



Red & Yellow
Specialist Extra Care
Melliss Avenue - Kew

Foul Sewage and Utilities
Statement
October 2018

Quality information

Prepared by

Charlotte Jeffrey
Graduate Engineer

Dariusz Nowacki
Senior Civil Engineer

Checked by

Carmen Lau
Principal Engineer

David Purcell
Associate

Verified by

Ian Oxtan
Associate Director

Approved by

Colin Page
Regional Director

Revision History

Revision	Revision date	Details	Authorized	Name	Position
01	August 2018	Draft for review	CP	Colin Page	Regional Director
02	September 2018	Client comments incorporated	CP	Colin Page	Regional Director
03	October 2018	Final Planning Issue	CP	Colin Page	Regional Director

Prepared for:

Melliss Ave Devco Ltd.
50 Copley Park
London SW16 3DB

Prepared by:

Charlotte Jeffrey
Graduate Mechanical Engineer
T: +01223-488054
E: charlotte.jeffrey@aecom.com

AECOM Limited
AECOM House
63-77 Victoria Street
St Albans
Hertfordshire AL1 3ER
United Kingdom

T: +44(0)1727 535000
aecom.com

© 2018 AECOM Limited. All Rights Reserved.

This document has been prepared by AECOM Limited ("AECOM") for sole use of our client (the "Client") in accordance with generally accepted consultancy principles, the budget for fees and the terms of reference agreed between AECOM and the Client. Any information provided by third parties and referred to herein has not been checked or verified by AECOM, unless otherwise expressly stated in the document. No third party may rely upon this document without the prior and express written agreement of AECOM.

Table of Contents

1.	Introduction.....	5
2.	Description of development.....	5
3.	Summary of Utility Applications	6
4.	Foul Sewage	7
5.	Mains Cold Water Services	11
6.	Electricity	14
7.	Gas	17
	Appendix A – Relevant Policy.....	19

1. Introduction

This Foul Sewage and Utilities Assessment Report has been prepared by AECOM Ltd, in its role as M&E consultants on the project, on behalf of Melliss Ave Devco Limited (“the Applicant”) in support of a planning application for the redevelopment of the former Biothane Site (“the Site”) within the London Borough of Richmond Upon Thames (‘LBR’).

1.1 Purpose of Report

This Foul Sewage and Utilities Assessment demonstrates that applications have been made to the appropriate utility companies for new supplies to serve the new development. Specifically, it addresses the following policies; Local Plan (2018) Policy LP 23 – Water Resources and Infrastructure and Richmond Development Management Plan (2011) DM SD 9 and DM SD 10; extracts of which are included for reference in Appendix A of this report.

2. Description of development

As described in the planning statement, application form and associated planning application material, a new Specialist Extra Care facility is proposed to be constructed on the former Thames Water Biothane treatment plant associated with Stag Brewery.

The scheme involves demolition of existing buildings and structures and redevelopment of the site to provide a Specialist Extra Care facility (C2 Use Class) for the elderly with existing health conditions. Comprising, 89 units, with extensive private and communal healthcare, therapy, leisure and social facilities set within a building of ground plus 3 to 5 storeys including set backs. Provision of car and cycle parking, associated landscaping and publicly accessible amenity spaces including a children’s play area.

3. Summary of Utility Applications

The table below tables provides a summary of the utility applications.

Service	Provider	Quote received?	Summary of Works
Foul Sewage / Drainage	Thames Water	Yes	Pre- Planning application dated 13 th June 2018. Confirmed that there is sufficient sewerage capacity to serve the foul discharge from the development.
Mains Cold Water Supply	Thames Water	Yes	A budget quote has been received from Thames Water detailing the new supply requirements. Confirming that there is sufficient existing capacity to serve the required demand of the new building.
Electricity	UKPN	Yes	A formal quote has been received from UKPN Services Ltd. detailing the new supply requirements. Alternative quotations have been requested from a number Independent Connection Providers.
Gas	Indigo Pipelines	No	No local capacity on SSE-Indigo pipework.
	Cadent Gas Ltd.	No	Informal quotation has been requested from Cadent. A decision has been made not to proceed with a new gas supply.

4. Foul Sewage

4.1 Existing Utilities on Site

The existing drainage on site comprises of a combined drainage network that collects storm water run-off and foul water waste serving the existing infrastructure associated with the decommissioned Thames Water Biothane Plant. There are number of buried pumping structures which discharge a 2440mm dia. Kew Transfer tunnel along the North – West corner of the site, an existing Thames Water pumping station to the north and into an existing foul water sewer in Melliss Avenue. All existing drainage on the site has been decommissioned, with the exception of an existing pump which is currently operational and discharges the storm water run-off from the site. All existing drainage will be removed in the final scheme.

