



UCML Level 2 Report

W251

Woodlands Farm, Dodds Lane, Gwersyllt, Wrexham.

Produced for:
Wales & West Housing Association

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Report Title: UCML Level 2, Utility Study
Woodlands Farm, Dodds Lane, Gwersyllt, Wrexham

Wales & West Housing Association

Level 1 Report Inclusions/Exclusions	Electricity point of connection (POC)	Gas capacity check	Water capacity check
Report Type	Yes	Yes	Yes

Issue/Revision	Comments	Date	Prepared by	Checked by
1	Final Issue	24.02.2015	Gareth Rogers	Jonathan Davies
2				
3				

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Utility Study Level 2

Benefits

UCML's Utility Studies provides a detailed overview of the electricity, gas, clean water and telecom statutory infrastructure in the vicinity of a proposed site, ideal for:

- Due diligence prior to land purchase to allow negotiation
- Risk assessment prior to tender
- Assistance with site layout design to minimize impact on existing utilities taking into account statutory utility infrastructure legal requirements
- Detailed planning statements
- Investment analysis

Services

- Application for existing statutory infrastructure records
- Technical Review of all statutory authority infrastructure affected by proposed on-site and off-site works
- Application for firm point of connection for electricity, gas and water supplies to the site to determine location of proposed connection and firm cost for required electricity network reinforcement works
- Provision of Utility Study Report to include:
 - Analysis of current statutory authority infrastructure.
 - Budget figures for disconnection, diversion and connection works derived from firm non-contestable charges including required re-enforcement works where applicable
 - Cost risk and analysis
 - Timescales for provision and execution of quotations for the required works, highlighting risks to project programme
 - Highlight abnormal legal requirements including wayleaves and easements and explanation of requirements to mitigate risk

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1.0 Introduction

UCML has been instructed by Wales & West Housing Association to provide a utility connections report to identify the outline constraints derived from the statutory utility infrastructure on a proposed residential development of up to 77 dwellings. The site is located off Dodds Lane in Gwersyllt, Wrexham. This report includes the land located within the red line boundary.



Woodlands Farm,
Dodds Lane,
Gwersyllt, Wrexham,
LL11 4PE.

Fig. 1.01 - Aerial view of existing site

UCML has been commissioned to provide a report defining potential cost and timescale risks that could impact on the overall delivery of the project. The principal aim of this report is to identify the key constraints derived from statutory utility infrastructure on the proposed development.

This report has been produced as a desktop study using the statutory records received from each relevant body. UCML is not responsible for the accuracy or quality of this information and has attempted to use reasonable skill and care in investigating the existing site services.

Unless stated otherwise, UCML has not made any provision for private networks, street lighting, CCTV and traffic signals / illuminated signage.

All information on the drawings contained within this report and elsewhere is indicative only.



2.0 Scope and Objectives

Utilities Connections Management Limited (UCML) is an independent Utility Consultancy providing services relating to the provision of utility connections to all developments.

This report aims to provide a 'snapshot' in time of the current network and recommend budget estimate costs that may be attributed to the connection, diversion, and disconnection of the above described infrastructure. This is based on the information currently available to UCML.

The scope of works undertaken by UCML may be summarised as follows;

- Review the existing Utility distribution network within the local area of the site.
- Obtain the Distribution Network Operators infrastructure records, and consider the impact these will have on the proposed development (Refer to Appendices).
- Review the impact that proposed construction and ground works will have on the existing utility infrastructure.

The objectives of the commission are to provide a level of information relating to budgetary costs and risks, without incurring costs relating to distribution network studies.

3.0 Assumptions

In view of the limitations of the available information, the following assumptions have been made in order to produce this report:-

1. All loads have been based on information provided in the Network Operators Distribution Code and other documented standards.
2. In the timescales and budget costs quoted, no allowances have been made in respect to;
 - a. Wayleaves or access rights
 - b. Easements
 - c. Reinforcement charges
 - d. Land transfers for substation requirements if applicable
 - e. Lease arrangements for substation buildings if applicable.
3. It should be noted that the budgetary figures quoted are exclusive of any Value Added Tax (V.A.T.) that may be applicable unless stated otherwise.

4.0 Terms and Definitions

ADMD	After Diversity Maximum Demand. The development demand taking into account diversity of usage.
DNO	Distribution Network Operator. This is the licensed electricity distributor for the geographic region.
IDNO	Independent Distribution Network Operator. Network owners and operators that are not constrained to a geographic area.
ICP	Independent Connection Providers. Undertake new electrical connections, however they do take ownership of the asset.
PoC	Point of Connection. This is a formal document submitted by the DNO identifying the location for a new electrical connection.
CSEP	Controlled System Exit Point. Gas mains connection point.
GT	Gas Transporter. The GT is the licensed gas network operator for a specific geographical area.
IGT	Independent Gas Transporter. A GT that is not governed by its geographic location.

Host Statutory Network Operators

Electricity:	SP Energy Networks	Water:	Dee Valley Water
Gas:	Wales & West Utilities	Telecoms:	BT Openreach

5.0 Electricity

5.1 Existing Electricity Network

The electricity distribution network in the vicinity of the development site is under the ownership of SP Energy Networks and is operated within the terms of its Electricity Distribution License. The local electricity distribution network in the immediate vicinity of the site comprises of underground cables and associated substations operating at 33,000 volts (EHV), 11,000 volts (HV) and 415 (LV) volts.

The diagram below illustrates the location of existing SP Energy Networks infrastructure which has been extracted from its network records. The cables shown in green are operated at 33,000 volts (EHV), those shown in red are operated at 11,000 volts (HV), and those shown in brown operate at 415 volts (LV). Please refer to **Appendix 1** for further detail.

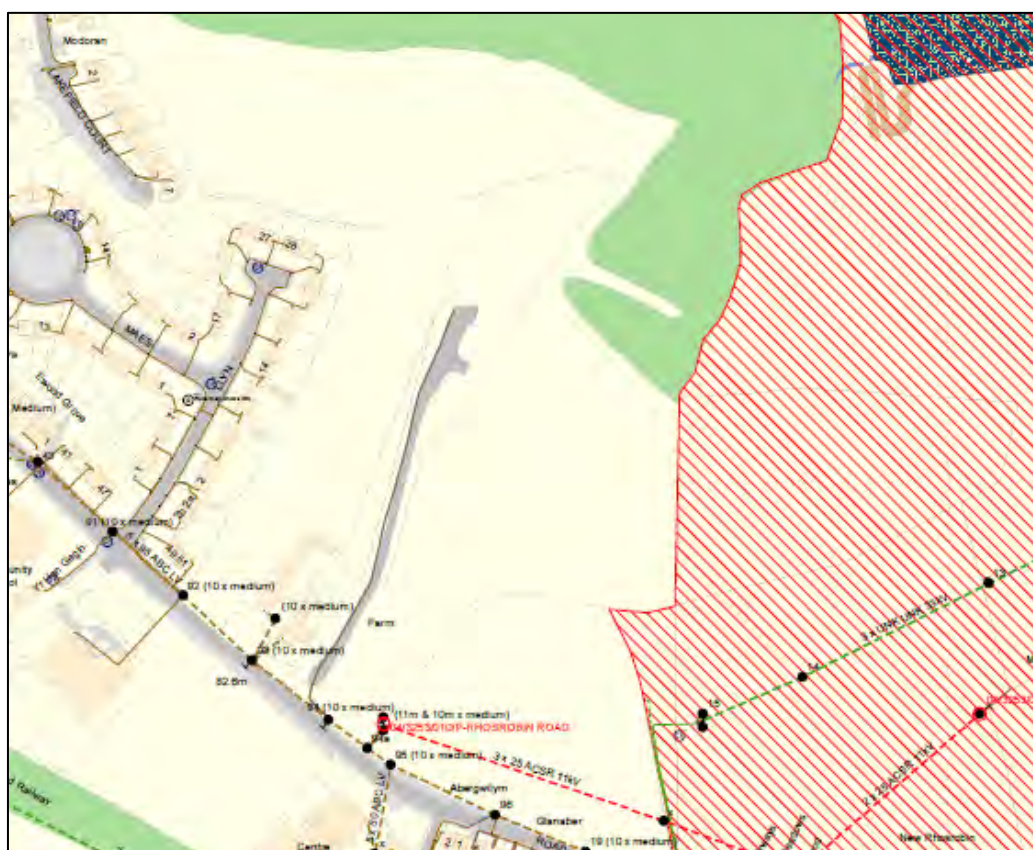
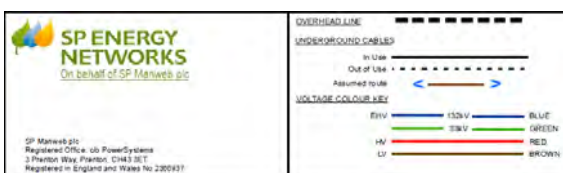


Fig. 5.01 - Existing electricity infrastructure plan



5.2 Non-Contestable Works (132kVA)

SP Energy Networks has indicated a Point of Connection for a load of up to 132kVA confirming that the development can be connected to the Low Voltage (LV) 415 volts distribution network. The Point of Connection will be located outside of the proposed development at the southern side of the proposed Development boundary, located adjacent to the sub station referenced '04/3252/016/ -Sheltered Homes'. This Point of Connection will be taken at 415 volts from the local underground LV infrastructure. Please be advised that in order to accommodate the proposed development of 77 dwellings, reinforcement works associated to the 415 volts network will not be required.

