



Land West of Watling Street, Park Street

Utilities Statement

For M Scott Properties Ltd

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CONTENTS

20880-HYD-XX-XX-RP-Y-3000.....	1
EXECUTIVE SUMMARY	1
LAND WEST OF WATLING STREET, PARK STREET	2
1. SITE DETAILS	2
1.1 Location	2
1.2 Proposed Development	2
2. EXISTING SERVICES REVIEW	3
GAS 4	
3. CADENT GAS	4
3.1 Existing infrastructure	4
3.2 New Connections	4
3.3 Futureproofing policy	4
3.4 Building Regulations.....	4
3.5 Changes to Building Regulations.....	4
3.6 Utility Depths and Safety.....	5
ELECTRICITY	6
4. UK POWER NETWORKS.....	6
POTABLE WATER.....	8
5. AFFINITY WATER	8
TELECOMS.....	9
6. OPENREACH.....	9
6.2 New Connections	9
6.3 Capability	9
6.4 Speeds.....	10
INDEPENDENT UTILITIES	11
7. LSBUD	11
the time.	11
7.1 Additional Infrastructure.....	11

Executive summary

Table 1 – Conclusions and summary table

Existing Infrastructure	On-site apparatus present (Y/N) (exc. services)	Risk (RAG)	Diversions Required (Y/N)	Disconnections Required (Y/N)	Capacity available (Y/N)	Notes
Gas - Cadent	N	G	Y	N	N/A	<ul style="list-style-type: none"> - No infrastructure within the site boundary and gas connections are not required. - Potential for diversion of the main along Watling St. based on new site entrance
Electricity - UKPN	Y	G	Y	N	Y	<ul style="list-style-type: none"> - TriConnex have established the connection point and engaged with UKPN re the POC. Capacity is available for the development without any major reinforcement work. - S278/site entrance works possibly required but further analysis of the exact UKPN cable route required, in order to see if indeed it would need diverting. - TriConnex on-site connection proposal provided
Water – Affinity Water	N	G	Y	N	Y	<ul style="list-style-type: none"> - Capacity available for the development from the main on Watling Street - TriConnex proposal provided re connection onsite
Telecomms - Openreach	Y	G	Y	N	Y	<ul style="list-style-type: none"> - Fibre to the Cabinet is available within the service area. The local exchange is enabled for LLU as well, meaning other operators are available. Current fibre speeds estimated/averaged at 66Mbps with Ultrafast Fibre available with Virgin Media

Risk assessment

The risk column in the above table uses a 'Red, Amber, Green' matrix based on the following criteria:

R	Expected high cost – expected risk to project and timeframes.
A	Expected medium cost – possible risk to project programme and budget but mitigation may be possible.
G	Expected low cost - typical/standard cost for most developments.

Land West of Watling Street, Park Street

1. SITE DETAILS

1.1 Location

The site is located in St Albans, c. 2 miles south of St Albans city centre, with London c. 24 miles south west. The land is currently a greenfield plot on Watling Street (A5183), situated in an existing residential area.

The full address and Ordnance Survey Grid Reference are given in Table 1 below.

Site referencing information	
Site address	Site grid reference
Land West of Watling Street, Park Street, St Albans, AL2 2NW	X: 514592 Y: 204562

1.2 Proposed Development

The site proposes to deliver a residential development, which will comprise of 80no. houses and 15no. flats.



Figure 2 - Proposed development plan



Figure 1 - Site boundary

2. EXISTING SERVICES REVIEW

This section of the report details the utility services that exist within the site and its immediate surrounds.

Please note that Hydrock's report is based upon utility asset record information only.

The scope of this assessment includes the following utility services:

- Electricity
- Gas
- Water
- Telecommunications
- Data/Fibre

Note: Assessment of the foul sewer network is excluded from this report and is recommended that advice is sought from by a Civil Engineer.

