

# **BELLWAY HOMES LIMITED (NORTH LONDON)**

**CAMPUS PARK EAST, WELWYN GARDEN CITY** 

**UTILITIES AND SERVICING STATEMENT - FINAL** 

REPORT REF. 2007511-08

**November 2022** 

**HEAD OFFICE**: 3rd Floor, The Hallmark Building, 52-56 Leadenhall Street, London, EC3M 5JE **T** | 020 7680 4088

EDINBURGH: Suite 35 4-5 Lochside Way Edinburgh EH12 9DT T | 0131 516 8111

ESSEX: 1 - 2 Crescent Court, Billericay, Essex, CM12 9AQ T | 01277 657 677

KENT: Suite 10, Building 40, Churchill Business Centre, Kings Hill, Kent, ME19 4YU T | 01732 752 155

MIDLANDS: Office 3, The Garage Studios, 41-43 St Mary's Gate, Nottingham, NG1 1PU T | 0115 697 0940

SOUTH WEST: City Point, Temple Gate, Bristol, BS1 6PL T | 0117 456 4994

SUFFOLK: Suffolk Enterprise Centre, 44 Felaw Street, Ipswich, IP2 8SJ T | 01473 407 321

Email: enquiries@ardent-ce.co.uk

Co	ntents
	Page
1.	EXECUTIVE SUMMARY1
2.	Introduction4
3.	BASELINE PARAMETERS5
4.	DEVELOPMENT PROPOSALS
5.	UTILITY SERVICE PROVISION9
6.	ELECTRICITY12
7.	GAS SUPPLY14
8.	POTABLE WATER15
9.	SURFACE AND FOUL WATER DRAINAGE
10.	TELECOMS19
Аp	pendices
Ap	pendix A - Topographical Survey
Аp	pendix B - Proposed Site Layout
Аp	pendix C - Line Search Before You Dig (LSBUD)
Аp	pendix D - Non-Affected Members of LSBUD
	pendix E - App E - WYG Utility Tracing Survey and Draincare TV Survey

**Appendix G - Cadent Gas Asset Plans** 

**Appendix H - Affinity Water Asset Plans and Correspondence** 

**Appendix I – Thames Water Asset Plans and Correspondence** 

**Appendix J - BT Asset Plans** 

# **Figures**

Figure 3-1: Site Location Plan

Figure 4-1: Proposed Development Layout

Figure 5-1: List of Potentially Affected LSBUD Members

Figure 5-2: List of Non-affected LSBUD Members

Figure 5-3: List of Non-LSBUD Members

Figure 6-1: Extract of UK Power Networks Asset Mapping

Figure 7-1: Extract of Cadent Gas Asset Mapping

Figure 8-1: Extract of Affinity Water Asset Mapping

Figure 9-1: Extract of Thames Water Asset Mapping

Figure 10-1: Extract of BT Openreach Asset Mapping

#### **Tables**

Table 1-1: Summary of Findings

Table 5-1 Approximate Utility Demand

## **Document Control Sheet**

REV	ISSUE PURPOSE	AUTHOR	CHECKED	APPROVED	DATE
-	DRAFT	BNW	GH	-	October 2022
-	FINAL	BNW	EF	GH	November 2022

#### **Distribution**

This report has been prepared for the exclusive use of BELLWAY HOMES LIMITED (NORTH LONDON). It should not be reproduced in whole or in part, or relied upon by third parties, without the express written authority of Ardent Consulting Engineers.

#### 1. EXECUTIVE SUMMARY

- 1.1. This Utilities and Servicing Statement has been prepared to identify statutory utility constraints and connection strategies associated with the proposed development including the erection of five buildings to provide 313 residential units (Use Class C3) including 30% affordable housing, resident's car parking, cycle storage, refuse storage, hard and soft landscaping, external lighting, drainage, infrastructure and all associated works, at land off College Way, Campus East Car Park, Welwyn Garden City, Hertfordshire, AL8 6AB (hereafter referred to as the 'site').
- 1.2. This study also seeks to investigate the scope of any diversionary works and off-site utility reinforcement works required to facilitate the development, including preliminary budget costings for these works where appropriate. **Table 1-1** below summaries the findings of this report.