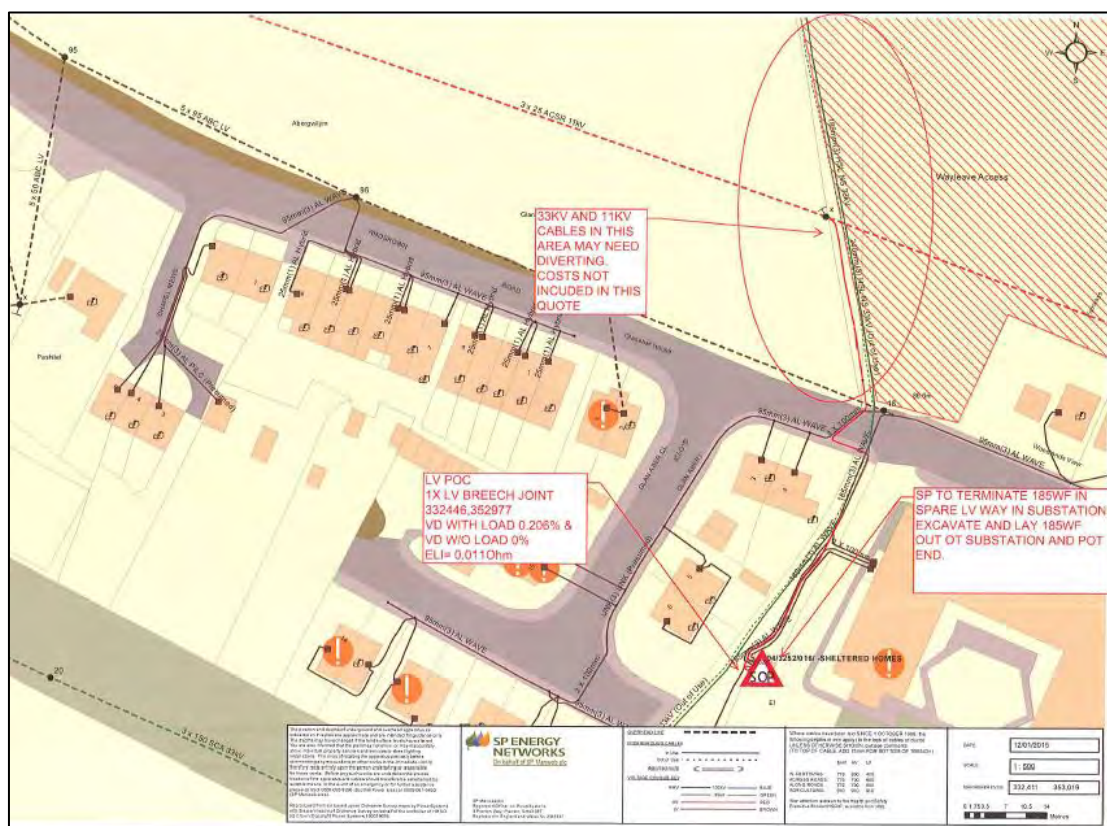


Fig. 5.02 - Plan showing electricity LV Point of Connection

It is recommended that investigations and negotiations commence with the owners of the land surrounding the sub station at which the Point of Connection has been indicated. The area of land between the sub station and Dodds Lane may be under third party ownership and as such easements, wayleaves and additional legal fees will be required to establish an agreeable route with the third party. It is recommended that negotiations commence at the earliest availability to avoid any potential delays.

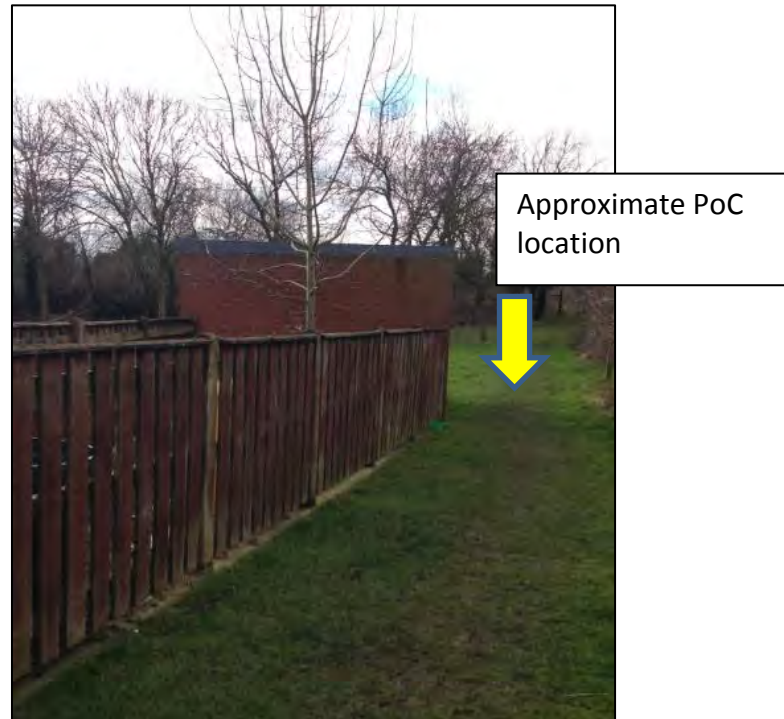


Fig. 5.03 – Approximate PoC location

As part of the non-contestable works SP Energy Networks will undertake ICP design approval and inspections. Cable jointing works from Point of Connection will be undertaken by an SP Energy Networks Engineer. On site excavation and reinstatement of cable trenches will be provided by the Developer. Laying of all cables and off site excavation and reinstatement is to be completed by an appointed Independent Connection Provider or the Distribution Network Operator.

The cost of the SP Energy Networks non-contestable work is detailed below;

Description	Total Cost
Charge for information on PoC	
Charge for design approval	
Inspection & monitoring of contestable works	
Witness of testing	
Reinforcement	
Charge for connection to the network	
Diversion	
Off site wayleaves and easements	
Total Non Contestable Charges (Excl VAT)	

Table 5.01 - Point of Connection break down

Currently there is sufficient electric capacity available within the existing electricity infrastructure to serve the proposed Development based on the POC. However, no capacity can be reserved until payment is made for the SP Energy Networks non-contestable POC.

5.3 Contestable Works (132kVA)

Based on the confirmed PoC information to be provided by SP Energy Networks the appointed Independent Connection Provider (ICP), Independent Distribution Network Operator (IDNO) or Distribution Network Operator (DNO) will be required to undertake the following works;

- Excavate, backfill and permanently reinstate public highway/footpath to Local Authority standards.
- Lay Low Voltage mains infrastructure off and on site to serve all proposed dwellings.
- Joint service cables on to new main and install suitable cut out to the Distribution Network Operator standards

Electricity Load Breakdown	Load (kVA)
Residential (77 dwellings)	132kVA

Table 5.02 - Assumed electricity load breakdown

The cost of the contestable works is detailed in **Table 5.5** and is based on the confirmed Point of Connection being within 190 metres of the site boundary, as located from the LV main within the grass verge / pathway located at the South side of the proposed Development, off Dodds Lane.

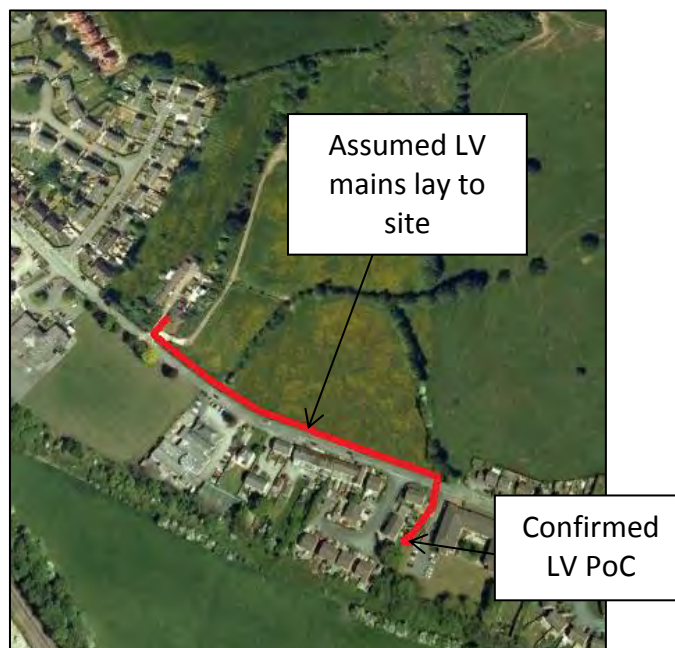


Fig. 5.04 – Assumed LV cable route from PoC to site boundary

5.4 Diversions

SP Energy Networks infrastructure record indicates a 415 volts (LV) overhead line located in the site side footpath of Dodds Lane, running parallel to the Southern site boundary. SP Energy Networks infrastructure record also indicates a section of 415 volts (LV) infrastructure encroaching on the proposed development off Dodds Lane. A section of underground 33kV (EHV) cable and a span of underground and overhead 11kV (HV) infrastructure can be located within the site boundary at the South East of the development. The following diagram is an extract from SP Energy Networks and details the best known position of existing infrastructure, however it may be prudent to undertake a below ground survey to ensure there are no unknown services which are not recorded.

