

Planning Policy Team  
Brentwood Borough Council Town Hall  
Brentwood  
Essex  
CM15 8AY

Julian Austin  
Consultant Town Planner

Tel: 01926 439091  
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11 February 2015

Dear Sir / Madam

**Brentwood Borough Council – Local Plan Strategic Growth Options Consultation  
SUBMISSION ON BEHALF OF NATIONAL GRID**

National Grid has appointed AMEC to review and respond to development plan consultations on its behalf. We are instructed by our client to submit the following representation with regards to the current consultation on the above document.

National Grid owns and operates the high voltage electricity transmission system in England and Wales and operate the Scottish high voltage transmission system. National Grid also owns and operates the gas transmission system. In the UK, gas leaves the transmission system and enters the distribution networks at high pressure. It is then transported through a number of reducing pressure tiers until it is finally delivered to our customer. National Grid own four of the UK's gas distribution networks and transport gas to 11 million homes, schools and businesses through 81,000 miles of gas pipelines within North West, East of England, West Midlands and North London.

To help ensure the continued safe operation of existing sites and equipment and to facilitate future infrastructure investment, National Grid wishes to be involved in the preparation, alteration and review of plans and strategies which may affect our assets.

**National Grid infrastructure within Brentwood Borough Council's administrative area**

Electricity Transmission

National Grid has one high voltage overhead line (listed below) within Brentwood Borough Council's administrative area. This forms an essential part of the electricity transmission network in England and Wales.

Line Ref.	Description
ZB line	275 kV route from Warley substation in Havering to Waltham Cross substation in Epping Forest

National Grid has provided information in relation to electricity transmission assets via the following internet link:

<http://www2.nationalgrid.com/uk/services/land-and-development/planning-authority/shape-files/>

## Gas Transmission

National Grid has two high pressure gas transmission pipelines within the administrative area of Brentwood Borough Council:

<b>Pipeline</b>	<b>Feeder Detail</b>
FM05	Braintree to Horndon
FM18	Stapleford Tawn to Tilbury T N

National Grid has provided information in relation to gas transmission assets via the following internet link:

<http://www2.nationalgrid.com/uk/services/land-and-development/planning-authority/shape-files/>

National Grid requests that any High Pressure Major Accident Hazard Pipelines (MAHP) are taken into account when site options are developed in more detail. These pipelines form an essential part of the national gas transmission system and National Grid's approach is always to seek to retain our existing transmission pipelines in situ.

## Gas Distribution

National Grid has a high number of gas distribution apparatus within the administrative area of Brentwood Borough Council. This includes:

- Low Pressure (LP) and Medium Pressure (MP) (below 2 bar) gas pipes and associated equipment.
- Six High Pressure (HP) (above 2 bar) gas pipelines and associated equipment as listed below:

<b>Pipeline Pressure</b>	<b>Pipeline Route</b>
HP	2405 Horndon to Abridge 18
HP	2428 Mardyke Stn 58 to Stock Stn 274 12"
HP	2438 Hainault to Ashingdon
HP	2412 Doddinghurst Branch 4
HP	2406 Shoulder Hall to Southend Arterial
HP	2426 Inlet to Mt Messing Stn

The first point of contact for all works within the vicinity of gas distribution assets is Plant Protection ([plantprotection@nationalgrid.com](mailto:plantprotection@nationalgrid.com)).

Please note that Gas pipeline diversions may take up to three years, please bear this in mind when engaging with National Grid

National Grid may have a Deed of Grant Easement for each asset which prevents the erection of permanent/temporary buildings, or structures, changes to existing ground levels, storage of materials etc. Additionally written permission will be required before any works commence within the National Grid easement strip, and a deed of consent is required for any crossing of the easement. In the first instance please consider checking on the land registry for the development area, if further information is required in relation to an easement please contact Laura Kelly, Town Planner, [laura.kelly@nationalgrid.com](mailto:laura.kelly@nationalgrid.com)

## Electricity Distribution

UK Power Networks owns and operates the local electricity distribution network in Brentwood Borough Council's administrative area. Contact details can be found at [www.energynetworks.org.uk](http://www.energynetworks.org.uk).

## **SPECIFIC COMMENTS**

### Electricity Transmission

Having reviewed the Brentwood Strategic Growth Options Consultation, National Grid has identified the following sites as being crossed by / within close proximity to National Grid assets:

#### A12 Corridor Housing Options

- Site Reference 175C – Land at M25 J28, Brook Street, Brentwood is crossed by high voltage ZB 275 kV overhead line

#### Employment Site Options

- Site Reference 101A – Land at Codham Hall is crossed by high voltage ZB 275 kV overhead line.

National Grid does not own the land over which the overhead lines cross, and it obtains the rights from individual landowners to place our equipment on their land. Potential developers of the sites should be aware that it is National Grid policy to retain our existing overhead lines in-situ. Because of the scale, bulk and cost of the transmission equipment required to operate at 400kV National Grid only supports proposals for the relocation of existing high voltage overhead lines where such proposals directly facilitate a major development or infrastructure project of national importance which has been identified as such by central government. Therefore we advise developers and planning authorities to take into account the location and nature of existing electricity transmission equipment when planning developments.

National Grid prefers that buildings are not built directly beneath its overhead lines. This is for two reasons, the amenity of potential occupiers of properties in the vicinity of lines and because National Grid needs quick and easy access to carry out maintenance of its equipment to ensure that it can be returned to service and be available as part of the national transmission system. Such access can be difficult to obtain without inconveniencing and disturbing occupiers and residents, particularly where properties are in close proximity to overhead lines.

The statutory safety clearances between overhead lines, the ground, and built structures must not be infringed. To comply with statutory safety clearances the live electricity conductors of National Grid's overhead power lines are designed to be a minimum height above ground. Where changes are proposed to ground levels beneath an existing line then it is important that changes in ground levels do not result in safety clearances being infringed. National Grid can, on request, provide to developers detailed line profile drawings that detail the height of conductors, above ordnance datum, at a specific site.

National Grid seeks to encourage high quality and well planned development in the vicinity of its high voltage overhead lines. Land beneath and adjacent to the overhead line route should be used to make a positive contribution to the development of the site and can for example be used for nature conservation, open space, landscaping areas or used as a parking court. National Grid, in association with David Lock Associates has produced 'A Sense of Place' guidelines, which look at how to create high quality development near overhead lines and offers practical solutions which can assist in avoiding the unnecessary sterilisation of land in the vicinity of high voltage overhead lines.

'A Sense of Place' is available from National Grid and can be viewed at:

<http://www.nationalgrid.com/uk/Senseofplace/Download/>

Further information regarding development near overhead lines and substations is available here:

[http://www.nationalgrid.com/uk/LandandDevelopment/DDC/devnearohl\\_final/pdf/brochure.htm](http://www.nationalgrid.com/uk/LandandDevelopment/DDC/devnearohl_final/pdf/brochure.htm)

### Gas Transmission

The following sites have been identified as being crossed by or within close proximity to National Grid's high pressure gas pipeline:

#### A127 Corridor Housing Site Options

- Site Reference 200 – Entire Land East of A128, south of A127 is crossed by FM05

#### A12 Corridor Housing Site Options

- Site Reference 032 – Land east of Nags Head is crossed by FM18
- Site Reference 175B – Land at M25, J28, Brook Street is crossed by FM18
- Site Reference 028C – Land east of Running Waters is crossed by FM05
- Site Reference 192 – Heron Hall, Herongate is crossed by FM05

#### Employment Site Options

- Site Reference 127 – Land at M25, J28, Brook Street is crossed by FM18
- Site Reference 175A - Land at M25, J28, Brook Street is crossed by FM18

Our underground pipelines are protected by permanent agreements with landowners or have been laid in the public highway under our licence. These grant us legal rights that enable us to achieve efficient and reliable operation, maintenance, repair and refurbishment of our gas transmission network. Hence we require that no permanent structures are built over or under pipelines or within the zone specified in the agreements, materials or soil are not stacked or stored on top of the pipeline route and that unrestricted and safe access to any of our pipeline(s) must be maintained at all times.

