

# Utilities Statement

**Hall Place Farm, Sulham Hill, Reading, RG31 5UB**



Prepared for Sulham Estate, September 2018



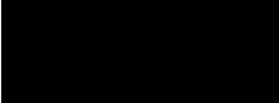
envision

Revision	Date
-	19 <sup>th</sup> September 2018

Authors	Signature
Andrew Spittles	
Hayden Shipp	

Checked & Authorised	Signature
Mark Kirbyshire BEng (Hons) CEng MCIBSE Minstr LCC	

### DISCLAIMER

The opinions and interpretations presented in this report represent our best technical interpretation of the data made available to us. However, due to the uncertainty inherent in the estimation of all parameters, we cannot, and do not guarantee the accuracy or correctness of any interpretation and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, cost damages or expenses incurred or sustained by anyone resulting from any interpretation made by any of our officers, agents or employees.

Except for the provision of professional services on a fee basis, Envision Energy does not have a commercial arrangement with any other person or company involved in the interests that are the subject of this report.

Envision cannot accept any liability for the correctness, applicability or validity for the information they have provided, or indeed for any consequential costs or losses in this regard. Our efforts have been made on a "best endeavours" basis and no responsibility or liability is warranted or accepted by Envision Energy Ltd.

## CONTENTS

<b>EXECUTIVE SUMMARY .....</b>	<b>3</b>
<b>1. INTRODUCTION.....</b>	<b>6</b>
Sources of information .....	6
<b>2. ELECTRICITY SERVICES.....</b>	<b>7</b>
Proposed Electrical Mains.....	12
West Berkshire Council – Street Lighting.....	14
<b>3. COMMUNICATIONS .....</b>	<b>16</b>
Summary.....	16
BT Openreach.....	16
Virgin Media.....	18
Vodafone.....	20
<b>4. WATER SERVICES .....</b>	<b>22</b>
Network Supplier.....	22
Summary.....	22
<b>5. DRAINAGE.....</b>	<b>24</b>
Summary.....	24
Existing Foul Water services.....	26
Proposed.....	26
<b>6. GAS SERVICES.....</b>	<b>27</b>
Existing Gas Supply – Infrastructure to site.....	28
Summary of Options.....	28
<b>7. ENVIRONMENT AGENCY .....</b>	<b>29</b>
<b>APPENDIX I – CONTACTED UTILITIES .....</b>	<b>30</b>
<b>APPENDIX II – EASEMENTS.....</b>	<b>32</b>
SSE – Power supply cables .....	32
BT Openreach.....	32
Thames Water .....	32
Southern Gas Networks .....	33
<b>APPENDIX III – UTILITY RECORD INFORMATION.....</b>	<b>38</b>

## EXECUTIVE SUMMARY

1. This Utilities Statement has been prepared by Envision on behalf of 'Sulham Estate' and is submitted to support a planning application for a proposed development of up to 80 homes in a sustainable location, including creation of new areas of public open space, and the retention of the existing grade II listed Hall Place Farmhouse.
2. This report contains the results of the investigation and appraisal of the Statutory Utility Authorities for Gas, Water, Electricity, Telecommunications and other underground services in the vicinity or site for the proposed development, Hall Place Farm, Reading RG31 5UB. This report is an overview assessment as requested by the client.
3. The record information identifies the proposed site is clear of any existing utility infrastructure, however there are services running adjacent to the proposed development site (Sulham Hill) which appear very close to the proposed site boundary. Checks should be made as the design develops to ensure these services are not on the proposed site, as cost to reposition these will apply.
4. Any existing utility services that are not notified on the service record drawings herein but unearthed or detected during site remediation or set up would need to be diverted, or if redundant, removed from the site. Diverted services from the site would require new wayleaves to enable the utility companies to relocate their service.
5. The inclusion of energy efficient and renewable technologies could help to reduce the demand on the Electricity, Water and Gas services.
6. It should be noted that when the detailed applications are made to the service providers, there may also be costs involved to address any wayleave considerations.
7. Analysis of the record information identified that there are no live mains services running through or across the proposed development area. There are a number of utilities located within close proximity of the site. These services run along Little Heath Road, Chapel Hill and Sulham hill.
8. The drawings provided by the utility companies do not necessarily show all of their buried services and this is caveated in the responses received.
9. Further onsite investigations and surveys could show up additional services not shown on the drawings. These site investigations would also show a more accurate position of the services that are shown on the drawings.

10. A review of information received indicates the following:

- There is a 500mm (20") Water trunk main and a 3" distribution main running parallel to the site along Little Heath Road. The 20" trunk main continues up Sulham Hill to back Lane and crosses a 6" distribution main at a position adjacent to the site on Sulham Hill.
- There are three individually metered individual water service pipes connections onto the site. There are also LP Gas service, LV Power and BT and Virgin communication ducts indicated to run in Little Heath Road to the South of the development site, these services will most likely be the location of new POC (point of connections) for the new utility services required by the new development.
- 2 No. separate Gas Supply companies own and operate apparatus in the vicinity of the site, with buried services in varying locations and sizes. These do not affect the proposed scheme. Gas pipeline services owned by Southern Gas Network SGN do run parallel to the site however analysis of the record info identifies this pipeline does not cross the proposed site, further checks at construction stage should be made and easements clarified to ensure no there are no restrictions to construction etc due to this buried service.
- New water mains will be required for the site. This will be connected back to the Trunk Main in Little Heath Road or Sulham Hill.
- Drainage from the site would need to be discharged in to the local foul sewer network by direct connection. The capacity of the existing sewers would need to be checked to determine their suitability. It is suggested that capacity may be an issue and new drainage infrastructure off site will be necessary.
- The electrical supply to site will require a new substation to be installed where required to provide the electricity demanded. It is anticipated that the SSE network shall almost certainly require reinforcement for the new development.
- The proposed heating solution for the development may necessitate increased electrical capacity requirement. This may in turn require more than one transformer for the development. If so separate locations for the 2 sub stations may be required.
- The communications companies would need to be approached to determine whether they have the capability of supplying the additional required needs of the development.
- Other utility supplies have apparatus in the area and care should be taken to avoid their equipment where possible.

11. Services located adjacent to the development site are owned by the following service companies:
  - Openreach (British Telecommunications).
  - Scottish and Southern Electricity.
  - Southern Gas Network (SGN)
  - Virgin Media
  - Vodafone
  - West Berkshire Council
  - Environment Agency
  
12. These services are located in the road infrastructure around the site. However, the site itself appears to be clear of any buried services. It is possible that the Water trunk main and the low-pressure gas line in Little Heath Road will need to be disturbed in order to connect to meet the new development requirements. Road closures and traffic controls may need to be implemented in order to reach services for alterations to these networks which can incur additional costs.
  
13. Detailed capacity investigations need to be carried out in order to ascertain the suitability of the existing networks in the area to ensure that it is capable of serving any new development. If the current infrastructure is not capable of serving the new development then network capacity will have to be increased to meet the new demand.
  
14. A number of service providers were approached as listed in the Appendix I, and responses were received to advise they were unaffected by the proposed development. Utility Assets Ltd have provided an automated response advising they will only reply if they have apparatus in the vicinity of the development site and if they don't reply within 7 working days then they do not have any apparatus in the area of works. This time frame has elapsed therefore we should assume no response received from this individual service provider.

## 1. INTRODUCTION

- 1.1 Envision have been commissioned to assess and advise on the utilities for the site no Hall Place Farm, Sulham Hill, Reading, RG31 5UB
- 1.2 The report advises on the existing services; the information contained within this report has been provided by the utility suppliers. These utility details are to be read in conjunction with this report.
- 1.3 The information used and contained in this report has been received from the various utilities. Each utility must be approached to obtain quotations for disconnections, diversions and new connections as required.
- 1.4 The new site is located to the West of the existing village of Tilehurst. Little Heath Road forms the Southern site boundary. Sulham Hill is located on the eastern side.
- 1.5 The site is formed by two fields, presently separated by a post and rail fence.
- 1.6 The North and West boundaries are bounded by an existing ancient woodland.
- 1.7 The new development is for up to 80 new dwellings as well as the retention of most of the existing properties within the development curtilage.

### Sources of information

- 1.8 For the purposes of this report we have relied upon information from the sources listed in Appendix I.
- 1.9 Other service suppliers were contacted. Confirmation that no services located within the area identified and has been received; these are also listed in Appendix I.



## 2. Electricity Services

### Distribution Network Operator (DNO)

2.1 The DNO in this area is Scottish & Southern Electricity (SSE)

#### Summary

2.2 Information has been obtained from Scottish & Southern and is reproduced in the appendices. These show that there are services running around the development area as outlined on a grid drawing likely to be affected by the development.

2.3 It should be noted the issued information drawing quality is poor and all cables and works should be verified on site.

#### General Comments

2.4 Prior to any work commencing on site all existing cabling and network infrastructure should be confirmed with the provider.

2.5 Where this is not known or possible then a budget for hand digging trial holes etc. should be set aside.

2.6 A full mapping of all services should be undertaken by a reputable service provider, together with a full and detailed survey of existing site services and any possible existing items which may affect the Project (these could be soil conditions, contamination, UXB etc.).

2.7 The Project Design Risk Specialist should identify any such risks for further consideration going forwards.

2.8 Applications for road closures, traffic light work and temporary pedestrian walkways will need to be agreed and notified to the Local Authority.

2.9 Temporary cessation of existing utility services to local business and residents should also be scheduled in and identified, with any possible mitigation works considered where possible.