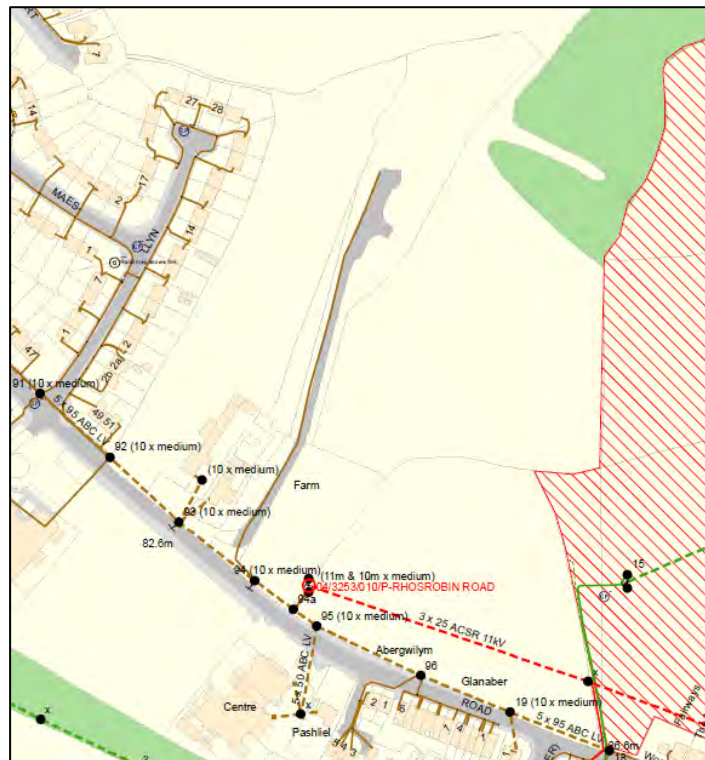


Fig. 5.05 - Existing electricity infrastructure plan

SP Energy Networks infrastructure record indicates a section of 415 volts (LV) overhead line located along the site side footpath of Dodds Lane. In order to accommodate the proposed development and the associated section 278 carriageway construction works, the aforementioned infrastructure may require undergrounding across the frontage of the site in order to construct the proposed site entrance, from Pole '92' to pole '94a'. Please see Figure 5.06 for further details relating to the location of the aforementioned 415 volts (LV) infrastructure.

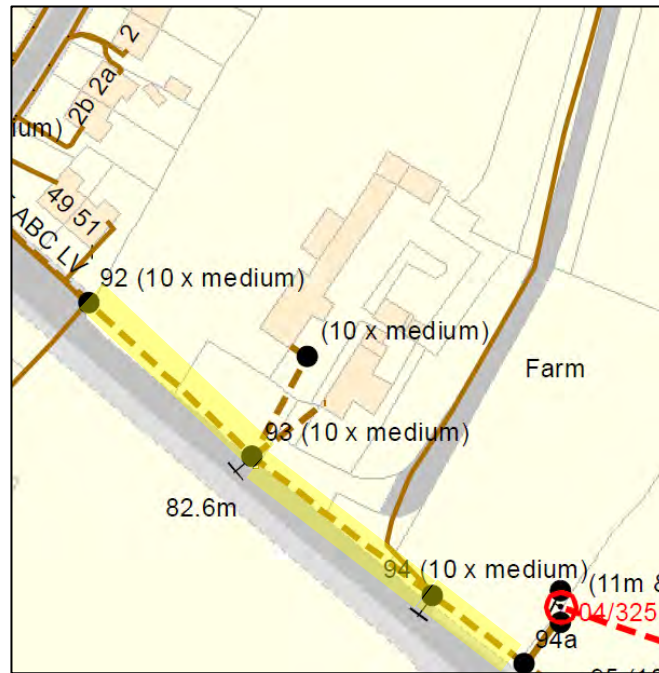


Fig. 5.06 - Infrastructure requiring diversion (Option 1)

Alternatively, dependent upon the requirements of site, a single span of overhead cable between pole ‘92’ and ‘93’ may require undergrounding to accommodate the proposed site entrance, rather than undergrounding the overhead LV infrastructure across the frontage of the site boundary.

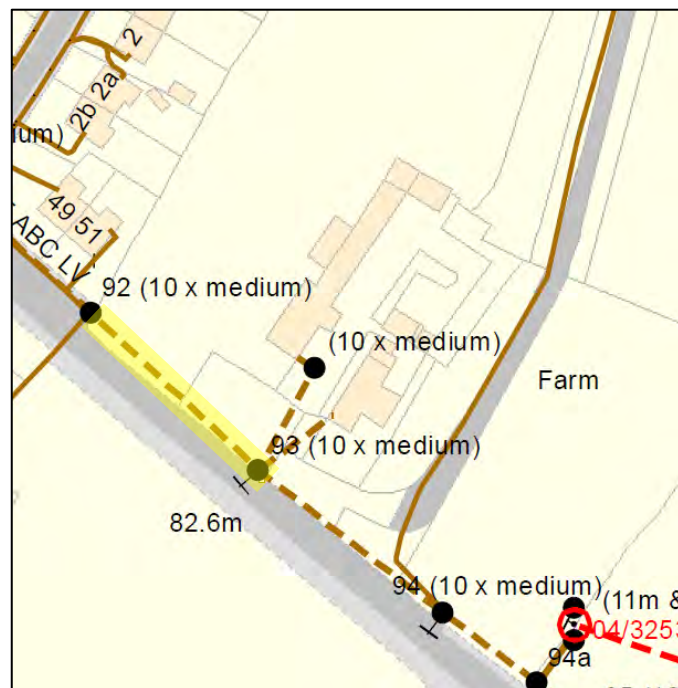


Fig. 5.07 – Infrastructure requiring diversion (Option 2)

Additionally, the building at the North West of Woodlands Farm will require its 415 volt (LV) electricity supply to be disconnected prior to demolition. This incoming supply is shown as being overhead, which emanates from the pole on the Southern boundary of site, annotated as '93'. The current LV supply to Woodlands Farm is to be retained. SP Energy Networks infrastructure also indicates a section of underground 415 volt (LV) infrastructure encroaching on to the development from the Southern boundary of site. This section of cable does not provide a supply to anything and as such will require disconnecting / 'cutting back' to the site boundary. Figure 5.07 indicates the infrastructure requiring disconnection.

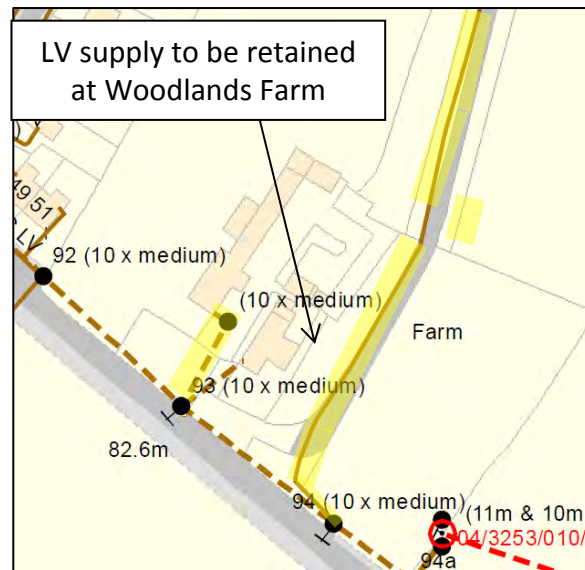


Fig. 5.07 – Infrastructure requiring disconnection



Fig. 5.08 – Location of overhead LV supply requiring disconnection

5.5 Conclusion – Cost & Risk Analysis

Costs relating to the reconfiguration of the existing LV SP Energy Networks distribution system are identified in the following table:-

Detail	Cost
Non-Contestable Works	
Contestable Connection Works	
Disconnections	
Diversions (Option 1)	
Diversions (Option 2)	
Total From	

Table 5.03 – Electricity costs

The main risks associated with the procurement & works of utility connections are:

- Some figures have been applied based on previous projects of similar size and UCML's experience, others have been provided for budgetary purposes by SP Energy Networks.
- The Point of Connection is valid for only 3 months from submission. The network capacity can only be reserved upon submission of signed acceptance and a suitable design from either an Independent Connection Provider or Independent Distribution Network Operator.
- Diversionary works where required are not regulated by Ofgem, it is therefore advised that a work commencement date is identified as early as possible as this may have a significant impact on any construction programme.

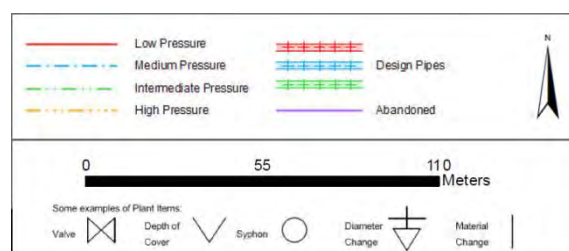
6.0 Gas

6.1 Existing Gas Network

The local Gas Distribution Network in Gwersyllt, Wrexham is owned and operated by Wales & West Utilities under its Gas Transportation License issued by Ofgem. Wales & West Utilities has confirmed that there are Medium Pressure and Low Pressure gas mains apparatus and services located within the vicinity of the site. The following diagram is an extract from Wales & West Utilities Statutory Records and details the best known position of existing infrastructure, however it may be prudent to undertake a below ground survey to ensure there are no services which are not recorded on statutory records. There is an existing Medium Pressure and Low Pressure network running within the carriageway of Dodds Lane, which is located at the Southern side of the proposed site boundary.



