



**FOUL WATER DRAINAGE & UTILITIES ASSESSMENT**  
St Michael's Convent, Ham Common, Richmond

## Document History

Issue	Date	Description	Prepared By	Checked By
1	12 Aug. '16	Planning issue	Lucy McGregor	Tim Foxall
2	1 Sep. '16	For planning	Lucy McGregor	Tim Foxall

## Glanville

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- CDM Consultants

For further advice contact:

Cornerstone House  
62 Foxhall Road  
Didcot  
Oxfordshire OX11 7AD

*Offices also at:*

3 Grovelands Business Centre  
Boundary Way  
Hemel Hempstead  
Hertfordshire HP2 7TE

Telephone: 01235 515550  
Fax: 01235 817799

Telephone: 01442 835999  
Fax: 01442 258924

[postbox@glanvillegroup.com](mailto:postbox@glanvillegroup.com)  
[www.glanvillegroup.com](http://www.glanvillegroup.com)

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## 1.0 Introduction

- 1.1 This report has been prepared by Glanville Consultants on behalf of Beechcroft Developments Ltd in support of two planning applications for the re-development, for residential purposes, of St Michael's Convent, Ham Common, Richmond.
- 1.2 The combined applications seek permission for a total of 28no. new retirement dwellings achieved through a combination of conversion and new build. 26no. of these dwellings would achieve access via Ham Common, while two would achieve access from Martingales Close. This report has been prepared to accompany both applications and treats both proposed developments as a single site as there is no physical distinction between the two.
- 1.3 This report identifies the existing utility supply infrastructure within the vicinity of the site. It examines the current utility arrangement of the site, the need for diversionary work and the feasibility of servicing the proposed development. The utility services considered include:
- Gas;
  - Electricity;
  - Telecommunications; and
  - Potable Water.
- 1.4 Reasonable effort has been made to obtain record drawings identifying service routes from known Statutory Undertakers operating in the area. Due to the possibility of unknown independent operators having apparatus or private services being present, it is possible that services exist that have not been identified in this search.
- 1.5 This assessment also considers a strategy for the disposal of foul water from the site once developed.
- 1.6 The provision of surface water drainage infrastructure to serve the development is considered within Glanville Consultants' Flood Risk Assessment and Surface Water Drainage Strategy.

## **2.0 Existing Site Characteristics**

- 2.1 The development site is located at St Michael's Convent, Richmond, Ham Common, Greater London. A site location plan is provided in Appendix A. The approximate centre of the site is located at Ordnance Survey National Grid reference TQ 17704 72228. The site area is approximately 1.69ha.
- 2.2 The site is located within the suburban district of Ham in south-west London, approximately 1 mile south of Richmond and 2 miles north of Kingston upon Thames. The site is bounded by residential properties to the north, Martingales Close with residential properties beyond to the east, Ham Common to the south and Ham Avenue to the west.
- 2.3 There three existing access points into the site, two off Ham Common and one off Martingales Close.
- 2.4 The site consists of two existing listed buildings, a walled garden and an orchard. A car park is located south of the site with entrance from Ham Common.

### **3.0 Proposed Development**

- 3.1 The site is split in to two distinct portions and as such, two separate planning applications have been submitted. However as Planning Application 2 is very small and will not come forward separately from Planning Application 1, it has been considered more appropriate in this report to consider the proposed development in total. An illustrative site layout is provided in Appendix B.

*Planning Application 1: Southern Portion - Accessed from Ham Common*

- 3.2 It is proposed that the southern portion of the site would accommodate 26 retirement dwellings (two one bed dwellings, 23 two-bed dwellings, and one four bed dwelling).

*Planning Application 2: Northern Portion - Accessed from Martingales Close*

- 3.3 It is proposed that the northern portion of the site would accommodate two retirement dwellings, both of which would be four-bed dwellings.

