

SERVICES TECHNICAL NOTE 2 SEPTEMBER 2021



ALINGTON ESTATE, LITTLE BARFORD

60830

1. INTRODUCTION

- 1.1. Richard Jackson Ltd has been instructed by The Executors of the late Nigel Alington to undertake a Services Appraisal of the existing utilities to support a development site in Little Barford. The following technical note is provided by way of clarification in relation to existing services and constraints for the development of land at Little Barford.
- 1.2. This technical note should be read in conjunction with the forms and associated information in relation to the "new settlement and parish growth options" (Growth and Spatial Strategy Options 2b, 2c and 2d of the Bedford Borough Local Plan 2040 Draft Plan Strategy Options and Draft Policies Consideration, June 2021) in respect of the Alington Estate.

2. EXISTING UTILITIES

2.1. To enable an assessment into existing mains utilities apparatus located on and around the immediate vicinity of the site, mains records plans were collated from the client and service company relevant service records. The table below provides a summary of the responses received from the company's data provided:

Table 2.1 - Existing Service Providers

Company	Plant Present	Plant Affected			
Main Services					
National Grid (Gas)	Yes	Yes			
Cadent Gas Ltd	Yes	yes			
National Grid (Electric)	Yes	Yes			
UK Power Networks	Yes	Yes			
Anglian Water (Foul)	Yes	Yes			
Anglian Water (Potable)	Yes	Yes			
ВТ	Yes	Yes			
	Cable Searches				
Vodafone	Yes	Yes			
Virgin Media	Yes	Yes			
BSkyB	No	No			
Colt	No	No			
CityFibre	No	No			
Instalcom	Yes	Yes			
Verizon	No	No			
Independent utilities					
GTC	Yes	No			
Last Mile	No	No			
Energy Assets	No	No			
Other					
Coal Authority Report	No	No			
CLH	Yes	Yes			
DIO	No	No			
RWE Power	Yes	Yes			



2.2. To identify the main services, a brief description of each company's apparatus is indicated below. Note the records plans obtained from the service companies typically show approximate routes of mains only, not service cables, ducts or pipes, or private services which are unrecorded and appropriate precautions to identify utility infrastructure should always be undertaken prior to any excavating operations. Where appropriate the relevant easements or exclusion zones for the apparatus is mentioned as outlined by the service provider or other regulatory body. The existing services apparatus has been transferred to a set of drawings 60830-PP-100A, 101A, 102, 103 and 104.

National Grid Gas

- 2.3. The national mains gas distribution network is operated by National Grid. National Grid mains records provided, indicate that in the immediate vicinity of the sites there is a gas distribution network.
- 2.4. A National High Pressure (NHP) network of 450mm diameter infrastructure, is present across the site and starts to enter the northern boundary at approximately 20m east of eastern carriageway edge of Barford Road and travels through the landscaping trees, heading southwest. After approximately 180m the gas main begins to travel in a southerly direction, heading in a line towards the track that passes under the railway line.
- 2.5. The NHP gas main changes direction just before reaching the track (which is between Barford Road and Top Farm, via the railway underpass) to head in a south westerly direction once again, almost parallel with the overhead power cables on average 65m offset to the northwest of the power cables.
- 2.6. Once the gas main has travelled approximately 665m, the route diverts towards Barford Road slightly for a further 450m to a point which is about 80m to the east of Barford Road. At this point the gas main turns almost 90 degrees and travels in a northwest direction and crosses Barford Road about 120m south of Glebe Farm.
- 2.7. After crossing the Barford Road, the gas main travels around the northern side of an area of trees, parallel with their northern boundary and then across the southern boundary of the site.
- 2.8. The main is known as the 'St Neots Little Barford PS Feeder 18' main.
- 2.9. Please note that the network plans don't outline private connections, and therefore existing private connections could be present within the site boundary. No ground should be broken until any additional private connection gas mains have been identified within the site boundary.
- 2.10. As this main is a NHP main and is classed as a Major Hazard installation, there is a Health and Safety Executive (HSE) Consultation Distance associated with the pipe. This is discussed later in this report.