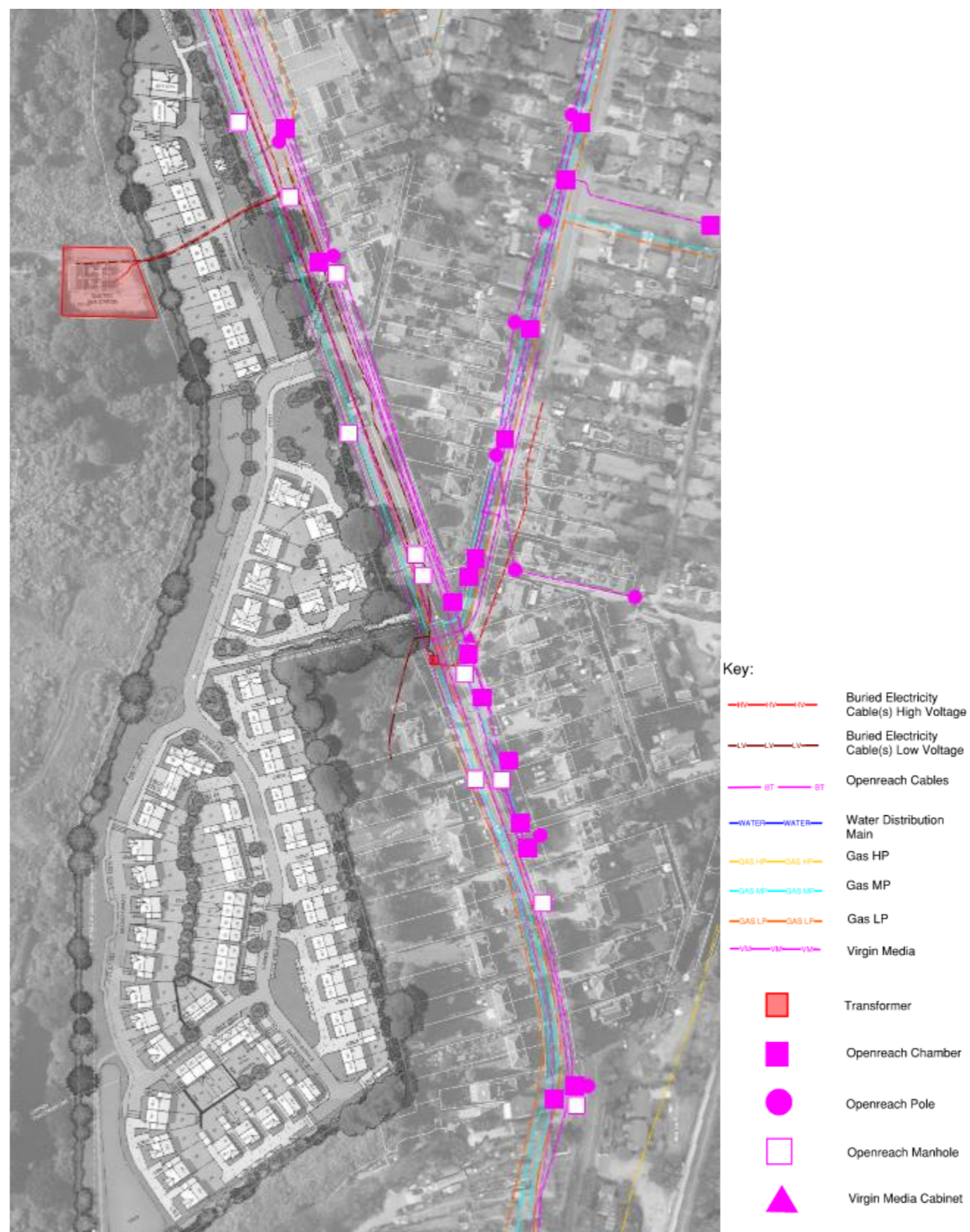


Figure 3 - Coordinated existing services drawing

Gas

3. CADENT GAS

Cadent Gas are the incumbent gas network operator for this service area.

3.1 Existing infrastructure

Records received from Cadent show;

- There is a Low Pressure (LP) main running along Watling Street, directly to the east of the site
- There is a Medium Pressure (MP) main running north up Mount Drive from Watling Street. This MP main continues along Watling Street to the south towards Park Street station

3.1.1 On-site diversions

In terms of the development area, there are no on-site diversions required.

3.1.2 Site entrances/S278 works

The LP gas main along Watling Street will require further analysis, in order to assess if a diversion is required by Cadent due to the changes in the road/new site entrance. The asset records are not clear on the exact route of the main but it appears to be running in the centre of the road and therefore may not require diverting. It is recommended that a GPR survey and trial holes of the area is undertaken to confirm the location and depths of the utilities across the site entrance. This will enable a more accurate assessment of any necessary alterations.

