

The Eggborough CCGT Project

Document Ref: 5.6
PINS Ref: EN010081

The Eggborough CCGT (Generating Station) Order

Land at and in the vicinity of the Eggborough Power Station site,
near Selby, North Yorkshire, DN14 0BS

Design and Access Statement

The Planning Act 2008

The Infrastructure Planning (Applications: Prescribed Forms and Procedure)
Regulations 2009

Regulation 5(2)(q)



Applicant: Eggborough Power Limited
Date: May 2017

DOCUMENT HISTORY

Document Ref	5.6		
Revision	1.0		
Author	Dalton Warner Davis LLP (DWD)		
Signed	Geoff Bullock (GB)	Date	30.05.17
Approved By	GB		
Signed	GB	Date	30.05.17
Document Owner	DWD		

GLOSSARY

Abbreviation	Description
AGI	Above Ground Installation
CCCW	Closed-circuit cooling water
CCGT	Combined Cycle Gas Turbine
CCR	Carbon Capture Readiness
CEGB	Central Electricity Generating Board
DAS	Design and Access Statement
DAS	Design and Access Statement
DCO	Development Consent Order
EA	Environment Agency
EIA	Environmental Impact Assessment
EN-1	Overarching NPS for Energy
EN-2	NPS for Fossil Fuel Electricity Generating Infrastructure
EN-4	NPS for Gas Supply Infrastructure and Gas and Oil Pipelines
EN-5	NPS for Electricity Networks Infrastructure
EP UK	EP UK Investments Ltd
EPH	Energetický A Prumyslový Holding
EPL	Eggborough Power Limited
ES	Environmental Statement
FGD	Flue Gas Desulphurisation
HGV	Heavy Goods Vehicle
HRSG	Heat recovery steam generator
Km	kilometres
kV	Kilovolt
m	Metres
MW	Megawatts
NG	National Grid
NPPF	National Planning Policy Framework
NSIP	Nationally Significant Infrastructure Project
NTS	National Transmission System
NYCC	North Yorkshire County Council
PA 2008	The Planning Act 2008
PPG	Planning Practice Guidance

Abbreviation	Description
PRoW	Public Rights of Way
SBR	Supplemental Balancing Reserve
SDC	Selby District Council
SoS	Secretary of State
TCPA	Town and Country Planning Act 1990
the Order	The Eggborough CCGT (Generating Station) Order
the Site	The Proposed Development Site

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SUMMARY

1. This Design and Access Statement ('DAS') has been prepared on behalf of Eggborough Power Limited ('EPL' or the 'Applicant'). It forms part of the application (the 'Application') for a Development Consent Order (a 'DCO'), that has been submitted to the Secretary of State (the 'SoS') for Business, Energy and Industrial Strategy, under Section 37 of 'The Planning Act 2008' (the 'PA 2008').
2. EPL is seeking development consent for the construction, operation and maintenance of a new gas-fired electricity generating station with a gross output capacity of up to 2,500 megawatts ('MW'), including electrical and water connections, a new gas supply pipeline and other associated development (the 'Project' or 'Proposed Development') on land at and in the vicinity of the existing Eggborough coal-fired power station (the 'existing coal-fired power station'), near Selby, North Yorkshire.
3. The primary purpose of the DAS is to set out how EPL has had regard to design and access considerations in designing the Proposed Development. The document explains how EPL has taken account of the Proposed Development Site's (the 'Site') context, appraised this and had regard to it in designing the Proposed Development.
4. It is clear from the above that the immediate context within which much of the Site sits; formed by the existing coal-fired power station; is already very much industrialised in terms of its character and appearance. It is dominated by the large and functional power generation buildings and structures of the existing power station, notably the large turbine hall, the tall cooling towers and emissions stack, the existing National Grid electricity substation, overhead electric lines, coal yards and rail infrastructure.
5. While the wider area around the existing coal-fired power station, including the area through which the new gas supply pipeline will pass, is generally rural and for the most part comprises agricultural land interspersed with small settlements, it is still dominated by the existing power station, which is visible across the flat landscape for several kilometres. The wider area is also subject to significant humanising influences, being interspersed with small settlements and crossed by major transport and power infrastructure. The Site does not therefore sit within a setting or landscape that is highly sensitive to change.
6. The DAS explains where EPL is seeking flexibility in the design of the Proposed Development. In doing so, EPL has defined design parameters upon which to base the Environmental Impact Assessment ('EIA') of the Proposed Development to ensure that its likely significant effects have been robustly assessed. EPL has also included appropriate articles and requirements within the draft DCO submitted with the Application (Application Document Ref. 2.1) to ensure that the detailed design of the Proposed Development is controlled and secured.
7. The final design of the Proposed Development is functional, reflecting its purpose to generate electricity and the context within which it would sit. In terms of siting and layout, opportunities have been taken to minimise the visual impact of the new generating station by locating it within the main coal stockyard, which has a substantial landscaped embankment to its eastern, southern and western boundaries. While there is limited scope for soft landscaping within the generating station site, EPL proposes to enhance the landscape and biodiversity value of the existing woodland areas around the existing coal-fired power station site, while there will be replacement

hedgerow planting within the gas supply pipeline corridor and around the its connection to National Transmission System for gas.

