

Eggborough CCGT Project

**The Eggborough CCGT (Generating Station) Order
Land within and adjacent to the Eggborough Power Station site,
Goole, East Yorkshire DN14 0BS**

Environmental Impact Assessment: Preliminary Environmental Information Report – Non-Technical Summary

The Planning Act 2008

The Infrastructure Planning (Environmental Impact Assessment)

Regulations 2009 (as amended)

Regulations – 6(1)(b) and 8(1)



Applicant: Eggborough Power Limited

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Author			
Signed	Kirsty Cobb, AECOM	Date	January 2017
Approved By			
Signed	Kirsty Cobb, AECOM	Date	January 2017
Document Owner	AECOM		

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1.0 INTRODUCTION

1.1 Introduction

- 1.1.1 This document presents a Non-Technical Summary (NTS) of the Preliminary Environmental Information (PEI) Report that has been prepared in support of a Development Consent Order (DCO) Application for the construction and operation of the proposed c. 2.5 gigawatt (GW) gas-fired power station (referred to as the 'Proposed Development'), to be constructed within the site of the existing Eggborough coal-fired power station (referred to as the 'existing coal-fired power station') near Eggborough, North Yorkshire, with a gas connection to the National Grid gas transmission system approximately 3.1 kilometres (km) to the north of the existing coal-fired power station site.
- 1.1.2 The purpose of this NTS is to describe the Proposed Development and provide a summary in non-technical language of the key findings of the PEI Report for the benefit of consultees and stakeholders. The PEI Report is a document to enable stakeholders to understand the potential environmental effects of the Proposed Development as they have been assessed at this time, so as to inform feedback regarding the Proposed Development. Full technical details are provided within the PEI Report (Volume I – Main Report, Volume II – Figures and Volume III – Appendices).
- 1.1.3 The PEI Report has been prepared to comply with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended) ('the EIA Regulations'). Environmental Impact Assessment (EIA) is a systematic process used to predict the adverse and beneficial effects of a proposed development. An Environmental Statement recording the completed EIA will be submitted with the DCO application for the Proposed Development.
- 1.1.4 This NTS and the accompanying PEI Report is available for public viewing at the following locations:
- Snaith Library;
 - Knottingley Library;
 - Selby Library and Information Centre;
 - Askern Library;
 - Sherburn-in-Elmet Library;
 - Eggborough Power Station Sports and Social Club;
 - North Yorkshire County Council; and
 - Selby Council (Contact Centre).
- 1.1.5 Further information on the Proposed Development can be found on the project website: <http://www.eggboroughccgt.co.uk/>.

1.2 The Applicant

- 1.2.1 The Applicant for the DCO is Eggborough Power Ltd. Eggborough Power Ltd owns and operates the 2 GW existing coal-fired power station at Eggborough, as well as a significant part of the land required for the Proposed Development.

1.3 The Development Consent Order Process

- 1.3.1 EPL intends to submit an application to the Secretary of State (for Business, Energy and Industrial Strategy) under Section 37 of the Planning Act 2008, seeking a DCO for the Proposed Development. It is currently anticipated that this application will be submitted in May 2017.
- 1.3.2 The DCO would provide the necessary authorisations and consents for the construction, operation and maintenance of a power station of up to 2,500 megawatts electrical output capacity (MWe) (2,500 MWe is the same as 2.5 GW) and associated infrastructure on the site of the existing Eggborough coal-fired power station, North Yorkshire (see Figure NTS1).

1.4 The Proposed Development

- 1.4.1 The Proposed Development comprises the construction and operation of a combined cycle gas turbine (CCGT) power station, comprising high efficiency combined cycle gas turbines and associated steam turbines, a gas-fired peaking plant (to be used during periods of high demand) and a black start facility (to be used in the event that the National Grid electricity network fails). Subject to the necessary consents, construction is anticipated to start in early 2019 and be completed in 2022.
- 1.4.2 The Proposed Development will provide vital new energy infrastructure required to ensure security of electricity supply to the UK. High efficiency CCGTs, alongside a number of renewable technologies, will form part of a diverse energy mix that will replace ageing coal and nuclear power stations which are due to close over the next five to ten years (including the existing coal-fired power station).
- 1.4.3 There are several elements of the Proposed Development (see Figures NTS3, NTS4a and NTS4b). These include:
- up to three CCGT units with associated chimney stacks (which will be grouped together or 'co-located');
 - low level cooling towers and associated water treatment plant and pipework;
 - a peaking plant comprising either open cycle gas turbines or gas engines, housed in a dedicated building;
 - a 'black start' gas turbine with associated diesel storage tank for start-up;
 - underground electrical cables and a new sub station to connect to the existing 400 kV sub station at the existing coal-fired power station site;
 - underground gas supply pipeline (approximately 4.7 km long) and infrastructure to connect to the National Grid Transmission gas network;
 - river, ground and towns water supply pipelines and infrastructure to provide cooling water and boiler feedwater; and
 - various other supporting facilities, such as administration, workshop and storage buildings, storage tanks, access roads, drainage, fencing and landscaping.
- 1.4.4 There are some aspects of the Proposed Development design that have yet to be fixed. It will not be possible to fix these elements in advance of submission of the DCO application. For example, the precise location and scale of the buildings within the Proposed Development may vary depending upon the construction contractor and the specific selection and configuration of the plant and process equipment. The design of the Proposed Development therefore needs to incorporate a degree of flexibility (an envelope) to allow for such circumstances; this is

known as the 'Rochdale Envelope'. Where this is the case, the reasons are outlined in the PEI Report and an indication of the maximum parameters for those specific elements of the Proposed Development are clearly defined and assessed within the PEI Report.

- 1.4.5 Two concept layouts have been prepared to inform the PEI Report (see Figures NTS4a and NTS4b). These represent two possible configurations that EPL and the construction contractor may select at the detailed design stage – a 'single shaft' configuration, and a 'multi shaft' configuration. The concept design of the Proposed Development has been developed to take into account the findings of the environmental assessments that have been undertaken. Where practicable, decisions have been influenced by the findings of the EIA in order to design out or minimise environmental effects through 'embedded' mitigation (i.e. measures that form part of the design of the Proposed Development) where possible. This process is described in detail in Chapter 6: Need, Alternatives and Design Evolution of the PEI Report (Volume I – Main Report).
- 1.4.6 The Proposed Development will seek to utilise some of the existing connections of the existing coal-fired power station, although infrastructure may require replacement/ upgrading due to its age and condition. The existing National Grid sub-station on the site will be used to export the generated electricity; the proposed power station will be connected to it via new underground cables.
- 1.4.7 A supply of cooling water and boiler water will be needed for the proposed power station, as they are for the current coal-fired power station, although the volume required will be less than half the volume required for the existing coal-fired power station. The proposed cooling water connections will be via the existing coal-fired power station's abstraction and discharge points on the River Aire but new pipework and other infrastructure may be required at and between the abstraction point and the proposed power station. The choice of cooling technology has not yet been finalised but whether wet cooling towers or hybrid cooling towers are used, the volume of water required from the river will be less than that currently licenced to be extracted from the river for the coal-fired power station. Boiler feed water will be sourced from one of two existing groundwater boreholes (one within the existing Eggborough Power Station Golf Course, the other near the A19/ A645 Weeland Road roundabout), and new pipework will be required between the abstraction point and the proposed power station.
- 1.4.8 The gas supply for the Proposed Development will be via a new underground pipeline and connection to the National Grid transmission gas network to the north of the Proposed Power Plant Site. The gas pipeline will be up to 1 m in diameter and will be laid approximately 1.2 m below ground level within the proposed route corridor shown in Figure NTS3). Where the new gas pipeline meets the National Grid gas transmission network an above ground compound will be required (called an 'Above Ground Installation' (AGI)), which will require a new access point off West Lane.
- 1.4.9 Following completion of construction of the Proposed Development, some of the land within the construction laydown area will be reserved to accommodate any future carbon capture facilities, if and when the technology is both viable and technically feasible. This is in order to meet the requirements of the UK Carbon Capture Readiness guidance that applies to power stations of this capacity.
- 1.4.10 As with any development of this nature, the design process is based upon lessons learned from previous similar developments and the application of Best Available Techniques (BAT) (the

available techniques that are the best for preventing or minimising emissions and impacts on the environment). However, as outlined above, the design of the Proposed Development at this stage incorporates a degree of flexibility in the dimensions of buildings to allow for the selection of the preferred technology and contractor. In order to ensure a robust assessment of the likely significant effects of the Proposed Development, the EIA has been undertaken to assess the maximum (and where relevant, minimum) parameters for the elements where flexibility needs to be retained. Where this approach is applied to the specific aspects of the EIA this has been confirmed within the relevant chapters of the PEI Report. Examples include the worst case building massing for the landscape and visual assessment (i.e. the largest massing of buildings) and the worst case stack height for the air quality assessment (i.e. the lowest stack height of the options considered).

- 1.4.11 The PEI Report (Volume 1 – Main Report) sets out information on the expected construction activities and timescales, including anticipated staff numbers, construction hours, delivery routes and an outline construction programme. Management of the environmental effects associated with the construction works will be formalised and agreed with regulators through the development and implementation of a Construction Environmental Management Plan (CEMP). A framework for this CEMP will be included as part of the final ES, and it will be finalised by the construction contractor when they are appointed.
- 1.4.12 If the DCO is granted, construction work is envisaged to commence in early 2019, following ground preparation works, and will consist of approximately three years of construction work followed by a commissioning period. The construction phase is therefore anticipated to be completed in 2022 to allow commercial operation to commence in the same year. It is envisaged that the Proposed Development will have a design and operational life of at least 25 years and so any future decommissioning activities are currently anticipated to commence after 2047.

1.5 The Site

- 1.5.1 The Application Site ('the Site') is located primarily within the existing coal-fired power station site. The Site is centred on grid reference 457796, 424391 and is located off the A19, Goole, East Riding of Yorkshire, DN14 0BS, between the River Aire to the north and the M62 to the south – see Figures NTS1 and NTS2. The Site lies entirely within the administrative areas of Selby District Council (SDC) and North Yorkshire County Council (NYCC).
- 1.5.2 The Site is approximately 157 hectares (ha) in area.
- 1.5.3 The proposed Power Plant Site (land allocated for the proposed power station within the existing coal-fired power station site boundary – see Figure NTS3) currently comprises the existing coal-fired power station's main coal stockyard and associated rail loop. The land is all within the Applicant's land ownership. The Proposed Power Plant Site is bounded to the north and north-west by the existing coal-fired power station buildings and structures, to the east and south by an earth embankment with existing established trees (within the existing coal-fired power station site) and agricultural fields beyond (some of which are in the ownership of the Applicant), to the south-west by the Saint Gobain glass factory and to the west by an agricultural field (Tranmore Farm, which is within the ownership of EPL). There are several residential areas located within close proximity to the site, including the village of Eggborough, approximately 800 m south-west of the Proposed Power Plant Site and Gallows Hill

approximately 350 m to the east of the Proposed Power Plant Site. These are detailed within the PEI Report (Volume I).

- 1.5.4 The A19 runs north-south along the western boundary of the existing coal-fired power station, linking the M62 to the south and A63 to the north. The Proposed Power Plant Site is accessible via three vehicle entrances - the Tranmore Lane entrance (off the A19 to the south of the existing coal-fired power station main entrance), the Hensall Gate entrance (off Wand Lane to the north of the Proposed Power Plant Site) and via the existing main entrance to the coal-fired power station off the A19 to the west of the Proposed Power Plant Site (see Figure NTS3).
- 1.5.5 There is limited vegetation within the Proposed Power Plant Site. There is a small area of trees at the north-east corner of the site and trees on the landscaping embankment to the south of the Site, with the majority of the Proposed Power Plant Site comprising hardstanding, buildings/ structures associated with coal handling and bare ground. An area to the north of the Proposed Power Plant Site currently comprising an additional coal stockyard, contractor cabins and a water storage lagoon. This area will be used for construction laydown (see Figure NTS3).
- 1.5.6 It is intended that existing structures within the footprint of development within the Proposed Power Plant Site and proposed construction laydown area will be removed at the start of the construction phase, including the majority of the railway loop, the coal handling equipment and the lagoon.
- 1.5.7 A number of potential environmental receptors have been identified in and around the Site and these are considered where appropriate within each of the technical assessments undertaken to inform the PEI Report – see the relevant technical chapter of the PEI Report (Volume I – Main Report), and the summary of each topic presented in this Non Technical Summary.