Fig. 6.1 - Existing gas infrastructure plan



6.2 Proposed Gas Service

UCML has estimated the annual gas load requirements for the proposed residential development (based on gas fuelled heating) to be 1,815,000kWh annually. UCML advises this load as a guide only and it is recommended that a Mechanical Consultant is employed to calculate the actual load.

Wales & West Utilities has provided a 'Capacity Check' confirming that there is sufficient capacity within the existing Low Pressure network to provide supply to the proposed residential development. Wales & West Utilities has indicated that the nearest main with sufficient capacity is located approximately 1 meter from the CSEP to the Development boundary and is located within the carriageway of Dodds Lane. This main is a 180mm Polyethylene (PE) Low Pressure (LP) main. Wales & West Utilities has also confirmed that associated off site reinforcement works will not be required.

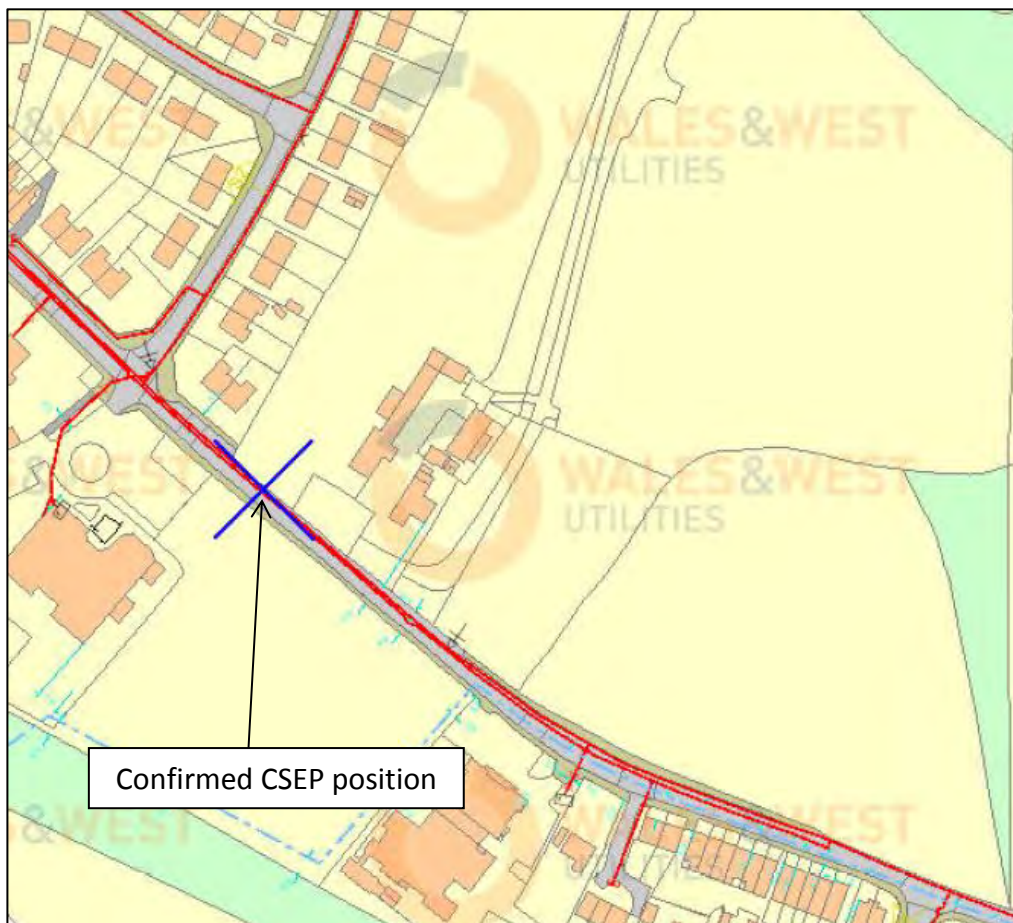


Fig. 6.2 - Gas connection point

Typically the successful Utility Connection Provider will be required to undertake all excavation, backfill and permanent reinstatement from the CSEP on the existing network to the development boundary. The Developer being responsible for all excavation onsite to the point of supply which will be classed as the meter position for each dwelling, unless otherwise requested.

Gas Load Breakdown	Load (kWh) Annually
Residential (77 dwellings)	1,815,000 kWh

Table 6.2 - Assumed gas load breakdown

6.3 Diversions

Wales & West Utilities infrastructure record indicates two no. 180mm Polyethylene (PE) mains (one no. being sleeved in 10" Spun Iron (SI)), within the carriageway of Dodds Lane. As this infrastructure is currently situated within the existing highway of Dodds Lane, it is unlikely that the potential carriageway alterations works of the proposed section 278 carriageway construction works, will affect the integrity of this existing infrastructure. However, it is advised that the location of this infrastructure is brought to your attention to ensure that excavations are not undertaken within its vicinity without the prior consultation with Wales & West Utilities. When excavating in the immediate vicinity of this Low Pressure main the HSG47 guide should be complied with at all times.

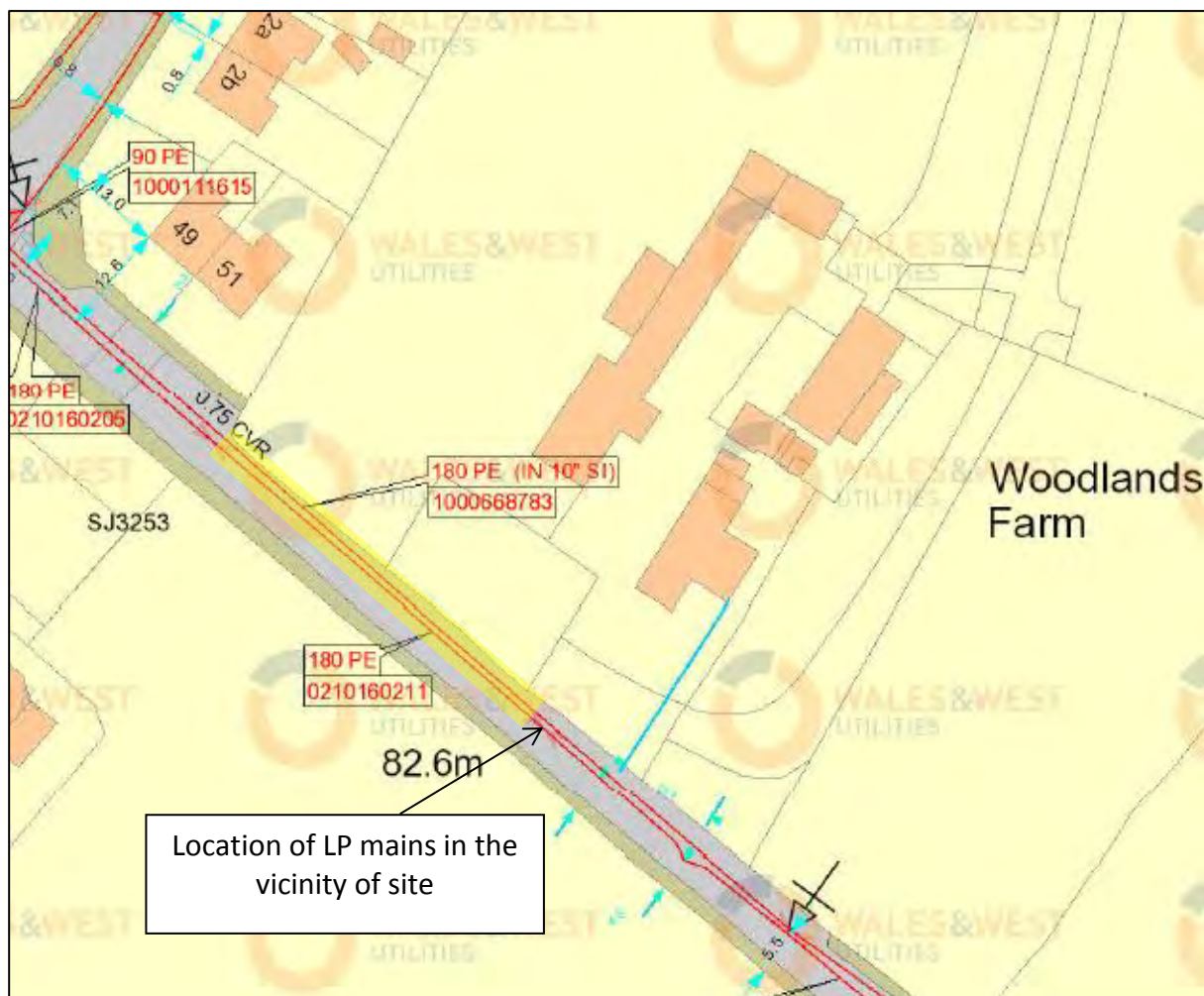


Fig. 6.3 - Existing gas infrastructure in the vicinity of the proposed development boundary

6.4 Conclusion – Cost & Risk Analysis

Description	Cost	Cost Reference
Connections		
Disconnections		
Diversions		
Total		

Table 6.4 – Gas costs

The costs for the gas connections to dwellings may fluctuate across a large range. A gas transporter may provide a large asset value. Subsidy for the adoption of the new network for the dwellings.

