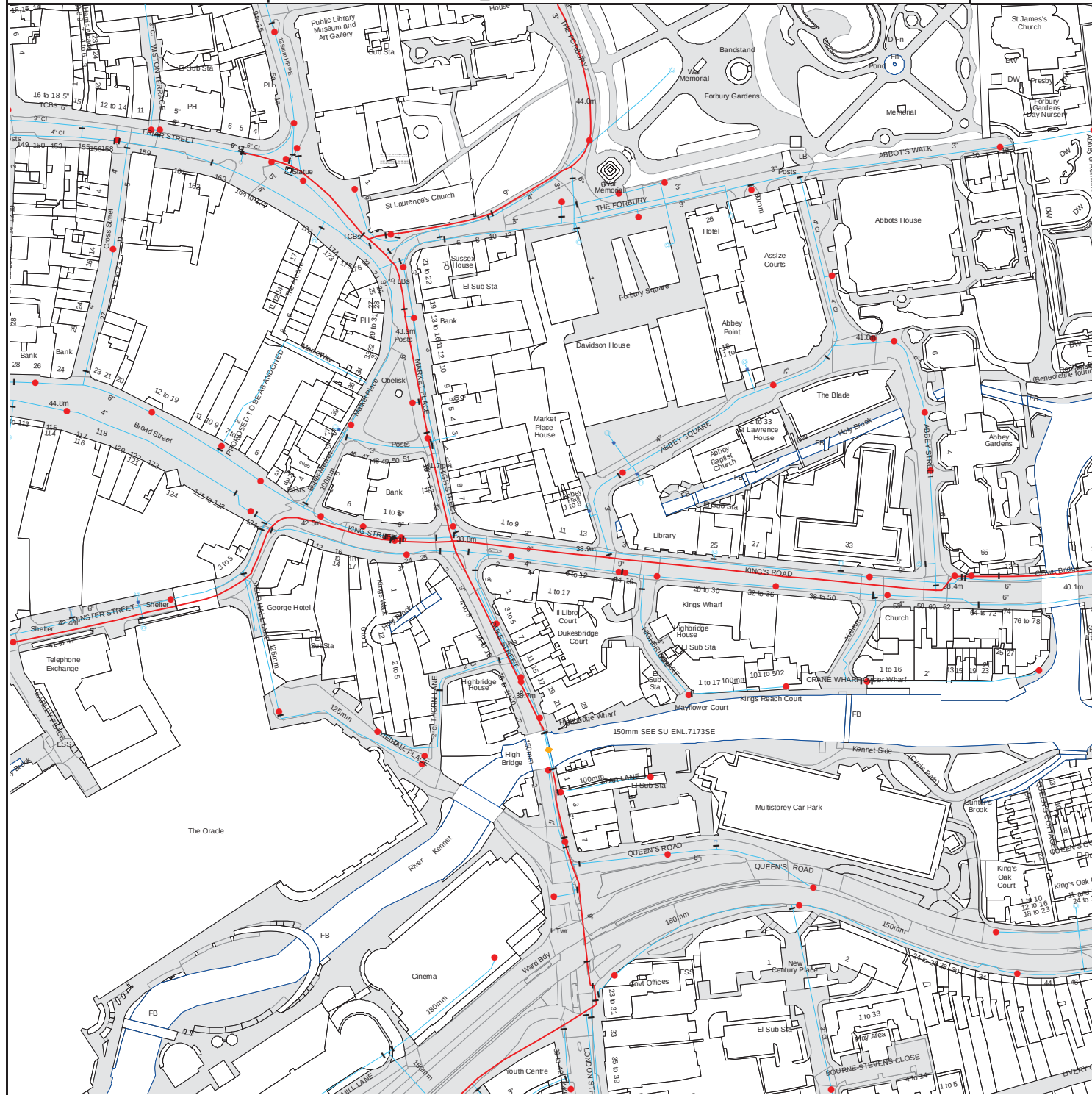
Symbols used on maps which do not fall under other general categories

	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
	Culverted Watercourse
	Proposed
	Abandoned Sewer

Asset Location Search Water Map - ALS/ALS Standard/2016 3281472



The width of the displayed area is 500 m and the centre of the map is located at OS coordinates 471769, 173392.

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

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ALS Water Map Key

Water Pipes (Operated & Maintained by Thames Water)

4"
Distribution Main: The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.

16"
Trunk Main: A main carrying water from a source of supply to a treatment plant or reservoir, or from one treatment plant or reservoir to another. Also a main transferring water in bulk to smaller water mains used for supplying individual customers.

3" SUPPLY
Supply Main: A supply main indicates that the water main is used as a supply for a single property or group of properties.

3" FIRE
Fire Main: Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.

3" METERED
Metered Pipe: A metered main indicates that the pipe in question supplies water for a single property or group of properties and that quantity of water passing through the pipe is metered even though there may be no meter symbol shown.

Transmission Tunnel: A very large diameter water pipe. Most tunnels are buried very deep underground. These pipes are not expected to affect the structural integrity of buildings shown on the map provided.

Proposed Main: A main that is still in the planning stages or in the process of being laid. More details of the proposed main and its reference number are generally included near the main.