**Table 1-1: Summary of Findings** 

		Executive Summary
	On-site cables	A Low Voltage (LV) cable located in the mid-west corner of the site at the entrance to the existing car parking area.  WYG utility tracing survey shows the site is currently served by several LV / service cables (underground) located throughout.
	Off-site cables	There are LV cables located to the west and southwest of the site boundary, along College Way which join three substations, located at Peel Court, Waitrose & Partners and Welwyn Hatfield Borough Council grounds, with High Voltage (HV) cables linking to these.
Electricity	Constraints	As part of the re-development of the site, it is considered that LV / service cables within the site boundary which currently serve the car park will be disconnected and removed, the exception being the LV cables located in the mid-west corner of the site at the entrance to the existing car parking area which remain unchanged.  It is not anticipated that any electrical cable diversions will be required.
	Point of connection	Point of connection via a new high voltage ring main from the primary substation (Central Welwyn) located to the east of the site.  This includes laying a new HV cable to network rail land (approximately 620m), directional drilling under the railway line (subject to Network rail approval), and an additional 400m to get to the site boundary where it will supply 5 new transformers on site through customer installed ducting.
	Capacity	To be confirmed by network analysis as part of detailed application for a firm quotation.
	Budget Connection Cost	£1,400,000 (excl. VAT)

		Executive Summary		
	On-site mains	None identified within the site.		
	Off-site mains	The nearest Cadent Gas assets include a Low Pressure (LP) gas mains located in College Way to west of the site and in the residential area to the northwest and north of the site boundary.		
_	Constraints	It is not anticipated that any gas main diversions will be required.		
Gas	Point of connection	N/A		
	Capacity	N/A		
	Budget Connection Cost	N/A		
	On-site mains	None identified within the site.		
	Off-site mains	The nearest watermain asset is a 4" distribution main located approximately 20m to the west of the site along College Way.		
	Constraints	It is not anticipated that any water main diversions will be required.		
Water	Point of connection	To the existing 4" distribution main located approximately 20m to the west of the site along College Way.		
	Capacity	The existing network has sufficient capacity to serve the site.		
	Budget Connection Cost	New water mains supply - £34,770.00 (excl. VAT);		
		Infrastructure charge - £108,702.00 (excl. VAT);		
		Income offset Payment, applied as a discount (i.e., credit) against the infrastructure charge - £102,375.90 (excl. VAT);		
		Total cost £41,096.10 (excl. VAT)		
	On-site Sewers	There is a 225-300mm diameter surface water sewer running southwest across the site from the northeast corner to the southwest boundary.		
		There is also a 225mm diameter foul water sewer conveying flow southwest across the site from mid-way along the west boundary to the southwest corner of the site.		
Sewerage		WYG utility tracing survey and Draincare CCTV survey shows public surface and foul water sewers located within the site, along with private drains and foul water rising main proceeding northeast across the site to a private drain before joining TW foul water sewer midway along the west boundary.		
	Off-site Sewers	Adjacent to the west boundary of the site there is a 225mm surface water sewer located along College Way, as well as surface and foul water sewers located in the residential area to the north of the site.		

		Executive Summary
	Constraints	As part of the development of the site, both the surface and foul water sewers located with the site will need to be diverted. The surface water sewers to the carriageway of the proposed highways of the site, between manholes 0402 and 9207. Similarly, it is proposed to divert the 225mm diameter public foul water sewer around the north side of Block B2 and join into manhole 9302.  The proposed surface and foul water sewer diversions and have depths of no more than 4m, therefore the associated easement from centreline of sewer should be no less than 3m either side. Furthermore the proposed diversion will be subject to section 185 agreement with Thames Water.  The CCTV sewer survey shows a private surface water drain running south through the west extent of the site, which will need to be diverted to accommodate the proposal.  Furthermore, an allowance will need to be made for the Network Rail drains entering the Site from west boundary – this can be incorporated into the proposed diversionary works for the public sewers.
	Point of connection	Three surface water connections to proposed surface water sewer diversion within the east extent of site and one onto 300mm dia. surface water sewer upstream oh manhole 9205 on the south boundary of the site.  One foul water connection to the 225mm dia. foul water sewer within the western extent of the site, the connection will be made upstream of manhole 9204. A second foul water connection to the 225mm dia. foul water sewer located within the western extent of the site, the connection will be made at manhole 9203.
	Capacity	Pre-development enquiry from Thame Water has confirmed there is sufficient capacity in the adjacent public sewers to accommodate the proposed surface and flows water flows from the site. The pre development response confirms there is sufficient capacity to serve 307 units. Thames Water have been consulted to confirm there is sufficient capacity to accommodate the foul water flows from the additional 6 dwelling – a response is awaiting at the time of preparing this report.
	On-site cables	There is a below ground cables with associated junction boxes located within the west and south extent of the site, which progress east along the south boundary of the site and terminate at Network Rail Depot.
Telecoms	Off-site cables	BT have telecoms cables located in College Way to the west of the site.
		It is anticipated that the BT Assets located within the site will need to be diverted as part of the development proposals.
	Constraints	BT require a fee of £2,562.25 (incl. VAT) to produce a detailed estimate and specification of works for the potential diversion. A budget estimate has not been produced at the time of preparing this report.

