Northstowe
Phase 1 Planning Application

Strategic Utility Report
(incorporating Foul Sewage Assessment)

February 2012

7

Northstowe

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Prepared by	Martin Wheeler	Martin Wheeler	Martin Wheeler	Martin Wheeler	Martin Wheeler
Signature					
Checked by	Alistair Atkinson	Alistair Atkinson	Alistair Atkinson	Alistair Atkinson	Alistair Atkinson
Signature					
Authorised by	Alistair Atkinson	Alistair Atkinson	Alistair Atkinson	Alistair Atkinson	Alistair Atkinson
Signature					
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WSP UK LTD
Mountbatten House
Basing View
Basingstoke
Hampshire
RG21 4HJ

Tel: +44 (0)1256 318800
Fax: +44 (0)1256 318700
http://www.wspgroup.com

Contents

1 Introduction

1.1 BACKGROUND

1.1.1 WSP has been appointed to investigate and report on key utility supply strategies by Gallagher for the new town of Northstowe.

1.1.2 The proposed Northstowe development is located within South Cambridgeshire District, approximately 10km to the north west of Cambridge, to the east of Longstanton and to the north of Oakington and is bounded by the Cambridgeshire Guided Busway to the east.

1.1.3 The site for the Northstowe development contains a number of existing uses (The Old Barracks / Immigration Centre - now closed - and the golf course) and is therefore served by all the main utilities. There is also a network of utilities associated with the existing settlements of Oakington and Longstanton adjacent to the site.

1.1.4 None of these utility supplies is large enough to supply the whole proposed development, so Northstowe will need a substantial amount of infrastructure upgrade. However, some of the existing utilities have some limited capacity for the early phases of the development.

1.1.5 A site location plan, Figure 1, showing the boundaries of the Phase 1 development area and off site infrastructure area is included as Appendix A.

1.1.6 Utility Company responses are included in Appendix B and an existing utilities plan is included as Appendix C.

1.2 SITE PLANNING APPROACH

1.2.1 A site wide Development Framework Document has been prepared for the whole town and an outline planning application is being submitted for Phase 1, located south of the B1050 and Longstanton Park and Ride.

1.2.2 The Development Framework covers both the core area and the strategic reserve area for future expansion as defined in the Northstowe AAP.

1.2.3 In this context, the utility strategy has been developed for the whole development, with the requirements for Phase 1 also identified.

1.3 CURRENT PLANNING APPLICATION – PHASE 1

1.3.1 The site comprises the following land uses:

- Up to 1,500 dwellings
- Community and health facilities
- Education facilities
- Employment uses (approximately 12,740 m^2.)
- Retail uses (approximately 1,500 m^2.)
- Sports Hub (approximately 6.17 ha.)
- Play, sport and recreation facilities (including outdoor sport, children's play space, informal open space and allotments).

1.4 SCOPE OF REPORT

1.4.1 Letters were sent out and consultation and meetings took place with the major utility companies relevant to the Northstowe development. They were asked provide information for Phase 1 of 1500 dwellings and to include where practicable for the full 9,500 dwellings now planned with a potential 1,000 dwellings in the strategic reserve area.

1.4.2 All information provided by utility companies is based on their assessment of the current situation. Future changes to existing networks, the connection of other developments and the reduction of demand due to the implementation of sustainability policies will make projections for later phases of the development increasingly uncertain.

2 Foul Drainage

2.1 INTRODUCTION

2.1.1 Anglian Water (AW) is the Sewerage Undertaker for the area. They are responsible for the existing and proposed surface and foul water sewerage systems as well as the sewage treatment facilities in the area.

2.1.2 AW's network in the villages of Longstanton and Oakington is at capacity and there are existing flooding problems from the foul drainage system in Longstanton. The existing foul flow from Longstanton is pumped to Over Sewage Treatment Works (STW). There is an abandoned STW on site which used to serve the Barracks and Immigration Centre.

2.1.3 As part of the process WSP has met with AW on several occasions and they have confirmed that they can service the site.

2.2 SEWAGE TREATMENT

2.2.1 Uttons Drove STW is the proposed location for the foul sewage from the site. This STW will need to be updated as part of AW's Investment Plan. However AW has confirmed that they can provide capacity for the development though implementation of their upgrade plans.

2.2.2 The discharge of treated sewage from Uttons Drove STW is the subject of a number of technical studies and designs to ensure that any increase to the flow does not increase the flood risk to downstream properties.

2.2.3 A land drainage scheme has been proposed and agreed in principle with the Swavesey Internal Drainage Board, the Environment Agency, Anglian Water, South Cambridgeshire District Council, the developers at Cambourne and the joint promoters of Northstowe. An extra 950 dwellings has been agreed for Cambourne by increasing the density of the original outline application.

2.2.4 The proposed scheme is split into two sections:

1) Upgrade to the watercourses between Uttons Drove and Webb's Hole Sluice.
2) Installation of a pumping station at Webb's Hole Sluice to pump out the extra flows when the sluice is closed.

This scheme has the capacity to deliver the expansion at Cambourne (950 dwellings) and the whole of Northstowe (up to 10,000 dwellings in total including the strategic reserve area).

2.2.5 The scheme will be delivered in two stages:

- Stage 1. The upgrading works to the channel are likely to be undertaken in 2011-2013. These channel works have enough capacity for all the planned works at Cambourne and Northstowe.
- Stage 2. A pumping station capable of pumping 1 m^3/s will be installed, again capable of serving the whole development.