3.1.3 Disconnections

In terms of the development area, there are no on-site disconnections required. A GPR survey is recommended, to ensure there are no hidden assets.

3.2 New Connections

Due to the scheme being all electric, there is no requirement to have gas connected to the site. Therefore no assessment of the gas network has been made at this stage.

3.3 Futureproofing policy

The Future Homes Standard (2019) was formed from a government consultation (now closed) to focus on the operational emissions of buildings.

The Standard states that by 2025, new build homes will need to be future proofed with low carbon heating and world leading levels of energy efficiency.

One of the aims of the standard is to start preparing the supply chain for 2025, when it will no longer be possible to install gas boilers in new buildings. This means that connecting to the conventional gas grid will not be a feasible option for new residential development sites.

Alternative low-zero carbon (renewable) fuel sources should be considered at an early stage to future-proof the site and provide heat and hot water from sustainable sources.

3.4 Building Regulations

All new buildings within the development will need to meet the standards set by Building Regulations 'Approved Document Part L2A – Conservation of fuel and power in new buildings other than dwellings. These standards include a minimum level for regulated carbon emissions defined by the Target Emission Rate (TER) – relating to a 'Notional Building'.

3.5 Changes to Building Regulations

There have been no updates to Part L since 2013, including the carbon factor used for grid supplied electricity, which we know has reduced dramatically during this time. However, the revised Part L was out to consultation in early 2021 (consultation period closed April 2021) with the new amendment expected to come into force later this year. It is anticipated that the new Part L will include an update to CO2 calculations and potential changes to the services specification.

There is evidence of this in the recent update to the Standard Assessment Procedure (SAP), which provides the methodology for energy and emissions assessment for new dwellings in the UK. A revised version of SAP 2012 (called SAP 10) has been released, which, on 10/10/19, was updated to SAP 10.1.

There are several key changes as part of the recent

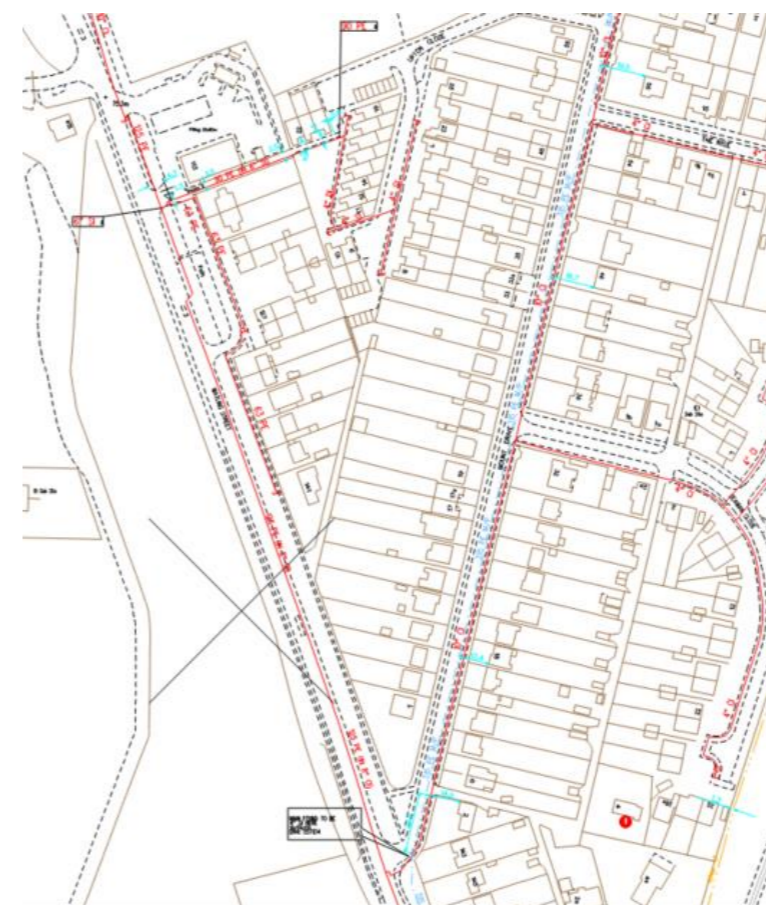


Figure 4 - Existing gas apparatus – Cadent asset record



Figure 5 – potential LP main diversion based on the new site entrance/S278 works

update to SAP, the most significant relating to the assumed fuel emission factors. Gas has remained approximately the same as under the 2012 version but the **carbon factor for grid derived electricity has reduced by 75%**.