Cadent Gas Ltd

2.11. The local mains gas distribution network is operated by Cadent Gas Ltd. Cadent Gas Ltd mains records, indicate that in the immediate vicinity of the site there is a gas distribution network.



- 2.12. A Local High Pressure (LHP) network of 324mm diameter SI infrastructure, is present to the eastern side of the railway embankment along the length from the north boundary of the site to the southern boundary, known locally as the 'Girtford-Horsey Lock' main.
- 2.13. The position of the main is approximately 1.9m to 3.5m away from the base of the railway embankment and where it passes the track which travels under the railway, the main is approximately 2.5m from the eastern side of the embankment / structure.
- 2.14. It is possible that this high pressure gas main, should it require diversion, may be classed as a Nationally Significant Infrastructure Project (NSIP), in its own right and as such might fall under Section 20 of the Planning Act 2008 for any diversion works.
- 2.15. Please note that the network plans don't outline private connections, and therefore existing private connections could be present within the site boundary. No ground should be broken until any additional private connection gas mains have been identified within the site boundary.

National Grid Electricity Transmission plc

- 2.16. The existing National electrical distribution network is operated by National Grid Electricity Transmission plc. Mains records plans provided, indicate that National UK Power Networks has electrical plant in the vicinity of the site.
- 2.17. The main power cables known as Electricity Transmission Lines are situated towards the south west of the site, between the River Great Ouse and the junction of the southern site boundary and Barford Road. The power lines are understood to be 400kV overhead cables on pylons. Details of the exclusion zones and easements are indicated later in this report.

UK Power Networks

- 2.18. The existing local electrical distribution network is operated by Eastern Power Networks Plc, trading as UK Power Networks. Mains records plans provided, indicate that UK Power Networks has electrical plant in the vicinity of the site.
- 2.19. There are a number of electric cables that traverse the site. There are too many to determine the precise location of all the routes in text format in this report and thus consideration is given to the major routes and all services where known are indicated on the drawings.
- 2.20. It is to be noted that there are some works being carried out on the 132kV overhead cables on the west side of Barford Road just south of the power station at the time of writing this report in September 2021. These works may need further investigation to ensure the records are correct at a later date once they are complete.

Electric infrastructure to the West of the Railway line

2.21. The largest electricity infrastructure on the site operated by UK Power Networks is the 132kV overhead power lines. These enter the site about 100m south of the northern boundary on the western boundary and travel in a south easterly direction and are easily identifiable by the pylons which carry them. Once they cross Barford Road, the cables continue until they reach about 50m west of the railway line where they turn 90 degrees and travel south, staying almost parallel with the railway line, but veering slightly southwest, to the southern boundary at an offset of about 475m west of the railway line.



Other Electric infrastructure

- 2.22. There are a number of electrical cables across the site and these are indicate on the services drawings. In the main they are overhead 11kV cables.
- 2.23. Please note, private connections are not shown on the UKPN existing data, and therefore, existing cables may be present across the site. Before works begin, the area should be examined in order to identify if any live electric cables are present within the site boundary. Overall, no work must take place until the exact position of any potential infrastructure within the site boundary has been identified and further, all health and safety measures must be examined, implemented and obeyed at all times for all works.

Anglian Water (Potable)