### 2. Introduction

- 2.1. Ardent Consulting Engineers (ACE) has been instructed by Bellway Homes Limited to provide Utilities and Servicing advice in relation to the demolition of all existing buildings and structures followed by the erection of five buildings to provide 313 residential units (Use Class C3) including 30% affordable housing, resident's car parking, cycle storage, refuse storage, hard and soft landscaping, external lighting, drainage, infrastructure and all associated works at the site.
- 2.2. This report supports a detailed planning application to the local planning authority (Welwyn Hatfield Council) for redevelopment of the Site.
- 2.3. Capacity enquiries have been submitted to the relevant statutory utility providers.
- 2.4. The proposed development will utilise the existing access to the west of the site off College Way.
- 2.5. It should be noted that elements of this report have been produced on the basis of information received from relevant service companies and as such, ACE cannot accept responsibility for the accuracy of the information received.
- 2.6. The budget estimates received from the respective utility providers were based on previous iterations of the accommodation schedule which proposed 297 (307 for Thames Water) residential dwellings at the time submission of the respective enquiries. It is therefore not envisaged that an additional 16 (or 6 for Thames Water enquiry) dwellings will result in a significant change to the reported figures in this report, although this would need to be confirmed by the respective utility providers during the formal application process.
- 2.7. Copies of the correspondence received from Statutory Undertakers have been provided in the appendices of this report for further reference.

## 3. BASELINE PARAMETERS

# Site Location

- 3.1. The site is currently brownfield land used as a multi storey two level car park known as Campus East. A network Rail depot and train line lies to the east of the site. College Way, Waitrose & Partners shops and associated car parking is located to the south of the site. College Way, residential block of flats (Peel Court) and council building (WHBC) lie to the west of the site. Educational buildings (Oakland College) and associated car parking along with private residential properties are located to the north of the site. The site is located in the centre of Welwyn Garden City, where a mixture of residential, educational, commercial and industrial properties are the dominant land use for the wider landscape in the region around the site.
- 3.2. The site is currently accessed off College Way mid-way along the west boundary of the site, from The Campus (B195).
- 3.3. The area of the site is approximately 2.115ha and centred on a grid reference of 523998mE, 213303 mN.
- 3.4. Please refer to **Figure 3-1** below for a Site Location Plan.

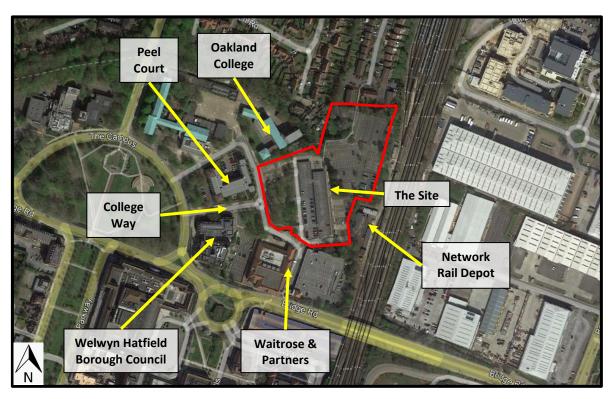


Figure 3-1: Site Location Plan

- 3.5. The topographical survey, undertaken by WYG in November 2019, shows the site slopes in a southerly direction. Elevations across the site are in the order of 92.23mAOD in the northwest corner of the site to 87.28mAOD on the south boundary. The podium parking in the centre of the site has an elevation between 92.67mAOD to 90.62mAOD. The average ground level slope for the site is approximately 1:38.
- 3.6. A copy of the Topographical Survey is including in **Appendix A**.