Local authorities have a statutory duty to consider applications for development in the vicinity of high pressure (above 7 bar) pipelines and to advise the developer on whether the development should be allowed on safety grounds on rules provided by HSE. This advice is provided by the HSE Planning Advice for Development near to Hazardous Installations (PADHI) process. The relevant HSE guidance can be accessed via the following link: <http://www.hse.gov.uk/landuseplanning/padhi.pdf>

In order to ensure that National Grid's pipelines are protected from uncontrolled development in the vicinity of the pipeline please also read the following guidance prepared by National Grid:

- Specification for Safe Working in the Vicinity of National Grid High Pressure Gas Pipelines and Associated Installations - Requirements for Third Parties  
[http://www.nationalgrid.com/NR/ronlyres/50ACAC0A-ED26-41A7-91FA-83163A98270F/23790/TSPSSW22\\_J537\\_Rev0807.pdf](http://www.nationalgrid.com/NR/ronlyres/50ACAC0A-ED26-41A7-91FA-83163A98270F/23790/TSPSSW22_J537_Rev0807.pdf)
- Gas Transmission Underground Pipelines – Guidance  
[http://www.nationalgrid.com/NR/ronlyres/446009BF-ABB5-42E1-B9FE-44E90D577DD5/18653/APTGasGuidance\\_2\\_.pdf](http://www.nationalgrid.com/NR/ronlyres/446009BF-ABB5-42E1-B9FE-44E90D577DD5/18653/APTGasGuidance_2_.pdf)

Should these sites be taken forward as development sites in the future, the developers should be made aware of the above issues.

#### Gas Distribution

The following sites have been identified as being crossed by or within close proximity to IP / HP apparatus:

##### A127 Corridor Housing Site Options

- Site Reference 038A and 038B – Land east of Thorndon Avenue is crossed by HP line from Mardyke Stn to Stock Stn.
- Site Reference 126 – Land east of West Horndon, South of Station Road is crossed by HP line from Mardyke Stn to Stock Stn.

##### A12 Corridor Housing Site Options

- Site Reference 175C- Land at M25 J28, Brook Street, Brentwood is crossed by HP line from Horndon to Abridge
- Site Reference 128 – Ingatestone Garden Centre is crossed by HP line from Hainault to Ashingdon
- Site Reference 028C – Land east of Running Waters is crossed by Hp line from Mardyke Stn to Stock Stn
- Site Reference 192 –Heron Hall, Herongate is crossed by Hp line from Mardyke Stn to Stock Stn

In addition to the above it should also be noted that LP/ MP distribution pipes are likely to exist within the sites proposed in the Growth Options document.

National Grid Gas Distribution would like to take this opportunity to advise prospective land developers of the following:

Crossing of assets: Construction traffic should only cross the pipeline at locations agreed with National Grid. To facilitate these crossings protection or diversion may be required; depending on site condition and pipe parameters.

Cable Crossings: For all assets, the contractor / developer will need to consider the clearance and necessary protection measures. The crossing must be perpendicular to the asset. The crossing may require a deed of consent to be agreed prior to work commencing.

Piling: No piling should take place within 15m of gas distribution assets without prior agreement from a National Grid Representative.

Pipeline Safety: National Grid will need to ensure that access to the pipelines is maintained during and after construction.

Our HP/IP pipelines are normally buried to a depth cover of 1.1 metres, however; actual depth and position must be confirmed on site by trial hole investigation to be monitored by a National Grid representative. Ground cover above gas distribution mains should not be reduced or increased. Our MP/LP mains will not be as deep as the pipelines.

A National Grid representative may be required to monitor any excavations or any embankment or dredging works within 3 metres of a HP/IP pipeline or within 10 metres of an Above Ground Installations (AGI). Monitoring of works in relation to MP/LP assets may be required by a National Grid representative.

National Grid steel pipelines are cathodically protected to prevent corrosion to the pipeline. For further information please refer to SSW/22 (see further advice section below).

If you require any further information in relation to the above please contact National Grid's Plant Protection team via the email address at the top of this letter.

## **Appendices - National Grid Assets**

Please find attached in:

- Appendix 1 maps of the sites referenced above in relation to the affected National Grid Transmission assets outlined above.
- Appendix 2 provides maps of the sites referenced above in relation to the affected National Grid Gas Distribution (Intermediate Pressure /High Pressure) assets outlined above.

## **Further Advice**

National Grid is happy to provide advice and guidance to the Council concerning our networks. If we can be of any assistance to you in providing informal comments in confidence during your policy development, please do not hesitate to contact us. In addition the following publications are available from the National Grid website or by contacting us at the address overleaf:

- National Grid's commitments when undertaking works in the UK - our stakeholder, community and amenity policy;
- Specification for Safe Working in the Vicinity of National Grid High Pressure Gas Pipelines and Associated Installations - Requirements for Third Parties; and
- A sense of place - design guidelines for development near high voltage overhead lines.
- T/SP/SSW22 – Specification for safe working in the vicinity of National Grid high pressure gas pipelines and associated installations – requirements for third parties.  
<http://www2.nationalgrid.com/WorkArea/DownloadAsset.aspx?id=33968>
- IGE/SR/18 – Safe working practices to ensure the integrity of gas pipelines and associated installations.
- HS(G)47 – Avoiding Danger from Underground Services.

Please remember to consult National Grid on any Development Plan Document (DPD) or site-specific proposals that could affect our infrastructure. We would be grateful if you could add our details shown below to your consultation database:

Julian Austin  
Consultant Town Planner

[n.grid@amec.com](mailto:n.grid@amec.com)

AMEC E&I UK  
Gables House  
Kenilworth Road  
Leamington Spa  
Warwickshire  
CV32 6JX

Laura Kelly  
Town Planner, National Grid

[laura.kelly@nationalgrid.com](mailto:laura.kelly@nationalgrid.com)

National Grid House  
Warwick Technology Park  
Gallows Hill  
Warwick  
CV34 6DA

I hope the above information is useful. If you require any further information please do not hesitate to contact me.

