North Uttlesford Garden Village
Great Chesterford, Essex
Utility and Infrastructure Report

On behalf of Bidwells
### Document Control Sheet

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**Project Ref:** 36997/2501  
**Report Title:** Utility and Infrastructure Report  
**Doc Ref:** Rev A  
**Date:** June 2016

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Signature</th>
<th>Date</th>
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</thead>
<tbody>
<tr>
<td>Prepared by:</td>
<td>Jonathon Coles</td>
<td></td>
<td>29/06/2016</td>
</tr>
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<td>Reviewed by:</td>
<td>John Taggart</td>
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<td>29/06/2016</td>
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<tr>
<td>Approved by:</td>
<td>Ron Henry</td>
<td></td>
<td>29/06/2016</td>
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For and on behalf of Peter Brett Associates LLP

<table>
<thead>
<tr>
<th>Revision</th>
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<td>A</td>
<td>29/06/2016</td>
<td>Original</td>
<td>JC</td>
<td>JT</td>
<td>RH</td>
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1 Introduction

1.1 Scope

Peter Brett Associates LLP (PBA) has been engaged by Bidwells to prepare a Utilities and Infrastructure Report for the development of 5000 dwellings at the land at Great Chesterford, Essex.

1.2 Purpose

The purpose of this report is to identify any existing utility infrastructure that may constrain development within the site boundary and to provide advice on the most suitable course of action to mitigate these constraints in a timely and cost efficient manner.

The report will also identify the most suitable points of connection for the new utility infrastructure to supply the electricity, gas, potable water and foul water demands from the site.

1.3 Objectives

To assess the utility infrastructure works that are required for this development, the following objectives have been carried out and the outcomes are detailed within this report:

1. Asset records – request and overlay onto a topographic survey/OS background mapping to provide a combined constraints plan.

2. New Supplies – Using PBA’s load demand estimation tool, assess the likely volume of demand (electric, gas, potable water, foul water) generated by using an assumed land use budget.
2 Background

2.1 Data Collection

This report only considers a direct connection for each new building to the incumbent utility network at this stage and further consideration is recommended to assess energy and water efficiencies for the new buildings, which in turn will reduce the peak requirements from the incumbent providers’ network.

The loading calculations make use of data taken from the BSRIA Rules of Thumb ‘Guidelines for Building Services’ and the Metric Handbook ‘Planning and Design Data’.

No consideration is given within this report to a multi utility services company (MUSCo) or Energy Services Company (ESCO) offering connection opportunities.

2.2 Site Location

The proposed development site is currently agricultural land covering an area approximately 466 hectares. Figure 1.1 identifies the location of the site.
Figure 1.1 Site Location Plan
3 Utility Providers

PBA have, for the purpose of this report, made initial utility searches to the incumbent utility providers to ascertain the location of existing utility assets in and around the proposed development.

3.1 Affected Utilities

Table 1 Utility Providers

<table>
<thead>
<tr>
<th>Provider(s)</th>
<th>Utility</th>
<th>Contact</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK Power Networks (UKPN)</td>
<td>Electricity</td>
<td>T:0127 9824 761 <a href="mailto:umc3.orders@ukpowernetworks.co.uk">umc3.orders@ukpowernetworks.co.uk</a></td>
</tr>
<tr>
<td>National Grid (NGG)</td>
<td>Gas</td>
<td>T:0845 3666 758 <a href="mailto:networkdesign@nationalgrid.com">networkdesign@nationalgrid.com</a></td>
</tr>
<tr>
<td>GTC</td>
<td>Gas</td>
<td><a href="mailto:info@gtc-uk.co.uk">info@gtc-uk.co.uk</a></td>
</tr>
<tr>
<td>Affinity Water</td>
<td>Water – Potable</td>
<td><a href="mailto:ds@Affinitywater.co.uk">ds@Affinitywater.co.uk</a></td>
</tr>
<tr>
<td>Anglian Water</td>
<td>Water – Foul</td>
<td><a href="http://www.anglianwater.co.uk/developers/pre">http://www.anglianwater.co.uk/developers/pre</a> -planning-service-.aspx <a href="mailto:developerservices@anglianwater.co.uk">developerservices@anglianwater.co.uk</a></td>
</tr>
<tr>
<td>BT Openreach (BT)</td>
<td>Telecommunications</td>
<td>E-mail: <a href="mailto:stoke.incoming.notices@openreach.co.uk">stoke.incoming.notices@openreach.co.uk</a></td>
</tr>
</tbody>
</table>

3.2 Not Affected Utilities

Asset records or responses have also been received from each of the following utilities confirming that their apparatus will not be affected by the proposed development.