1.6 Closure of the Existing Coal-Fired Power Station

- 1.6.1 The existing coal-fired power station is expected to stop generating electricity between 2017 and 2019, and will then be decommissioned and demolished. Given these timescales, it is possible that the demolition of the existing coal-fired power station could happen at the same time as the construction (and possibly early years of operation) of the Proposed Development. There is the potential for effects of this work to occur at the same time as the effects from the Proposed Development (known as cumulative effects). These have been considered and reported in the PEI Report (Volume I – Main Report). In particular it considers the cumulative traffic, air quality and noise effects associated with simultaneous demolition and construction works, and the landscape and visual effects of the Proposed Development both with and without the presence of the existing coal-fired power station.

2.0 RELEVANT LEGISLATION AND PLANNING POLICY

2.1 The Proposed Development Consent Order

- 2.1.1 The Proposed Development falls within the definition of a 'Nationally Significant Infrastructure Project' (NSIP) under the Planning Act 2008, because it is an onshore generating station in England that will have a generating capacity greater than 50 MWe gross output. As such, a DCO is required to enable the construction, operation and maintenance of the Proposed Development.

2.2 The Planning Act 2008 and National Policy Statement

- 2.2.1 The Planning Act 2008 provides a system for considering applications for DCOs for NSIPs. The Planning Inspectorate is responsible for receiving and examining DCO applications, upon which they make a recommendation to the relevant Secretary of State, who then decides whether the DCO should be granted.
- 2.2.2 The Government has put in place a series of National Policy Statements (NPSs), which set out the policy for considering NSIPs. There are a number of National Policy Statements covering new energy developments, which define the clear and urgent need for new energy generating plants to be developed in the UK. The most relevant NPSs for the Proposed Development are the Overarching NPS for Energy (EN-1) and the NPS for Fossil Fuel Electricity Generating Infrastructure (EN-2).

2.3 The National Planning Policy Framework

- 2.3.1 The National Planning Policy Framework sets out the Government's planning policies for England and how they are to be applied, though it clearly states that it does not contain specific policies for NSIPs (these policies are provided by the NPSs referred to above). The National Planning Policy Framework can, however, be a material consideration in examining applications for DCOs and therefore the PEI Report has considered its policies where relevant.

2.4 Selby District Council (SDC) Development Plans

- 2.4.1 There are a number of SDC local development plan documents that set out relevant local policy and these have been considered during the assessment process. These policies are described further within the PEI Report (Chapter 7: Legislative Context and Planning Policy Framework in Volume I – Main Report).

3.0 ASSESSMENT METHODOLOGY AND SIGNIFICANCE CRITERIA

3.1 EIA Methodology

- 3.1.1 The assessment presented in the PEI Report follows a standard EIA methodology, which is summarised below.
- 3.1.2 The objective of the EIA process is to anticipate the changes (or ‘impacts’) that may occur to the environment as a result of the Proposed Development, such as increases in traffic and changes to air quality or noise. The changes are compared to the environmental conditions that would have occurred without the Proposed Development (defined as ‘the baseline’). The EIA process identifies potentially sensitive ‘receptors’ that may be affected by these changes (*e.g.* people living near the development, local flora and fauna) and defines the extent to which these receptors may be affected by the predicted changes (*i.e.* whether or not the receptors are likely to experience a ‘significant effect’).
- 3.1.3 Where possible, the EIA uses standard methodologies, based on legislation, definitive standards and accepted industry criteria. This is set out in detail in each technical chapter of the PEI Report (Volume I – Main Report).
- 3.1.4 As the design of the Proposed Development has evolved, the Applicant has worked with the environmental specialists to ensure the design avoids or reduces environmental effects on receptors where possible, through the use of embedded mitigation measures. These measures are taken into account in the EIA and assessment of effects of the Proposed Development.
- 3.1.5 Effects on the receptors can be adverse (negative), neutral (neither negative nor positive) or beneficial (positive). They can also be temporary (*e.g.* noise during construction) or permanent (*e.g.* the visual effect of the finished buildings).
- 3.1.6 For the purpose of the PEI Report, adverse and beneficial effects are described as ‘significant’ or ‘not significant’. Where the environmental assessment predicts a significant effect on one or more receptors, where possible mitigation measures are identified to avoid or reduce the effect, or to reduce the likelihood of it happening.

3.2 Environmental Impact Assessment Scoping

- 3.2.1 EIA Scoping is a process that is designed to identify relevant topics that should be included in the EIA and reported in the ES. The Applicant submitted an EIA Scoping Report in August 2016 to the Planning Inspectorate and relevant consultees to allow them to contribute to defining the extent and approach to the environmental assessments being undertaken.
- 3.2.2 The scoping process identified which environmental assessment topics the Secretary of State considers are relevant to the EIA process. These topics have therefore been assessed and reported within the PEI Report, and summarised in this NTS.
- 3.2.3 The EIA scoping process concluded that the following technical topics are not relevant to the EIA:
- aviation;
 - electronic interference (TV reception); and

- accidental events/ health and safety.

3.3 The PEI Report and Other EIA-Related Consultation

- 3.3.1 The PEI Report (which accompanies this NTS) is published for consultation in January 2017, to enable consultees to develop an informed view of the project based on preliminary findings of the environmental assessments undertaken at this time. Its purpose is to allow consultees the opportunity to provide informed comment on the Proposed Development, the assessment process and preliminary findings prior to the Applicant finalising the Environmental Statement (ES).
- 3.3.2 Consultation with key stakeholders will continue following the publication of the PEI Report and in preparation of the final ES to support the DCO application. A summary of feedback received and how it has been addressed will be published in a Consultation Report that will accompany the DCO application.
- 3.3.3 The following sections of the NTS outline the environmental assessments undertaken and the initial findings of those assessments as reported in the PEI Report.

4.0 AIR QUALITY

4.1 Introduction

- 4.1.1 The air quality assessment considers potential impacts from the Proposed Development on both human and ecological receptors including residential properties, schools, Air Quality Management Areas (AQMA), Sites of Special Scientific Interest, Local Nature Reserves and Local Wildlife Sites. There are no internationally designated (European) ecological sites within the study area (10 km from the Proposed Development Site). There is a small Air Quality Management Area (AQMA) located in Selby town (New Street/ The Crescent) approximately 9 km to the north-east of the Proposed Development Site and there is also an AQMA 5 km to the west of the Site, along the M62 corridor through Wakefield District.
- 4.1.2 The air quality assessment uses computer models to predict the dispersion of air emissions from the Proposed Development including anticipated emissions from the proposed stacks and traffic emissions associated with the Proposed Development. Effects during the decommissioning phase are anticipated to be comparable to the construction phase.

4.2 Effects During Construction

- 4.2.1 During construction, impacts could arise from emissions from construction vehicles and mobile construction plant as well as dust and particulate matter from construction activities such as site clearance. However, through the use of appropriate standard construction management measures and mitigation throughout the construction phase, as will be employed through the implementation of the CEMP, as well as construction vehicle travel plans, emissions to air are assessed to have no significant adverse effects on human or ecological receptors.

4.3 Effects During Operation

- 4.3.1 Predicted ground level concentrations of air pollutants due to air emissions from the operation of the Proposed Development have been calculated. The results have been used to determine the appropriate stack heights for both the CCGT units and the peaking plant. By using CCGT stacks up to 90 m in height above ground level and peaking plant stacks up to 45 m in height, the risk of exceeding the Government-defined air quality objectives is negligible. Through the use of such stack heights (which will be fixed in the DCO application), no significant air quality effects are predicted at the identified human and ecological receptors.
- 4.3.2 Emissions from the Proposed Development during operation will be carefully controlled through an Environmental Permit that will be regulated by the Environment Agency and which must be granted prior to commercial operation of the Proposed Development. The Permit will set out specific requirements to ensure continuous compliance with European and national legislation for this type of power station, including the use of BAT to minimise emissions.

4.4 Conclusions

- 4.4.1 In summary, it is concluded that there will be no significant effects due to air quality changes as a result of the Proposed Development through the use of embedded mitigation, use of a CEMP during construction, use of appropriate stack heights and compliance with the required Environmental Permit during operation of the proposed power station.

5.0 NOISE AND VIBRATION

5.1 Introduction

- 5.1.1 Potential noise sensitive receptors have been identified around the Site. The potential for increased noise and vibration during construction and operation of the Proposed Development has been predicted using noise models and the results compared with recorded baseline noise levels at the identified receptors during the day and night. The predicted change has been compared with national standards for noise and vibration to see whether the increased noise will be noticeable at receptors and whether there is therefore the potential for significant effects without further mitigation measures being applied. Effects associated with decommissioning of the Proposed Development will be similar to construction effects.
- 5.1.2 The assessment has also considered the potential for vibration effects from construction, operation and decommissioning of the Proposed Development. Vibration is likely to occur for a short period of the construction works as piling is likely to be required for some of the main structures. However, due to the distance to any buildings that could be affected by vibration, and the nature of the works proposed, any significant vibration impacts are unlikely.

5.2 Effects During Construction

- 5.2.1 For the majority of the construction works, no significant noise effects are predicted during the daytime period through the implementation of best practice measures to control construction noise that will be applied through the CEMP. This is due to distance, intervening screening provided by the existing large earth bund around the Proposed Power Plant Site and existing background noise levels. Construction noise traffic is also not anticipated to be significant.
- 5.2.2 Based on conservative assumptions, during construction of the proposed borehole water, cooling water and gas connection pipelines, significant (moderate adverse) short term noise effects could occur at the Eggborough Sports and Leisure Complex (residential receptor) and at residential properties in Chapel Haddlesey when works are taking place close by (either with or without concurrent demolition of the existing coal-fired power station), but appropriate mitigation will be implemented to reduce effects so that they are not significant. As the works progress and move further away, adverse effects will reduce.
- 5.2.3 During the peak of construction, some work may be required outside of normal working hours, however noise limits will be imposed and construction noise will be managed and mitigated through the CEMP, so this is not predicted to give rise to significant effects.

5.3 Effects During Operation

- 5.3.1 The design of the Proposed Development will include appropriate measures to mitigate potential operational noise effects in accordance with the use of BAT as regulated by the Environment Agency through the Environmental Permit.
- 5.3.2 The assessment considers the potential for noise to arise from increased traffic movements on local roads during operation of the Proposed Development. As operational traffic flows will be very low, no significant effects are predicted.

- 5.3.3 During the operation of the Proposed Development, noise from the power station and associated activities on the Site (including deliveries by road and rail) is not predicted to have a significant adverse effect on the nearest receptors through adoption of control measures.

5.4 Conclusions

- 5.4.1 In summary, it is concluded that there could potentially be short term significant adverse construction noise effects at a small number of receptors around the Site; however, these will be minimised by measures to be set out in the CEMP. No significant noise effects are anticipated during the operation of the Proposed Development (following appropriate mitigation), which will be operated in accordance with an Environmental Permit. No significant vibration effects are anticipated during construction or operation.

6.0 ECOLOGY AND NATURE CONSERVATION

6.1 Introduction

- 6.1.1 Ecological receptors have been identified in and around around the Site through a desk based study and ecological surveys of the Site and its immediate surroundings.
- 6.1.2 There are no international nature conservation designations (Special Areas of Conservation (SACs), Special Protection Areas (SPAs) or Ramsar sites) within the 10 km of the Site, but to ensure a conservative approach air quality effects on three SACs beyond 10 km from the Site (Skipwith Common, Strensall Common and North York Moors National Park) have been assessed as requested by consultees. There are also six Sites of Special Scientific Interest (SSSIs) located within 10 km and two non-statutory designations within 1 km of the Site.
- 6.1.3 No European protected species have been recorded on Site although a number of protected species have been recorded in the wider Study Area (notably great crested newt, bats and otter).
- 6.1.4 The effects of decommissioning cannot be assessed in detail as ecological receptors within the Study Area may have changed by that time, but effects are anticipated to be less significant than construction effects.
- 6.1.5 Landscape and Biodiversity Strategies will be prepared and will be implemented as part of the Proposed Development. These will deliver biodiversity enhancements within the Site.