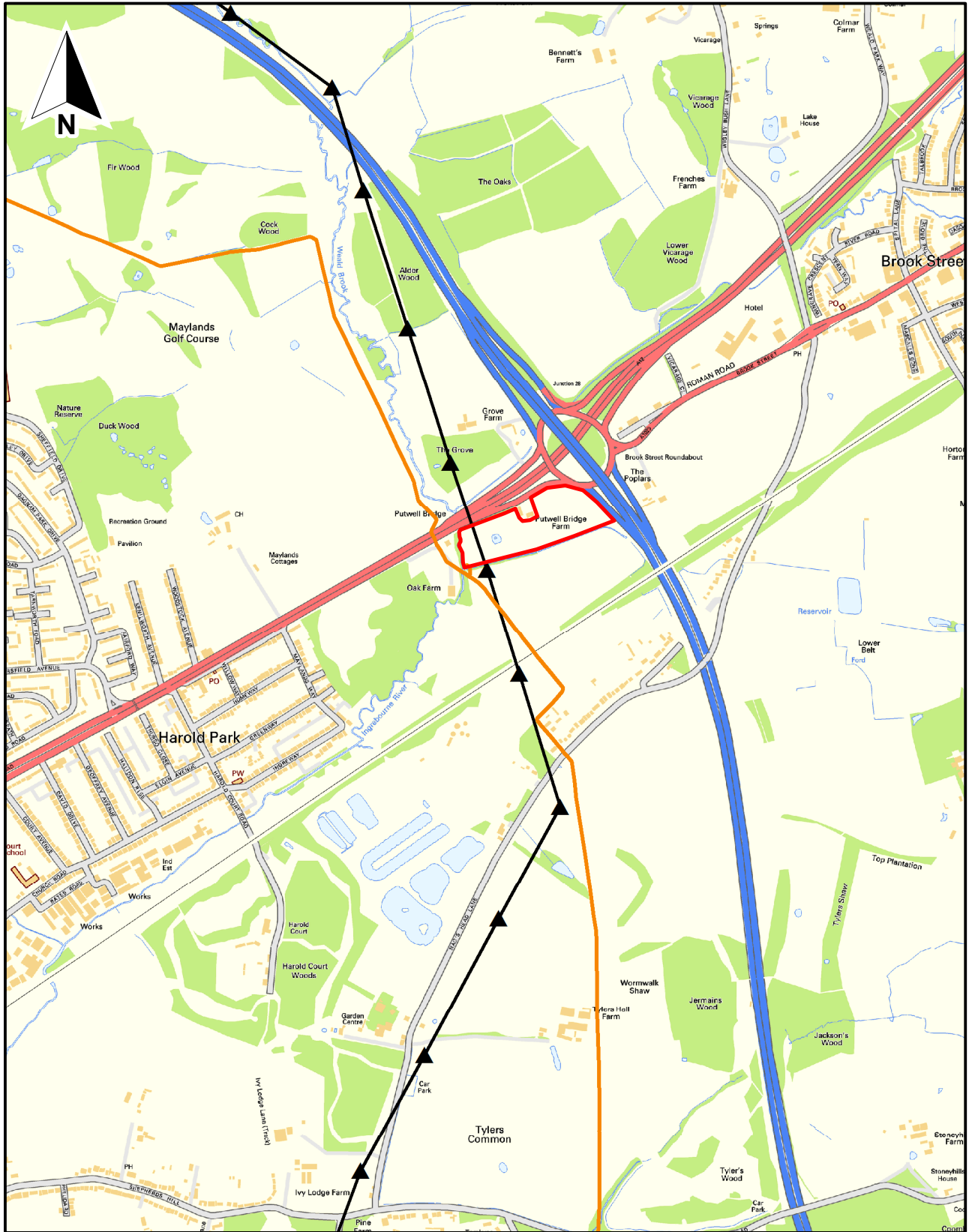
Yours sincerely

[via email]

**Julian Austin**  
**Consultant Town Planner**

cc. Laura Kelly, National Grid

**APPENDIX 1: NATIONAL GRID TRANSMISSION ASSETS AFFECTED**



**Key:**

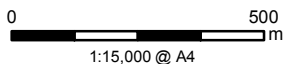
 Indicative Site boundary

**National Grid Assets**

 Tower

 Overhead Line

 Gas Distribution Pipeline (High Pressure)



Development Plan Monitoring

**National Grid Reference:**

**Site ET30**

**175C - Land at M25, J28 , Brook Street**

**Proposed Development Sites**

**Type of Development:**

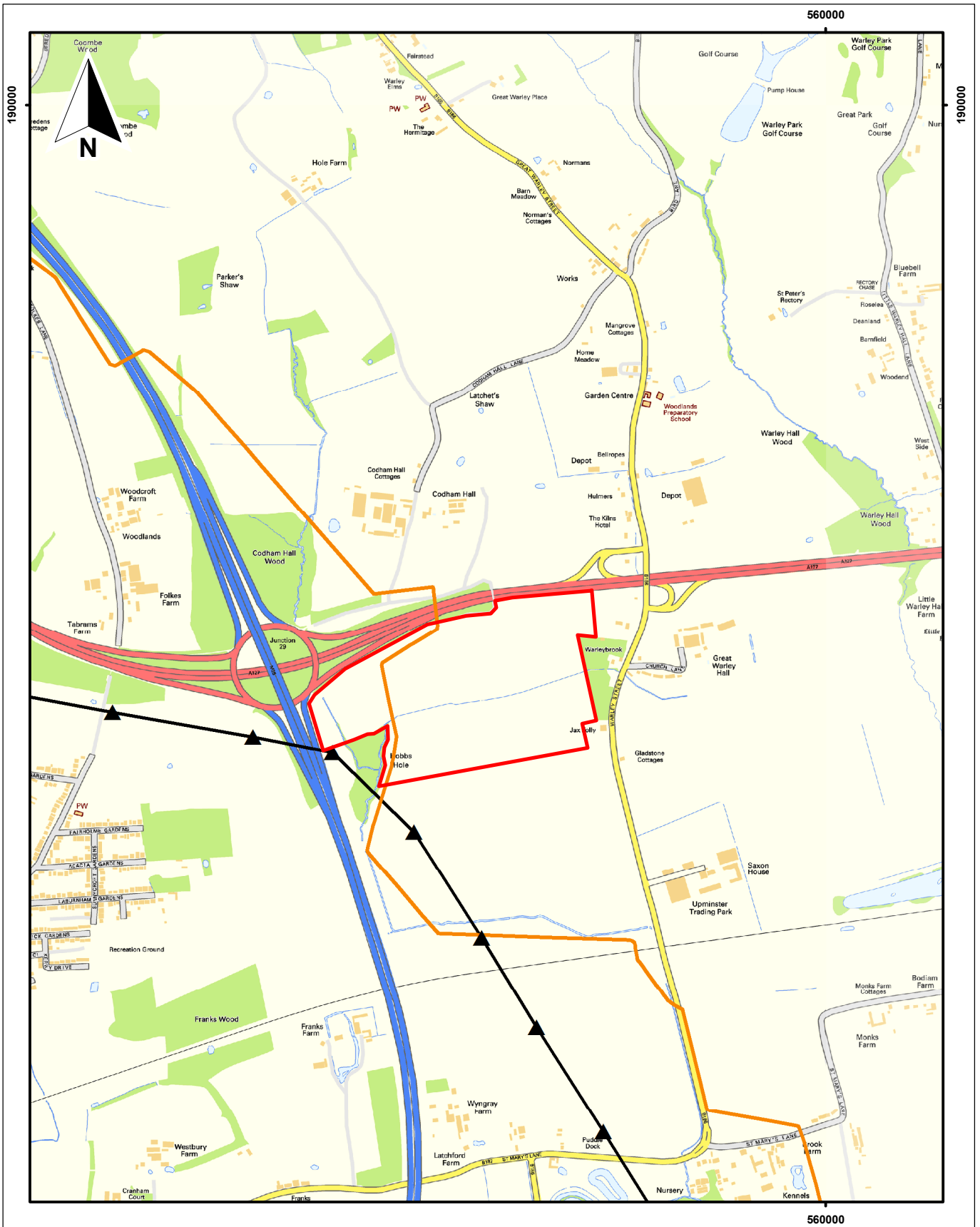
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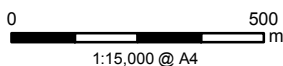
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**National Grid Assets**

 Tower

 Overhead line

 Gas Distribution Pipeline (High Pressure)



