



# Hampton Waterworks Outline Utilities Strategy

*For Waterfall Hampton Investment Limited*

---

*Date:* 29 November 2023

*Doc ref:* 12193-HYD-XX-XX-RP-Y-3000

## DOCUMENT CONTROL SHEET

Issued by	Hydrock Consultants Limited Merchants House North Wapping Road Bristol BS1 4RW United Kingdom  T +44 (0)117 9459225 E bristolcentral@hydrock.com www.hydrock.com	Client	Waterfall Hampton Investment Limited
		Project name	Hampton Waterworks
		Title	Outline Utilities Strategy
		Doc ref	12193-HYD-XX-XX-RP-Y-3000
		Project no.	12193
		Status	S2
		Date	29/11/2023

Document Production Record		
Issue Number	P04	Name
Prepared by	Eleanor Wratten	
Checked by	Leah Holmes	
Approved by	Marcos Decastro	

Document Revision Record			
Issue Number	Status	Date	Revision Details
P01	S2	07.09.2022	Draft for comment
P02	S2	28.09.2022	Updated with utility responses
P03	S2	14.02.2023	Final issue
P04	S2	29.11.2023	Updated issue November 2023

Hydrock Consultants Limited has prepared this report in accordance with the instructions of the above named client for their sole and specific use. Any third parties who may use the information contained herein do so at their own risk.

# CONTENTS

INTRODUCTION.....	2
1. SITE DETAILS .....	3
1.1 Location .....	3
1.2 Proposed development.....	3
SUMMARY.....	4
2. ELECTRICITY - UKPN .....	5
2.1 Existing infrastructure.....	5
2.2 Diversions assessment .....	5
2.3 Capacity and new connections .....	5
3. GAS - SGN.....	6
3.1 Existing infrastructure.....	6
3.2 Diversions assessment .....	6
3.3 Capacity and new connections .....	6
4. WATER - THAMES WATER.....	7
4.1 Existing infrastructure.....	7
4.2 Diversions assessment .....	7
4.3 Capacity and new connections .....	8
<i>Water mains requisition .....</i>	<i>8</i>
5. TELECOMMUNICATIONS - OPENREACH.....	9
5.1 Existing infrastructure.....	9
5.2 Diversions assessment .....	9
5.3 New connections .....	9
6. TELECOMMUNICATIONS – VIRGIN MEDIA.....	11
6.1 Existing infrastructure.....	11
6.2 Diversions assessment .....	11
6.3 New connections .....	11
7. OTHER UTILITY COMPANIES.....	12

Figure 1 - Existing redline boundary .....	2
Figure 2 - Proposed masterplan.....	3
Figure 3 - Existing UKPN apparatus.....	5
Figure 4 - Proposed UKPN point of connection .....	5
Figure 5 - Existing SGN apparatus.....	6
Figure 6 - Existing Thames Water apparatus .....	7
Figure 7 - Proposed Thames Water point of connection .....	8
Figure 8 - Existing Openreach apparatus .....	9
Figure 9 - Existing Virgin Media apparatus .....	11

## Tables

Table 1 - Site location.....	3
------------------------------	---

## Figures

## Introduction

Hydrock Consultants has been appointed by Waterfall Hampton Investment Limited to provide an outline utilities strategy for the proposed development at Hampton Waterworks and investigate whether the existing nearby utility infrastructure could support the development. This document is provided to give an overview of existing utility services, provision for new connections and establish any requirements for diversionary works.

This report is based upon utility information that has been provided by third parties in February 2023 and is a desktop assessment only. The presence of onsite infrastructure should be confirmed by the client's contractors, and safe working practices adhered to at all times. Please note that utility asset information is only valid for 3 months from the point of issue as the networks are constantly changing. Therefore, we recommend updating any enquiries once this time has elapsed.

The scope of this assessment includes the following utility services:

- Electricity
- Gas
- Potable Water
- Telecommunications

Assessment of drainage is excluded from this report and is detailed in Hydrock report 12193-HYD-XX-ZZ-RP-C-0001.