2.2.6 The proposed Stage 1 works have been modelled with a temporary pump that has been installed at Webb's Hole Sluice capable of pumping 40 l/s to accommodate the original Cambourne development. The modelling undertaken by the Environment Agency has demonstrated that the temporary scheme can accommodate the additional 950 dwellings at Cambourne plus 1500 dwellings.

2.2.7 AW has confirmed that they intend to use this additional capacity to serve Phase 1 of Northstowe.

2.2.8 The second stage of the scheme is expected to be triggered by the second Phase of Northstowe.

2.3 PHASE 1 DELIVERY

2.3.1 A terminal pumping station will be constructed at the north end of the site to transfer sewage to Uttons Drove STW. This may be sized for Phase 1 only or to transfer the whole Northstowe development.

2.3.2 Phase 1 foul drainage will drain to the terminal pumping station generally by gravity with local lifting stations as necessary to prevent excessive sewer depth.

2.3.3 The drainage for Phase 1 will be sized to serve both Phase 1 and to convey flows from the later Phases for the one terminal pumping station option.

2.4 SITE WIDE DEVELOPMENT

2.4.1 It is proposed that the terminal pumping station be located at the northern end of the site adjacent to the park and ride site. This location provides the following:

- A location in an industrial / commercial setting and therefore not a nuisance for residential settings.
- Optimum locations to collect the sewage on-site and pump off to the STW.
- A location where the local networks of Northstowe and Longstanton could be combined in the future to reduce the existing problems at Longstanton.

2.4.2 Anglian Water has proposed an alternative two terminal pumping station option, which would be cheaper for Phase 1.

2.4.3 The remainder of the site will need to be served by an additional 5 - 6 pumping stations which could divert the sewage into a central utility spine which will convey the sewage to the terminal pumping station.

2.4.4 Alternatively each pumping station could transfer sewage locally into the adjacent catchment area, which would reduce the length of pumping mains and associated potential for surge and septicity problems.

3 Water Supply

3.1 INTRODUCTION

3.1.1 Cambridge Water supplies the area around Northstowe from the Cherry Hinton reservoir to the south east of Cambridge. Water is transferred from there to the Coton and Madingley reservoirs to the west of Cambridge.

3.1.2 Madingley Reservoir feeds trunks mains that pass northwards to the west of Oakington and Longstanton to supply areas to the north of Over. Villages on each side, including Oakington and Longstanton are supplied by branch mains from these trunk mains.

3.1.3 Cambridge Water has confirmed that they have adequate water resources to serve the Northstowe development and that this can be delivered with the planned reinforcements as identified below.

3.2 SUPPLY STRATEGY – PHASE 1 DEVELOPMENT

3.2.1 For the 1500 dwelling Phase 1, a new 300 mm diameter branch main would be constructed from the trunk mains to the north of Longstanton, following the route of the recent Longstanton western bypass.

3.3 SUPPLY STRATEGY – SITE WIDE DEVELOPMENT

3.3.1 Demands beyond about 1500 dwellings would require a second branch connection from the trunk mains and it is planned that this would be made at the Oakington end of the site to form a ring main via a spine utility corridor through the centre of the site.

3.3.2 Beyond about 3,000 dwellings, reinforcements will be needed to the trunk main system. This is currently estimated to consist of upgrade to the Coton Booster Station and approximately 5.5km of 450 mm diameter main laid parallel with the existing trunk mains from Madingley Service Reservoir.

4 Electricity Supply

4.1 INTRODUCTION

4.1.1 UK Power Networks (UKPN), formally known as EDF, is the electricity supplier for the Northstowe area.

4.1.2 The existing site and the surrounding villages are currently supplied from a strategic 132kV grid substation at Histon which is connected to a primary 33/11kV sub-station located adjacent to Hatton's Road south of Longstanton. While there are a number of smaller 11kV substations within the site and the existing villages, these two sub-stations are the principal ones for the development.

4.1.3 There are plans to upgrade the strategic infrastructure which supplies the whole of the Cambridge region. The projected electricity requirements for Northstowe are included in these plans. These works include upgrade of the Histon sub-station to provide enough power for Northstowe.

4.2 ELECTRICITY SUPPLY STRATEGY – PHASE 1 DEVELOPMENT

4.2.1 UKPN has advised that there is very little spare capacity in the Northstowe area and reinforcements will be needed for the first phases of development.

4.2.2 For an assumed demand of 3.5MVA for Phase 1 of 1500 dwellings, an extra 33kV cable laid along the route of the existing 33kV cables from Histon substation to Longstanton substation would be required. A new 11kV cable would be required from Longstanton substation to the site.

4.3 ELECTRICITY SUPPLY STRATEGY – SITE WIDE DEVELOPMENT

4.3.1 Beyond 1500 dwellings (3.5MVA) and up to 3000 dwellings (7MVA) an additional 11kV cable will be needed from Longstanton substation to the site. It may be cheaper to lay this at the same time as the first cable or alternatively include ducts for the second cable when laying the first.

4.3.2 Beyond 7MVA, which should be sufficient for about 3,000 dwellings with supporting uses, a new 33kV supply will have to be brought from Histon substation to a new on-site primary 33/11kV substation. The route from Histon substation to the site is not straightforward and has not been confirmed at this stage, but UKPN has advised that it should be possible to use the existing route to Longstanton substation for part of it. As this stage is in the region of 15 years in the future there could be significant changes to the requirements and the supply strategy by then.

