



Lower Horsebridge, Hailsham

Utilities Assessment

On behalf of **Abtec Ltd**

Project Ref: 38632/2001 | Rev: A | Date: November 2016

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For and on behalf of Peter Brett Associates LLP				

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1 Introduction

1.1 Foreword

Peter Brett Associates LLP has been commissioned by Abtec Ltd to undertake a Utilities Assessment for land off Upper Horsebridge Road (A271) in Lower Horsebridge, Hailsham. The site covers a total area of approximately 1.2 hectares, of which approximately 0.4ha is proposed for the development of 10 semi-detached residential dwellings, with the remainder of the site proposed for green space.

The site is currently undeveloped and is located to the north-west of Hailsham in East Sussex at approximate OS Grid Reference TQ 577 113.

A red line site boundary plan can be found within Appendix A of this report.

A copy of the proposed site layout current at the date of this assessment is attached in Appendix B.

Existing utility infrastructure within and adjacent to the proposed development is presented on PBA's drawing number 38632/2501/001 within Appendix C. This information has been taken from existing asset records provided to us by the statutory undertakers operating in this area.

1.2 Scope of Works

This assessment aims to achieve the following: -

- Liaise with all utility suppliers providing services within the proposed development zone.
- Establish the nature, extent and location of any existing utility company distribution infrastructure relating to electricity, gas, water supply and telecommunication.
- Confirm with the utility suppliers the capacity of the existing infrastructure and the requirements for such infrastructure to be diverted, extended, adapted or renewed to cater for the proposed development, and the broad cost estimates.
- Advise the client of the need for any specialist surveys (e.g. network modelling requirements).

1.3 Basis of Report

This report has been compiled from correspondence received from the incumbent utility providers (electricity, gas, potable water & telecommunications) with regard to new utility supplies.

A high level desk top study and review of existing utility services information has been completed, to identify constraints to the proposed development and to establish the need for any diversions and protections, to the incumbent utility services, to accommodate redevelopment.

1.4 Requested Loads

Capacity checks were requested from the incumbent distribution network operators in August 2016.

Anticipated loads for this high level assessment have been calculated based upon a representative development quantum which included 10 residential units. It is expected that the exact development quantum may fluctuate, but this is unlikely to have any significant overall impact on the strategic delivery of utility services to this site.

Table 1: Calculated Utility Loads

Utility	Energy Demand
Electricity	25 kVA
Gas	127 kWh peak (137 MWh annual)
Potable water	0.40 l/s peak flow (5.13m ³ /day)

2 Contacts Directory

Table 2: Statutory Undertakers Contacts Directory

Title	Address	Contact Details
Electricity	UK Power Networks Bircholt Road Park Wood Maidstone Kent ME15 9XH	Tel: 01622 352160
Gas	Southern Gas Networks St Lawrence House Station Approach Horley Surrey RH6 9HJ	Tel: 01293 818143
Potable Water	South East Rocfort Road Snodland Kent ME6 5AH	Tel: 0345 357 2428
Telecommunications	Openreach Repayments (Alterations) PP Room 114/116 Tunbridge Wells TEC Broadwater Lane Tunbridge Wells Kent TN2 5RE	Tel: 01892 523629

3 Utility Infrastructure

3.1 Electricity

The incumbent electricity provider is UK Power Networks (UKPN).

A summary of the infrastructure likely to be affected by the proposed development is outlined below.

3.1.1 Existing Infrastructure

UKPN records show a substation located directly to the south-west of the site with adjacent pole mounted transformers, and a further substation to the north-west (Kings Head Horsebridge 471942).

High voltage (HV) and Extra High Voltage (EHV) cables are shown crossing the open land behind the proposed development from north to south.

There are HV and LV (low voltage) cables running along the southern site boundary from the PS, out on to Upper Horsebridge Road, and there is an LV overhead line shown running along the nearside footway of Upper Horsebridge Road.

3.1.2 Network Modifications

At this stage it is envisaged that the LV overhead line running along the nearside footway of Upper Horsebridge Road at the location of the proposed site access could remain in situ, and therefore no diversionary works are anticipated.