These changes are likely to result in electric or heat pump derived heating and hot water becoming the standard industry approach for future developments, particularly as the country moves away from grid derived gas.

This will be an important consideration when reviewing appropriate building services strategies for the development as well as when considering network capacity.

3.6 Utility Depths and Safety

The National Joint Utilities Group (NJUG) are an industry-recognised non-regulatory body that provide guidance on new utility infrastructure and construction. The recommended minimum depth for gas apparatus, as per NJUG guidelines, is as follows; 600mm footpath and 750mm verge and carriageway.

It should be expected that existing apparatus would be buried at a similar depth or deeper. In open fields/agricultural land, gas pipelines may be installed at 1100mm below ground level. A survey would however be required to confirm.

When excavating within 3m of gas apparatus, contact shall be made with the Asset Owner/Representative responsible for the operation and maintenance of the asset, in order to obtain their specific requirements to develop the Safe System of Work (SSoW), and where necessary arrange for their attendance on-site. No mechanical excavation should be undertaken within 500mm of the main. This will require hand-dig only.

Electricity

4. UK POWER NETWORKS

UK Power Networks (UKPN) are the incumbent distribution network operator (DNO) for this service area.

4.1.1 Existing infrastructure

Records received from UKPN show a network of extra high voltage (EHV), high voltage (HV) and low voltage (LV) cables present around and within the vicinity of the site.

- There is a 33kV EHV primary substation
- There is a buried EHV and HV cable directly through the land from west to east onto Watling Street
- Along Watling Street heading south, there are LV and HV buried electricity cables

4.1.1.1 On-site diversions

The EHV/HV cables are marked up on the site plan and a clear route has been left over the cables and to the substation. An application has been made to confirm the clearance distances they need from the cable to the nearest building to advise if plots 88 and 89 are affected. At the time of writing UKPN had advised an easement document could not be located for the cable on the private land. It is expected an easement of between 3m to 6m either side would be expected.

4.1.1.2 Site entrances/S278 works

Potential LV and HV diversion along the new site entrance. It is recommended that a GPR survey and trial holes of the area is undertaken to confirm the location and depths of the utilities across the site entrance. This will enable a more accurate assessment of any necessary alterations.

4.1.2 Disconnections

There are no disconnections anticipated on site.