### 4. DEVELOPMENT PROPOSALS

- 4.1. Demolition of all existing buildings and structures followed by the erection of five buildings to provide 313 residential units (Use Class C3) including 30% affordable housing, resident's car parking, cycle storage, refuse storage, hard and soft landscaping, external lighting, drainage, infrastructure and all associated works.
- 4.2. As part of the proposed development, the existing vehicle access off College Way to the west of the stie will be retained.
- 4.3. **Figure 4-1** shows an extract of the proposed development layout.
- 4.4. The site layouts have been provided by Saunders Architects and Macfarlane Associates and are included in **Appendix B**.



Figure 4-1: Proposed Development Layout

## 5. UTILITY SERVICE PROVISION

#### Introduction

- 5.1. All relevant Statutory Undertakers have been consulted in relation to the proposed development. Each Statutory Undertaker, with known plant in the region, has been contacted and requested to provide details of:
  - Existing assets in the area;
  - The extent of any necessary diversion, abandonment or protection works to facilitate the development;
  - The requirement for any off-site reinforcement works to meet the peak load demand generated by the development proposals; and
  - The potential point of connection to the existing supply distribution network.

# **Approximate Utility Demands**

- 5.2. Anticipated approximate utility demands for the development based on 313 residential dwellings (flats) with a concierge for electricity, potable water and foul water were provided to utility providers, derived using BSRIA Guidance Documents and common benchmarks.
- 5.3. The following approximate loadings in **Table 5-1** have been used to inform the overall site demands. It should be noted that these figures are given prior to the relevant utility companies applying their own diversification adjustments. Furthermore, as no gas is proposed for the heating and cooking purposes for the proposal, no allowance has been made for it in this utilities and servicing statement.

**Table 5-1 Approximate Utility Demand** 

	Electricity	Ga	S	Potable	Foul
Land Use	Peak kW	Peak kW	Annual kW	Water I/s	Water I/s
313 Residential dwellings (Flats) with 90 Electric vehicle Charging Points	2,384	n/a	n/a	7.4	14.5
82m² Concierge	6	n/a	n/a		
Total	2390	n/a	n/a	7.4	14.5

## Line Search Before You Dig (LSBUD) Statutory Undertakers

5.4. The Line search Before you Dig (LSBUD) search (**Appendix C**) for the development proposal have identified a list of potentially affected LSBUD members (**Figure 5-1**), members who are not affected (**Figure 5-2**) and those who are non-members who will need to be contacted to confirm if they have any assets which may be affected (**Figure 5-3**). Those listed in **Figure 5-1** and **Figure 5-3** have been consulted as part of the production of this Utilities and Servicing Statement, however, it is understood that the Statutory Undertakers listed in **Figure 5-2** do not have assets in the immediate vicinity of the proposed development.

List of affected LSBUD members			
Asset Owner	Phone/Email	Emergency Only	Status
Cadent Gas	0800688588	0800111999	Await response
UK Power Networks	08000565866	08000565866	Await response