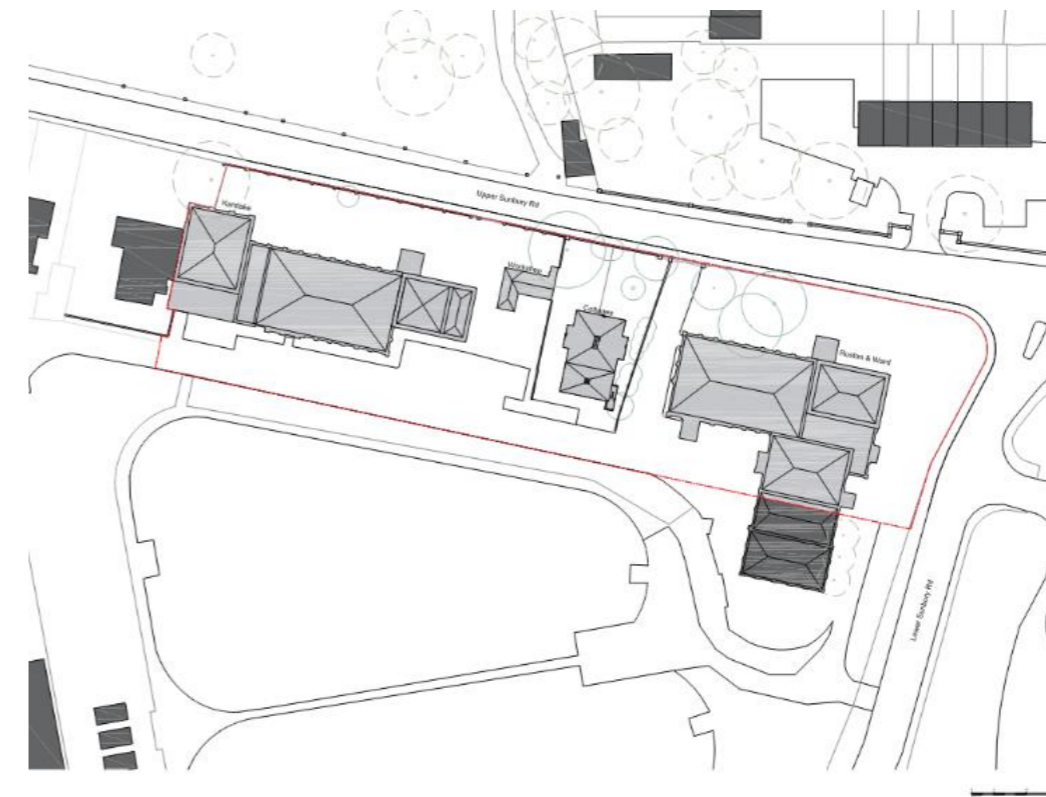


Figure 1 - Existing redline boundary

## 1. SITE DETAILS

### 1.1 Location

The site is located to the north of the River Thames and falls within the Parish of Hampton in London Borough of Richmond upon Thames Council. The site is bounded by the A308 to the north and Hampton Water Treatment works directly to the south. To the west of the site are a number of reservoirs; Stain Hill, Grand Junction and Sunnyside reservoir are the closest to the site and further afield are the larger Bessborough, Knight and Queen Elizabeth II Storage Reservoirs. The land to the north of the A308 is characterised by a mixture of residential, commercial, retail and community uses.

The area within the redline boundary extends to circa 0.5 hectares and comprises 2 Grade II listed former waterworks buildings (Hampton Waterworks), a workshop building and 2 residential dwellings with associated landscaping and car parking throughout the site. Access into the site is via Upper Sunbury Road, which is located to the north of the site.

The site location and OS grid reference are as follows:

Table 1 - Site location

Site address	Grid reference
Upper Sunbury Road, The Beveree, Hampton, London Borough of Richmond, TW12 2DT	X: 513711 Y: 169457

### 1.2 Proposed development

The scheme proposes to convert the existing Waterworks buildings into 36 residential units:

- 16 x 1B units
- 11 x 2B units
- 7 x 3B units
- 2 x 4B units

The development parcel will also be newly landscaped to include shared garden space, play area and car parking.

Access into the site will be provided via the existing entrance on Upper Sunbury Road, which will be widened to achieve the width for vehicular entry. A new site exit will also be created, forming a one-way carriageway through the site.



Figure 2 - Proposed masterplan

## Summary

Utility company	Diversion required?	Disconnection required?	Load demand	Capacity available?	Costs	Comments
UKPN	N	TBC	194 kVa	TBC	New supplies: TBC	<ul style="list-style-type: none"> <li>- LV cables within the vicinity of the site and a supply cable entering the existing buildings.</li> <li>- 33kV cables to the west of the site.</li> <li>- Budget estimate received - UKPN calculated the connection works to total £50,000.</li> </ul>
SGN	N	TBC	-	NA	Diversion: TBC	<ul style="list-style-type: none"> <li>- LP gas main along the southern pavement of Sunbury Road - diversion at site entrance possibly needed depending on depth of main. Further investigation required.</li> </ul>
Thames Water	Y	Y	2.328 l/s	TBC	Diversion: TBC New supplies: TBC	<ul style="list-style-type: none"> <li>- There are a number of trunk and distribution mains in and around the site. It is expected that some of these will be decommissioned and others which are still operational will require diverting or the required clearance distances adhered to.</li> <li>- Anticipated peak flow rate for the site is 2.328l/s. Thames Water have advised the POC for the site would be taken from the 5" CI Main in Upper Sunbury Road, to the north east of the site.</li> </ul>
Openreach	Y	Y	-	Y	Diversion: TBC New supplies: FOC	<ul style="list-style-type: none"> <li>- Onsite poles and cables will need diverting or disconnecting.</li> <li>- Free FTTP is provided by Openreach to all new developments over 20 units.</li> </ul>
Virgin Media	N	TBC	-	Y	Diversion: TBC New supplies: FOC	<ul style="list-style-type: none"> <li>- VM cables along the southern pavement of Sunbury Road - diversion at site entrance possibly needed depending on depth of main. Further investigation required.</li> </ul>

## 2. ELECTRICITY - UKPN

### 2.1 Existing infrastructure

Records received from UKPN show:

- A network of low voltage (LV) cables in the far side footpaths of Lower and Upper Sunbury Road, outside of the site boundary, with 1 cable crossing Upper Sunbury Road to provide a service to the existing cottages in the centre of site.
- The nearest high voltage (HV) infrastructure is shown to the west of the site in the form of dual 33kV buried cables.
- Other than the existing service cable, no apparatus is shown to run within the redline boundary of the site, nor at the location of the proposed site entrances.

### 2.2 Diversions assessment

No apparatus supplying the wider area is shown to run within the redline boundary of the site and therefore, it is anticipated that diversionary works will not be required.

No electrical infrastructure is shown at the location of the proposed vehicular entrance and exit points, therefore no lowering of services is anticipated at the site entrances.

All supplies into the building will need to be disconnected at the mains, meters removed and all onsite apparatus confirmed dead.

### 2.3 Capacity and new connections

The anticipated peak demand for the site is 194kVA.

This is based on:

- » Electric heating
- » 20% of car parking spaces have a fast EV charge point.

WPD have undertaken a high-level assessment of the site to look at how they would bring in new supplies to the development. They have advised that the POC would be taken from the north east of the site on Upper Sunbury Road. This would involve UKPN jointing an LV mains cable onto the existing 300H LV cable, running this along the footpath and across the road onto the development site. They would then connect two lower voltage LV cables from the 300H cable, running them into the customers intake position.