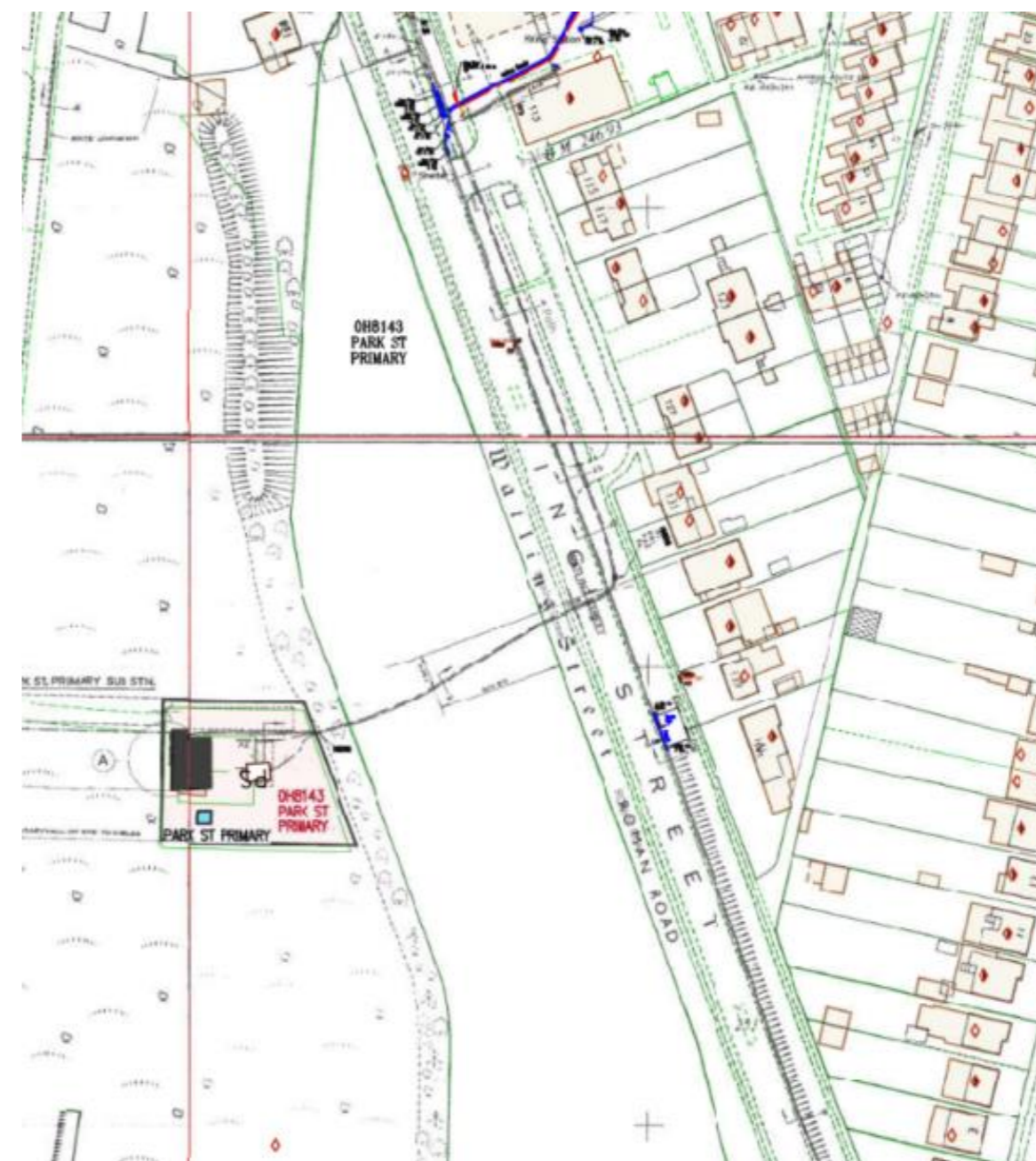


Figure 6 – Existing electricity apparatus - UKPN

4.1.3 New Connections

The pre-planning connection proposal has been provided by TriConnex and information outlined in this section, is obtained from the TriConnex proposal. The anticipated point of connection will be from the HV cable on Watling Street as detailed in Figure 7 and provided by UK Power Networks.

Off-site;

TriConnex have allowed for 60no meters of offsite works in order to bring the new supply to the site comprising of excavation, backfill, reinstatement and traffic management in the footway of Watling Street.

TriConnex have assumed that the site entrance will be levelled to allow for new services to enter the site. If it is possible to take the cable via the purple line into site (as indicated in Figure 7), there will be a cost saving in the electrical offsite cost.

On-site;

A substation is required and an assumed position is depicted by TriConnex in Figure 8.

From the substation, TriConnex will install an LV network to supply the development allowing for individual services as follows:

- For houses, individual services for each residential unit terminating within an approved external meter box or an agreed internal ground floor position.
- For flats, an LV main into the stair core of the apartment block with riser cables and MSDBs and individual services for each apartment terminating at the redhead (isolator) within the riser meter cupboard on the same floor as the apartment it serves. Onward distribution and metering is deemed to be by others.
- TriConnex have allowed for 2no. three phase landlord supplies at 5kVA each.
- For the pumping station, TriConnex have allowed for a single supply terminating at a three phase 100 amp single service. Onward distribution and metering is deemed to be by others.