3.1.3 Network Capacity

It is estimated that the electricity demand for the proposed development would be approximately 25kVA based on gas heated dwellings.

UKPN has advised that the existing substation is rated at 200kVA, and should just about have sufficient capacity to serve the proposed development.

No off-site reinforcement is envisaged at this stage, but should the demand for the development exceed the existing capacity, requiring an upgrade to a 300kVA substation, the developer would only be liable for approximately 10% of the cost, which is estimated to be around £5,000.

3.1.4 New Infrastructure

UKPN has provided a budget estimate of £15,000 excl. VAT to supply the site with a point of connection at Pole 545324 just north of the proposed site entrance on Upper Horsebridge Road, and this cost is based on the developer's ground works contractor carrying out all on-site excavation and reinstatement works.

3.1.5 Legal Tenure (Wayleaves / Easements)

Where electricity lines are to be installed in private land UKPN will require an easement in perpetuity for its electric lines, and in the case of electrical plant the freehold interest in the substation site, on UK Power Network terms, without charge and before any work commences.

Where a GRP substation is required a footprint area of 4m x 4m (5m x 5m for a brick built enclosure), will be required which will need provision for 24-hour access directly from the public highway.

3.1.6 Financial Considerations

Procurement Options

The estimated electricity demand proposed for this development is unlikely to be of sufficient scale to encourage an “out of area” licensed Distribution Network Operator (DNO) to offer an alternative proposal to establish an embedded system within the incumbent’s licensed area.

Contestable / Non Contestable Work

All new electricity infrastructure from the point of connection to the existing network to the point of metered supply will generally fall under the “contestable” heading allowing “self lay” as an optional procurement route.

All modifications and diversions of existing apparatus generally fall under a “non-contestable” banner, which must remain under the direct control of the incumbent provider.

Generally, building and civils work in association is considered to be a contestable element in terms of both new and diversionary work.

A detailed review of the electricity scope of work offered by UK Power Networks should be undertaken once a formal connection offer and quotation has been received.

3.2 Gas Infrastructure

The incumbent gas provider is Southern Gas Networks (SGN).

A summary of the infrastructure likely to be affected by the proposed development is outlined below.

3.2.1 Existing Infrastructure

SGN records an existing 180mm polyethylene (PE) low pressure (LP) running in the nearside footway of Upper Horsebridge Road adjacent to the site.

3.2.2 Network Modifications

SGN has provided a budget estimate of £32,000 to lower or divert the existing 180mm LP main in order to accommodate the proposed vehicular site access.

3.2.3 Network Capacity

It is estimated that a peak hourly demand of approximately 127 kWh and an annual demand of approximately 137 MWh will be required to serve the development.

SGN has not advised of any constraints in their existing network, and it is therefore anticipated that no off-site reinforcement work will be required.

3.2.4 New Infrastructure

SGN has provided a budget estimate to supply the proposed development with a point of connection to their existing 180mm PE LP main located in Upper Horsebridge Road to the east of the site.

The estimated cost to supply the development based on the developer's ground works contractor carrying out all on-site excavation and reinstatement is £11.250 inc. VAT.

3.2.5 Financial Considerations

Contestable / Non Contestable Work

All new gas infrastructure from the pressure reducing station (PRS) (if applicable) or connection point to the metered supply will generally fall under the "contestable" heading allowing self-lay as an optional procurement route.

All modifications and diversions of existing apparatus generally fall under a "non-contestable" banner, which must remain under the direct control of the incumbent provider.

Generally, builder's work associated with the installation is considered to be a contestable element of both new and diversionary work.

3.3 Potable Water

The incumbent water provider is South East Water (SEW).

A summary of the infrastructure likely to be affected by the proposed development is outlined below.

3.3.1 Existing Infrastructure

SEW records show an existing 4" main running within the nearside footway of Upper Horsebridge Road to the east of the site.

3.3.2 Network Modifications

There are no water mains shown within the site boundary, however it is likely that the existing 4" main in Upper Horsebridge Road will require lowering in order to accommodate the proposed vehicular access. SEW have advised to allow a ballpark figure of £150 per metre.