- Arquiva (was Spectrum Interactive)
- Vodafone/Atkins (Energis, Thus, Cable & Wireless, Mercury, Your Coms, Norweb and Scottish Telecom)
- Catelcom for Colt
- City Fibre Holdings (was H2O Fibre Networks)
- CSP Dark Fibre
- Easynet
- Eunetworks
- Gamma Telecom
- Instalcom Ltd (for Fibernet/Tanet/Global Crossing/Level 3)
- Kingston Communications (Affiniti)
- MBNL is a Joint Venture company which includes H3G UK Ltd and EE Limited (inc. T-Mobile and Orange).
- McNicholas (KPN/TATA Communications formerly VSNL/TYCO/TYCOM)
- Orange; MMO2; T-Mobile; Vodafone; Hutchison 3G
- Plancast for Interoute
- Redstone Communications Ltd
- SSE Telecom/Neoscorp
- Telentelia
- Trafficmaster
- Verizon (MCI World Com)
- Virgin Media
- vtesse Networks
- Zayo Europe (was Abovenet)

It should be noted that all asset records and capacity investigations were completed at a specific point in time; therefore the results of these enquiries may be subject to future reinforcement or change by the network operators.
4 Utility Demand Schedule

4.1 Assumptions

For the purpose of calculating the utility demands, PBA have taken the land use budget from a development of similar residential quantum and assessed the following mixed use areas to support the 5,000 units (m²):

- A1 Shops – High street/shopping mall – 3,350
- A1 shops – supermarket/ hypermarket (food) – 4,750
- A2 Financial & professional services – 3,350
- A3 Restaurant & cafes – 3,350
- A4 Drinking establishments – 700
- A5 Hot food takeaways – 1,700
- B1 Business – with air con (no lifts) – 2,650
- C1 Hotels – 3,350
- D1 Non-residential institutions (primary schools) – 155,500
- D2 Amusement & entertainment centres – 8,100

4.2 Schedule

An indicative utility loading schedule has been prepared by PBA on the basis of the above information and current industry standards. This schedule has been issued to each statutory utility provider as the basis for their capacity assessment and to identify the scope of any offsite activities necessary to bring utilities to the boundary of the site.

The electricity, gas, potable water and foul water demand loads were estimated for the proposed development using BSRIA Rules of Thumb ‘Guidelines for Building Services’ and the Metric Handbook ‘Planning and Design Data’ along with PBA’s experience on similar developments.

Table 2 Utility Demand Schedule

<table>
<thead>
<tr>
<th>Utility</th>
<th>Total</th>
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<tbody>
<tr>
<td>Electricity – (kW)</td>
<td>12,767</td>
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<tr>
<td>Gas – (kWh Peak Hourly)</td>
<td>47,389</td>
</tr>
<tr>
<td>Potable Water – (l/s Daily Peak)</td>
<td>91</td>
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<tr>
<td>Potable Water – (m³/day)</td>
<td>1,961</td>
</tr>
<tr>
<td>Foul Water – (Peak Discharge l/s)</td>
<td>55</td>
</tr>
<tr>
<td>Foul Water – (m³/day)</td>
<td>1,863</td>
</tr>
</tbody>
</table>
5 Electricity Infrastructure

5.1 UK Power Networks (UKPN)

5.1.1 General Overview

The incumbent Distribution Network Operator (DNO) for the area is UK Power Networks (UKPN). Following a review of the existing asset records obtained by PBA, the utility assets are detailed in the sections below and drawn in the PBA’s Utilities Constraints Plan, Drawing No. 36997/2501/001, in Appendix A.

5.1.2 On-Site

There is an 11kV Overhead Line (OHL) on site from southwest towards the north to Dell’s Farm, and then towards the northeast. The OHL forks southeast to the edge of the site, and northeast to the centre of the site. Then the OHL forks again to the northeast to Park Farm, and to the west to Field Farm and Field Farm Cottages.

5.1.3 Off-Site

There is a 400kV OHL to the east of the site running from south to north.

There is an 11kV OHL to the southwest of the site between Great Chesterford and the A11/M11 junction.

There is an 11kV OHL from the north to Abington Park Farm, and another 11kV OHL running from the west to the north west of the site.

There is an 11kV OHL from the south of the site to Little Paddocks, then east to Burton Wood.

5.2 Legal

5.2.1 Wayleaves/ Easements

It is recommended that the wayleaves and easement agreements currently in place for the existing infrastructure across the site are reviewed to fully assess the implications to the client with regard to diversions, decommissioning and removals.

5.3 New Supplies

From an initial review of UKPN’s long-term development statement (LTDS) four primary substations have been identified within a 7.5km radius of the centre of the site, as shown in Figure 1.2: Acrows, Linton, Saffron Walden, and Sawston.

Acrows Primary has the least capacity of 1MW and Saffron Walden Primary has 5MW, but is located within the town of Saffron Walden, increasing the cost of any new supplies to the site, due to the necessity of laying new cables through the town.