Figure 5-1: List of Potentially Affected LSBUD Members

	List of not affected LSBUD member	S
AWE Pipeline	Balfour Beatty Investments Limited	BOC Limited (A Member of the Linde Group)
Box Broadband	BP Exploration Operating Company Limited	BPA
Carrington Gas Pipeline	CATS Pipeline c/o Wood Group PSN	Cemex
Centrica Storage Ltd	CNG Services Ltd	Concept Solutions People Ltd
ConocoPhillips (UK) Teesside Operator Ltd	D.S.Smith	Diamond Transmission Corporation
DIO (MOD Abandoned Pipelines)	DIO (MOD Live Pipelines)	E.ON UK CHP Limited
EirGrid	Electricity North West Limited	Energy Assets Pipelines
ENI & Himor c/o Penspen Ltd	EnQuest NNS Limited	EP Langage Limited
ESP Utilities Group	ESSAR	Esso Petroleum Company Limited
euNetworks Fiber UK Ltd	Exolum Pipeline System	Fulcrum Pipelines Limited
Gamma	Gas Networks Ireland (UK)	Gateshead Energy Company
Gigaclear Ltd	Gtt	Harbour Energy
Heathrow Airport LTD	Humbly Grove Energy	IGas Energy
INEOS FPS Pipelines	INEOS Manufacturing (Scotland and TSEP)	INOVYN ChlorVinyls Limited
INOVYN Enterprises Limited	Intergen (Coryton Energy or Spalding Energy)	Jurassic Fibre Ltd
Last Mile	Mainline Pipelines Limited	Manchester Jetline Limited
Manx Cable Company	Marchwood Power Ltd (Gas Pipeline)	Melbourn Solar Limited
Murphy Utility Assets	National Grid Electricity Transmission	National Grid Gas Transmission
Neos Networks	Northumbrian Water Group	NPower CHP Pipelines
NTT Global Data Centers EMEA UK Ltd	NYnet Ltd	Oikos Storage Limited
Ørsted	Palm Paper Ltd	Perenco UK Limited (Purbeck Southampton Pipeline)
Petroineos	Phillips 66	Portsmouth Water
Premier Transmission Ltd (SNIP)	Redundant Pipelines - LPDA	RWE - Great Yarmouth Pipeline (Bacton to Great Yarmouth Power Station)
RWEnpower (Little Barford and South Haven)	SABIC UK Petrochemicals	SAS Utility Services Ltd
Scottish and Southern Electricity Networks	Scottish Power Generation	Seabank Power Ltd
SES Water	SGN	Shell
Shell NOP	SP Energy Networks	Squire Energy Networks
SSE Generation Ltd	SSE Transmission	SSE Utility Solutions Limited
Tata Communications (c/o JSM Construction		
Ltd)	Total Colnbrook Pipelines	Total Finaline Pipelines
Transmission Capital	Uniper UK Ltd	University of Cambridge Granta Backbone Network
Vattenfall	Veolia ES SELCHP Limited	Veolia ES Sheffield Ltd
VPI Power Limited	Wales and West Utilities	West of Duddon Sands Transmission Ltd
Western Power Distribution	Westminster City Council	Zayo Group UK Ltd o/o JSM Group Ltd

Figure 5-2: List of Non-affected LSBUD Members

Non-LSBUD members (Asset owners not registered on LSBUD)				
Asset Owner	Preferred contact method	Phone	Status	
Affinity Water	maps@affinitywater.co.uk	03453572428	Not Notified	
BT	https://www.swns.bt.com/pls/mbe/welcome.home	08000232023	Not Notified	
CityFibre	asset.team@cityfibre.com	033 3150 7282	Not Notified	
Colt	plantenquiries@catelecomuk.com	01227768427	Not Notified	
ENGIE	nrswa.uk@engie.com	0800 130 3600	Not Notified	
GTC	https://pe.gtc-uk.co.uk/PlantEnqMembership	01359240363	Not Notified	
Hertfordshire County Council	highway.structures@hertfordshire.gov.uk	01992556121	Not Notified	
Lumen Technologies	plantenquiries@instalcom.co.uk	02087314613	Not Notified	
Mobile Broadband Network Limited	mbnl.plant.enquiries@tumtown.com	01212 621 100	Not Notified	
Sky UK Limited	nrswa@sky.uk	02070323234	Not Notified	
Sota	SOTA.plantenquiries@instalcom.co.uk		Not Notified	
Thames Water	http://www.digdat.co.uk	08450709145	Not Notified	
Utility assets Ltd	assetrecords@utilityassets.co.uk		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	

Figure 5-3: List of Non-LSBUD Members

- 5.5. The following non-LSBUD members listed below have confirmed they have no records of their respective assets located within the site:
  - City Fibre
  - Colt
  - ENGIE
  - GTC
  - Hertfordshire County Council
  - Lumen Technologies
  - MBNL
  - Sky UK Ltd
  - SOTA
  - Utility Assets Ltd
  - Verizon Business
  - Virgin Media
  - Vodafone
- 5.6. Correspondence from the above non-LSBUD members is provided in **Appendix D**.

## **Utility Tracing survey**

5.7. WYG carried out a utility tracing survey in February 2020 for the site and adjacent areas. Similarly, Draincare also undertook a CCTV sewer survey of the existing sewers and drains within the site in February 2021. These surveys have been used to inform this Utilities and Servicing Statement, where relevant. A copy of the utility tracing and CCTV surveys are provided in **Appendix E**.