The budget estimate for this is £50,000 (exclusive of VAT). This figure does not currently allow for any reinforcements that might be needed on the network and thus may change once UKPN perform more in-depth analysis of the site and the network. A formal application would be necessary to provide a fixed quote.

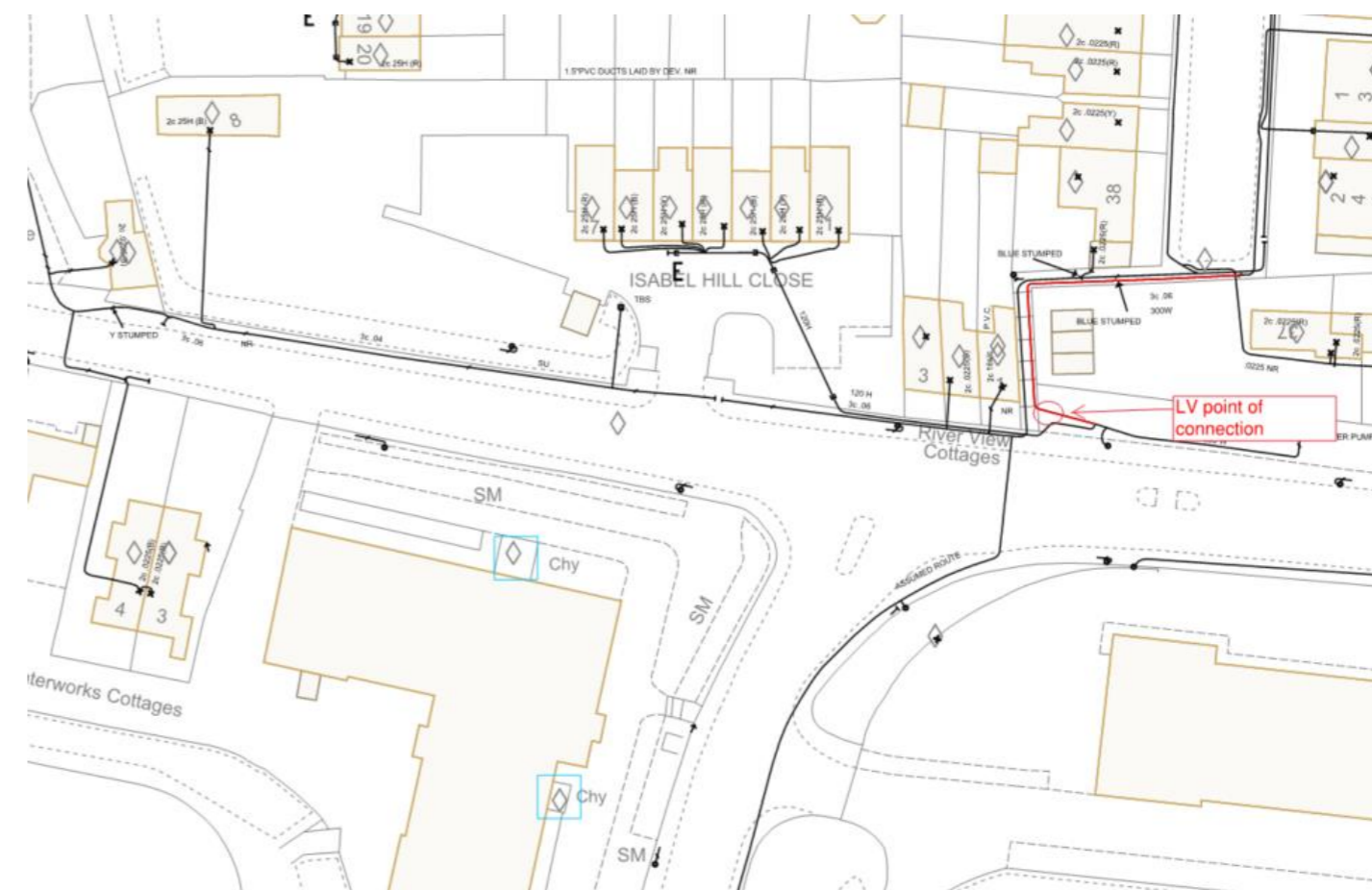


Figure 4 - Proposed UKPN point of connection

### 3. GAS - SGN

#### 3.1 Existing infrastructure

Records received from SGN show:

- A 125mm polyethylene (PE) low pressure (LP) main inside a 6" cast iron (CI) pipe running in the carriageway of Upper Sunbury Road, just outside the site's northern boundary.
- Also shown is a 250mm PE LP main travelling in the carriageway up Lower Sunbury Road before moving into the footpath and terminating at a capped end on the corner where Lower Sunbury Road meets Upper Sunbury Road.

#### 3.2 Diversions assessment

The LP pipework along Upper Sunbury Road may be affected by the change in levels at the entrance to the new site entrance and exit. Therefore, a diversion/lowering of the pipe may be required in order to maintain the recommended minimum depth of the pipe. The recommended minimum depth for gas apparatus, as per Streetworks guidelines, is 600mm in footway/verge or 750mm in carriageway.

We would recommend that trial holes/a GPR survey is undertaken to confirm the exact depths of the main. If the pipe is laid deep enough, then the level changes won't affect the pipe.

SGN will need to confirm acceptance of the proposals and whether a diversion is required.

All supplies will need to be disconnected at the mains, meters removed and all onsite apparatus confirmed dead.

#### 3.3 Capacity and new connections

The heating strategy for the Hampton Waterworks development is electric only and therefore a new gas supply is not required for this site.