## 4.0 Utilities

- 4.1 This section of the report identifies the existing utility supply infrastructure within the vicinity of the proposed development and assesses the potential requirements for new connections including improvement works as well as diversionary works.
- 4.2 It should be noted that no information is available regarding the capacity of utility supply infrastructure in the vicinity of the development, given that site proposals are not currently sufficiently advanced to request Statutory Undertakers to provide detailed site specific information.
- 4.3 More detailed responses, including capacity assessment requests and investigations and quotations for increase in capacity to serve the proposed development if required, will be sought once the development proposals have entered the detailed design stage.

### Existing Services

- 4.4 Records have been obtained from utility companies anticipated to have plant within the vicinity of the site. The principal companies contacted with apparatus in the vicinity of the site are as follows:
- National Grid Gas Distribution (gas distribution and supply);
  - UK Power Networks (electricity distribution and supply);
  - Thames Water (sewerage services and potable water);
  - BT Openreach (telecommunications); and
  - Virgin Media (telecommunications).
- 4.5 Copies of service records obtained are included in the appendices within this report.
- 4.6 At the time of writing this report the following services providers have confirmed that they do not have apparatus on or in the vicinity of the site:
- Colt Technology Services;
  - Energetics;
  - ESP Utilities Group (NB: Assets belonging to ESP were initially identified within the search radius of the site, but following further examination of the records are concluded to lie completely offsite and have no risk of being affected by the development proposed);
  - GTC;
  - Instalcom;
  - Interoute;
  - Interoute Vtesse;
  - McNicholas;
  - National Grid (electricity transmission);
  - Sky Telecommunications Services;
  - Telent;
  - Verizon; and
  - Vodaphone.

- 4.7 A Linesearch enquiry was also conducted to ascertain the presence of strategic apparatus, such as oil company or government pipelines. The results of the enquiry are contained within Appendix C and indicate that no assets are registered within the search radius.

#### Gas – (National Grid Gas Distribution)

- 4.8 Gas is regionally distributed in the area by National Grid Gas Distribution (NG). A copy of NG's plant record is presented as Appendix D.
- 4.9 NG's records confirm the presence of low pressure gas mains in the northern verge/pavement to Ham Common, adjacent to the site boundary, and in the east and north verge/pavement to Martingales Close, the opposite side of the road from the site.
- 4.10 The record drawings show two low pressure mains entering the site from the main in Ham Common, one serving the Old House building and one the existing western extension.
- 4.11 It is proposed that the development will be serviced from these existing mains. Minor diversions and extensions will be required to serve all of the proposed new properties.
- 4.12 As the new residential properties proposed at the site represent an increase in demand, the existing low pressure gas mains on site or in the wider distribution infrastructure may need to be upsized to serve the proposed development. A capacity investigation, and if necessary detailed proposals and quotes for this work, will be sought from NG at the detailed design stage.

#### Electricity – (UK Power Networks)

- 4.13 UK Power Networks (UKPN) owns and maintains the regional electricity distribution network. A copy of UKPN plant records is presented as Appendix E.
- 4.14 UKPN's plant records show an underground low voltage cable in the northern verge/pavement to Ham Common, adjacent to the site boundary. A second underground low voltage cable is present in the north and east verge/pavement to Martingales Close, the opposite side of the road from the site.
- 4.15 Service connections are shown from the underground cable in Ham Common to both St Michael's Convent and The Cottage on site.
- 4.16 It is proposed that the development will be serviced from these existing connection points. Minor diversions and extensions will be required to serve all of the proposed new properties.
- 4.17 As the new residential properties proposed at the site represent an increase in demand, the existing electricity supply on site or in the wider distribution infrastructure may need to be upsized to serve the proposed development. A capacity investigation, and if necessary detailed proposals and quotes for this work, will be sought from UKPN at the detailed design stage.