A CCTV drainage survey was undertaken in April 2018 which confirmed that there are foul and storm water sewers present in the vicinity of the site:

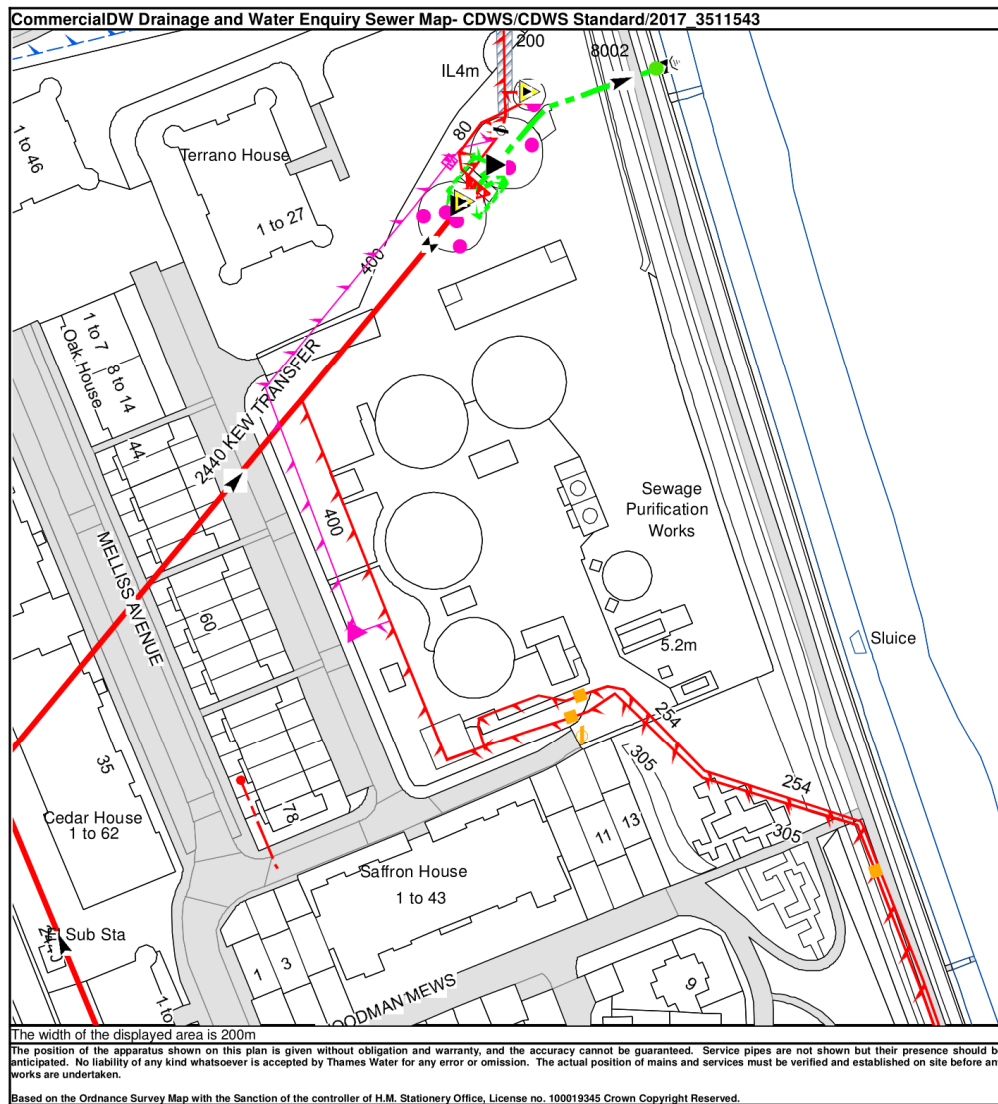
- A 450mm dia. surface water sewer under Melliss Avenue running to the South and under the Saffron House.
- A 150mm dia. foul water sewer serving the Saffron House and running towards the West in Melliss Avenue.

Following a pre-planning enquiry to Thames Water Utilities, it is has been established that both aforementioned sewers are owned by Thames Water despite not being indicated on the record plans. This was confirmed by the Developer Services department at Thames Water.

4.2 Asset Search

The Thames Water record plan (included below) indicates that there are the following Thames Water assets local to the site:

- Kew Transfer tunnel along the North – West corner of the site, 2240 mm in diameter.
- Foul water rising mains along the Melliss Avenue boundary, one is 400 mm in diameter
- 254mm & 305mm dia. foul water rising mains running from the South and joining the existing 400mm dia. rising main; this has been confirmed by Thames Water as redundant and no longer in use.



4.3 Application requirements

A pre-planning enquiry was logged with Thames Water in June 2018 for the new development to confirm that the existing sewer foul water sewer in Melliss Avenue has the sufficient capacity to accommodate the projected foul water flow from the proposed development.

4.4 Status

Thames Water Utilities have confirmed in response to the pre-planning enquiry that the existing foul water sewer has the sufficient capacity to serve the new development. Thames Water response is shown below. Refer to the AKT II SuDS Statement report for an indicative connection point, which has been agreed with Thames Water, to the public sewer.

4.5 Budget Quotation



Mr T Mealey
AKT II
White Collar Factory
1 Old street yard
London EC1Y 8AF



Our ref: DS6049881



0800 009 3921

Monday to Friday, 8am to 5pm

22nd June 2018

Pre-planning enquiry: Wastewater Capacity check

Dear Mr Mealey

Thank you for providing details on your development with the Pre-Planning application dated 13th June 18' for Kew Biothane Plant, Melliss Ave, Kew London TW9 4BD { Brownfeild site of 4200m2 of commercial area developed to :- 96 flats / Cinema (50 capa) / PH (64 Capa) / Restaurant (76 Capa) / Warehose 1150 m2 }.