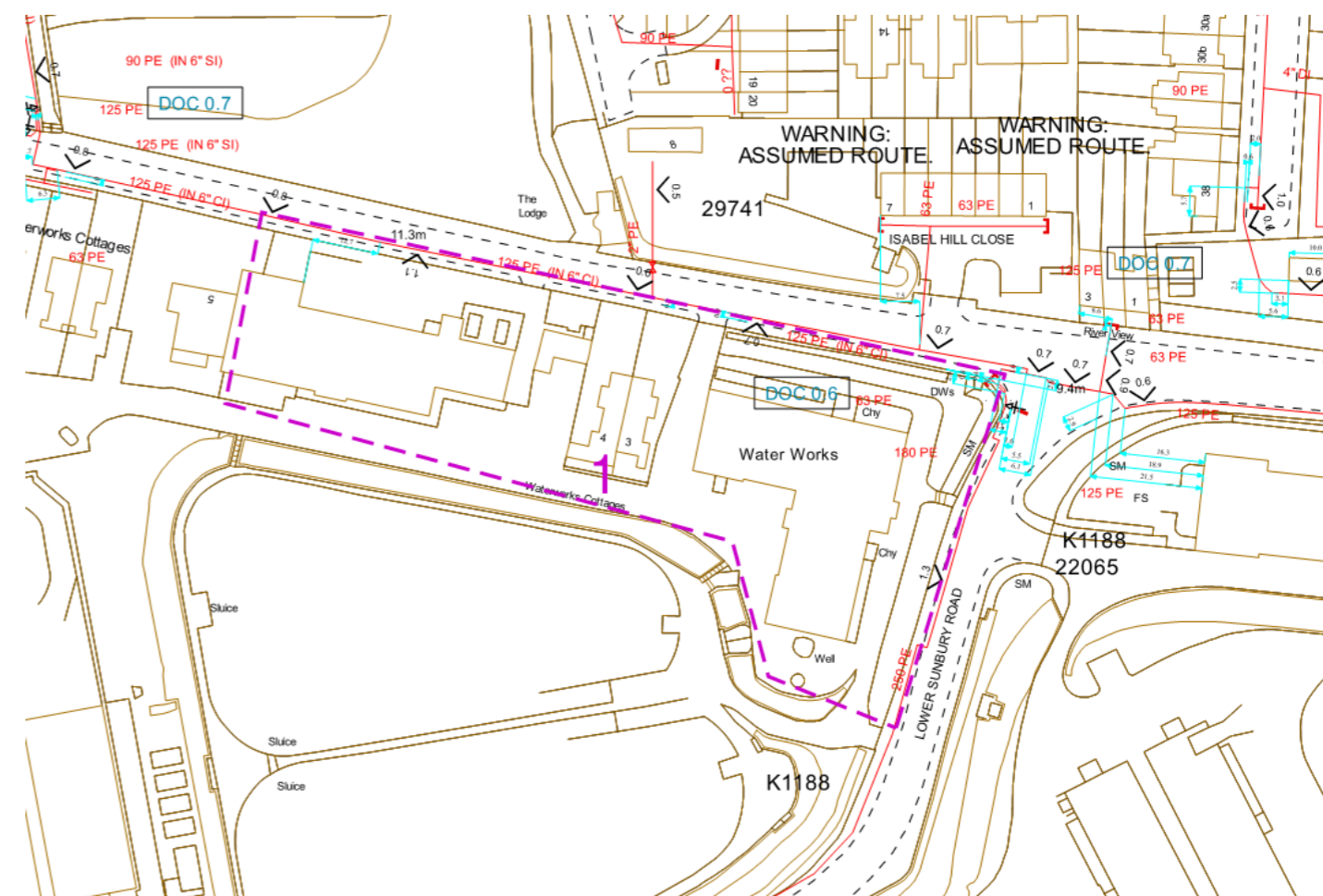


Figure 5 - Existing SGN apparatus



## 4. WATER - THAMES WATER

### 4.1 Existing infrastructure

Records received from Thames Water show:

- Multiple trunk mains, distribution mains and private mains running in to and around the site.
- Three service connections are shown from the distribution mains which are assumed to supply the existing waterworks buildings. The remainder of the trunk mains are assumed to carry water to and away from the Water Works. There are also three private water main connections into the Waterworks building.

### 4.2 Diversions assessment

Thames Water have confirmed the following advice: Where Thames Water land is sold for redevelopment, any mains no longer required will be decommissioned and abandoned. There are likely to be some mains which need to remain operational in or adjacent to the site, in which case Thames Water will require future access for maintenance or repair. They stipulated an exclusion zone of 5 meters from the outside wall of trunk mains and 3 meters for distribution mains within which no new build construction can take place.

Based on the proposed site layout, they confirmed that the new extensions to the buildings are not anticipated to affect their existing assets, and therefore, diversionary works are not likely to be required. However, this will be confirmed once a formal application is made to Thames Water and once they have completed a site survey.

There are trunk mains that run through the site in the location of the proposed shared garden spaces and landscaping in the east of the site, which are anticipated to remain in place. Therefore, if there will be any major ground level changes that cause a reduction in cover over the mains, it may be that diversionary works or lowering will be required. A water main requires a minimum of 600mm of ground cover. It is therefore recommended that retaining this level of cover is considered within the landscape design so as to avoid costly diversions. It is recommended that on-site investigations are conducted (such as a GPR survey or trial holes) at an early stage to confirm the depths of the mains in order to inform the next stage of design.

As above, if there are any changes to the levels at the proposed site entrance and exit, the a lowering or diversion of existing apparatus may be required.

All supplies will need to be disconnected at the mains, meters removed and all onsite apparatus confirmed dead.