6.2 Effects During Construction

- 6.2.1 There will be no loss of habitat within any statutory or non-statutory designated sites due to construction, and while there will be some loss of the existing (non-designated) habitats within the Site, with best practice implemented through the CEMP, no significant adverse effects are predicted.
- 6.2.2 There will be no significant adverse effects on protected or notable species as a result of construction. There may be some level of disturbance but this would be temporary in nature, reversible and therefore not significant. Design measures, including directional lighting (directed downwards to minimise light spill), and good practice methods to manage dust will assist in minimising any disturbance. In addition, precautionary method statements will be used to manage works near sensitive areas, such as areas used by breeding birds and a pond over 300 m from the AGI location which supports great crested newts. A Fish Management Plan will be prepared to protect the welfare of fish in the lagoon (to be drained within the construction laydown area) and the River Aire if any works are required in the River.

6.3 Effects During Operation

- 6.3.1 The assessment has concluded there will be no significant adverse effects on designated sites, notable habitats or protected species during operation, including air quality effects.

6.4 Conclusions

- 6.4.1 No significant adverse effects on ecological receptors are predicted as a result of construction or operation of the Proposed Development.

7.0 WATER RESOURCES, FLOOD RISK AND DRAINAGE

7.1 Introduction

- 7.1.1 The assessment identifies the key water bodies that may receive runoff or discharges from the Site during construction, operation and decommissioning of the Proposed Development, and considers the potential contamination risk to these water bodies as a result. The study areas for groundwater and surface water have been defined based on the potential for impacts to occur; the groundwater study area is larger than the surface water study area in order to consider the potential impacts on the aquifer beneath the Site.
- 7.1.2 The main surface watercourses close to the Site are the River Aire, Ings and Tetherings Drain and Hensall Dyke. There are also a number of minor watercourses and water features in the vicinity of the Site. The Site is located within a groundwater protection zone and groundwater beneath the Site is used for public water supply (defined as a Principal Aquifer).
- 7.1.3 The majority of the Site within the existing coal-fired power station site is located within Flood Zone 1 (low risk), as defined by the Environment Agency. A small area of the construction laydown area is located within Flood Zone 3 (high risk) and the proposed gas connection corridor is located predominantly within Flood Zone 3 (high risk), with small pockets of land located within Flood Zone 2 (medium risk) along the pipeline route.
- 7.1.4 Decommissioning effects for the proposed power station are anticipated to be similar to those predicted during the construction phase.

7.2 Effects During Construction

- 7.2.1 The assessment has concluded that during construction there is the potential for spillages to occur, but the likelihood of these occurring would be low through the use of working methods that will be formalised through the CEMP. As a result, the potential impact of such an incident is not considered likely to result in a significant effect on surface or groundwater.
- 7.2.2 Construction materials will be stored outside of Flood Zone 3 (in the construction laydown area and along the proposed gas connection corridor) and only moved to the temporary works area immediately prior to use. Other standard practice measures will be used in both the construction of the proposed power plant and gas pipeline, thereby ensuring that the temporary works will not increase flood risk in the area or exacerbate flooding for neighbouring properties, and to avoid any adverse environmental effects if the Site flooded during construction.

7.3 Effects During Operation

- 7.3.1 During operation of the Proposed Development, the potential effects are largely the same as those identified above for the construction phase but there are fewer water bodies that could be affected. Only the River Aire, Hensall Dyke, and the minor watercourses in the vicinity of the AGI have been assessed for the potential for effects to occur as a result of the operational phase of the Proposed Development, as has the groundwater resource below ground. The potential impacts during operation will be managed by similar best practice measures for working procedures and the storage of materials and fuels as in the construction phase, but

formalised through the Environmental Permit. The drainage system will prevent potentially polluted runoff from causing pollution of surface or ground water bodies.

- 7.3.2 The Proposed Development will utilise cooling water abstracted from the River Aire at the same point as currently used for the coal-fired power station and discharged back to the River at the same point as the current discharge. The volume of water to be extracted will be less than half that currently licensed to be extracted for the existing coal-fired power station. The discharge will also be of lower volume and temperature than the existing coal-fired power station and therefore the effects are not considered to be significant given the current context.
- 7.3.3 The Proposed Development will not increase the risk of flooding off Site because the drainage and landscape design will follow appropriate guidance to attenuate and control run-off rates from the Site.

7.4 Conclusions

- 7.4.1 No significant effects on surface or ground water bodies are predicted due to the proposed use of best practice measures during construction, operation and decommissioning, and the design of the drainage system for the Proposed Development.
- 7.4.2 The majority of the Site is at low risk of flooding as it is located in Flood Zone 1 and the Proposed Development will not result in any increase in flood risk off Site.

8.0 GEOLOGY, HYDROGEOLOGY AND LAND CONTAMINATION

8.1 Introduction

- 8.1.1 A desk based assessment of historical ground condition information and previous surveys has been undertaken to identify the potential effects associated with ground conditions.
- 8.1.2 Baseline information indicates that the areas of the Site within the existing coal-fired power station are underlain by Made Ground of varying thickness. Below this there is an area of sand and gravel which runs through the centre of the existing power station site in a generally north-west to south-east orientation. Under the gas connection corridor lies alluvial clay, silt, sand and gravel as well as localised deposits of glacial till. Sherwood Sandstone bedrock (a Principal Aquifer) lies below the superficial deposits and Made Ground across the Site.
- 8.1.3 The assessment has considered the potential risks to people (staff on site during construction and operation), surrounding land uses, ecological receptors, buildings, soils and groundwater from the construction, operation and decommissioning of the Proposed Development. Decommissioning effects are predicted to be similar to those described below for the construction phase.

8.2 Effects During Construction

- 8.2.1 The history of the areas of the Site within the existing coal-fired power station site indicates the presence of possible ground contamination. Best practice measures to protect construction staff and the environment will be used, including use of Personal Protective Equipment. With these measures in place the risk to human health during construction is not considered significant.
- 8.2.2 Prior to starting construction, any significant contamination within the Site will be identified and, if necessary, cleaned up, so as to prevent movement of that contamination into the groundwater or surface waters around the Site.
- 8.2.3 Risks to the environment from leaks or spillages and to workers and local residents from construction dust will be managed by construction best practice measures, such as regular checks of all plant and machinery and drip trays, an emergency spillage action plan to contain any leak or spill, and damping down surfaces for control of dust.
- 8.2.4 Therefore no significant effects have been identified as a result of the construction phase.

8.3 Effects During Operation

- 8.3.1 The Proposed Development will employ good housekeeping and management practices to avoid risks of soil and groundwater pollution, such as using impermeable surfacing and bunding for the storage of any liquid fuel to ensure that, in the event of any spillage, materials are safely contained. In addition, oil/ water separators will be installed as appropriate within the drainage system to reduce the likelihood of oil-based materials (from road vehicles) impacting on the environment. These measures will be defined in the Environmental Permit and inspected and regulated by the Environment Agency.

- 8.3.2 No significant effects have therefore been identified as a result of the operation of the Proposed Development.

8.4 Conclusions

- 8.4.1 Best practice measures to protect people on Site from any potentially contaminated land and to prevent the risks of causing contamination of soils and groundwater have been incorporated into the design and management systems of the Proposed Development. As a result it is not expected that there will be any significant effect relating to ground conditions during the construction or operation of the Proposed Development.

9.0 CULTURAL HERITAGE

9.1 Introduction

- 9.1.1 The desk based assessment of the Study Area has identified four Scheduled Monument, 110 listed buildings and three Conservation Areas within 5 km of the Site, and 71 non-designated assets within 1 km of the Site. The Scheduled Monuments are the buried remains of a Roman fort west of Roall Hall, Whitley Thorpe moated Templar grange, Thorpe Hall moated monastic site, and a World War Two (WW2) bombing decoy control building.
- 9.1.2 There is known prehistoric activity in the 1 km study area, with cropmarks that are likely to be associated with an Iron Age or Roman ditched enclosure. A medieval find has also been recorded.
- 9.1.3 There are no designated heritage assets identified within the Site.
- 9.1.4 There will be no physical impacts to buried cultural heritage assets during eventual decommissioning of the proposed power station, as any impact upon archaeological remains will have been mitigated during the construction phase.

9.2 Effects During Construction

- 9.2.1 The construction of the Proposed Development within the Power Station Site will have no impact on designated heritage assets. Due to the extent of ground disturbance caused by previous development at the existing coal-fired power station site, impacts to previously unknown buried heritage assets are unlikely and significant effects are not anticipated.
- 9.2.2 A number of designated heritage assets have been identified within the study corridor of the gas pipeline. However, by routing the proposed pipeline these assets will be avoided and impacts will only be temporary during the construction phase.
- 9.2.3 There are several impacts to cultural heritage assets associated with the construction phase, such as the use of lighting and temporary impacts on the setting of Hall Garth (a moated site to the north of the River Aire) during the construction of the gas pipeline. However, these impacts are all temporary in nature and will not have an impact upon the significance (importance) of the assets. Consequently, the effects will not be significant.
- 9.2.4 While there will be a requirement for the temporary use of lighting during construction, night-time lighting is already present within the existing coal-fired power station site and thus the impact of construction lighting is assessed to be very low. Moreover, mitigation measures have been implemented, such as avoidance of a cultural heritage site by design, to reduce potential impacts associated with construction.
- 9.2.5 A number of local heritage assets of low heritage value may be removed or permanently lost as a result of the gas pipeline construction and the loss of any previously unrecorded archaeological features within the gas connection corridor could result in significant effects. A geophysical survey is being undertaken within the pipeline corridor to confirm the presence or absence of any as yet unidentified archaeological remains and a suitable mitigation strategy will be developed should any such assets be identified. Successful implementation of an approved mitigation strategy will reduce the adverse effects to a non-significant level.

9.3 Effects During Operation

- 9.3.1 During operation there are not predicted to be any significant effects on the cultural heritage assets in the study area.

9.4 Conclusions

- 9.4.1 With the implementation of mitigation, no significant effects on archaeology and cultural heritage assets have been identified.

10.0 TRAFFIC AND TRANSPORTATION

10.1 Introduction

- 10.1.1 The traffic and transportation assessment identifies the potential effects of the Proposed Development on traffic and transport in the surrounding area. The assessment considers the predicted number of vehicle movements generated during the construction and operation of the Proposed Development, and the sensitivity (including pedestrian and cyclist safety) and capacity of the local road network.
- 10.1.2 There will be some traffic movements during the eventual decommissioning of the Proposed Development, however, the vehicle numbers are not expected to be any higher than experienced during the construction period as described below.

10.2 Effects During Construction

- 10.2.1 A number of measures are already embedded into the routing and control of construction traffic movements to and from the existing coal-fired power station site. Routes for Heavy Goods Vehicle (HGV) traffic travelling to and from the motorway network have been defined avoiding residential areas wherever possible. The construction worker and HGV access to the Proposed Power Plant Site and construction laydown area will be via three existing access points – Hensall Gate entrance located off Wand Lane, the Tranmore Lane entrance from the A19 (which has historically been used for coal deliveries associated with the existing coal-fired power station), and the existing coal-fired power station main entrance. The former access point on Hazel Old Lane will not be used. Any HGV arriving or departing the site will be required to travel to/from the south along the A19 to Junction 34 of the M62.
- 10.2.2 The Proposed Development construction traffic will result in small, temporary, increases of traffic flows, including HGVs, on the roads leading to the Site. However, the assessment concludes that predicted numbers of construction traffic movements will not have significant adverse effects on the road network in terms of capacity and effect on sensitive road users (pedestrians and cyclists), even if traffic movements were to occur at the same time as those needed for the demolition of the coal fired power station. Any abnormal loads would be timed to minimise disruption following consultation with the local authority, and a Construction Worker Travel Plan and Construction Traffic Management Plan will be developed by the contractor to manage and where possible, reduce, the number of vehicles accessing the Site. Thus, the effects of construction traffic on all road links and junctions within the study area are considered to be minor adverse (not significant).
- 10.2.3 HGV and construction traffic associated with the construction of the gas pipeline and AGI will be significantly less than that for the construction of the Proposed Power Plant Site. Construction traffic will be routed via West Lane, the A19, Millfield Road and Wand Lane.