Sawston Primary has a spare capacity of 10MW and Linton Primary 7.5MW. With only fields and roads between Linton Primary this is likely to be the preferred choice to supply the site. A route from Sawston Primary will need to cross a railway line and a HP gas main, which may prove challenging.
UKPN provided a budget estimate of £11,000,000 + VAT on the 7/6/2016 (ref 8600003494). The quote advised that a new primary substation will be required to the north of Saffron Walden to support the development. It is recommended that a meeting is held with UKPN to understand what capacity is available on the surrounding network to identify how much of the development can be accommodated without the network reinforcements.

Figure 1.2 Location of Nearest Primary Substations and IP and HP Gas Mains

5.4 Diversions

With reference to the onsite asset details in section 5.1.2 and PBA’s Utilities Constraints Plan, Drawing No. 36997/2501/001, the following assets have been identified in the development site, which may require further intervention.

There are several 11kV Over Head Lines (OHL) and pole mounted transformers on site, which may need to be diverted to accommodate future developments.

Budget Diversions and/or protection of the electricity infrastructure will need be agreed with UKPN at a later design stage as the masterplan develops.
6 Gas Infrastructure

6.1 National Grid Gas and GTC

6.1.1 General Overview

The service provider for the area is National Grid Gas (NGG) and GTC. Following a review of the existing asset records obtained by PBA, the utility assets are detailed in the sections below and drawn in the PBA's Utilities Constraints Plan, Drawing No. 36997/2501/001, in Appendix A.

6.1.2 On-Site

NGG asset records suggest that there are no gas mains within the development site.

GTC asset records suggest an intermediate pressure (IP) gas main follows the site boundary where it crosses the A11 to follow the road on the eastern side, at the northeast of the site.

6.1.3 Off-Site

Asset records obtained from NGG show a Medium Pressure (MP) gas main following Mill Lane then A1301 on the west of the M11.

Low Pressure (LP) gas mains are shown to be serving the houses of Great Chesterford to the south of the site.

Asset records obtained from GTC have indicated that there is an IP gas main following the A1301 to the M11/A11 junction, then follows the A11 north.

6.2 New supplies

GTC’s IP gas main is a potential option to serve the site, subject to confirmation of spare capacity.

NGG’s MP gas main is another potential option to serve some of the site, subject to confirmation of spare capacity. NGG have confirmed in their letter dated 18/05/2016 (ref: 180004704) that this is their closest point of connection; however there is not enough capacity to serve the site. A band 3 application is in progress to identify the cost of off site reinforcement.

6.3 Diversions

Not applicable as asset records suggest that there are no gas pipelines within the site boundary.
7 Potable Water

7.1 Affinity Water

7.1.1 General Overview

The service provider for the area is Affinity Water. Following a review of the existing asset records obtained by PBA, the utility assets are detailed in the sections below and drawn in the PBA’s Utilities Constraints Plan, Drawing No. 36997/2501/001, in Appendix A.

7.1.2 On-Site

There is a 3in AC and a 63mm MDPE water mains north of the B184, along the site boundary.

There is a 90mm MDPE water main following Park Road up to The Barn.

7.1.3 Off-Site

There is a 4in PVCU water main shown to be feeding Great Chesterford, and the 3in AC water main onto the site.

7.2 Legal

7.2.1 Wayleaves / Easements

It is recommended that the wayleaves and easement agreements currently in place for the existing infrastructure across the site are reviewed to fully assess the implications to the client with regard to diversions, decommissioning and removals.

7.3 New Supplies

The 3in AC and 63mm MDPE water mains following the site boundary are potential options to serve some of the site.

The 90mm MDPE water main following Park Road is a potential option to serve some of the site.

The 4in PVCU water main serving Great Chesterford is a potential option to serve some of the site.

A budget estimate application to Affinity Water sent 27/05/2016 and phone call received 21/06/2016, states that there are several proposed developments in the area and that further investigation is required. Based on a worst-case scenario, Affinity Water have provided an initial budget estimate of £10,610,000 and are working to provide more detail in the coming weeks. The quote advised that a new booster station and 13km of 500mm trunk main will be required to support the development. It is recommended that following receipt of the revised quotation, a meeting is held with Affinity Water to understand what capacity is available on the surrounding network to identify how much of the development can be accommodated without network reinforcement.
7.4 Diversions

With reference to the onsite asset details in section 7.1.2 and PBA’s Utilities Constraints Plan, Drawing No. 36997/2501/001, the following assets have been identified in the development site, which may require further intervention.

There is a 90mm MDPE water main on site, which may need to be diverted to accommodate future developments.

Budget Diversions and/or protection of the water infrastructure will need be agreed with Affinity Water at the detailed design stage and as the masterplan develops.
8 Foul Water

8.1 Anglian Water

8.1.1 General Overview

The service provider for the area is Anglian Water. Following a review of the existing asset records obtained by PBA, the utility assets are detailed in the sections below and drawn in the PBA’s Utilities Constraints Plan, Drawing No. 36997/2501/001, in Appendix A.

