
West Burton C Power Station

The West Burton C (Generating Station) – Land to the north of the West Burton B Power Station, Nottinghamshire

Stage 1 Pre-Application Consultation

Preliminary Environmental Information Report – Non-Technical Summary



Applicant: EDF Energy (West Burton Power) Limited
Date: September 2017

DOCUMENT HISTORY

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1. 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 formal pre-application consultation in advance of the submission of an application for development consent for the construction, operation (including maintenance) and decommissioning of the proposed gas-fired generating station (referred to as the Proposed Development), within the site of the existing West Burton Power Station site near Gainsborough, Nottinghamshire.
- 1.1.2 The Proposed Development and the land within the Application boundary (referred to as the Site) are described in **Sections 3** and **4** of this NTS. The location and Site boundary are shown on **Figures NTS1** and **NTS2**.
- 1.1.3 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. Technical details are provided within the PEI Report (**Volume I** – Main Report, **Volume II** – Technical Appendices, and **Volume III** - Figures).
- 1.1.4 The PEI Report has been prepared to comply with the Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 (as amended) (the 2009 EIA Regulations). Environmental Impact Assessment (EIA) is a systematic process used to identify and assess the potentially significant adverse and beneficial effects of the Proposed Development, and outline mitigation or management measures that can be incorporated within the proposal to reduce (or enhance) these effects. An Environmental Statement recording the completed EIA will be submitted with the application for development consent.

1.2 The Applicant

- 1.2.1 The Applicant is EDF Energy (West Burton Power) Limited, referred to as EDF Energy. EDF Energy owns and operates the two existing power stations on the site; West Burton A power station (WBA) and West Burton B (WBB) power station.
- 1.2.2 EDF Energy Group, of which EDF Energy (West Burton Power) Limited is part, is one of the largest energy companies in the UK, supplying around 6 million residential and business accounts with electricity and/or gas and producing around 20% of the nation's electricity. EDF Energy Group companies offer a diverse fuel mix comprising nuclear, thermal and renewable technologies.

1.3 Proposed Development

- 1.3.1 The Proposed Development comprises the construction, operation (including maintenance) and decommissioning of a gas-fired generating station with an output of up to 299 Megawatts (MW); comprising one or more Open Cycle Gas Turbine (OCGT) units depending on the technology selected at the detailed design stage.
- 1.3.2 The Site is located within the wider West Burton Power Station Site, to the north of WBB. The Site encompasses an area of approximately 38.3 hectares (ha), of which approximately 21.8ha comprises the built development and construction laydown area, with a further approximately 16.5ha of land proposed for ecology and landscaping works. The Site area allows for several potential gas and grid connection options that are still under technical evaluation. The proposed generating station itself would occupy an area of approximately 3.4ha (as shown on **Figure NTS3**). The Site is currently grassland and young planted scrub, whilst parts of the Site were formerly used

for ash disposal for WBA and construction laydown for WBB. A new grid and gas connection pipeline would link the Proposed Development with the existing WBB site.

- 1.3.3 The Proposed Development would provide vital new energy infrastructure required to ensure security of power supply to the UK, operating flexibly, typically during periods of low electricity supply or high demand on the transmission network and to provide technical services to support the grid.
- 1.3.4 Environmental impacts arising from the Proposed Development have been studied as part of the EIA process, and the initial results are presented within the PEI Report and summarised in this NTS. The baseline for the assessment has been derived from measurements and studies in and around the Site. This is explained further in **Chapter 2: EIA Assessment Methodology** (PEI Report **Volume I – Main Report**).

1.4 The Development Consent Order Process

- 1.4.1 The Proposed Development falls within the definition of a '*Nationally Significant Infrastructure Project*' (NSIP) of the 2008 Planning Act, as it is an onshore generating station in England that would have a generating capacity greater than 50MWe output. As such, a Development Consent Order (DCO) is required to authorise the Proposed Development in accordance with the 2008 Planning Act.
- 1.4.2 An application for a DCO for the Proposed Development will be submitted to the Planning Inspectorate. Subject to the Application being accepted, which will be notified within a period of 28 days following receipt of the Application, the Planning Inspectorate will then examine the Application and make a recommendation to the relevant Secretary of State, who then decides whether to grant a DCO.

1.5 The Relevant EIA Regulations

- 1.5.1 The PEI Report has been prepared to comply with the 2009 EIA Regulations. The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017 (the 2017 EIA Regulations) came into force on 16 May 2017, replacing the 2009 EIA Regulations, but the 2009 EIA Regulations continue to apply to this Application on account of the EIA Scoping Opinion request being submitted prior to the implementation of the 2017 EIA Regulations. This is in accordance with the transitional provisions contained in the 2017 EIA Regulations
- 1.5.2 The Applicant has taken into account additional requirements associated with the 2017 EIA Regulations, including consideration of likely effects associated with the vulnerability of the Proposed Development to risks of major accidents and/or disasters relevant to the Project (including for example those caused by climate change), human health and monitoring strategies to track the delivery and success of design elements and mitigation that aim to avoid or reduce significant adverse effects on the environment. The inclusion of these matters seeks to acknowledge the 2017 EIA Regulations within the context of an application which is primarily aligned, and submitted in accordance, with the 2009 EIA Regulations.
- 1.5.3 The Secretary of State has agreed that a standalone chapter on the vulnerability of the Project to risks of major accidents and/or disasters relevant to the Proposed Development can be scoped out. Instead, potential risks such as fuel spillages, fires and abnormal issues are addressed under topic specific sections (**Section 6.1 – 6.10**) of this NTS. Potential effects of the Proposed Development on human health are considered in various chapters within the PEI Report (**Volume I – Main Report**).

1.6 Consultation

- 1.6.1 Consultation is required to inform stakeholders, regulators and the local community about the Proposed Development and identify any areas of potential concern. The 2008 Planning Act requires applicants for development consent to carry out pre-application consultation on their proposals. EDF Energy has adopted a two part approach to pre-application consultation on the Proposed Development. A non-statutory consultation was carried out between 5 July and 2 August 2017, with the Stage 1 formal (statutory) consultation running between 7 September and 16 October 2017, which includes the publication of the PEI Report.

2. EIA Assessment Methodology

2.1 General Assessment Approach

- 2.1.1 Through submission of an EIA Scoping Report to the Planning Inspectorate and subsequent consultation with a number of statutory consultees, the topics to be assessed within the EIA were agreed, as follows:
- Air Quality;
 - Traffic and Transportation;
 - Noise and Vibration;
 - Ecology and Nature Conservation;
 - Landscape and Visual Amenity;
 - Ground Conditions and Hydrogeology;
 - Flood risk, Hydrology and Water Resources;
 - Socio-Economics;
 - Cultural Heritage;
 - Sustainability and Climate Change; and
 - Cumulative and Combined Effects.
- 2.1.2 The EIA scoping process concluded that waste management, aviation, electronic interference (TV reception) and accidental events/health and safety could be scoped out of the EIA.
- 2.1.3 The assessment presented in the PEI Report, where possible, uses standard methodologies based on legislation, definitive standards and accepted industry criteria. Methodologies differ between each technical topic, with the method adopted set out within each topic chapter of the PEI Report (**Volume I** – Main Report).
- 2.1.4 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. The changes are compared to the environmental conditions that would have occurred without the Proposed Development (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’).
- 2.1.5 The environmental impacts and effects of the Proposed Development are assessed at key stages in its construction and operation (including maintenance and use) and, where possible and relevant, its eventual decommissioning.

2.2 Development Design, Impact Avoidance and Mitigation

- 2.2.1 The design process for the Proposed Development has been influenced by the findings of early environmental appraisals and the EIA process. A number of measures have been incorporated into the concept design to avoid or minimise environmental impacts. These measures include those required for legal compliance and also include current industry best practice guidance which would be adopted during construction and operation of the Proposed Development.
- 2.2.2 Once the likely effects have been identified and quantified, consideration has been given to any further mitigation that may be required to mitigate any potentially significant adverse effects that have been identified. The residual effects (effects remaining after the implementation of mitigation) have then been assessed and presented in each chapter.

2.3 Impact Assessment Methodology and Significance Criteria

- 2.3.1 Impacts are changes arising from the Proposed Development, and consideration of the results of these impacts on the environment enables the identification of associated effects. The effects are then classified - major, moderate, minor and negligible, and adverse, neutral or beneficial. The classification of effects take into account aspects such as (but not limited to) extent, duration, and the number and sensitivity of receptors affected. Each effect has been classified both before and after mitigation measures have been applied.
- 2.3.2 In general, the classification of an effect is based on the magnitude of the impact and sensitivity or importance of the receptor, using the matrix shown in **Table 2-1**. Where there are deviations away from this matrix (due to the technical guidance for a specific assessment topic), this is highlighted within the relevant technical chapter within the PEI Report (**Volume I – Main Report**) and the reason for the variation explained.

Table 2-1: Classification of effects

Magnitude of impact	Sensitivity/importance of receptor			
	High	Medium	Low	Very low
High	Major	Major	Moderate	Minor
Medium	Major	Moderate	Minor	Negligible
Low	Moderate	Minor	Negligible	Negligible
Very low	Minor	Negligible	Negligible	Negligible

- 2.3.3 In the context of the Proposed Development, short-term effects are considered to be those associated with the construction and/or decommissioning phases, which cease when those works are completed. Long-term effects are those associated with the operational period. Effects may also be permanent (irreversible) or temporary (reversible) and direct or indirect.

2.4 Transboundary Effects

- 2.4.1 The Scoping Opinion recommended consideration be given to discharges to air and water, potential impacts on migratory species and to impacts on shipping and fishing areas, when considering transboundary effects.
- 2.4.2 Taking into account the impacts predicted to arise from the Proposed Development, set out in the Air Quality, Ecology and Nature Conservation and Flood Risk, Hydrology and Water Resources

assessments and given the distance to the nearest European Economic Area (EEA) state (Republic of Ireland at over 350km west and the Netherlands at over 375km east), the likelihood of significant effects on the environment of another EEA state are considered negligible. Therefore, significant transboundary effects associated with the Proposed Development are not anticipated and are not considered further within the EIA.

3. Description of the Site and its Surroundings

3.1 Site Details

- 3.1.1 The Site comprises land within the boundary of the existing West Burton Power Station Site near Gainsborough, Nottinghamshire (and land within the ownership of EDF Energy (the Applicant)). The Site is centred on national grid reference 480388, 386337.
- 3.1.2 The Site boundary and areas within the Site can be found in **Figure NTS3**.

3.2 The Existing West Burton Power Station Site

- 3.2.1 The West Burton Power Station Site is located approximately 3.5km to the south-west of the town of Gainsborough and 1km to the north-east of Sturton-le-Steeple. The nearest settlement is the village of Bole, located approximately 1km to the north-west of the proposed power plant site area.
- 3.2.2 The West Burton Power Station Site lies close to the junction of the A631/A620 and is accessed by a C-class road, the C2, which joins the A620 at Bole Corner.
- 3.2.3 The West Burton Power Station Site is located in Nottinghamshire, close to the border with Lincolnshire with the River Trent forming part of the eastern boundary of the West Burton Power Station Site. The Site falls within the administrative area of Bassetlaw District Council (BDC), close to the border with West Lindsey District Council (WLDC). The West Burton Power Station Site currently encompasses two power stations, owned and operated by the Applicant (WBA and WBB power stations).
- 3.2.4 WBA is a coal-fired power station, which was commissioned in 1968. It comprises four coal-fired units with two chimney stacks (each circa 200m high) and eight natural draught cooling towers (each circa 110m high), with cooling water sourced from the River Trent. It supplies up to 2,000MW of electricity to the National Grid, providing electricity for around two million homes.
- 3.2.5 To the north of the West Burton Power Station Site is the Bole Ings Ash Disposal Site. This is used for the disposal of Pulverised Fuel Ash (PFA), which is produced as a by-product of electricity generation at WBA. It forms an extensive area of approximately 83ha.
- 3.2.6 To the east of WBA is the WBB power station, a combined cycle gas turbine (CCGT) power station, which was commissioned in 2013. It comprises three units, each having a gas turbine, a heat recovery steam generator (HRSG) and an associated steam turbine, with a combined output capacity of 1,332MW.
- 3.2.7 Together, the WBA and WBB power stations provide approximately 270 jobs and support a number of additional contractor jobs on a full-time and part-time basis.

3.3 The Proposed Development Site

- 3.3.1 The Site encompasses an area of approximately 38.3 ha of which approximately 21.8ha comprises the built development and construction laydown area, with a further approximately 16.5ha of land proposed for ecology and landscaping works. This is shown on Figure **NTS3**.

3.3.2 Several components together make up the Site as follows, with the different areas of the Site described in turn (**Figure NTS3**):

- proposed power plant site;
- construction laydown area;
- northern outfall option;
- southern outfall option;
- rail offloading laydown area;
- gas reception facility;
- electricity connection route and tie-in to existing 400kV substation; and
- landscaping and ecological mitigation area.

3.3.3 Access to the Site would be via the main entrance to the West Burton Power Station Site, off Gainsborough Road to the south-west.

Proposed Power Plant Site

3.3.4 The proposed power plant site was formerly used to deposit PFA from WBA and more recently as a construction laydown area for WBB. The area currently comprises areas of recently seeded and planted grassland, scrub and immature trees, created following the construction of WBB.

3.3.5 The proposed power plant site area is surrounded:

- to the north, by an access road that serves the Bole Ings Ash Disposal Site and beyond this, by the proposed construction laydown area;
- to the north-east by the northern outfall option corridor;
- to the east by an area of dense woodland and ponds, which forms part of the West Burton Power Station Local Wildlife Site (LWS), comprising an area of mature gravel pits within the power station of zoological interest;
- to the south by the WBB power station; and
- to the west by an area used for the storage of furnace bottom ash (FBA).