10.3 Effects During Operation

- 10.3.1 Traffic associated with the operation of the Proposed Development will use the same routes as for construction traffic (described above). There will be some HGV traffic generated by deliveries of operational and maintenance plant and equipment, however this will equate to a maximum of four HGVs per day, as fuel for the new power station will be imported into the Site via pipeline therefore there will be no vehicular movements associated with the transport

of fuel to the Site, with the exception of minor quantities of diesel that may be used for start-up of the plant. The traffic effects during operation are not considered to be significant.

10.4 Conclusions

- 10.4.1 In summary, there will be no impacts of any significance to any of the road sections assessed and a number of traffic management measures will be implemented to further minimise any traffic increases as a result of the Proposed Development.

11.0 LAND USE, AGRICULTURE AND SOCIO-ECONOMICS

11.1 Introduction

- 11.1.1 The land use, agriculture and socio-economics assessment considers the potential economic impacts of the Proposed Development on land use, agriculture, employment, local businesses and the local population. The effects during construction and operation are described below.
- 11.1.2 Economic benefits can arise directly (through employment of local people) and indirectly (e.g. during the construction phase, when contractors may be using local accommodation and other amenities).

11.2 Effects During Construction

- 11.2.1 The Proposed Development is predicted to have a temporary significant beneficial effect on the local and regional economy through the creation of an estimated 1,170 construction jobs, of which 931 are expected to be sourced from the region. EPL will agree a plan with the local authorities to promote employment, skills and training development opportunities for local residents. The creation of employment during construction is considered to comprise a major beneficial (significant) effect.
- 11.2.2 The majority of the Site lies within the existing coal-fired power station site, thus limiting the effects on land use. However, there will be a temporary significant adverse effect on users of two Public Rights of Way which will be temporarily closed or diverted during part of the construction period, and temporary loss of agricultural land along the route of the cooling water and gas pipeline routes. The quality of the agricultural soils is being assessed through soil surveys being undertaken, although by retaining, preserving and reinstating the soil disturbed during the construction of the pipeline, long term effects on agricultural land are anticipated to be minimal.

11.3 Effects During Operation

- 11.3.1 During operation the Proposed Development will retain or employ approximately 40 full-time permanent staff, as well as around 30 corporate staff.
- 11.3.2 The assessment concludes that there will be no significant adverse operational effect on land use, leisure and amenity, given Public Rights of Way will be reopened and land reinstated following construction. A small area of agricultural land will be lost at the gas connection point, where the AGI will be located, which is not considered to be significant due to its size .

11.4 Conclusions

- 11.4.1 The economic benefits generated by the construction of the Proposed Development will be significant and beneficial on the local and regional economy. Following mitigation, no other significant effects (beneficial or adverse) on the local or regional economy, land use, amenity and leisure are predicted.

12.0 LANDSCAPE AND VISUAL AMENITY

12.1 Introduction

- 12.1.1 The study area for landscape and visual effects includes areas where it is considered that there is potential for significant direct or indirect effects on landscape character or sensitive views due to the construction or operation of the Proposed Development. The area in which the Proposed Development is likely to be visible (known as the Zone of Theoretical Visibility) is shown in Figures NTS5a and NTS5b.
- 12.1.2 Based upon the tallest element of the Proposed Development being the stacks (with a maximum height of 90 m above ground) it is considered that it is highly unlikely that significant effects will be possible from further than 10 km from the stacks.
- 12.1.3 The scale of the Proposed Development is similar or smaller than existing buildings found within the Study Area including the existing coal-fired power station at Eggborough, Drax Power Station, Ferrybridge Multifuel 1 and Ferrybridge 'C' Power Station. These developments are all large scale and as such are recognisable features within the local landscape.
- 12.1.4 The site for the Proposed Development has been selected partly due to the existing embankment and vegetation around the Proposed Power Plant Site which provides screening for low level operations and structures within the majority of the Study Area. Further impact avoidance measures will be incorporated into the design of the Proposed Development to minimise impacts on landscape and visual amenity such as selection of appropriate building finishes.
- 12.1.5 The impacts on landscape character and visual amenity arising as a result of decommissioning of the Proposed Development will generally be similar to those identified during the operation phase of the Proposed Development, described below.

12.2 Effects During Construction

- 12.2.1 During construction there would be changes in the aesthetic and perceptual qualities of the landscape through the movement of the plant within close proximity to the Site and the introduction of large scale structures in various stages of the development. However given the presence of existing large scale power generation infrastructure in the landscape, no significant effects on the landscape are predicted.
- 12.2.2 At various viewpoints surrounding the Site, views for the majority of residential receptors will either be oblique or contain clear views of structures associated with the Site. High level cranes may also be visible. These views would be exacerbated for some receptors if the coal-fired power station has been demolished prior to the start of construction. However, at some viewpoints, views of ground level construction activities will be limited as a result of intervening vegetation and woodland located along the northern boundary of the power station site. Due to the size and massing of the structures, significant visual effects are predicted at a number of viewpoints around the Site. No specific mitigation measures are proposed since it is largely not possible to avoid or mitigate these effects due to the size of the buildings and structures involved.

12.3 Effects During Operation

- 12.3.1 During operation, the aesthetic and perceptual qualities of the existing coal-fired power station would remain as those experienced at present, with large scale static structures characteristic of the wider landscape. No significant effects on the landscape are anticipated.
- 12.3.2 The Proposed Development may be viewed adjacent to the existing coal-fired power station (in the early years of operation), although seen as a much smaller (massing and height) development than the existing coal-fired power station. The Proposed Development will increase the overall massing of structures, increasing the proportion of view that is dominated by large scale structures. The coal-fired power station will be demolished before and/or during the operation of the Proposed Development, which will increase the extent of some views of the Proposed Development.
- 12.3.3 A number of potentially significant adverse visual effects are predicted based on the scale of the Proposed Development either with or without the presence of the existing coal-fired power station, but due to the size and massing of the structures, no specific mitigation measures are proposed.

12.4 Conclusions

- 12.4.1 Due to the existing industrial character of the setting of the Site and surrounding landscape, it is anticipated that there is a low likelihood that the effects will be sufficient to result in an inherent change to the existing landscape character at local, regional or national scale.
- 12.4.2 Although the location of the Proposed Power Plant Site benefits from existing screening in the form of an earth embankment with tree planting, the Proposed Development is likely to result in a significant effect on visual amenity during its the construction and operation from several viewpoints as a result of the close distance and lack of intervening vegetation.

13.0 WASTE MANAGEMENT

13.1 Introduction

- 13.1.1 The assessment has taken into consideration the likely effects associated with the generation of waste and use of resources during the construction and operation of the Proposed Development.

13.2 Effects During Construction

- 13.2.1 It is estimated that the construction of the Proposed Development will generate approximately 8,000 tonnes of waste (predominantly inert construction waste with around 60 tonnes of hazardous construction waste) based on information presently available on the waste types and quantities anticipated. This is considered in the context of the total regional waste arisings of around 820,000 tonnes of inert construction waste and 33,000 tonnes of hazardous construction waste per year in North Yorkshire. As a percentage of North Yorkshire's total, waste from the Proposed Development is therefore estimated to be very small and it not considered significant or likely to lead to any capacity issues within the regional waste management network.
- 13.2.2 A Site Waste Management Plan (SWMP) will be implemented by the contractor to reduce, re-use and recycle construction waste where feasible. A framework SWMP will be prepared and included in the final ES to accompany the DCO application. The Proposed Development is being designed to minimise excavation waste by balancing the 'cut' of surplus material and 'fill' to level the Site prior to construction as much as possible. Additionally, consideration will be made to recycling inert waste material (such as concrete) from existing structures which require demolition, in order to allow this to be reused within the Proposed Development.
- 13.2.3 Good practice waste management procedures will also minimise the risk of adverse effects on human or ecological receptors from the waste storage, transfer or disposal.
- 13.2.4 The contractor, where possible, will be required to minimise the use of virgin raw materials by specifying products and materials with recycled content and which are durable with a long life.

13.3 Effects During Operation

- 13.3.1 During operation, the quantities of waste that will be generated are expected to be very small. In contrast to coal, the combustion of gas does not generate any solid residues which require disposal.
- 13.3.2 The anticipated quantities and types of operational waste are negligible (not significant) when compared to the predicted hazardous and non-hazardous waste arisings within North Yorkshire. All operational waste will be taken for treatment or disposal at a suitably licenced waste facility.

13.4 Conclusions

- 13.4.1 It is concluded there will be no significant effects as a result of waste arising from the construction or operation of the Proposed Development.

14.0 SUSTAINABILITY AND CLIMATE CHANGE

14.1 Introduction

- 14.1.1 This assessment addresses the potential wider impacts on sustainability and climate change predicted to arise as a consequence of the Proposed Development. The Proposed Development will be designed in accordance with the principle of BAT. By applying these mechanisms, the Proposed Development is considered to meet the key sustainability requirements as set out in national, regional and local policy.

14.2 Effects During Construction

- 14.2.1 The construction stage of the Proposed Development will adhere to the basic principles of environmental sustainability including minimising the use of natural resources, greenfield land and water, whilst maximising energy efficiency. These will be achieved through design and implementation of management plans including a CEMP, SWMP and Construction Traffic Management Plan. Use of rail access is being considered during the construction phase where it can feasibly provide a viable alternative to the use of HGVs for the importation of materials and equipment to the Site.

14.3 Effects During Operation

- 14.3.1 A carbon impact assessment will be undertaken and reported in the final ES to support the DCO application. The carbon emissions from the proposed high efficiency gas fired power station are expected to be less than half of those from the current coal-fired power station. Use of Combined Heat and Power (CHP) to recover additional waste heat for beneficial use is also being explored and this would increase the efficiency – and reduce the carbon emissions – of the Proposed Development still further if a viable CHP opportunity can be identified.
- 14.3.2 During operation, management plans will also be implemented to improve the sustainability of the operation, including minimising the use of water through methods such as re-use of rainwater and use of borehole water instead of towns water.
- 14.3.3 The cooling water demand of the Proposed Development will be significantly less than the cooling water demand of the existing coal-fired power station (less than half) due to the increased efficiency of the CCGT plant, therefore no significant effects are anticipated.

14.4 Conclusions

- 14.4.1 The design, construction and operation of the Proposed Development will adhere to national, regional and local sustainable development policies and will provide a low carbon source of electricity.

15.0 HUMAN HEALTH

15.1 Introduction

- 15.1.1 Potential effects of the Proposed Development on human health are considered in several of the chapters discussed above, including Air Quality, Noise and Vibration, Traffic and Transport, Water Resources, Flood Risk and Drainage, Geology, Hydrogeology and Land Contamination, and Land Use, Agriculture and Socio-Economics. A standalone Human Health chapter will be prepared for inclusion within the final ES to support the DCO application.

15.2 Effects During Construction

- 15.2.1 Potential effects on human health during the construction phase are considered in the Air Quality, Noise and Vibration, Traffic and Transport, Water Resources, Flood Risk and Drainage, Geology, Hydrogeology and Land Contamination, and Land Use, Agriculture and Socio-Economics sections. No significant adverse effects have been predicted, through the use of the embedded mitigation measures outlined previously.
- 15.2.2 Potential effects associated with electromagnetic fields have also been assessed. Such effects will be limited due to the fact that the Proposed Development does not include any new overhead electricity lines. The only potential receptors of such effects are construction workers in the vicinity of the new below-ground electricity connection and new sub station, and appropriate mitigation will be implemented to avoid any significant effects.