#### 6. ELECTRICITY

# **UK Power Networks (UKPN)**

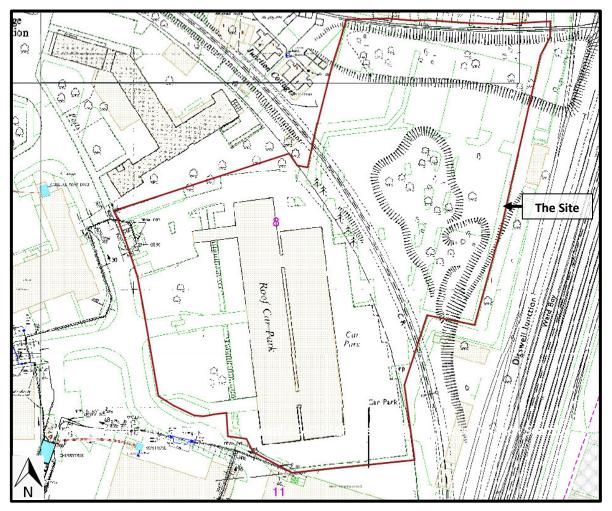


Figure 6-1: Extract of UK Power Networks Asset Mapping

- 6.1. Figure 6-1 above shows the area UK Power Networks (UKPN) have covered in their search. The UKPN asset mapping included in Appendix F indicates a Low Voltage (LV) cable located in the mid-west corner of the site at the entrance to the existing car parking area.
- 6.2. Outside of the site, the UKPN asset mapping shows there are LV cables located west and southwest of the site boundary, along College Way which join three substations, located at Peel Court, Waitrose & Partners and Welwyn Hatfield Borough Council grounds, with High Voltage (HV) cables linking to these.
- 6.3. The utility tracing survey shows the site is currently served by several LV cables (underground) located throughout. The survey appears to correlate well the UKPN asset plans, indicating no UKPN HV cables within the site and UKPN LV cables located in the mid-west corner of the site at the entrance to the existing car parking area.

- 6.4. As part of the re-development of the site, it is considered that LV cables within the site boundary which currently serve the car park will be disconnected and removed, the exception being the LV cables located in the mid-west corner of the site at the entrance to the existing car parking area which remain unchanged.
- 6.5. Therefore, it is not anticipated that any UKPN apparatus will require diversion or lowering.
- 6.6. A budget estimate enquiry was sent to UKPN to determine whether they have sufficient spare capacity within their existing network and to obtain a budget cost for connecting the proposed development to the network.
- 6.7. UKPN have provided a budget estimate (**Appendix F**) of £1,400,000 (ex. VAT) with a Point of Connection to their primary substation at Central Welwyn located to the east of the site. This includes laying a new high voltage ring main from the primary substation to network rail land (approximately 620m), directional drilling under the railway line (subject to Network rail approval), and an additional 400m to get to the site boundary where it will supply 5 new transformers on site through customer installed ducting.
- 6.8. UKPN have made a number of assumptions in order to provide a budget quotation as set out within their letter and have not undertaken any network analysis at this stage to confirm that capacity is available within the existing electricity distribution network. Network analysis will be undertaken as part of a detailed application, and it is recommended that this should be undertaken as soon as full details of the development are available.

## 7. GAS SUPPLY

## Cadent Gas

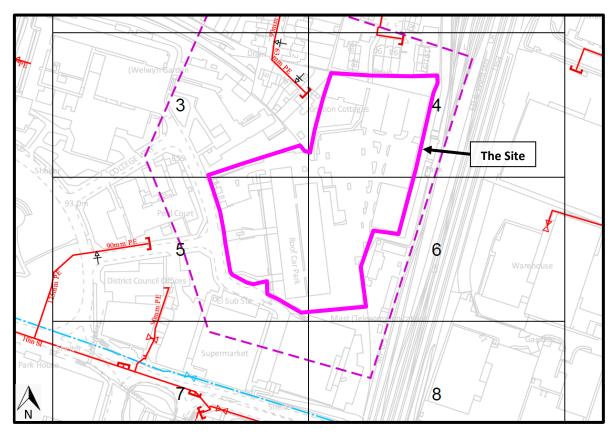


Figure 7-1: Extract of Cadent Gas Asset Mapping

- 7.1. **Figure 7-1** above shows the area Cadent Gas have covered in their search area. The Cadent Gas asset mapping included in **Appendix G** show none of their assets located within the site. The nearest Cadent Gas assets include a Low Pressure (LP) gas mains located in College Way to west of the site and in the residential area to the northwest and north of the site boundary.
- 7.2. Therefore, it is not anticipated that any Cadent Gas apparatus will require diversion or lowering.
- 7.3. The utility tracing survey shows no gas mains within the site. The survey appears to correlate well the Cadent Gas asset plans.

