



RIDGE

Property and Construction Consultants



Portsmouth
CITY COUNCIL

Utilities & Drainage Assessment

Land Adjacent to Kingsclere Avenue

September 2015

Prepared for:
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Civic Offices
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Section 1 – INTRODUCTION

- 1.1.1. Portsmouth City Council are proposing to build a 38 unit development. A copy of the proposed schematic site plan showing initially proposed meter positions can be found in **Appendix 1**. The schematic shows a vehicular entrance on the western boundary.
- 1.1.2. The aim of this report is to assess the existing utility infrastructure and drainage for its potential capacity to support the new development.
- 1.1.3. Whilst not part of this report, it may be necessary to divert the footpaths crossing the site, depending upon their status.

Section 2 – UTILITY SERVICES

- 2.1.1. Ridge have carried out a desk top review of information gathered from both Statutory Utility Providers and National Facility Providers as listed below:
 - Linesearch
 - Portsmouth Water (potable water)
 - Southern Water (sewerage)
 - SGN (low pressure and medium pressure gas)
 - SSE (low voltage and high voltage)
 - BT Openreach and Virgin Media
- 2.1.2. Please note that the above records have been compiled by Ridge from information provided by the Statutory Utility and Facility Providers. Whilst every effort has been made to ensure accuracy and completeness of information included within this report, Ridge can take no responsibility for erroneous or missing historic record data which has been supplied to us from each service/facility provider. Due to the nature of record information being indicative rather than accurate it is therefore advisable for a full site utility survey to be undertaken prior to any ground works or construction. For the purpose of this report it is also assumed that the roads approaching the site are not private land subject to requiring third party agreement or resulting in the meters for the development being cited remote to the building(s).

2.2 General

- 2.2.1. A Linesearch enquiry reference: 6641028 has been undertaken for the proposed development site which has confirmed that none of the specified companies have any assets within the proposed site boundary. A full list of the companies that this includes can be found in **Appendix 2**.
- 2.2.2. A services survey has been undertaken by Geotec Underground Mapping and this can be found in **Appendix 3**, a scan has been carried out to identify the location of existing buried services where possible, this has been overlaid onto a topographical survey.

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2.3 Water Infrastructure

- 2.3.1. Portsmouth Water is the potable water providers in this area. Their records, included in **Appendix 4**, indicate that there are accessible water main pipers located to the west and east of site. In the West there is a 125mm MDPE (BF) water main in the nearside pavement of Kingsclere Avenue, this has a 3" spur CI (cast iron) water main running towards the site along the south-western entrance. To the east there is a 6" CI running on the nearside pavement of Dunsbury Way.
- 2.3.2. Portsmouth Water has advised that they are unable to provide budget costs therefore an estimation of the cost of connection has been made based on previous projects. It is anticipated that the individual service connections costs will be broken down as follows; £24 / unit for the meter and £347 / unit for the infrastructure with a £53.89 / unit building purposes charge. This takes the likely total cost for the individual connections for this development to £425 per dwelling, based on 38 new residential dwellings a cost of circa £16,150 is anticipated. Please note that this does not include for a communications pipe, the price of which will vary depending on the project but was approximately £4,000 for a recent project therefore this has currently been assumed for the purpose of a budget indication.
- 2.3.3. A mains water extension application has not yet been carried out, However Portsmouth water have recommended that an application be put in at a cost of £300 / site.
- 2.3.4. It has been assumed that water meters will be located in the communal footpaths external to each property.
- 2.3.5. It is understood that there may be alteration works associated with this project and the proposed site entrance therefore diversionary works are anticipated.