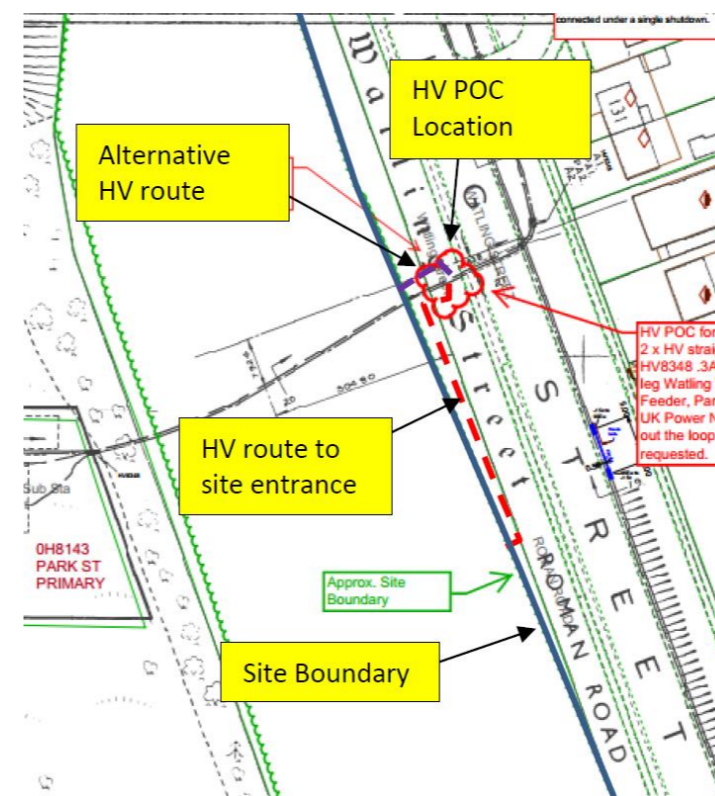


Figure 7 – Proposed POC for the electricity

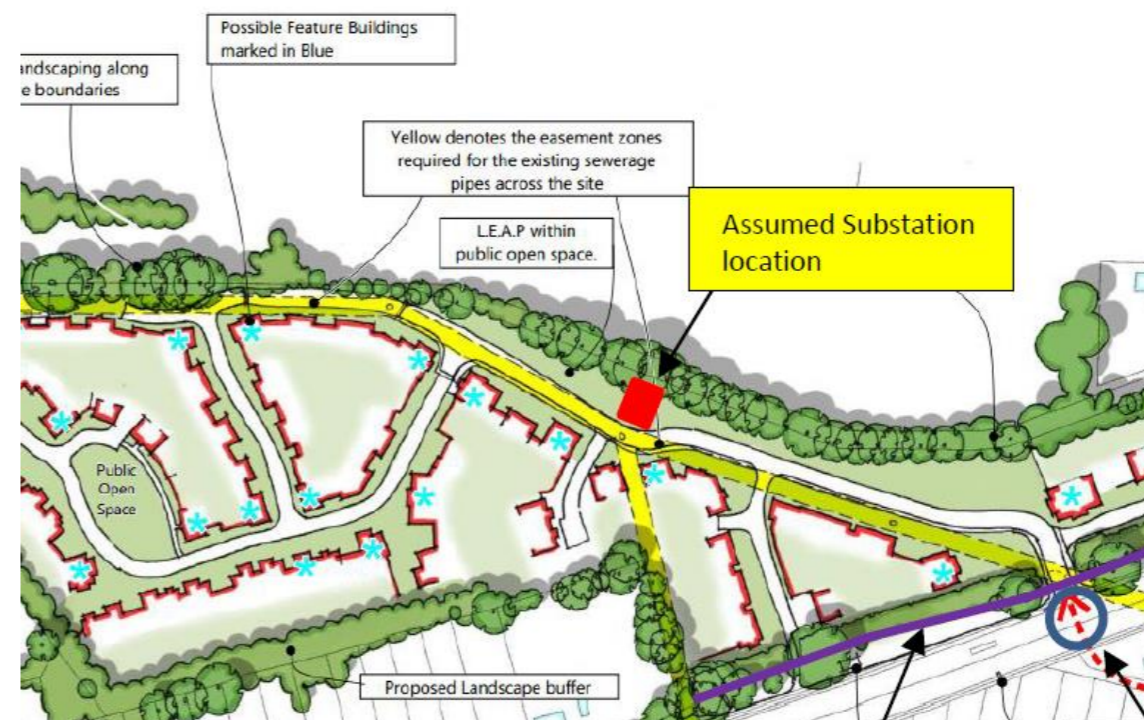


Figure 8 – Assumed substation position by TriConnex

Potable Water

priced based on standard MDPE water mains and services.