4.3.3 The proposed new primary substation is expected to be located in the south of the site and requires a site of approximately 30 x 40 metres with access for large vehicles. This primary substation will feed 11kV circuits to a network of substations providing LV supplies around the site.

5 Gas Supply

5.1 INTRODUCTION

5.1.1 National Grid is the regional gas supply company for the Northstowe area.

5.1.2 The main supply main in the area is an 8 inch Intermediate Pressure (IP) gas main that runs along the western verge of the A14. This supplies a 4 inch IP main leading to a pressure reduction station in Oakington, which then supplies Oakington and Longstanton with medium pressure gas.

5.1.3 National Grid has confirmed that it has adequate resources to supply the Northstowe development and that this can be delivered to the site with the planned reinforcements identified below.

5.2 GAS SUPPLY STRATEGY – PHASE 1 DEVELOPMENT

5.2.1 National Grid has confirmed that there is sufficient capacity in the low / medium pressure network to supply at least 750 units without significant infrastructure upgrades. Connections for these can be taken from the MP main in Longstanton.

5.2.2 To supply the whole of the Phase 1 development, it is expected that some offsite reinforcements will be needed to the IP network.

5.3 GAS SUPPLY STRATEGY - SITE WIDE DEVELOPMENT

5.3.1 To supply the whole site, significant off-site reinforcement will be required. These include upstream high pressure (HP) gas main upgrades as well as reinforcement to the IP main parallel to the A14.

5.3.2 The site will connect to the IP main via two branches: the first along Hattons Road / Longstanton Bypass into the northern end of the development and the second route to the southern part of the site along the New Hattons Road link.

5.3.3 National Grid has advised that the reinforcements to the HP network would take about 3 years to deliver.

5.3.4 On-site, the two supply links to the IP main parallel to the A14 would be connected via a main laid along a spine utility corridor parallel to the CGB route.

6 Telecommunications

6.1 INTRODUCTION

6.1.1 British Telecom (BT) and Virgin Media both operate in Longstanton and Oakington. BT has strategic infrastructure in the area running along the A14, Hattons Road and Dry Drayton Road.

6.2 MARKET UPDATE

6.2.1 There is currently no major spare capacity in the area in either BT's or Virgin Media's networks and therefore upgrading works will be required.

6.2.2 The telecoms market is changing with different products and approaches to the provision of media and telecommunications services now being provided.

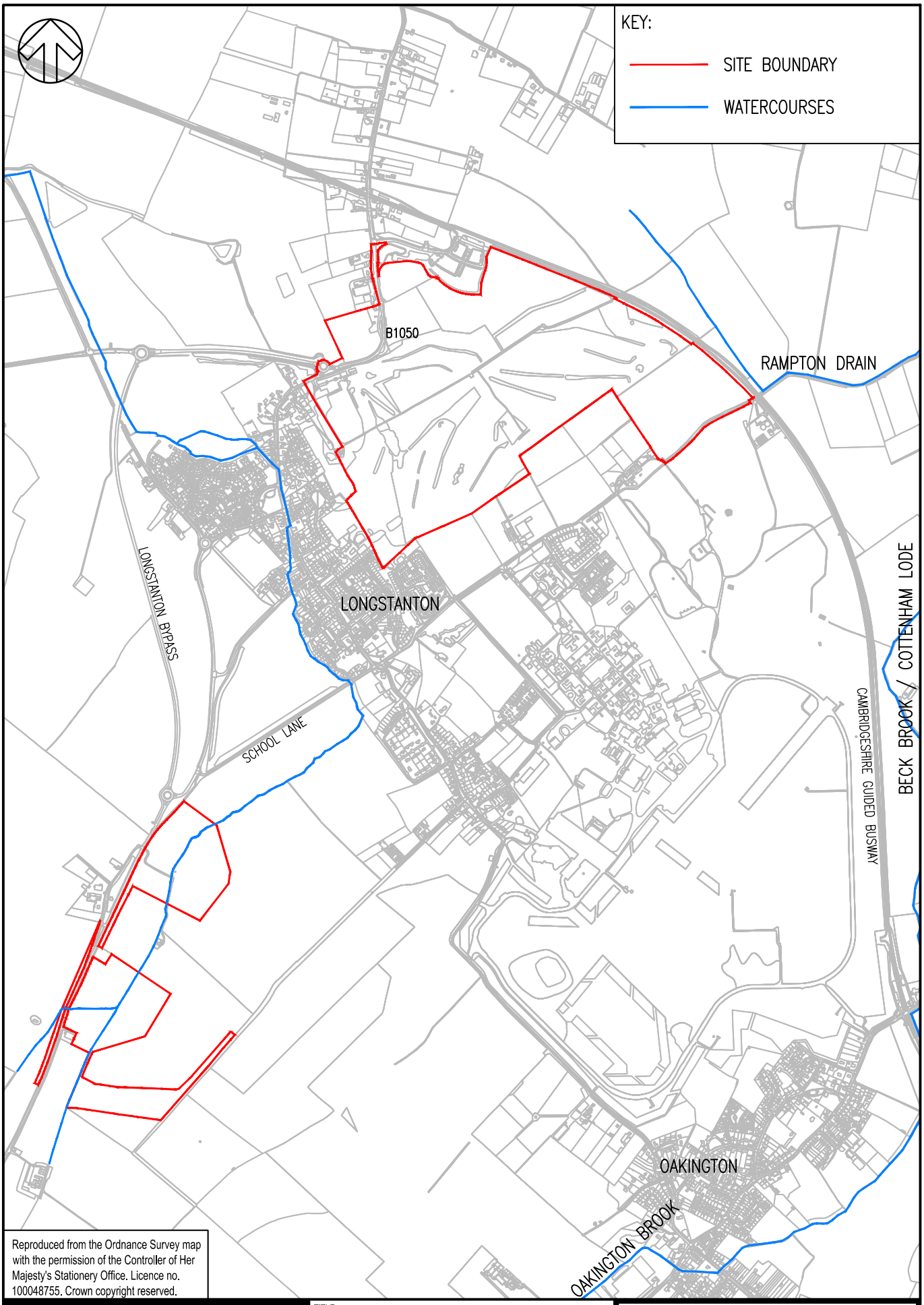
6.2.3 BT Open Reach and other providers deliver fibre optics to the home to connect to superfast broadband. This market is likely to continue to evolve and will greatly expand the capability of the infrastructure provided.