3.3.3 Network Capacity

The estimated peak flow for the proposed development is 0.40 l/s (5.13m³/day).

SEW has advised that there is currently sufficient capacity within their existing network to accommodate the proposed development, and therefore no off-site reinforcement works are anticipated at this stage.

3.3.4 New Infrastructure

SEW has provided the following budget costs to supply the proposed development: -

On-site mains	£125 per metre
Standard connection charge (£563 per connection)	£5,630
Infrastructure charges (£357.60 per connection)	£3,576

3.3.5 Financial Considerations

Procurement Options

The client (developer) will be required to submit a formal requisition to South East Water for potable water supplies, under the terms of Section 41 of the Water Industry Act.

Contestable / Non Contestable Work

All modifications and diversion of existing apparatus generally fall under a “non-contestable” banner, which must remain under the direct control of the incumbent provider.

Generally, builder’s work in association is considered to be a contestable element of both new and diversionary work.

Provision of the offsite works is contestable as a self-lay option.

3.4 Telecommunications Infrastructure

A summary of the BT Openreach infrastructure likely to be affected by the proposed development is outlined below.

3.4.1 Existing Infrastructure

BT records show existing underground apparatus running within the nearside footway of Upper Horsebridge Road adjacent to the site boundary.

3.4.2 Network Modifications

BT Openreach has advised that the two way duct route in the footway outside of the site is recorded as having a sufficient depth to not be affected by the proposed development, and therefore no diversionary works are anticipated as this stage.

3.4.3 Network Capacity

There are no issues with capacity; BT Openreach have an obligation to serve new developments with both telecoms and broadband services.

3.4.4 New Infrastructure

BT Openreach do not provide design proposals prior to planning; an application can be registered following outline planning consent and once the detailed technical drawings are prepared.

It is normal practise for BT to free issue materials for the developer to install, and a rebate of approximately £140 per house and £50 per flat for each plot connected may apply.

3.5 Cable

PBA LLP has consulted with the following telecommunication companies who have confirmed in writing that they have no existing infrastructure within the area likely to be affected by the proposed development:

- Atkins Global (Cable & Wireless and Level 3 Communications)
- Colt

- Instalcom (Fibernet / Global Crossing)
- KCom (Kingston Communications)
- Linesearch
- McNicholas (KPN / TATA / SOTA)
- OFCOM Sitefinder (Mobile operators)
- Sky
- Telenttelia
- Trafficmaster
- Verizon (MCI Worldcom)
- Virgin Media

3.6 Summary of Budget Estimates

The following utility allowances have been determined via a desk top study based on early and limited information and are offered on the basis that they are broad in nature and for “guidance purposes” only. Should the site progress, PBA would be pleased to procure firm prices and provide a best value utility strategy for the development in which various market discounts may apply from competitive utility infrastructure providers.

Table 3: Summary of Budget Estimates

Electricity (UK Power Networks)	Diversions	£ -
	New infrastructure (gas heated)	£15,000
Gas (Southern Gas Networks)	Diversions	£32,000
	New infrastructure (gas heated)	£11,250
Water (South East Water)	Diversions	£150 per metre
	New on-site mains	£125 per metre
	New service connections (£563 per connection)	£ 5,630
	Infrastructure charges (£357.60 per connection)	£ 3,576
Telecoms (BT)	Diversions	£ -
	New infrastructure	£ -

Note: All prices exclude professional/local authority fees

4 Programme

The programme timescales below are provided for guidance only.

A defined Masterplan will be required to allow detailed estimates to be prepared.

Table 4: Programme Timescales

Electricity	Produce firm price	6 weeks
	Lead in for planning / allocation of materials and labour	8 weeks
Gas	Produce firm price	4 weeks
	Lead in for planning / allocation of materials and labour	6 weeks
	Lead in for high pressure gas main	18 months
Water	Produce firm price	6 weeks
	Lead in for planning / allocation of materials and labour	8 weeks
Telecom	Produce firm price	4 weeks
	Lead in for planning / allocation of materials and labour	4 weeks

5 Conclusion

This report shows that there is existing electricity, gas, water and telecom infrastructure within the vicinity of the site that could serve the proposed development.