15.3 Effects During Operation

- 15.3.1 Potential effects on human health during the operation phase are also considered in the Air Quality, Noise and Vibration, Traffic and Transport, Water Resources, Flood Risk and Drainage, Geology, Hydrogeology and Land Contamination, and Land Use, Agriculture and Socio-Economics section. No significant adverse effects have been predicted, through the use of the embedded mitigation measures outlined previously.
- 15.3.2 As described above for construction, the only potential receptors of effects related to electromagnetic field are staff in the vicinity of the new below-ground electricity connection and new sub station, and appropriate mitigation will be implemented to avoid any significant effects.

15.4 Conclusions

- 15.4.1 No significant health effects have been identified as a result of the construction or operation of the Proposed Development following the implementation of the identified mitigation measures.

16.0 CUMULATIVE AND COMBINED EFFECTS

16.1 Introduction

- 16.1.1 Other proposed developments that are also likely to be constructed and operated in future and have the potential to generate cumulative environmental effects together with the Proposed Development have been identified. Significant cumulative effects may be possible due to the nature of these developments (*e.g.* the potential to release emissions to air in the vicinity of the same receptors) or their location (*e.g.* close enough to the Site to affect the same receptors).
- 16.1.2 The other proposed developments that are considered to have potential for significant cumulative effects, and that have been assessed in more detail, are:
- Eggborough Coal-Fired Power Station (demolition works);
 - Knottingley Power Station and Pipeline;
 - Southmoor Energy Centre;
 - Thorpe Marsh CCGT Power Station;
 - Thorpe Marsh Gas Pipeline;
 - Ferrybridge Multifuel 2;
 - a residential development of 55 dwellings in Eggborough;
 - a residential development of 64 dwellings in Eggborough;
 - single storey insulation production facility at Saint Gobain glass factory (construction will be completed before 2019);
 - Advanced Thermal Treatment Plant;
 - hydro-electricity generation scheme (construction will be completed before 2019);
 - a solar farm 4 km south-east of the Site;
 - Kellingley Colliery Business Park; and
 - Yorkshire & Humber Carbon Capture and Storage (CCS) Pipeline.
- 16.1.3 The locations of these other developments are shown on Figure NTS6.
- 16.1.4 The potential for cumulative effects with these other developments was considered for all of the environmental topics by consideration of the available information (including the Environmental Statements and any detailed environmental modelling information where available). As a result of the detailed consideration undertaken in respect of the identified proposed developments, no significant cumulative effects during construction or operation were identified for the majority of environmental topics. The exception to this is potentially significant cumulative visual effects for a number of identified viewpoints as a result of views of both the Proposed Development and other proposed developments during construction and operation.
- 16.1.5 Combined effects (meaning the combination of different types of effects from the Proposed Development on a single receptor) have also been assessed, and no significant combined effects have been identified.

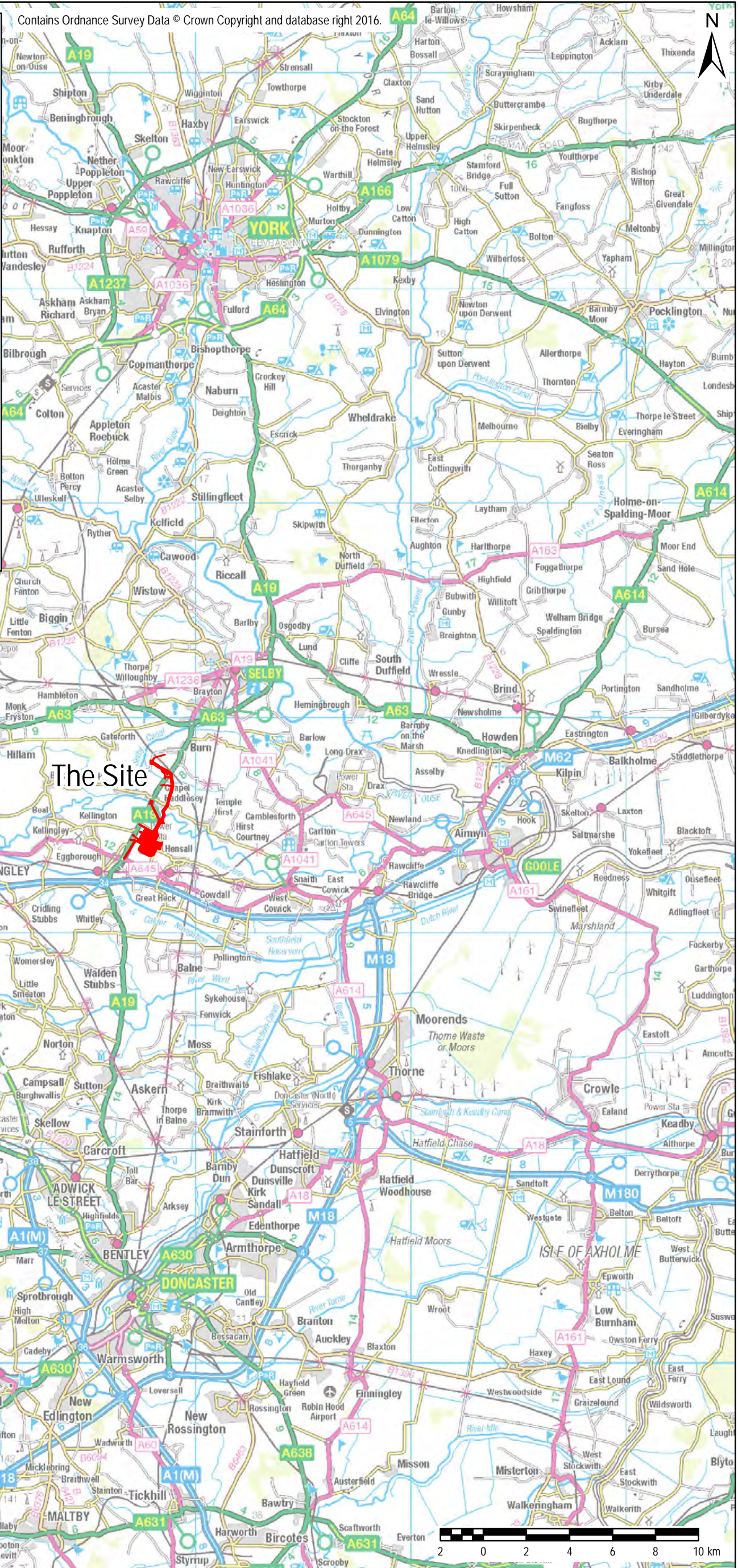
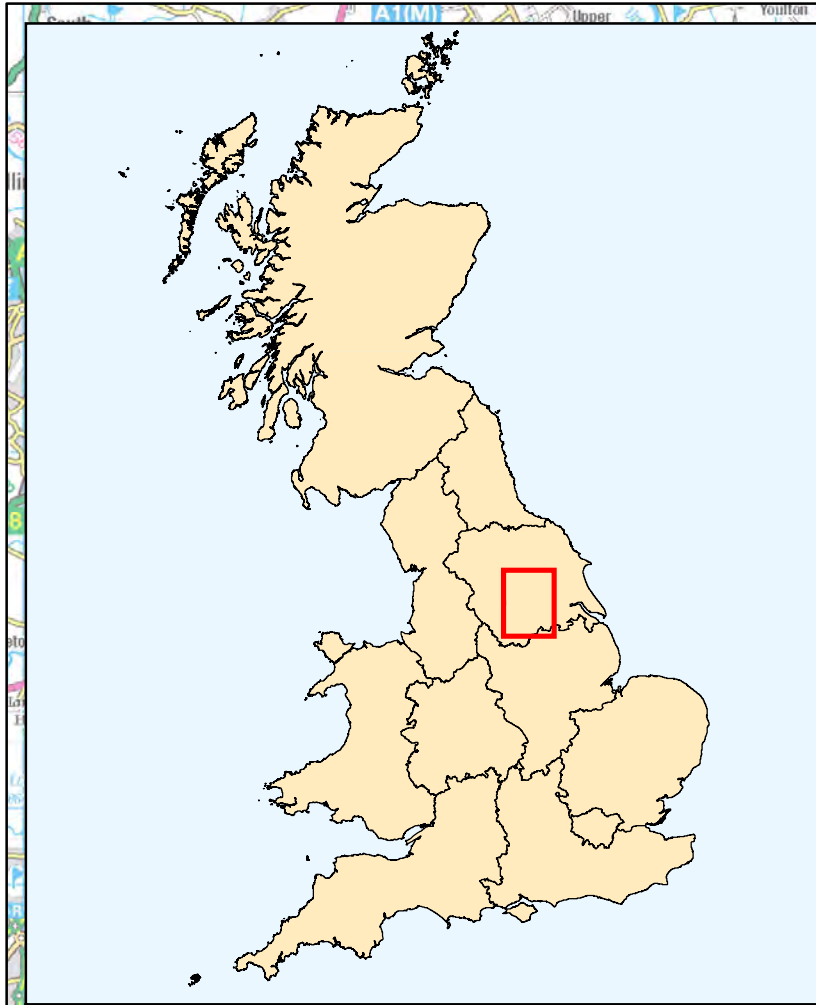
17.0 SUMMARY AND CONCLUSIONS

- 17.1.1 The PEI Report details the initial findings of the EIA that is being undertaken for the Proposed Development based on the information and design details currently available.
- 17.1.2 The majority of the Proposed Development is set within the existing Eggborough Power Station site, and has been sited and designed to be in keeping with the surrounding infrastructure. This has helped to minimise the potential for significant adverse effects.
- 17.1.3 Following assessment of a comprehensive range of environmental topics as agreed through the EIA Scoping and consultation process, the following potential significant residual effects (i.e. effects after implementation of mitigation, where measures are identified) have been found:
- short term adverse effects due to the temporary loss of over 20 ha of good quality agricultural land from use during the construction of the proposed cooling water and gas connections;
 - short term beneficial effects on the local and regional economy due to generation of construction employment;
 - short term adverse effects on views from a number of residential properties during construction of the Proposed Development;
 - long term adverse effects on views from a number of residential properties during operation of the Proposed Development;
 - short term adverse cumulative effects on air quality if all the other proposed developments considered in the cumulative impact assessment were to occur at the same time as construction of the Proposed Development (although the Proposed Development's contribution is negligible);
 - short term adverse cumulative effects on views from a number of residential properties.
- 17.1.4 No other significant environmental effects have been identified.
- 17.1.5 A number of environmental impact avoidance, design and mitigation measures have been identified to mitigate and control environmental effects during construction and operation of the proposed power station. Where these are not embedded in the design of the Proposed Development, they will be secured through a number of 'requirements' (like planning conditions) contained within the draft DCO.
- 17.1.6 Following consultation on the PEI Report and completion of the additional ongoing studies that have been identified in the PEI Report, the EIA will be finalised and reported in the final ES to support the DCO application.