#### HV | LV Supplies

2.10 The records indicate that the proposed development is likely to be affected by issues as shown on the following record drawings

- Scottish & Southern Site Survey Information Drawing 1 – HV Main Record/ Grid Reference SU65677397





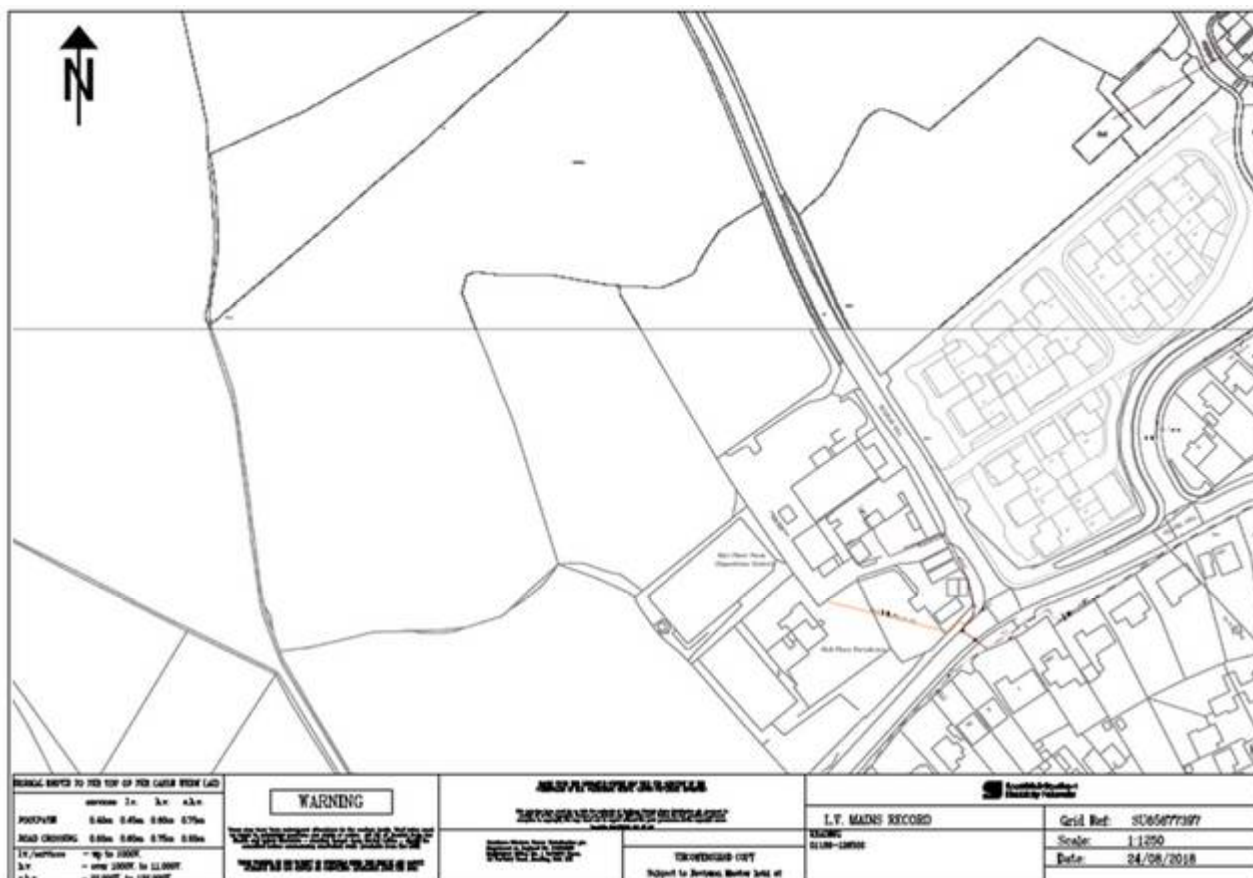


Fig 2 – Scottish & Southern Site Survey Information Drawing 2 – LV Main Record/ Grid Reference SU65677397

- 2.16 Fig 2 indicates the local LV pillar next to 169 Chapel Rd. This is a three phase LV supply only and although fine for the local properties presently connected, (which includes the dwellings within the proposed development area) it is unlikely to be sufficient in capacity to serve the new development.
- 2.17 The management and any changeover work associated with potential new LV supplies to existing dwellings would need to be carefully coordinated with new works as required.
- 2.18 This existing cabling would not be suitable for the new development dwellings which shall require, as noted previously a new HV network extending to the site.
- 2.19 It is not anticipated that the existing SSE identified cables will be affected by the new proposed entrances to the new development. Existing supplies to dwellings appear to be away from these locations. There is an existing service cable indicated to building 8 and care will need to be taken when digging around this cable, however this supply is single phase only, and it may be pertinent to consider abandoning this supply and connecting to the new transformer (when installed).

- 2.20 There is some information to the bottom and top right of the drawing which is not considered relevant to the new works proposal.
- 2.21 At the junction of Sulham Hill, Little Heath and Chapel roads there would appear to be a connection which is assumed to be a local Street Lighting Pillar or similar. This area does not presently appear to be in the scope of works and therefore it should not be an issue but should be noted in the development plan.

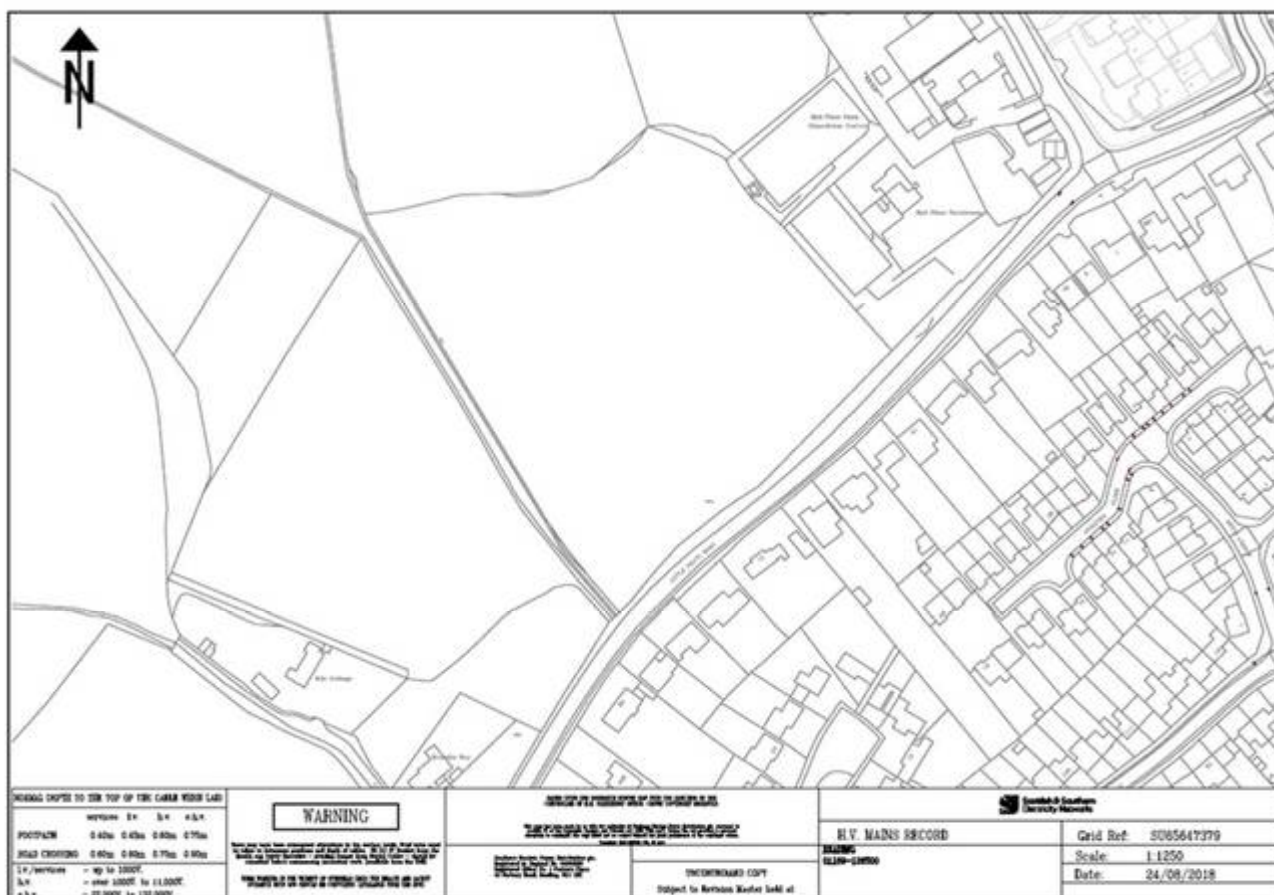


Fig 3 - Scottish & Southern Site Survey Information Drawing 3 – HV Main Record/ Grid Reference SU65647379

- 2.22 Figure 3 above, similar to Fig 1 indicates road duct crossing points for the existing LV main serving the site. There are no HV cables or infrastructure identified on the record drawing. The same comments as Fig 1 would apply.
- 2.23 This is a concern as the HV network infrastructure may require reinforcement locally. In addition, although not indicated on the drawings it would be assumed that the local transformers are to the right hand side of the drawings. This would mean that there is likely to be extensive trenching from these existing locations to the new development. Some of this is likely to be on existing developed land and costs for this are likely to be at the higher end of any budget scale per meter.

- 2.24 If the new HV sub main runs across any of the new entrance locations it should of course be lowered to account for the crossings etc. The final details of any such cable runs and network connections to be confirmed by SSE.
- 2.25 The Client`s representative should confirm with SSE or their preferred supplier a cost for this work at the earliest opportunity for budget forecast.