8.1.2 On-Site

Asset records obtained from Anglian water suggest that they do not have any foul water infrastructure within the development site.

8.1.3 Off-Site

There is a 6in VC diameter foul water sewer serving Great Chesterford.

There is a surface water sewer serving Great Chesterford, which outfalls to the existing watercourse that flows along the south of the site boundary to the B184, then along the north of Great Chesterford.

8.2 New Supplies

The sewers in Hyll Close and Jackson’s Lane are potential options to serve some of the site, but are not going to be large enough for the full development, subject to confirmation of spare capacity.

PDR (ref: 00012715) confirms a point of connection at Great Chesterford Water Recycling Centre; however there is not enough capacity there to serve the development.

Recently, Anglian Water confirmed that there is insufficient capacity in the network as well. There are ongoing discussions between PBA and AWS to identify the extent of reinforcement required to accommodate the proposed development. An updated PDR is expected 08/07/16.

8.3 Diversions

Not applicable as asset records suggest that there are no foul water pipelines within the site boundary.
9 Telecommunications Infrastructure

9.1 BT

9.1.1 General Overview

The major telecom service providers for the area are BT and Surf Telecom. Following a review of the existing asset records obtained by PBA, the utility assets are detailed in the sections below and drawn in the PBA’s Utilities Constraints Plan, Drawing No. 36997/2501/001, in Appendix A.

9.1.2 On-Site

There are two BT cables following Park Road from the southwest of the site, to Park Farm, than one of the cables follows the track to the barns.

A BT cable follows the track from Field Farm Cottages to Field Farm.

9.1.3 Off-Site

There is a BT cable that follows the eastern side of the A11 and then follows the B184 to feed Great Chesterford.

There is a BT cable that follows Cow Lane from Great Chesterfield to Crave Hall and Grumble Hall, to the south of the site.

9.2 Legal

9.2.1 Wayleaves / Easements

It is recommended that the wayleaves and easement agreements currently in place for the existing infrastructure across the site are reviewed to fully assess the implications to the client with regard to diversions, decommissioning and removals.

9.3 New Supplies

BT currently allow up to £3,400 per new residential home for the provision of offsite reinforcement and improvement to their network infrastructure to cater for new development. Any cost over and above the £3,400 per new residential home allowance would be chargeable to the developer.

The information and communication technologies (ICT) market is moving fast in terms of new technologies and systems becoming available. It is recommended that the aspirations of both the client and the Local Authority are further discussed and agreed with PBA and further opportunities explored for the proposed development as the masterplan process develops.

BT will offer a proposal to extend their existing telecommunications infrastructure into the proposed development offering a range of technologies including high speed broadband and cable TV. Fibre to the Cabinet (FTTC) is available in some areas locally. This would offer download speeds of up to 80Mbps and upload speeds of up to 20Mbps; this is ultimately dependent upon the distance of the connection to the nearest fibre enabled cabinet.

Fibre to the Premises (FTTP) technology, where the fibre runs all the way to the home or business, is also being deployed in certain areas. FTTP will offer the top current download
speed of 330Mbps. Further dialogue with BT will be required as the development progresses to understand the offerings in the local area.

9.4 **Diversion**

With reference to the onsite asset details in section 9.1.2 and PBA’s Utilities Constraints Plan, Drawing No. 36997/2501/001, the following assets have been identified in the development site, which may require further intervention.

There is are BT cables on site, which may need to be diverted to accommodate future developments.

Budget Diversions and/or protection of the telecom infrastructure will need be agreed with BT at the detailed design stage and as the masterplan develops.
10 Summary

Consultation and information obtained by PBA LLP from the incumbent utility providers (based on direct connection to the dwellings) has identified:

**Electricity - UK Power Networks (UKPN)**

There is an 11kV OHL from southwest to Dell’s Farm, then northeast. OHL forks southeast to the edge of the site, and northeast to the centre of the site. Then the OHL forks again to the northeast to Park Farm, and to the west to Field Farm and Field Farm Cottages.

**New Supplies:**

UKPN provided a budget estimate of £11,000,000 +VAT for a new primary substation to be established to the north of Saffron Walden with an 11kV circuit required to connect the development.

**Diversions:**

However PBA wish to advise that if existing infrastructure could be retained and integrated within the masterplan, this will minimise costs and reduce the duration impact on the development programme by removing the works associated with diverting these services.

**Gas: National Grid Gas (NGG) and GTC**

NGG asset records suggest that there are no gas mains within the development site.

GTC asset records suggest an intermediate pressure (IP) gas main follows the A11 and follows the site boundary at the northeast of the site.

**New Supplies:**

NGG's have identified a medium pressure gas main as a point of connection however reinforcement works are required due to the lack of capacity. A band 3 application in progress to identify the costs associated with these upgrades.

**Diversions:**

Not applicable as records suggest that there are no gas pipelines within the site boundary.