18.0 REFERENCES

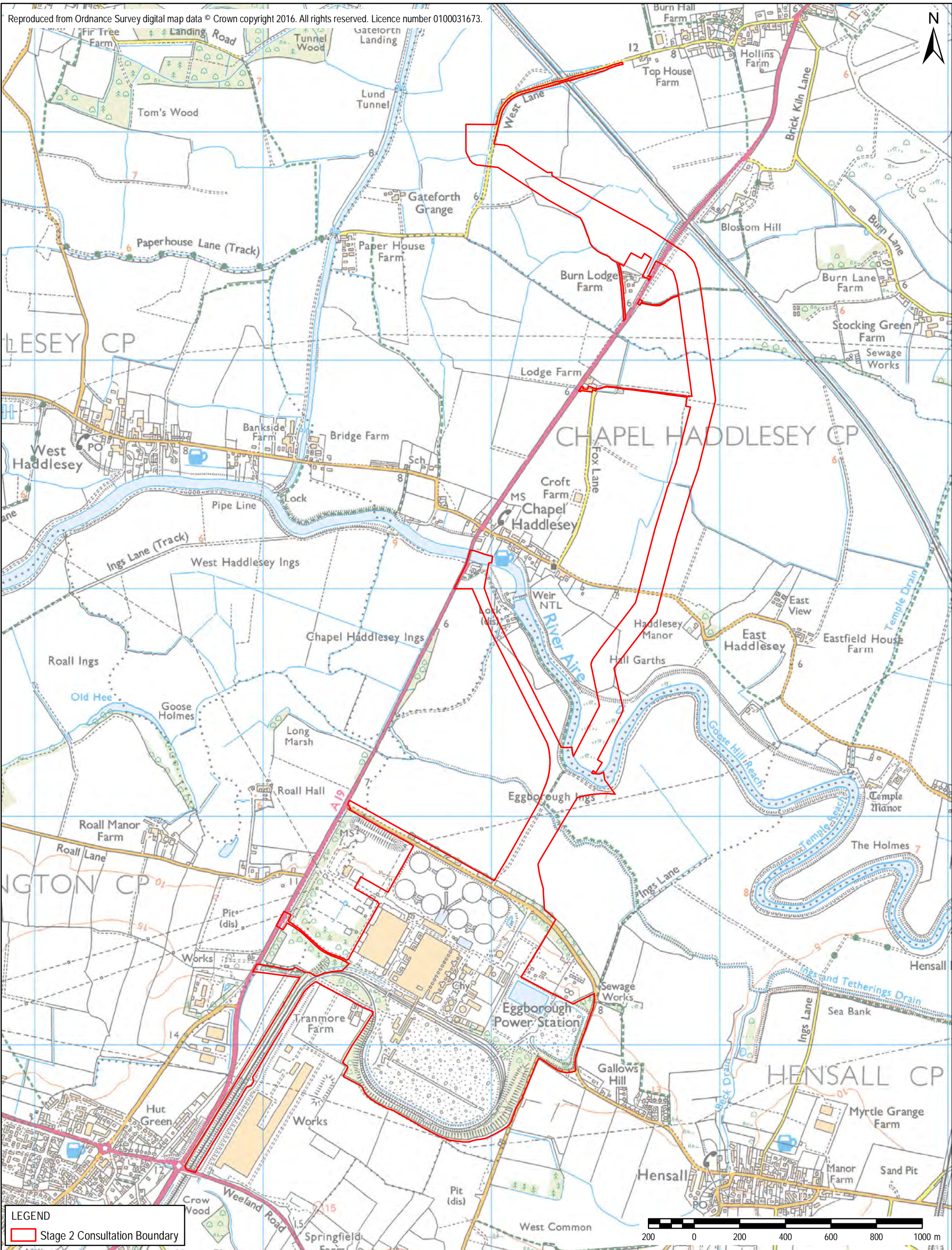
Department for Energy and Climate Change (2011a) *National Policy Statement for Energy (EN-1)*


Department for Energy and Climate Change (2011b) *National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2)*

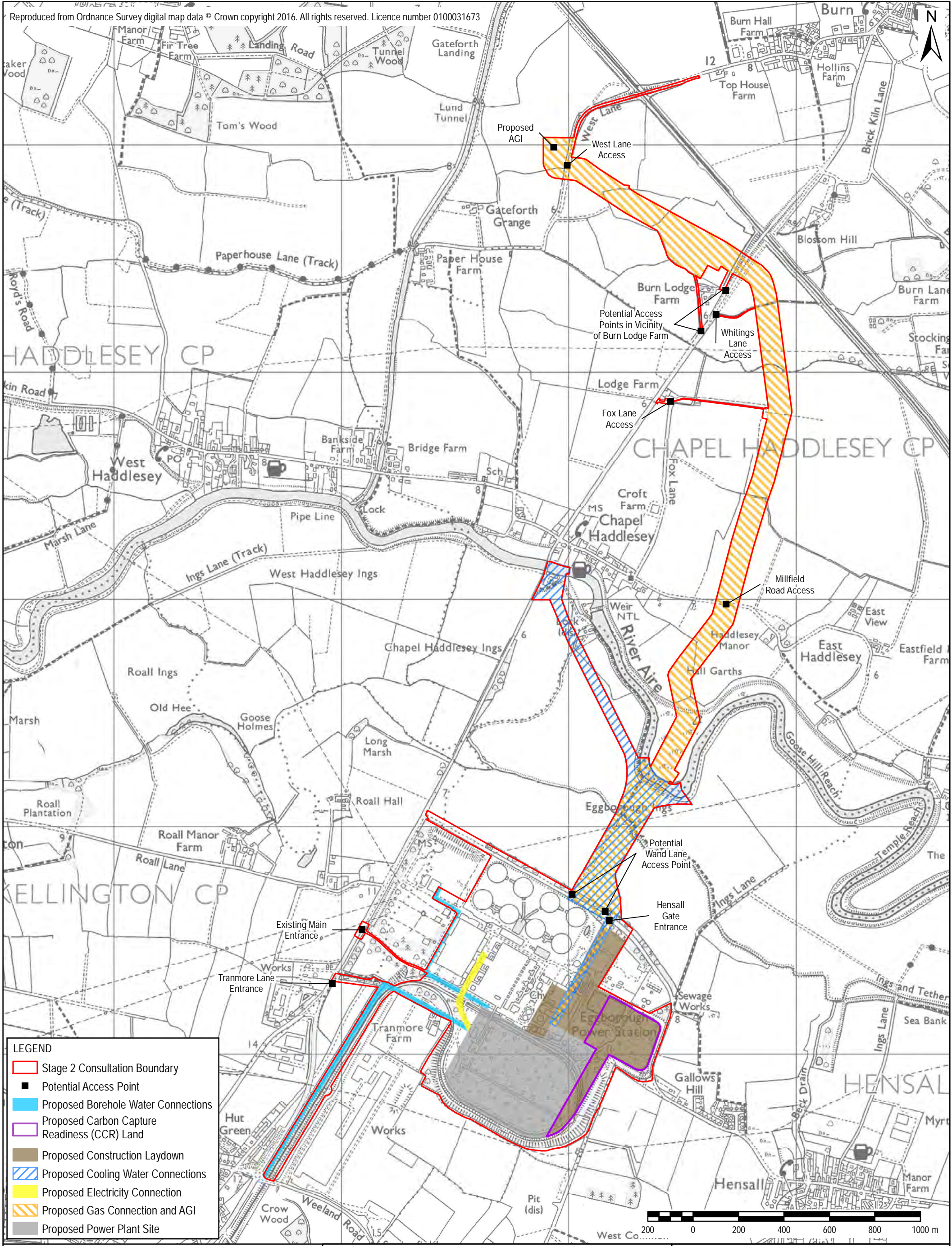


LEGEND
Stage 2 Consultation Boundary

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		FIGURE NTS2							

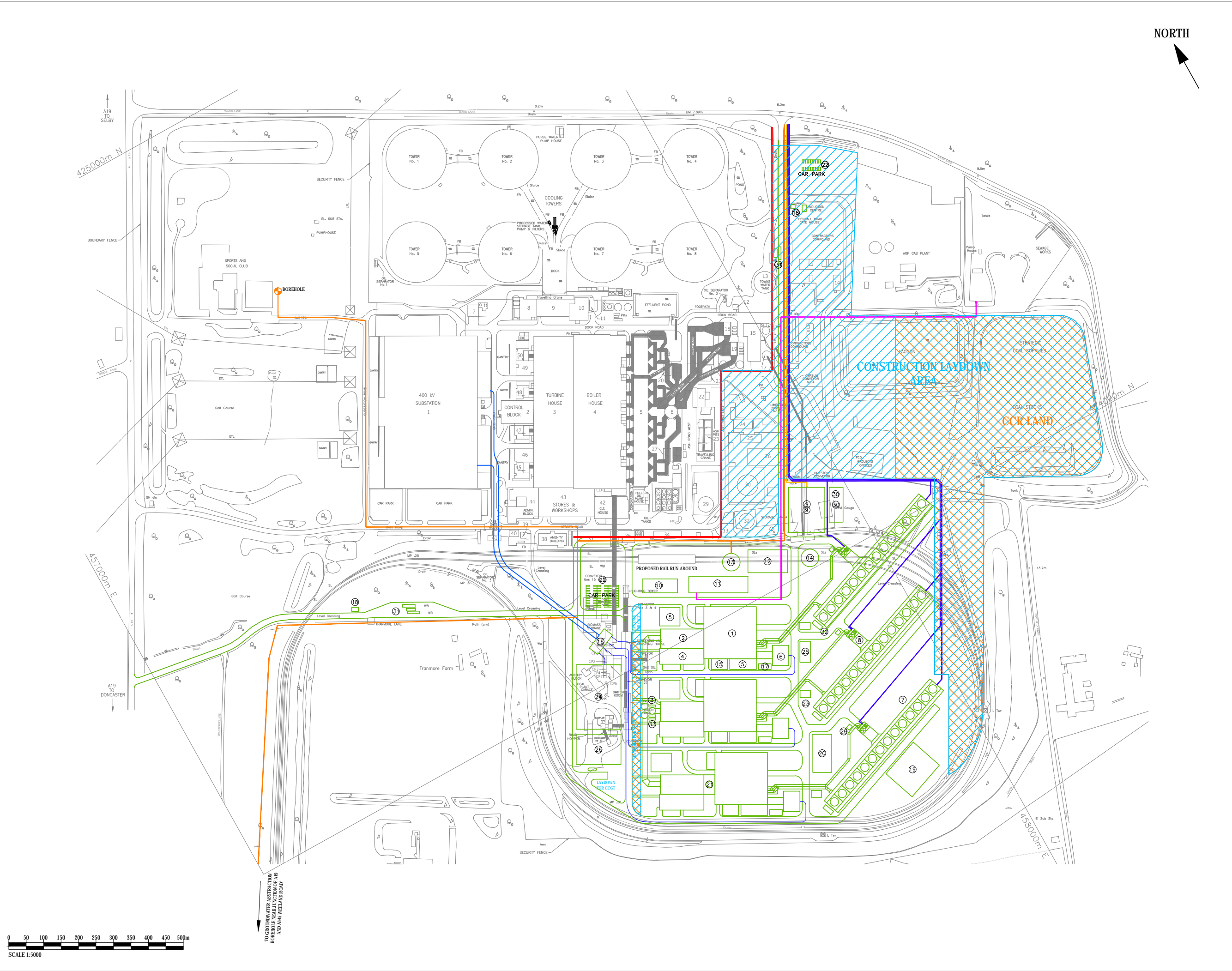


LEGEND

- Stage 2 Consultation Boundary
- Potential Access Point
- Proposed Borehole Water Connections
- Proposed Carbon Capture Readiness (CCR) Land
- Proposed Construction Laydown
- Proposed Cooling Water Connections
- Proposed Electricity Connection
- Proposed Gas Connection and AGI
- Proposed Power Plant Site

Project Title		EGGBOROUGH CCGT DCO			Client		EGGBOROUGH POWER LTD		AECOM	
Drawing Title		PARTS OF THE SITE			Drawn	Checked	Approved	<div>AECOM</div> <div>Scott House Alençon Link, Basingstoke Hampshire, RG21 7PP Telephone (01256) 310200 Fax (01256) 310201 www.aecom.com</div> <div>THIS DOCUMENT HAS BEEN PREPARED PURSUANT TO AND SUBJECT TO THE TERMS OF AECOM'S APPOINTMENT BY ITS CLIENT. AECOM ACCEPTS NO LIABILITY FOR ANY USE OF THIS DOCUMENT OTHER THAN BY ITS ORIGINAL CLIENT OR FOLLOWING AECOM'S EXPRESS AGREEMENT TO SUCH USE, AND ONLY FOR THE PURPOSES FOR WHICH IT WAS PREPARED AND PROVIDED.</div>		
					JW	AK	KC			
					Date	Scale @ A3	Purpose of Issue			
					05/01/2017	1:15,000	PEI REPORT			
					Drawing Number		Rev			
					FIGURE NTS3					