2.4 Gas Supply Infrastructure

- 2.4.1. SGN is the gas providers in this area. Their records, included in **Appendix 5** indicate that there are accessible gas mains pipes located to the west and east of site. In the west there is a 90 PE gas main running in the farside pavement of Kingsclere Avenue, there is a 63 PE spur running along the north-western entrance and a 63 PE spur running along the south-western entrance. In the east there is a 63 PE and 8"CL running along the nearside pavement of Dunsbury Way.
- 2.4.2. It is understood that there may be alteration works associated with this project and the proposed site entrance therefore diversionary works are anticipated.
- 2.4.3. A new application has been lodged with SGN regarding the servicing of the new development; for the purpose of this utilities assessment individual gas boilers have been assumed for each unit with semi concealed external meters at ground floor level. SGN have yet to provide an estimate.
- 2.4.4. SGN have provided a budget quotation for the scheme which is also available in Appendix 5. They estimate that it will cost £24,000 for connections (including VAT) to serve the development.

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2.5 Electricity Supply Infrastructure

- 2.5.1. SSE's records, included in **Appendix 6**, indicate that there are both LV and HV cables around the site.
- 2.5.2. The LV network indicates an LV main to the west and east of site. In the west there is a .1x5C Wavecon running in the near and farside of Kingsclere Avenue; there are 2 spurs into the south-western site entrance. In the East there is a .15x4CAI running in the nearside of Dunsbury Way.
- 2.5.3. The HV network indicates there is accessible HV to the east of the site. There is a 11Kv .5x3C AI running in the nearside pavement of Dunsbury avenue, crossing to the farside pavement just before the footway entrance to site.
- 2.5.4. SSE have provided a budget quotation for the scheme (reference EEF057) which is also available in Appendix 6. They estimate that it will cost between £60,000 to £70,000 excluding VAT to serve the development
- 2.5.5. It should be noted that it has been assumed that the electrical meters will be located within each individual dwelling in accordance with SSE's standard requirements. Indicative meter locations were provided to SSE for the purpose of quotation which show these located near the front door of each dwelling.
- 2.5.6. It is understood that there may be alteration / diversionary works associated with this project.
- 2.5.7. The underground survey shown in **Appendix 3** shows some power cables in the south west corner of site, these are not on the SSE records and are assumed to be part of a private network

2.6 Telecommunications Infrastructure

- 2.6.1. BT Openreach's records, available in **Appendix 7**, indicate that there is an underground network to the east and west of site. In the west there is underground network in the nearside pavement running south, starting after the north-western entrance and crossing the south-western entrance. In the south east there is underground network entering site through the footpath, and running along the southern boundary of the site.
- 2.6.2. The underground survey shown in **Appendix 3** shows BT cables in the in the south east corner of site entering from the footpath, following the boundary of the site, and crossing off the site to the Riders Junior School.
- 2.6.3. Diversionary works may be required at the south-western and north-western entrances to site, as there is distribution points close the middle of the southern entrance and a distribution point close to the edge of the northern entrance. No diversions are anticipated in the eastern entrance.
- 2.6.4. Virgin indicated there is no plant in the vicinity.

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Section 3 – DRAINAGE

- 3.1.1. The purpose of this section is to assess the drainage network of the application site and to assess the potential impact any new structures will have on the drainage network. The assessment is based on all sources, taken from recorded and modelled data where known, in order to position the development in the context of *National Planning Policy Framework* (March 2012) and it's associated Planning Policy Guidance (PPG). Where new structures have increased the likelihood of flooding, modifications have been made to the drainage network to ensure site outflow has not increased.
- 3.1.2. All recommendations are made with the benefit of a detailed Ground Investigation report identifying sand with ground water being struck at between 1.80 and 2.00m below ground level.
- 3.1.3. The application site is a greenfield site and has had no previous development.

3.2 Drainage Infrastructure

- 3.2.1. Southern Water are the sewerage undertaker for the area and their mapping records can be found in **Appendix 8**, There are no foul water sewers running through site, the records show a 225 VC foul water sewer running down Kingsclere Avenue, passing the north east entrance on the farside pavement and the south east entrance on the nearside pavement.
- 3.2.2. Southern Water are the surface water undertaker for the area and there mapping records can be found in **Appendix 8**, There are no surface water drains running through site, the records show a 225 VC surface water drain running down Kingsclere avenue, starting at north-east site entrance and passing through the nearside pavement of the south-east entrance.