Development Plan Monitoring

**National Grid Reference:**

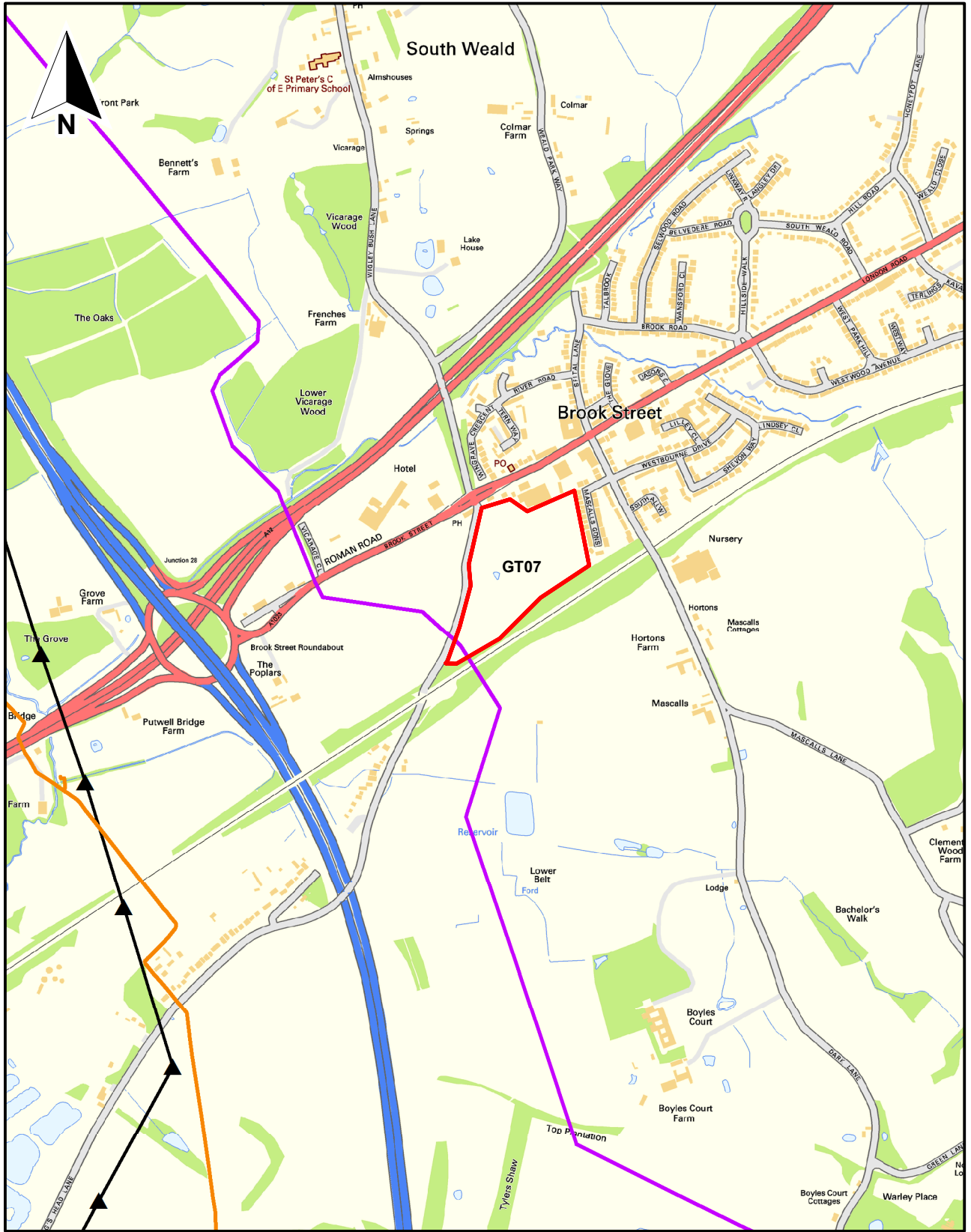
**Site ET31**

**101A Land at Codham Hall, Brentwood  
Proposed Development Sites**

**Type of Development:  
Employment**

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**Key:**

 Indicative Site boundary

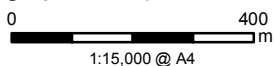
**National Grid Assets**

 Tower

 Overhead Line

 Gas Distribution Pipeline (High pressure)

 Gas Transmission Pipeline



Development Plan Monitoring

**National Grid Reference:**

**Sites GT07**

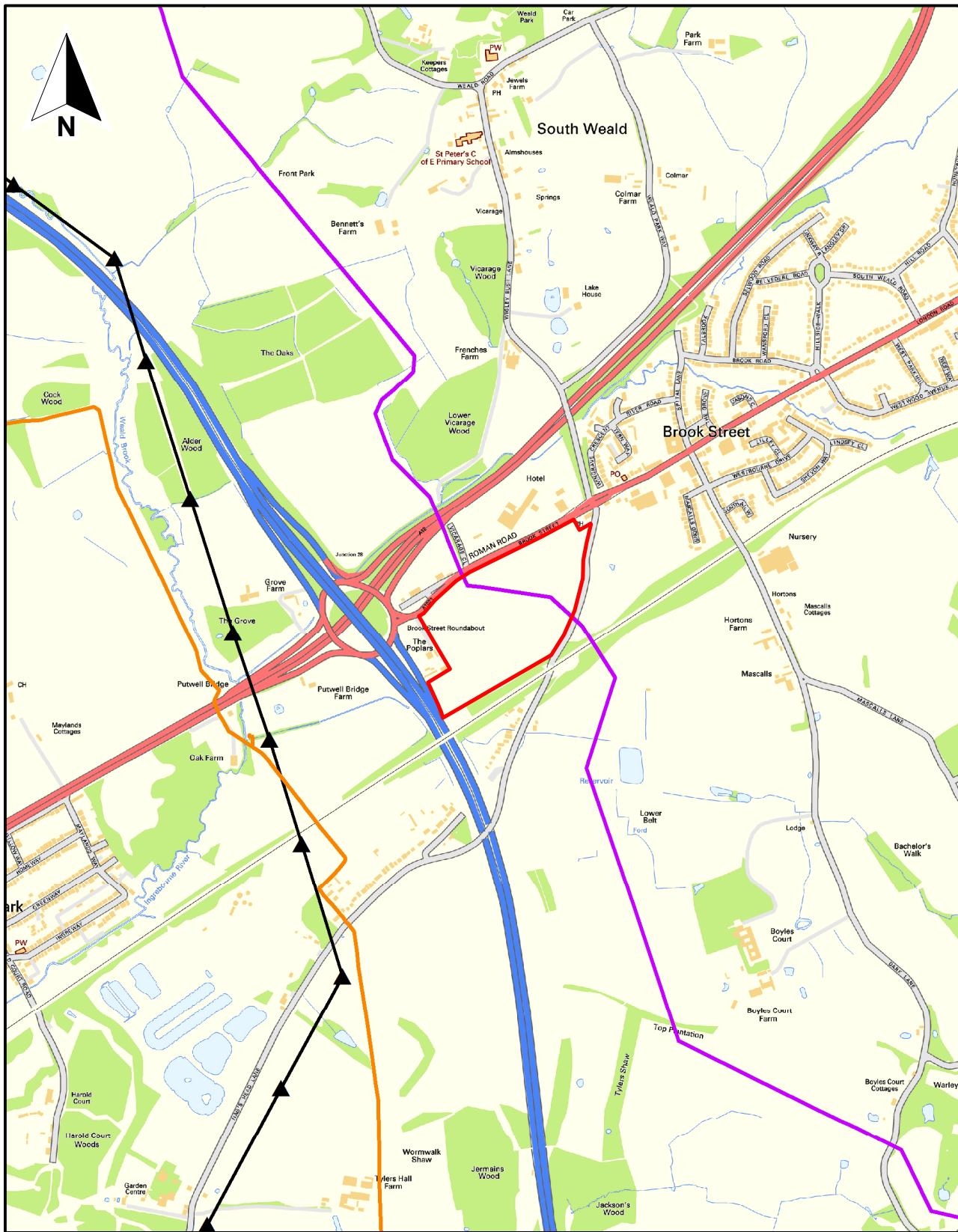
**032 - Land east of Nags Head, Brentwood  
Proposed Development Sites**