Foul

If your proposals progress in line with the details you've provided as above, we're pleased to confirm that there will be sufficient sewerage capacity to serve your foul discharges from your development.

Surface Water

In considering your surface water needs, we support the use of sustainable drainage on development sites.

The surface water drainage strategy should follow policy 5.13 of the London Plan. Typically greenfield run off rates of 5l/s/ha should be aimed for using the drainage hierarchy. The hierarchy lists the preference for surface water disposal as follows; Store Rainwater for later use > Use infiltration techniques, such as porous surfaces in non-clay areas > Attenuate rainwater in ponds or open water features for gradual release > Discharge rainwater direct to a watercourse > Discharge by storing and attenuating rainwater direct to a surface water sewer/drain > Discharge by storing and attenuating rainwater to the combined sewer.

Please note that surface water discharges have to be stored and attenuated.

Please refer to the attached document titled "Planning your wastewater" attached to this letter, specifically to notes relating to surface water. Also I would advise you to liaise with the LA and discuss their criteria regarding surface water discharges in that area and adhere to their stipulation. If you agree & adhere to a LA stipulation then TW will be able to accommodate that agreed discharge.

This confirmation is valid for 12 months or for the life of any planning approval that this information is used to support, to a maximum of three years.

Please note that you must keep us informed of any changes to your design – for example, an increase in the number or density of homes. Such changes could mean there is no longer sufficient sewerage capacity.

What happens next?

Please make sure you submit your connection application, when you are ready, giving us at least 21 days' notice of the date you wish to make your new connection/s.

If you've any further questions, please contact me.

Yours sincerely

Siva Sivarajan

Developer Services- Wastewater Adoptions Engineer
Office: 0203 577 7752 Mobile: 07747842608
siva.sivarajan@thameswater.co.uk

Thames Water Utilities Ltd, Clearwater Court, Vastern Road, Reading, Berkshire, RG1 8DB
Find us online at developers.thameswater.co.uk



TW internal ref: DTS 49790

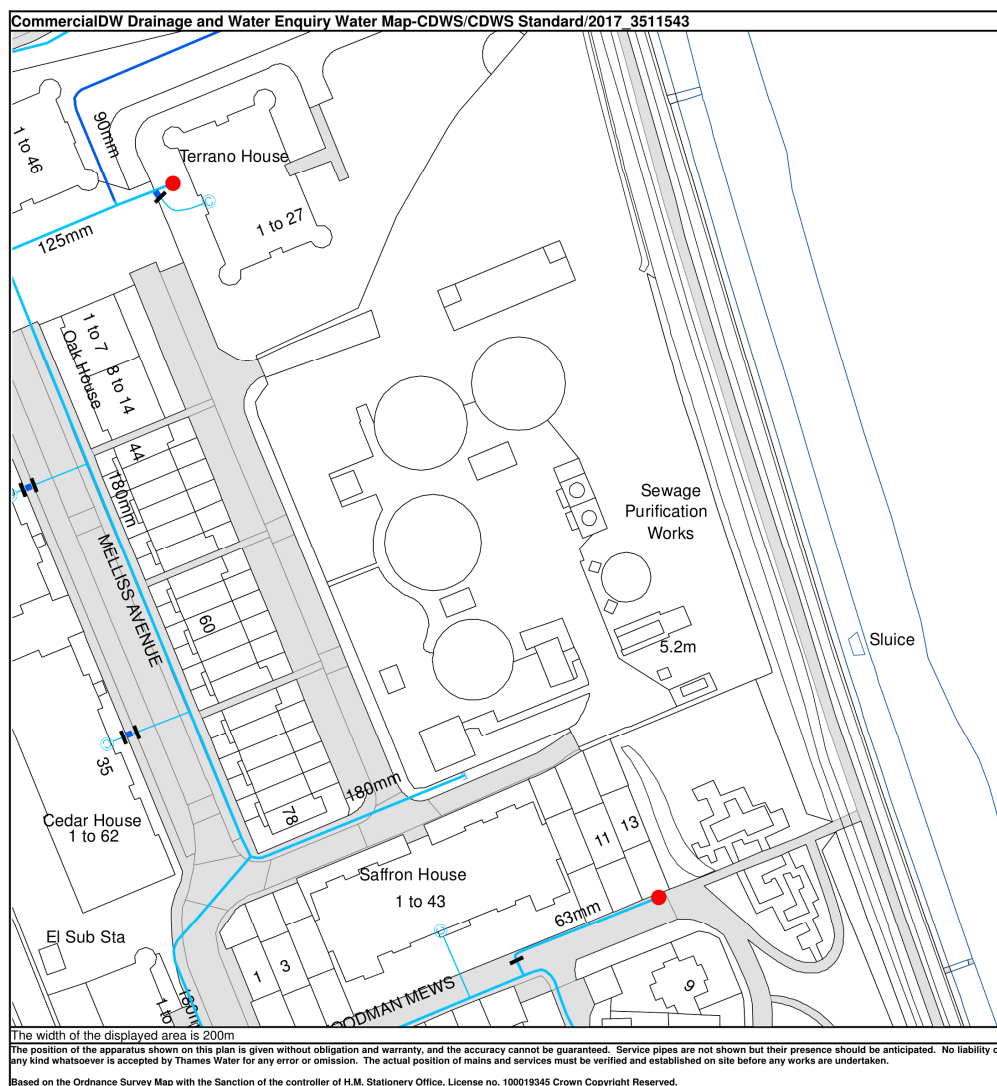
5. Mains Cold Water Services

5.1 Existing Utilities on Site

The site is in an area where the main cold water infrastructure is owned and maintained by Thames Water. It is understood that all of the existing water distribution pipework previously located on the Biothane Site has already been isolated.