**Potable Water: Affinity Water**

There is a 3in AC and a 63mm MDPE water mains north of the B184, along the site boundary.

There is a 90mm MDPE water main following Park Road up to The Barn.

**New Supplies:**

Affinity Water have provided an initial budget estimate of £10,610,000 and are working to refine this in more detail and a revised estimate is expected in the coming weeks.

**Diversions:**

If the water main is required to be diverted, a budget diversion and/or protection of the water infrastructure will be agreed with Affinity Water at the detailed design stage.
However PBA wish to advise that if existing infrastructure could be retained and integrated within the masterplan, this will minimise costs and reduce the duration impact on the development programme by removing the works associated with diverting these services.

**Foul Water: Anglian Water**

Anglian Water asset records suggest that they do not have any foul water infrastructure within the development.

**New Supplies:**

Anglian Water proposes a direct connection to Great Chesterford Water Recycling Centre due to the lack of capacity on the sewer network in the area. There are ongoing discussions to identify the costs associated with this connection works.

**Diversions:**

Not applicable as records suggest that there are no sewers within the site boundary.

**Telecommunications: BT Openreach (BT)**

**New Supplies:**

BT Openreach currently free issue ducts for new developments to install and will provide a new ducting layout 4 weeks prior to the works commencing onsite.

BT Openreach currently allow up to £3,400 per new residential home for the provision of offsite reinforcement and improvement to their network infrastructure to cater for new development. Any cost over and above the £3,400 per new residential home allowance would be chargeable to the developer.

Full engagement with BT Openreach will be required once the masterplan is defined and at post planning stage.

**Diversions:**

No budget cost has been requested from BT Openreach for any potential diversions.

However PBA wish to advise that if existing infrastructure could be retained and integrated within the masterplan, this will minimise costs and reduce the duration impact on the development programme by removing the works associated with diverting these services.

Diverion and/or protection of BT Openreach infrastructure will be agreed with BT Openreach as the masterplan develops and budget (C3) quotes can be requested.
11 Recommendations

PBA LLP wish to advise that arranging the provision of new supplies and diversions is a timely process and the client should open discussions with all of the relevant utility companies at their earliest convenience to minimise delays caused to the project.

An assumed land-use budget has been used for the estimate of the utility loads discussed in this report. To identify the cost to connect to the utility networks, applications need to be made to the network operators. A revised loading estimate, based on an agreed land-use budget is required for these to proceed.

PBA would welcome the opportunity to provide a quote to co-ordinate the above actions on your behalf in order to progress the project through the next design stage.
Appendix A - Constraints Plan
Appendix B - Statutory Undertaker Responses
Pre-Planning Assessment Report

Park Road, Great Chesterford
Section 1: Proposed Development

Thank you for submitting a pre-planning enquiry. This has been produced for Peter Brett Associates LLP. Your reference number is **00012715**. If you have any questions upon receipt of this report, please contact Sandra Olim on 01733 414690 or email planningliaison@anglianwater.co.uk.

The response within this report has been based on the following information which was submitted as part of your application:

<table>
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<tr>
<th>List of Planned Developments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type of Development</td>
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<tr>
<td>C3 Dwellings</td>
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</tbody>
</table>

The anticipated residential build rate is:

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<td>500</td>
<td>500</td>
<td>500</td>
<td>500</td>
<td>450</td>
</tr>
</tbody>
</table>

- The grid reference for the site is TL5160044500.
- The site currently does not have planning permission and is located on a greenfield site.
Section 2: Assets Affected

Our records indicate that there are no public water mains or public sewers or other assets owned by Anglian Water within the boundary or overlapping your development site. However, it is recommended that you carry out a thorough investigation of your proposed working area to establish whether any unmapped public or private sewers and lateral drains are in existence.

Due to the private sewer transfer in October 2011 many newly adopted public used water assets and their history are not indicated on our records. You also need to be aware that your development site may contain private water mains, drains or other assets not shown on our records. These are private assets and not the responsibility of Anglian Water but that of the landowner.
Section 3: Water Recycling Services

In examining the used water system we assess the ability for your site to connect to the public sewerage network without causing a detriment to the operation of the system. We also assess the receiving water recycling centre and determine whether the water recycling centre can cope with the increased flow and influent quality arising from your development.

Water Recycling Centre
The foul drainage from this development is in the catchment of Great Chesterford Water Recycling Centre, which currently does not have capacity to treat the flows from your development site. Anglian Water are obligated to accept the foul flows from your development with the benefit of planning consent and would therefore take the necessary steps to ensure that there is sufficient treatment capacity should the planning authority grant planning permission.

Used Water Network
Anglian Water has assessed the impact of gravity flows from the planned development to the public foul sewerage network. We can confirm that this is acceptable as the foul sewerage system, at present, has available capacity for your site. The connection point will be via a direct connection to Great Chesterford Water Recycling Centre at National Grid Reference (NGR) TL5005044000.