**Type of Development:  
Housing**

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**Key:**

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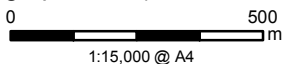
**National Grid Assets**

 Tower

 Overhead Line

 Gas Distribution Pipeline (High pressure)

 Gas Transmission Pipeline



Development Plan Monitoring

**National Grid Reference:**

**Sites GT08**

**175B - Land at M25, J28 , Brook Street**

**Proposed Development Sites**

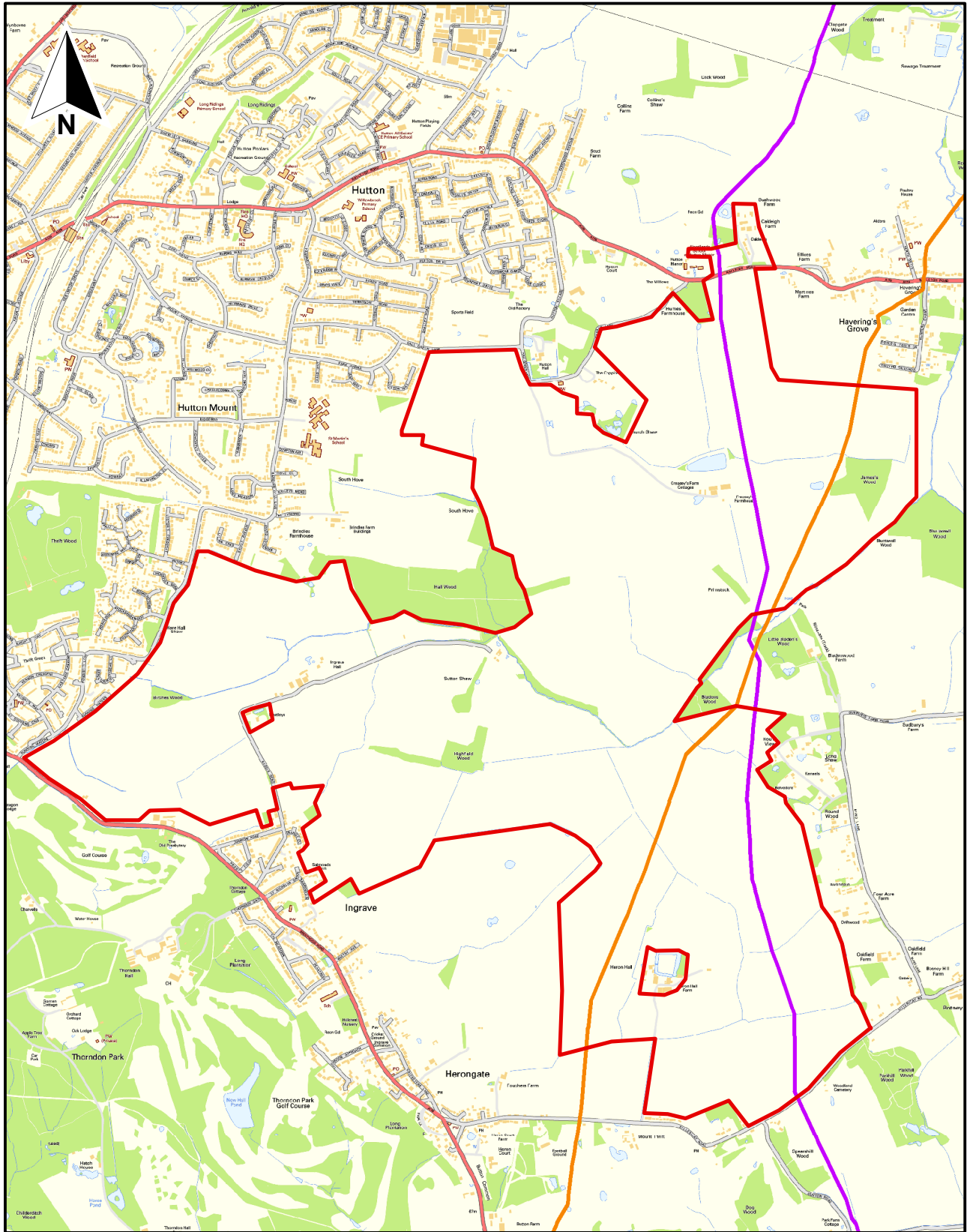
**Type of Development:**

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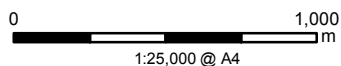
**National Grid Assets**

 Gas Distribution Pipeline (High pressure)

 Gas Transmission Pipeline (High Pressure)

**Development Plan Monitoring**

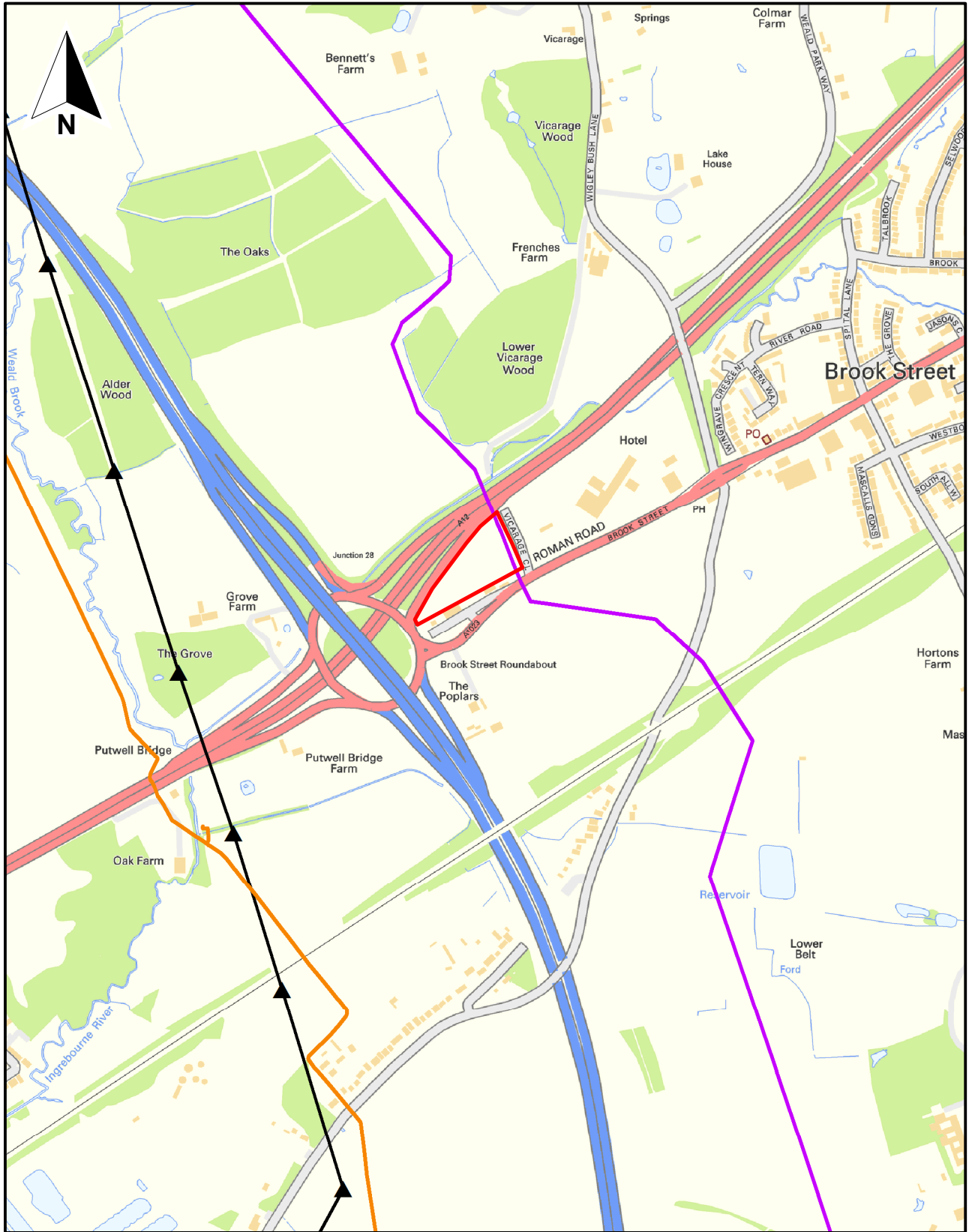
**National Grid Reference:**  
**Site GT09, GT10, GD12 and GD13**  
**028c - Land east of running waters**  
**Proposed Development Sites**  
**Type of Development:**  
**Housing**