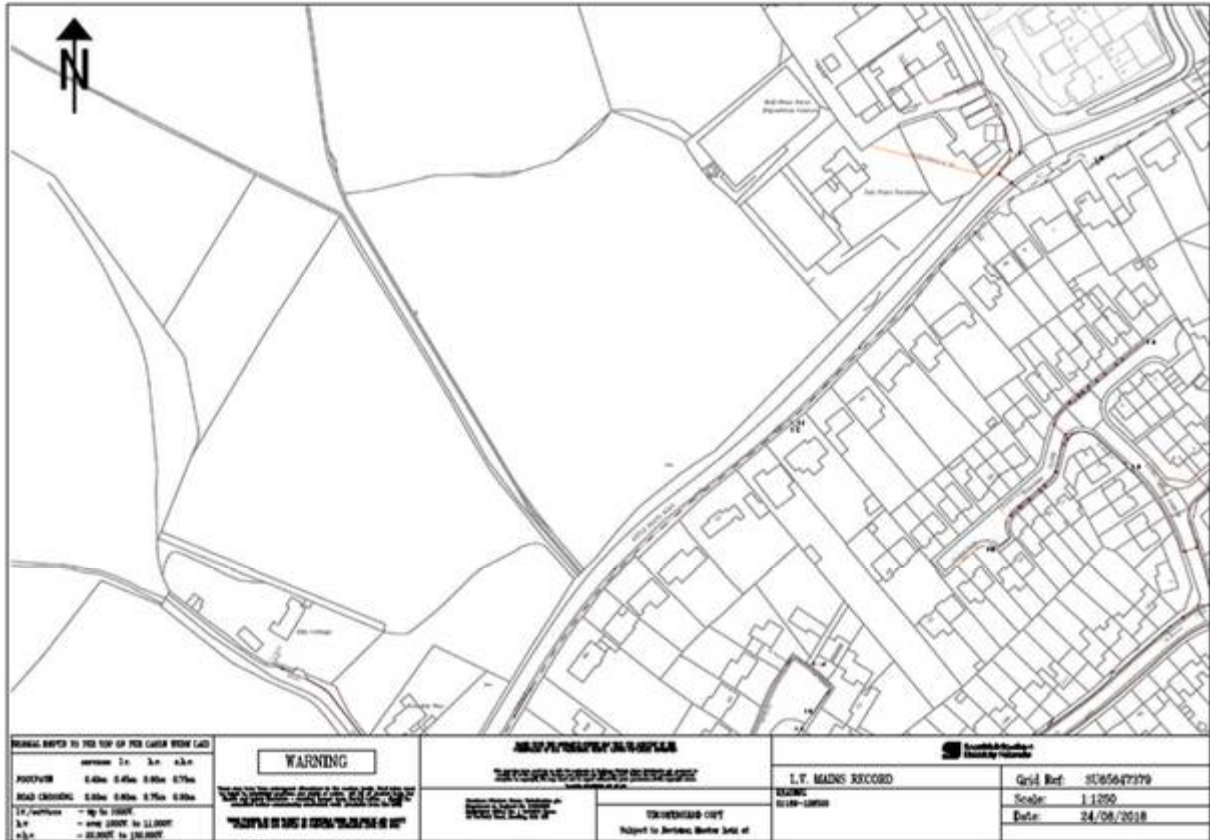


Fig 4 - Scottish & Southern Site Survey Information Drawing 4 – LV Main Record/ Grid Reference SU65647379

- 2.26 Fig 4 again reflects the local cables as indicated and comments per Fig 2. There is additional LV information to other local areas at the bottom of the drawing but which shall not affect the new development (other than the overall loadings to the local HV network- to be considered by SSE).

## Proposed Electrical Mains

- 2.27 Prior to work commencing on site the Developer should consult the Scottish & Southern fact sheet which contains important information regarding the use of Scottish & Southern plans and working around their equipment. Safety around our equipment is a priority and the appointed Contractor shall have completed all workplace risk assessments before beginning any works on the site.
- 2.28 The new works are highly likely to affect the Extra High Voltage equipment (6.6 KV, 22 KV, 33 KV or 132 KV), Scottish & Southern network with reinforcement of the Network and the installation of at least 1 new sub station and TX local for the development site. Dependent on the final requirements and potential heating solution, this may increase to 2 transformers which shall need to be local and most likely within the development.
- 2.29 A full and detailed application for the new connections to site should be confirmed to Scottish & Southern at the earliest opportunity for the whole development so any enabling works can be scheduled in adequate time for the Client.
- 2.30 The client shall be required to confirm the anticipated requirements for the new development and an associated electrical provision allowed for each dwelling summed to a local maximum to be provided from the new sub-station/transformer on site.
- 2.31 Dependent on the requirements and aspirations of the Client this may dictate an additional transformer for the site.
- 2.32 The minimum likely size for any single transformer enclosure is 4m x 4m which increases with transformer size and of course numbers (TBC by design). Ideally, the transformer shall be central or as local as possible to the site to minimise cable lengths to the local point of use.
- 2.33 Access and wayleaves to these sites shall require consideration by the Client and firm regulations are in place by Scottish & Southern to be followed.
- 2.34 Any temporary supplies and estimated load should also be confirmed along with the duration required for the Project (site huts, site supplies etc) and further to this any additional items such as pumps, telecommunication connections etc, should be investigated and measures as required implemented before work commences on site. If the new connections are not completed prior to work commencing on site generators may be considered during the interim.
- 2.35 Some providers may require long notification periods for any such closures and these shall require close coordination with Scottish & Southern as well as the end users and Client.
- 2.36 There will almost certainly be disruption to local users and residents as the connection is unlikely to be able to be made by Hot working (the supply locally will need to be shut down)



to connect to the existing HV connections. The shutdown shall require notification to local users and this should be done by Scottish & Southern nearer the time.

- 2.37 Commercial interested parties shall need to be scheduled for such closures, and although this shall be scheduled by Scottish & Southern the Client should be aware that closures agreements can be subject to lengthy timespans before they are programmed in (as all parties have to be notified), this can affect work schedules on site. Any such items outside the curtilage which may be affected should be identified and considered when scheduling the works.
- 2.38 With regards to the new and proposed connections/ transformers the infrastructure shall require design, installation and acceptance by Scottish & Southern prior to the network being extended into site.
- 2.39 The client should note where the new road works are to be completed and any grading of existing ground is to be undertaken, any existing or new services shall require installation to the finished level. There are few locations where this is likely to occur on existing cabling, however this will need to be allowed for with new runs to be installed by Scottish & Southern or the Clients appointed IDNO. See fig 5 for new cable depth requirements to be considered which are likely to run alongside the existing and new service roads

Voltage	Good agricultural land	Footpaths, verges, uncultivated land, pasture agreed to be permanent and land not open to vehicular traffic	
	All situations	Rural	Urban
132kV	910 mm	900 mm	900 mm
66kV	910 mm	750 mm	750 mm
33kV	910 mm	750 mm	750 mm
20kV	910 mm	600 mm	600 mm
11kV	910 mm	450 mm	450 mm
LV & Services	910 mm	450 mm	450 mm

Fig 5 Cable Depth requirements

- 2.40 Works can be completed to an IDNO provider if the Client wishes to use alternative installers to Scottish & Southern to undertake any new connective works, and that all connections are proposals are agreed with Scottish & Southern prior to appointment The Client should ensure any non-Scottish & Southern persons operating or working near or on a HV System comply and are conversant with the Safety Rules for High Voltage Installations, or suitable approved equivalent i.e. Area Board Safety Rules.
- 2.41 The Client shall ensure any IDNO Electrical Installer (or Specialist - if used) appoints fully trained 'Competent Persons' to supervise specified HV works and to receive 'permits to work' from Scottish & Southern.

2.42 It is recommended that a quotation of work for the whole scheme together with the anticipated schedule / requirements should be sought from Scottish & Southern (or an approved IDNO) for budgets and program scheduling of the Project.

2.43 Any protective /diversionary works can be prepared by Scottish & Southern, Reading Depot, Theale, Reading, RG7 4AS, telephone no. 01189 126516.

Alternatively;

A full submission for the new development should be made to:

<https://www.ssepd.co.uk/Connections/Developers/>

Email: [connections@ssen.co.uk](mailto:connections@ssen.co.uk)

2.44 Easement for Scottish & Southern property is shown in Appendix II.

### **West Berkshire Council – Street Lighting**

2.45 West Berks Council have a few smaller cables and street lights running near to the site which may affect works and necessitate both temporary diversions (and a notification to Highways/ footpaths for temporary diversion).

2.46 It should be noted that there are street lighting cables running on the new development side of the Little Heath Road.

2.47 Along this same route there are at least 8 streetlights. Columns CN37, CN38 & CN39 are likely to be affected by the new proposed entrance to the development. WBC (West Berkshire Council) shall need to be notified and it may be possible, at cost to move the columns either on a temporary basis (to the other side of the road) or to their final locations depending on the status of the Project. Cables shall need to be diverted/jointed etc.

2.48 The streetlighting indicated in green fall outside the curtilage, and the Public footpath / trackway which is not illuminated (and therefore has no cabling) is in the curtilage area of the Client to be considered, but should as indicated not be an issue going forwards

2.49 If the Public Footpath is intended to be used as part of the development, then footpath diversionary works shall be required and this may have a requirement to reinforce street lighting subject to planning conditions.



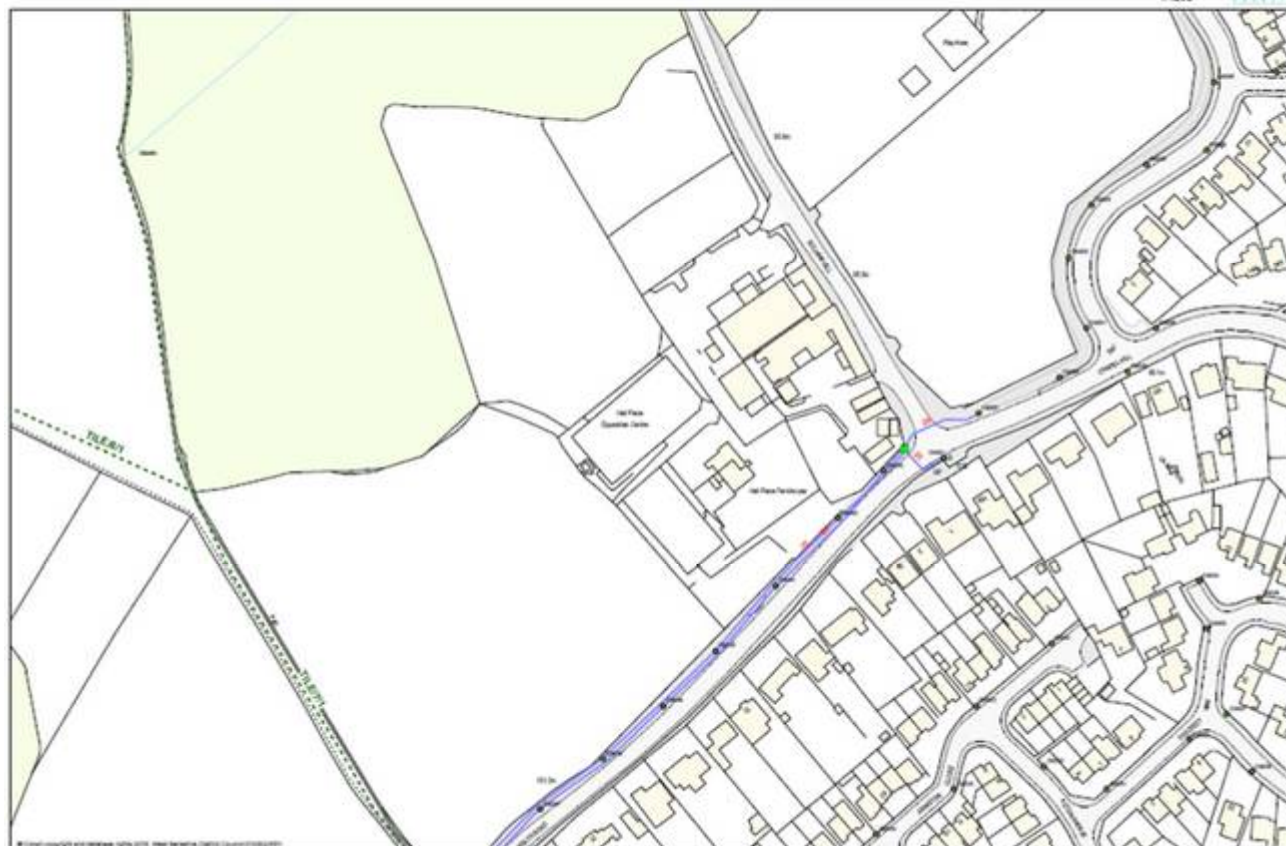


Fig 6 – Little Heath Rd footpath running parallel – street lights (green dots) O/S curtilage