3.3 Existing Drainage Regime

- 3.3.1. The current site has a Greenfield run-off rate of **2.8l/s** for a 1/1 year event, **7.4l/s** for a 1/30 year event and **10.4l/s** for a 1/100 year event.
- 3.3.2. The site's outflow will be limited to 5 l/s to reduce the impact of surface water run-off on neighbouring sites.

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Figure 1 - Existing Site

3.4 Proposed Surface Water Drainage Strategy

- 3.4.1. It is proposed that 1800m² of permeable pavement be built in place of the road and parking area as highlighted in Figure 2. Should any of the access roads be offered for adoption the permeable paving can be repositioned to the private drives/courtyards.
- 3.4.2. This will store the sites stormwater run-off and allow a controlled outflow of 5 l/s without the risk of flooding on site or in neighbouring areas.

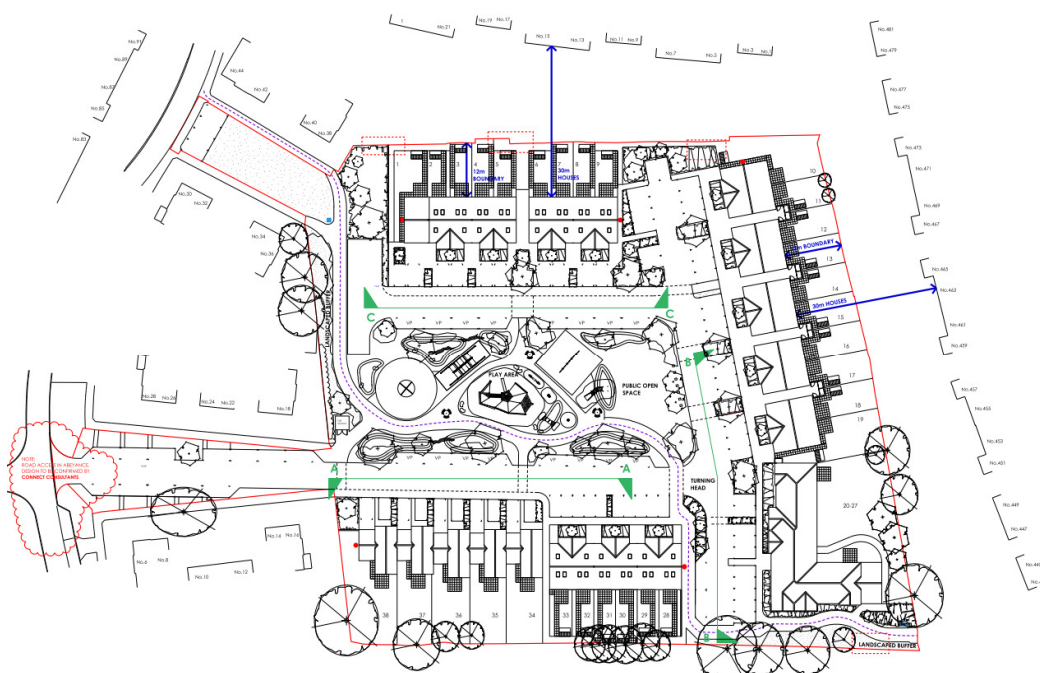


Figure 2 - Proposed Permeable Pavement

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Section 4 – CONCLUSIONS & RECOMMENDATIONS

- 4.1.1. This report has confirmed that all the major utility operators have infrastructure in close proximity to the proposed development; all of the major utility companies have provided budget quotations for serving the proposed development which are summarised below:

SSE – Electricity	£60,000.00 to £70,000.00
Portsmouth Water - Potable Water	£20,150.00
Southern water – Foul and Surface Water	TBC
SGN – Gas	£24,000