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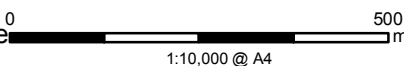
**National Grid Assets**

 Tower

 Overhead line

 Gas Distribution Pipeline (High pressure)

 Gas Transmission Pipe

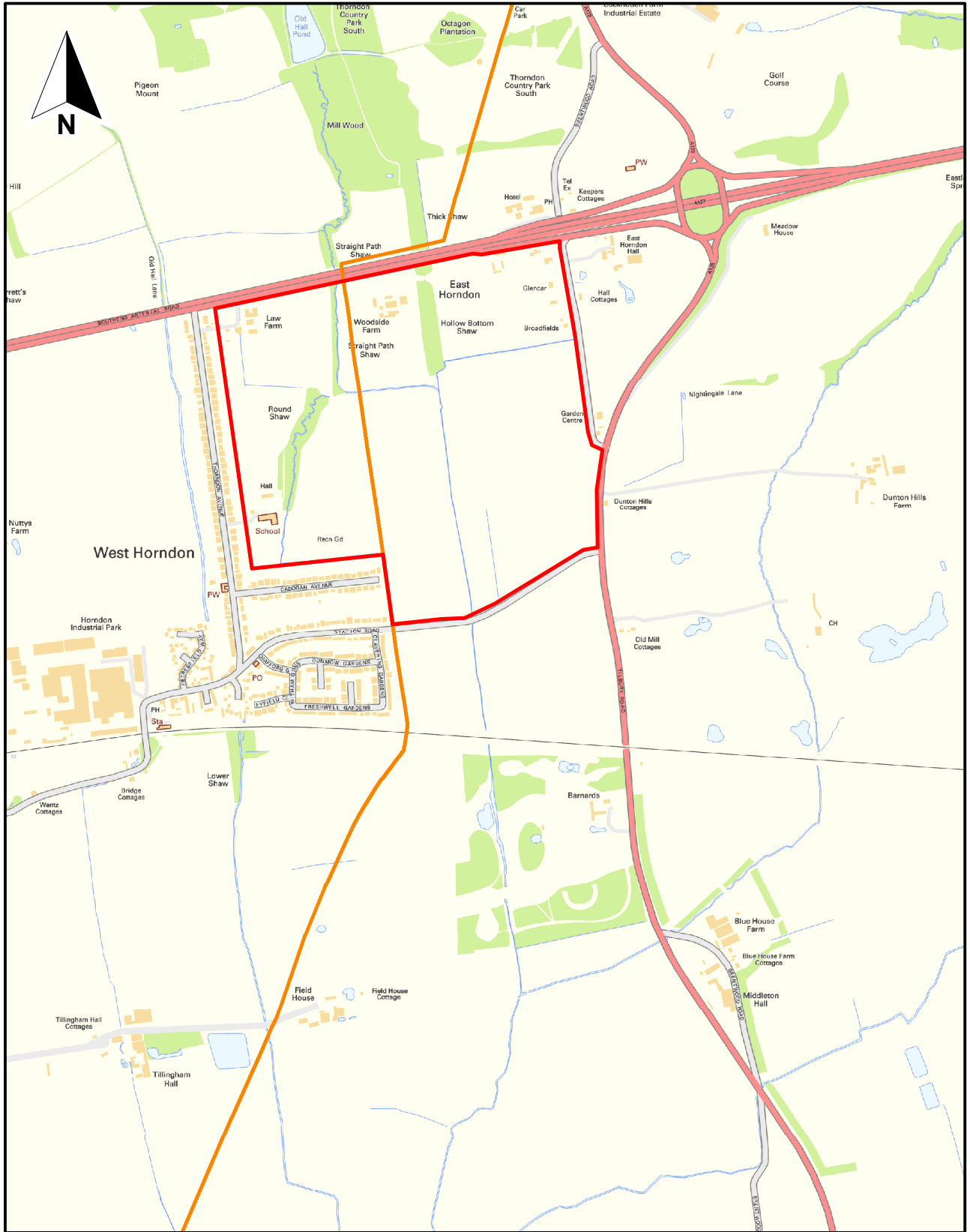


Development Plan Monitoring  
**National Grid Reference:**  
**Site GT11, GT12**  
**127 and 175A - Land at M25 J28,**  
**Brook Street, Brentwood**  
**Proposed Development Sites**  
**Type of Development:**  
**Employment**

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**APPENDIX 2: NATIONAL GRID GAS DISTRIBUTION INTERMEDIATE / HIGH PRESSURE ASSETS AFFECTED**



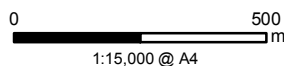
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**National Grid Assets**

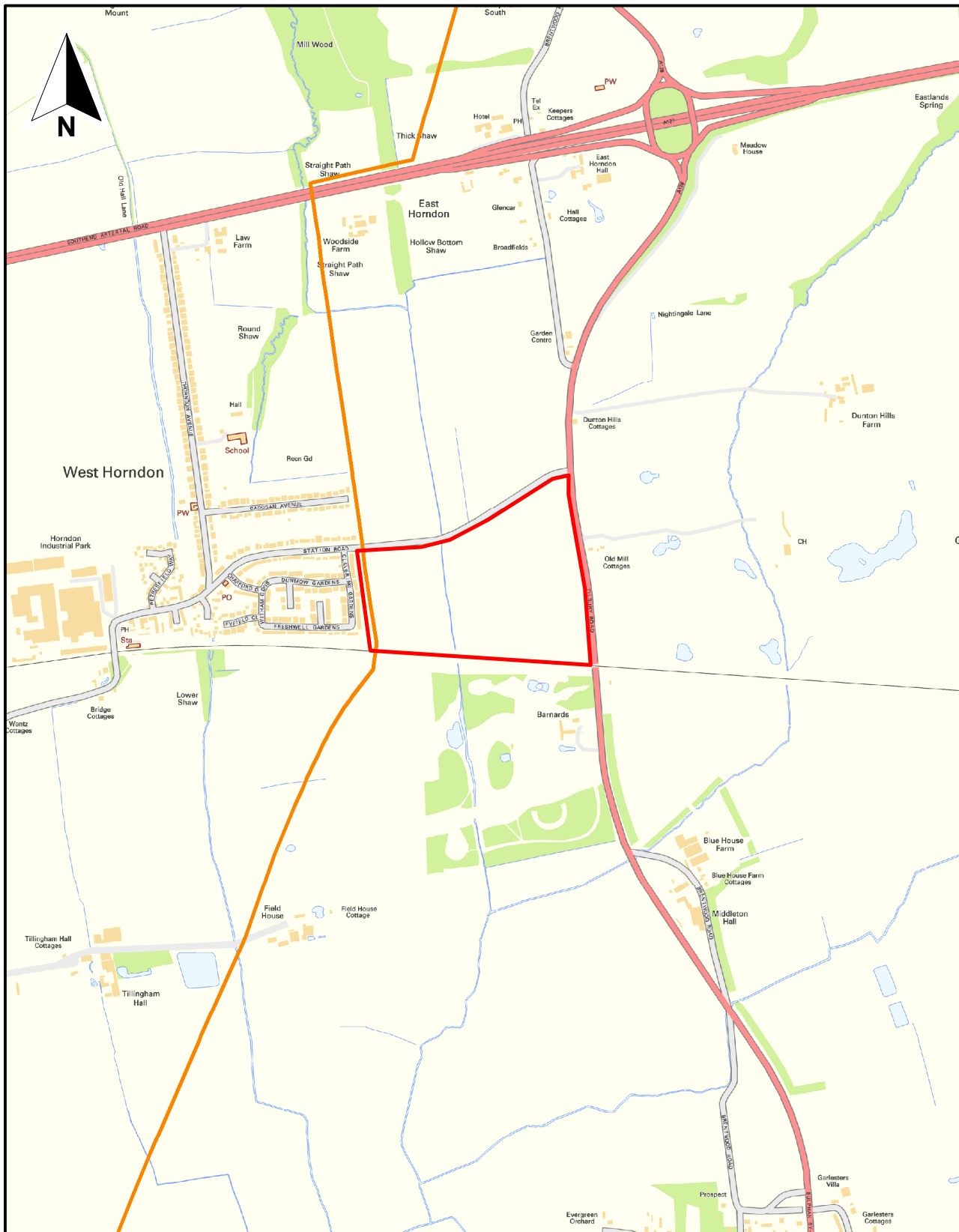
 Gas Distribution Pipeline (High pressure)