Surface Water Disposal
There are no public surface water sewers within the vicinity of the proposed development. Therefore Anglian Water will be unable to provide the site with a feasible solution of surface water disposal within the current assets. Alternative methods of surface water disposal will need to be investigated such as infiltration techniques or a discharge to a watercourse in accordance with the surface water management hierarchy as outlined in Building Regulations Part H.

The alternative is that a new surface water sewer is constructed which is used to convey your surface water to a watercourse or as part of a SuDs scheme, where appropriate. Subject to the sewer being designed in accordance with the current version of Sewers For Adoption, the sewer can be put forward for adoption by Anglian Water under Section 104 of the Water Industry Act 1991. If the outfall is to a watercourse, the applicant will be required to obtain consent to discharge via the appropriate body.

If your site has no means of drainage due to third party land then you may be able to requisition Anglian Water, under Section 98, to provide a connection to the public sewer for domestic drainage purposes. As part of this option, you may wish to enter into a works agreement in accordance with Section 30 of the Anglian Water Authority Act 1977. This will allow you to design and construct the public sewer using Anglian Waters’ statutory powers in accordance with Section 159/168 of the Water Industry Act 1991.
As you may be aware, Anglian Water will consider the adoption of SuDs provided that they meet the criteria outline in our SuDs adoption manual. This can be found on our website at [http://www.anglianwater.co.uk/developers/suds.aspx](http://www.anglianwater.co.uk/developers/suds.aspx). We will adopt features located in public open space that are designed and constructed, in conjunction with the Local Authority and Lead Local Flood Authority (LLFA), to the criteria within our SuDs adoption manual. Specifically, developers must be able to demonstrate:

1. Effective upstream source control,
2. Effective exceedance design, and
3. Effective maintenance schedule demonstrating than the assets can be maintained both now and in the future with adequate access.

If you wish to look at the adoption of any SuDs then an expression of interest form can be found on our website at: [http://www.anglianwater.co.uk/developers/suds.aspx](http://www.anglianwater.co.uk/developers/suds.aspx)

**Trade Effluent**
We note that you do not have any trade effluent requirements. Should this be required in the future you will need our written formal consent. This is in accordance with Section 118 of the Water Industry Act (1991).

**Used Water Budget Costs**
It has been assumed that the onsite used water network will be provided under a section 104 Water Industry Act application. It is recommended that you also budget for both infrastructure charges and connection costs. The 2015/16 charges are:

| Infrastructure Charge | £351.00 per connection |

Please note that we offer alternative types of connections depending on your needs and these costs are available in our annual charges booklet, which can be downloaded from [www.anglianwater.co.uk/developers/charges](http://www.anglianwater.co.uk/developers/charges).
Figure 1: Showing your used water point of connection at Great Chesterford Water Recycling Centre
Section 5: Useful Information

Water
Water Industry Act – Key Water Sections:
•  **Section 41:** This provides you with the right to requisition a new water main for domestic purposes to connect your site to the public water network.
•  **Section 45:** This provides you with the right to have a connection for domestic purposes from a building or part of a building to the public water main.
•  **Section 51A:** This provides you with the right to provide the water main or service connection yourself and for us to vest them into our company.
•  **Section 55:** This applies where you request a supply of water for non domestic premises.
•  **Section 185:** This provides you with the right to make a reasonable request to have a public water main, sewer or public lateral drain removed or altered, at your expense. Details on how to make an application and the s185 form is available on our website at [http://www.anglianwater.co.uk20/developers](http://www.anglianwater.co.uk20/developers) or via our Developer Services team on 08457 60 66 087.

Details on how you can make a formal application for a new water main, new connection or diversion are available on from our Developer Services team on 08457 60 66 087 or via our website at [www.anglianwater.co.uk/developers](http://www.anglianwater.co.uk/developers)

If you have any other queries on the rights to requisition or connect your housing to the public water and sewerage infrastructure then please contact our developer services team at: Developer Services, Anglian Water, PO Box 495, Huntingdon, PE29 6YY or Telephone: 0845 60 66 087 or Email: developerservices@anglianwater.co.uk

Water pressure and flow rate: The water pressure and consistency that we must meet for your site is laid out in the Water Industry Act (1991). This states that we must supply a flow rate of 9 litres per minute at a pressure of 10 metres of head to the external stop tap. If your water pressure requirements exceed this then you will need to provide and maintain any booster requirements to the development site.

Self Lay of Water Mains: A list of accredited Self Lay Organisations can be found at [www.lloydsregister.co.uk/schemes/WIRS/providers-list.aspx](http://www.lloydsregister.co.uk/schemes/WIRS/providers-list.aspx).