- 4.1.2. It has been noted that the majority of utility companies have existing infrastructure routed either within the highway or nearside pavement of Kingsclere Avenue, adjacent to the proposed site. As described previously it is understood that two vehicular entrances are being created as part of this scheme therefore based on this assumption we anticipate some diversions / alterations may be required.
- 4.1.3. Several assumptions were made on meter location for the applications, water meters located in communal pavement, electrical meters located inside each dwelling near the front door, gas meters located in semi concealed boxes on the external wall of each dwelling.
- 4.1.4. A load assessment shown in **Appendix 9** was created to estimate the gas, electrical and water requirements of the site. It was assumed that each dwelling has gas boilers and heating, and that the landlord provided for the flats communal lighting, 2no. Electrical car parking points as per 10% of total car parking spaces and external lighting for the roads and parking areas.
- 4.1.5. **Water Summary**
The site benefits from a 3" cast iron main laid to the boundary of the site from Kingsclere Avenue. There is also a 125mm MDPE pipe, also within Kingsclere Avenue, that could service the development within the proposed road at the north west of the site.
- 4.1.6. **Gas Summary**
The site benefits from gas mains laid to both the north west and west of the land, that would be able to serve the development. Furthermore, there is a gas main within Dunsbury Way that could serve the site via the proposed footpath in the south eastern corner, should the mains within Kingsclere Avenue not have sufficient capacity.
- 4.1.7. **Electric Summary**
The site benefits from LV cables within both Kingsclere Avenue and Dunsbury Way, that should be able to serve the development. Minor diversion of the existing mains is likely when forming the two new road access points.

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4.1.8. BT Summary

The site benefits from existing plant within both Kingsclere Avenue and Dunsbury Way that shall be able to serve the development. An overhead line is situated in the south east corner that should not require any diversions.

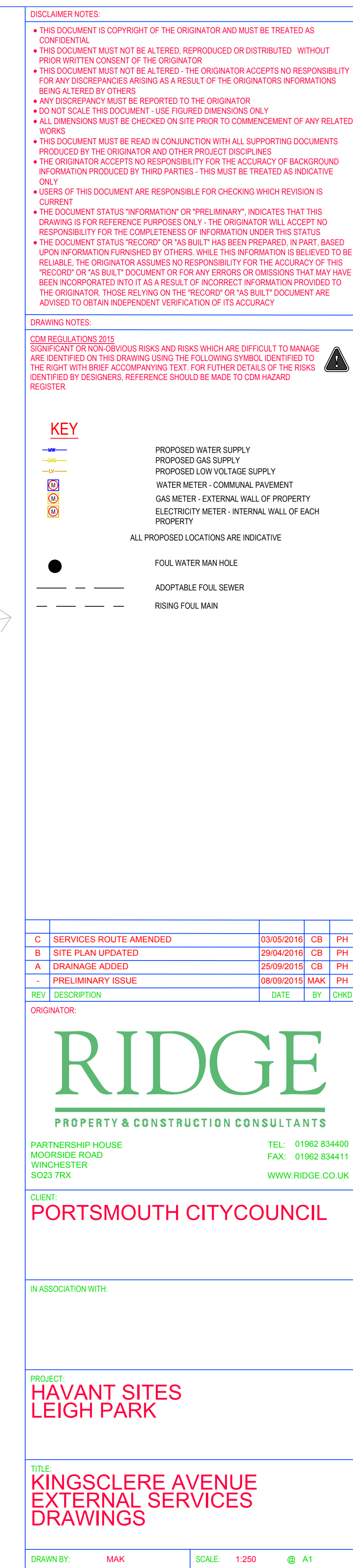
4.1.9. Foul Water Strategy Summary

Base upon the existing levels, the entire site should drain by gravity into the existing 225mm within Kingsclere Avenue, which should have sufficient capacity. There is also the option of draining into the existing sewer in Dunsbury Way, if necessary.

4.1.10. Surface Water Strategy Summary

The site benefits from an existing surface water main in both Kingsclere Avenue and Dunsbury Way, sized at 225mm and 450mm diameter respectively. However, in accordance with Sewers for Adoption 7th Edition, alternative methods of draining the site will be investigated e.g. soakaways in the first instance.