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#### Telecommunications – BT Openreach and Virgin Media

- 4.18 The records obtained from BT Openreach (BT) are included in Appendix F for reference and indicate the presence of a telecommunications network in the vicinity of the site. Records obtained from Virgin Media (Virgin) are included in Appendix G and indicate the presence of an alternative telecommunications network.
- 4.19 Underground BT cables are indicated as being present in the northern verge/pavement to Ham Common, adjacent to the site boundary. A second underground low voltage cable is present in the north and east verge/pavement to Martingales Close, the opposite side of the road from the site.
- 4.20 A Virgin Media cable duct is indicated as being present along the site's northern boundary, in the south verge/pavement to Martingales Close, and appears to show a turn towards the main site before its termination point at the north-eastern corner of the site.
- 4.21 Neither utility owner shows assets within the site boundary and it is therefore not clear how the site is currently serviced; however, with an older property it may be more likely that BT is the current service provider.
- 4.22 It is proposed to service the site with telecommunications from the BT cable at the southern boundary; this is because of the difficulty of installing underground services near the northern boundary of the site due to the valuable trees and extensive root protection zones in this part of the site.
- 4.23 However, if BT indicate a capacity issue or their quote for connection is considered excessive then Virgin could be approached for an alternative quotation.
- 4.24 Since there is a choice of utility providers, it is not anticipated that there will be any difficulty in obtaining a suitable telecommunications connection to the site.

#### Potable Water – Thames Water

- 4.25 The potable water records obtained from Thames Water are included in Appendix H for reference.
- 4.26 A 5" (125mm) potable distribution main is indicated as being present in Ham Common, south of the site boundary. A 4" (100mm) distribution main is present in the north and east verge/pavement to Martingales Close, the opposite side of the road from the site.
- 4.27 It is thought that the existing site is serviced from the distribution main in Ham Common. It is proposed that the development will continue to be serviced from the existing connection point.
- 4.28 As the new residential properties proposed at the site represent an increase in demand, a capacity assessment from Thames Water will be required to assess the capacity of the existing network to serve the proposed development and confirm if any offsite upgrade works will be required and the costs and timescales associated.

### Summary of New Supplies

- 4.29 All key services are located within roads surrounding the site. It will be necessary for all utility companies to confirm capacity, suitable connection points and provide detailed proposals for new supplies at the appropriate time.

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## 5.0 Foul Water Drainage

- 5.1 Sewer records obtained from Thames Water indicate the presence of a public 225mm diameter foul water sewer running around Martingales Close from north to south. This sewer joins another 225mm diameter foul sewer running from east to west along Ham Common past the southern frontage of the site.
- 5.2 Thames Water sewer records are included in Appendix J.
- 5.3 Information from the current site occupiers suggests that foul sewage from the existing buildings drains to the public foul sewer in Ham Common, with the connection point indicated to be in the south east corner of the site.
- 5.4 Furthermore, surface water drainage from the oldest buildings on site (those built before the adoption of dedicated surface water sewers) also drains to the foul sewer through this connection point.
- 5.6 The proposed drainage strategy for the site will be to discharge foul water from the site to the foul sewer in Ham Common. If possible then the existing connection point will be maintained, but if this is proved infeasible during detailed design then a new connection point to the Thames Water foul sewer will be proposed between Thames Water manholes reference 7102 and 7103.
- 5.7 The manhole schedule supplied with the sewer records indicates that the level of the public sewer will be suitable to permit a gravity drainage system from the entire of the proposed development.
- 5.8 The proposed development will also remove existing connections to the foul sewer from surface water drainage from the old site buildings. This will increase capacity in the public foul network which will provide sufficient capacity to accept new foul loadings from the increased development on site. Therefore although Thames Water should be consulted at the detailed design stage to confirm, it is anticipated that capacity will be available to serve the proposed development.
- 5.9 For details of the proposed surface water drainage strategy refer to Glanville Consultants' 'Flood Risk Assessment and Surface Water Drainage Strategy'.

## **6.0 Conclusion**

- 6.1 This report has been prepared by Glanville Consultants on behalf of Beechcroft Developments Ltd in support of two planning applications for the re-development, for residential purposes, of St Michael's Convent, Ham Common, Richmond.
- 6.2 This report has identified, from a review of utility service records, that all major services are located within or in the vicinity of the site.
- 6.3 This report has demonstrated that it should be feasible to serve the proposed development with all key services. However the development plans are too early in development to obtain capacity information or meaningful feedback from suppliers, and this will be required before service provision proposals can be finalised.
- 6.4 It will be necessary for utility companies to provide detailed proposals at the detailed design stage.
- 6.5 With consideration for the service record information provided, it is considered that generally the plant indicated as present within the site will require minor diversions and/or extensions to serve the redeveloped site.
- 6.6 This report has not identified any barrier to the development of the site for its intended purpose.