3.3.6 Vegetation within the proposed power plant site would be removed prior to construction. Habitat creation would be undertaken on suitable land within the Site boundary (see **Chapter 10: Landscape and Visual Amenity** and **Chapter 9: Ecology and Nature Conservation**).

Northern and Southern Outfall Options

3.3.7 Detailed design is still being undertaken following the appointment of a contractor(s) and as a result some aspects of design are subject to finalisation. Currently the Applicant is exploring the feasibility of discharging uncontaminated surface water from the Site into the existing drainage system of WBA/ WBB. However, in the event that this is not feasible, two potential options – a northern and southern option – are included to allow direct discharge of uncontaminated surface water to the River Trent. The Site boundary includes the land as required for both these outfall options (**Figure NTS3**).

3.3.8 If utilised, the northern outfall option would require a surface water drainage pipeline connecting the proposed power plant site's north-eastern extent with the River Trent. The pipeline route would follow an existing access road, which currently links the West Burton Power Station Site with River Road, before the outfall to the River Trent. The route would cross a designated Public Right of

Way (PRoW), which follows the western flood embankment of the River Trent, to the south of the West Burton Power Station Site.

- 3.3.9 The southern outfall option would require a surface water drainage pipeline connecting the Proposed Power Plant Site's south-eastern extent with the River Trent. This pipeline route would connect into the Site, to the south-east of the gas reception facility for WBB and pass through a woodland area which forms part of the LWS. The proposed outfall corridor would cross River Road and outfall into the River Trent. Like the northern outfall, the route would cross the FP4 PRoW.

Landscaping and Ecological Enhancement Area

- 3.3.10 As part of the development of WBB power station, areas were allocated for landscaping and ecological enhancement post-construction of WBB, part of which now comprises the footprint for the proposed power plant site area. Commitments in the WBB Section 36 Consent included restoration of the site to grassland and woodland habitats and planting of a species-rich hedgerow, in order to provide restored habitats that would contain a greater variety of species than the original habitats. Given that the Proposed Development would result in the permanent loss of the newly created habitats, and in order to provide for biodiversity offsetting, enhancement and mitigation for the both the permanent and temporary loss of habitat used by protected species, areas of the Site are proposed for landscaping and ecological mitigation and enhancement (**Figure NTS3**) (see **Chapter 10: Landscape and Visual Amenity** and **Chapter 9: Ecology and Nature Conservation**).

4. The Proposed Development

4.1 Proposed Development

- 4.1.1 The Proposed Development comprises a gas-fired generating station that would generate up to 299MW electrical output. Peaking plants, such as that proposed, operate flexibly and are typically used to cope with periods of high demand or low electricity supply nationally (for example when the wind is not blowing to enable wind farms to produce sufficient output) and to provide services to support the grid.
- 4.1.2 Open cycle gas turbines (OCGTs) are one of the gas-fired peaking plant technologies that could be used. For the Proposed Development, OCGTs have been selected instead of gas engines. Both technologies are fast response units, but each has its own advantages. At this stage in the Project, the final OCGT technology selection cannot yet be made, as it will be determined by various technical and economic considerations. For the purposes of the environmental assessments, both single frame gas turbine and multiple aero-derivative gas turbine units have been evaluated; this is detailed in the PEI Report (**Volume I – Main Report**).
- 4.1.3 **Figures NTS4** and **NTS5** show indicative layouts of a single OCGT or up to five aero derivative gas turbines on the Site. Depending on whether a single frame gas turbine or multiple aero-derivative units are chosen, the stack(s) could be located anywhere within a defined area within the Site; at this stage the stack(s) location(s) cannot be fixed.
- 4.1.4 The development could comprise up to six aero-derivative units, although if a multi-unit option were selected the most likely option based on current technology would be five aero-derivative units. For the purposes of the PEI Report, the five unit option has been assessed. The Applicant would ensure that the impacts associated with installing six units would be no worse than the five unit option assessed throughout the PEI Report, through management of stack heights, noise attenuation etc.
- 4.1.5 It is currently anticipated that (subject to the DCO and other consents being granted, and thereafter an investment decision being made) work on Site could commence around 2020 and could be undertaken in up to three phases over a period of up to six years. The Proposed Development is

expected to commence commercial operation from as early as 2023. It is envisaged that the Proposed Development would be capable of operating for at least 40 years, with decommissioning currently anticipated after 2066.

4.2 Components of the Proposed Development

4.2.1 The Proposed Development would comprise a gas fired power station with electrical output capacity of up to 299MW and associated buildings, structures and plant, including:

- one or more OCGT units with stack(s), transformer(s), air inlet filter house, exhaust gas diffuser and generator;
- associated switch gear and ancillary equipment;
- a gas-insulated switchgear (GIS) building;
- gas receiving area, gas treatment and control facilities, compression station, and gas pipeline to the West Burton B (WBB) Gas Reception Facility;
- electrical connection to an existing 400kV switchyard within WBB, with an extension to the existing switchyard;
- diesel generator and associated diesel fuel tank;
- workshop, store, control, electrical, administration and welfare buildings ;
- above ground water storage tanks and associated infrastructure;
- storm water attenuation system or similar;
- internal access roads and car parking;
- landscaping, fencing and security provisions;
- construction laydown areas and a rail offloading area from the existing rail loop that is present on the West Burton Power Station Site;
- auxiliary cooling equipment/systems; and
- other minor infrastructure and auxiliaries/services

4.3 Design Parameters

4.3.1 The design of the Proposed Development is following an iterative process, based on preliminary environmental assessments and consultation with statutory and non-statutory consultees.

4.3.2 A number of the design aspects and features of the Proposed Development cannot be confirmed until the tendering process for the design and construction of the generating station has been completed, as it will be depend on the contractor(s) selected and their specific configuration and selection of plant. Where design details cannot yet be finalised, a conservative approach has been adopted whereby the option that gives rise to the worst-case potential environmental impact has been assessed in the PEI Report.

4.4 Proposed Development Construction

4.4.1 The Applicant would appoint a contractor(s) for the main works phase. That contractor(s) is then likely to appoint sub-contractors to undertake all of the associated civil works. EDF Energy is committed to ensuring the safe working environment for all its employees and contractors.

4.4.2 Construction of the Proposed Development is anticipated to start in 2020 and would be constructed in up to three phases over a period of up to 6 years ending 2026. Should the plant be built in a single phase, the construction period may be reduced, with an indicative construction programme

being circa. 2-3 years. **Table 4-1** gives an indication of the construction programme if that were to be the case.

Table 4-1: Indicative Construction Programme

	2020				2021				2022				2023				2024			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
OCGT Site Preparation		■	■	■																
Main civil works			■	■	■	■	■	■	■	■	■	■								
Plant installation							■	■	■	■	■	■								
Gas and electrical connections									■	■	■	■								
Commissioning													■	■	■					

4.4.3 Construction working hours would generally be Monday to Friday 07:00 to 19:00 and Saturday 08:00 to 18:00. However, it is likely that some construction activities would be required 24-hours at certain times, because certain construction activities cannot be stopped or are better carried out over short periods (e.g. concrete slip forming and some elements of commissioning). Where on-site works would be conducted outside the core hours, they would comply with any restrictions agreed with the local planning authorities, in particular regarding control of noise and traffic.

4.5 Proposed Development Operation

4.5.1 Operation of the Proposed Development is anticipated to create up to 15 operational roles, which may be new jobs or integrated with other EDF Energy operations. Temporary and contractor employees associated with maintenance activities would also be employed at the site, as required.

4.5.2 The operation of the power station would be regulated by the Environment Agency through an Environmental Permit. This permit would be used to control normal emissions to the environment from the plant and would also consider potential abnormal operation scenarios and prevention or minimisation of accidents, through the use of management procedures and process monitoring. The Proposed Development would also comply with the Industrial Emissions Directive (IED) so that the impact of emissions to air, soil, surface and ground water, to the environment and human health would be minimised. Management of the gas supply would be carefully controlled in accordance with UK requirements.

4.6 Proposed Development Decommissioning

4.6.1 The peaking plant is capable of a life expectancy of 40 years or more, depending on running hours and commercial and regulatory considerations. Eventually decommissioning would involve the removal of the plant. The gas and electricity connections would be disconnected and made safe. Decommissioning is not anticipated to present any significant environmental impacts beyond those assessed for the construction phase.

4.7 Design Evolution and Alternatives

4.7.1 The Infrastructure Planning (Environmental Impact Assessment) Regulations 2009 state that the Environmental Statement should include an outline of the main alternatives that have been studied and an indication of the main reasons for decisions made, taking into account the environmental effects. This should include consideration of 'do nothing'. Under the EIA Regulations there is currently no requirement to assess alternatives, only a requirement to provide information on those that have been considered. These alternatives are discussed further in the PEI Report (**Volume I** –

Main Report), including consideration of alternative locations within the existing West Burton Power Station Site, alternative technologies and alternative design options and design evolutions.

5. Planning Policy Context

5.1 Legislative Context

- 5.1.1 The Proposed Development falls within the definition of an NSIP under the 2008 Planning Act, as the power station would generate energy with an installed capacity of more than 50MW. The application for development consent will be prepared in accordance with the requirements of the 2008 Planning Act. Before a NSIP can proceed, a DCO must be granted for that project.
- 5.1.2 The Planning Inspectorate is responsible for receiving and examining applications for development consent, upon which they make a recommendation to the relevant Secretary of State, who then decides whether a DCO should be made.
- 5.1.3 The 2008 Planning Act requires that decisions on NSIP applications must be made in accordance with the relevant National Policy Statement (NPS), except to the extent that to do so would:
- lead to the UK being in breach of its international obligations;
 - be in breach of any statutory duty that applies;
 - be unlawful;
 - result in adverse impacts from the development outweighing the benefits; or
 - be contrary to regulations about how decisions are to be taken.
- 5.1.4 Section 104 of the 2008 Planning Act states that the decision maker must also have regard to any local impact reports within the prescribed deadline and any other matters that are considered both important and relevant to their decision. This may include Development Plan Documents.
- 5.1.5 The Secretary of State must take into consideration any relevant NPS(s) and must decide applications in accordance with them. Both the potential benefits and adverse impacts should be taken into account.

5.2 Policy Context

National Policy Statements

- 5.2.1 National policy for NSIPs is set out in a number of NPSs. Two energy NPSs are relevant to the Proposed Development:
- the Overarching National Policy Statement for Energy (EN-1); and
 - the National Policy Statement for Fossil Fuel Electricity Generating Infrastructure (EN-2).
- 5.2.2 Given the level and urgency of need, EN-1 advises the decision maker to '*start with a presumption in favour of granting consent to applications for energy NSIPs*'.

National Planning Policy Framework (NPPF)

- 5.2.3 The NPPF was adopted in March 2012. This document sets out the Government's planning policies for England and how these are to be applied. Paragraph 3 of the NPPF makes clear that the document does not contain specific policies for determining applications for NSIPs, these are to

be determined in accordance with the decision making framework set out in the 2008 Planning Act and relevant NPSs, as well as any other matters that are considered both '*important and relevant*'.

- 5.2.4 Policies of particular relevance to the scope of the EIA include promoting sustainable transport; requiring good design; promoting healthy communities; conserving and enhancing the natural and historic environment; and meeting the challenge of climate change.

Local Development Plan Policy

- 5.2.5 The 2008 Planning Act states that applications for development consent should normally be determined in accordance with relevant NPSs, but also provides for the decision maker to have regard to other matters which may be relevant and important. It is commonly recognised that this can include local planning policies, including local policy designations.

- 5.2.6 The Proposed Development has been considered against the current local development plan. As the Site lies entirely within the administrative area of Bassetlaw District Council (BDC) and Nottinghamshire County Council (NCC), the following are the most relevant in assessing the Proposed Development:

- Nottinghamshire Local Transport Plan: Strategy 2011-2026;
- Bassetlaw District Council Core Strategy and Development Management Policies DPD (adopted December 2011 and updated July 2012); and
- Sturton Ward Neighbourhood Plan 2015-2030 (adopted December 2015).

- 5.2.7 In terms of local planning policy, BDC's Local Development Scheme (LDS) indicates that a Local Plan will replace the 2011 Core Strategy and Development Management Policies DPD, but is not expected to be adopted until 2019. There are no specific policies relating to the West Burton Power Station Site in the Initial Draft Bassetlaw Plan, therefore a detailed review has not been undertaken at this stage.

- 5.2.8 The Sturton Ward Neighbourhood Plan forms part of the Development Plan and is used to assess planning applications submitted within the Parish, within which the Site is located.

- 5.2.9 Additionally, the Site lies adjacent to the administrative area of Lincolnshire County Council and West Lindsey District Council, where the following documents are relevant for particular topics:

- Central Lincolnshire Local Plan (of relevance to the air quality, noise and vibration and cultural heritage assessments);
- Lincolnshire Local Transport Plan 2013/14 to 2022/23; and
- Derby, Derbyshire, Nottingham and Nottinghamshire (D2N2) Local Enterprise Partnership (LEP) Strategic Economic Plan (of relevance to the socio-economics assessment).

6. Results of the Preliminary EIA

6.1 Air Quality

- 6.1.1 An assessment has been undertaken on air quality which considers:

- the present-day and future baseline conditions during construction and at opening;
- the effects of construction of the Proposed Development on air quality for human health and ecosystems, with respect to associated construction traffic, construction plant emissions and construction dust;

- the effects of operational process emissions associated with the Proposed Development on air quality for human health and ecosystems.

Development Design and Impact Avoidance

Construction

Construction Environmental Management Plan

- 6.1.2 Emissions of dust and particulates from the construction phase of the Proposed Development would be controlled in accordance with industry best practice, through incorporation of appropriate control measures according to the risks posed by the activities undertaken, as determined through this assessment process. The management of dust and particulates and application of adequate mitigation measures would be controlled through a proposed Construction Environmental Management Plan (CEMP). The Considerate Constructors Scheme would be adopted to assist in reducing pollution and nuisance from the Proposed Development.