The enquiries to the incumbent utility providers to date have been based on direct connection to each unit and will be subject to formal application following planning consent.

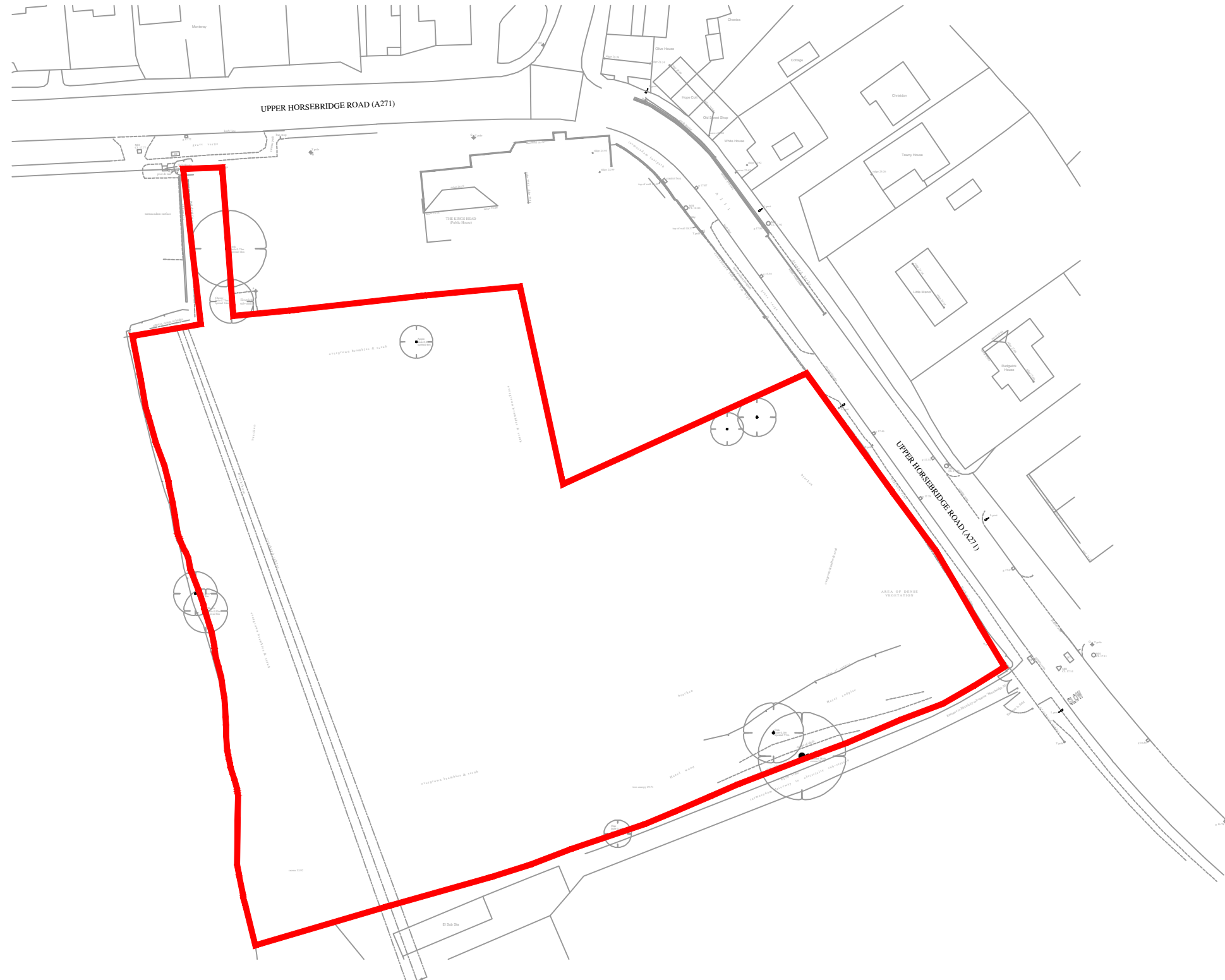
New supplies within the site will generally be routed along proposed road corridors. The requirements for easement agreements for supplies located outside of the proposed highway will need to be agreed with the relevant statutory undertaker as part of the design process.