## Appendices

**Appendix A**  
**Site Location Plan**



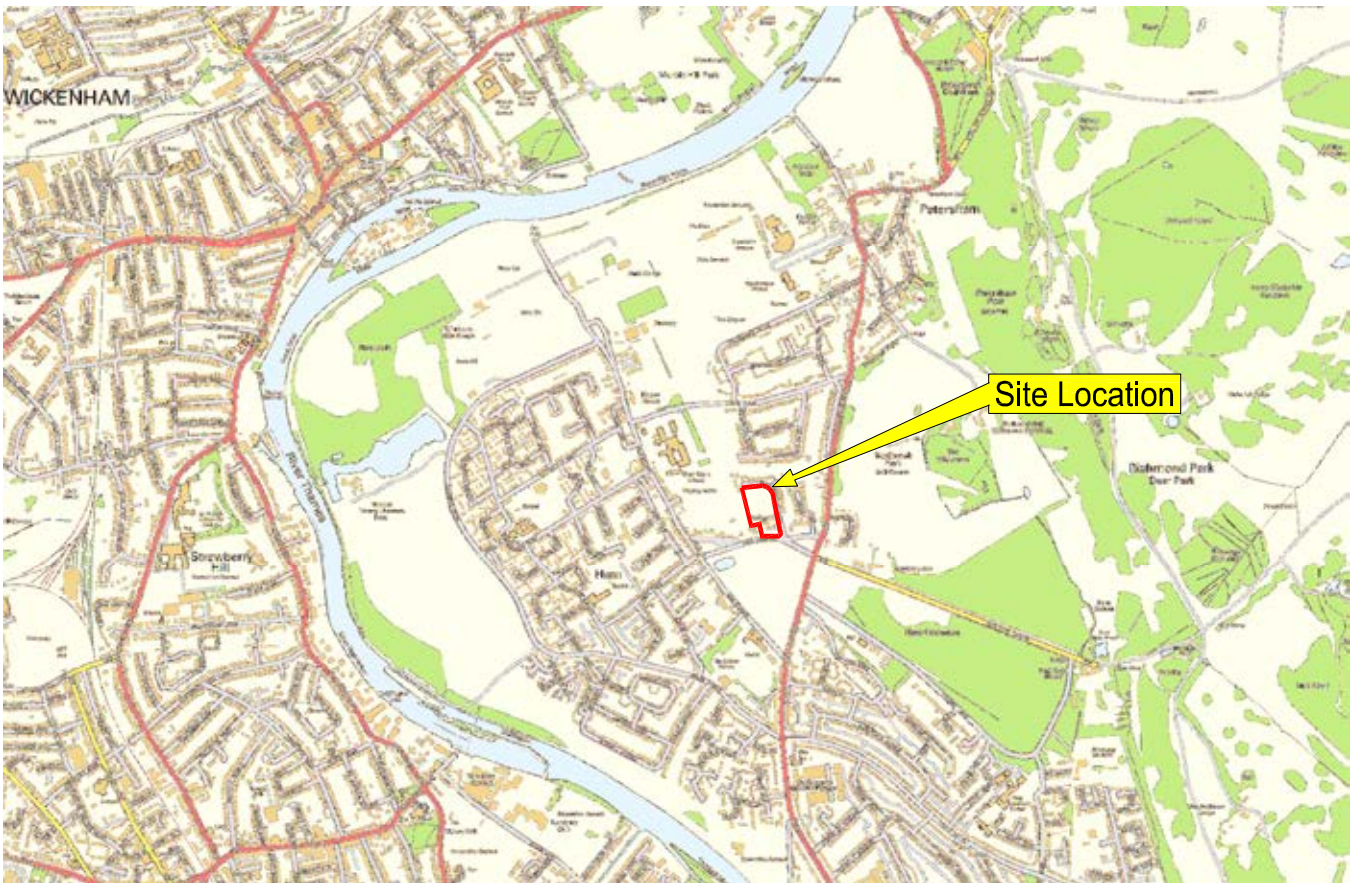
**NOTES**

1. This drawing is to be read in conjunction with all relevant documents and specifications.
2. Dimensions not to be scaled.