Construction Road Traffic

- 6.1.3 The existing power station has pre-determined designated routes which Heavy Goods Vehicles (HGVs) must use. The construction road traffic would be managed in accordance with the existing arrangements, to minimise impacts on local receptors.

Operation

IED Emission Limit Value (ELV) Compliance

- 6.1.4 The Proposed Development would be designed such that process emissions to air comply with the ELV requirements specified in the IED. This would be regulated by the Environment Agency through the Environmental Permit required for the operation of the Proposed Development.
- 6.1.5 The alternative technologies under consideration are all indicated to meet the IED ELVs without the use of secondary abatement techniques, such as Selective Catalytic Reduction for the control of NO_x (oxides of nitrogen) emissions.

Stack Height

- 6.1.6 The stack heights for the plant have been optimised with consideration given to minimisation of ground-level air quality impacts, and the visual impacts of taller stacks.
- 6.1.7 The selected stack heights would be less than 45m high. Stack heights are likely to be circa 35m if aero-derivative gas turbines are used, circa 30m if a single larger OCGT is installed and no building is used around the OCGT, or up to 45m if a building is installed (subject to the final building height). These heights are relative to the finished ground level.

Visible Plumes

- 6.1.8 The potential for visible plumes from the plant stacks is considered to be very low as a result of the water content and temperature of the flue gas. There is no steam cycle or wet cooling tower plume associated with the operation of the OCGT units and therefore condensing plumes are not expected to occur.

Decommissioning

- 6.1.9 Appropriate best practice mitigation measures would be applied during decommissioning works and documented in a Decommissioning Environmental Management Plan (DEMP). No additional

mitigation for decommissioning of the Proposed Development beyond such best practice are foreseen to be required at this stage.

Likely Impacts and Effects

Construction

Assessment of Demolition and Construction Dust and Non-Road Mobile Machinery Emissions

- 6.1.10 No residential human health receptors have been identified within the screening distances specified in published guidance for potential air quality construction effects. The only identified construction impact sensitive receptors identified are potential transient receptors, such as users of the PRoW along the River Trent, within 350m of the north-eastern Site boundary. However, in accordance with Defra guidance these receptors are identified as low sensitivity, as sensitive locations are those in which individuals may be exposed for eight hours a day or more. Therefore, such transient receptors are not identified as sensitive for this air quality assessment and are screened out.
- 6.1.11 No sensitive ecological receptors have been identified within the screening distance. Therefore, the effects of demolition and construction dust, and emissions from non-road mobile machinery, on ecological receptors have been screened out of the air quality assessment.
- 6.1.12 The effects of emissions to air from the construction site activities associated with the Proposed Development on the identified receptors are considered to be not significant, with the implementation of the measures as included in the CEMP.

Assessment of Construction Traffic Emissions

- 6.1.13 The construction phase Annual Average Daily Traffic (AADT) is predicted to peak at 112 two-way HGV movements accessing the Site via the existing access point per day, for an estimated maximum of 13 months. The total number of vehicles is predicted to peak at less than 350 two-way movements on Gainsborough Road. On this basis, further assessment of road traffic air quality impacts associated with the construction phase can be screened out of the air quality assessment, as published guidance indicates that such traffic levels would not be able to generate significant air quality impacts. The effects of emissions to air from the construction traffic associated with the Proposed Development on the identified receptors are, therefore, considered to be not significant.

Opening and Operation

Assessment of Opening Traffic Emissions

- 6.1.14 Traffic associated with the Proposed Development at time of opening has been screened out of the assessment as this would be below the screening criteria for air quality assessment. The predicted opening traffic is less than 10 vehicles arriving and departing the Site per day. The effects of emissions to air from the operational traffic associated with the Proposed Development on the identified receptors are, therefore, considered to be not significant.

Assessment of Operational Point Source Emissions

- 6.1.15 The operational point source emissions effects on identified receptors has been determined through detailed dispersion modelling, based on worst-case assumptions and considering the potential locations for stacks within the Site, since the stack locations cannot yet be fixed. Based on emissions to air at IED levels and the stack heights previously outlined, the Proposed Development is predicted to have negligible adverse effect on air quality at sensitive receptors and therefore the air quality effects are considered to be not significant.

Consideration of Power Station Emissions from WBA, WBB and Cottam Power Stations

- 6.1.16 At this stage in the design, the potential effects of WBA, WBB and Cottam power stations with the Proposed Development emissions on identified sensitive receptors has been considered with reference to previous modelling results for the combined stations. The predicted change in nitrogen dioxide (NO₂) concentration resulting from the operation of the WBA, WBB and Cottam power stations was:
- annual mean of 3.6µg/m³, occurring at a location 2.4km north-east of the stations (close to the Proposed Development predicted maximum); and
 - hourly mean of 48µg/m³, occurring at a location 2.3km north-east of the stations.
- 6.1.17 The combined power station maximum process contributions are considered unlikely to result in exceedance of the National Air Quality Strategy (NAQS) objectives. The Proposed Development contributions represent a minor adverse effect at the worst-case locations of predicted impact. Therefore, the combined effects of the power station emissions are also considered not significant.

Decommissioning

- 6.1.18 The predicted air quality effects of eventual decommissioning of the Proposed Development are considered to be comparable to, or less than, those assessed for construction activities.

Evaluation of Effects from the Proposed Development as a Whole

- 6.1.19 The effects of construction emissions, from demolition and construction dust, construction road traffic and on-site plant, have been screened out of the air quality assessment as the scale of activities fall below the screening criteria requiring assessment. Therefore, the effects of construction on air quality are considered to be not significant. The operational point source emissions effects on identified receptors have been determined to have negligible adverse effects. Therefore, the operational air quality effects are considered to be not significant. The overall air quality effects from the Proposed Development are, therefore, considered to be not significant.

6.2 Traffic and Transport

- 6.2.1 An assessment has been undertaken which considers the potential impacts of the Proposed Development on traffic and transport. This assessment has considered the potential impacts of traffic on severance, driver delay, pedestrian amenity and delay, accidents and safety.
- 6.2.2 The West Burton Power Station Site lies close to the junction of the A631 and A620. The A631 runs east-west from the Sheffield/Rotherham area, crossing the A1(M) at Tickhill and providing one of the few crossings of the River Trent at Gainsborough. The A620 follows a more south-west/north-east orientation between Ranby and its junction with the A631 at Beckingham, en-route passing through the market town of Retford and the villages of Clarborough and Welham. These two routes provide direct links to the A1 and the areas to the west of the A1. The A631 Gainsborough river crossing provides a link with areas to the east of the River Trent. The West Burton Power Station Site is accessed from a C-class road, the C2 (Gainsborough Road), which joins the A620 at Bole Corner.
- 6.2.3 The study area for the traffic and transport assessment has focused on the road links as follows as these are the links that have the most potential to be impacted:
- C2 Gainsborough Road, south of the West Burton Power Station Site main entrance (medium sensitivity);
 - C2 Sturton Road, north of the West Burton Power Station Site main entrance (low sensitivity);
 - A620 Gainsborough Road, west of Sturton Road roundabout (medium sensitivity); and

- A620 Saundby Road, north of Sturton Road roundabout (low sensitivity).

6.2.4 Existing traffic flows on these existing links have been reviewed, and then compared to predicted traffic flows during Proposed Development construction, operation and decommissioning.

Development Design and Impact Avoidance

6.2.5 Traffic movements would be controlled during the Proposed Development construction phase in order to minimise potential impacts on the surrounding road network – namely construction HGVs arriving/departing the West Burton Power Station Site would travel to/from the north via the A620 avoiding the village of Sturton-le-Steeple. In addition, a range of good practice mitigation measures would be implemented during the construction phase to minimise traffic impacts upon local highways. This includes implementation of a Construction Worker Travel Plan (CWTP) (to be secured through a requirement in the DCO) and requiring the contractor to prepare a Construction Traffic Management Plan (CTMP), specifying a number of measures to control the routing and impact that HGVs would have on the local road network.

6.2.6 Once the Proposed Development is operational, up to 15 operational roles would be created, which may be new jobs or integrated with other EDF Energy operations. Temporary and contractor employees associated with maintenance activities would also be employed at the Site, as required. Due to the very low traffic flows this would generate, no mitigation measures are proposed.

6.2.7 Decommissioning would be expected to require some traffic movements associated with the removal (and recycling, as appropriate) of material arising from demolition and potentially the import of materials for land restoration and re-instatement. To minimise the impacts of decommissioning upon local highways, it is anticipated that a Traffic Management Plan (TMP) within the DEMP would be prepared to control the routing and impact of HGVs.

Likely Impacts and Effects

Construction

6.2.8 During the construction phase, it is expected that the construction workforce would peak at approximately 200 workers per day. Such a workforce is likely to generate approximately 113 vehicular trips (one-way) during the morning arrival and evening departure periods at the peak of construction. The standard construction working hours for the Proposed Development would be 07:00 to 19:00 Monday to Friday (except bank holidays) and 08:00 to 18:00 on Saturday. HGVs delivering construction materials would access the West Burton Power Station Site from the existing site entrance located off the C2 Gainsborough Road, with all HGVs arriving and departing to/from the north via the A620. The volume of HGVs associated with construction of the Proposed Development on the network would be at its maximum of 112 two-way daily vehicle movements (56 in and 56 out) at the peak of construction. Deliveries would be made within the core construction hours.

6.2.9 A number of Abnormal Indivisible Loads (AIL) movements would be expected to be required during the construction phase, associated with the delivery of large items of plant and equipment. As there are already established AIL routes to the West Burton Power Station Site, such deliveries are not anticipated to impact upon the local highway network provided that they are managed and timed in agreement with the relevant authorities. This will be secured through a requirement in the DCO.

6.2.10 Taking into account the predicted traffic flows, the effects of Proposed Development construction traffic on all road links and junctions within the study area are considered to be negligible, and therefore not significant.

Operation

- 6.2.11 Once the Proposed Development is operational, up to 15 roles could be created. Assuming car occupancy of one, this would equate to an additional 15 cars accessing the West Burton Power Station Site per day (30 vehicle movements), although some of the roles may be filled by personnel already accessing the West Burton Power Station site currently. There would also be additional HGV traffic generated by deliveries associated with Proposed Development operational and maintenance plant and equipment. This is expected to equate to a maximum of four HGVs per day. Fuel for the Proposed Development would be natural gas imported to the Site via pipeline, thus there would be no vehicular movements associated directly with the transport of gas to the Site.
- 6.2.12 Due to the very low traffic flows once the Proposed Development was operational, the vehicle numbers generated would be significantly lower than those anticipated during the construction period. The overall traffic effects during Proposed Development operation are, therefore, considered to be negligible (not significant).

Decommissioning

- 6.2.13 Decommissioning would be expected to require some traffic movements associated with the removal (and recycling, as appropriate) of material arising from demolition and potentially the import of materials for land restoration and re-instatement. However, vehicle numbers are not expected to be higher than those experienced during the Proposed Development construction period, and effects are, therefore, anticipated to be not significant.

6.3 Noise & Vibration

- 6.3.1 This assessment addresses the potential effects of noise and vibration resulting from the Proposed Development on local Noise Sensitive Receptors (NSRs).
- 6.3.2 Impacts during the construction, operation and decommissioning phases of the Proposed Development have been assessed. In particular, the assessment considers potential impacts on identified NSRs in terms of:
- predicted noise and vibration levels during the site clearance and construction works associated with the Proposed Development;
 - predicted changes in road traffic noise levels on the local road network during the construction phase; and
 - predicted noise and vibration resulting from operation of the Proposed Development.

Development Design and Impact Avoidance

Construction

- 6.3.3 Construction activities are likely to be undertaken typically during weekday daytime and Saturday mornings, although some works during construction and commissioning may take place outside of normal working hours. Measures to mitigate noise would be implemented during the construction phase of the Proposed Development in order to minimise impacts at local residential NSRs, particularly with respect to activities required outside of normal working hours. A CEMP would be produced that would provide details of proposed environmental control measures, including those related to noise.
- 6.3.4 Mitigation measures for inclusion in the CEMP would include, but not be limited to:
- abiding by construction noise limits at nearby NSRs;

- ensuring that all processes are in place to minimise noise before works begin;
- ensuring that modern plant is used, complying with European noise emission requirements. Selection of inherently quiet plant where possible;
- hydraulic techniques for breaking to be used in preference to percussive techniques where practical;
- use of lower noise piling (such as rotary bored or hydraulic jacking) rather than driven piling techniques (if required), where appropriate;
- off-site pre-fabrication, where practical;
- all plant and equipment being used for the works to be properly maintained, silenced where appropriate, operated to prevent excessive noise, and switched off when not in use;
- all contractors to be made familiar with current legislation and guidance;
- loading and unloading of vehicles, dismantling of site equipment such as scaffolding or moving equipment or materials around the Site, to be conducted in such a manner as to minimise noise generation;
- appropriate routing of construction traffic on public roads and along access tracks;
- consultation with BDC and local residents to advise of potential noisy works that are due to take place; and
- monitoring of noise complaints, and reporting to the contractor for immediate investigation.

6.3.5 Method statements regarding construction management, traffic management and overall site management would be prepared to help to minimise impacts of construction works. One of the key aims of such method statements would be to minimise noise disruption to local residents during the construction period.

6.3.6 Consultation and communication with the local community throughout the construction period would also serve to publicise the works schedule, giving notification to residents regarding periods when higher levels of noise may occur during specific operations, and providing lines of communication where complaints can be addressed.

6.3.7 A detailed noise assessment will be carried out once the contractor is appointed and further details of construction methods are known, in order to identify specific mitigation measures for the Proposed Development (including construction traffic).