PBA can design and procure firm prices for new utility infrastructure in which various market discounts may apply. We manage this within the context of the wider infrastructure layout to provide a coherent, coordinated and programme sensitive approach.

Appendix A Red Line Site Boundary Plan

KEY

 SITE BOUNDARY



Mark	Revision	Drawn	Date	Chkd

SCALING NOTE: Do not scale from this drawing. If in doubt, ask.
 UTILITIES NOTE: The position of any existing public or private sewers, utility services, plant or apparatus shown on this drawing is believed to be correct, but no warranty to this is expressed or implied. Other such plant or apparatus may also be present but not shown. The Contractor is therefore advised to undertake his own investigation where the presence of any existing sewers, services, plant or apparatus may affect his operations.

Drawing Issue Status **FOR INFORMATION**

**LAND AT LOWER HORSEBRIDGE
 EAST SUSSEX**

RED LINE SITE BOUNDARY PLAN

Client
**ABTEC
 LIMITED**

Date of 1st Issue 23.09.16	Drawn by MW
A3 Scale NTS	Checked by GH

Drawing Number 38632/2501/002	Revision -
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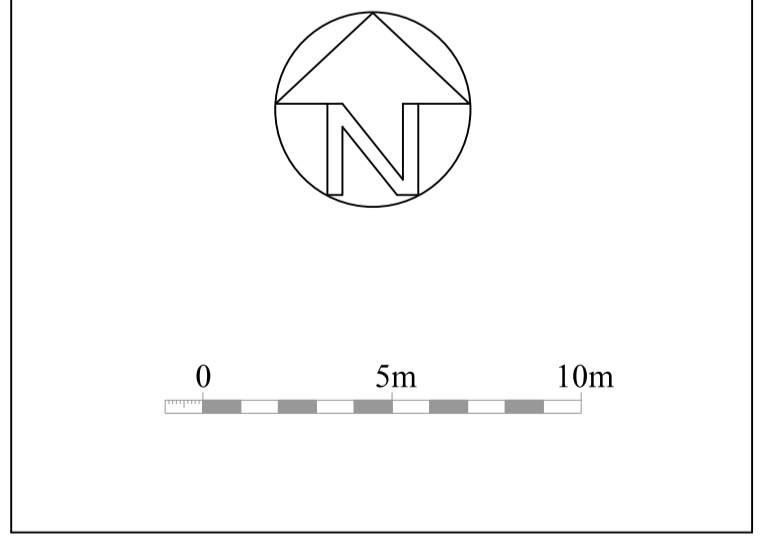
Appendix B Proposed Site Layout



Notes:

Please report all discrepancies, errors and omissions.
 Verify all dimensions on site before commencing any work on site or preparing shop drawings.
 All materials, components and workmanship are to comply with the relevant British Standards, Codes of Practice, and appropriate manufacturers' recommendations that from time to time shall apply.
 For all specialist work, see relevant drawings.
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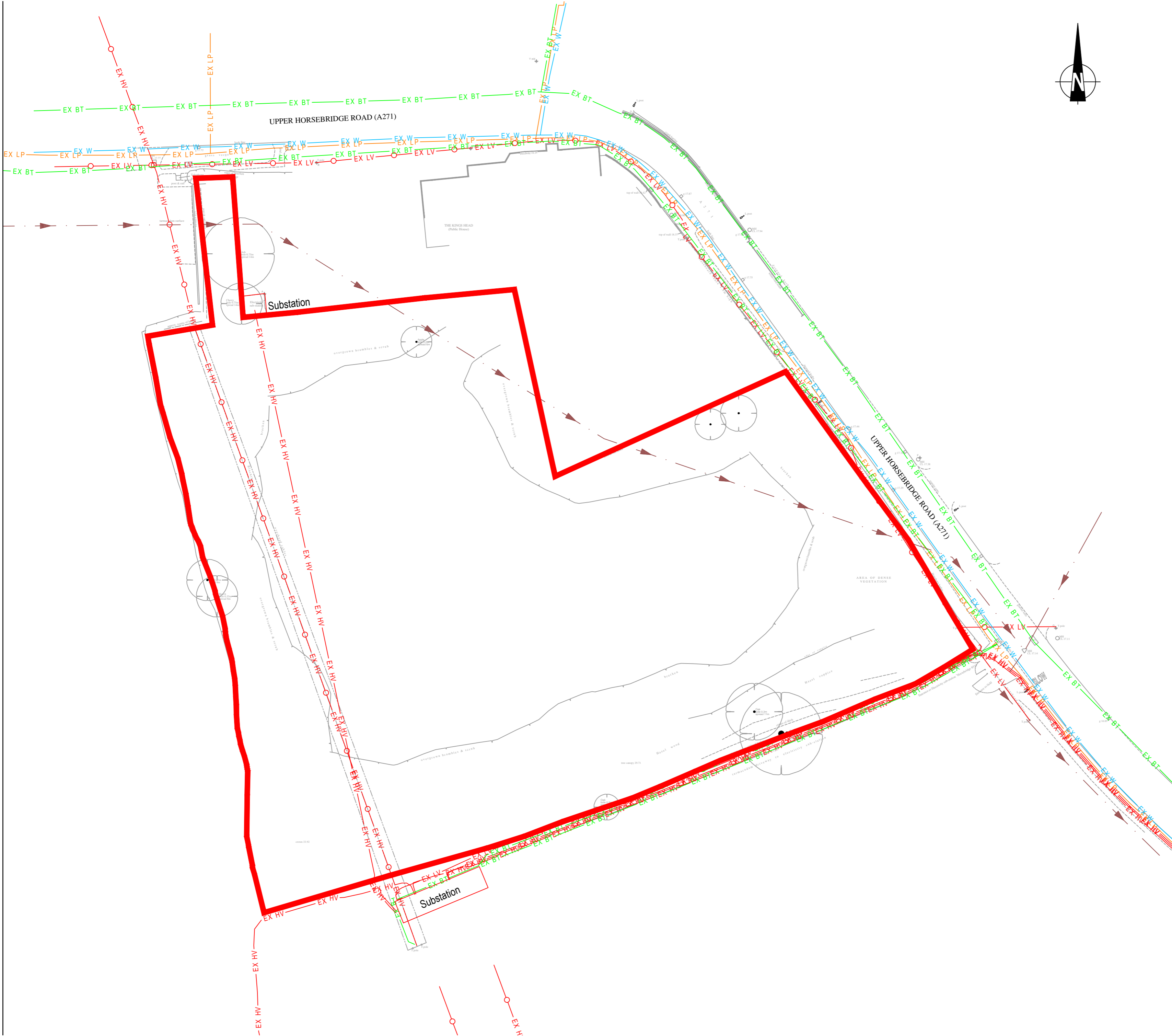
Revisions:
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drawing title Proposed Site Plan Option 1	
scale 1:200 @ A1 August 2016	drawing number 2774 - 100
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Appendix C Existing Utilities Layout



KEY	
	SITE BOUNDARY
	EXISTING ELECTRICITY (LV)
	EXISTING ELECTRICITY (HV)
	EXISTING ELECTRICITY (LV OVERHEAD)
	EXISTING ELECTRICITY (HV OVERHEAD)
	EXISTING GAS (LP)
	EXISTING WATER
	EXISTING BT
	EXISTING FOUL SEWER

Mark	Revision	Drawn	Date	Chkd

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Drawing Issue Status
FOR INFORMATION

**LAND AT LOWER HORSEBRIDGE
 EAST SUSSEX**

EXISTING SERVICES LAYOUT

Client ABTEC LIMITED	
Date of 1st Issue 23.09.16	Drawn by MW
A2 Scale 1:500	Checked by GH
Drawing Number 38632/2501/001	Revision -

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