- 2.24. Anglian Water potable water mains records are provided, which indicate that Anglian Water has existing infrastructure close to and within the site boundary. There are two water mains in and adjacent to Barford Road at the location of the roundabout near the RWE Power Station.
- 2.25. The first main which is a 3inch or 75mm diameter is located on the western side of Barford Road next to the western carriageway edge. This travels down the western edge of the carriageway past Lower Farm and New Manor House, until just south of building/dwelling called South Close on the eastern side of Barford Road, where the water main crosses from the western side of Barford Road to the eastern side, to combine with the 5inch AC main on the eastern side of Barford Road.
- 2.26. The 5inch AC water main begins to enter the site at the northern end near the RWE power station roundabout. The main travels on the western side of Barford Road and then crosses to the eastern verge of Barford Road approximately 60m south of the RWE roundabout. Once on the eastern side of Barford Road it travels south for approximately 320m where it diverges in a south easterly direction behind the 8 farm cottages. The water main remains at an offset of approximately 40m to 45m east and parallel with Barford Road, flowing to the east of numbers 1 to 4 The Bungalows, until it almost reaches the building /dwelling North Close where it travels in a south westerly direction to re-join the Barford Road eastern verge.
- 2.27. Once the 5inch AC main enters the eastern verge of Barford Road and travels across the frontage of the buildings / dwellings North Close and South Close, the water main joins with the 75mm main as mentioned already and then the 5inch AC continues south, offset approximately 8m to 10m to the east of the Barford Road eastern verge to Glebe farm, where the main re-joins the eastern verge of Barford Road once more. Once the water main has travelled across the frontage of Glebe Farm, it remains in the eastern verge of Barford Road until it reaches The Barns, which is south of the site boundary.
- 2.28. It is noted that there appears to be no Anglian Water potable mains that travel to Top Farm. We are unaware if Top Farm is served by a water main or a borehole or alike. This comment can also be referred to the Dower House which is on the western part of the site near to St Denys's Church. Consideration to private connections and water mains not shown on the Anglian Water records will need to be considered prior to any breaking of ground in the vicinity of these properties or any construction works.

Anglian Water (Sewers)

- 2.29. Anglian Water sewer records, provided, indicate that Anglian Water has assets within the site boundary.
- 2.30. An existing Anglian Water foul water network is located mainly along the route of Barford Road within the site boundary and very little elsewhere within the extent of the request for apparatus.



- 2.31. The foul sewerage network begins on Barford Road near the building/dwelling North Close (some 200m south of New Manor House) and flows northwards in Barford Road past The Bungalows, until it reaches the northern side of Lower Farm, which is on the western side of Barford Road. At this point the sewerage turns 90 degrees west and then traverses in a northerly direction across Lower Farm towards the Anglian Water pumping station and sewage works plant on the northern edge of Lower Farm.
- 2.32. There is also additional foul sewerage in Barford Road outside the eight Cottages diagonally opposite Lower Farm on the eastern side of Barford Road. These sewers flow to a point outside number 8 The Cottages, which then flow west towards the Anglian Water pumping station and Water Recycling Centre (WRC {sewage works}) on the northern edge of Lower Farm. It is noted that there will be a Cordon Sanitaire associated with this WRC, which is understood to be 40m.
- 2.33. All sewers are indicated as 150mm diameter.
- 2.34. It is noted that there appears to be no Anglian Water sewers that travel to Top Farm. We are unaware if Top Farm is served by its own sewerage system or alike. This comment can also be referred to the Dower House which is on the western part of the site near to St Denys's Church. Consideration to private connections and sewerage system not shown on the Anglian Water records will need to be considered prior to any breaking of ground in the vicinity of these properties or any construction works.

BT

- 2.35. BT mains records, provided, indicate that telecoms apparatus is present in the vicinity of the site.
- 2.36. At the northern end of the site, there is BT apparatus in the western verge of Barford Road, which connect to the buried cables just south of the RWE power station. These cables travel south to the southern side of The Cottages. At this point a cable travels east along the track leading towards the railway underpass where there is a junction box on the western side of the railway line. Once under the railway line, the route continues as a buried cable along the track to Top Farm, where is terminates.
- 2.37. The BT cable on Barford Road, just north of Lower Farm, continues south on the western side of Barford Road, to a kiosk opposite number one The Bungalows. At this point the cable is lifted onto poles and travels across Barford Road onto the east side for a distance of 75m.
- 2.38. The cables from the kiosk also travel into North Lodge and onto New Manor House, where they terminate for the farm buildings. From the kiosk the cables also continue south on poles on the western side of Barford Road travelling south remaining on the western side of Barford Road until they reach Glebe Farm where the overhead cable crosses Barford Road to connect with Glebe Farm.
- 2.39. An additional underground cable also travels from a point approximately 200m south of the kiosk referenced above, on the western side of Barford Road to the north west towards Dower House and the beyond to the north west boundary of Dower House, where it terminates.
- 2.40. There are no other BT cables identified with the site boundary.

Vodafone

2.41. Assessing the Vodafone record plans there are two services which travel the length of the site alongside Barford Road. There is one service which is a leased underground route and this travels in the western verge of Barford Road and travels from the RWE power station roundabout to the southern boundary of the site and beyond. At times the cable travels in the verge and also in the carriageway of Barford Road.