5.2 Asset Search

Record drawings have been obtained from Thames Water that indicate there are water mains, resource mains or discharge pipe within the boundaries of the property. The record drawings and buried services drawing show existing connections running up the Western boundary of the site (parallel to Melliss Avenue) serving the existing Kew Transfer Station. Refer to Thames Water Asset Drawing below.



5.3 Application requirements

An application has been made to Thames Water for a new metered supply to serve the redeveloped site, including individual metered supplies to each apartment and dedicated metered supplies to the commercial elements of the development.

5.4 Status

A budget quote has been received from Thames Water confirming the cost of the new supplies. This budget quotation confirms that appropriate supplies are available; as part of the design development, a detailed application will be made and a flow and pressure investigation will be undertaken to help assess the impact of the new water demand on their network.

The quotation also confirms that, based on the soil report, the site is deemed to be contaminated and mains and services connections shall be installed using barrier pipe rather than plastic pipe; this forms part of the current proposals and quotation.

Within the quotation, Thames Water has confirmed that no clean water assets will need to be diverted.

5.5 Budget Quotation

The relevant sections of the Thames Water budget quote are included below.



Mr Mike Trousdale

AECOM
Aecom House,
63-77 Victoria Street,
St Albans, Herts,
AL1 3ER

→ **DS reference DS6043260**
@ **developer.services@thameswater.co.uk**
☎ **08000 093 921**
Mon-Fri 8am-5pm
💻 **thameswater.co.uk/developerservices**

02nd January 2018

Your clean water budget estimate

Rev 1 - MELLISS AVENUE, KEW, RICHMOND, LONDON – TW9 4BD

Budget cost for works undertaken:

Activity required	Self-lay budget cost	Statutory budget cost
<p>Flats: 1x90mm barrier pipe metered combined fire & domestic supply from the existing distribution main of 180mm HPPE on the Melliss Avenue.</p> <p><i>Note: This service connection consists of mist sprinkler tank for domestic and commercial units as well.</i></p>	Total: £331.68 for 01x80mm diameter meter, supply to be laid by the Self Lay Company.	Total: £10,850.00
<p>Commercial Supply: 1x63mm barrier pipe metered commercial supply from the existing distribution main of 180mm HPPE/MDPE on the Melliss Avenue.</p> <p><i>Note:</i></p> <ul style="list-style-type: none"> This service connection consists of 1 single supply feeding the commercial kitchen, restaurant/bar, café and pool. The distance from the point of connection to the tank is approximately 105 m, hence 63mm service pipe is considered. 	Total: £261.02 + VAT £52.20 (£313.22 Inclusive) for 1x50mm diameter meter, supply to be laid by the Self Lay Company.	Total: £2,881.99 + VAT £576.39 (£3,458.38 Inclusive)

- Total: shows a total cost of the scheme

In addition to the above costs, the quotation also includes for the applicable (at that point in time) infrastructure and network charges, as follows:

Residential - £365.45 water infrastructure charge per apartment, £365.45 sewage infrastructure charge per apartment

Commercial - £730.00 water infrastructure charge, £730.00 sewage infrastructure charge per apartment

Thames Water have advised that, from 1st April 2018 onwards, the way Thames Water changes for new connections will be changed. More charges will be fixed and published rather than provided on an application basis, which may make it easier for alternative providers to supply competitive quotes.

At the appropriate time, the Applicant will obtain a current quotation and pay for the new mains cold water infrastructure.

6. Electricity

6.1 Existing Utilities on Site

The site is in an area where the electricity cabling and substations are owned and maintained by UKPN.

The site was previously served by a UKPN owned transformer situated within the Thames Water Control Station. It is understood that the former supplies to the site have been isolated and disconnected from the transformer.

6.2 Asset Search

Record drawings have been obtained from UKPN that indicate Buried HV cabling which feeds the aforementioned transformer and other local sites are located under a grass verge adjacent to the River Thames along the site boundary. These are to be maintained and no diversion works are expected.