6.3.8 The Considerate Constructors Scheme would be adopted to assist in reducing noise associated with the building work.

Operation

6.3.9 The selection of the Proposed Power Plant Site and development of the indicative concept layout have already included consideration of potential noise effects and proximity to NSRs. However, during the detailed design stage, further options to mitigate potential significant residual noise effects by design would be explored (e.g. methods to reduce breakout noise from key plant/buildings).

6.3.10 The Proposed Development would be operated in accordance with an Environmental Permit issued and regulated by the Environment Agency.

Decommissioning

6.3.11 Appropriate mitigation measures to mitigate noise would be put in place during the works, similar to those that would be adopted during the construction period (to be included in the DEMP).

Likely Impacts and Effects

Construction

- 6.3.12 Construction noise effects at all receptors during construction of the Proposed Development are predicted to be negligible (not significant) during the daytime period due largely to the distances between the works and NSRs.
- 6.3.13 It may be necessary for some construction activities to take place continuously over day, evening and night periods during peak construction times, although the exact nature of the works is unknown. Comparison of the predicted daytime noise levels against the lower limit values for evening, weekend and particularly night-time working indicate potential minor/moderate adverse (significant) effects could occur at some NSRs during these times if the same intensity of working as for the daytime is assumed. Therefore, construction activities taking place outside normal working hours would need to be planned, managed and mitigated appropriately so as not to exceed threshold values and reduce levels where practical. Provided the threshold values are not exceeded, construction activities outside of normal working hours can be considered as having a minor adverse effect or less (not significant).

Construction Traffic Noise

- 6.3.14 Either no change or very low magnitudes of noise impact are expected due to changes in traffic flows along all the assessed routes during the construction phase. This would result in no change or negligible adverse effects (not significant) at local residential NSRs.

Construction Vibration

- 6.3.15 There are no residential receptors within close proximity to the Proposed Development to be significantly affected by construction vibration. However, there is the potential for some vibration impacts upon buildings/ structures within the West Burton Power Station Site. There is the potential that vibration impacts could cause annoyance to occupants and exceed the Lowest Observable Adverse Effect Level (LOAEL) and Significant Observed Adverse Effect Level (SOAEL).
- 6.3.16 Where piling, heavy earthworks, vibratory rollers or other significant vibration producing operations are required in close proximity to any existing sensitive buildings, further consideration will be given to potential impacts once the contractor is appointed and the construction methods requirements are developed. Details of any piling works would be submitted to the local planning authority for approval prior to those works commencing, secured as a requirement in the DCO.

Operation

- 6.3.17 The preferred configuration and supplier of the Proposed Development technology is yet to be determined. Therefore, operational noise modelling has been undertaken for 10 different scenarios of plant configuration. The 10 different scenarios produce a range of impact magnitudes from very low to high adverse at the seven selected receptor locations. This would result in effects between negligible to major adverse (not significant). However, the results indicate that a low magnitude of impact is possible at all locations using certain turbine technology which would result in a minor adverse effect (not significant). However, it is important to note that the higher end of the range of predicted exceedances of applicable noise levels are potentially demonstrating an exaggerated worst-case at receptors. Nevertheless, the ranges have been provided for completeness and as a conservative approach.
- 6.3.18 On the basis of the results for some of the options and a desire to reduce noise levels to the LOAEL (no greater than +5dB excess of rating level over background sound level), potential options to reduce noise levels are discussed in the PEI Report **Volume I – Main Report (Chapter 8: Noise and Vibration)**.

Decommissioning

- 6.3.19 Potential noise impacts and effects would require further consideration at the decommissioning stage of the Proposed Development. However, appropriate measures to mitigate noise would be put in place during the works (similar to those that would be adopted during the construction phase) (to be included in the DEMP).

6.4 Ecology

Development Design and Impact Avoidance

- 6.4.1 The design process for the Proposed Development has included consideration of ecological constraints and has incorporated, where possible, measures to reduce the potential for adverse ecological effects. The measures identified and adopted include those that are inherent to the design of the Proposed Development, and those that can realistically be expected to be applied as part of construction environmental best practice, or as a result of legislative requirements.
- 6.4.2 The following development design and impact avoidance measures have been, or would be, adopted during the construction and operation phases of the Proposed Development.

Construction

- Compliance with industry good practice and environmental protection legislation during construction in relation to prevention of surface and ground water pollution, fugitive dust management and noise prevention or amelioration.
- In support of the above, a commitment to prepare and agree a CEMP detailing all requirements for environmental protection and legal compliance.
- The Proposed Development would avoid, as far as possible, areas of high quality habitat, such as mature trees and woodland/wetland habitats associated with Local Wildlife Sites (LWS) to the east of the Site.
- Retained trees would be protected by clearly defined root protection zones to prevent damage/compaction of roots by plant and other machinery.
- A great crested newt European Protected Species Mitigation (EPSM) licence would be required to permit construction works in the vicinity of breeding ponds. Mitigation would include measures to avoid killing/injury of newts during construction, including the erection of appropriate exclusion fencing and trapping of areas of suitable terrestrial habitat to be impacted within 250m of breeding ponds, prior to vegetation clearance operations. Newts recovered during the trapping period would be placed in suitable terrestrial habitat adjacent to the Site, away from construction areas. Fencing would be left in place as necessary for the duration of the construction period in order to prevent newts dispersing into construction areas. The details of mitigation required would be agreed with Natural England prior to submission of the application for development consent.
- The measures outlined above to prevent killing/injury of great crested newt would also serve to prevent direct impacts on grass snakes present within the same areas. Refugia would be placed within fenced areas in order to attract grass snakes and permit their recovery and translocation into suitable adjacent habitat. Reasonable avoidance measures would be used during clearance of habitat suitable for grass snake in any areas outside newt risk zones to minimise the risk of direct impacts. These would include phased clearance of vegetation to gradually reduce its suitability for grass snake, thereby encouraging animals to move away from affected areas.
- To ensure legislative compliance in relation to nesting birds, all clearance of suitable vegetation during site preparation would be undertaken outside the breeding season, where possible. In situations where this is not possible, an ecologist would check the working area

for nests before works commence. If nests were discovered, appropriate mitigation would be implemented to ensure that they are not disturbed or destroyed before any works can commence in that area. This would include imposing exclusion zones between the works and nest(s) and suspending vegetation clearance works within the area until any young had left.

- If the southern outfall option is taken forward, measures would be implemented during construction to avoid disturbance to Cetti's warbler within the nearby West Burton Reedbed. Construction works would be timed to occur outside the breeding season, or if this is not possible, an appropriate barrier would be used between working areas and potential breeding habitat to prevent disturbance.
- Precautionary measures would be implemented to prevent trapping wildlife in construction excavations in order to ensure compliance with animal welfare legislation. All excavations deeper than 1m would be covered overnight, or where this is not practicable a means of escape would be fitted e.g. battered soil slope or scaffold plank, to allow animals (e.g. badger or otter) to vacate excavations should they fall in.
- Construction temporary lighting would be arranged so that glare would be minimised outside the construction site.
- All habitats subject to temporary impacts during construction, such as those within the proposed construction laydown, proposed electricity connection and proposed outfall option areas, would be reinstated on at least a like-for-like basis following construction.
- Appropriate silt control measures would be used during construction of the surface water outfall structure in the River Trent, if an outfall option is taken forward.
- The welfare of fish would be taken into account during works to construct a coffer dam in the River Trent (if an outfall option is taken forward).
- Updated surveys would be completed prior to the commencement of construction as necessary to gain up to date information on relevant protected or notable species whose status or distribution may have changed since baseline surveys were completed (e.g. badger).

Operation

- Appropriate interceptors and separators would be used within the design of the surface water drainage system to prevent pollutants being discharged into the River Trent during operation.
- Lighting impacts on sensitive ecological features (e.g. West Burton Power Station LWS) would be minimised as far as possible, for example by directing lighting away from adjacent habitats.

Decommissioning

- 6.4.3 Further ecological surveys would be undertaken in advance of the commencement of decommissioning works to determine the presence/absence of protected species and to evaluate the habitats present that may be impacted. Relevant avoidance and mitigation measures would be specified and implemented with reference to the findings of such surveys.

Likely Impacts and Effects

Construction

- 6.4.4 To enable a focussed impact assessment, an initial screening exercise has been completed to determine which of the potential impacts during the construction period are likely to result in effects on ecological features, following the implementation of development design and impact avoidance measures. Those impacts that are considered unlikely to result in ecological effects are scoped out and not considered further.

6.4.5 The following broad categories of impact and their potential effects on ecological features have been used for the purposes of the screening exercise:

- clearance or damage of habitat to facilitate construction - resulting in temporary or permanent reduction in habitat extent and potential direct and indirect effects on associated species;
- general environmental impacts potentially resulting in damage or degradation of habitats, including:
 - air pollution (dust, emissions) affecting;
 - water pollution (oil/fuel spills, sediment run-off); and
 - soil compaction.

6.4.6 These impacts would all be controlled by implementing standard environmental protection measures and therefore there is no reasonable likelihood that these impacts could lead to significant adverse effects on ecological features.

Operation

6.4.7 To enable a focussed impact assessment, an initial screening exercise has been completed to determine which of the potential impacts during the operation phase are likely to result in effects on ecological features, following the implementation of development design and impact avoidance measures. These are taken forward in a more detailed impact assessment. Those impacts that are considered unlikely to result in ecological effects are scoped out and not considered further.

6.4.8 Potential impacts during the operation phase that could result in effects on ecological features are as follows:

- Air pollution from emissions - potentially leading to adverse effects on habitats, although based on the air impact assessment undertaken, these impacts are not considered to be significant due to the use of appropriate stack heights, the relatively limited annual running hours of the plant, and the distance to identified designated ecological receptors.
- Water pollution – the discharge of surface water from the Proposed Development into the River Trent could potentially result in pollution of the river and possible effects on associated downstream ecological features. However, pollution interceptors would be included within the design of the surface water discharge system, and therefore there is no reasonable likelihood of this potential impact resulting in an effect on the River Trent or associated features. On this basis, water pollution has been scoped out.
- Increased levels of disturbance (noise, vibration, artificial lighting) - potentially resulting in adverse effects on ecological features. These would be managed and minimised through the use of a Lighting Strategy to accompany the application for development consent and the obligations of the Environmental Permit.

6.4.9 Given the above, with the implementation of appropriate mitigation measures, no significant adverse ecological effects are predicted during Proposed Development operation.

Decommissioning

6.4.10 Impacts associated with the decommissioning period of the Proposed Development are likely to be of a similar nature to those associated with the construction period. As a result the potential effects on ecological features are not anticipated to differ significantly from those predicted at construction. The extent of habitat loss that is likely to be required during decommissioning is likely to be much less than at construction, and the resulting effects on ecological features are therefore likely to be reduced.

6.5 Landscape and Visual Amenity

Development Design and Impact Avoidance

- 6.5.1 Existing vegetation around the Site provides screening for low level operations and structures within the study area. The mitigation of landscape effects is intrinsic within the development proposals which seek to substantially retain existing well-established vegetation within the Site.
- 6.5.2 The following impact avoidance measures would either be incorporated into the design or are standard construction or operational measures. These measures have therefore been taken into account during the impact assessment process:
- suitable materials would be used, where possible, in the construction of structures to reduce reflection and glare and to assist with breaking up the massing of the buildings and structures;
 - the selection of finishes for the buildings and other infrastructure would be informed by the finishes of the adjacent developments and agreed with relevant consultees at the detailed design stage in order to minimise the visual impact of the Proposed Development;
 - lighting required during the construction and operation stages of the Proposed Development would be designed to reduce unnecessary light spill outside of the Site boundary, in accordance with a Lighting Strategy to accompany the application for development consent; and
 - the existing vegetation along the Site boundary would be retained and managed to ensure its continued presence to aid the screening of low level views into the Site.

Likely Impacts and Effects

Landscape

Construction

- 6.5.3 Construction activities undertaken as part of the Proposed Development would result in the loss of an area of grassland within the Site which would be utilised as the construction laydown area, alongside removal of vegetation present within the Site. Works to facilitate construction of the southern outfall option or the northern outfall option, if they are required, are likely to require removal of a small amount of existing vegetation within areas of scrub near the approach to the River Trent. No other on-site or off-site landscape features would be impacted as a result of construction activities.
- 6.5.4 The Proposed Development may affect landscape character. The removal of characteristic landscape elements, or the introduction of uncharacteristic elements which contrast with the existing landscape character are likely to result in adverse effects while the creation of elements that re-establish characteristic features in order to achieve biodiversity/landscape objectives are likely to result in beneficial effects.

Operation

- 6.5.5 The Proposed Development would result in increased built form and structures within an existing West Burton Power Station Site. Given the similarity of these structures in regards to nature and scale of the existing surroundings, landscape character of the area would not be significantly adversely impacted.

Visual Amenity

Construction

6.5.6 Changes in views may give rise to adverse or beneficial visual effects through obstruction in views, alteration of the components of the view and the opening up of new views by removal of screening. Potential visual effects arising from the construction activities may include:

- the introduction of stationary and moving construction machinery;
- the introduction of construction operations including heavy plant movements, welfare facilities, laydown and storage areas;
- construction vehicles entering and leaving the site; and
- the construction of tall structures.

Operation

6.5.7 Potential visual effects arising from opening of the Proposed Development may include the introduction of:

- one or more OCGT units each with a stack and associated infrastructure;
- associated equipment, facilities, buildings, pipelines, electrical connection, diesel fuel tank, storage tanks and associated infrastructure, storm water attenuation system or similar; internal access roads and car parking, landscaping and fencing; and
- other minor infrastructure and services.

6.5.8 Of the 13 viewpoints assessed within the Zone of Theoretical Visibility (ZTV) (**Figure NTS6**), all but one were assessed to have no significant impact on amenity. Viewpoint 4, on the Bole footpath (FP4) was assessed to have a moderate adverse (significant) effect on users of the PRow on account of the proximity of the path to the Proposed Development and the perceived scale of the buildings from this view; however, this would be seen against the backdrop of the existing power stations.