Development Plan Monitoring  
**National Grid Reference:**  
**Site GD8**  
**038a and 038b- Brentwood**  
**Land east of Thorndon Avenue**  
**Proposed Development Sites**  
**Type of Development:**  
**Housing**



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**Key:**

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**National Grid Assets**

Gas Distribution Pipeline (High pressure)

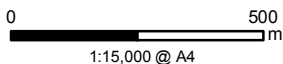
Development Plan Monitoring

**National Grid Reference:**

**Site GD9**

**126 - Land east of West Horndon,  
South of Station Road, Brentwood**

**Proposed Development Sites  
Type of Development:  
Housing**

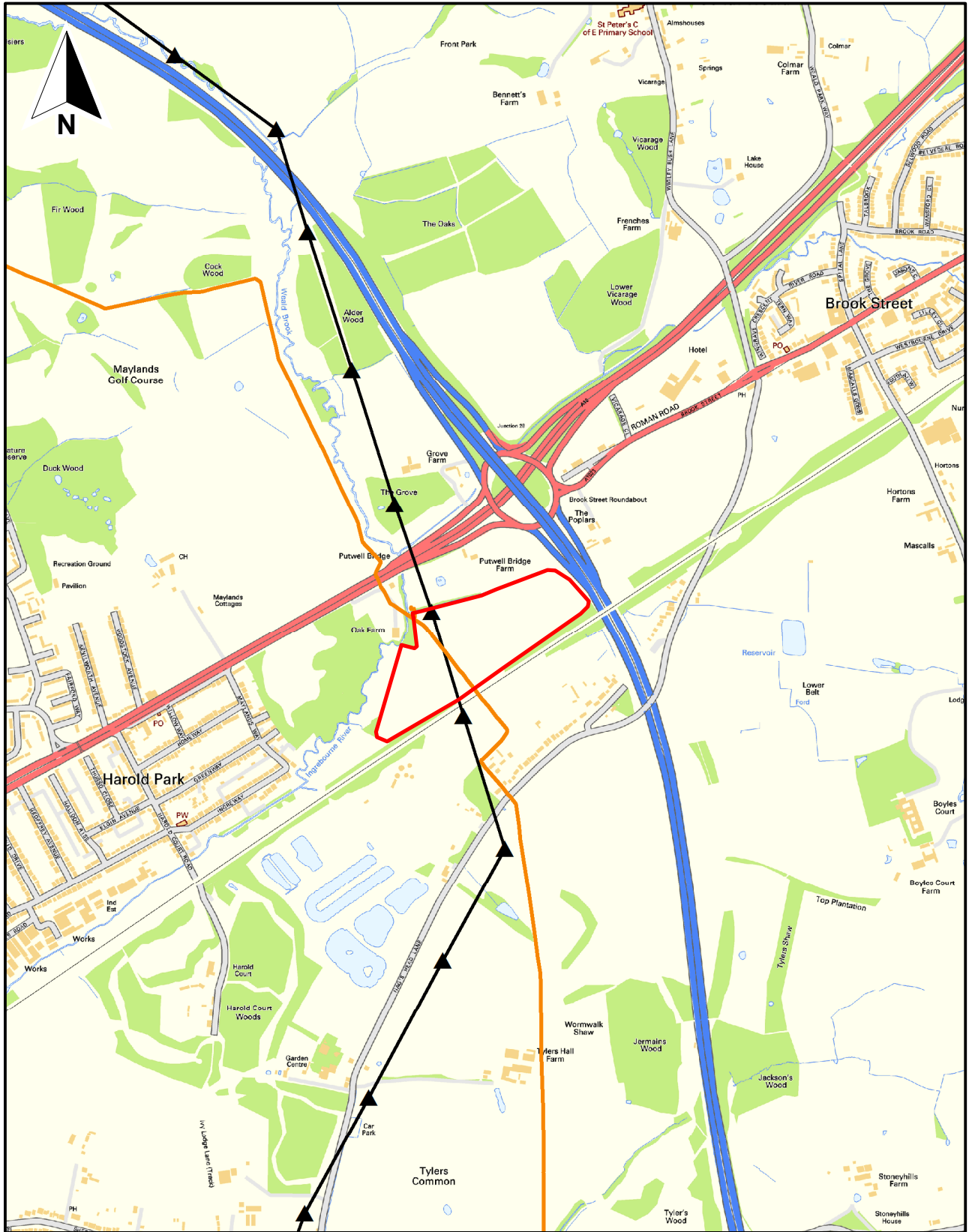


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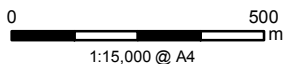
 Indicative Site boundary

**National Grid Assets**

 Tower

 Overhead Line

 Gas Distribution Pipeline (High pressure)