There are risks associated with the procurement of the gas works:

Connection Works

- Formal offers are yet to be received therefore there is a possibility that costs may fluctuate substantially due to material costs, contractor rates, asset value etc. It is anticipated that significant savings may be made through competitive tender. Extent to be confirmed by Wales & West Utilities when connections application submitted by UIP.
- Wales & West Utilities may provide a revised CSEP position due to changes in capacity on the existing network.
- UCML requires details of the relevant energy supplier to enable a firm cost for meter installation to be provided.
- The Utility Contractor is required to include for all offsite excavation, backfill and permanent reinstatement within the tender documentation.

Diversion Works

- Gas Infrastructure may not be in the location as recorded in the statutory records which could lead to additional trial holes being undertaken.
- Diversionary works are not regulated by Ofgem and it is therefore advisable to programme the works at the earliest opportunity.
- Excavation within the immediate vicinity of medium, intermediate and high pressure gas mains should be undertaken prior to consultation with the gas transporter.

7.0 Water

7.1 Existing Water Network

The local water network in Gwersyllt, Wrexham is owned and operated by Dee Valley Water. Dee Valley Water has confirmed that there are distribution water mains apparatus and services located within the vicinity of the site. The following diagram is an extract from Dee Valley Water Statutory Records and details the best known position of existing infrastructure, however it may be prudent to undertake a below ground survey to ensure there are no unknown services which are not recorded. There is a 5" Spun Iron Concrete Lined (SICL) distribution network running within the carriageway of Dodds Lane, outside the site proposed site boundary.

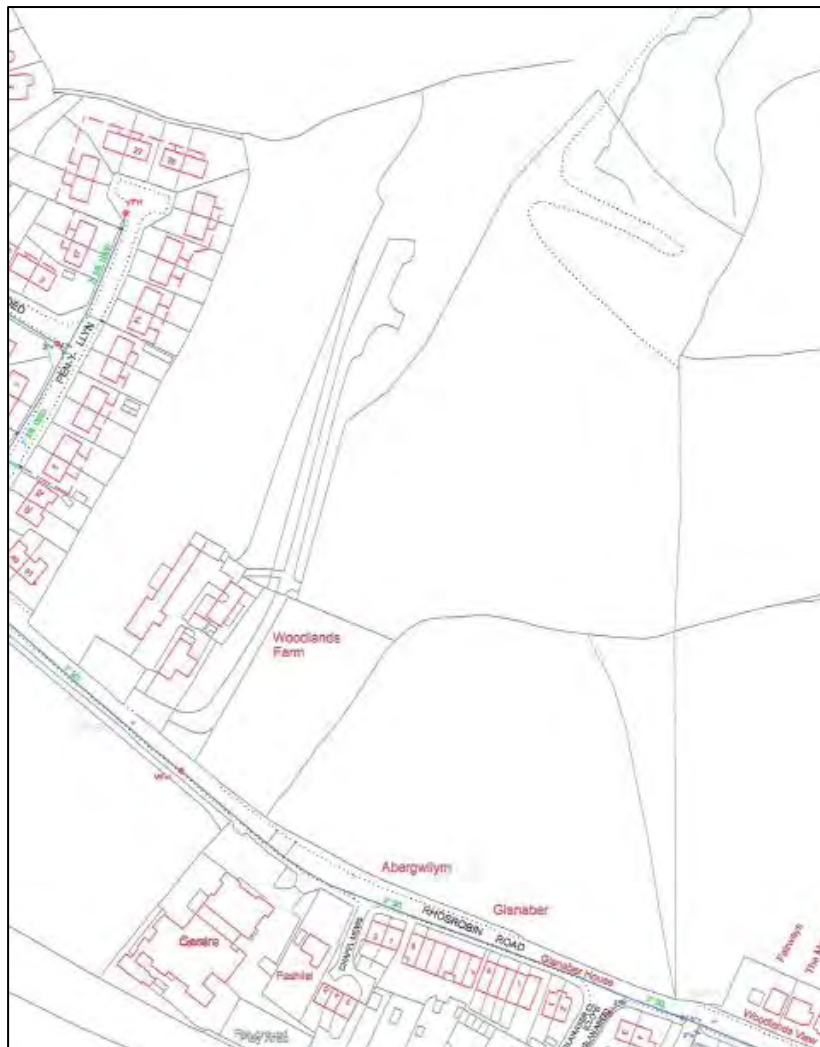


Fig. 7.01 - Existing water infrastructure plan

7.2 Proposed Water Service

The local Dee Valley Water network in vicinity of the site is fed primarily from a 5" Spun Iron Concrete Lined (SICL) main located within the carriageway of Dodds Lane. UCML has received a Pre Development Enquiry from Dee Valley Water confirming that the current network in the immediate vicinity of the site has sufficient capacity to supply the proposed residential development off 77 residential dwellings.

The provision of new water mains could be carried out under S41 of the Water Act 1991 whereby the Client may elect to pay a commuted sum amount based on projected occupancy of the units. This cost would be provided by Dee Valley Water once they have prepared a mains design for the site.

It is to be confirmed whether there are records of any chargeable water or sewerage connections on site within the last 5 years, which will determine whether infrastructure credits will be available for this scheme.



Fig. 7.02 – Dee Valley Water pre development enquiry plan

As this is generally a greenfield site, it has been anticipated that the levels of contamination may be low and so would require the use of standard polyethylene pipe. A Phase 2 ground investigation and risk assessment will be required to precisely identify contaminated and uncontaminated ground within the site.

7.3 Conclusion – Cost & Risk Analysis

Costs relating to the reconfiguration of the existing Dee Valley Water network distribution system are identified in the following table:-

Detail	Cost
Mains and Connections	
Disconnections	
Diversions	
Total	

Table 7.01 – Water costs

The main risks associated with the procurement & works of utility connections are:

- Some figures have been applied based on previous projects of similar size and UCML's experience, others have been provided for budgetary purposes by Dee Valley Water.
- The Pre Development Enquiry is valid for only 6 months from submission. The available network capacity can vary continually, due to proposed Developments taking capacity from the water distribution network within the vicinity of this specific scheme.
- The Developer cannot reserve any water capacity and pressure until a formal order has been placed with the relevant water Network Operator.
- Please be aware that the position of any required Fire Hydrants will be determined and implemented upon the advice and requirements of the Local Fire Authority.

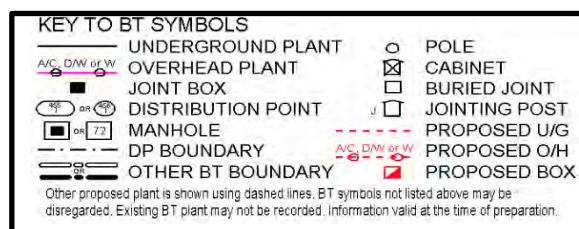
8.0 Communications

8.1 BT Openreach

The below plan shows the locations of BT Openreach network in the vicinity of the site. There is an existing underground and overhead BT Openreach network within the carriageway and footpath of Dodds Lane.



Fig. 8.01 - Existing BT plan



We anticipate that the new development will be connected to the network off Dodds Lane. BT Openreach may provide connections to the development at no cost to the Developer, however it will be the responsibility of the Main Contractor to lay all duct and construct all chambers to BT Openreach specification.

The Developer will need to sign a Contract and Wayleave agreement with BT. This is a legal requirement for BT to install and access its infrastructure. Typically the Developers work will consist of laying on-site duct, tubing, building all joint boxes, providing a cable from a designated joint box to each house (with cappings and covers over external entry points) and fitting of a single internal back box for the installation of an NTE5 telephone socket.

UCML has reviewed further information from BT Openreach and can advise that there is superfast broadband within the vicinity of the proposed Development, in order to provide the client or future resident with the opportunity to install superfast fibre to their dwelling.

It can be advised that the nearest exchange to the proposed Development, which is currently taking superfast fibre orders, can be located within the vicinity of cabinet 28, which can be located on Church Road, Southsea, Wrexham.