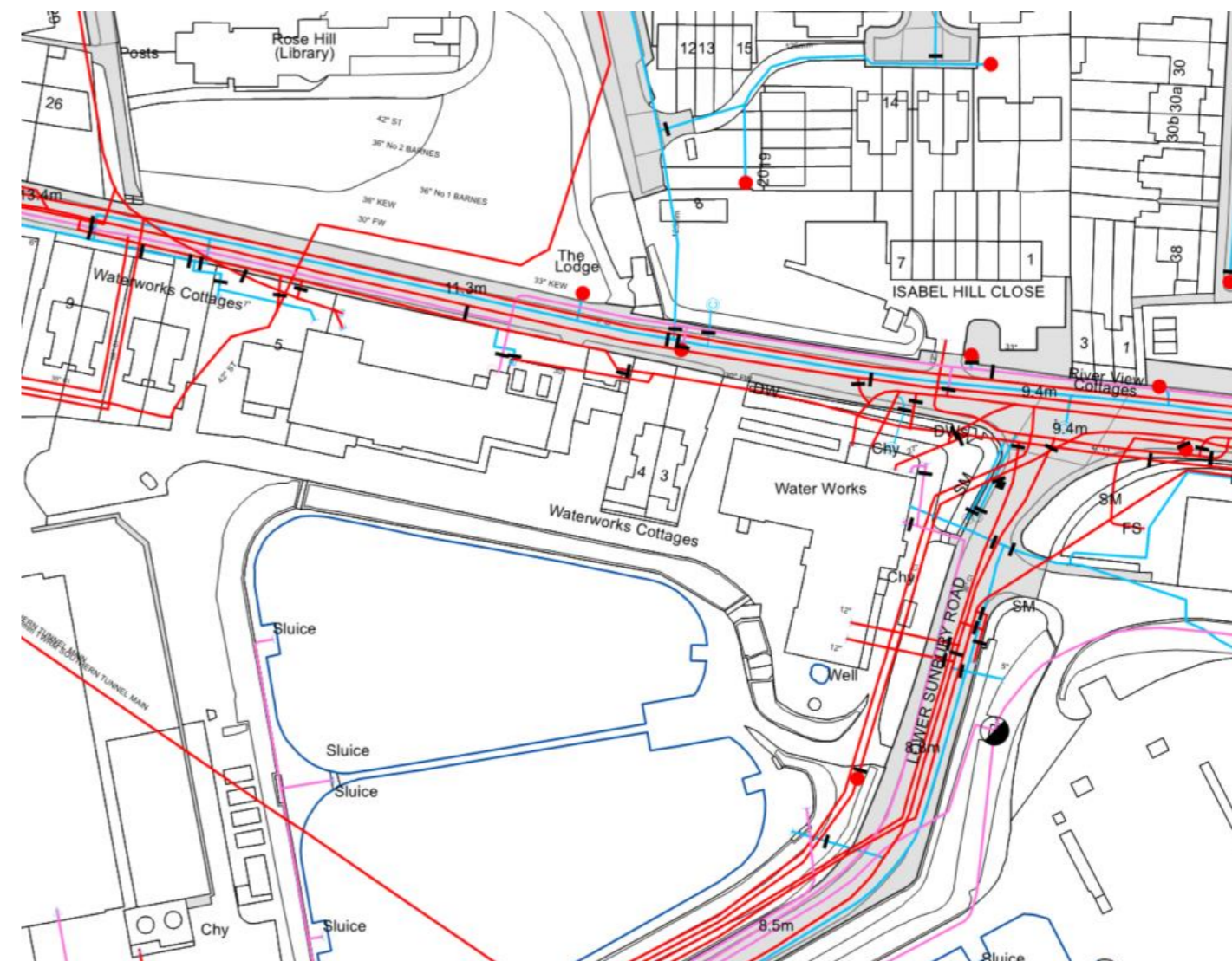


Figure 6 - Existing Thames Water apparatus

### 4.3 Capacity and new connections

The anticipated peak flow rate for this development is 2.328l/s. South West Water have determined through their pre-planning assessment that their network has the capacity to serve this. In this assessment they also indicate a suitable point of connection (POC) on their network to supply the site.

#### Water mains requisition

Thames Water have advised that the POC would be taken from the 5" CI Main in Upper Sunbury Road, to the north east of the site. They have also provided an alternative POC, if crossing multiple trunk mains is not viable. This would be taken for the 7" Main in Upper Sunbury, to the north west of the site.

#### Cost of connection

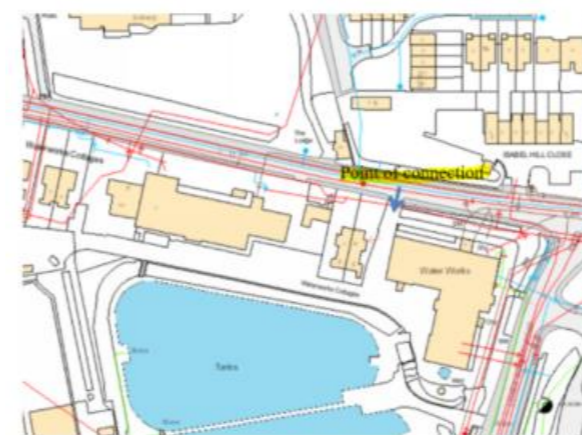
There are several costs incurred from connecting this development to the water network. The first is for the new mains from the site to the existing water infrastructure (as outlined above), the second is for the service connections from the main into each building. Thirdly, there is infrastructure charges, which are a one-off charge, charged by all water companies for first time connections. Each new connection that adds a demand to the water and sewerage network will incur these costs. These charges ensure the upkeep and maintenance of the network. The standard water infrastructure charges are £445 per residential connection.

Thames Water also offer discounts on connection costs through their Environmental Incentives scheme if a development meets certain qualifying criteria through three tiers:

1. Tier 1: Basic Water Efficiency Performance
2. Tier 2: Rainwater harvesting and greywater recycling/reuse
3. Tier 3: Water Neutrality

We would suggest engaging with an MEP designer and/or sustainability consultant on how to meet the criteria in each tier, to meet the highest possible environmental standards and receive the environmental discounts from Thames Water.