- 2.50 New local signage would likely be streetlighting approaching the new development, potentially bollards on the splitter islands, the service roads and pathways etc.
- 2.51 The drawing appears to indicate something at the junction of the Sulham Hill, Chapel road and Little heath roads which could be a local existing feeder pillar for the Street lighting. This should be confirmed by further investigation on site. If it is indeed a feeder pillar and whether or not it may need to be moved (due to footpath for example) then this should be costed as an item with WBC & SSE.
- 2.52 Any new network, connections and equipment should be installed in consultation with WBC (West Berkshire Council) and SSE (who could provide electrical connections).
- 2.53 The works on the Little Heath and Sulham Hill Roads shall affect local traffic and WBC shall need to be advised/ consulted going forwards for road closures/ diversions etc.
- 2.54 All local diversions and temporary signage would of course have to be agreed with WBC prior to commencement of work on site.

### 3. Communications

- 3.1 There are three communications providers with apparatus located near to or on the development area. These are: BT Openreach and Virgin Media and Vodafone.

#### Summary

- 3.2 Communication systems to the site will be required. BT is the main communications provider within the area capable of providing telephone and broadband connections through its copper cable system.

#### BT Openreach

- 3.3 The BT Network runs near to the curtilage of the proposed new development.
- 3.4 At Little Heath road end (see Fig 7) the existing cable and network runs along the roadside opposite to the new site. There are 3 DP points\*1 along the opposite side of the development. It is unlikely any of these existing DP positions would be utilised for the new development. Points 202R, 203D & 2397R.
- 3.5 In addition, the existing duct on the estate side of the Little Heath Road ends just after Sulham Hill. From there on it is fixed to overhead poles before appearing to drop to ground level again further on.
- 3.6 A new dedicated connection from the nearest suitable PCP or cabinet/s\*2 for the site would most likely be installed from the Chapel Road end of the site. There is a planned ducted route indicated on the drawing to the right-hand side of Sulham Hill road. This could be extended to the new entrance road 2 as per Fig 2 and from there through the estate.
- 3.7 It is anticipated that the new local dedicated network connection would follow this route.

#### \*1 DP - Distribution Point

This is the point near to a premises where the main cable from a PCP is split in order to provide service at one or more localised premises. A DP can be at the top of a telegraph pole (Overhead DP), under a walkway (Underground DP) or on the side of a building.

#### \*2 PCP - Primary Cross Connection Point

Part of the line plant, in the form of a metal cabinet at the roadside, that enables flexibility between the main cables from the exchange and the smaller cables to individual streets or premises, also known as a Cabinet, or Cab" "Primary Cross-connection Point - this is the local street cabinet in which cables extending out to local distribution points are aggregated and connected to larger copper and fibre optic cables to move the voice and data signals to and

from the local exchange. The number of connections managed in a PCP depends on the number of end user premises in an area, but is usually several hundred (200-400) lines.

"Primary Connection Point" (grey or green Box)- Part of the line plant, in the form of a metal cabinet at the roadside, that enables flexibility between the main cables from the exchange and the smaller cables to individual streets or premises, also known as a Cabinet, or Cab"

## Maps by email Plant Information Reply

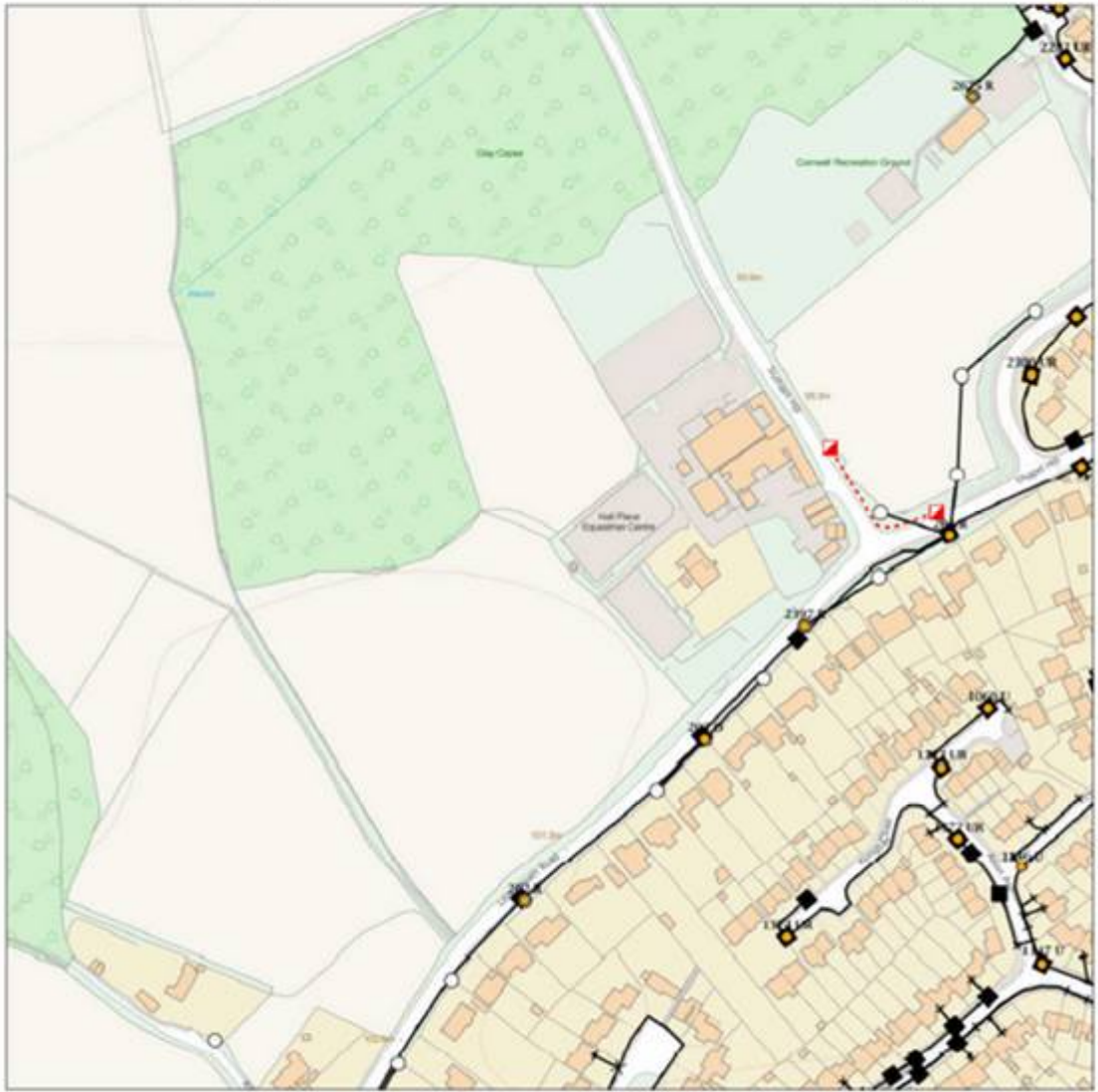


Fig 7 – BT issued information local to the new Development

- 3.8 Temporary phone lines for site huts etc. should be confirmed to BT. It shall be necessary to extend the Network before this can happen. This may accelerate the requirement for a network connected service to the development (e.g H&S – mobile phone not being acceptable) and the procurement of appropriate lines should be prioritised early on in the Project program

- 3.9 A detailed quotation of all required connections and associated work together with an anticipated schedule and requirements should be sought from BT for budget and program scheduling for the Project. In addition, commissioning phone lines, security etc should be considered at this point for later use (such as site security, lifts etc).
- 3.10 The new site should be registered when it is confirmed the works are to proceed with BT Open reach at the following address <https://www.ournetwork.openreach.co.uk/property-developers/site-registration.aspx>
- 3.11 This shall enable the Client to confirm specific requirements to the site and provide a suitable and agreed program, costs and site-specific requirements for inclusion in the new development.
- 3.12 The client should note where the new road works are to be completed and any grading of existing ground is to be undertaken, any existing or new services shall require installation to the finished level. There are few locations where this is likely to occur on existing cabling, however this will need to be allowed for with new runs (in BT approved duct) to be installed by Open Reach or approved. See fig 8 for new cable depth requirements to be considered which are likely to run alongside the existing and new service roads.

	Good agricultural land	Footpaths, verges, uncultivated land, pasture agreed to be permanent and land not open to vehicular traffic	
	All situations	Rural	Urban
Minimum	350 mm	350 mm	350 mm
Deep ploughing	As agreed	As agreed	As agreed

Fig 8 BT duct requirements

- 3.13 Each unit shall require new ducts to be installed – see appendix II for further information

### Virgin Media

- 3.14 The existing Virgin local network should not impact the proposed and outlined site curtilage
- 3.15 Virgin do have Network cables and connections in the estate opposite Little Heath road however the cabling drawing issued by Virgin as Fig 9 below would confirm that there should be no impact to the Project.
- 3.16 To note the drawing information is poor and although there may be localised cabinets, these are not easily identifiable from the information issued.