ISO A3 297mm x 420mm
File: K:\NEWPROJECTS\EGGBOROUGH\CCGT\CAD\FIGURES\FIGURE 4.1A.DWG
Last saved by: GARETH.BLOOMER
Last Printed: 2017-01-05



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LEGEND

PLANT DESCRIPTION
1 TURBINE HALL
2 HEAT RECOVERY STEAM GENERATOR
3 STACK
4 FEEDWATER PUMP BUILDING
5 ELECTRICAL BUILDING
6 GENERATOR TRANSFORMER
7 HYBRID COOLING TOWERS
8 COOLING WATER PUMPS
9 GAS RECTIFYING AREA
10 WORKSHOP & STORES
11 ELECTRICAL CONTROL ROOM & ADMIN BUILDING
12 WATER TREATMENT PLANT, FIRE PUMPS & LABORATORY
13 RAW & FIRE WATER TANK
14 DEMINERALISED WATER TANKS
15 AIR INTAKE FILTER
16 GAS-INSULATED SUB STATION
17 DIESEL GENERATORS
18 CANTINE
19 SURFACE WATER ATTENUATION SYSTEM (INDICATIVE LOCATION)
20 WASTE WATER TREATMENT PLANT
21 UNUSED
22 CAR PARKING
23 CLOSED CIRCUIT COOLING WATER COOLERS
24 PEAKING PLANT
25 AUXILIARY BOILER
26 BLACK START FACILITY
27 UNUSED
28 UNUSED
29 COOLING WATER DOSING
30 GAS COMPRESSORS
31 WEIGHBRIDGE
32 COOLING WATER ELECTRICAL MODULE
33 CONTINUOUS EMISSIONS MONITORING SYSTEM CONTAINER

KEY

- FOUL DRAINAGE TO WASTE WATER TREATMENT WORKS
- COOLING WATER (MAKE-UP & BLOWDOWN)
- GAS SUPPLY LINE
- TOWNS WATER & BOREHOLE WATER
- UNDERGROUND CABLE
- CONSTRUCTION LAYDOWN AREA
- CARBON CAPTURE READINESS (CCR) LAND

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Purpose of Issue
PEI REPORT

Client
EGGBOROUGH POWER LTD

Project Title
EGGBOROUGH CCGT DCO

Drawing Title
INDICATIVE CONCEPT LAYOUT (3 SINGLE SHAFT) FOR THE PROPOSED DEVELOPMENT WITHIN THE EXISTING COAL-FIRED POWER STATION SITE

Drawn GB	Checked JW	Approved KC	Date 09/12/2016
AECOM Internal Project No. 60506766		Scale @ A3 1:5000	

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Fax (01256) 310201
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Drawn Number
FIGURE NTS4a

Rev

PLANT DESCRIPTION	
1	TURBINE HALL
2	HEAT RECOVERY STEAM GENERATOR
3	STACK
4	FEEDWATER PUMP BUILDING
5	ELECTRICAL BUILDING
6	GENERATOR TRANSFORMER
7	HYBRID COOLING TOWERS
8	COOLING WATER PUMPS
9	GAS RECEIVING AREA
10	WORKSHOP & STORES
11	ELECTRICAL CONTROL ROOM & ADMIN BUILDING
12	WATER TREATMENT PLANT, FIRE PUMPS & LABORATORY
13	RAW & FINE WATER TANK
14	DEMINERALISED WATER TANKS
15	AIR INTAKE FILTER
16	GAS-INSULATED SUB-STATION
17	DIESEL GENERATORS
18	CATHODISE
19	SURFACE WATER ATTENUATION SYSTEM (INDICATIVE LOCATION)
20	WASTE WATER TREATMENT PLANT
21	UNUSED
22	CAR PARKING
23	CLOSED CIRCUIT COOLING WATER COOLERS
24	PEAKING PLANT
25	AUXILIARY BOILER
26	BLACK START FACILITY
27	UNUSED
28	UNUSED
29	COOLING WATER DOSING
30	GAS COMPRESSORS
31	WEIGHBRIDGE
32	COOLING WATER ELECTRICAL MODULE
33	CONTINUOUS EMISSIONS MONITORING SYSTEM CONTAINER

KEY

- | | |
|---|--|
|  | FOUL DRAINAGE TO WASTE WATER TREATMENT WORKS |
|  | COOLING WATER (MAKE-UP & BLOWDOWN) |
|  | GAS SUPPLY LINE |
| | TOWNS WATER & BOREHOLE WATER |
|  | UNDERGROUND CABLE |
|  | CONSTRUCTION LAYDOWN AREA |
|  | CARBON CAPTURE READINESS (CCR) LAND |

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Purpose of Issue

PEI REPORT

Client	
--------	--

EGGBOROUGH POWER LTD

Project Title

EGGBOROUGH CCGT DCO

Drawing Title

INDICATIVE CONCEPT LAYOUT (MULTI-SHAFT + SINGLE SHAFT) FOR THE PROPOSED DEVELOPMENT WITHIN THE EXISTING COAL-FIRED POWER STATION SITE

Drawn GB	Checked JW	Approved KC	Date 09/12/2016
AECOM Internal Project No. 60506766		Scale @ A3 1:5000	

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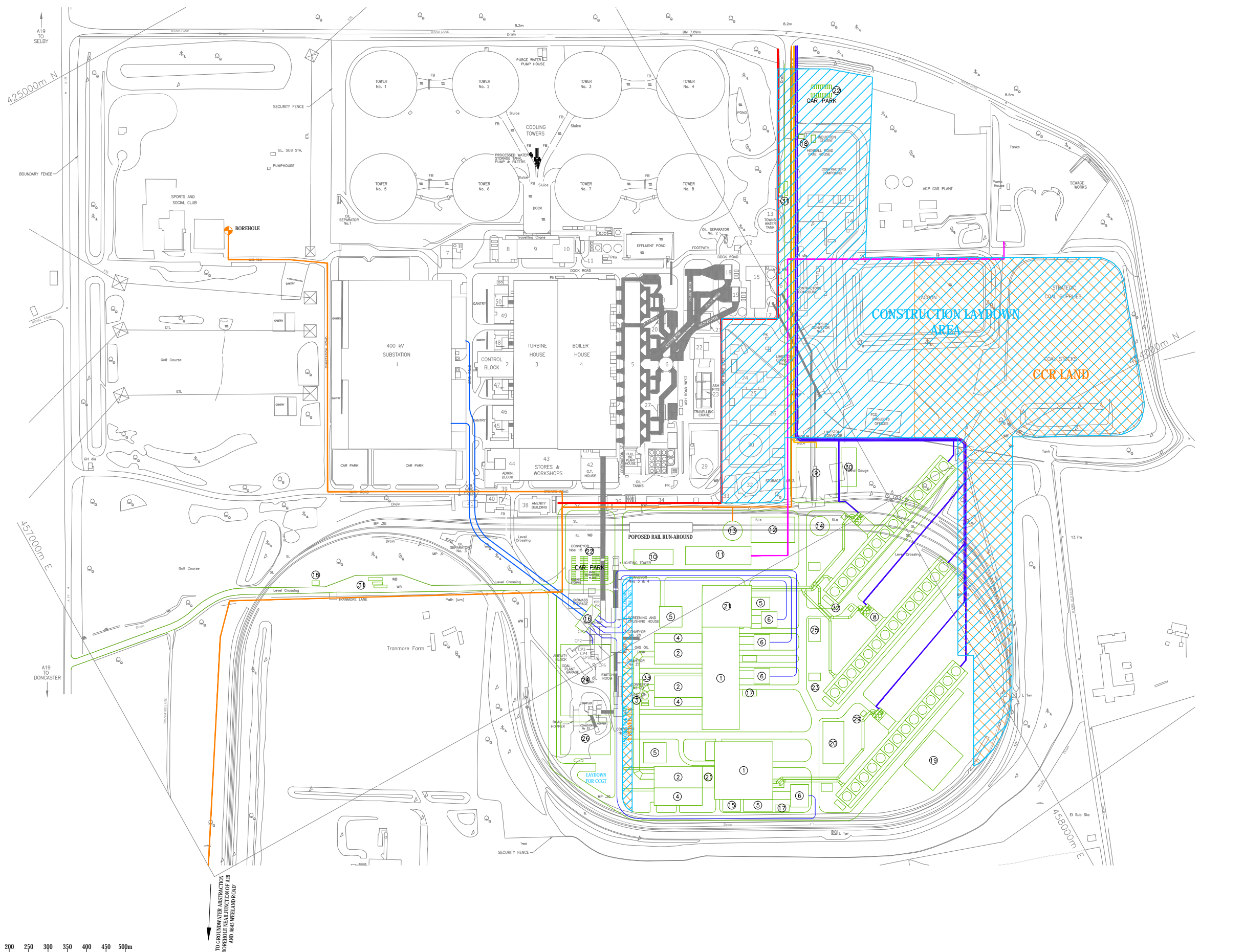
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51, Churchfields Dr, Y
Hampshire, RG21 7PP
Telephone (01256) 310200
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Drawing Number

FIGURE NTS4b

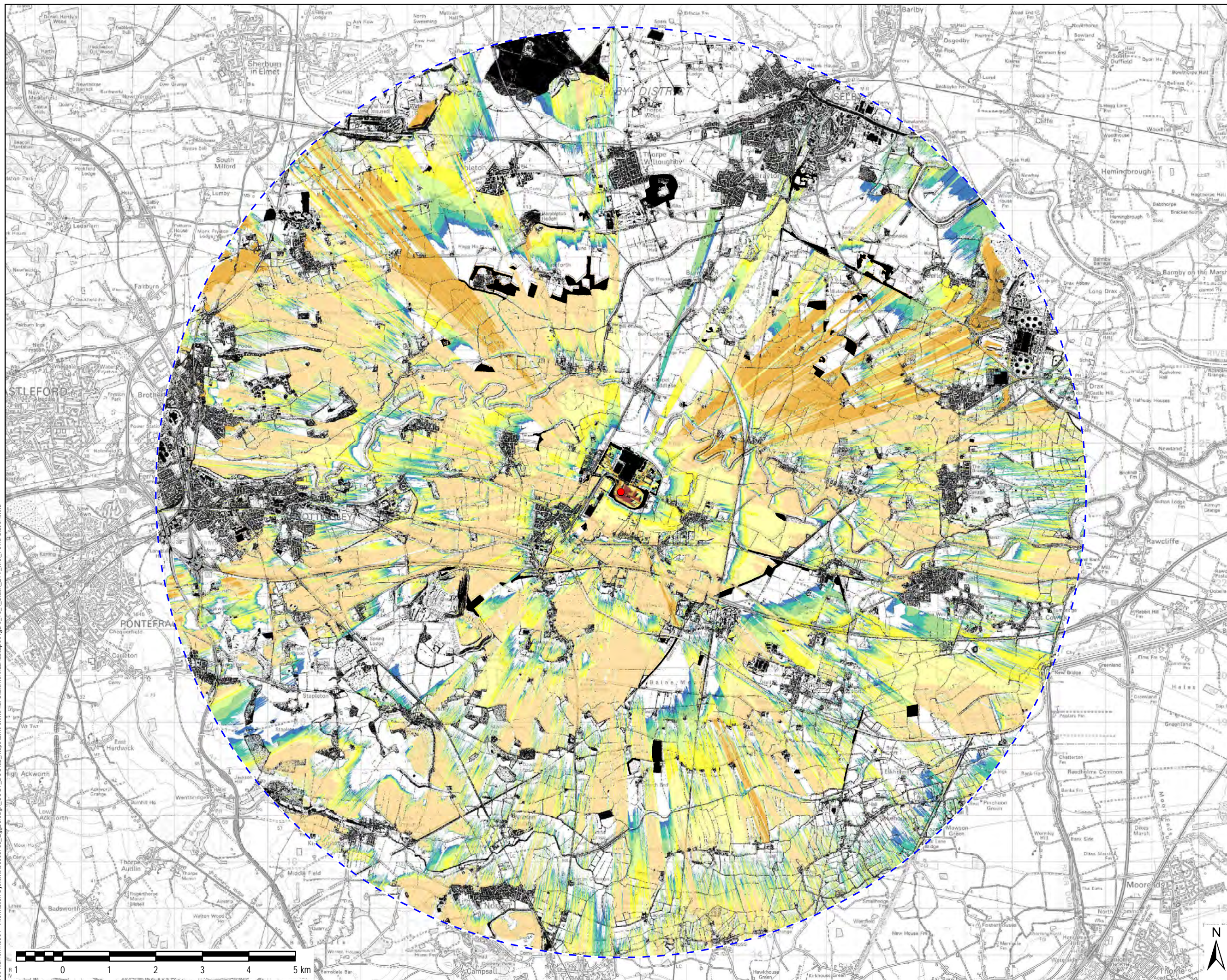
Rev	
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0 50 100 150 200 250 300 350 400 450 500m