Nearest point of connection / Your preferred point of connection



Point of connection - 5" CI Main in UPPER SUNBURY ROAD

Alternative point of connection - If crossing multiple trunk mains is not viable



Point of connection - 7" CI Main in UPPER SUNBURY ROAD

Figure 7 - Proposed Thames Water point of connection

## 5. TELECOMMUNICATIONS - OPENREACH

### 5.1 Existing infrastructure

Records received from Openreach show:

- Existing overhead apparatus entering the site from the east and running in front of the waterworks buildings, before terminating at a connection to the westernmost building;
- Associated with this overhead infrastructure are 2 telegraph poles within the site boundary and 1 pole on the northern edge of the site;
- Also shown is a buried cable running into the west of the site from the footpath of Upper Sunbury Road, as well as buried cables running in to the site from the south. The buried apparatus also includes joint boxes/chambers within the site boundary.

### 5.2 Diversions assessment

The onsite telecoms poles and cables within the site boundary will require diverting as they conflict with the layout of the proposed site. Openreach do not produce budget estimates at early design stage - all their work is chargeable. Therefore, they have been approached to produce a cost estimate to undertake a survey to determine what works may be required.

No diversions are anticipated at the proposed site entrance and exit as there is no buried infrastructure in these locations.

#### 5.2.1 Disconnections

All Openreach infrastructure providing services within the boundary will require disconnecting and removing prior to any demolition works.

Openreach, in the first instance, will need to conduct a site survey to establish the extent of any work required and which apparatus will need to be disconnected. This survey will be chargeable. Typically, Openreach remove their infrastructure free of charge when there is no live line left in use.

### 5.3 New connections

Openreach's local exchange, Molesey (LSMOL) is located 500m north east of the site and is fibre enabled.

Openreach offer free issue fibre to the premise (FTTP) connections for all new build residential schemes with over 20 units. This includes free issue cabling and ducting. Fibre to the Premise enables superfast broadband to be delivered directly into a property. Fibre is run from the local exchange, terminating in a cabinet. From here, fibre lines connect each property to the cabinet to provide superfast speeds.

Once the site has planning permission and the scheme has fixed layouts and detailed plans then it should be registered with Openreach. It should be registered at least eight weeks ahead of the site start date and/or six months before the date you want broadband available at the first property. Once the site is registered Openreach will then plan the point of connection to their network, the route to site and the proposed connection routes around site.

Openreach give access to a multitude of Internet Service Providers (ISP) within their network, allowing a variety of options to the end occupants of the buildings in terms of who can supply their internet.

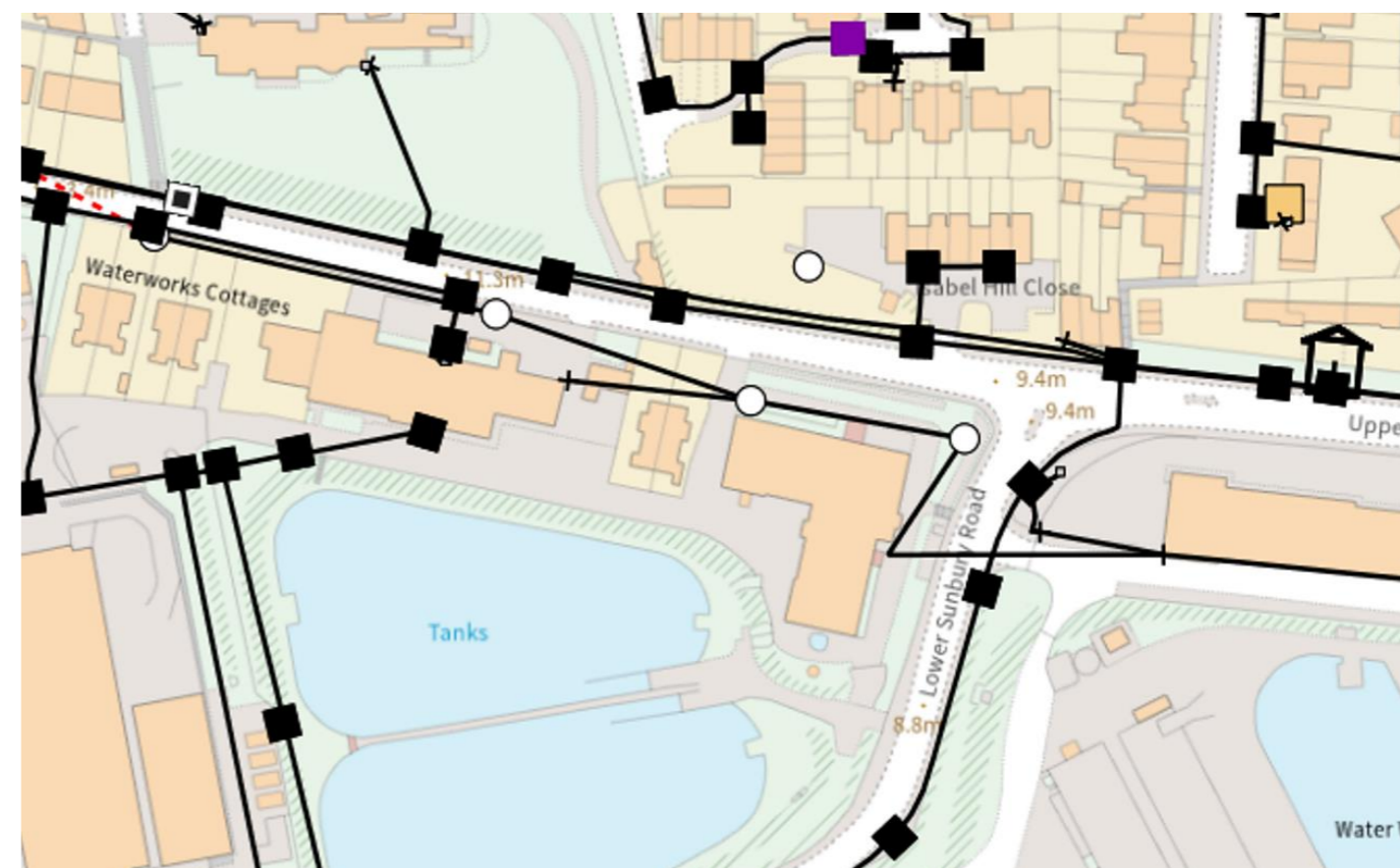


Figure 8 - Existing Openreach apparatus

It is also recommended to install a secondary comms supplier in order to provide resilience to the site and more options to the end occupants of the building in terms of the internet service providers available to them. There are a number of different companies that can be approached.