Decommissioning

6.5.9 The landscape and visual effects during decommissioning would be similar to those described above for construction. Once the decommissioning process has been completed, it is anticipated that the resulting conditions would be similar to those currently existing in the baseline descriptions.

6.6 Geology, Hydrogeology and Land Contamination

6.6.1 An assessment has been undertaken which considers the potential effects of the Proposed Development on geology, geo-environmental ground conditions and groundwater. The assessment describes the existing geological and hydrogeological conditions at the Proposed Development, and assesses the likely nature and existing sources of contamination which may be present at the Site. An assessment has then been made of the potential impacts to the existing geological and hydrogeological conditions from the Proposed Development.

Development Design and Impact Avoidance

6.6.2 A range of impact avoidance measures would either be incorporated into the Proposed Development design or are considered to be standard demolition, construction and operational practices. These measures have therefore been taken into account during the impact assessment.

- 6.6.3 During the construction period, given the historical land use within the West Burton Power Station Site, there is a potential for contamination to be encountered locally within excavations. As such, the appointed contractor would prepare and implement a CEMP which would include measures related to the protection of land quality. This includes measures to protect construction workers, implementation of an emergency spillage action plan, ensure that all material is suitable for its proposed use, and implementation of a Materials Management Plan. In addition, foundations and services would be designed and constructed to prevent the creation of pathways for the migration of contaminants and be constructed of materials that are suitable for the ground conditions and designed use. Piling design (if required) and construction works would be completed following preparation of a piling risk assessment, completed in accordance with the Environment Agency's guidance.
- 6.6.4 In order to assist with the definition of ground conditions on the Site, a site-specific intrusive ground investigation would be undertaken prior to the commencement of construction works. Following completion of the investigation, the need for any additional mitigation measures would be defined.
- 6.6.5 During the operational period, liquid fuel storage areas and transformer building areas would be appropriately banded to ensure that, in the event of any spillage, the materials are safely contained. Significant impacts to soil and groundwater could be avoided with good housekeeping and management practices adopted and adhered to. Oil/water separators would be installed as appropriate within the drainage system to reduce the likelihood of oil-based materials impacting on the environment.
- 6.6.6 During decommissioning, the contractor would be required to minimise adverse land contamination effects on sensitive receptors by implementing good operational practices (e.g. the use of Personal Protective Equipment (PPE) such as dust masks if necessary, and suitable surface water drainage control. Works would be undertaken in accordance with the DEMP.

Likely Impacts and Effects

Construction, Operation and Decommissioning

- 6.6.7 Potential impacts associated with ground conditions during the construction phase include: the discovery of ground contamination during groundworks; groundwater/surface water recovered during dewatering which may not be suitable for discharge without treatment; construction activities that may open and/or modify potential pollutant linkages; introduction of new fill materials and the removal of unsuitable or excessive materials; runoff from contaminated material exposed and/or stockpiled during site construction works; contamination arising from spillages associated with vehicles and construction materials; airborne contamination arising from potentially contaminated dust; removal of waste materials and/or contaminated soil; and introduction of contaminated materials during infilling activities. These potential risks would be managed through the CEMP.
- 6.6.8 Potential impacts associated with ground conditions during the operational phase are anticipated to include: leaks, spills and contamination from storage of chemicals, fuels and wastes on site affecting site users and groundwater; and presence of gases, vapours and groundwater in the ground affecting site users and buildings. These potential risks would be managed through the Environmental Permit.
- 6.6.9 Potential impacts during the decommissioning phase are anticipated to include the: generation of wastes, crushed concrete and other demolition materials; discovery of soil contamination; activities that may open and/or modify potential pollutant linkages; Site re-profiling; runoff from contaminated material exposed and/or stockpiled; spillages. These potential risks would be managed through the DEMP.
- 6.6.10 The assessment indicates that with the implementation of the defined impact avoidance measures and best practice guidance, construction, operation and decommissioning activities, effects related

to potential geological, hydrogeological and contamination related impacts associated with the Proposed Development are anticipated to be negligible or minor adverse, and therefore not significant.

6.7 Water Resources, Flood Risk and Drainage

6.7.1 An assessment has been undertaken which considers the potential effects of the Proposed Development on water resources, flood risk and drainage. The assessment considers water bodies that are hydrologically connected with the Site. The main watercourses in the vicinity of the Site include the River Trent, Wheatley Beck and Catchwater Drain. The assessment considers watercourses within an area spanning from immediately upstream of the Site, to as far downstream as a potential impact may influence the quality or quantity of the watercourse. The study area for consideration of potential impacts on groundwater is larger than the surface water study area, in order to consider potential impacts on the aquifer. Of these waterbodies, the River Trent is considered to be the most sensitive, being defined as having very high importance with respect to water quality and water supply.

Development Design and Impact Avoidance

6.7.2 The Proposed Development has the potential to impact on both surface and groundwater resources in the vicinity of the Site through both quality and quantity changes. A range of impact avoidance measures would either be incorporated into the design or considered to be standard demolition, construction, operational and decommissioning practices. These measures have therefore been taken into account during the impact assessment.

6.7.3 During the construction phase, general measures to protect ground and surface water would be implemented through a CEMP which would include a range of best practice construction methods. This includes measures related to appropriate staff awareness/training, measures as detailed in Environment Agency Pollution Prevention Guidance (PPG) Notes, plans for the discharge and/ or disposal of potentially contaminated water in agreement with the Environment Agency, use of temporary drainage facilities, and the appropriate management of wastewaters from offices/administration/welfare facilities. Should a new surface water drainage outfall be progressed, a temporary cofferdam would need to be constructed to divert the flow away from the in-stream construction area. Such works would need to be appropriately designed to minimise changes in riverbed and bank erosion and toe scour, whilst silt curtains could be deployed to minimise effects upon the river. Appropriate licences for such works would need to be obtained from the Environment Agency.

6.7.4 During the operational phase, the Site operator's Environmental Management System (EMS) would include a range of measures to minimise impacts upon the water environment – including plans to deal with accidental pollution. The Proposed Development would be provided with an appropriate surface water drainage system which would provide effective and safe drainage of surface water for the Site. The proposed drainage strategy may require a new outfall to the River Trent, or 'tie-in' to the WBA/WBB drainage system.

6.7.5 The Proposed Development decommissioning works would be undertaken in accordance with a DEMP which would include measures to prevent pollution, similar to those identified that would be employed during the construction phase.

Likely Impacts and Effects

Construction, Operation and Decommissioning

6.7.6 The defined impact avoidance and mitigation measures would reduce the risk of impacts upon the quality and quantity of groundwater and surface waterbodies occurring during the construction,

operational and decommissioning periods. Adverse residual effects on identified key receptors have been assessed as minor adverse to negligible and therefore are not considered to be significant. However, potential in-channel works associated with the potential surface water discharge outfall options in the River Trent have the potential to disturb sediment on the river bed and banks of the watercourse resulting in the re-suspension of sediment within the channel. Such works could result in potential localised and temporary changes in water quality, although the potential for moderate adverse effects is considered unlikely to occur based on the impact avoidance measures to be implemented.

6.8 Socio-economics

- 6.8.1 An assessment has been undertaken regarding the potential socio-economic impacts of the Proposed Development. No measures applicable to socio-economic impact avoidance have been included in the Proposed Development design – rather its construction and operation would be supportive of the local economy through the creation of employment roles.

Likely Impacts and Effects

Construction, Operation and Decommissioning

- 6.8.2 The Proposed Development would represent an opportunity to create a range of jobs during the construction phase, both directly and indirectly, and across a wide range of sectors and skills. Construction of the Proposed Development would be expected to be undertaken in up to three phases over a period of up to 6 years between Q2 2020 and 2026.¹ During this time, employment opportunities would be created as a result of the construction works. Based on experience of similar projects, the Proposed Development is anticipated to create an average of approximately 95 temporary construction jobs during the construction period. Although these jobs would be temporary, they represent a positive economic impact that can be estimated as a function of the scale and type of construction. The direct expenditure involved in the construction phase would lead to increased output generated in the Worksop and Retford Travel To Work Area (TTWA) economy.
- 6.8.3 The magnitude of impact associated with the creation of short-term employment during the construction phase is considered to be low, as employment relating to the Proposed Development would represent less than 1% of the TTWAs construction workforce. The direct, indirect and induced employment created by the construction phase of the Proposed Development is therefore likely to have a minor short-term and therefore an insignificant effect on the Worksop and Retford TTWAs economy.
- 6.8.4 During the Proposed Development operational period, employment would be generated in operations, management and maintenance roles in relation to the power station. Current plans suggest that up to 15 operational roles could be created, which may be new jobs or integrated with other EDF Energy operations. Temporary and contractor employees associated with maintenance activities would also be employed at the Site, as required. Such an operational effect is assessed as being negligible and, therefore, not significant.
- 6.8.5 The people employed to decommission the Proposed Development would have a positive effect on the economy by spending their wages, in the same way as those employed during the construction and operation phases. Current plans are for the Proposed Development to not be decommissioned until circa 2066. At this stage the significance of the employment effects is uncertain due to limited information available regarding decommissioning methods, timescales and associated staffing requirements.

¹ This construction programme is based on a “worst case scenario” with the potential for a single, shorter construction programme over 2-3 years. While a shorter construction programme would reduce the length of the short-term positive impact associated with construction employment, this would not impact the subsequent assessment of significance.

- 6.8.6 The socio-economic assessment indicates that the Proposed Development would have an overall positive impact on the economy in the study area, through the provision of employment and through associated multiplier effects. However, in light of the scale of these impacts and the prevailing economic conditions within the study area, these positive effects are not deemed to be significant.

6.9 Cultural Heritage

- 6.9.1 This assessment addresses the potential effects of the Proposed Development on cultural heritage assets. It identifies the location, type and significance of cultural heritage assets and their setting, and reports on the predicted impacts of the Proposed Development on these resources. Thereafter, the assessment considers the likely significance of effects upon cultural heritage assets by reference to their significance and the magnitude of any impacts.
- 6.9.2 Heritage assets are defined within the NPPF as '*A building, monument, site, place, area or landscape identified as having a degree of significance meriting consideration in planning decisions, because of its heritage interest*'. Heritage assets include those that are designated under legislation (such as listed buildings and scheduled monuments), as well as those that are non-designated. Non-designated heritage assets are assets that are considered to have a degree of local interest or significance usually recognised by local authorities either by their inclusion within the local Historic Environment Record (HER) or by local listing.

Development Design and Impact Avoidance

- 6.9.3 The Proposed Development would be constructed on a platform of PFA that is already present at the Site. This would provide a deep buffer that would protect any archaeological deposits that may be present within the Site.

Likely Impacts and Effects

Construction

- 6.9.4 Foundations may impact on deposits with archaeological potential present below the PFA material. The foundation design has not yet been determined and so impacts associated with foundation construction cannot currently be quantified beyond being adverse and permanent. However, a geotechnical site investigation will be undertaken within the Site and this will inform the foundation design and also enable the development of an archaeological deposit model for the Site. This information will enable an assessment of the effect of construction from these elements of the Proposed Development which will be reported within the Environmental Statement.
- 6.9.5 There may be temporary impacts on the setting of West Burton Deserted Medieval Village and the setting of Segelocum Roman town during construction associated with increased visual and noise intrusion. Such impacts would be no more than minor adverse.
- 6.9.6 There may be temporary effects on the setting of built heritage assets during the construction of the Proposed Development. However, these effects are considered to be less than those caused during the operation of the Proposed Development and would be no more than minor adverse and thus are not considered to be significant.

Operation

- 6.9.7 WBA and WBB power stations lie between the Site and the scheduled monument of West Burton Deserted Medieval Village. The Proposed Development would be smaller in scale than both WBA and WBB and, therefore, would not be visible from the scheduled monument. As a result, the Proposed Development would have no impact on the West Burton Deserted Medieval Village scheduled monument.