Development Plan Monitoring

**National Grid Reference:**

**Site GD10**

**175C- Land at M25 J28, Brook Street,  
Brentwood**

**Proposed Development Sites**

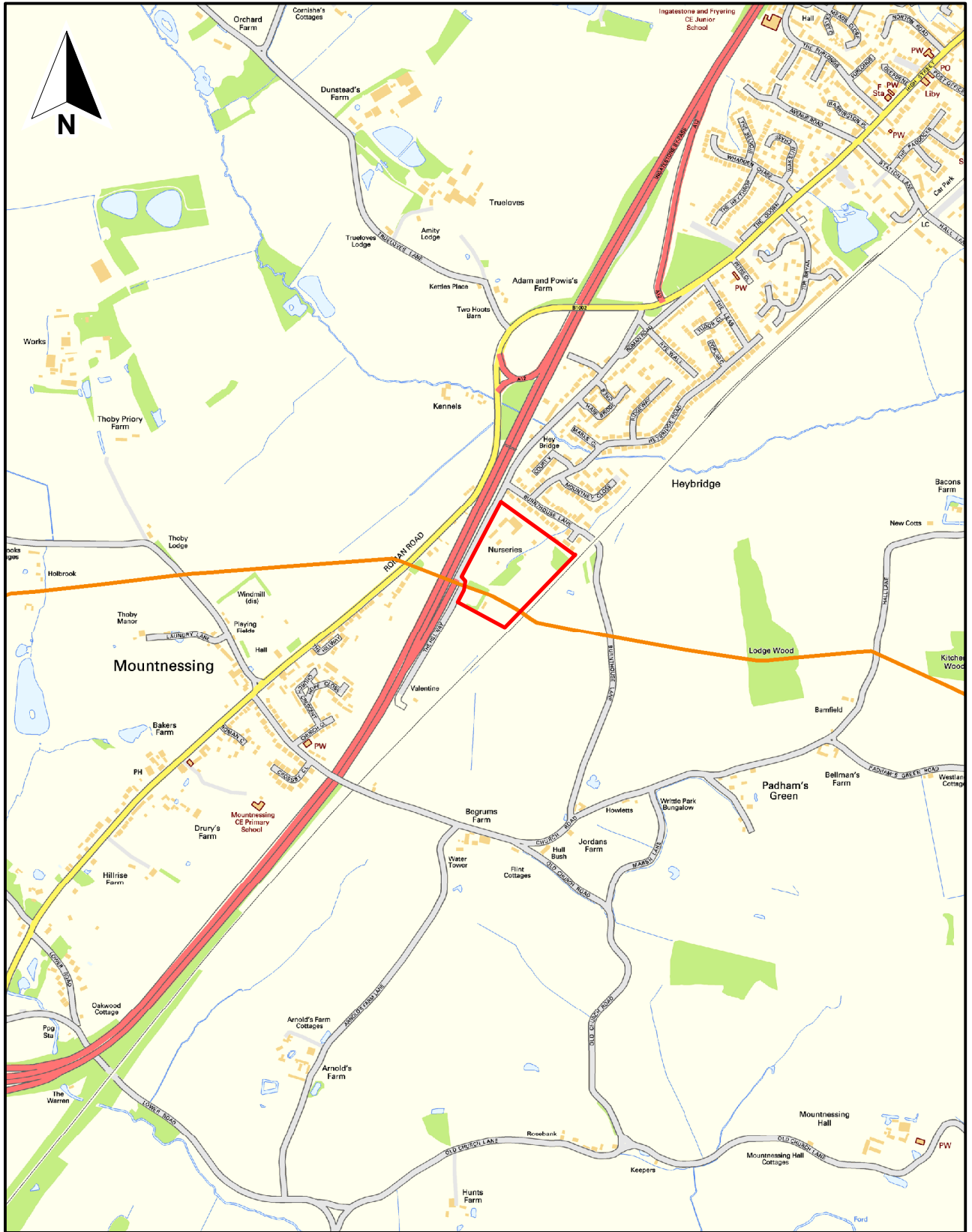
**Type of Development:**

**Mixed Use**

January 2015  
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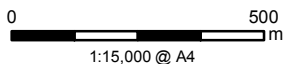
 Indicative Site boundary

**National Grid Assets**

 Tower

 Overhead Line

 Gas Distribution Pipeline (High pressure)



Development Plan Monitoring

**National Grid Reference:**

**Site GD11**

**128 -Ingatestone Garden Centre,**

**Roman Road, Brentwood**

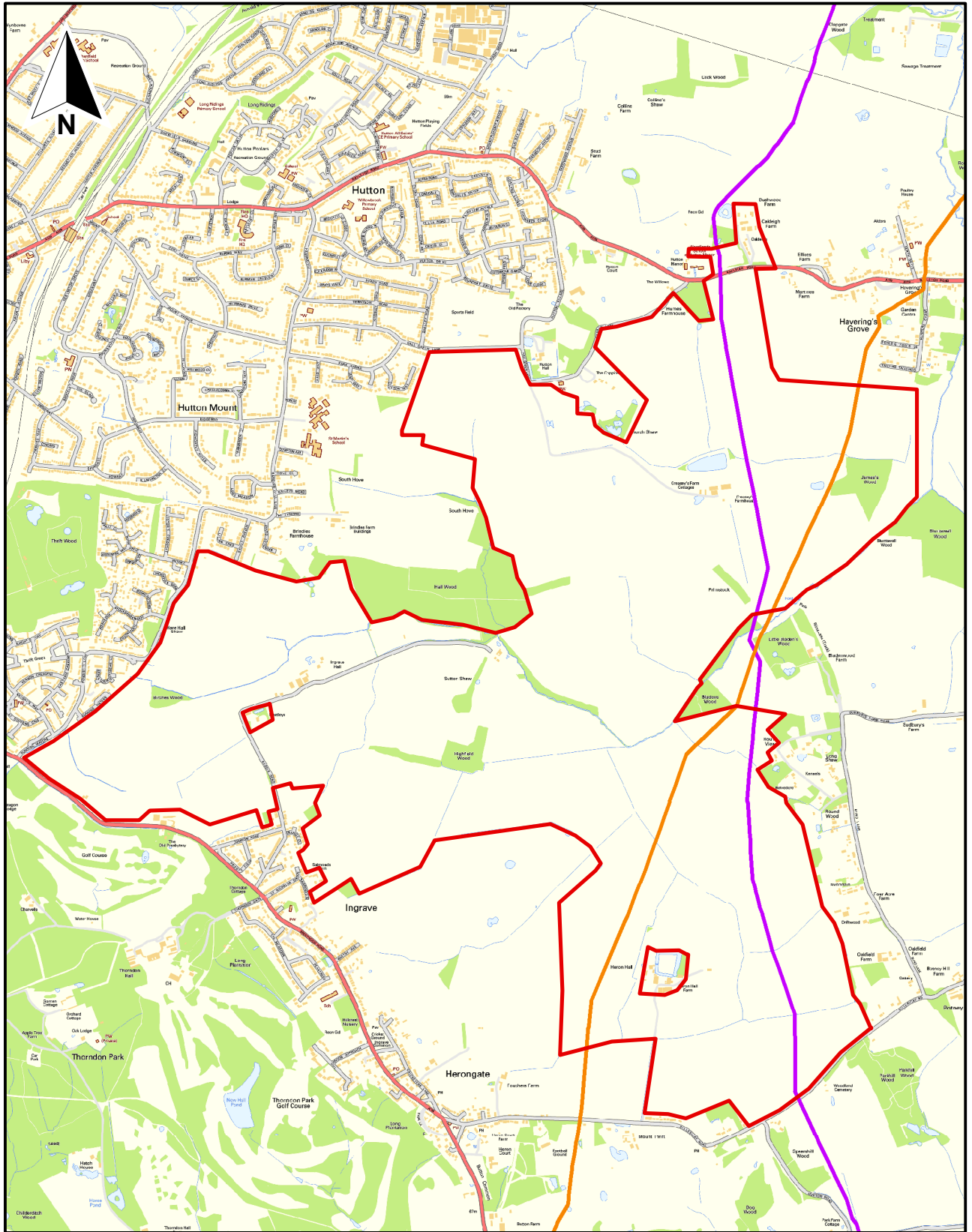
**Proposed Development Sites**

**Type of Development:**

**Housing**

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**Key:**

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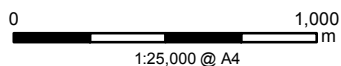
**National Grid Assets**

 Gas Distribution Pipeline (High pressure)

 Gas Transmission Pipeline (High Pressure)

**Development Plan Monitoring**

**National Grid Reference:**  
**Site GT09, GT10, GD12 and GD13**  
**028c - Land east of running waters**  
**Proposed Development Sites**  
**Type of Development:**  
**Housing**



February 2015  
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