SCALE 1:5000

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LEGEND

- Stack Location (Height 99.9m AOD)
- 10km Study Area
- Buildings/Woodland And Other Features Greater Than 0.5m Above Bare Earth

Stack Percentage Visibility

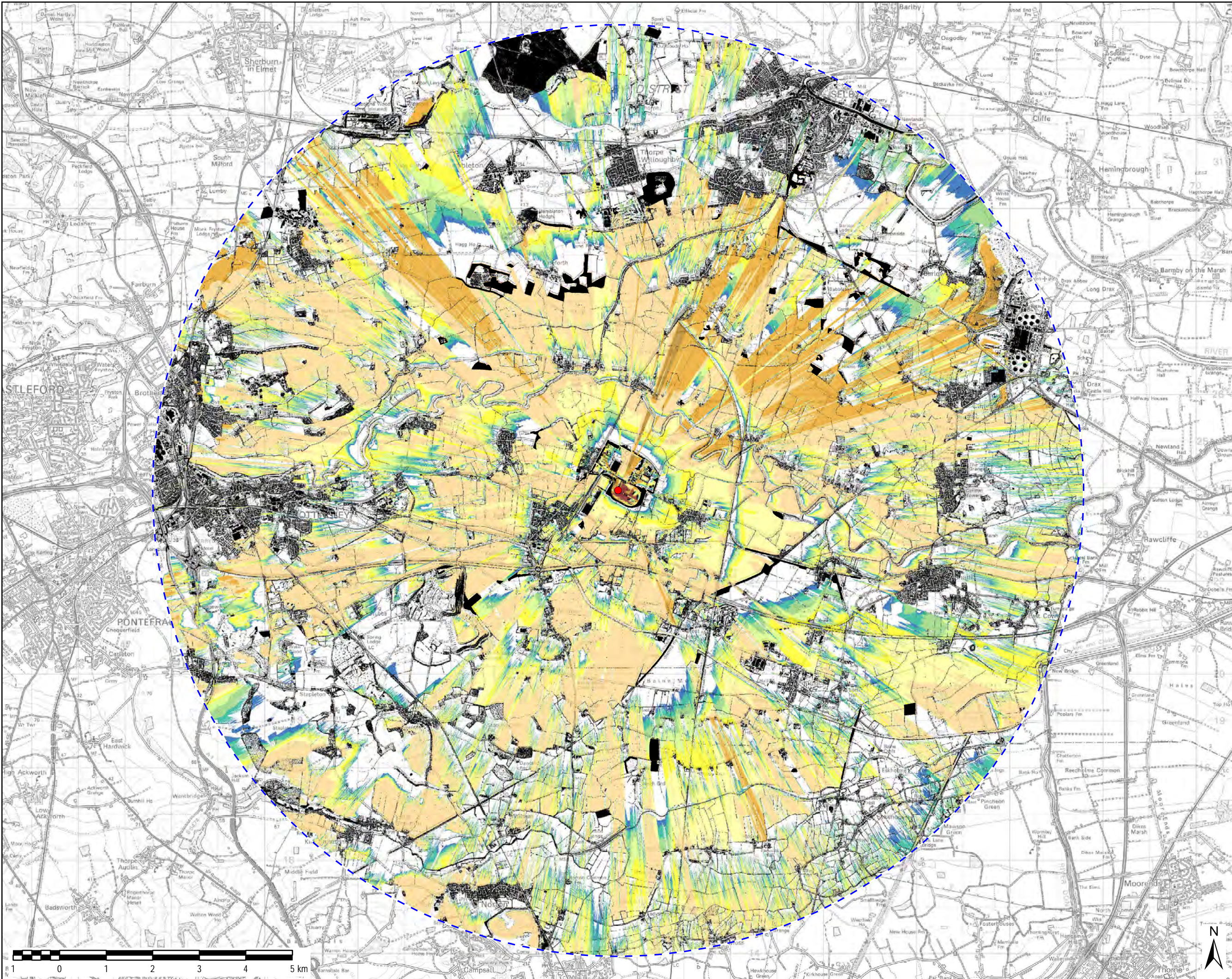
- 10%
- 20%
- 30%
- 40%
- 50%
- 60%
- 70%
- 80%
- 90%
- 100%

Notes:
Terrain data based on Environment Agency 2m DSM with gaps filled by NextMap Britain 5m DSM and OS Terrain5 DTM with buildings added at 8m and woodland added at 15m in height.

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Purpose of Issue	PEI REPORT		
Client	EGGBOROUGH POWER LTD		
Project Title	EGGBOROUGH CCGT DCO		
Drawing Title	PROPOSED 90 M STACK ZONE OF THEORETICAL VISIBILITY WITH EXISTING POWER STATION PRESENT		
Drawn JW	Checked AK	Approved RC	Date 05/01/2017
AECOM Internal Project No. 60506766		Scale @ A3 1:75,000	
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Drawing Number	Rev		
FIGURE NTS5a			

File Name: K:\5004 - Information Systems\60506766_Eggborough_CCGT_DCO\02_Maps\Environmental Statement\Landscapes\Figure_16_5_Stack_ZTV_without_PowerStation.mxd



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- LEGEND**
- Stack Location (Height 99.9m AOD)
 - 10km Study Area
 - Buildings/Woodland And Other Features Greater Than 0.5m Above Bare Earth

- Stack Percentage Visibility**
- 10%
 - 20%
 - 30%
 - 40%
 - 50%
 - 60%
 - 70%
 - 80%
 - 90%
 - 100%

Notes:
Terrain data based on Environment Agency 2m DSM with gaps filled by NextMap Britain 5m DSM and OS Terrain5 DTM with buildings added at 8m and woodland added at 15m in height.

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Purpose of Issue
PEI REPORT

Client
EGGBOROUGH POWER LTD

Project Title
EGGBOROUGH CCGT DCO

Drawing Title
PROPOSED 90 M STACK
ZONE OF THEORETICAL VISIBILITY
WITHOUT EXISTING
POWER STATION PRESENT

Drawn JW	Checked AK	Approved RC	Date 05/01/2017
AECOM Internal Project No. 60506766		Scale @ A3 1:75,000	

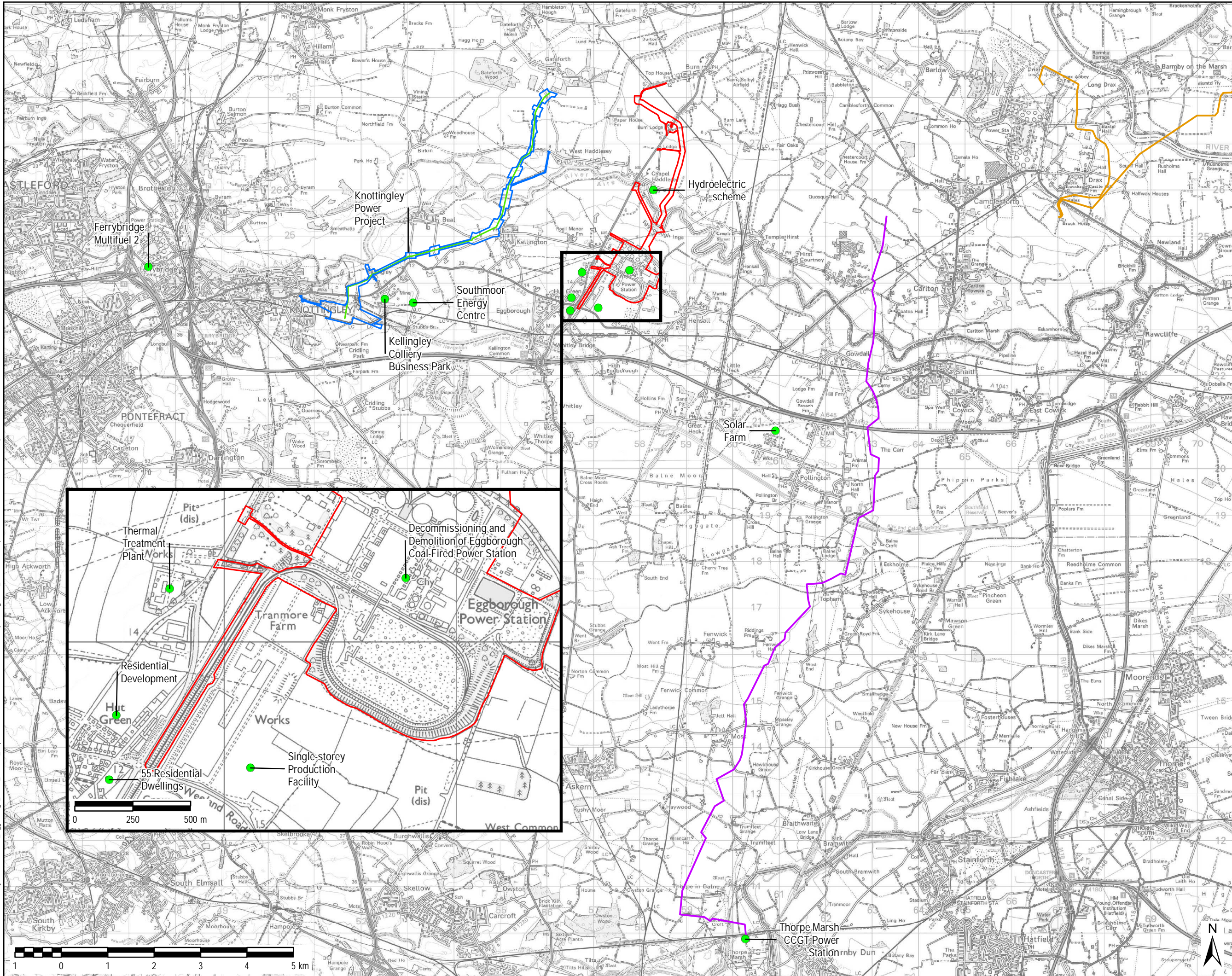
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File Name: K:\5004 - Information Systems\60506766_Eggborough_CCGT_DCO\02_Maps\Environmental Statement\Cumulative Impacts\Figure 20_1 Other Developments Considered for Cumulative Impact Assessment.mxd



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- LEGEND**
- Stage 2 Consultation Boundary
 - Cumulative Development
 - Indicative Thorpe Marsh Gas Pipeline
 - Yorkshire & Humber Carbon Capture & Storage Pipeline
 - Knottingley Power Project Gas Pipeline
 - Knottingley Power Project Indicative DCO Boundary

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Purpose of Issue
PEI REPORT

Client
EGGBOROUGH POWER LTD

Project Title
EGGBOROUGH CCGT DCO

Drawing Title
OTHER DEVELOPMENTS
CONSIDERED FOR CUMULATIVE
IMPACT ASSESSMENT

Drawn JW	Checked AK	Approved KC	Date 05/01/2017
AECOM Internal Project No. 60506766		Scale @ A3 Inset 1:75,000 / 1:15,000	

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