## 8. POTABLE WATER

# **Affinity Water**

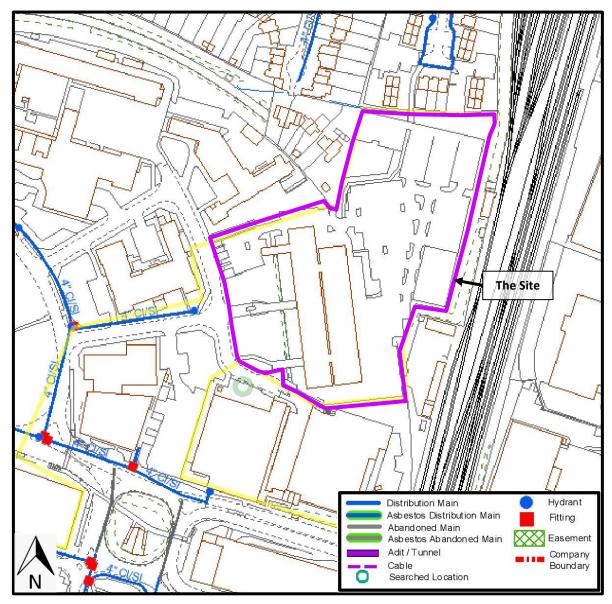


Figure 8-1: Extract of Affinity Water Asset Mapping

- 8.1. **Figure 8-1** above and Affinity Water mapping included in **Appendix H** show no watermains within the site boundary. The nearest watermain asset is a 4" distribution main located approximately 20m to the west of the site along College Way.
- 8.2. Therefore, it is not anticipated that any Affinity Water apparatus will require diversion or lowering.
- 8.3. The utility tracing survey shows no potable water mains within the site.

- 8.4. Affinity Water have consulted as part of a developer enquiry to establish a suitable connection point for the new development, and to provide a budget estimate for new on-site water mains infrastructure to serve the proposed site.
- 8.5. In a response dated 18/05/2022 (**Appendix H**), Affinity Water have confirmed the best point of connection would be off the existing 4" distribution main located approximately 20m to the west of the site along College Way. Affinity Water have confirmed in their response that the existing water network has sufficient capacity to supply the development without any need for network reinforcement.
- 8.6. Affinity Water budget estimate (**Appendix H**) for the proposal is outlined below, of which this is based on several assumptions which are included in their response. It is worth noting that the income offset payment is applied as a discount (i.e., credit) against the infrastructure charge.
  - New water mains supply: £34,770.00 (excl. VAT);
  - Infrastructure charge: £108,702.00 (excl. VAT);
  - Income offset Payment: -£102,375.90 (excl. VAT);
  - Total Cost £41,096.10 (excl. VAT);
- 8.7. Correspondence with Affinity Water is included in **Appendix H**.

## 9. SURFACE AND FOUL WATER DRAINAGE

#### Thames Water

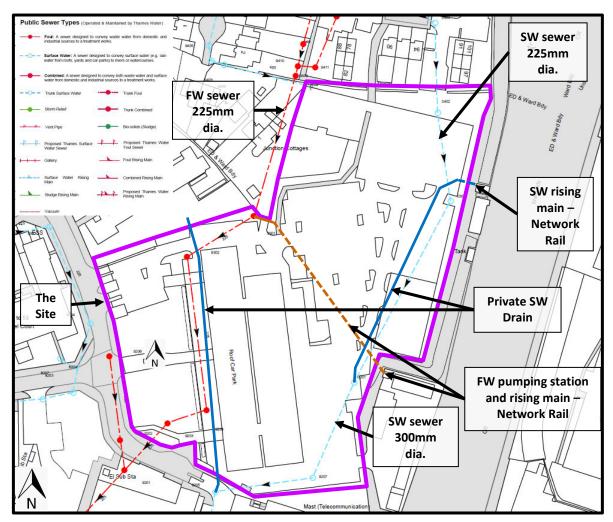


Figure 9-1: Extract of Thames Water Asset Mapping

- 9.1. Figure 9-1 above and Thames Water sewer asset mapping included in Appendix I. The asset plans show there is a 225-300mm diameter surface water sewer running southwest across the site from the northeast corner to the southwest boundary and proceeds southwest through Waitrose & Partners property to join the wider public sewer network along Bridge Road.
- 9.2. There is also a 225mm diameter foul water sewer conveying flow southwest across the site from mid-way along the west boundary to the southwest corner of the site. This sewer continues southwest through Waitrose & Partners property to join the wider public sewer network along Bridge Road.
- 9.3. The utility tracing and CCTV survey shows appears to correlate well the Thames Water asset plans, confirming public surface and foul water sewers located within

the site, along with private drains and rising mains. The CCTV sewer survey also shows a private 225mm diameter surface water drain which receives flows from outside the site and runs south through the west extent of the site to the southern boundary before joining Thames Water surface water sewer at manhole 9205.