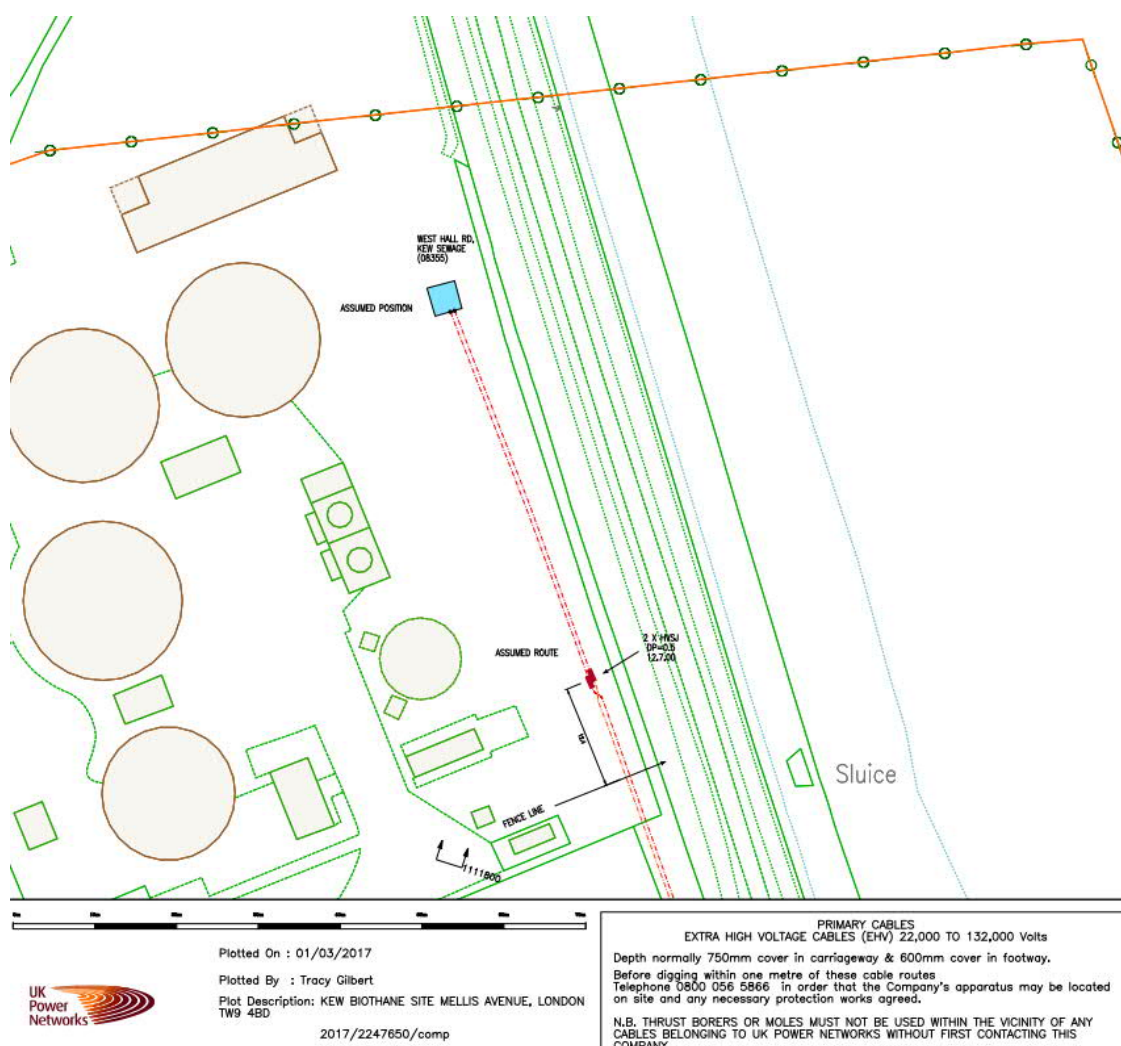


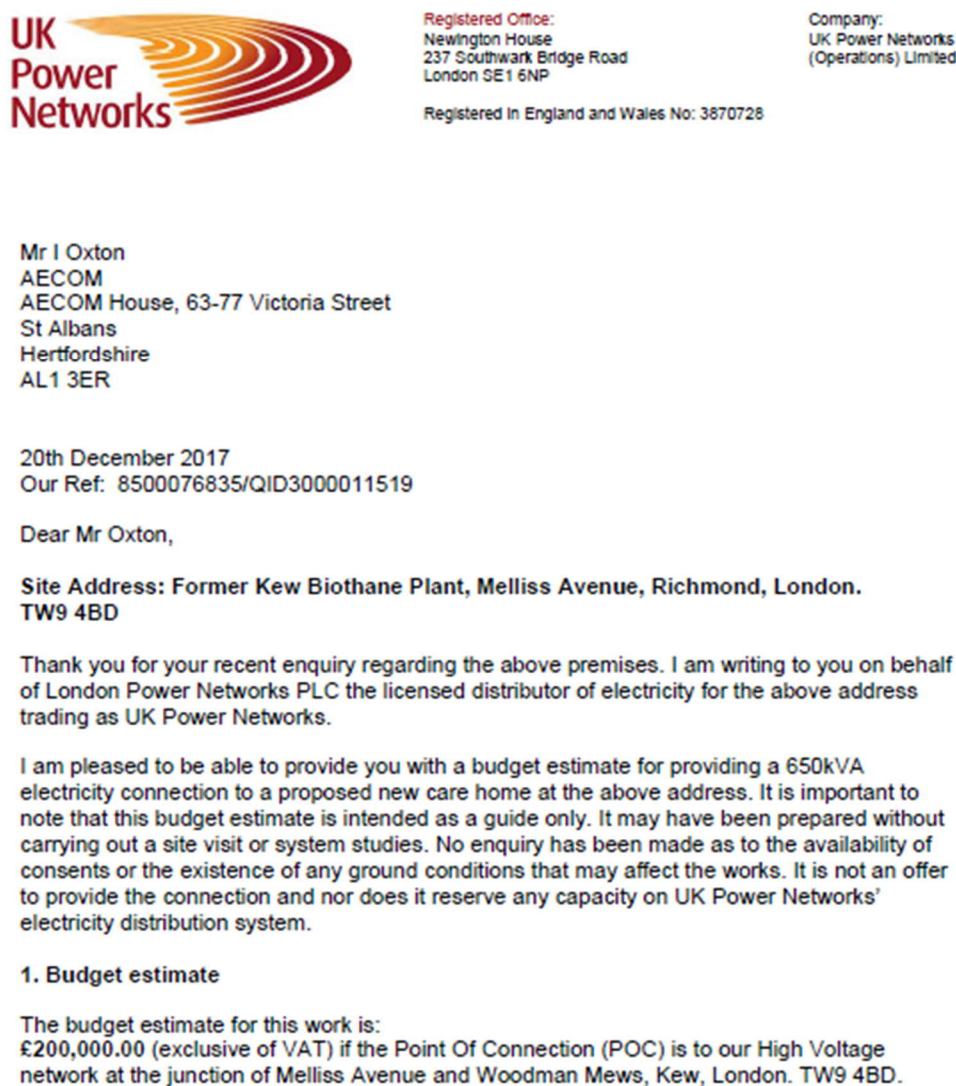
Figure 6.1: UKPN Electricity Asset Drawing