- 2.42. There is also an underground cable route which travels in the eastern verge of Barford Road with a varying position, sometimes in the verge and sometimes in the carriageway but mainly on the eastern side of Barford Road. The route is owned by Vodafone.
- 2.43. There are occasional access chambers on the two routes for ease of cable inspection.

Virgin Media

- 2.44. Assessing the Virgin Media record plans there appears to be one service which travels the length of the site alongside Barford Road. This cable is in the eastern verge of Barford Road and travels from the RWE power station roundabout to the southern boundary of the site and beyond. At times the cable travels in the verge and also in the carriageway of Barford Road.
- 2.45. There are occasional access chambers on the route for ease of cable inspection.

Instalcom

- 2.46. An assessment of the existing records for cables owned by Instalcom has been considered.
- 2.47. The records indicated that Instalcom maintain a rail cable which travels on the western side of the railway line, however the records are quite unclear and the exact location would need to verified by trial holes and careful excavation to determine the whereabouts and depth of the cable.

GTC

- 2.48. GTC existing network data has shown apparatus located to the north of the existing A428 for the proposed development of Wintringham Park and also in Fern Close which is to the west of the supermarket at the junction of the existing A428 and Barford Road. Whilst there are services present in these locations, they are unlikely to affect the current site boundary or offsite works.
- 2.49. Overall, this network is unlikely to be affected by the proposed development.

Coal Authority Report

2.50. A search of the local area for presence of coal mining activity has been completed using the Cartosys online system through The Coal Authority's website. The assessment indicates that the site is not affected by local coal mining activity and located off coalfields and is not within the Cheshire Brine Compensation District.

CLH Pipeline

- 2.51. Contact has been made with CLH PS who operate and maintain oil pipelines. The response has indicated that there is apparatus just to the south of this site which is parallel with the 400kV overhead power lines and its route follows an approximate line from Rectory Farm to Barford Road. The oil pipeline crosses Barford Road at a point approximately 366m south of Glebe Farm and approximately 304m north of The Barns on Barford Road.
- 2.52. It is understood that the oil pipeline is no longer in use but the apparatus is still insitu.



Defence Infrastructure Organisation

2.53. The Defence infrastructure Organisation (DIO) are responsible for the significant oil pipelines and alike which support the Ministry of Defence. The DIO have confirmed that they do not have any infrastructure or Government Pipeline Storage System (GPSS) within the vicinity of the site.

RWE Generation UK Assets

- 2.54. Contact has been made with agents for the management of the assets owned by the RWE Generation company. The services data that has been supplied provides information indicating that there is an oil pipeline which travels across the site.
- 2.55. The response has indicated that there is apparatus just to the south of this site which is parallel with the 400kV overhead power lines and its route follows an approximate line from Rectory Farm to Barford Road, which is maintained by CLH Pipelines and crosses Barford Road at a point approximately 366m south of Glebe Farm and approximately 304m north of The Barns on Barford Road. It is at this point that the infrastructure maintained and owned by the RWE Generation company begins and travels in a generally northerly direction on the east side of Barford Road.
- 2.56. The oil pipeline travels to the RWE power station, from Barford Road and its route is indicated on the services drawings.
- 2.57. As mentioned, the owners of the pipeline are believed to be RWE Generation Ltd and we have contacted their agents regarding easements and exclusion zones for working and building near to this main, which are set out below.

Miscellaneous

2.58. The remainder of utilities that were searched and not found to have any services are listed below. Although no public or mains records have been provided, it is possible that there may be private connections which have not been highlighted to us. Prior to the breaking of ground, onsite assessments should be carried out, in order to ensure health and safety and not to damage existing networks. Companies also searched by with no records:

Utility Company	Apparatus
GTT	No
KPN	No
Sota	No
CGI Logica	No
SSE Telecom	No
Telia Sonera	No
KCom	No
Trafficmaster	No
Zayo Group	No
Tata Communications	No
Gamma	No
Gigaclear PLC	No
SSE	No
Harlaxton	No
Albion Water	No
ESP	No
Fulcrum Pipelines	No
ENGIE	No
Leep Utilities	No



- 3. EASEMENTS AND CONSTRAINTS
- 3.1. To collate the appropriate easements and constraints relating to the service companies' apparatus, we have presented Table 3.1.