6.3 SUPPLY STRATEGY

6.3.1 Gallagher is working with a number of providers to design and deliver a 'Fibre to Home' broadband network to ensure the new residents will have a high speed connection for future telecoms, IT and media purposes.

Appendices, Figures & Tables

Appendix A Phase 1, Figure 1



WSP

TITLE:

NORTHSTOWE PHASE 1
SITE LOCATION PLAN

FIGURE No:

PHASE 1, FIGURE 1

N:\NORTHSTOWE, PHASE 1, PLANNING APPLICATION\DRAWINGS\AUTOCAD\FIGURES\SITE LOCATION PLAN (FRA).DWG 01/02/2012 13:36:25 Ward, John

Appendix B Utility Company Responses

A1 Anglian Water
A2 Cambridge Water
A3 UK Power Networks
A4 National Grid

Anglian Water Services Limited
Planning & Equivalence Team
Thorpe Wood House
PETERBOROUGH
PE3 6WT

Tel 01733 414690
Fax 01223 201001
Email: planningliaison@anglianwater.co.uk

Our ref 0306/sp35(002)

Mr Martin Wheeler
Associate Director
WSP Group
Mountbatten House
Basing View
Basingstoke
Hampshire
RG21 4HJ

16 Aug 2011

Dear Mr Wheeler,

NORTHSTOWE

Following on from meeting held on 10 August at your office attended by Gareth Barker, Rob Morris and Mike Farrer from Anglian Water I am pleased to confirm:

Anglian Water can provide sewage treatment for Phase 1 (1500 dwellings) at Uttons Drove Sewage Treatment Works (STW).

Subject to upgrades to Uttons Drove STW, capacity will be available to serve the whole of the proposed development of 9500-10500 dwellings.

Please do not hesitate to contact myself or Gareth Barker should you require any further assistance.

Yours sincerely

Sue Bull
Planning Liaison Manager
Planning & Equivalence Team

Registered Office
Anglian House,
Ambury Road,
Huntingdon,
Cambridgeshire. PE29 3NZ
Registered in England
No. 2366656

an AWG Company

CAMBRIDGE WATER COMPANY

Registered office:
90 Fulbourn Road
Cambridge CB1 9JN
Tel: 01223 70 60 50

MS/Wheeler/ /A4.06

30 August 2011

Mr M Wheeler
WSP UK
Mountbatten House
Basing View
Basingstoke
Hampshire
RG21 4HJ

Dear Mr Wheeler,

Re Northstowe – Confidential Enquiry - Capacity Check

Your Ref: JW/mc/2988/S-Water

Thank you for your letter dated 12 August 2011 requesting an update of proposals to serve the Northstowe development site.

In preparing our response and the associated budget estimates for bulk connections and the offsite reinforcement of assets that we believe are necessary, we have considered the 2 scenarios outlined in your letter.

Scenario 1: - Phase 1 - Supplying the first 1,500 houses only.
Scenario 2: - Supplying the whole site consisting of 10,500 houses.

In order to achieve scenario 1, we can confirm that a single bulk connection (bulk connection 1) of 300mm internal diameter is sufficient to satisfy the demands from the first 1500 houses on the development. This bulk connection can be provided without the need for off-site network asset reinforcement. Our existing mains network crosses Dry Drayton Road, some 500m North East of bulk connection point 1, and we would propose that the connection be made at this point (see enclosed asset location sketch).

In addition to the first connection (bulk connection 1), a second connection (bulk connection 2) is necessary to meet the demands beyond 1,500 houses. Bulk connection 2 would be provided from the same main but some 2.5kms north where it crosses the B1050 (see enclosed asset location sketch). Reinforcement of the existing network assets will be necessary to provide the additional capacity in the network to supply the development under scenario 2. This will consist of approx 5.5km of 450mm internal diameter main and a performance upgrade of our existing Coton Booster Station works. The off-site main-laying reinforcement works and booster station upgrade at Coton will be required before the completion of 3,000 houses in order to ensure that the network has the necessary capacity to meet demand. The extent of the required mains reinforcement works are shown on the enclosed sketch.