6.3 Application requirements

An application has been made to UKPN for a new metered electricity supply – in the range 650 – 1000kVA - to serve the redeveloped site.

6.4 Status

An initial budget estimate was provided by UKPN in December 2017, extract below.



Subsequently to this, a detailed quotation was requested from UKPN and a number of Independent Connection Providers (ICPs) for a formal offer of connection.

6.5 Formal Quotation

An extract from the formal UKPN quotation is included below, which confirms that sufficient capacity can be provided from their network to serve the site.



Registered Office
Newington House
237 Southwark Bridge Road
London SE1 8NP

Company:
UK Power Networks
(Operations) Limited

Registered in England and Wales No: 3870728

Mr. Ian Oxton
AECOM
AECOM House
63-67, Victoria Street
St Albans
AL1 3ER

Date: 18 April 2018

Our Ref: 8500078919 / QID 3500050278

Dear Mr. Oxton

Site Address: Melliss Avenue / RICHMOND TW9 4BD

Thank you for your recent enquiry regarding the above site. I am pleased to be able to provide you with a Quote to carry out the work requested. I am writing to you on behalf of London Power Networks plc the licensed distributor of electricity for the above address trading as and referred to in this Quote as "UK Power Networks".

The Works will enable the provision of an import capacity of 800 kVA and a maximum export capacity of 0 kW.

It will be necessary to provide an 800kVA sub-station with a metered ACB supply. A COP5 Metering Termination Chamber is to be installed into the customers switch room, which is to be adjacent to the sub-station. This will be connected to the ACB via a UK Power Networks owned cable. The customers supply cables between the new sub-station and switch room will be sized and supplied by the customer and will their property.

UK Power Networks would like to carry out all of the requested work for you. However, there are other companies who can do some or all of the work for you; these are Independent Connection Providers (ICPs). You can approach NERS accredited ICPs directly, or you can approach an Independent Distribution Network Operator (IDNO) to request this work and they will arrange for an ICP to carry out the Contestable Works. To find out more about which ICPs work in our area and what work they can undertake please [click here](#).

As is normal, this quotation is only valid for 90 days and has now expired. However, the requirements detailed in this quotation – including the spatial requirements for sub-station – have been incorporated into the building design. In addition, quotations have been requested from a number of ICPs.

At the appropriate stage post planning, a request will be made to the preferred supplier to refresh the quotation and the works associated with providing the new supply will be instructed.

7. Gas

7.1 Existing Utilities on Site

All of the existing gas distribution pipework previously located on the Biothane Site has been isolated.

7.2 Asset Search

Gas pipework in the Kew area is generally owned and maintained by Cadent Gas Ltd. However, their asset record drawing, shown below, indicates that the area around the former Biothane Plant is served by a local gas network, operated by Indigo Pipelines, an independent public gas transporter owned by SSE.