These companies deliver networks with a dedicated fibre cable to every home capable of delivering speeds of c.1000Mb and promise a live internet connection on the day the residents move in. They also aim to streamline the design process with efficient network layouts, coordinating with other utilities and reducing ducting and chambers where possible.

## 6. TELECOMMUNICATIONS – VIRGIN MEDIA

### 6.1 Existing infrastructure

Records received from Virgin Media show:

- A network of buried fibre-optic cables running within the footpath of Upper Sunbury Road, to the north of the site, which continue around the corner of the Upper Sunbury/Lower Sunbury junction, within the site boundary, before exiting the site again to run in the footpath of Lower Sunbury Road.
- One chamber is shown to exist in the footpath to the east of the site entrance pillar, and one shown in the site's north-west corner.
- A service connection is also shown to the Ruston and Ward building from the apparatus in Upper Sunbury Road.

### 6.2 Diversions assessment

A conflict has been identified at the location of the new site entrances where the fibre ducts run in the footpath. Due to the required depth of telecoms apparatus increasing from c.250mm to c.600mm upon a change of use from footpath to carriageway, it is anticipated that either diversionary works or lowering of the ducts will be required to achieve the minimum level of cover.

A further conflict has been identified in the north-east of the site where the Virgin Media ducts and chamber lie within the boundary in the proposed shared garden space. The landscaping works may necessitate a diversion of the apparatus if the ground level changes reduce the level of cover over the Virgin Media assets below the minimum required, which is 250mm. Similarly with the site entrances, the depth of the apparatus should be confirmed and reviewed against the proposals once the design is developed further.

It is recommended that at the next stage of design the depth of the existing ducts are confirmed with an onsite investigation (such as hand-dug trial holes) and reviewed against the site entrance designs. An application for a diversion should be made to Virgin Media to assess whether a full diversion is required, or otherwise lowering the apparatus, and for a detailed estimate of the cost of the works. Virgin Media typically charge £720 for a diversion application.

#### 6.2.1 Disconnections

The Virgin Media infrastructure shown on the asset record providing a service to the existing building within the boundary will require disconnecting and removing prior to any demolition works.

### 6.3 New connections

Virgin Media have broadband availability from the local telephone exchange, Molesey, which is FTTP and FFTC enabled. It is anticipated a service can be provided and a connection would be established via the existing network surrounding the site. To procure Virgin Media the developer will register the site and submit a formal enquiry to provide new connections to the site. This would provide an alternative fibre option to Openreach. This registration of the site triggers an initial survey and will generate a Virgin Media reference number. It will be then allocated to the VM Planners and Site Engineers to begin planning the work. The developer will commit to completing the above process if Virgin Media are chosen to serve the site. Typically, Virgin Media customers can choose a variation of broadband products ranging from 50Mbps to 350Mbps.