- 9.4. As part of the development of the site, it is proposed that the section of the public surface sewer located within the site are diverted to the carriageway of the proposed highways of the site, between manholes 0402 and 9207. Similarly, it is proposed to divert the 225mm diameter public foul water sewer around the north side of Block B2 and join into manhole 9302. The proposed surface and foul water sewer diversions and have depths of no more than 4m, therefore the associated easement from centreline of sewer should be no less than 3m either side. Furthermore, the proposed diversion will be subject to section 185 agreement with Thames Water which can be addresses at the detailed design stage. The private 225mm diameter surface water drain within the western extent of the site will also require diverting to the west as part of the development of the site.
- 9.5. A pre-development response from Thames Water is provided in **Appendix I**, in which they have confirmed that a flow rate of 8 l/s would be acceptable into the 300mm diameter surface water sewer located within southern extent of the site. furthermore, Thames water have confirmed that there is sufficient sewerage capacity in the adjacent foul water sewer network to serve the site for previous site layout which was for 307 dwellings. Thames Water have since been consulted to confirm if there is capacity to serve an additional 6 dwellings (i.e. 313 in total) a response is awaiting at the time of preparing this report. These connections will be subject to a S106 sewer connection agreement with TW which will be addressed at the detailed design stage.

#### 10. TELECOMS

# **British Telecommunications (BT)**

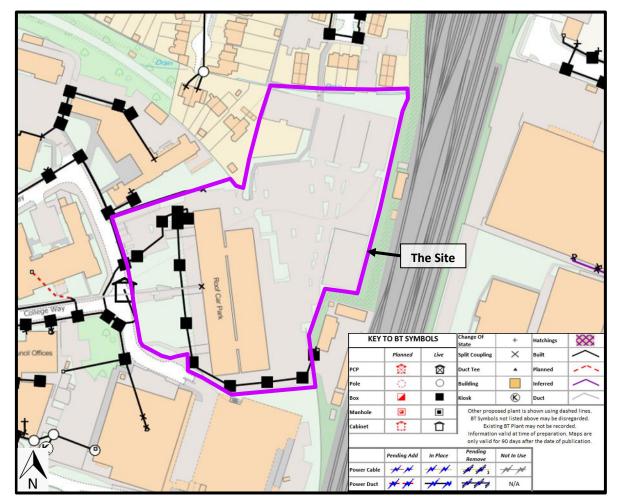


Figure 10-1: Extract of BT Openreach Asset Mapping

- Appendix J, shows that there are no aboveground assets within the site. There is however, a below ground cable with associated junction boxes located within the west and south extent of the site, which progress east along the south boundary and terminates at Network Rail Depot. There is also a duct cable to a split coupling located adjacent to the northwest boundary of the site. Additional mapping for BT Openreach (Appendix J) shows another duct cable to a split coupling from the site access midway on the west boundary to the ramp access to the upper car parking area in the centre of the site.
- 10.2. The utility tracing survey appears to correlate well the BT Openreach asset mapping, although no BT duct assets are shown along the northwest boundary of the site or

from the site access mid-way on the west boundary to the ramp access to the upper car parking area.

- 10.3. As part of the development of the site, the existing BT cable located within the site will need to be diverted through the site (ideally within the proposed footway adjacent to the proposed internal highway) to the southeast corner to maintain the connection to Network Rail Depot.
- 10.4. BT Openreach has been consulted to provide an estimate for the potential diversion of the assets within the site. In their response, (**Appendix J**) they have determined that a detailed survey is required to confirm the required alterations to their assets within the site, of which a fee of £2,562.25 (incl. VAT) is required to produce estimate and specification of works required. It is recommended the application is submitted as soon as reasonably practicable.
- 10.5. BT Openreach is obliged to supply the proposed development. Once a planning consent has been granted, detailed costs and a specification of works will be provided by BT Openreach New sites.
- 10.6. Correspondence with BT Openreach is included in **Appendix J**.

Appendix A Topographical Survey