The indicative budget costs are broken down in the table below

Item	Indicative Budget Costs (£000's)
Bulk Connection 1	36
Bulk Connection 2	33
Main-laying Reinforcement Works (5.4km 450mm dia.)	2400
Booster Upgrade Works	200
Water Infrastructure Charges	2966

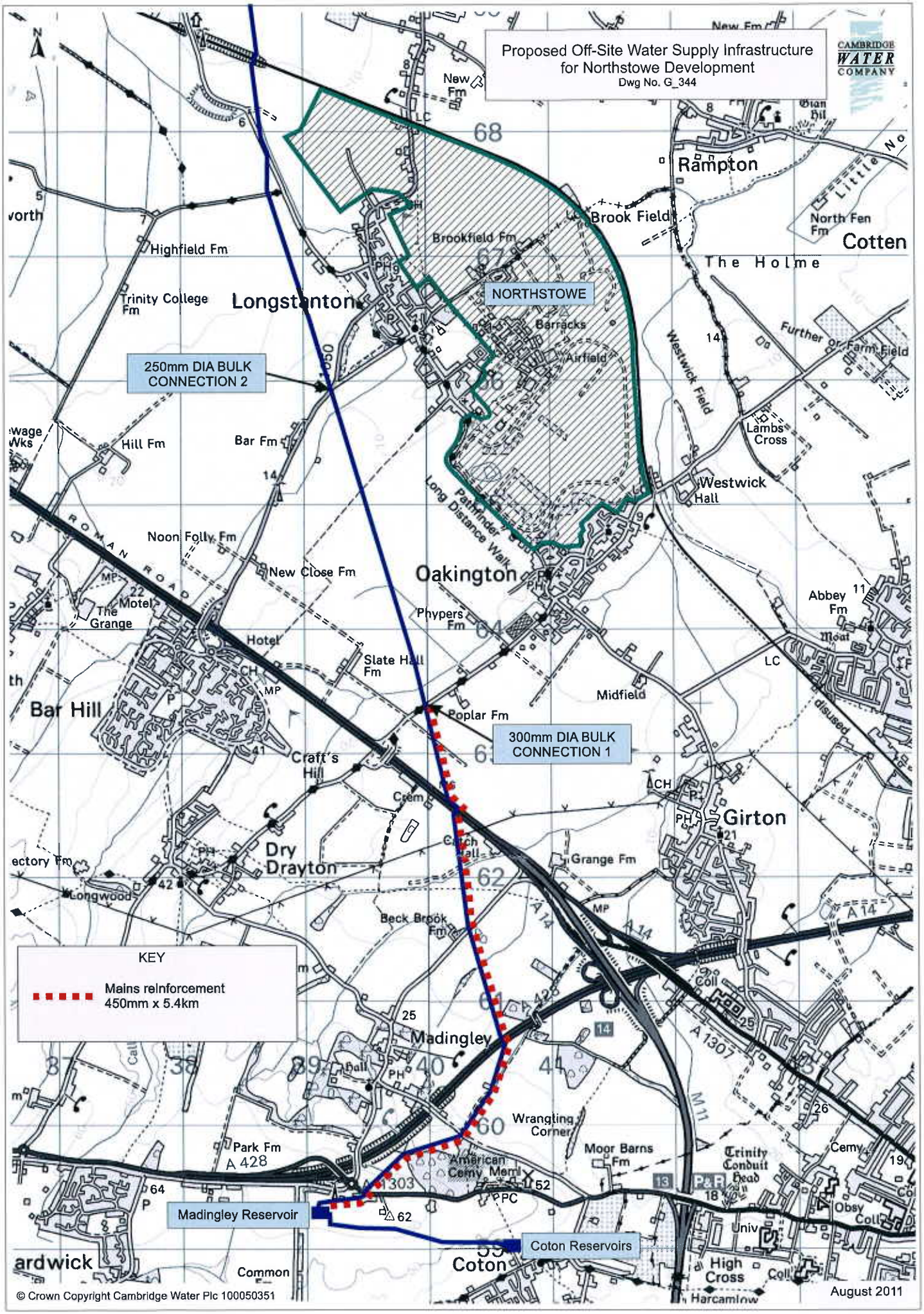
I trust that we have interpreted your requirements appropriately and that the information and estimated costs provided are sufficient for your needs at this stage. If you require anything further, please do not hesitate to contact Martin Styles, Water Supply Manager, on 01223 403020 (martinstyles@cambridge-water.co.uk) or myself.

Yours sincerely

pp

Mike Sloan
Network Development Manager
Cambridge Water Company

Encl. – Asset location sketch G_344



nationalgrid

Fax

Network Strategy WM
Block 4, Area 6
Brick Kiln Street
Hinckley
Leicestershire
LE10 0NA

National Gas Emergency Service - 0800 111 999 (24hrs)
*calls will be recorded and may be monitored

To	Martin Wheeler
Company	WSP UK
Fax	01256 318700
cc	
From	Perri Spencer @ National Grid
Date	18th August 2011
Subject	**Northstow, Cambridge Capacity Check**

ADMIN ASSISTANT
Network Strategy
Direct tel +44 (0)845 3666758
Direct fax +44 (0)845 0700868
www.nationalgrid.com

Our Reference : E4021790
Your Reference : JW/MC/2988/S-GAS

nationalgrid

EAST ANGLIA LDZ
BLOCK 4 AREA 6
BRICK KILN STREET
HINCKLEY LEICESTERSHIRE
LE10 0NA

FAO: MR MARTIN WHEELER
WSP (RG21)
MOUNTBATTEN HOUSE
BASING VIEW
BASINGSTOKE
HAMPSHIRE
RG21 4HJ

Date: 18/08/2011
Contact: PERRI SPENCER
Tel: 01455 893195
Fax: 0845 0700868

Dear MR WHEELER,

Land Enquiry Re : PROPOSED DEVELOPMENT,SITE AT,NORTHSTOWE,CAMBRIDGE,CB4 1ZZ

Thank you for your enquiry dated 11-Aug-2011, which we received on 11-Aug-2011.