- 6.9.8 West Burton Power Station is visible in views from the Segelocum Roman town, with the main visible features being two chimney stacks and the eight natural draught cooling towers of WBA. Very minor elements of the Proposed Development may be visible above tree screening that is already present. Segelocum Roman town is a scheduled monument and so of high significance (heritage value). The Proposed Development impact would be a minimal permanent visual intrusion. The contribution that the affected view makes to the heritage significance of Segelocum is low. The view is part of the current visual envelope in which the monument is experienced. The resultant effect on the heritage significance of Segelocum Roman town from the Proposed Development is therefore a negligible visual permanent one and thus not significant.
- 6.9.9 The Proposed Development is considered to have the potential to impact upon two built heritage assets, namely Bole Manor House and the Church of St Martin, Bole. Bole Manor House, a grade II listed building located approximately 1km north-west of the Construction Laydown Area. It is considered to be primarily of historic significance, with some architectural features. Its setting is considered to include its gardens and the wider agricultural landscape. There are no designed views from the asset, or key views of it. It is considered that the landscape setting contributes to its significance, but only to a minor extent. As a grade II listed building it is considered to be of medium significance (heritage value). The West Burton Power Station is visible from the building and the Proposed Development would add a new industrial element onto the landscape, but only to a minor extent. The magnitude of impact is, therefore, considered to be no more than minimal. This would result in a minor adverse effect, which is not significant.
- 6.9.10 The Church of St Martin, Bole, is a grade II listed building located approximately 1km north-west of the Construction Laydown Area. It is considered to be of architectural and historic significance. The asset is likely to be designed to be a dominant focal point of the landscape, for which it already competes with the WBA power station. Its setting is considered to include the church yard in which the asset is located, with mature trees largely screening views outward from the asset. As a grade II listed building, it is considered to be of medium significance (heritage value). Views are, however, made to the east towards the current West Burton Power Station and the Proposed Development, and new development would increase the industrial character of these views to a minor extent. Given the existing industrial character of the landscape, the magnitude of impact is considered to be no more than minimal. This would result in a minor adverse effect, which is not significant.
- 6.9.11 WBA power station is recorded on the Nottinghamshire HER as a heritage asset. The asset is located south-south-west of the Site, and is a prominent and commanding focal point of the landscape. As an asset of local importance, the value is low (heritage value). Given the existing impacts on the asset due to the WBB power station, and the screening effect that WBB would have for the smaller Proposed Development, the Proposed Development would result in a minimal magnitude of impact. Therefore, the effect would be negligible.
- 6.9.12 Heritage assets within the villages of Saundby (including Saundby Conservation Area, Hall Farmhouse and The Grove), Sturton-le-Steeple (The Old Rectory; Boundary Wall, Railing and Gate at Crown Cottage; Crown Cottage; Wesleyan Chapel, Wall and Railing; Mayflower House and Outhouse; Barn and Stable at Cross Street Cottage; West End Farmhouse and Wash House; Pigeoncote and Barn to west of Church Hill Farm House; Church Farm House; Boundary Wall at Church of St Peter and St Paul; Church of St Peter and St Paul; Sturton-le-Steeple War Memorial; Culvert, Gate and Gate Piers at Manor House Memorial; Four Pillars 10m south of Manor House; Culvert, Boundary Wall, Fence and Gate at the Manor House; Manor House; Stable at Manor House dated 1779; Stable at Manor House dated 1846 and Village Shop Occupied by C.H. Bedford), Knaith (Church of St Mary and Knaith Hall), Lea (Church of St Helen; Mellow Cottage and Old Post Office; 1 and 3 Willingham Road; Holly House; The Village Farmhouse; The Cottage; The Old Rectory; Rectory Farmhouse; Gate Piers at the Old Rectory; Outhouse adjacent to and south of Carthouse and Stables at the Old Rectory; Carthouse and Stables at the Old Rectory and Gazebo at the Old Rectory) and Gainsborough have also been considered. These assets have been scoped out from further assessment as it is considered that due to the distances between these assets and the Proposed Development, existing screening, and existing impacts associated

with the WBA and WBB power stations, that no further change to the significance of these assets would result from the Proposed Development. Therefore, it is considered that the Proposed Development would have no impact upon them.

Decommissioning

- 6.9.13 The strategy for eventual Proposed Development decommissioning is not yet known. However, physical impacts, and therefore adverse effects, on buried archaeological deposits could occur from demolition and remediation works. Further information is needed on the deposits below the PFA before the impacts and effects from Proposed Development decommissioning can be assessed. Such effects will be considered in the Environmental Statement.

6.10 Sustainability and Climate Change

Sustainability and Climate Change

- 6.10.1 The design, construction and operation of the Proposed Development would seek to mitigate the causes of climate change by contributing to reducing greenhouse gas (GHG) emissions associated with waste disposal and electricity generation and adapting to the predicted impacts of climate change.
- 6.10.2 The Proposed Development would provide additional peak power generation capacity, which would contribute to providing a secure energy supply to the national grid. The indicative operational annual carbon footprint of the Proposed Development has been calculated using the Greenhouse Gas Protocol, which provides a methodology for calculating the carbon footprint of a project. The total annual carbon footprint of the Proposed Development is estimated to be between 250 kilotonnes and 298 kilotonnes carbon dioxide equivalent (CO₂e) - this is equivalent to between 558 and 663 tonnes CO₂e per GWh electricity generation. The GHG assessment (**Appendix 15A** (PEI Report **Volume II** – Technical Appendices)) demonstrates that the GHG emissions from the Proposed Development compare favourably with UK average fossil fuel power stations, producing 68-161 less tonnes of CO₂ per GWh of electricity generated than the average fossil fuel powered station, depending on the efficiency of the Proposed Development.
- 6.10.3 Design and operational measures to increase the resilience of the Proposed Development to the potential effects of climate change would be incorporated in the detailed design, including flood resilience measures.

Waste

- 6.10.4 With the adoption of appropriate waste management practices during Proposed Development construction, operation and decommissioning, no significant residual effects with respect to waste are anticipated. However, subject to the findings of a planned ground investigation, there may be the requirement for amendments to the proposals for waste management, which will be detailed in the Environmental Statement that will accompany the application for development consent.

7. Cumulative and Combined Effects

- 7.1.1 As required by the 2009 EIA Regulations, when considering the potential environmental effects of the Proposed Development, there is a need to consider the potential for cumulative and combined effects. Combined and cumulative effects are defined as:
- **Cumulative effects:** have the potential to arise where two or more developments are proposed within close enough proximity to lead to effects of the same type (e.g. air quality) on the same receptor.

- **Combined effects:** may arise where several different effects resulting from the Proposed Development (e.g. decrease in air quality, increase in noise disturbance) have the potential to affect a single receptor.

7.1.2 The Environmental Statement that will accompany the application for development consent will include an assessment of potential cumulative and combined effects taking into account applicable legislation and guidance.

7.1.3 **Chapter 16:** Cumulative and Combined Effects provides details of other proposed schemes in the vicinity of the Proposed Development that may be of relevance to the cumulative assessment, using information that is in the public domain. This includes proposed schemes that have planning applications registered with the local planning authorities and/or already consented developments, that have not yet been constructed or are operational. The cumulative assessment to be included in the Environmental Statement will not consider developments that are already constructed and operating, as such existing operational facilities are accounted for in the baseline conditions established for the main assessments reported within **Chapters 6 to 15** of the PEI Report (**Volume I – Main Report**).

7.1.4 Based upon a review of available information, the following developments would be scoped into the cumulative assessment (**Figure NTS7**):

- Sub-50MW power plant (West Burton D);
- Ash processing plant (NCC Application Number: F/3581; Application Ref: 1/16/01441/CDM);
- 49MW battery storage facility (SDC Application Number: 16/00954/FUL);
- A quarry access road (16/00354/CDM);
- Residential development of 67 dwellings (WLDC - 136309).

7.1.5 All the developments above are considered to be of such a nature and proximity to the Site to have the potential to generate cumulative effects when considered in context with the Proposed Development.

7.1.6 The results of the cumulative and combined impact assessment will be reported within the Environmental Statement that will accompany the application for development consent.

8. Summary and Conclusions

8.1.1 The PEI Report (**Volume I – Main 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.

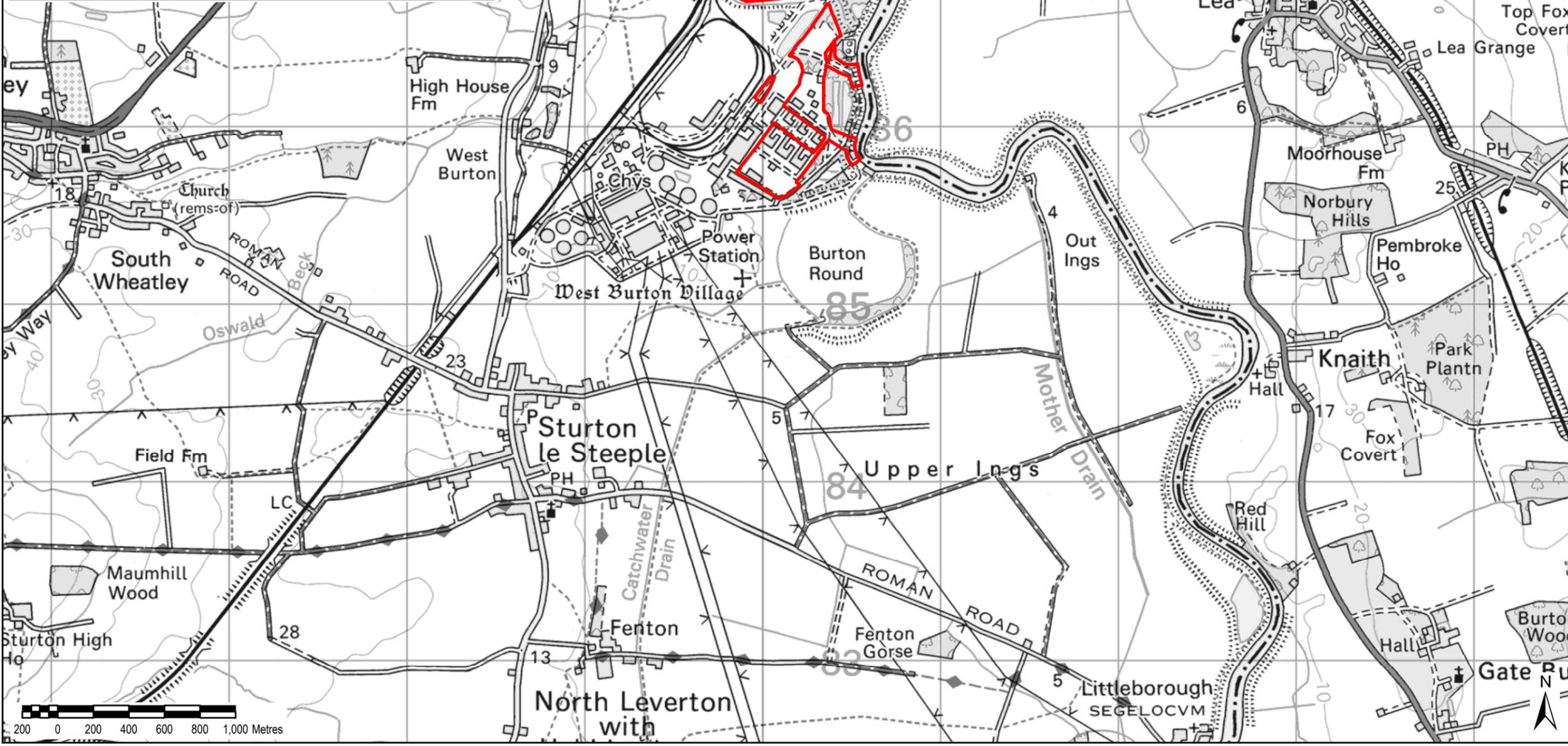
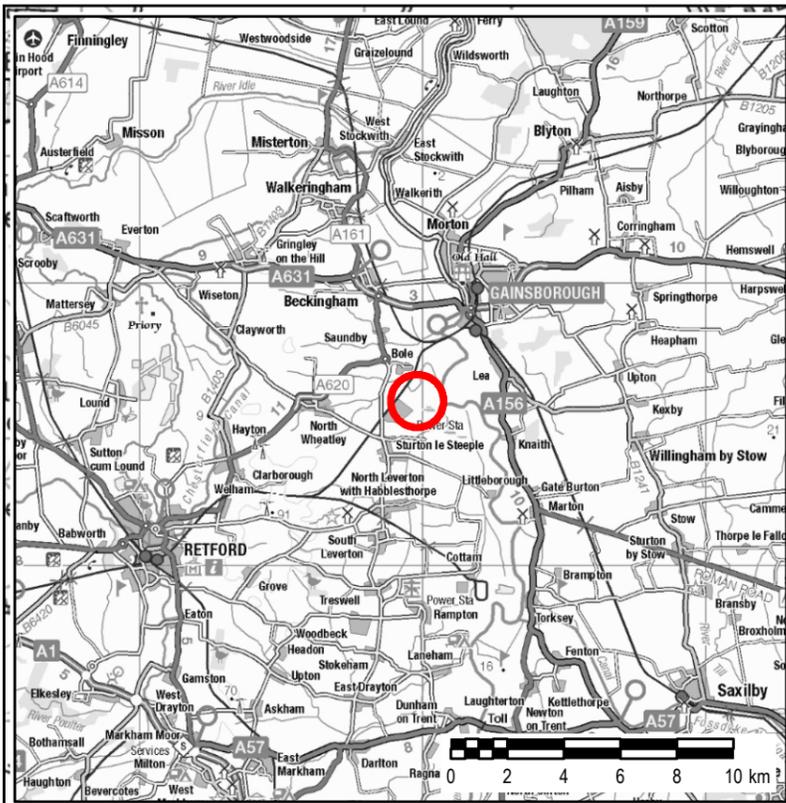
8.1.2 The Proposed Development is set within the existing West Burton Power Station site, and has been sited and will be designed to be in keeping with the surrounding infrastructure. This has helped to minimise the potential for significant adverse effects.

8.1.3 **Section 6** of this NTS and **Chapters 6-15** of the PEI Report (**Volume I – Main Report**) have considered the potential environmental impacts and effects of the Proposed Development. The Environmental Statement that will form part of the application for development consent will identify the adverse and beneficial environmental effects that are considered to be significant (i.e. moderate and major effects).

8.1.4 A number of environmental impact avoidance, design and mitigation measures have been identified to mitigate and control environmental effects during construction, operation and decommissioning 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' (similar to planning conditions attaching to a planning permission) contained within a DCO.

- 8.1.5 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 Environmental Statement to support the application for development consent.