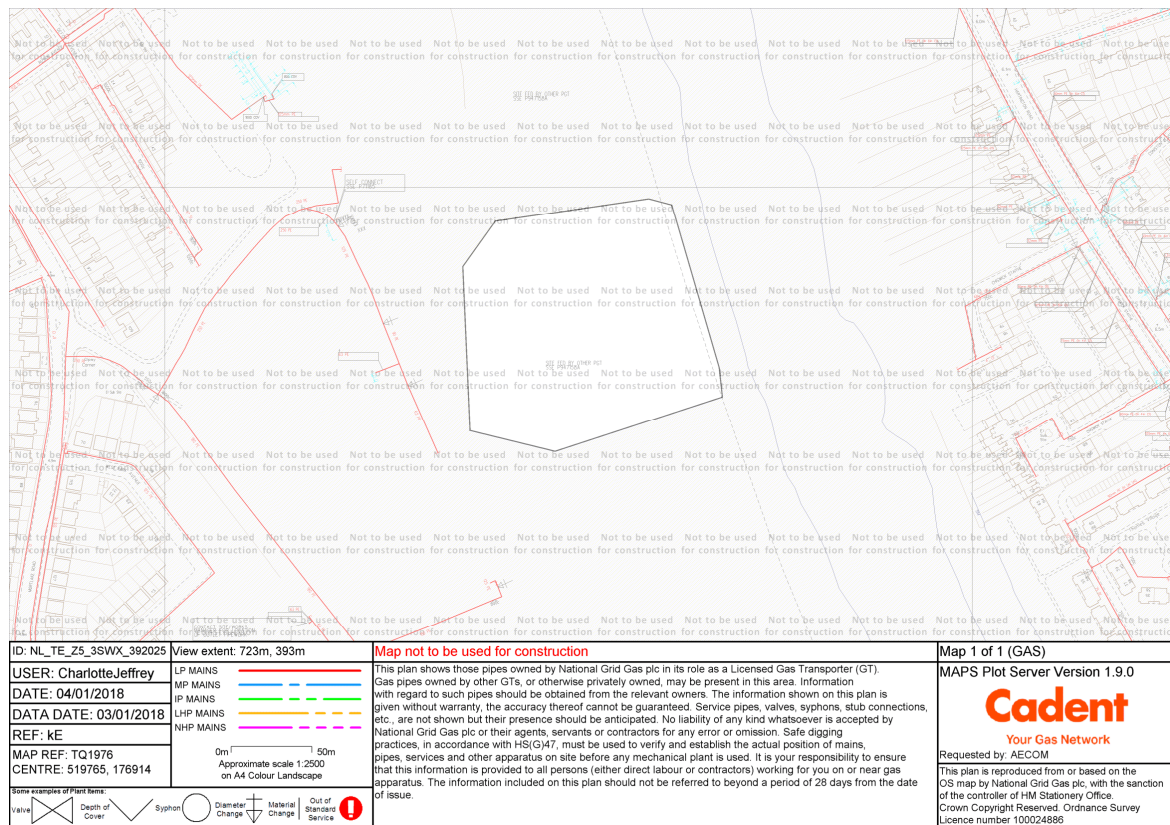


Figure 7.1: Cadent Gas LTD. Asset drawing

Record drawing information has been obtained from SSE-Indigo showing the local gas network showing gas pipework located to West on the site on Melliss Avenue, which serves the former Biothane Plant and the surrounding private residential developments. This local Indigo pipework network is served from the Cadent main, which then runs from the roundabout connecting Strand Dr. and Bessant Dr. and then behind the Retail Park (to the West of the site).

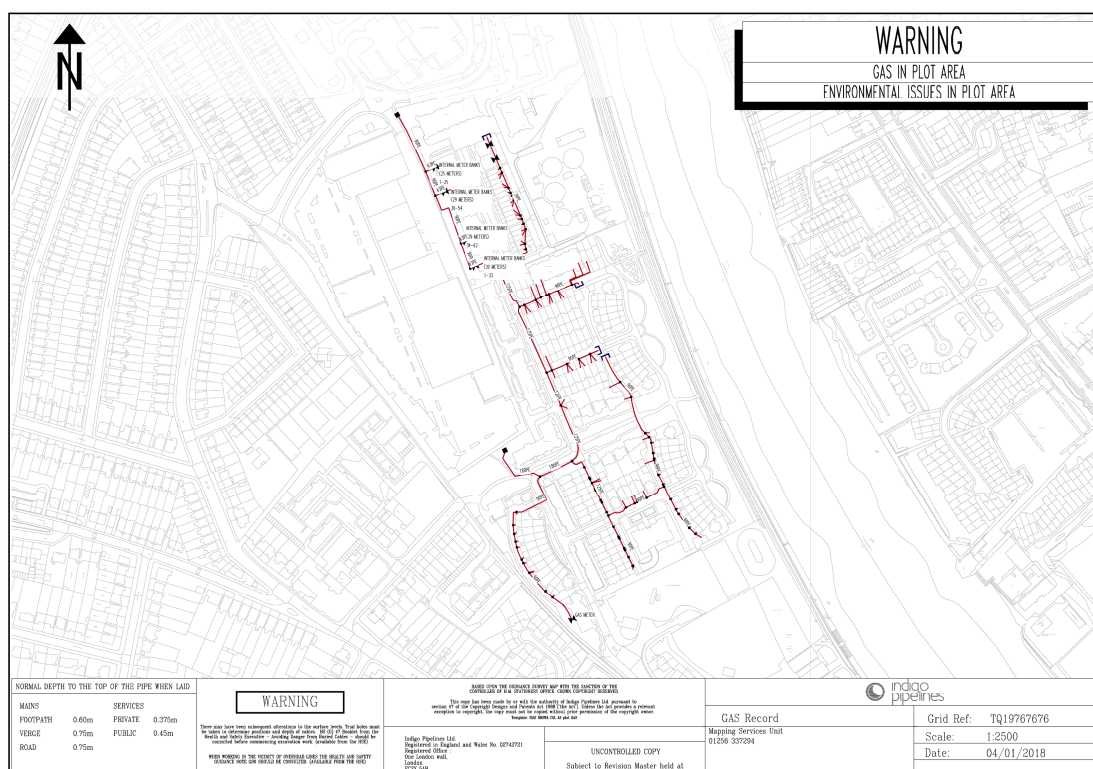


Figure 7.1: Indigo / SSE Asset drawing

7.3 Application requirements

An enquiry was initially made to Indigo Pipelines for a new gas connection to serve the heating, hot water and catering requirements of the new development, using the following figures.