The nearest main with sufficient capacity is 769 metres from the site boundary and it is a Medium Pressure main.

Plans Attached: YES

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.

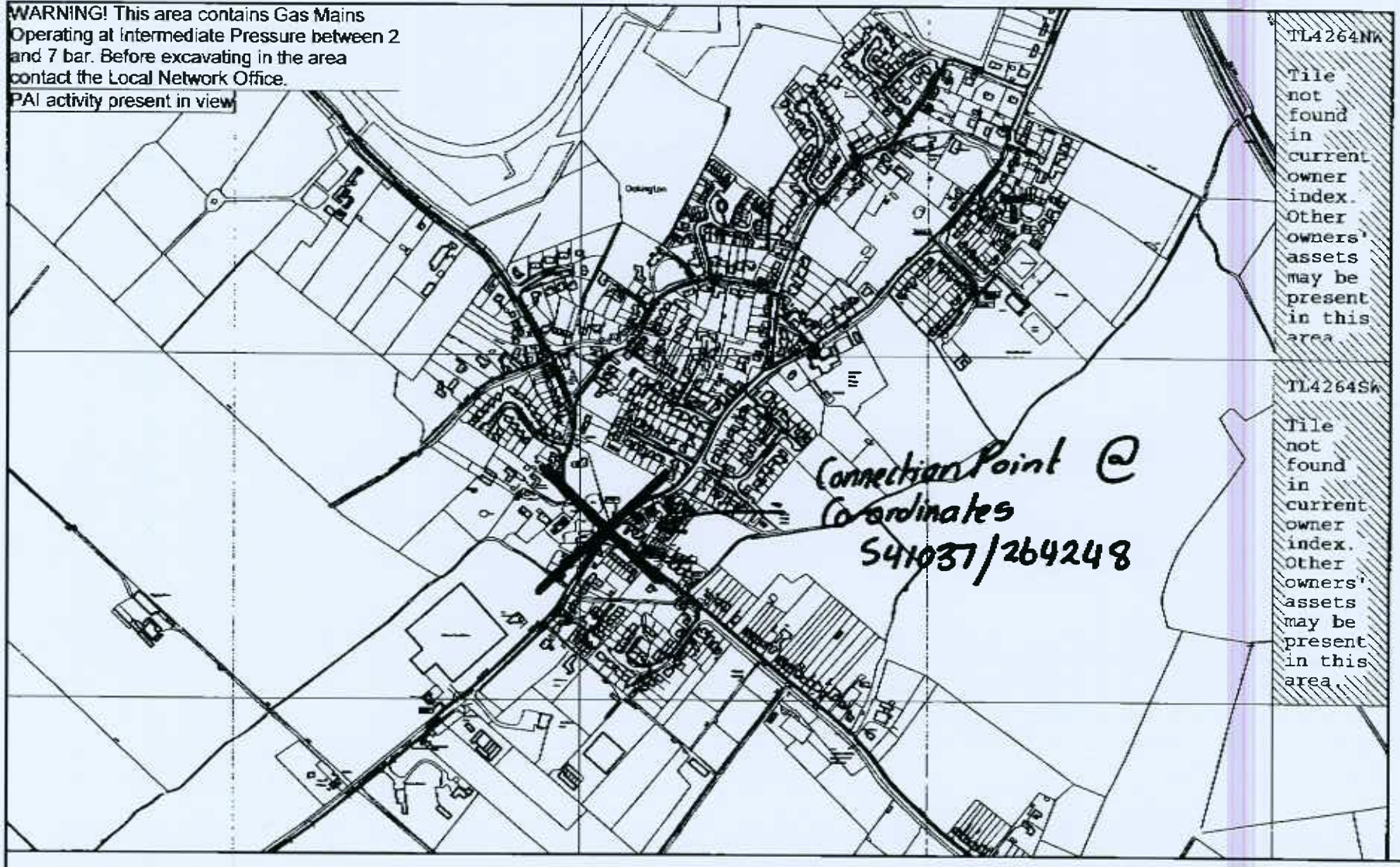
If you have any queries, please contact PERRI SPENCER on the number above.

Yours sincerely,

PERRI SPENCER
(ADMIN ASSISTANT)

WARNING! This area contains Gas Mains Operating at Intermediate Pressure between 2 and 7 bar. Before excavating in the area contact the Local Network Office.

PAI activity present in view



SCALE: Not to scale

USER ID: Perri.Spencer

DATE: 18/08/2011

INTERNAL USE ONLY

MAP REF: TL4164

CENTRE: 541167, 264388

LP MAINS
MP MAINS
IP MAINS
LHP MAINS
NHP MAINS
HISTORY MAINS
LAs
GTs
SSSIs

Some examples of Plant Items:
Valve
Depth of Cover
Syphon
Diameter Change
Material Change

This plan shows those pipes owned by National Grid Gas plc in their role as a Licensed Gas Transporter (GT). Gas pipes owned by other GTs, or otherwise privately owned, may be present in this area. Information with regard to such pipes should be obtained from the relevant owners. The information shown on this plan is given without warranty, the accuracy thereof cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc. are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by National Grid Gas plc or their agents, servants or contractors for any error or omission. Safe digging practices, in accordance with HS(G)47, must be used to verify and establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you on or near gas apparatus. The information included on this plan should not be referred to beyond a period of 28 days from the date of issue.