**LOCATION**

Address: St Michael's Convent  
56 Ham Common  
Richmond  
Surrey  
TW10 7JH

Grid reference: TQ 1771872251



**Glanville**

Cornerstone House  
62 Foxhall Road, Didcot  
Oxon, OX11 7AD

Tel: (01235) 515550 Fax: (01235) 817799  
postbox@glanvillegroup.com www.glanvillegroup.com

Project : St Michael's Convent, Ham Common, Richmond

Title : Site Location Plan

Project Engineer : C. Levy Scale : N.T.S

Project Director : J. Hanlon Date : July 2016

Drawing No. Appendix B

Rev -

**Appendix B**  
**Proposed Site Layout**



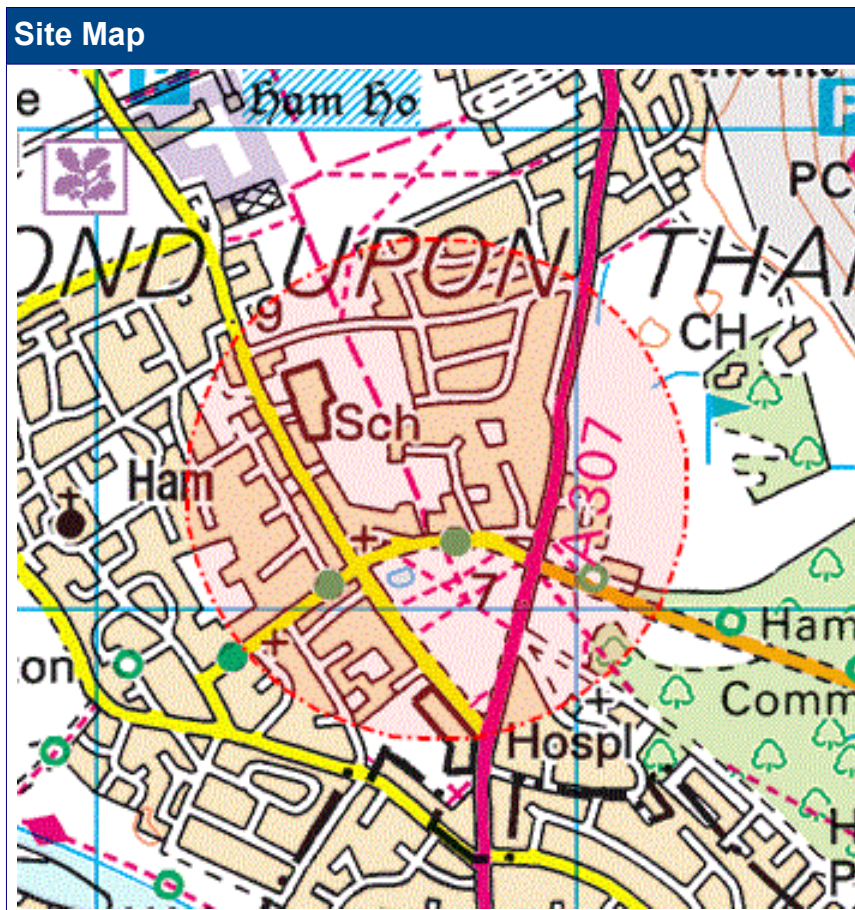


**Appendix C**  
**Lineearch Result**

Enquirer			
Name	Ms Debbie Wigston	Phone	01235515550
Company	Glanville Consultants	Mobile	Not Supplied
		Fax	01235817799
Address	Cornerstone House 62 Foxhall Road Didcot Oxfordshire OX11 7AD		
Email	dwigston@glanvillegroup.com		
Notes	Please ensure your contact details are correct and up to date on the system in case the LSBUD Members need to contact you.		