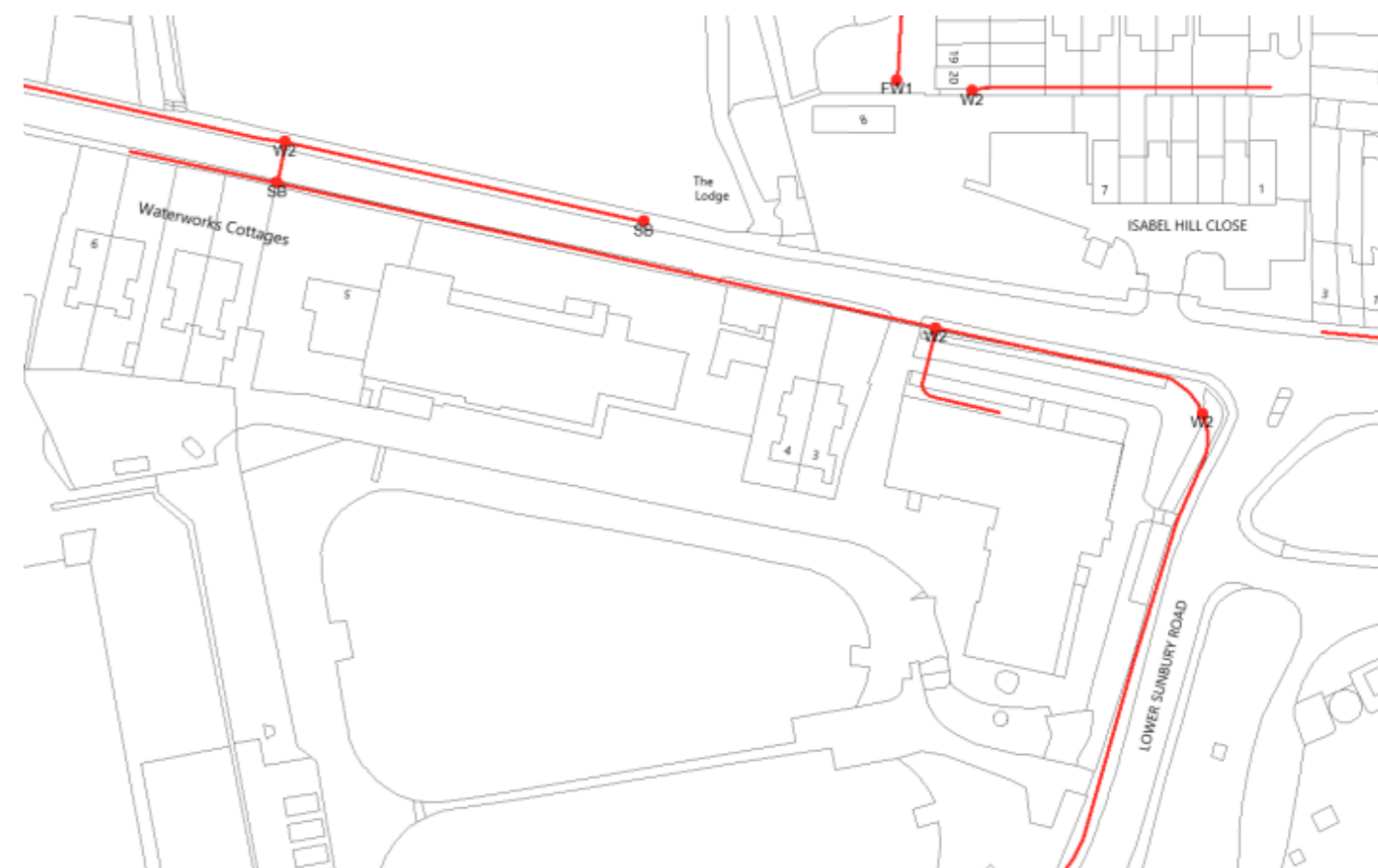


Figure 9 - Existing Virgin Media apparatus

## 7. OTHER UTILITY COMPANIES

Hydrock has undertaken a utility enquiry search using the Linesearch.org website in February 2023. The results of the search conclude that the following companies do not have plant and equipment in 'zone of interest.'

The following companies, not registered to Linesearch, were independently contacted by Hydrock and subsequently responded to confirm they have no assets in the zone of interest:

- CityFibre
- Colt Telecommunications Services
- Energetics
- Engie
- Instalcom
- KPN
- Sky Telecommunications Services
- SOTA
- Teliasonera
- Utility Assets
- Verizon
- Vodafone

Please note that Hydrock is unable to guarantee the accuracy of information provided by others. This report is based on information available at the time. Utility companies state that their records are valid for 3 months, therefore it is recommended that this information is reviewed regularly as the project progresses and vitally, that new searches are undertaken prior to any construction works starting on site.

List of not affected LSBUD members		
Angus Energy	AWE Pipeline	Balfour Beatty Investments Limited
BOC Limited (A Member of the Linde Group)	Box Broadband	BP Exploration Operating Company Limited
BPA	Cadent Gas	Carrington Gas Pipeline
CATS Pipeline c/o Wood Group PSN	Cemex	Centrica Storage Ltd
CNG Services Ltd	Concept Solutions People Ltd	ConocoPhillips (UK) Teesside Operator Ltd
D.S.Smith	Diamond Transmission Corporation	DIO (MOD Abandoned Pipelines)
DIO (MOD Live Pipelines)	E.ON UK CHP Limited	EirGrid
Eleclink Limited	Electricity North West Limited	Energy Assets Networks
ENI & Himor c/o Penspen Ltd	EnQuest NNS Limited	EP Langage Limited
ESP Utilities Group	ESSAR	Esso Petroleum Company Limited
euNetworks Fiber UK Ltd	EXA Infrastructure	Exolum Pipeline System
Fulcrum Electricity Assets Limited	Fulcrum Pipelines Limited	Gamma
Gas Networks Ireland (UK)	Gateshead Energy Company	Gigaclear Ltd
Harbour Energy	Heathrow Airport LTD	Humbly Grove Energy
IGas Energy	INEOS FPS Pipelines	INEOS Manufacturing (Scotland and TSEP)
INOVYN ChlorVinyls Limited	INOVYN Enterprises Limited	Intergen (Coryton Energy or Spalding Energy)
Jurassic Fibre Ltd	Last Mile	Mainline Pipelines Limited
Manchester Jetline Limited	Manx Cable Company	Marchwood Power Ltd (Gas Pipeline)
Melbourn Solar Limited	Moray East Offshore Windfarm	Murphy Utility Assets
National Grid Electricity Transmission	National Grid Gas Transmission	Neos Networks
Northumbrian Water Group	NPower CHP Pipelines	NTT Global Data Centers EMEA UK Ltd
NYnet Ltd	Oikos Storage Limited	Ørsted
Palm Paper Ltd	Perenco UK Limited (Purbeck Southampton Pipeline)	Petroineos
Phillips 66	Portsmouth Water	Premier Transmission Ltd (SNIP)
Redundant Pipelines - LPDA	RWE - Great Yarmouth Pipeline (Bacton to Great Yarmouth Power Station)	RWEnpower (Little Barford and South Haven)
SABIC UK Petrochemicals	SAS Utility Services Ltd	Scottish and Southern Electricity Networks
Scottish Power Generation	Seabank Power Ltd	SES Water
Shell	Shell NOP	SP Energy Networks
Squire Energy Networks	SSE Generation Ltd	SSE Transmission
SSE Utility Solutions Limited	Tata Communications (c/o JSM Construction Ltd)	Total Colnbrook Pipelines
Total Finaline Pipelines	Transmission Capital	Uniper UK Ltd
University of Cambridge Granta Backbone Network	Vattenfall	Veolia ES SELCHP Limited
Veolia ES Sheffield Ltd	Voneus Limited	VPI Power Limited
Wales and West Utilities	West of Duddon Sands Transmission Ltd	Western Power Distribution
Westminster City Council	Zayo Group UK Ltd c/o JSM Group Ltd	