5. AFFINITY WATER

Affinity Water are the incumbent distribution network operator for this service area.

5.1.1 Existing infrastructure

Records received from Affinity Water show;

- 4" main running along Watling Street
- A larger 6" CI main, heading north up Watling Street from the top of the site boundary.

5.1.1.1 On-site diversions

No diversionary work is anticipated as no assets are present within the site boundary causing any conflicts.

5.1.1.2 Site entrance/S278 works

The 4" water main may require diverting along Watling Street for the new site entrance. Initial analysis shows the main runs along the east of the carriageway, therefore discussions with Affinity will be required re diverting the pipe. It is recommended that a GPR survey and trial holes of the area is undertaken to confirm the location and depths of the utilities across the site entrance. This will enable a more accurate assessment of any necessary alterations.

5.1.1.3 Disconnections

No disconnections are required on site prior to development.

5.1.2 New Connections

A pre-planning enquiry was raised by Hydrock, which confirmed the assumed POC in Figure 10 as correct.

On-site;

Once on-site TriConnex will install all new mains and services, wash outs and fire hydrant supplies terminating in a meter within a ground boundary box (Houses and flats below 3 stories).

In the absence of a soil investigation report, TriConnex have assumed the site is clean and inert and have



Figure 9 – Existing water apparatus for the northern aspect of the site – Affinity Water asset record

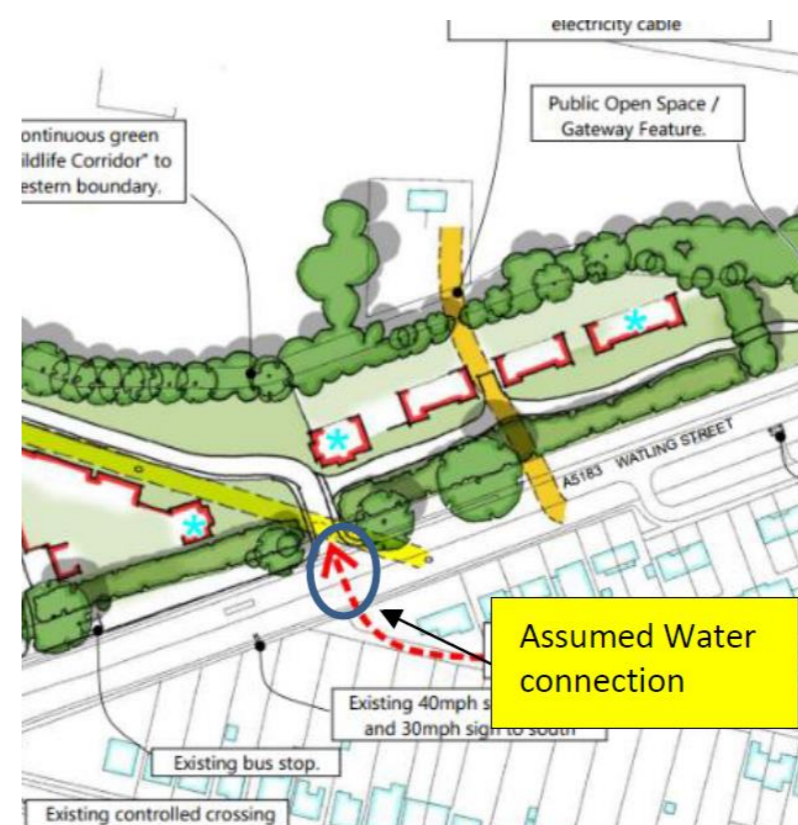


Figure 10 – Anticipated Affinity Water POC proposed by TriConnex.

Telecoms

6. OPENREACH

Openreach manage and install the infrastructure for telecommunication services.

6.1.1 Existing infrastructure

Records received from Openreach show;

- Assets are shown along Watling Street via overhead and buried cables
- There are a number of manholes along Watling Street as indicated in Figure 11.

6.1.1.1 On-site site diversions

No on-site diversions are anticipated.

6.1.1.2 Site entrance/S278 works

The asset records obtained from Openreach, show the cable route along Watling Street to directly cross the proposed new entrance road. Therefore, this asset is likely to require diverting at the new site entrance. It is recommended that a GPR survey and trial holes of the area is undertaken to confirm the location and depths of the utilities across the site entrance. This will enable a more accurate assessment of any necessary alterations.