Used Water
Water Industry Act – Key Used Water Sections:
•  **Section 98:** This provides you with the right to requisition a new public sewer. The new public sewer can be constructed by Anglian Water on your behalf. Alternatively, you can construct the sewer yourself under section 30 of the Anglian Water Authority Act 1977.
• **Section 102:** This provides you with the right to have an existing sewerage asset vested by us. It is your responsibility to bring the infrastructure to an adoptable condition ahead of the asset being vested.

• **Section 104:** This provides you with the right to have a design technically vetted and an agreement reached that will see us adopt your assets following their satisfactory construction and connection to the public sewer.

• **Section 106:** This provides you with the right to have your constructed sewer connected to the public sewer.

• **Section 185:** This provides you with the right to have a public sewerage asset diverted.

Details on how to make a formal application for a new sewer, new connection or diversion are available on our website at [www.anglianwater.co.uk/developers](http://www.anglianwater.co.uk/developers) or via our Developer Services team on 08457 60 66 087.

**Sustainable Drainage Systems:**
Many existing urban drainage systems can cause problems of flooding, pollution or damage to the environment and are not resilient to climate change in the long term. Therefore our preferred method of surface water disposal is through the use of Sustainable Drainage Systems (SuDS). SuDS are a range of techniques that aim to mimic the way surface water drains in natural systems within urban areas. For more information on SuDS, please visit our website at [http://www.anglianwater.co.uk/developers/suds.aspx](http://www.anglianwater.co.uk/developers/suds.aspx)

We also recommend that you contact the Local Authority and Lead Local Flood Authority (LLFA) for the area to discuss your application.

**Private Sewer Transfers:** Sewers and lateral drains connected to the public sewer on the 1 July 2011 transferred into Water Company ownership on the 1 October 2011. This follows the implementation of the Floods and Water Management Act (FWMA). This included sewers and lateral drains that were subject to an existing Section 104 Adoption Agreement and those that were not. There were exemptions and the main non-transferable assets were as follows:

- Surface water sewers and lateral drains that did not discharge to the public sewer, e.g. those that discharged to a watercourse.
- Foul sewers and lateral drains that discharged to a privately owned sewage treatment/collection facility.
- Pumping stations and rising mains will transfer between 1 October 2011 and 1 October 2016.

The implementation of Section 42 of the FWMA will ensure that future private sewers will not be created. It is anticipated that all new sewer applications will need to have an approved section 104 application ahead of a section 106 connection.

**Encroachment:** Anglian Water operates a risk based approach to development encroaching close to our used water infrastructure. We assess the issue of encroachment if you are
planning to build within 400 metres of a water recycling centre or, within 15 metres to 100 metres of a pumping station. We have more information available on our website at http://anglianwater.co.uk/developers/encroachment.aspx

**Locating our assets:** Maps detailing the location of our water and used water infrastructure including both underground assets and above ground assets such as pumping stations and recycling centres are available from www.digdat.co.uk. All requests from members of the public or non-statutory bodies for maps showing the location of our assets will be subject to an appropriate administrative charge. We have more information on our website at: www.anglianwater.co.uk/developers/our-assets/

**Summary of charges:** A summary of this year’s water and used water connection and infrastructure charges can be found at http://www.anglianwater.co.uk/developers/charges/

**Disclaimer:** The information provided within this report is based on the best data currently recorded, recorded within the last 12 months or provided by a third party. The position must be regarded as approximate. If there is further development in the area or for other reasons the position may change.

The accuracy of this report is therefore not guaranteed and does not obviate the need to make additional appropriate searches, inspections and enquiries. You are advised therefore to renew your enquiry should there be a delay in submitting your application for water supply/sewer connection to re-confirm the situation.

Any cost calculations provided within the report are estimated only and may be subject to change.

The responses made in this report are based on the presumption that your proposed development obtains planning permission. Whilst this report has been prepared to help assess the viability of your proposal, it must not be considered in isolation. Anglian Water supports the plan led approach to sustainable development that is set out in the National Planning Policy Framework (NPPF). As a spatial planning statutory consultee, we assist planning authorities in the preparation of a sustainable local plan on the basis of capacity within our water and water recycling (formerly referred to as wastewater) infrastructure. Consequently, any infrastructure needs identified in this report must only be considered in the context of up to date, adopted or emerging local plans. Where local plans are absent, silent or out of date these needs should be considered against the definition of sustainability set out in the NPPF as a whole.

No liability whatsoever including liability for negligence is accepted by Anglian Water Services Limited for any error or inaccuracy or omission including the failure to accurately record or record at all, the location of any water main, discharge pipe, sewer, or drain or disposal main or any item of apparatus.
Jonathon Coles

From: Cox, Rachel <rachel.cox@affinitywater.co.uk>
Sent: 21 June 2016 12:17
To: Jonathon Coles
Subject: NC56880 North Uttlesford Garden Village

Jonathon,

As discussed I am able to provide you with a worse case scenario solution and cost at this stage only. We are currently looking at the area as a whole and will hope to provide you with a more detailed solution and cost within a couple of weeks.