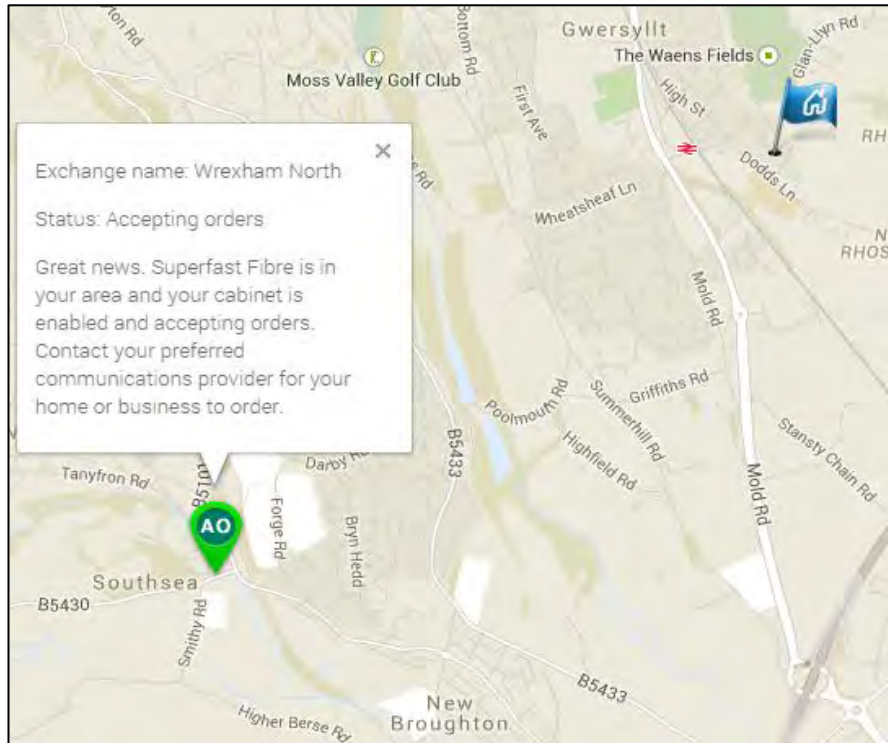


Fig. 8.02 - Nearest BT Openreach exchange

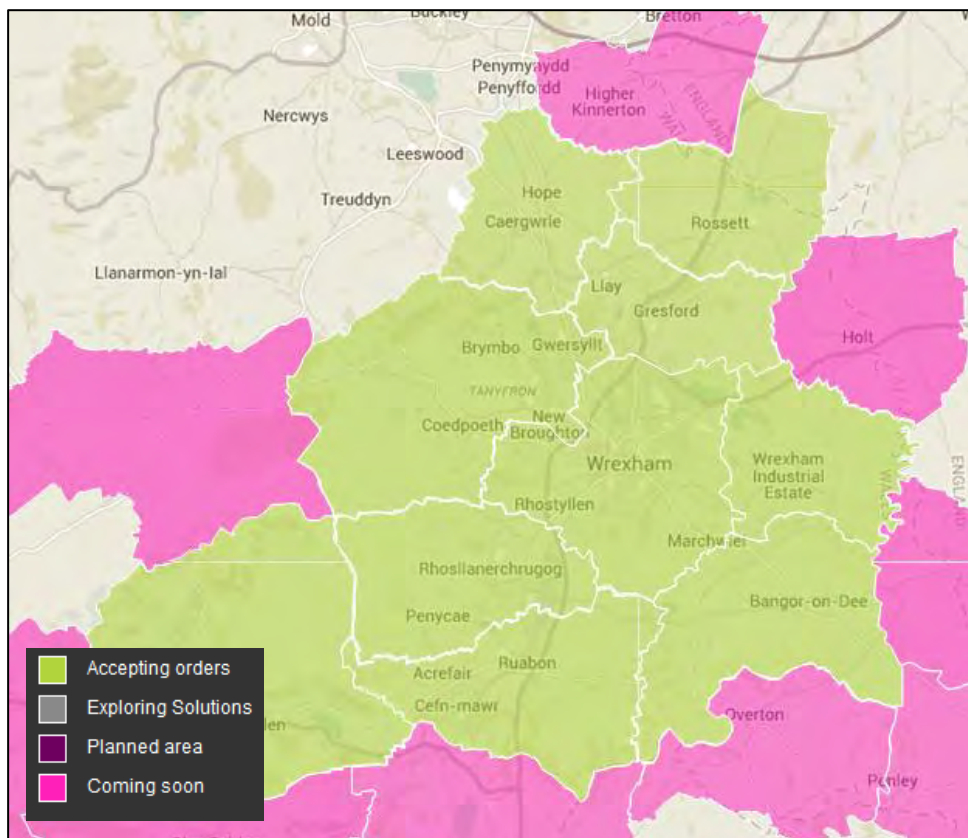


Fig. 8.03 - Available superfast broadband area plan

8.2 Diversions

Figure 8.04 highlights the location of BT Openreach overhead infrastructure located to the South of the proposed Development, which emanates from a pole located on the opposite side of Dodds Lane, which may affect the proposed section 278 carriageway construction works and the formation of the new footpath along Dodds Lane. In order to accommodate the proposed development, the indicated infrastructure may require diverting / undergrounding to accommodate the aforementioned carriageway construction works.



Fig. 8.04 - Existing BT overhead network requiring diversion

Having visited site, it became apparent that the overhead infrastructure indicated within the site side footpath / grass verge of Dodds Lane (indicated a magenta line), is only in situ up to the pole within the site boundary, as highlighted in yellow within Figure 8.04. It is anticipated that the infrastructure indicated as overhead from this point is actually not in existence. In order to accommodate the proposed site entrance, and the redevelopment of the site, this section of overhead line and associated pole will require removing and undergrounding in anticipation for the proposed 77 dwellings.



Fig. 8.05 – BT infrastructure and pole requiring removing

It is recommended BT is formally contacted to determine the full extent of works involved. Budget for a minimum of £600 exc. VAT to enable BT Openreach to undertake a full site survey and produce a formal offer for the proposed development. BT Openreach will provide connections to the development at no cost to the developer, however it will be the responsibility of the Main Contractor to lay all duct and construct all chambers to BT Openreach specification.

The above mentioned diversionary costs are based on the underground infrastructure being copper, as opposed to fiber optics. UCML recommend that BT Openreach is formally contacted in the early stages of the scheme in order for BT Openreach to provide a survey to determine the extent of any potential diversionary works and the associated costs. BT Openreach infrastructure records currently do not differentiate between copper cable and fiber optics, and as such the type of infrastructure within the ground cannot be determined by reviewing their statutory infrastructure records.

Description	Total Cost
Disconnection	
Diversion	
Total	

Table 8.01 - BT disconnection and diversion costs

9.0 Other

Affected		

Unaffected		
BOC Limited (A Member of the Linde Group) BP Midstream Pipelines BPA Centrica Energy Centrica Storage Ltd ConocoPhillips (UK) Ltd Coryton Energy Co Ltd (Gas Pipeline) CSP Fibre c/o Centara EirGrid E-on UK Plc (Gas Pipelines Only) ESSAR Esso Petroleum Company Ltd FibreSpeed Ltd Gamma Government Pipelines & Storage System Humbly Grove Energy HV Cables IGas Energy Ineos Enterprises Ltd INEOS Manufacturing (Scotland and TSEP) Lark Energy Mainline Pipelines Ltd Manchester Jetline Ltd Marchwood Power Ltd (Gas Pipeline) NPower CHP Pipelines Oikos Storage Ltd Perenco UK Ltd (Purbeck Southampton Pipeline) Phillips 66 Premier Transmission Ltd (SNIP) RWEnpower (Little Barford and South Haven)	SABIC UK Petrochemicals Scottish Power Generation Seabank Power Ltd Shell Pipelines Spiecapag UK Ltd (Carrington) Total (Finaline, Colnbrook & Colwick Pipelines) Transmission Capital Western Power Distribution Wingas Storage UK Ltd Zayo Group UK Ltd c/o JSM Group Ltd GTC Pipelines Ltd Independent Pipelines Ltd Quadrant Pipelines Ltd Electricity Network Company Ltd Independent Power Networks Ltd Independent Water Networks Ltd Independent Fibre Networks Ltd Independent Community Heating Ltd	

Awaiting Response		

10.0 Future Proofing

Existing and new utilities are assumed to be located in accordance with the National Joint Utilities Group (NJUG) guidelines. However, in reality, existing utilities are often not laid as per these guidelines. Where new road entrances are being formed it is recommended that trial hole investigations are carried out to verify the precise position and depth of infrastructure. In some cases, if the utility infrastructures are sufficiently deep, this may enable the extent and cost of diversions to be reduced.

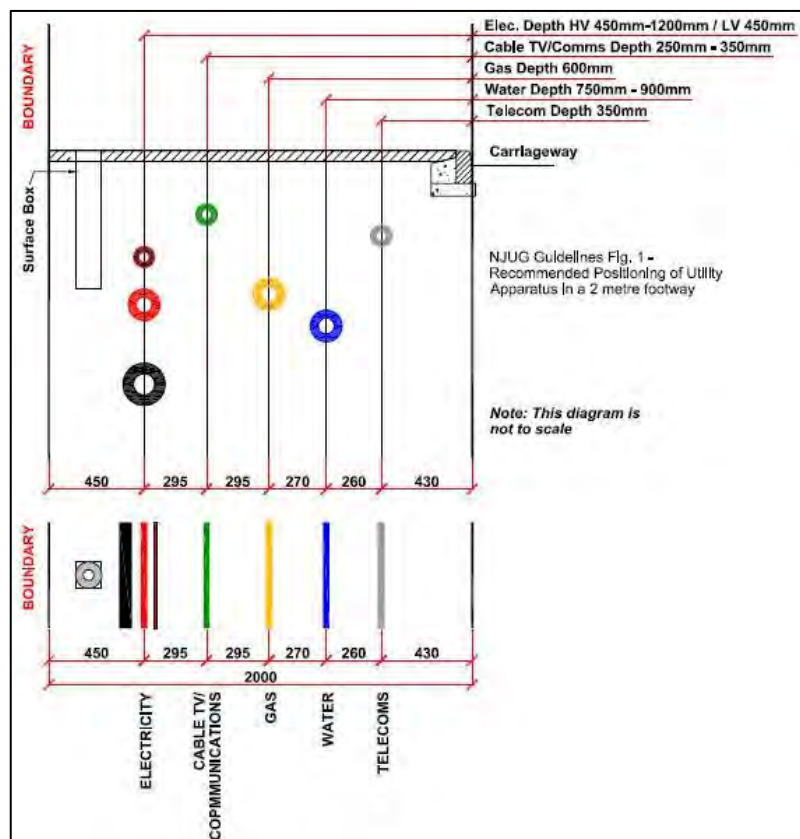
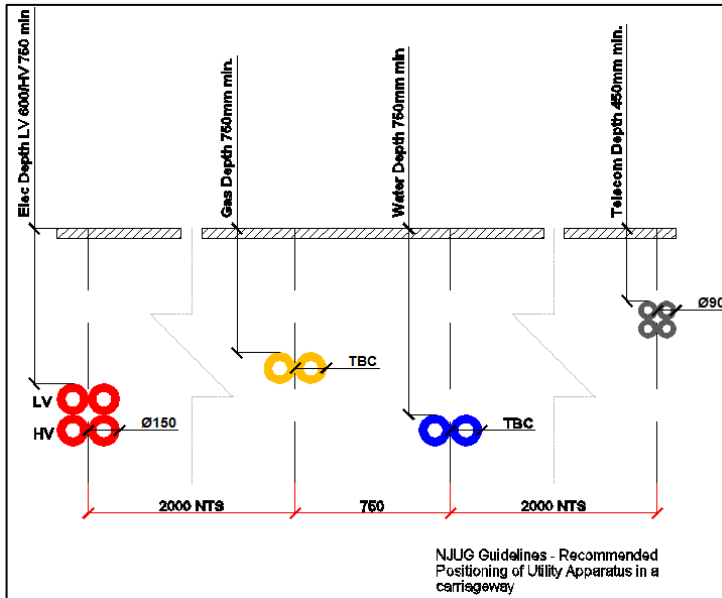