Desktop MAPS Version 5.1.2.0

4021790

Hinckley Server

Ward, John

From: Hopewell, Dean <dean.hopewell@uk.ngrid.com>
Sent: 19 August 2011 14:39
To: Wheeler, Martin
Subject: RE: Northstowe, Cambridge - E4021790

Martin,

We will process your requests as discussed.
I have also had a chat with a manager from the analysis team regarding the minimum lead times for reinforcement to the LTS network. Providing a firm quotation request is received, the minimum lead times for the reinforcement to the High Pressure Network would be three years.

If you require any further assistance please do not hesitate to contact me.

Regards,

Dean Hopewell
Admin Assistant, Non Standard Connections,
Network Strategy, National Grid
dean.hopewell@uk.ngrid.com
Tel: 0845 366 6758 ext 712183
Fax: 0845 0700 868

From: Wheeler, Martin [mailto:Martin.Wheeler@WSPGroup.com]
Sent: Friday, August 19, 2011 1:46 PM
To: Spencer, Perri
Cc: Hopewell, Dean
Subject: Northstowe, Cambridge - E4021790

Hi Perri,

Your Reference E4021790

I discussed the above with Dean. Please can you ask him to check the site for 750 dwellings and if that fails for 500 dwellings and if that fails for 250 dwellings. Given that major reinforcements to HP mains will be needed for the whole development, we need to know how many can be built in the early years before the reinforcement are necessary.

Can it also be confirmed roughly how long it would take to provide the full capacity for the 1500 dwellings from placement of a firm order. In 2007 we were advised that it would be 24-27 months.

Regards,

Martin

Martin Wheeler
Associate Director, Property & Development

Mountbatten House, Basing View, Basingstoke, Hampshire, RG21 4HJ
Tel: +44 1256 318806
Mob: +44(0)7713 985778

Website: www.wspgroup.co.uk

Registered Office:
Newington House
237 Southwark Bridge Road
London SE1 6NP

Registered in England and Wales No: 3870728

Company:
UK Power Networks
(Operations) Limited

Mr Wheeler
WSP
Mountbatten House
Basing View
Basingstoke
Hampshire
RG21 4HJ
Networks / EPN/ 400970722
Your Ref:

Mr Peter Hunt
Tel: 07875 119714

Date 12/09/2011

Dear Mr Wheeler

Re: Northstowe, Cambridge, Cambridgeshire
Project Reference Number: 400970722

BUDGET ESTIMATE

Thank you for your recent enquiry regarding the provision of new or altered electricity connection 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 requested will be in the order of £10,000,000 plus VAT at the appropriate rate.
We would need a space on site to be supplied free of charge approximately 30X40M to build a new sub station. We would need 3-4 years to complete this work subject to wayleaves.
For an initial 3.5MVA it is estimated that this could be supplied for a budget cost of £500,000.00
You should also allow approximately £750.00 per connection.

Work Included in This Budget Estimate
The preliminary assessment is based on providing 1 connection(s) at 11000 volts.
To provide 25MVA to Northstowe development

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 Peter Hunt

Project Manager

Ward, John

From: Hunt, Peter <peter.hunt@ukpowernetworks.co.uk>
Sent: 25 October 2011 11:49
To: Wheeler, Martin
Cc: Atkinson, Alastair
Subject: RE: Northstowe, Cambridge
Attachments: ATT40408.txt

Martin
Please see below.

Regards

Peter.

Peter S Hunt
Connections Project Manager
Major Projects
Tel: 07875119714

UK Power Networks
Barton Road
Bury St Edmunds
Suffolk
IP32 7BG
e-mail: peter.hunt@ukpowernetworks.co.uk

From: Wheeler, Martin [mailto:Martin.Wheeler@WSPGroup.com]
Sent: 24 October 2011 10:45
To: Hunt, Peter
Cc: Atkinson, Alastair
Subject: RE: Northstowe, Cambridge

Peter,

I would be grateful if you could confirm that my summary of our conversation below is correct?

Regards,

Martin
01256 318806

From: Wheeler, Martin
Sent: 14 October 2011 10:14
To: 'Hunt, Peter'
Cc: Atkinson, Alastair
Subject: RE: Northstowe, Cambridge

Peter,

Thanks for calling me back. I summarise our conversation below to make sure I understood OK.

1. Longstanton SS is the 33/11kV SS located to the south of Longstanton on Hatton's Road (the B1050). Yes

2. There is no existing capacity, so the 33kV overlay from Histon SS to Longstanton SS and a new 11kV from Longstanton SS to the site will be needed on day 1. The budget cost for this is £0.5M. Yes as of today. This is based on a desk top exercise and is subject to a fuller survey.

3. At about a load of 3.5MVA a second 11kV from Longstanton SS to the site will be needed. It could be cheaper to lay with the first one or at least include ducts for the second cable when laying the first. Yes

4. Beyond about 7MVA, the on-site Primary 33/11kV SS and new 33kV connection from Histon SS will be needed. The route for this is difficult. No ducts were included along the CGB and your planners consider it unlikely that this route would be permitted. You were going to check if the existing cable route from Histon SS to Longstanton SS could be used. As this is say 15 years away, the requirements may be significantly different. Yes in principle the route could be the same. This would need to analysed on a cost basis.