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

Valves

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

Hydrants

- Single Hydrant

Meters

- Meter

End Items

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

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

Operational Sites

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

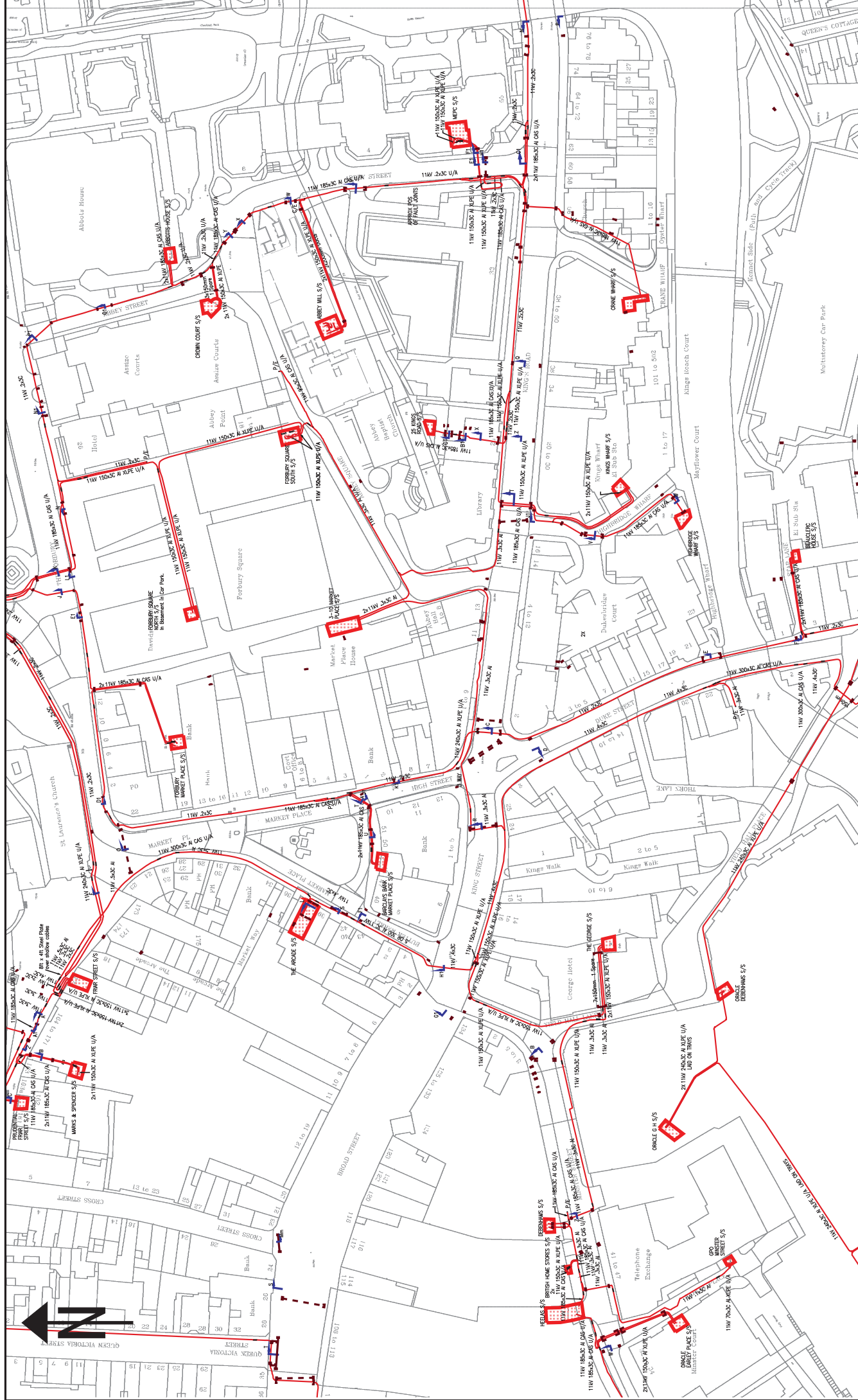
Other Symbols

- Data Logger

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

Other Water Company Main: Occasionally other water company water pipes may overlap the border of our clean water coverage area. These mains are denoted in purple and in most cases have the owner of the pipe displayed along them.

Private Main: Indicates that the water main in question is not owned by Thames Water. These mains normally have text associated with them indicating the diameter and owner of the pipe.



SCOTTISH AND SOUTHERN ENERGY

Grid Ref: SU71757341

Scale: 1:1250

Date: 11/03/2016

H.V. MAINS RECORD

READING 01180-128500

ATKINS CHECKED

ASH

WARNING

There may have been subsequent alterations to the surface levels. This below must be taken to determine positions and depths of cables. (BS 5277) points from the Horizontal Control Datum 1955. Horizontal datum may be obtained from the Ordnance Survey website. Consulted before commencing excavation work. (available from 1850)

WHEN WORKING IN THE VICINITY OF OVERHEAD LINES THE HEALTH AND SAFETY GUIDANCE NOTE G50 SHOULD BE CONSULTED. (AVAILABLE FROM 1850)

NORMAL DEPTH TO THE TOP OF THE CABLE WHEN LAID

	services	l.v.	h.v.	e.h.v.
FOOTPATH		0.40m	0.45m	0.60m
ROAD CROSSING		0.60m	0.60m	0.75m
l.v./services		- up to 1000V.	- over 1000V. to 11,000V.	- 22,000V. to 132,000V.

BASED UPON THE ORDNANCE SURVEY MAP WITH THE SANCTION OF THE CONTROLLER OF T.M. STATIONERY OFFICE. CROWN COPYRIGHT RESERVED.

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Subject to Revision Master held at