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Project Title
WEST BURTON C

Drawing Title
**FIGURE 1
 SITE LOCATION PLAN**

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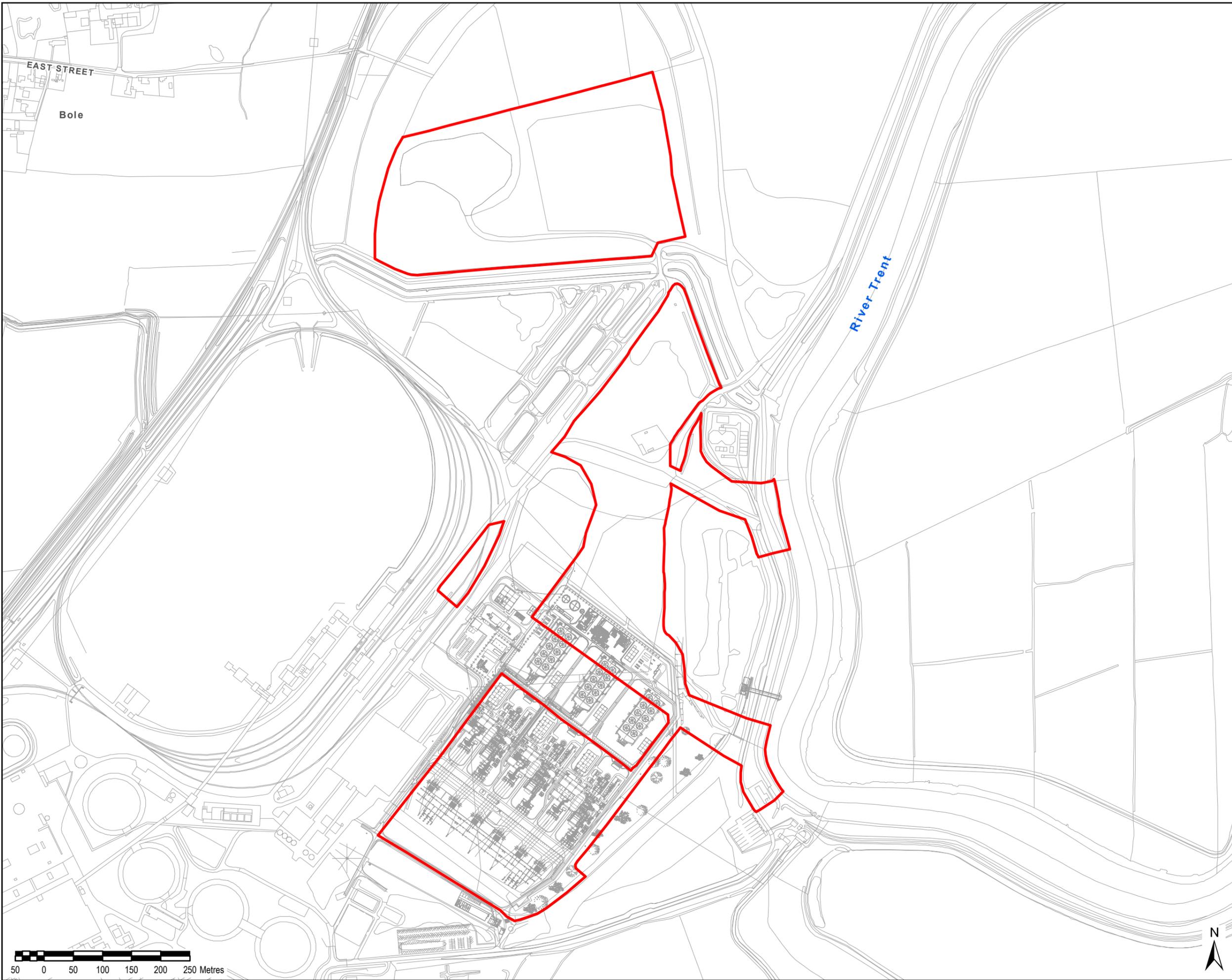
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Indicative Site Boundary

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**FIGURE 2
 INDICATIVE
 SITE BOUNDARY**

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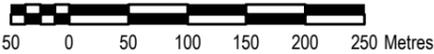
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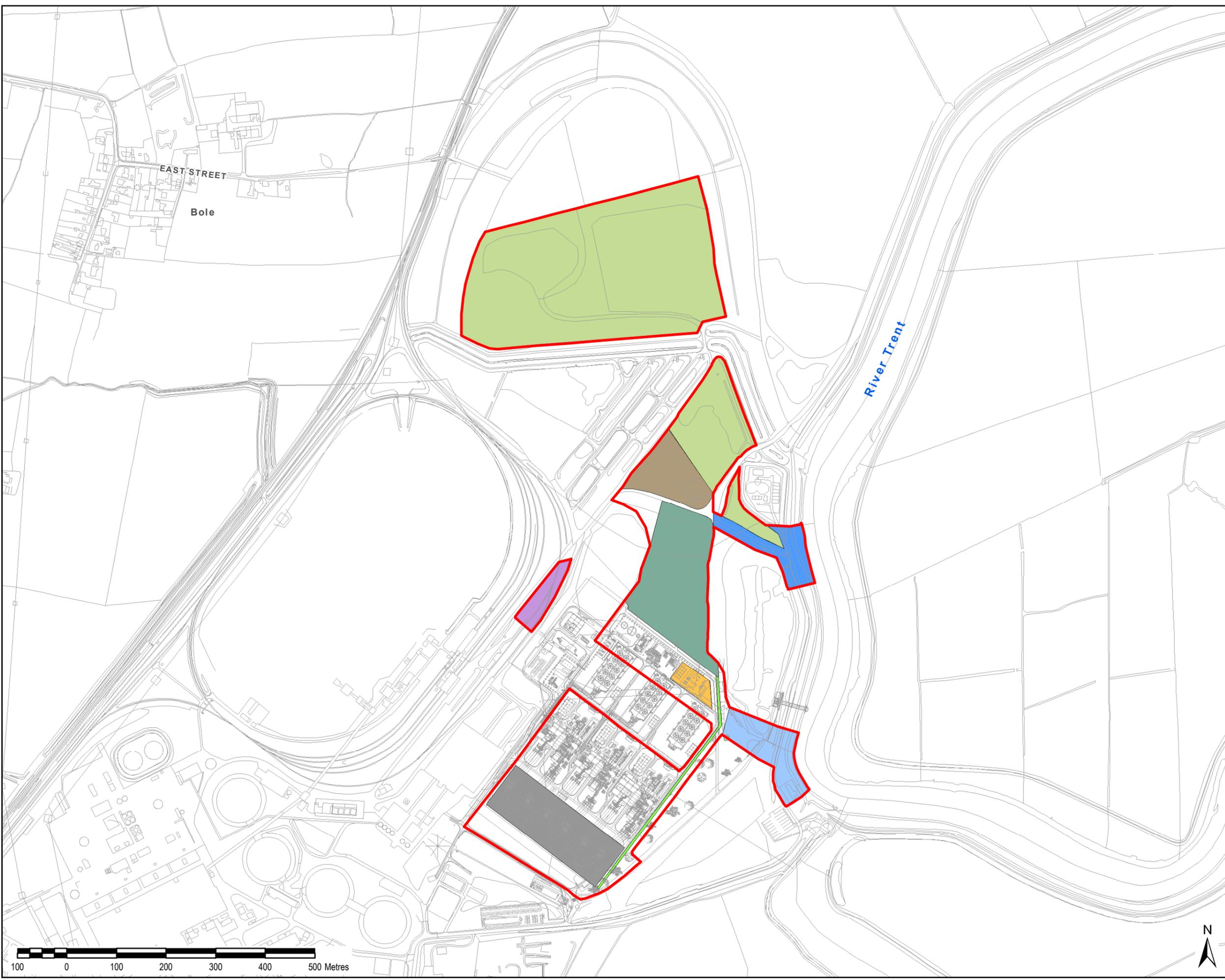


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- LEGEND**
- Indicative Site Boundary
- Parts of The Site**
- Areas Under Consideration for Ecological Mitigation
 - Construction Laydown Area
 - Proposed Power Plant Site
 - Gas Reception Facility for West Burton B
 - Southern Outfall Option
 - Northern Outfall Option
 - Electricity Connection Route
 - Rail Offloading Laydown Area
 - 400kv Sub Station

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**FIGURE 3
 LAND USE ZONES**

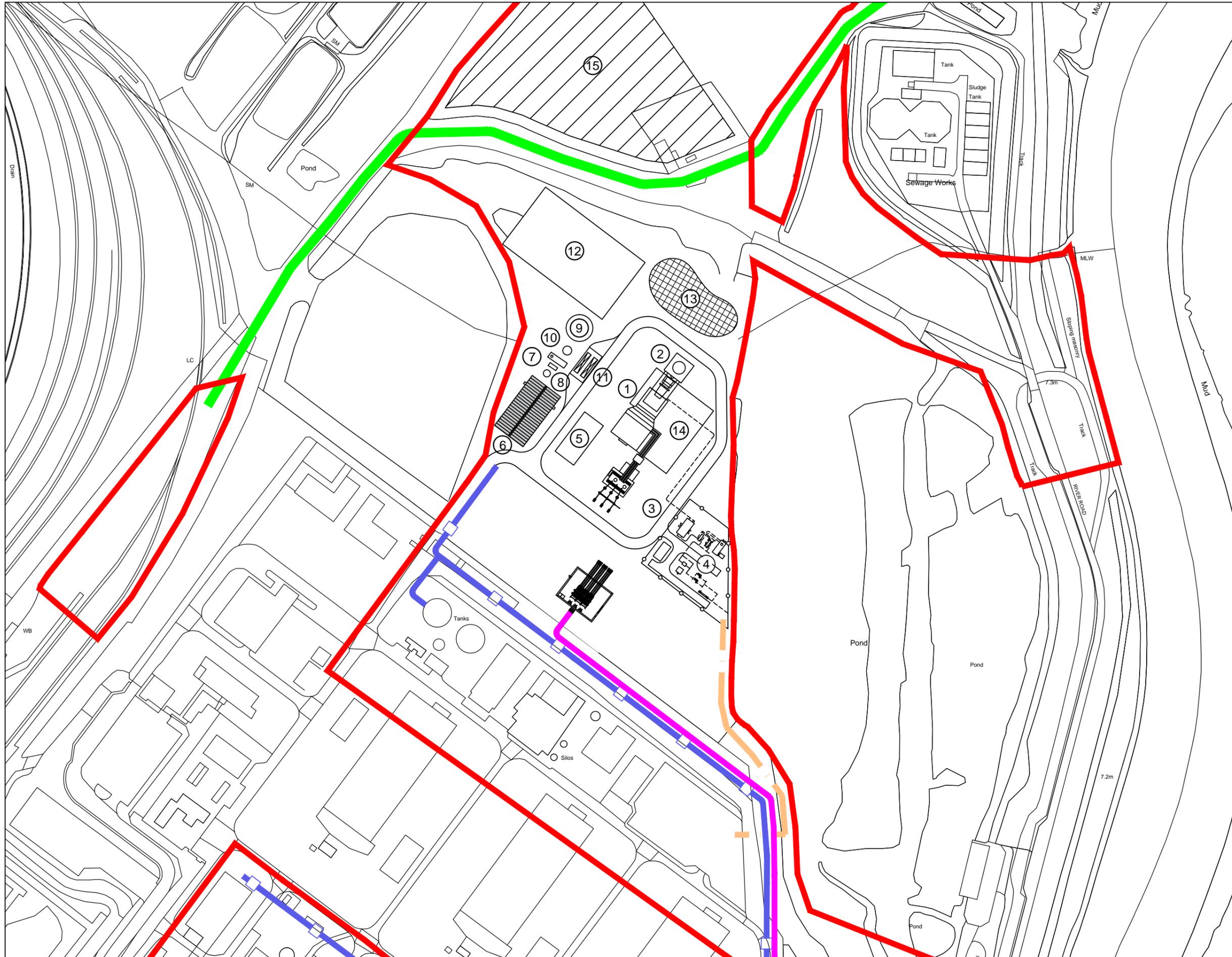
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LEGEND

- INDICATIVE SITE BOUNDARY
- ELECTRICAL CONNECTION TO WEST BURTON B SUBSTATION
- WATER AND C&I SERVICE CORRIDOR
- FUEL GAS CONNECTION CORRIDOR
- ACCESS ROAD - THROUGH WEST BURTON B

1	GAS TURBINE
2	EXHAUST STACK
3	GAS TURBINE TRANSFORMER
4	GAS RECEIVING AND METERING STATION
5	FIN FAN COOLERS
6	CONTROL ROOM/ WORKSHOP/ OFFICE
7	EMERGENCY DIESEL GENERATOR
8	DIESEL TANK
9	RAW WATER/ FIRE WATER TANK
10	DE-MINERALISED WATER TANK
11	TANKER UNLOADING STATION
12	HARDSTANDING AREA FOR OEM MAINTENANCE
13	ATTENUATION AREA
14	GAS TURBINE BUILDING
15	CONSTRUCTION COMPOUND

NOTES

1. CONNECTION BETWEEN STEP UP TRANSFORMER ASSUMED TO BE UNDERGROUND CABLE.
2. HARDSTANDING AREA BASED ON OEM REQUIREMENTS FOR SGT-4000F.