Table 3.1 - Easements and Constraints

Utility Company	Apparatus	Easement/Constraint
National Grid (Gas)	450mm diameter NHP	Main has a Building proximity Distance of 12m on both sides of the main, a total of 24m. The main is also subject to a HSE Consultation zone as the main is a Major Hazard Installation. The Inner Zone width is understood to be approximately 38m both sides of the main which is a total of 76m. For guidance on the HSE zones, see the 'HSE's Land Use Planning Methodology' document for land uses applicable to the proximity of the main.
		The HSE zone width of 76m is taken from the Cadent Gas records.
		This may fall under the title of a Nationally Significant Infrastructure Projects (NSIP) and subsequently Section 20 of the Planning act 2008.
Cadent Ltd (Gas)	324mm diameter LHP	Main has a Building Proximity Distance of 14.3m on both sides of the main, a total of 28.6m. It is understood that there is no HSE consultation zone on this main. This may fall under the title of a Nationally Significant Infrastructure Projects (NSIP) and
		subsequently Section 20 of the Planning act 2008.
National Grid (Power Lines)	400kV overhead cables	Overhead cables have safety clearances and these will be to National Grid's specification. The correct working width for all scenarios and each case must be risk assessed accordingly. Additional clearance for work next to pylons can be up to 30m in some instances.



Table 3.1 - Easements and Constraints (Cont.)

T <u>able 3.1 – Easem</u> e	ents and Constrair	
UK Power Networks	Various overhead and underground cables	Overhead cables have safety clearances and these will be to UK Power Networks specification. In summary these are: Low-voltage - 1m 11kV and 33kV lines - 3m 132kV line - 6m 275kV and 400kV lines - 7m The above are not necessary the correct working width for all scenarios and each case must be risk assessed accordingly. In relation to the 132kV cables UK Power Networks have indicated the following will apply: Horizontal clearance 10.0m Passage clearance 2.4m Working clearance min 3.5m. Platforms and Buildings min 4.8m. Where data conflicts, take the larger value. Additional clearance for work next to pylons can be up to 30m in some instances.
Anglian Water (Potable Water)	Varying water main diameters of 75mm to 5inch	No specific distances are normally specified and these will need to be checked with the Water Authority at the time of diversion or construction.
Anglian Water (Foul Water/sewers)	150mm diameter foul sewers	Foul sewers historically have had 3m easements either side of the pipe. Future proximity of buildings would need to be in accordance with the Sector Sewerage Guidance 2020, which will dictate the easement dependent upon depth of the sewer. The WRC is likely to have a 40m Cordon sanitaire.
CLH Pipeline	Oil pipeline	Data from CLH identify that the easement width on the oil pipeline is 6m in total. No development will be allowed within this zone. Whilst outside the 3m either side of the pipeline, activities such as piling should be risk assessed before proceeding with the operator.
RWE pipeline	Oil Pipeline	The pipeline is believed to be 8inch in diameter and that easements and building proximity will be similar to those for the CLH pipeline.

3.2. Consultation is always advised with the appropriate operator prior to any excavations or works.



- 4. SUMMARY AND CONCLUSION
- 4.1. This technical note has been produced to understand the constraints on the site and necessary easements to the current services infrastructure.
- 4.2. The details of the current services records which are indicated on the drawings 60830-PP-100A, 101A, 102, 103 and 104, show where the services are located and these can be used to identify site constraints and opportunities. The drawings show that there is sufficient space between the existing services to allow potential for development.
- 5. LIMITATIONS
- 5.1. No evidence of other utility apparatus has been provided by our searches. Note that the records plans obtained from the utility companies typically show approximate routes of mains apparatus only, not service cables, ducts, or pipes, which are unrecorded. This assessment also does not rule out the potential for further private services to exist and usual searches and precautions should be undertaken when carrying out any excavation or probing work. Therefore, a check must be undertaken when carrying out any work beneath the ground, prior to any excavation taking place.

on behalf of Richard Jackson Ltd