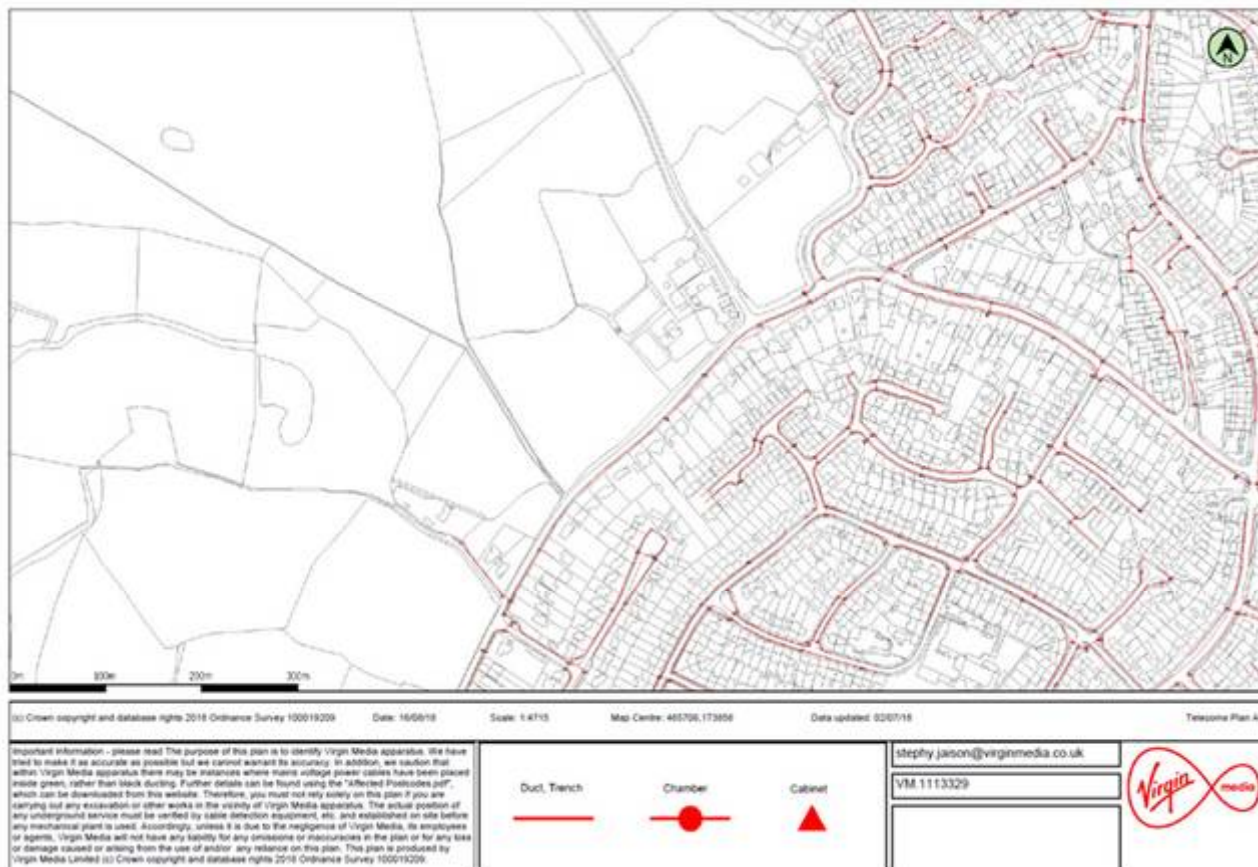


Fig 9 - Virgin Network local to site (in RED)

- 3.17 It is clear the Virgin Network cabling runs along the Little Heath Road on the opposite side to the new development. Virgin do comment on their issue document that “You will be aware that you have a duty to ensure that no damage results to this equipment as a result of your proposed works. Please note that this apparatus may contain Fibre Optic, Coaxial and/or 240v Power Cables and as such, special care must be taken when excavating this area”.
- 3.18 However, the Network is on the opposite side of the road and any new ducts should be carefully coordinated with all local utility providers to ensure that there is no detrimental impact to the existing networks. Again, and similarly to BT a new ducted connection shall need to be made from the local main Virgin distribution point for a new local infrastructure/network into the new development.
- 3.19 Ducts and connections, should they be required or extended from the local Network may be obtained from Virgin Media as below:

Virgin Media  
 Field Services  
 Units 1-12  
 Broad Lane  
 Mayfair Business Park  
 Bradford

Yorkshire  
 BD4 8PW  
 Tel: 0870 888 3116 Opt 2  
 Fax: 01268 468557

- 3.20 Any diversions that may be required should be made to Diversionary Works, Virgin Media, 1 Dove Wynd, Strathclyde Business Park Bellshill ML4 3AL. Or if you prefer to talk, please call the Diversionary Team on: 0800 408 0088 Option 1
- 3.21 Further information on ducts and cables is identified in Appendix II.

### Vodafone

- 3.22 There is a Vodafone network cable running along the new development side of the Little Heath and Chapel road. This cable clashes with the proposed new entrance to the site (Entrance 1).
- 3.23 There is also an underground Utility box which may be affected.



Fig10 Vodafone Network cable drawing

- 3.24 The apparatus shown on the drawing (Fig10) is owned, maintained and still in operation by Vodafone and includes.
- Vodafone
  - Cable & Wireless
  - Mercury Communications
  - Energis
  - Thus plc
  - Your Communications
  - Norweb Communications
  - Scottish Telecom

Vodafone confirm the following in their communications

- 3.25 Where apparatus is affected and requires diversion, please send all the scheme related proposals that affects the Vodafone Network to [c3requests@vodafone.com](mailto:c3requests@vodafone.com) with a request for a 'C3 Budget Estimate'. Please ensure you include a plan showing proposed works. (A location plan is insufficient for Vodafone to provide a costing).
- 3.26 These estimates will be provided by Vodafone directly, normally within 20 working days from receipt of your request. Please include proof of this C2 response when requesting a C3 (using the 'forward' option). Diversionary works may be necessary if the existing line of the highway/railway or its levels are altered.
- 3.27 Where the Other Parties or Contractors works or the movement of plant or equipment may endanger Vodafone apparatus, the Other Party or Contractor shall give the Vodafone at least 7 working days' notice in writing of the intended date to commence operations.
- 3.28 No excavation should be made without first consulting the relevant Vodafone apparatus layout drawings, which will be made available from the Vodafone agent Atkins Global on request and allowing 28 working days for processing the relevant drawings. However, should this not be possible, direct contact should be made to the Atkins Global Plant Enquiries Team as soon as possible to assess the situation.
- 3.29 When excavating, moving or backfilling (including use of Foamed Concrete for Reinstatements – FCR) around Vodafone apparatus, Vodafone shall be given adequate prior written notice of the Other Parties or Contractors intentions, in order that the works may be adequately supervised. Such notice shall not be less than 3 working days.
- 3.30 Vodafone should be contacted and notified of the new works and a quote sought for the movement and possible disruption to the cable and their network.  
Contact Atkins Global, PO Box 290, 500 Aztec West, Almondsbury, Bristol, BS32 4RZ.  
T: 01454 662881  
F: 01454 663330  
Mail - [osm.enquiries@atkinsglobal.com](mailto:osm.enquiries@atkinsglobal.com)



## 4. Water Services

### Network Supplier

- 4.1. The network supplier in this area is Thames Water.
- 4.2. The information obtained from the utility company is shown on map records in Appendix III.

### Summary

- 4.3. Thames water have identified that they have no trunk mains or distribution mains services within the curtilage of the proposed development. They have identified 3 customer services running onto the site and also identified the infrastructure local to the site as explained below. Further investigation and capacity enquiries with Thames Water will be required to determine the network current supply and capacity within the local water mains.

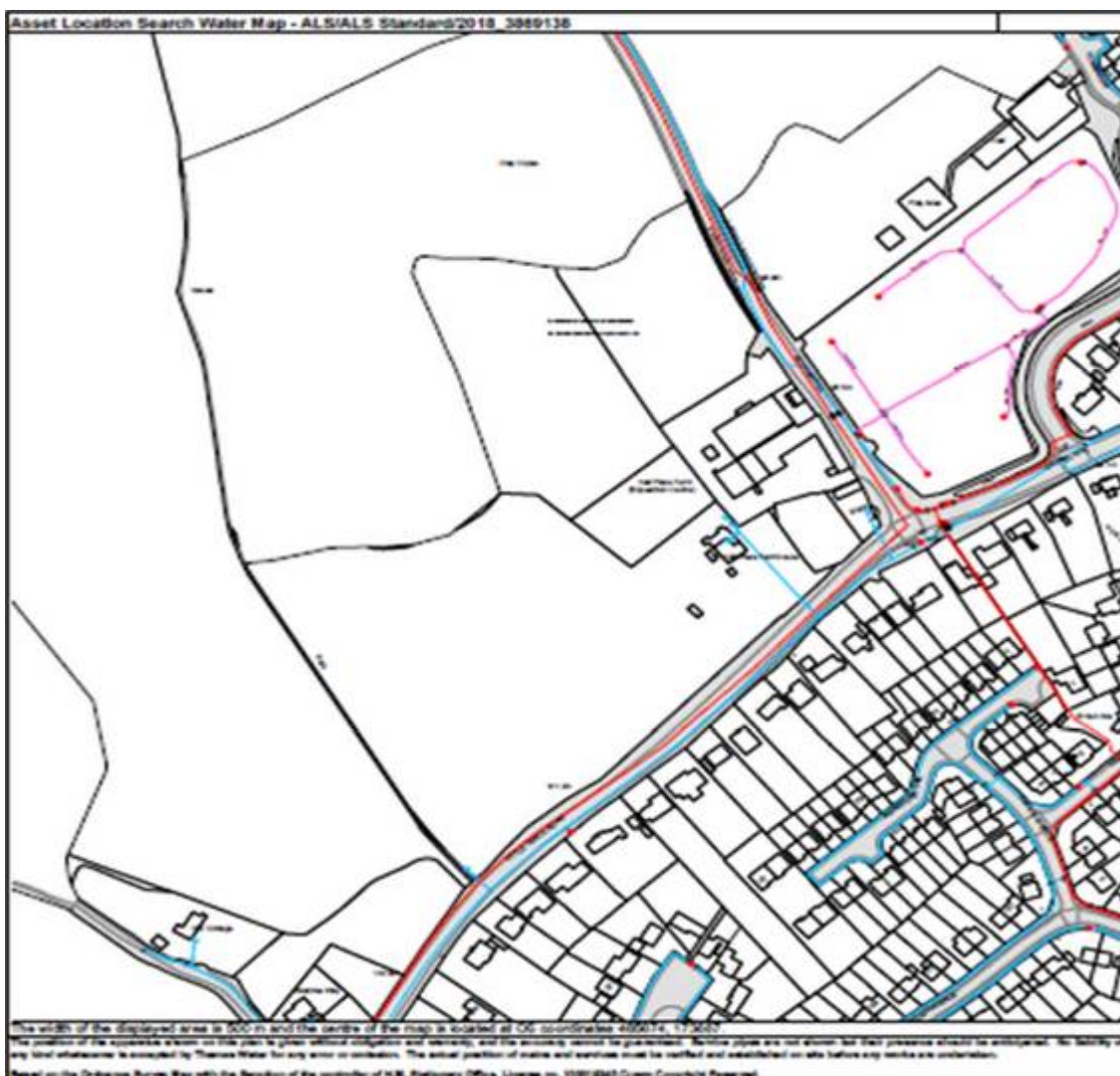


Fig 11 - Thames Water records for the development site.