Appendix 1 – Proposed Site Plan



ORIGINATOR:

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IN ASSOCIATION WITH:

TITLE:
KINGSLERE AVENUE
EXTERNAL SERVICES
DRAWINGS

STATUS: **PRELIMINARY**

Appendix 2 - Linesearch

Enquirer

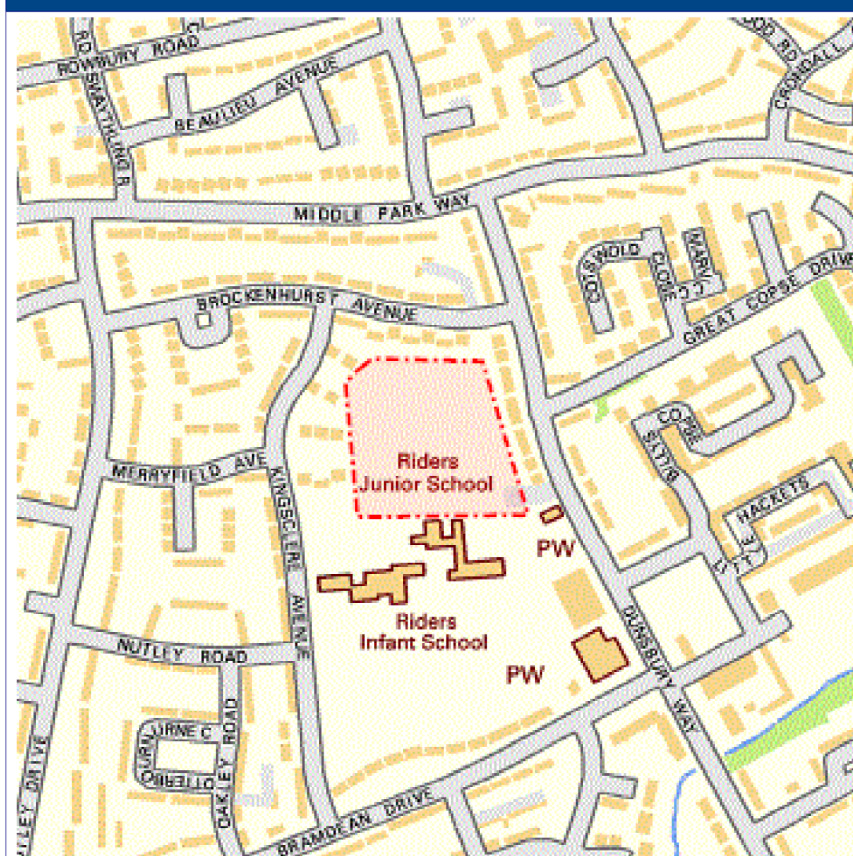
Name	Mr Kyle Gray	Phone	01962 834405
Company	Ridge & Partners	Mobile	Not Supplied
		Fax	Not Supplied
Address	Partnership House Moorside Road Winchester Hampshire SO23 7RX		
Email	kgray@ridge.co.uk		
Notes	Please ensure your contact details are correct and up to date on the system in case the Asset Owners need to contact you. Where Asset Owners charge for plans they have been requested to send you a quote before proceeding.		

Enquiry Details

Scheme/Reference	S15-0435-1004		
Enquiry type	Initial Enquiry	Work category	Development Projects
Start date	01/06/2015	Work type	Housing
End date	01/08/2015	Site size	16605 metres square
Searched location	PO94NS	Work type buffer*	25 metres
Confirmed location	471062 108439		

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

Site Map



Asset Owners

Subject always to our standard terms and conditions, this enquiry result is valid for 28 days only from the date of enquiry and is based on the confirmed information you entered. If the location of the work changes then a further enquiry must be made. Should the work not be undertaken within 28 days of the enquiry then a further enquiry must be made.

Where applicable listed below are those registered Asset Owners who have been notified, those to whom you need to send further information and those who have no apparatus within your search area. In addition your response will include other non-registered Asset Owners contact details who have NOT been notified, which may be of interest to you.