Fig. 10.01 - Recommended positioning of utility apparatus in a footpath

The position & depths of underground and overhead apparatus as indicated within the report are approximate and may deviate from the marked route. The plan information shown is given without warranty and is derived from statutory network information provided by others. The accuracy thereof must not be relied upon in the event of any development or works. Private network routes are not identified unless stated otherwise.

When on site, the Contractor must use safe digging practices, in accordance with HSG 47, to verify & establish the actual position of mains, pipes, services, and any other apparatus on site before any mechanical plant is used. The responsibility for locating the apparatus precisely before commencing any works rests entirely upon the person undertaking or directly responsible for those works. The Contractor is to refer to GS6 Avoidance of Danger from Overhead Electric Lines and HSG 47 Avoiding Dangers from Underground Service.



Utility	Recommended Minimum Depths	
	Footway/Verge	Carriageway
Electricity EHV (High Voltage)	450 - 1200mm	750 - 1200mm
Electricity LV (Low Voltage)	450mm	600mm
Gas	600mm footway 750mm verge	750mm
Water	750mm	750mm min.
Telecoms	250 - 350mm	450 - 650mm

Source - Table 1, NJUG Guidelines on the Positioning of Underground Apparatus for New Development Sites

Fig. 10.02 - Recommended positioning of utility apparatus in carriageway

11.0 Cost Summary

Score Matrix

- | | | | |
|---|--|---|--|
|  | • Can not foresee any Major Issues |  | • Could cause delay that can be measured in 'weeks', and can also be prevented |
|  | • Could Cause Delay that can be measured in 'months', and may be prevented |  | • Could cause major delay, that may not be mitigated |

Traffic
Light'
Score

Existing Electricity Network/Electricity Connection Arrangement

- *Non-Contestable Works = £-- (LV PoC from infrastructure at the South of the Development adjacent to the sub station referenced '04/3252/016/ - Sheltered Homes').*
- *Contestable Works = £--*
- *Diversions (Option 1) =*
- *Diversions (Option 2) =*
- *Disconnections =*



Total Electricity Budget Estimate From = £--

Existing Gas Network/Gas Connection Arrangement

- *Connections =*
- *Diversions =*
- *Disconnections =*

Total Gas Budget Estimate =



Existing Water Network/Water Connection Arrangement

- *Connections =*
- *Diversions =*
- *Disconnections =*

Total Water Budget Estimate =



Telecoms Connections/Diversions.

- *Connections = BT Openreach will provide connections to the development at no cost to the developer, however it will be the responsibility of the Main Contractor to lay all duct and construct all chambers to BT Openreach specification.*
- *Diversions =*
- *Disconnections =*



This report covers statutory infrastructures surrounding the site. All information has been taken from the records of the statutory authorities and although this information is the most accurate available it may be prudent to undertake trial excavations in strategic locations to definitively determine the depth and location of infrastructure. Utility Providers Networks are constantly under review and subject to applications from other parties and the capacities and loads currently available may be subject to change.

The costs provided are advised as a predicted worst case scenario of the foreseeable works. However, as these are only budget figures the actual costs entailed will not be determined until detailed proposals are received from the owners of the infrastructure.

Produced;

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Utilities Connections Management Ltd.

Checked by;

Jonathan Davies BSc (Hons) - Technical Manager
Utilities Connections Management Ltd.

12.0 What's Next? Technical Procurement

Benefits

- UCML's technical procurement service deals with the procurement of disconnections, diversions, connections, service alterations, capacity checks and temporary supplies. These include electricity, gas, clean water and telecom supplies for all forms of residential, commercial and industrial developments. Use of our technical procurement services can result in:
 - Considerable cost savings
 - Reduced overheads
 - Reduced timescales
 - Reduced delays
 - Reduced time expenditure
 - Removal of provisional sums from tender submissions

Services

- Review of proposed meter positions to ensure technical and regulatory viability
- Application for:
 - Existing statutory infrastructure records
 - Disconnection quotations including meter removals where required
 - Statutory infrastructure diversion quotations
 - Temporary building supplies
- New connections quotations
- Technical review of all quotations received including technical and commercial comparison across all competing quotes
- Submission of successful quotations for acceptance
- Single point of contact for project administration and assigned technical coordinator to each scheme

Project Management

Benefits

- UCML's project management service deals with the project management of disconnections, diversions, connections, service alterations, capacity checks and temporary supplies for all forms of residential, commercial and industrial developments. Our Project Management team can work in conjunction with our technical procurement service or as a stand-alone offering to manage the delivery of all electricity, gas, clean water and telecom quotations statutory works. Use of our Project Management service can result in:
- Improved program planning accuracy
- Reduced time expenditure
- Reduced abortive visit charges
- Reduced delivery timescales and as a result less delays

Services

- Management of statutory connections from quotation acceptance to completion
- Project Manager assigned to the scheme will provide a single point of contact for site staff and will attend site meetings and design team meetings as required
- Provision of a site pack including existing and proposed drawings and relevant technical information relating to dimensions and layout of metering enclosures
- Management of legal agreements required including wayleaves, easements and adoption agreements
- Programming of all mains, connections and metering works through proactive communication with site staff