Regards,
Martin

Martin Wheeler
Associate Director, Property & Development
Basingstoke
Tel: +44(0)1256 318806
Mob: +44(0)7713 985778
Website: www.wspgroup.com

From: Hunt, Peter [mailto:peter.hunt@ukpowernetworks.co.uk]
Sent: 11 October 2011 09:14
To: Wheeler, Martin
Cc: Atkinson, Alastair
Subject: RE: Northstowe, Cambridge

Martin/Alastair
Please find below information which I hope will be useful to you.
We would require a plot of 40M x 30M for a sub station on site. This would be provided FOC. The position of this is not critical and could be at your discretion. The cables for this would originate from Histon so this may influence your choice of area. We would need road access so that a lorry could reach this in the event of a system failure. To enable us to provide the first 3.5MVA we would need to overlay the 33kV cables from Longstanton to Histon. This would then allow us to supply the site from a new circuit breaker at Longstanton. The 11kV infrastructure would depend on the layout of the proposed site. It would be possible to supply in the region of 7MVA from Longstanton after the 33kV cable has been overlaid. This would require 2 cables to be run from Longstanton to site from 2 separate circuit breakers. Please note that this information is from a desktop exercise and is per the current situation which can change at any time.

Regards

Peter.

Peter S Hunt
Connections Project Manager
Major Projects
Tel: 07875119714

UK Power Networks
Barton Road
Bury St Edmunds
Suffolk
IP32 7BG
e-mail: peter.hunt@ukpowernetworks.co.uk

From: Wheeler, Martin [mailto:Martin.Wheeler@WSPGroup.com]
Sent: 04 October 2011 16:10

Appendix C Existing Utility Plans

DO NOT SCALE

KEY:

- WATER MAIN
- FOUL SEWER
- RISING MAIN
- MP GAS MAIN
- LP GAS MAIN
- ELECTRICITY LINES
- BT CABLES
- NTL PLANT

CAMBRIDGESHIRE GUIDED BUSWAY

11KV

Lurmark Engineering S/S

630 PE M/P

B1050

4in. AC

11KV Prentice Cl Sub Stn

Gas Governor

Rampton Road

REV	DATE	BY	DESCRIPTION	CHK	APD
B	31/01/12	JW	REVISED PHASE 1 SITE BOUNDARY	ALA	ALA
A	07/12/11	JW	ISSUED	ALA	ALA

DRAWING STATUS: FOR INFORMATION ONLY

WSP

Mountbatten House, Basing View, Basingstoke, Hampshire RG21 4HJ
Tel: +44 (0)1256 318800 Fax: +44 (0)1256 318700
http://www.wspgroup.com

CLIENT: GALLAGHER

ARCHITECT: TOR

PROJECT: NORTHSTOWE PHASE 1

TITLE: STATUTORY UNDERTAKERS PLANT PHASE 1

SCALE @ A1:	CHECKED:	APPROVED:
1:2500	ALA	ALA
CAD FILE:	DESIGN-DRAWN:	DATE:
2988-PH1-UD-01	JW	January 2012
PROJECT No:	DRAWING No:	REV:
11012988	2988/PH1/UD/01	B

N:\NORTHSTOWE, PHASE 1, PLANNING APPLICATION\DRAWINGS\AUTOCAD\UD UTILITIES DESIGN\2988-PH1-UD-01.DWG 03/02/2012 10:38:23 Ward, John

DO NOT SCALE

KEY:

- WATER MAIN
- FOUL SEWER
- RISING MAIN
- MP GAS MAIN
- LP GAS MAIN
- ELECTRICITY LINES
- BT CABLES
- NTL PLANT

LONGSTANTON BYPASS

HATTON'S ROAD

12in. AC

33KV O/H

Longstanton 33/11KV
Sub Station

11KV

4in. AC

BT O/H

REV	DATE	BY	DESCRIPTION	CHK	APD
A	31/01/12	JW	REVISED PHASE 1 SITE BOUNDARY & ELECTRICAL PLANT TO MATCH TOPOGRAPHICAL SURVEY	ALA	ALA
A		JW	ISSUED	ALA	ALA

DRAWING STATUS: FOR INFORMATION ONLY

WSP
Mountbatten House, Basing View, Basingstoke, Hampshire RG21 4HJ
Tel: +44 (0)1256 318800 Fax: +44 (0)1256 318700
http://www.wspgroup.com

CLIENT: GALLAGHER

PROJECT: NORTHSTOWE PHASE 1

ARCHITECT: TOR

TITLE: STATUTORY UNDERTAKERS PLAN OFFSITE MITIGATION AREAS

SCALE @ A1:	CHECKED:	APPROVED:
1:2500	ALA	ALA
CAD FILE: 2988-PH1-UD-02	DESIGN-DRAWN: JW	DATE: January 2012
PROJECT No: 11012988	DRAWING No: 2988/PH1/UD/02	REV: B

N:\NORTHSTOWE, PHASE 1, PLANNING APPLICATION\DRAWINGS\AUTOCAD\UD UTILITIES DESIGN\2988-PH1-UD-02.DWG 03/02/2012 10:40:49 Ward, John