- 4.4. The record shows a 20" Trunk main runs up Sulham Hill and this crosses a 6" distribution main "somewhere" adjacent to the proposed site.
- 4.5. The 20" Trunk main and a 3" distribution main run along Little Heath road and it is anticipated the new water connections for the development shall be connected back to either this trunk main or at the intersection with Chapel Hill.
- 4.6. There are three metered customer supply pipes serving the current site, including service to the Farmhouse, a second to the Farm buildings and a third to a location adjacent to the public footpath bordering the west side of the site off Little Heath Road. Maps and records do not indicate any existing buildings or areas where buildings once stood within the existing site, in this location and this service may be decommissioned as part of the works unless a specific need is identified.
- 4.7. There are no existing services identified which will need to be located or avoided when building any new development on the site other than the three customer service pipes indicated.
- 4.8. The records identify a pumping station indicated at the junction of Chapel Hill, Little Heath Road and Sulham Hill which would suggest the mains water supply system may be of adequate pressure and capacity for the proposed development. However, there is also a proposed new 90mm HPPE service connected off the 250mm Trunk main, off Sulham hill for the adjacent site with planning consent currently being constructed. With this consideration the developer will need to liaise with Thames Water to find out their ability to service the new development and to identify any costs for increasing capacity in the main if required
- 4.9. There are two Fire hydrants off the distribution main in Little Heath Road and the new development will also require additional hydrants to be installed off the new service distribution main that will be run. It would be sensible to assume a similar arrangement to that on the adjacent development site as indicated will be required.
- 4.10. Attention should be drawn to the easements section in Appendix II. This gives Thames Water requirements for digging near their equipment.
- 4.11. It is envisaged that new development service requirement will comprise a new distribution main connected from the trunk mains in Little Heath Road, with individual customer metered connections for each unit, a hydrant service located on the perimeters of the site and retention of existing customer service pipes to the existing buildings.
- 4.12. A detailed loading assessment should be carried out during the detail design stage, to establish the full water capacity requirements including capacity needed for all hydrant systems. Liaising with Thames Water will then determine the suitability of the existing water supply systems and whether any reinforcement is required.

- 4.13. Questions regarding new water connections, budget estimates, diversions, building over issues or any other questions regarding operational issues should be made to Thames Water service desk. Which can be contacted by writing to:

Developer Services (Clean Water)  
Thames Water  
Clearwater Court  
Vastern Road  
Reading  
RG1 8DB  
Tel: 0800 009 3921  
Email: [developer.services@thameswater.co.uk](mailto:developer.services@thameswater.co.uk)

## 5. Drainage

- 5.1 The drainage network in the area is adopted by Thames Water

### Summary

- 5.2 Records indicate that there are no existing drainage pipework's within the site curtilage. The sewer records provided by Thames Water Fig12, indicated there is no drainage in the area of development or connections to the main sewer located within the immediate road infrastructure.

A "Drain" is labelled on the corner of Sulham Hill and Chapel Hill intersection but no pipework or connections are identified on the record info – this will need on site investigation and survey. Thames Water is not generally responsible for rivers, watercourses, ponds, culverts or highway drains

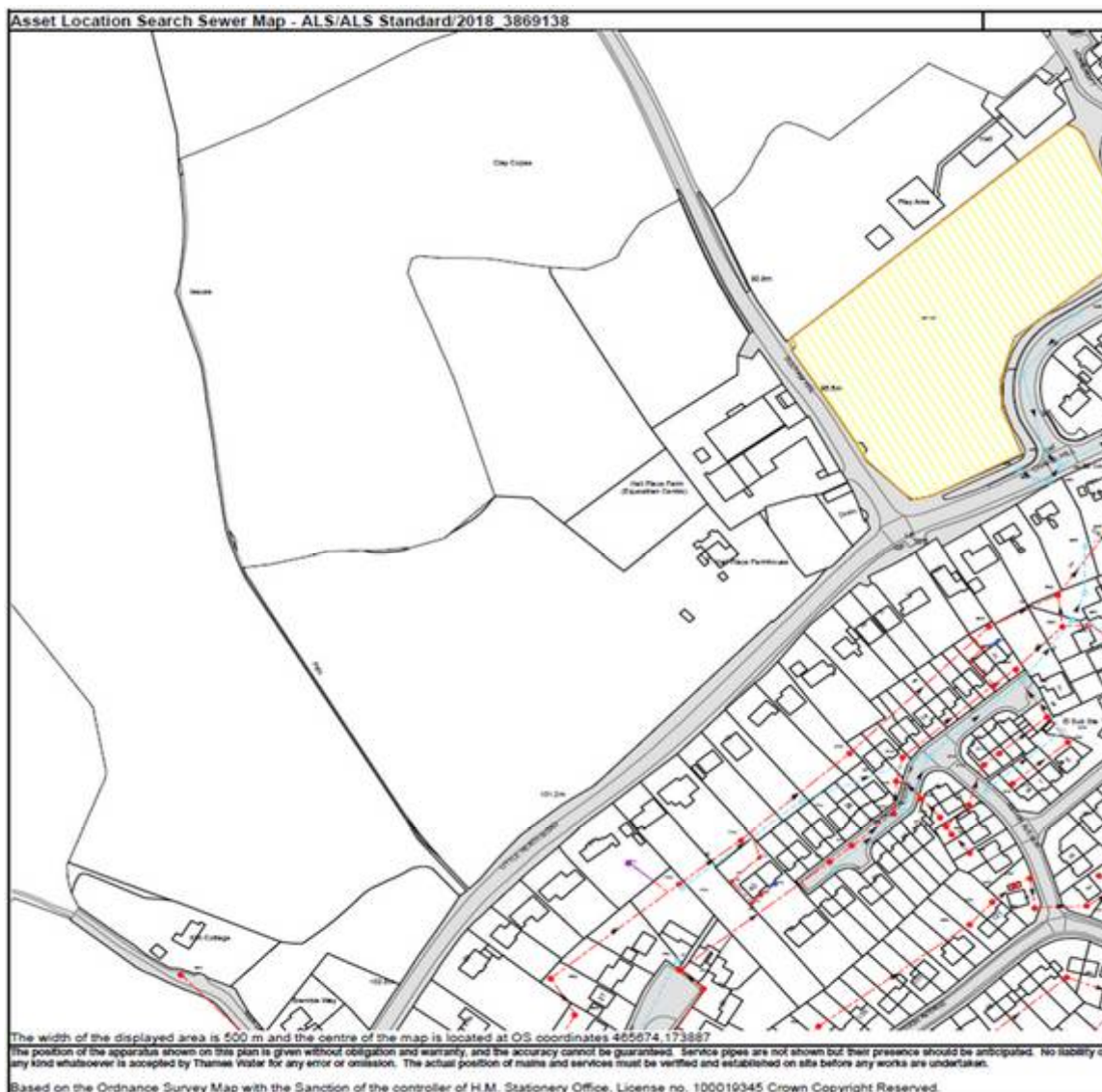


Fig 12 - Thames water sewer records for the development site.

- 5.3 The new development on site will need to discharge in to the existing foul and storm water drainage off site. The records do not identify any Foul or combined Trunk mains in the vicinity of the development and there are no details available of the proposed new infrastructure for the adjacent development under construction which may influence the design for the Hall Farm Place development.
- 5.4 The capacity of the existing drainage in the rear gardens of the properties fronting onto Little Heath Road and the main sewer they connect to, will need to be assessed in order to confirm the suitability for carrying the additional demand on these existing drainage pipes. Liaison with Thames Water about diverting existing mains or design of proposed buildings taking in to account existing mains will have to be considered.

- 5.5 Planning requirements for surface water attenuation and measures to reduce run off will need to be considered by the development team and the civil engineer to inform the application for new drainage requirements.

### Existing Foul Water services

- 5.6 Thames Water record maps show foul water sewer in the rear gardens of the properties fronting onto Little Heath Road fields to the south of the development site.
- 5.7 There is a 150mm foul main with a 150mm increasing to 450mm surface water drain in the roadway of Avington Close which appears to be the nearest infrastructure to the development site.

### Proposed

- 5.8 A detailed loading assessment should be carried out during the detail design stage, to establish the drainage capacity requirements. Liaising with Thames Water will then determine the suitability of the existing drainage systems and whether any reinforcement or on-site storage is required. It is unlikely that the existing foul drainage will be sufficient to allow extension and connection. It will be important to understand the capacity of the proposed new infrastructure for the adjacent development under construction to the right of Sulham Hill which is marked as an area under agreement on the record drawings provided.
- 5.9 It is envisaged that new foul and surface water infrastructure will be required on the development site and this will be extended off site to connect into the trunk mains at the most appropriate location determined by Thames water, the location of this and any works to increase capacity will be advised by Thames Water.
- 5.10 Questions regarding sewer connections, budget estimates, diversions, building over issues or any other questions regarding operational issues should be made to Thames Water service desk. Which can be contacted by writing to:

Developer Services (Waste Water)  
Thames Water  
Clearwater Court  
Vastern Road  
Reading  
RG1 8DB  
Tel: 0800 009 3921  
Email: [developer.services@thameswater.co.uk](mailto:developer.services@thameswater.co.uk)



## 6. Gas Services

- 6.1 The main network transporter in the area SGN (Southern Gas Network). SGN own a 180mm diameter low pressure gas main that runs South East of the proposed site, along the perimeter of Chapel Hill, see summary detail below Fig 13.