Enquiry Details			
Scheme/Reference	TR8151310		
Enquiry type	Initial Enquiry	Work category	Development Projects
Start date	06/07/2016	Work type	Housing
End date	23/12/2016	Site size	1040 metres diameter
Searched location	XY= 517713, 172246 Easting/Northing	Work type buffer*	25 metres
Confirmed location	517711 172248		

\* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen



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**Asset Owners & Responses.** Please note the enquiry results include the following:

1. "LSBUD Members" who are asset owners who have registered their assets on the LSBUD service.
2. "Non LSBUD Members" are asset owners who have not registered their assets on the LSBUD service but LSBUD is aware of their existence. Please note that there could be other asset owners within your search area.

Below are three lists of asset owners:

1. **LSBUD Members who have assets registered within your search area. ("Affected")**
  - a. **These LSBUD Members will either:**
    - i. **Ask for further information ("Email Additional Info" noted in status). The additional information includes: Site contact name and number, Location plan, Detailed plan (minimum scale 1:2500), Cross sectional drawings (if available), Work Specification.**
    - ii. **Respond directly to you ("Await Response"). In this response they may either send plans directly to you or ask for further information before being able to do so, particularly if any payments or authorisations are required.**
2. **LSBUD Members who do not have assets registered within your search area. ("Not Affected")**
3. **Non LSBUD Members who may have assets within your search area. Please note that this list is not exhaustive and all details are provided as a guide only. It is your responsibility to identify and consult with all asset owners before proceeding.**

**National Grid.** Please note that the LSBUD service only contains information on National Grid's Gas above 2 bar asset and all National Grid Electricity Transmission asset. For National Grid Gas below 2 bar asset information please go to [www.beforeyoudig.nationalgrid.com](http://www.beforeyoudig.nationalgrid.com)

**LSBUD Members who have assets registered on the LSBUD service within the vicinity of your search area.**

### List of affected LSBUD members

Asset Owner	Phone/Email	Emergency Only	Status
ESP Utilities Group	01372227560	01372227560	Await response

**LSBUD members who do not have assets registered on the LSBUD service within the vicinity of your search area. Please be aware that LSBUD members make regular changes to their assets.**

### List of not affected LSBUD members

AWE Pipeline	Esso Petroleum Company Limited	Petroineos
BOC Limited (A Member of the Linde Group)	FibreSpeed Limited	Phillips 66
BP Midstream Pipelines	Fulcrum Pipelines Limited	Premier Transmission Ltd (SNIP)
BPA	Gamma	Redundant Pipelines - LPDA
Carrington Gas Pipeline	Humbly Grove Energy	RWEnpower (Little Barford and South Haven)
CATS Pipeline c/o Wood Group PSN	IGas Energy	SABIC UK Petrochemicals
Cemex	Ineos Enterprises Limited	Scottish Power Generation
Centrica Energy	INEOS Manufacturing (Scotland and TSEP)	Seabank Power Ltd
Centrica Storage Ltd	Lark Energy	Shell (St Fergus to Mossmorran)
CLH Pipeline System Ltd	Lightsource SPV Limited	Shell Pipelines
ConocoPhillips (UK) Ltd	Mainline Pipelines Limited	Total (Finaline, Colnbrook & Colwick Pipelines)
Coryton Energy Co Ltd (Gas Pipeline)	Manchester Jetline Limited	Transmission Capital
CSP Fibre c/o Centara	Manx Cable Company	Uniper UK Ltd
Dong Energy (UK) Ltd	Marchwood Power Ltd (Gas Pipeline)	Vattenfall
E.ON UK CHP Limited	National Grid Gas (above 2 bar) and National Grid Electricity Transmission	Western Power Distribution
EirGrid	Northumbrian Water Group	Wingas Storage UK Ltd
Electricity North West Limited	NPower CHP Pipelines	Zayo Group UK Ltd c/o JSM Group Ltd
ENI & Himor c/o Penspen Ltd	Oikos Storage Limited	
ESSAR	Perenco UK Limited (Purbeck Southampton Pipeline)	

The following non-LSBUD members may have assets in your search area. It is **YOUR RESPONSIBILITY** to contact them before proceeding. Please be aware this list is not exhaustive and it is your responsibility to identify and contact all asset owners within your search area.