Please be aware that the lists below are not exhaustive and that not all Asset Owners are registered with this service. In particular please note that the LineasearchbeforeUdig system 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

If you are required to email additional info please note that we need the following:

Site contact name and number, Location plan, Detailed plan (minimum scale 1:2500), Cross sectional drawings (if available), Work Specification.

Asset Owners who DO have assets near your proposed work site.

In the Zone of Interest

No LineasearchbeforeUdig Asset Owners within the Zone of Interest

LineasearchbeforeUdig Asset Owners who DO NOT have assets in the immediate vicinity of your proposed work site.

Not in the Zone of Interest

AWE Pipeline	FibreSpeed Limited	Oikos Storage Limited
BOC Limited (A Member of the Linde Group)	Gamma	Perenco UK Limited (Purbeck Southampton Pipeline)
BP Midstream Pipelines	Government Pipelines & Storage System	Phillips 66
BPA	Humbly Grove Energy	Premier Transmission Ltd (SNIP)
Carrington Gas Pipeline	HV Cables	RWEpower (Little Barford and South Haven)
Centrica Energy	IGas Energy	SABIC UK Petrochemicals
Centrica Storage Ltd	Ineos Enterprises Limited	Scottish Power Generation
ConocoPhillips (UK) Ltd	INEOS Manufacturing (Scotland and TSEP)	Seabank Power Ltd
Coryton Energy Co Ltd (Gas Pipeline)	Lark Energy	Shell Pipelines
CSP Fibre c/o Centara	Lightsource SPV Limited	Total (Finaline, Colnbrook & Colwick Pipelines)
EirGrid	Mainline Pipelines Limited	Transmission Capital
Electricity North West Limited	Manchester Jetline Limited	Vattenfall
E-on UK Plc (Gas Pipelines Only)	Marchwood Power Ltd (Gas Pipeline)	Western Power Distribution
ESP Utilities Group	National Grid Gas (above 2 bar) and National Grid Electricity Transmission	Wingas Storage UK Ltd
ESSAR	Northumbrian Water Group	Zayo Group UK Ltd c/o JSM Group Ltd
Esso Petroleum Company Limited	NPower CHP Pipelines	

The following Asset Owners are NOT currently members of LineSearchbeforeUdig, however you should contact them before proceeding. Please be aware that this list is not exhaustive and that **IT IS YOUR RESPONSIBILITY TO IDENTIFY AND CONTACT ALL ASSET OWNERS WITHIN YOUR SEARCH AREA.**

Not Notified			
Asset Owner	Preferred contact method	Phone	Status
BskyB Telecommunications	nrswa@bskyb.com	02070323234	Not Notified
BT	https://www.swns.bt.com/pls/mbe/welcome.home	08009173993	Not Notified
Colt	plantenquiries@catelecomuk.com	01227768427	Not Notified
Energetics Electricity	plantenquiries@energetics-uk.com	01698404646	Not Notified
Fulcrum	FPLplantprotection@fulcrum.co.uk	03330146455	Not Notified
GTC	https://pe.gtc-uk.co.uk/PlantEnqMembership	01359240363	Not Notified
Instalcom	plantenquiries@instalcom.co.uk	02087314613	Not Notified
Interoute	interoute.enquiries@plancast.co.uk	02070259000	Not Notified
Portsmouth Water	m.white@portsmouthwater.co.uk	02392449082	Not Notified
Scottish and Southern Energy	mapping.services@sse.com	01256337294	Not Notified
Southern Gas Networks	plantlocation@sgn.co.uk	01414184093	Not Notified
Southern Water	searches@southernwater.co.uk	08452700212	Not Notified
Tata, KPN (c/- McNicholas)	plantenquiries@mcnicholas.co.uk	03300558469	Not Notified
Verizon Business	osp-team@uk.verizonbusiness.com	01293611736	Not Notified
Virgin Media	http://www.digdat.co.uk	08708883116	Not Notified
Vodafone	osm.enquiries@atkinsglobal.com	01454662881	Not Notified
Vtesse Networks	https://vtplant.vtesse.com	01992532100	Not Notified

Disclaimer

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