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FIGURE 4 INDICATIVE SITE UTILITIES AND ACCESS LAYOUT - FRAME OCGT

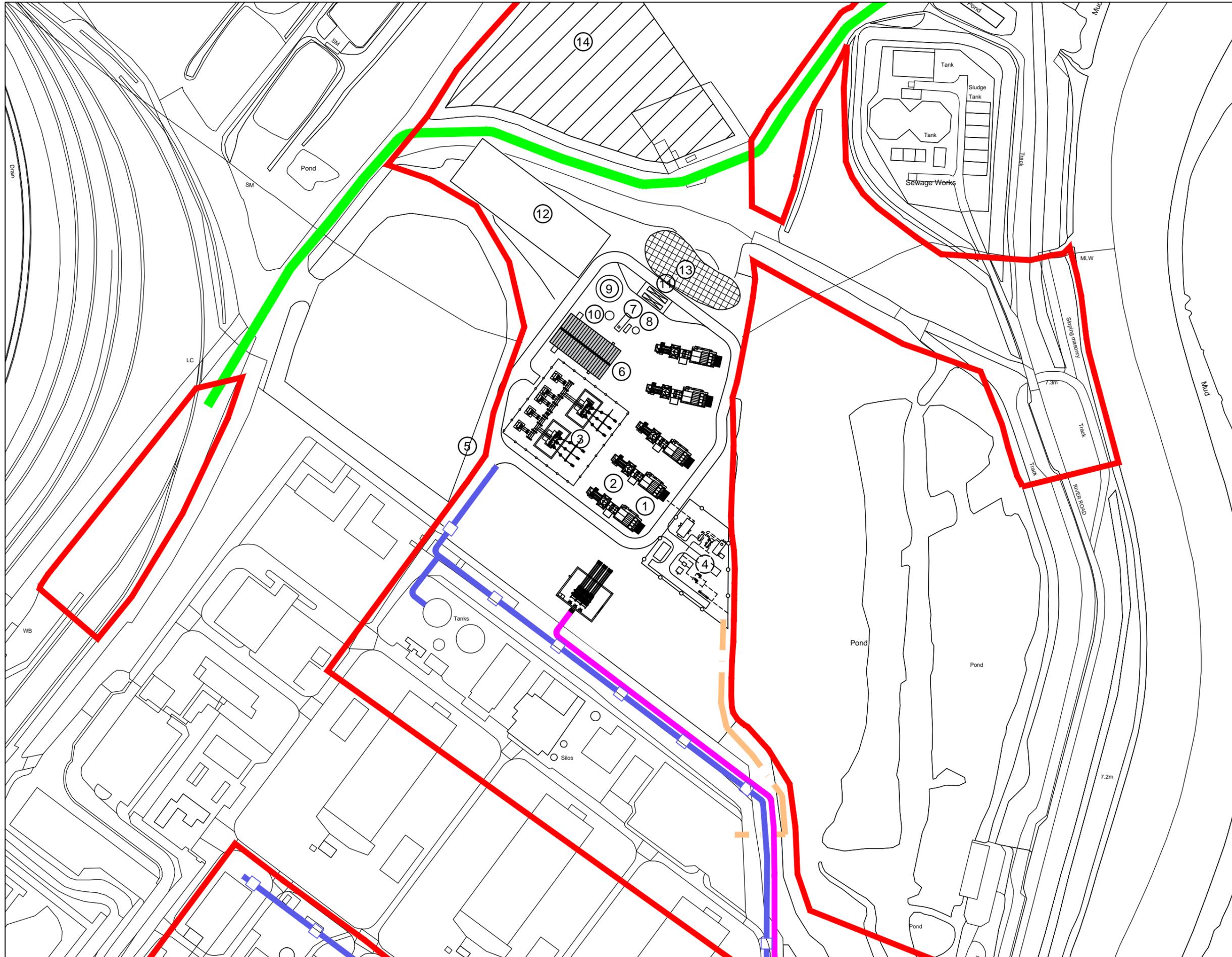
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LEGEND

- DEVELOPMENT BOUNDARY
- ELECTRICAL CONNECTION TO WEST BURTON B SUBSTATION
- WATER AND C&I SERVICE CORRIDOR
- FUEL GAS CONNECTION CORRIDOR
- ACCESS ROAD - THROUGH WEST BURTON B

1	GAS TURBINE
2	EXHAUST STACK
3	GAS TURBINE TRANSFORMER
4	GAS RECEIVING AND METERING STATION
5	SITE ENTRANCE
6	CONTROL ROOM/ WORKSHOP/ OFFICE
7	EMERGENCY DIESEL GENERATOR
8	DIESEL TANK
9	RAW WATER/ FIRE WATER TANK
10	DE-MINERALISED WATER TANK
11	TANKER UNLOADING STATION
12	HARDSTANDING AREA FOR OEM MAINTENANCE
13	ATTENUATION AREA
14	CONSTRUCTION COMPOUND

- NOTES**
1. CONNECTION BETWEEN STEP UP TRANSFORMER ASSUMED TO BE UNDERGROUND CABLE .
 2. HARDSTANDING AREA BASED ON OEM REQUIREMENTS FOR SGT-4000F.

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FIGURE 5 INDICATIVE SITE UTILITIES AND ACCESS LAYOUT - AERO DERIVATIVE

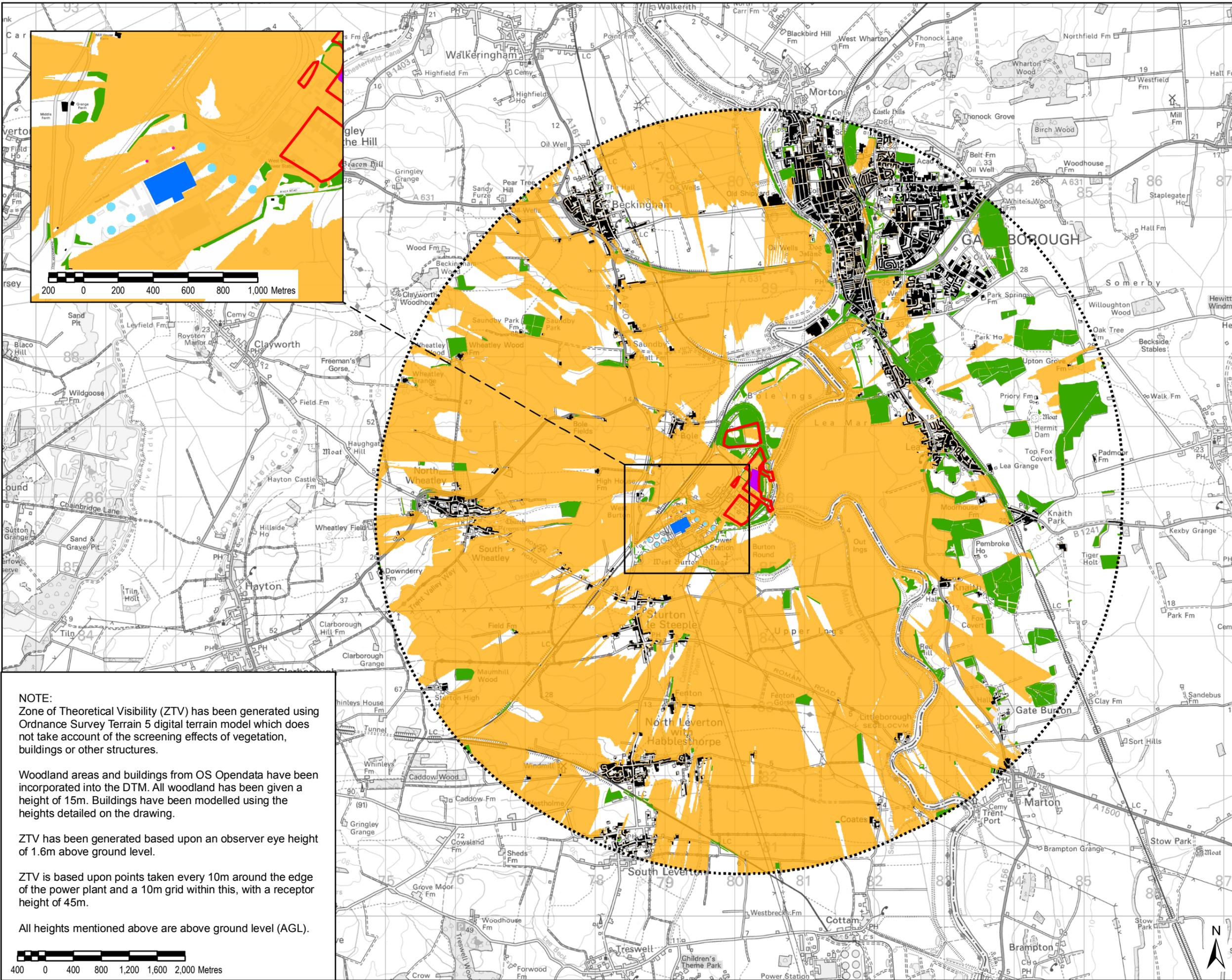
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60527350/NTS/FIGURE 5



- LEGEND**
- Indicative Site Boundary
 - Study Area (5km)
 - Proposed Sub 300MW Power Plant
 - Building - 7.5m
 - Building - 61m
 - Building - 107m
 - Building - 198m
 - Woodland - 15m
 - Zone of Theoretical Visibility of Proposed Development Site

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NON TECHNICAL SUMMARY

Client
**EDF ENERGY
 (WEST BURTON POWER) LIMITED**

Project Title
WEST BURTON C

**FIGURE 6
 ZONE OF
 THEORETICAL VISIBILITY**

Drawn LC	Checked SE	Approved RB	Date 29/08/2017
AECOM Internal Project No. 60527350		Scale @ A3 1:50,000	

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Drawing Number
60527350/NTS/FIGURE 6

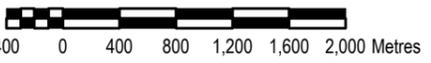
NOTE:
 Zone of Theoretical Visibility (ZTV) has been generated using Ordnance Survey Terrain 5 digital terrain model which does not take account of the screening effects of vegetation, buildings or other structures.

Woodland areas and buildings from OS Opendata have been incorporated into the DTM. All woodland has been given a height of 15m. Buildings have been modelled using the heights detailed on the drawing.

ZTV has been generated based upon an observer eye height of 1.6m above ground level.

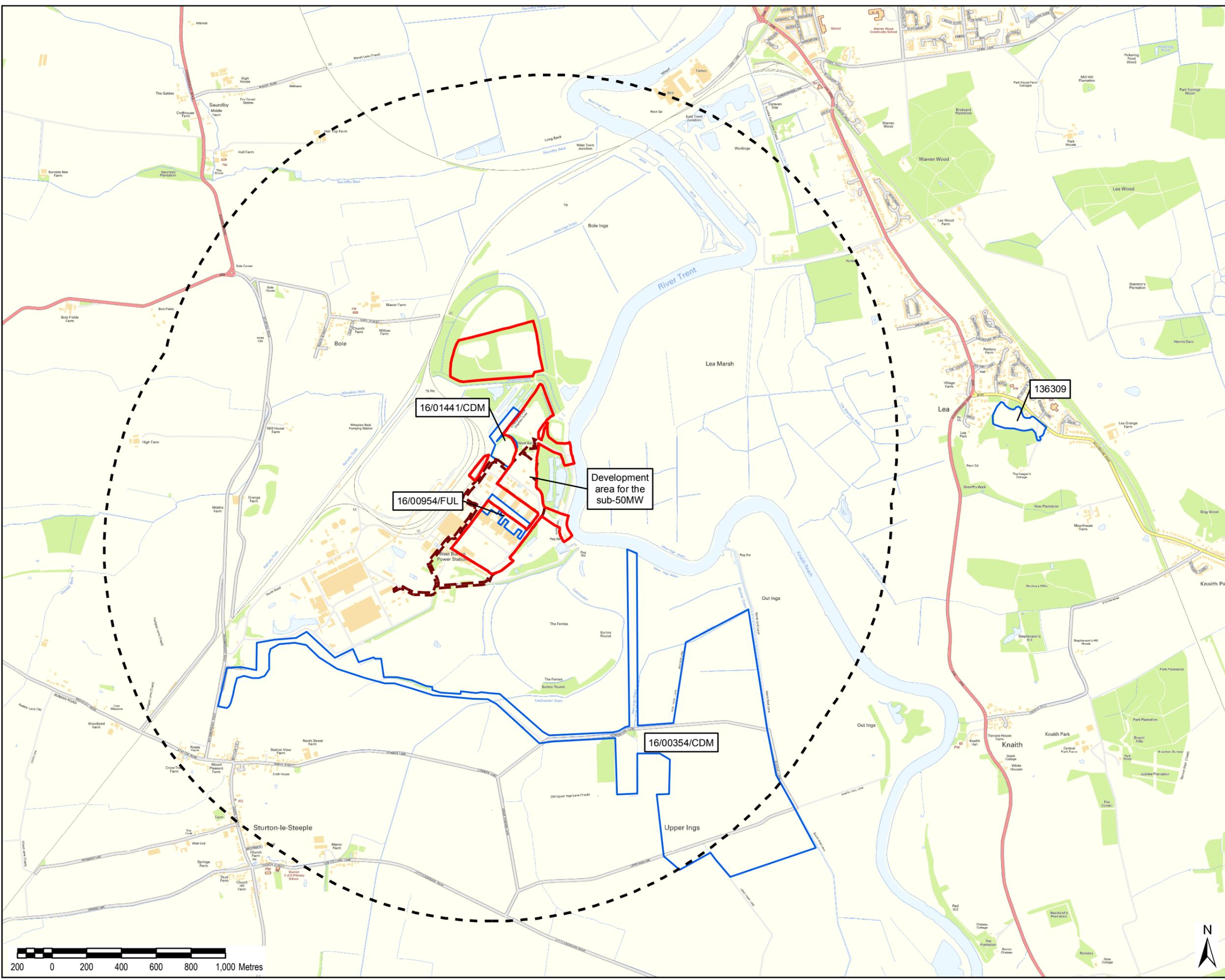
ZTV is based upon points taken every 10m around the edge of the power plant and a 10m grid within this, with a receptor height of 45m.

All heights mentioned above are above ground level (AGL).



File Name: K:\Newproj\60527350 - West Burton C Gas Fired Power Station\06_GS\02_Maps\PEI\Report\NTS\Figure NTS 6.mxd

File Name: \\UKLD52\FPS\W001.na.aecomnet.com\LE_PROJECTS\Newproj\60527350 - West Burton C Gas Fired Power Station\06_GSI\02_Maps\PEI_Report\NTS\Figure NTS 7.mxd



LEGEND

- Indicative Site Boundary
- Study Area (2km)
- Other Developments
- Indicative Site: West Burton (Sub-50mw) project

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Purpose of Issue
NON TECHNICAL SUMMARY

Client
**EDF ENERGY
 (WEST BURTON POWER) LIMITED**

Project Title
WEST BURTON C

Drawing Title
**FIGURE 7
 CUMULATIVE IMPACT ASSESSMENT**

Drawn GB	Checked SE	Approved RL	Date 29/08/2017
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