Non-LSBUD members (Asset owners not registered on LSBUD)			
Asset Owner	Preferred contact method	Phone	Status
BT	<a href="https://www.swns.bt.com/pls/mbe/welcome.home">https://www.swns.bt.com/pls/mbe/welcome.home</a>	08009173993	Not Notified
CityFibre	<a href="mailto:asset.team@cityfibre.com">asset.team@cityfibre.com</a>	033 3150 7282	Not Notified
Colt	<a href="mailto:plantenquiries@catelecomuk.com">plantenquiries@catelecomuk.com</a>	01227768427	Not Notified
Energetics Electricity	<a href="mailto:plantenquiries@energetics-uk.com">plantenquiries@energetics-uk.com</a>	01698404646	Not Notified
ENGIE	<a href="mailto:nrswa@cofely-gdfsuez.com">nrswa@cofely-gdfsuez.com</a>	01293 549944	Not Notified
GTC	<a href="https://pe.gtc-uk.co.uk/PlantEnqMembership">https://pe.gtc-uk.co.uk/PlantEnqMembership</a>	01359240363	Not Notified
Hibernia Networks	<a href="mailto:info@hibernianetworks.com">info@hibernianetworks.com</a>	01704 322 300	Not Notified
Instalcom	<a href="mailto:plantenquiries@instalcom.co.uk">plantenquiries@instalcom.co.uk</a>	02087314613	Not Notified
Interoute	<a href="mailto:interoute.enquiries@plancast.co.uk">interoute.enquiries@plancast.co.uk</a>	02070259000	Not Notified
Mobile Broadband Network Limited	<a href="mailto:mbnl.plant.enquires@turntown.com">mbnl.plant.enquires@turntown.com</a>	01212 621 100	Not Notified
National Grid Gas Distribution (below 2 bar)	<a href="mailto:plantprotection@nationalgrid.com">plantprotection@nationalgrid.com</a>	0800688588	Not Notified
Redcentric plc	<a href="mailto:plant-enquiries@redcentricplc.com">plant-enquiries@redcentricplc.com</a>	0845 200 2200	Not Notified
Richmond upon Thames London Borough Council	<a href="mailto:highwaysandtransport@richmond.gov.uk">highwaysandtransport@richmond.gov.uk</a>	08456122660	Not Notified
Sky UK Limited	<a href="mailto:nrswa@sky.uk">nrswa@sky.uk</a>	02070323234	Not Notified
Tata, KPN (c/- McNicholas)	<a href="mailto:plantenquiries@mcnicholas.co.uk">plantenquiries@mcnicholas.co.uk</a>	03300558469	Not Notified
Teliasonera	<a href="mailto:telentelia.plantenquiries@telent.com">telentelia.plantenquiries@telent.com</a>	0800526015	Not Notified
Thames Water	<a href="http://www.digdat.co.uk">http://www.digdat.co.uk</a>	08450709145	Not Notified
UK Power Networks	<a href="mailto:plans@ukpowernetworks.co.uk">plans@ukpowernetworks.co.uk</a>	08000565866	Not Notified
Utility assets Ltd	<a href="mailto:assetrecords@utilityassets.co.uk">assetrecords@utilityassets.co.uk</a>		Not Notified
Verizon Business	<a href="mailto:osp-team@uk.verizonbusiness.com">osp-team@uk.verizonbusiness.com</a>	01293611736	Not Notified
Virgin Media	<a href="http://www.digdat.co.uk">http://www.digdat.co.uk</a>	08708883116	Not Notified
Vodafone	<a href="mailto:osm.enquiries@atkinsglobal.com">osm.enquiries@atkinsglobal.com</a>	01454662881	Not Notified
Vtesse Networks	<a href="https://vtplant.vtesse.com">https://vtplant.vtesse.com</a>	01992532100	Not Notified

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