Fig 13 – SGN Gas record detail.

- 6.2 In addition to the 180mm diameter low pressure gas main, GTC (Gas Transportation company) have taken a 90mm diameter low pressure gas service to a site adjacent to hall place on Sulham Hill (Fig 14). With this installation the capacity available in the local network for an additional gas service to be taken to Hall Place farm is uncertain and an application will have to be made to determine the gas mains capacity available.

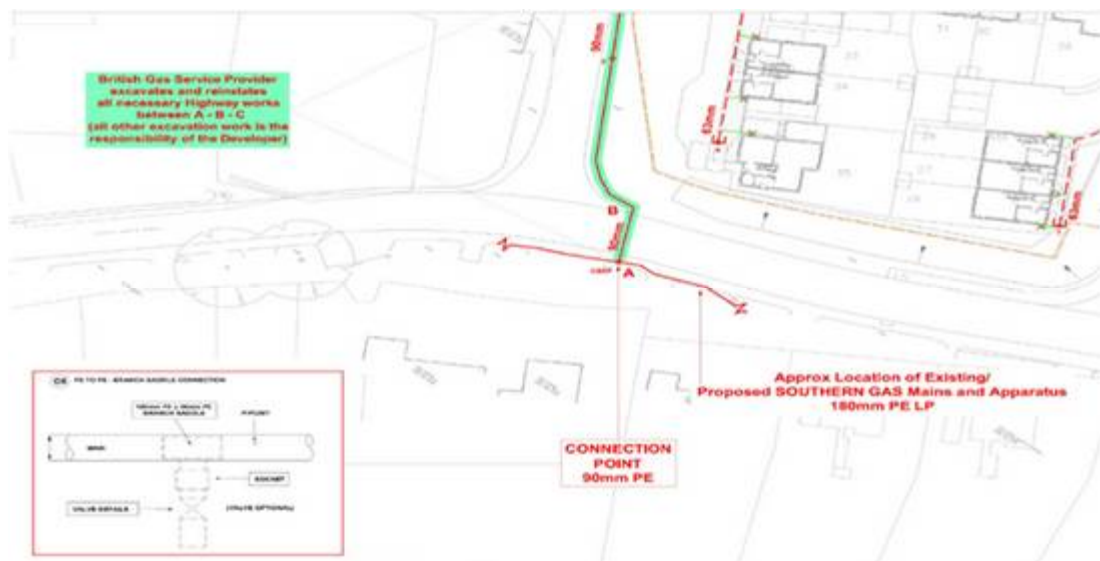


Fig 14 – GTC 90mm gas pipe to adjacent site.

- 6.3 Both SGN and GTC own and operate gas apparatus in the vicinity but not on the development site. The proposed works will not affect these two independent network operators, but it is worth noting that GTC's supply runs close to the site boundary.
- 6.4 The records show that there are no existing gas services within the proposed site.
- 6.5 The information obtained from the utility company is shown on map records in Appendix III.

### Existing Gas Supply – Infrastructure to site

- 6.6 The existing gas network runs along Little Heath road and continues along Chapel Hill, this is fed from an existing 6" Cast Iron Low pressure main. This pipe tees off to serve a 4" Cast-Iron low-pressure gas service along Kiln Lane and continues round to Chapel Hill where it increases to an 8" LP main.
- 6.7 Within immediate vicinity of the development there is a new 90mm Low pressure PE service which runs up Sulham Hill to serve the new adjacent development

### Summary of Options

- 6.8 Preliminary discussions with the Client and work developed following initial planning stage energy assessment analysis suggest the heating strategy for the development may be progressed using a non-gas fired (electric) solution. However, energy analysis has also shown an energy centre solution fed from gas fired CHP and back up boilers would provide a technically and economically feasible solution for the schemes heating (and hot water generation requirements). Should this option be progressed then costs for gas infrastructure upgrade would be required to allow a true economic viability assessment.
- 6.9 An all-electric (heating, hot water generation and cooking) solution would increase the load on the new LV power supply to the site, but the costs associated with the increased power supply could be offset by reduction in gas infrastructure costs.
- 6.10 A new supply from the 180mm Low Pressure PE gas main in little heath road connecting onto chapel hill (inclusive of pressure reducing station) will need to be installed if the gas option is progressed, pre-development enquires should be made to ensure there is sufficient supply capacity for the proposed new development and to identify any infrastructure upgrade costs.
- 6.11 At design stage a more detailed loading assessment should be carried out in order to determine the sites actual requirement for a gas supply.
- 6.12 It is not anticipated that the works will require any diversions of gas services in the vicinity of the site.
- 6.13 Attention should be drawn to the easements within the appendices. This gives requirements for digging near SGN systems.



## 7. Environment Agency

- 7.1 The Environment Agency is classed as a statutory undertaker for certain purposes. They have advised that they do not generally have plant equipment or pipelines situated in the public highway.
- 7.2 The EA have drafted their reply without conducting a specific search of their records. The EA ask that Developers make the necessary checks and if have reason to think that the proposal will affect land or equipment which the EA own or is close to a watercourse, then the developer should resubmit the enquiry making this clear in your reply.
- 7.3 Any works that may affect these structures must be consulted first with the Environment Agency.
- 7.4 The drain indicated in the corner of the site off Little Heath road and Chapel hill which is marked but not identified on the Thames water records may be case in point and preliminary discussions with the EA should be considered if necessary.

## APPENDIX I – CONTACTED UTILITIES

Utility	Category	Status	Response	Notes
SGN (Southern Gas Networks)	Gas	Received	Affected	
Environmental Agency	Environmental Agency	Received	Affected	See Response
Openreach [British Telecommunications]	Telecom	Received	Affected	
Virgin Media	Telecom	Received	Affected	
Thames Water	Water, Sewerage	Received	Affected	
Utility Assets	Electric	Received	Not Affected	See Response
West Berkshire County Council	Council	Received	Affected	
LinesearchbeforeUdig	Pipeline	Received	Affected	
Vodafone	Telecom	Received	Affected	
SSE (Scottish & Southern Electricity)	Electric	Received	Affected	
GTC	Gas	Received	Affected	
GTT [Vtesse]	Telecom	Received	Not Affected	
Energetics	Electric, Gas, Water	Received	Not Affected	
TrafficMaster	Other	Received	Not Affected	Website Used
Network Rail	Rail	Received	Not Affected	
SKY Telecommunications Services	Telecom	Received	Not Affected	
City Fibre	Telecom	Received	Not Affected	Website Used
Plancast (Interroute)	Telecom	Received	Not Affected	

	Telecom, Gas, Electric	Received	Not Affected	Website Used
Verizon	Telecom	Received	Not Affected	
C.A. Telecom UK – [Colt Technology Services]	Telecom	Received	Not Affected	
Instalcom - [CenturyLink, Global Crossing Fibernet & Fibrespan]	Telecom	Received	Not Affected	
Plancast [Interoute]	Telecom	Received	Not Affected	

## APPENDIX II – EASEMENTS

### SSE – Power supply cables

- SSE require that no works are carried out within a radial distance of 1.5 metres for supplies rated 11kV and 33kV
- Where works are to be carried out in the vicinity of network supplies rated at 66kV and 132kV, SSE must be consulted for further guidance.
- It would be recommended to consult with SSE on all matters concerning the development of an existing site or development of a new site.

### BT Openreach

All excavations adjacent to apparatus are to be carried out by hand until the exact extent and/or location of apparatus is known. Mechanical borers and/or excavators shall not be used within 1 metre of Apparatus or 2 metres of any pole without the supervisory presence of a BT representative. To prevent any movement of apparatus during excavation, complete shuttering shall be used as directed by the engineer if:

- Excavation is deeper than the depth of cover of adjacent apparatus
- Excavation is within 1.0 metre of apparatus in stable soil
- Excavation is within 5.0 metres of apparatus in unstable soil

If, for completion of the works, the contractor intends using any of the following:

- Pile driving equipment within 10.0 metres of apparatus
- Explosives within 20.0 metres of apparatus
- Laser equipment within 10.0 metres of apparatus

The contractor shall advise the BT representative, in writing, in order that any special protective measures for the apparatus affected may be arranged.

### Thames Water

Thames Water staff will visit any site at reasonable notice to assist in the location of our apparatus and advice of any precautions necessary to avoid damage.

In Order to achieve safe working conditions adjacent to any apparatus the following should be observed:

- All TW Apparatus should be located by hand digging prior to the use of mechanical excavators.
- During construction work, where heavy plant will cross the line of TW Apparatus, specific crossing points must be agreed with TW and suitably reinforced where required. These crossing points should be clearly marked and crossing of the line of TW Apparatus at other locations must be prevented.

- No Explosives are to be used in the vicinity of any TW Apparatus without prior consultation.
- Where it is proposed to carry out piling or boring within 15 metres of any TW Apparatus, TW should be consulted to enable any affected TW Apparatus to be surveyed prior to any works commencing.
- Where excavation of trenches adjacent to any TW Apparatus affects its support, the TW Apparatus must be supported to the satisfaction of TW. Water mains and some sewers are pressurised and can fail if excavation removes support to thrust blocks to bend and other fittings.
- Where a trench is excavated crossing or parallel to the line of any TW Apparatus, the backfill should be adequately compacted to prevent any settlement which could subsequently cause damage to the TW Apparatus. In special cases, it may be necessary to provide permanent support to TW Apparatus which had been exposed over a length of the excavation before backfilling and reinstatement is carried out. There should be no concrete backfill in contact with the TW Apparatus.
- No Apparatus should be laid along the line of TW Apparatus irrespective of clearance. Above ground apparatus must not be located within 5 metres either side of the centre line of TW Apparatus without prior approval. A minimum of radial clearance of 300 millimetres should be allowed between any plant being installed and existing TW Apparatus. No manhole or chamber shall be built over or around any TW Apparatus. No Manhole or chamber shall be built over or around any TW Apparatus.
- Where any TW Apparatus coated with a special wrapping is damaged, even to a minor extent, TW must be notified and the trench left open until the damage has been inspected and the necessary repairs have been carried out. In the case of any material damage to any of the TW Apparatus causing leakage, weakening of the mechanical strength of the pipe or corrosion-protection damage. The necessary remedial work will be recharged.
- With regard to any proposed resurfacing works, you are required to contact TW to arrange a site inspection to establish the condition of any TW Apparatus in the nature of surface boxes or manhole covers and frame affected by the works. TW will advise on any measures to be taken.
- Trees or Shrubs – please ensure that, in relation to TW Apparatus the mature root systems and canopies of any tree planted do not encroach within the recommended distances specified in the notes overleaf.