6.1.1.3 Disconnections

No disconnection work is anticipated.

6.2 New Connections

The new supply process by Openreach will require the site to be registered at least 8 weeks in advance of site start date.

The estimated point of connection (POC) is anticipated to be on Watling Street, from the box opposite the proposed site entrance. Triconnex have provided a proposal to include the connection of Ultra-Fast Fibre Optic to the premises.

6.3 Capability

Openreach's local exchange, Park Street is located c. 1 mile from the site and is fibre enabled.

The following services are currently available using postcode AL2 2NW;

- BT ADSL and ADSL Max
- BT SDSL
- LLU (Talk Talk & Sky Broadband)
- BT FTTC
- Virgin Media

6.3.1 ADSL and ADSL Max

Asymmetric digital subscriber line (ADSL) broadband is a connection provided over home telephone lines. ADSL provides a high-quality, reliable connection. Speeds vary however subject to site locality from an exchange.

6.3.2 SDSL

Symmetrical digital subscriber line (SDSL) is based on different technological frameworks than other digital subscriber line technologies. Although SDSL also uses traditional copper wires, it cannot coexist with a voice service, and requires a specific installation at the user's premises, with a specific modem, specific cabling, splitter, and gateway. While ADSL was developed prioritising downstream, SDSL is meant to deliver similar performance for downloads and uploads. SDSL is therefore the preferred broadband service for business users who require fast upload speeds.

6.3.3 LLU

Due to Openreach operating an open network, ADSL packages can be sold by providers other than BT, through a process known as local loop unbundling (LLU). LLU means that a secondary provider can install their own software in Openreach telephone exchanges. Sky Broadband and Talk Talk are the LLU providers for this area.

6.3.4 Cable

Cable Internet is a form of broadband internet access which uses the same infrastructure as cable television. It is the fastest method of internet access and has a large number of providers operating within the UK. As most fibre optic networks are closed, independent connection providers (ICPs) are not located in every region, unlike Openreach. Availability between providers is therefore subject to site location.



Figure 11 - Existing Openreach infrastructure

KEY TO BT SYMBOLS		Change Of State	+	Hatchings
	Planned	Live	Split Coupling	Built
PCP			Duct Tee	Planned
Pole			Building	Inferred
Box			Kiosk	Duct
Manhole			Other proposed plant is shown using dashed lines. BT Symbols not listed above may be disregarded. Existing BT Plant may not be recorded. Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.	
Cabinet				

Based on postcode AN2 2NW, Virgin Media are showing available in the area.

6.3.5 BT FTTC

Fibre to the cabinet enables superfast broadband to be delivered to a locality. Fibre is run from the local exchange, terminating in a cabinet. From here, copper lines connect each property to the cabinet to provide superfast speeds.

6.3.6 BT FTTP

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. According to data obtained from the exchange, FTTP is not currently available from Openreach.

6.4 Speeds

Broadband speeds of 10Mbps and above will be available with a standard package. A postcode checker indicates an average fibre speed of 36Mbps for this area. Superfast Fibre broadband is currently available in the area, which can offer speeds on average up to 66Mbps. Ultrafast Fibre is also available, providing average speeds of up to 362Mbps with Virgin Media.

Independent Utilities

7. LSBUD

Triconnex had undertaken a utility enquiry search using the lsbud.co.uk website. 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 (TBC on some) to confirm they have no assets in the zone of interest:

- Century Link Communications UK
- CityFbire
- Colt
- Engie
- GTC
- Mobile Broadband Network
- Network Rail
- Sky
- Sota
- Utility Assets
- Verizon
- Vodafone

Please note that Hydrock Consulting is unable to guarantee the accuracy of information provided by others. This report is based on information available at the time.

7.1 [Additional Infrastructure](#)

Virgin Media – Virgin have a fibre cable running along Watling Street, along with a cabinet which is available on Watling Street.

----- End of report -----

If you have any questions/queries regarding the information provided within the report please contact;

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Six consecutive years in the 'Sunday Times 100 Best Companies to Work For' listing, and winner of the NCE100 'Health and Wellbeing Leader of the Year' award, 2019.