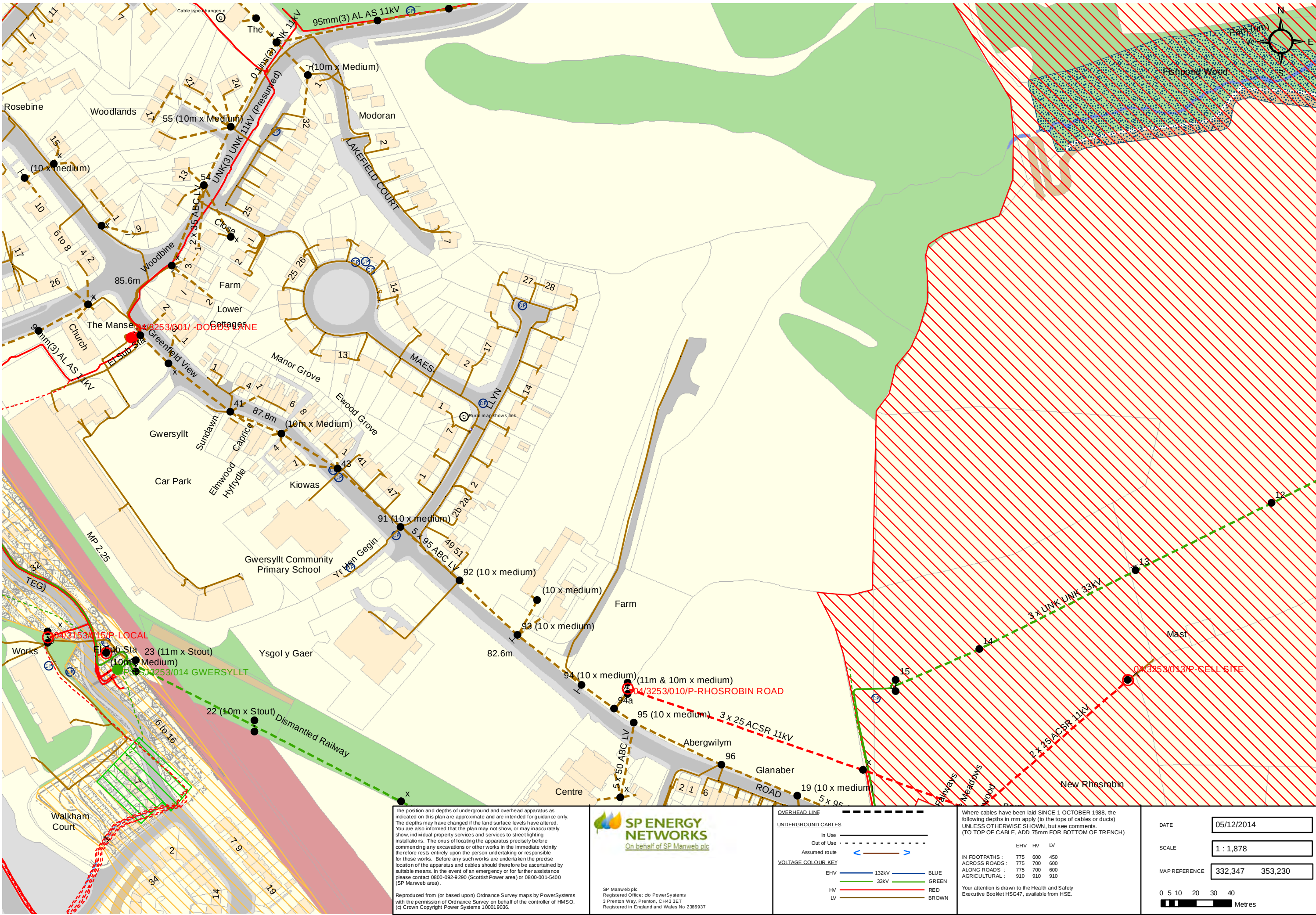
APPENDICES

Appendix 1 – SP Energy Networks, Infrastructure Plan

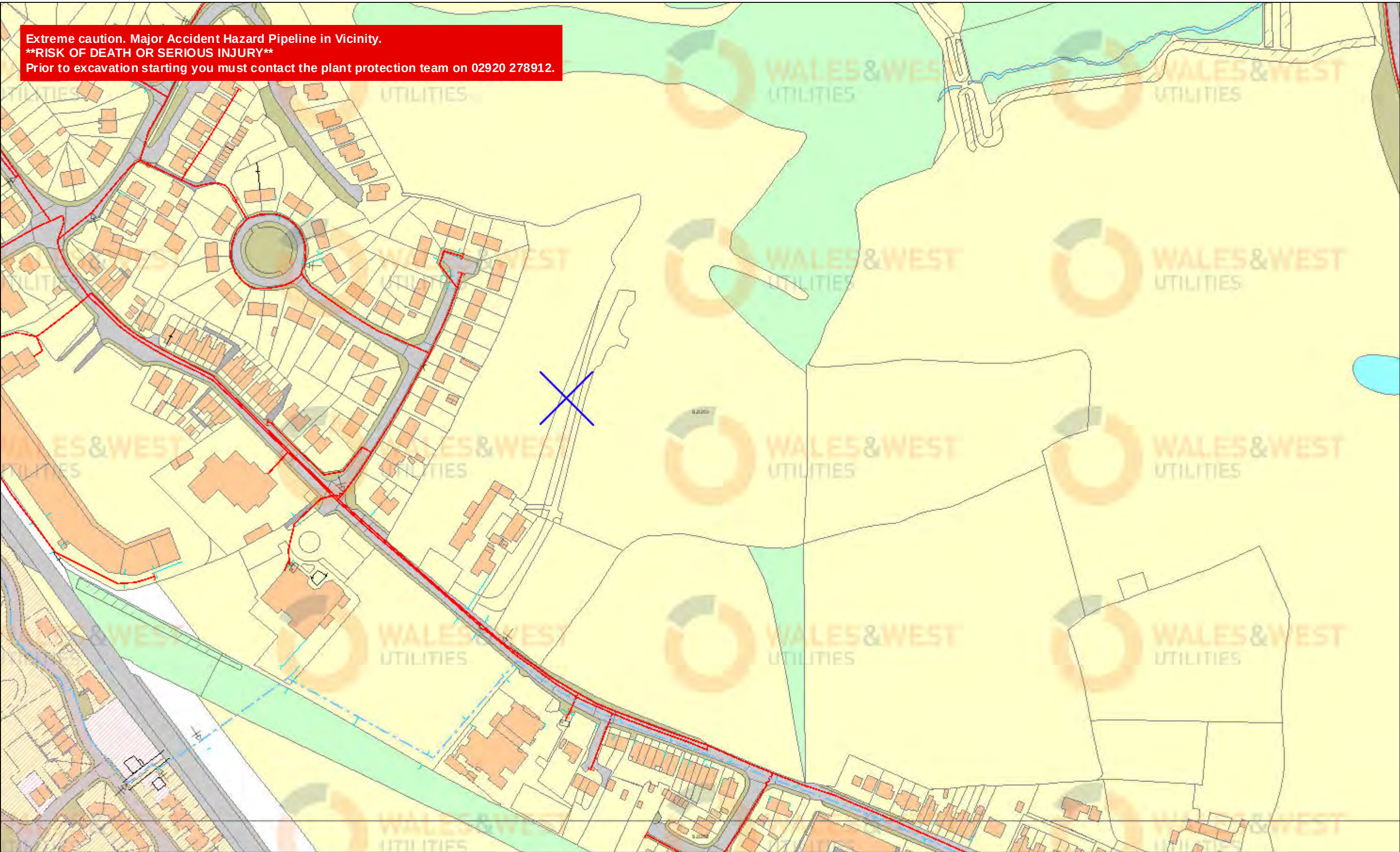
Appendix 2 – Wales & West Utilities, Infrastructure Plan

Appendix 3 – Dee Valley Water, Infrastructure Plan

Appendix 4 – BT Openreach, Infrastructure Plan



Extreme caution. Major Accident Hazard Pipeline in Vicinity.
RISK OF DEATH OR SERIOUS INJURY
Prior to excavation starting you must contact the plant protection team on 02920 278912.



Scale	1 : 2000@A3	Low Pressure Medium Pressure Intermediate Pressure High Pressure Design Pipes Abandoned Valve Depth of Cover Syphon Diameter Change Material Change 0 55 110 Meters	TITLE: The plan shows those pipes owned by Wales & West Utilities (WU) in its role as a Licensed Gas Transporter (GT). The information shown on this plan is derived from historic information and may have involved re-scaling plans, and the accuracy of it cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc. may not be shown but their presence should be anticipated. No warranties are therefore given in respect of it. WU its employees and contractors do not accept any liability for any inaccuracy or incompleteness in it. You must use safe digging practices, in accordance with HS(G)47, to establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you or near gas apparatus. The information shown on this plan should not be used beyond 28 days from the date of issue of this plan as it is subject to updating. The plan also provides indications of gas pipes owned by other GTs, or otherwise privately owned, which may be present in this area. This information is not information of WU and WU is unable to verify this information or to confirm whether it is accurate or complete. It is supplied voluntarily to assist the user in determining whether to make contact with other GTs or others. The user must obtain such information from the other GT or person concerned. WU, its employees and contractors do not accept any liability for this information or any inaccuracy or incompleteness in it.	WALES&WEST UTILITIES Wales and West Utilities Ltd., Wales and West House, Spooner Close, Celtic Springs, Coedkernew, Newport, NP10 8FZ ©All MasterMap data is reproduced by permission of Ordnance Survey on behalf of HMSO. © Crown copyright and database right 2014. All rights reserved. Ordnance Survey Licence number 0100044308.
User ID	cassie.longworth@uom			
Date	05/12/2014			
Grid Ref:	Easting: 332409 Northing: 353222			
Internal Use Only				



Title:

Date: 11/12/2014

Scale: 1:1400

Dee Valley Water plc

Packsaddle
Wrexham Road
Rhostyllen
Wrexham LL14 4EH



DEE VALLEY WATER MAINS ——— PRIVATE WATER MAINS ———

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PLEASE NOTE - THE INFORMATION GIVEN HERE ON THE ROUTES AND LOCATIONS OF MAINS IS INDICATIVE ONLY AND NO WARRANTY IS GIVEN OR IMPLIED
MORE PRECISE INFORMATION CAN BE GIVEN BY PRIOR ARRANGEMENT ALTHOUGH THE DEPTH OF ANY APPARATUS MAY NOT BE ASCERTAINABLE

DO NOT SCALE FROM THIS PRINT

Maps by email Plant Information Reply



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy. It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.

DIAL BEFORE YOU DIG

FOR PROFESSIONAL ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS

ADVANCE NOTICE REQUIRED
(Office hours: Monday-Friday 08.00 to 17.00)

Tel: 0800 9173993
E-mail: dbvd@openreach.co.uk
Website: www.dialbeforeyoudig.com

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KEY TO BT SYMBOLS

—	UNDERGROUND PLANT	○	POLE
A/C, D/W or W	OVERHEAD PLANT	⊗	CABINET
■	JOINT BOX	□	BURIED JOINT
456 or 456	DISTRIBUTION POINT	J	JOINTING POST
72 or 72	MANHOLE	---	PROPOSED U/G
---	DP BOUNDARY	A/C, D/W or W	PROPOSED O/H
---	OTHER BT BOUNDARY	---	PROPOSED BOX

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 the time of preparation.

BT Ref : LDX12238X

Map Reference : (centre) SJ3233353238

Easting/Northing : (centre) 332333,353238

Issued : 05/12/2014 12:23:31

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a BT Group business



FOOTNOTE: WARNING IT IS ESSENTIAL THAT YOU CONTACT NATIONAL NETWORK HANDLING CENTRE BY EMAIL nnhc@openreach.co.uk BEFORE PROCEEDING WITH ANY WORK IN THE HATCHED AREA