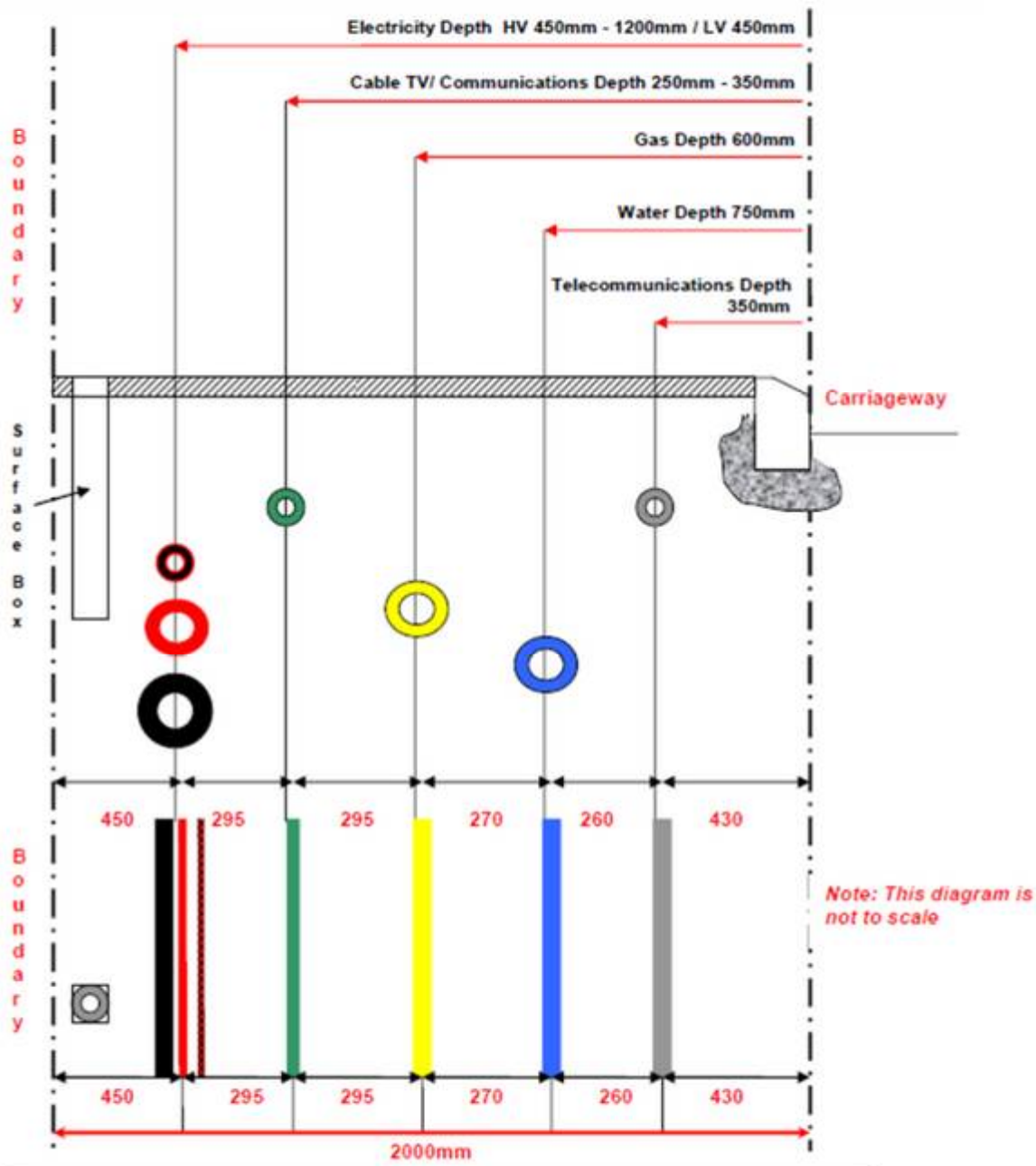
### Southern Gas Networks

- SGN issue a Dig Safely – measures to avoid injury and damage to gas pipes document which is included in Appendix III
- Protective measures must be taken when excavating in the vicinity of SGN gas apparatus up to 7 bar pressure. Reference should be made to the HSE Guidance Note HSG 47 “Avoiding Danger from Underground Services” and to “Utilities Guideline on Positioning and Colour Coding Apparatus”.

- SGN surface boxes must not be buried or moved. Access must be maintained both during and after works have been carried out. SGN reserve the right to locate and/or realign any boxes not left in such condition upon completion of works and at the expense of the contractor and/or client. No manhole cover or other structure is to be built over, around, or under a gas pipe and no work is to be carried out which results in the reduction or increase in cover protection without agreement.
- No apparatus is to be laid directly above the line of existing gas pipes irrespective of clearance. Where new plant crosses over, or is laid alongside, an existing gas pipe, a minimum clearance of 250 millimetres (or 1.5 times the external diameter of the gas pipe if this is greater) between the gas pipes and new plant should be provided to allow future repair or maintenance. Where the minimum clearances cannot be met, if the work is close to a pipe operating above 2 bar (intermediate pressure), site discussions should be held with SGN to agree a suitable clearance.
- Mechanical excavators (including breaker attachments) must not be used within 0.5 metres from low pressure and medium pressure gas mains, and 3 metres from high pressure gas mains.
- The presence of low/medium pressure gas has been identified within the vicinity of the site.
- In addition, no works or crossings of the intermediate pressure pipeline(s) are to be carried out until a detailed consultation has taken place with SGN.
- SGN should be consulted on all matters concerning the re-development of an existing site or development of a new site.

**FIGURE 1 - Recommended Positioning of Utility Apparatus in a 2 metre Footway**



Note – the same positioning should apply in the carriageway/service strip (if safe and practical to do so) where a development has no footway(s) available for services and/or the boundary of the property is on the carriageway (please refer to minimum depths in carriageways). For further advice please contact the asset owner.



Reference information re underground services



**TABLE 1 – Recommended Colour Coding of Underground Utilities Apparatus**  
All depths are from the surface level to the crown of the apparatus

Utility	Duct	Pipe	Cable	Marker Systems	Recommended Minimum Depths	
					Footway/Verge	Carriageway
<b>Electricity HV (High Voltage)</b>	Black or red duct or tile	N/A	Red or black	Yellow with black and red legend or concrete tiles	450-1200mm	750-1200mm
<b>Electricity LV (Low Voltage)</b>	Black or red duct or tile	N/A	Black or red	Yellow with black legend	450mm	600mm
<b>Gas</b>	Yellow	*** See row below	N/A	Black legend on PE pipes every linear metre.	600mm footway 750mm verge	750mm
*** PE - up to 2 bar - yellow or yellow with brown stripes (removable skin revealing white or black core pipe). - between 2 to 7 bar -orange. <b>Steel pipes</b> may have yellow wrap or black tar coating or no coating. <b>Ductile Iron</b> may have plastic wrapping <b>Asbestos &amp; Pit / Spun Cast Iron</b> – No distinguishable colour						
<b>Water non Potable &amp; Grey Water</b>	N/A	Black with green stripes	N/A	N/A	600 – 750mm	600 – 750mm
<b>Water - Firefighting</b>	N/A	Black with red stripes or bands	N/A	N/A	600 – 750mm	600 – 750mm
<b>Oil / fuel pipelines</b>	N/A	Black	N/A	Various surface markers  Marker tape or tiles above red concrete	900mm <i>All work within 3 metres of oil fuel pipelines must receive prior approval</i>	900mm <i>All work within 3 metres of oil fuel pipelines must receive prior approval</i>
<b>Sewerage</b>	Black	No distinguishing colour / material (eg: Ductile Iron may be red; PVC may be brown)	N/A	N/A	Variable	Variable
<b>Communications</b> 	Grey, white, green, Black, purple	N/A	Black or light grey	Various	250 – 350mm	450 - 600mm
<b>Water</b>	Blue or Grey	Blue polymer or blue or uncoated Iron / GRP. Blue polymer with brown stripe (removable skin revealing white or black pipe)	N/A	Blue or Blue/black	750mm	750mm minimum
<b>Water pipes for special purposes (e.g. contaminated ground)</b> 	N/A	Blue polymer with brown stripes (non-removable skin)	N/A	Blue or blue/black	750mm	750mm minimum

These guidelines describe utility industry practice. However, it should not be assumed that all apparatus will conform to the recommendations for positioning and colour coding contained in this publication.

### NJUG recommendations

**TABLE 2 – Recommended Colour Coding of Other Underground Apparatus**  
All depths are from the surface level to the crown of the apparatus

Asset Owner	Duct	Pipe	Cable	Marker Systems	Recommended Minimum Depths	
					Footway	Carriageway
<b>Highway Authority Services</b>						
At the time of publication the following were current examples of known highway authority apparatus colour coding but local variations may occur						
<b>Street Lighting</b>						
England and Wales	Orange	N/A	Black	Yellow with black legend	450mm	600mm
Scotland	Purple	N/A	Purple	Yellow with black legend	450mm	450mm
Northern Ireland	Orange	N/A	Black or orange	Various	450mm	450mm
<b>Other</b>						
Traffic Control	Orange		Orange	Yellow with black legend		
Street Furniture	Black or orange	N/A	Black	Yellow with black legend	450mm	600mm
Communications	Light grey	N/A	Light grey or black	Yellow with black legend		
CCTV	Purple	N/A				
<b>Motorways and Trunk Roads</b>						
<b>England and Wales</b>						
Communications	Purple	N/A	Grey	Yellow with black legend	450mm	
Communications Power	Purple	N/A	Black	Yellow with black legend		
Road Lighting	Orange	N/A	Black	Yellow with black legend		
<b>Scotland</b>						
Communications ● ○	Black or grey	N/A	Black	Yellow with black legend		
Road Lighting	Purple	N/A	Purple	Yellow with black legend		

**These guidelines describe utility industry practice. However, it should not be assumed that all apparatus will conform to the recommendations for positioning and colour coding contained in this publication.**

#### NJUG recommendations



## APPENDIX III – UTILITY RECORD INFORMATION