But at the moment the proposal as it stands is to;

Install 13km of 500mm Trunk Main - Cost per meter £800.00

Install a new booster - Cost £210,000

 Regards
Rachel

This e-mail (including any attachments) is confidential and may also be legally privileged or otherwise protected from disclosure. If you are not the intended recipient of this e-mail or any parts of it please notify us by reply e-mail or by telephone on 01707 268 111 immediately on receipt and then delete the message from your system. You should not disclose the contents to any other person, nor take copies nor use it for any purposes and to do so could be unlawful. The presence of this footnote indicates: this email message has been tested for the presence of known computer viruses, unless the email has been encrypted (in part or full) wherein the email will not be checked for computer viruses. All incoming and outgoing emails may be monitored in line with current legislation. Affinity Water Limited (Company Number 02546950) is registered in England and Wales having their registered office, at Tamblin Way, Hatfield, Hertfordshire, AL10 9EZ.
www.affinitywater.co.uk

This message has been scanned for viruses by Websense
Mr Coles  
Peter Brett Associates  
11 Prospect Court,  
Courteenhall Road,  
Blisworth,  
Northampton

Date 07/06/2016

Networks / EPN/ 8600003494  
Your Ref: 36997

Dear Mr Coles

**North Uttlesford Garden Village, Park Road, Great Chesterford**  
**Project Reference Number: 8600003494**

**BUDGET ESTIMATE**

Thank you for your recent enquiry regarding the provision of new or altered electricity connection(s) at the above site.

Based upon the information provided with your enquiry, a preliminary assessment of the work required to meet your requirements has been made. From this preliminary assessment, the budget estimate for providing the connection(s) requested will be in the order of £11,000,000.00 plus VAT at the appropriate rate.

**Work Included in This Budget Estimate**

It will be necessary to construct a new Single Transformer Primary Substation in the North – East of Saffron Walden to supply the increased load. The site will be supplied via 3 x 11kV cables.

Please note that the budget estimate provided has been created from a quick desk top assessment only. This is provided free of charge and is intended as a guide only. It does not constitute a formal connection offer and neither does it reserve any capacity on UK Power Networks network. You should also note that the budget estimate may vary considerably from UK Power Networks formal connection offer. If the price of the electricity connection(s) is critical to your decisions or financial commitment to this project, you are strongly advised to consider the option of asking UK Power Networks to provide a formal connection offer that will be based upon a detailed network assessment and design.
Should the work proceed, UK Power Networks reserves the right to charge an amount based on the actual cost of the work carried out, and this may vary from this estimate and from any subsequent formal connection offer.

If you decide to proceed with this project UK Power Networks will be pleased to provide a formal connection offer for all of the work involved in providing the required electricity connections. Should you wish UK Power Networks to provide a formal connection offer, please complete and return the enclosed Application for the Provision of Electricity Connections Form, setting out the details for the connection(s) and capacities required. If you would like a Point of Connection quotation only, please state this on the form.

**CDM**

If you wish to proceed with this project, please be aware that The Construction (Design and Management) Regulations 2007 apply to most construction work. Before UK Power Networks provide a detailed price, please advise who will be the CDM Coordinator for this development. This information, with details of any particular site hazards, must be provided before UK Power Networks can start design work on this project. Further information about the role of the Client under this legislation is contained in Approved Code of Practice “Managing Health and Safety in Construction” – ISBN 978-0—7176-6223-4.

Should you require any further information or advice, please contact me on the number shown above.

Yours Sincerely

Mr Alex O’Sullivan

Project Manager
Dear Jonathon,

Re: Land Enquiry for Proposed Development Site at NEW SUPPLY, NORTH UTTLESFORD GARDEN VILLAGE, PARK ROAD, GREAT CHESTERFORD ESSEX, CB10 1RL.

Thank you for your enquiry which we received on 11th May 2016. I enclose details of National Grid Gas plant in the vicinity of your proposed supply.

The nearest main is 500 metres from the site boundary and it is a Medium Pressure main. However this main has insufficient capacity for the requested demand and will require reinforcement.

The Connection Charging Point indicated on the drawing creates the financial distinction between Connection Costs, that are fully chargeable and upstream reinforcement costs.

Following the submission of a quotation request from your preferred connection provider the reinforcement costs will be subject to the economic test to determine the amount of National Grid and / or Customer contribution in line with National Grid's Connections Charging Statement.

Reinforcement will be required to support the proposed load. This response is based on network analysis carried out at the time of request, there is no validity period & is for indicative purposes only.

A copy of the National Grid Connections Charging Statement referenced in this letter can be found on National Grid's website:

http://www2.nationalgrid.com/uk/services/Gas-distribution-connections/charges/

If you require a printed version please contact us on the details provided above.

I trust this meets with your requirements at this stage. If you have any queries please do not hesitate to contact Performance and Support on the above number.

Yours sincerely,

Claire Wilcox
Design Specialist