- Peak Hourly Gas Load: 1585 kW
- Annual Gas Load: 2,809,834 kWh

7.4 Status

Indigo Pipelines have confirmed that they are unable to support any additional load on the current local infrastructure without major reinforcement – which would require a network side upsizing of existing plant.

A subsequent request was made to Cadent Gas Ltd. for a direct connection from their wider infrastructure to serve the site directly. An informal estimate has been provided, which would require in excess of 350m of mains to be laid though the retail park service room and would require legal easements, at a cost in excess of £200,000 and requiring a full design study to be completed, which would take up to 180 days and require an additional design fee of £12,500.

For this reason – as well as energy saving and carbon reduction reasons (refer to the Energy Report for further details) - it has been decided that no gas connection will be provided to the new development. All heating, DHW and cooking will be provided by electric means.

Appendix A – Relevant Policy

Local Plan (2018) Policy LP 23 – Water Resources and Infrastructure:

Policy LP 23

Water Resources and Infrastructure

A. The borough's water resources and supplies will be protected by resisting development proposals that would pose an unacceptable threat to the borough's rivers, surface water and groundwater quantity and quality. This includes pollution caused by water run-off from developments into nearby waterways.

Water Quality

B. The Council encourages proposals that seek to increase water availability or protect and improve the quality of rivers or groundwater.

The development or expansion of water supply or waste water facilities will normally be permitted, either where needed to serve existing or proposed new development, or in the interests of long term water supply and waste water management, provided that the need for such facilities outweighs any adverse land use or environmental impact.

Where rivers have been classified by the Environment Agency as having 'poor' status, any development affecting such rivers is encouraged to improve the water quality in these areas.

Water and sewerage provision

C. New major residential or major non-residential development will need to ensure that there is adequate water supply, surface water, foul drainage and sewerage treatment capacity to serve the development.

Planning permission will only be granted for developments which increase the demand for off-site service infrastructure where:

1. sufficient capacity already exists, or
2. extra capacity can be provided in time to serve the development, which will ensure that the environment and the amenities of local residents are not adversely affected.

Applicants for major developments will be required to provide evidence in the form of written confirmation as part of the planning application that capacity exists in the public sewerage and water supply network to serve their development.

Any new water supply, sewerage or waste water treatment infrastructure must be in place prior to occupation of the development. Financial contributions may be required for new developments towards the provision of, or improvements to, such infrastructure.

Richmond Development Management Plan (2011) DM SD 9 and DM SD 10:

Policy DM SD 9**Protecting Water Resources and Infrastructure**

The borough's water resources and supplies will be protected by resisting development proposals that would pose an unacceptable threat to surface water and groundwater quantity and quality. This includes pollution caused by water run-off from developments into nearby waterways.

New developments must achieve a high standard of water efficiency by:

1. meeting the minimum mandatory target for water consumption as set out in the Code for Sustainable Homes, or
2. meeting a minimum of 2 credits on water consumption for other types of developments (BREEAM "excellent"), or
3. meeting a minimum of 3 credits on water consumption for conversions (EcoHomes "excellent"), and
4. utilising rainwater harvesting for all external water uses to reduce the consumption of potable water wherever possible.

The above requirements may be adjusted in future years to take into account the then prevailing standards and any other national guidance to ensure that these standards are met or exceeded.

New developments should also consider the following:

1. utilising rainwater harvesting and greywater recycling for all non-potable uses to reduce the consumption of potable water wherever possible, and
2. designing of landscaping to minimise water demand.

Proposals that seek to increase water availability or protect and improve the quality of rivers or groundwater will be encouraged.

The development or expansion of water supply or waste water facilities will normally be permitted, either where needed to serve existing or proposed new development, or in the interests of long term water supply and waste water management, provided that the need for such facilities outweighs any adverse land use or environmental impact.

The Council will support in principle the implementation of the Thames Tunnel project.

Where rivers have been classified by the Environment Agency as having 'poor' status (currently the River Crane, the Beverley Brook and the River Thames, upstream of Teddington), any development affecting such rivers is encouraged to improve the water quality in these areas.

Policy DM SD 10

Water and Sewerage Provision

New development will need to ensure that there is adequate water supply, surface water, foul drainage and sewerage treatment capacity to serve the development.

Planning permission will only be granted for developments which increase the demand for off-site service infrastructure where:

1. sufficient capacity already exists, or
2. extra capacity can be provided in time to serve the development, which will ensure that the environment and the amenities of local residents are not adversely affected.

Developers will be required to provide evidence that capacity exists in the public sewerage and water supply network to serve their development.

Any new water supply, sewerage or waste water treatment infrastructure must be in place prior to occupation of the development. Financial contributions may be required for new developments towards the provision of, or improvements to such infrastructure.

invest  change