8. The Proposed Development also incorporates appropriate access arrangements.
9. In summary, it is considered that the Proposed Development represents 'good design' for the purposes of energy infrastructure and policy set out in the relevant National Policy Statements.

1.0 INTRODUCTION

Overview

- 1.1 This Design and Access Statement has been prepared on behalf of Eggborough Power Limited ('EPL' or the 'Applicant'). It forms part of the application (the 'Application') for a Development Consent Order (a 'DCO'), that has been submitted to the Secretary of State (the 'SoS') for Business, Energy and Industrial Strategy, under Section 37 of 'The Planning Act 2008' (the 'PA 2008').
- 1.2 EPL is seeking development consent for the construction, operation and maintenance of a new gas-fired electricity generating station with a gross output capacity of up to 2,500 megawatts ('MW'), including electrical and water connections, a new gas supply pipeline and other associated development (the 'Project' or 'Proposed Development') on land at and in the vicinity of the existing Eggborough coal-fired power station, near Selby, North Yorkshire.
- 1.3 A DCO is required for the Proposed Development as it falls within the definition and thresholds for a 'Nationally Significant Infrastructure Project' (a 'NSIP') under Sections 14 and 15(2) of the PA 2008.
- 1.4 The DCO, if made by the SoS, would be known as the 'Eggborough CCGT (Generating Station) Order' (the 'Order').

EPL

- 1.5 EPL owns and operates the existing Eggborough coal-fired power station (the 'existing coal-fired power station'), near Selby, including a significant proportion of the land required for the Proposed Development.
- 1.6 EPL was acquired by EP UK Investments Ltd (EP UK) in late 2014; a subsidiary of Energetický A Průmyslový Holding ('EPH'). EPH owns and operates energy generation assets in the Czech Republic, Slovak Republic, Germany, Italy, Hungary, Poland and the United Kingdom.

The Proposed Development Site

- 1.7 The Proposed Development Site (the 'Site' or the 'Order limits') is located at and in the vicinity of the existing coal-fired power station approximately 8 kilometres ('km') south of Selby.
- 1.8 The existing coal-fired power station is bound to the north by Wand Lane, with the River Aire located approximately 650 metres ('m') further to the north and the A19 Selby Road immediately to the west. Eggborough Village is located approximately 750 m to the south-west.
- 1.9 The entire Site lies within the administrative boundaries of Selby District Council ('SDC') and North Yorkshire County Council ('NYCC').
- 1.10 The existing coal-fired power station was officially opened in 1970 and comprises four coal-fired boilers units, which together are capable of generating up to 2,000 MW of electricity. The existing coal-fired power station also includes a turbine hall and boiler house, an emissions stack (chimney) of approximately 198 m in height, eight concrete cooling towers of approximately 115 m in height, an administration and control block, a coal stockyard and a dedicated rail line for the

delivery of coal, in addition to ancillary buildings, structures and infrastructure and utility connections.

- 1.11 The Site itself extends to approximately 102 hectares and comprises land within the boundary of the operational area of the existing coal-fired power station for the new gas-fired generating station and electrical and groundwater supply connections; corridors of land to the north of the existing coal-fired power station for the cooling water connections and gas supply pipeline; an area of land to the south-east of the main coal stockyard for surface water discharge connections; and corridors of land to the west and south of the operational area of the existing coal-fired power station for ground and towns water supply connections and access.
- 1.12 The land required for the generating station and electrical and groundwater connections are owned by EPL, as well as the majority of the land for the cooling and towns water and surface water discharge connections. The majority of the land required for the gas supply pipeline is not owned by EPL.
- 1.13 The area surrounding the Site is predominantly flat and for the most part comprises agricultural land interspersed with small settlements and farmsteads. The area is however crossed by transport infrastructure, notably the A19 and railway lines, including the East Coast Mainline, in addition to overhead electricity lines associated with the existing coal-fired power station and other power stations within the wider area.
- 1.14 A detailed description of the Site is provided at Chapter 3 'Description of the Site' of the Environmental Statement ('ES') Volume I (Application Document Ref. 6.2).

The Proposed Development

- 1.15 The main components of the Proposed Development are summarised below:
- The **'Proposed Power Plant'** (Work No. 1) - an electricity generating station with a gross output capacity of up to 2,500 MW located on the main coal stockyard area of the existing coal-fired power station, comprising:
 - Work No. 1A - a combined cycle gas turbine ('CCGT') plant, comprising up to three CCGT units, including turbine hall and heat recovery steam generator buildings, emissions stacks and administration/control buildings;
 - Work No. 1B - a peaking plant and black start plant fuelled by natural gas with a combined gross output capacity of up to 299 MW, comprising a peaking plant consisting of up to two open cycle gas turbine units or up to ten reciprocating engines and a black start plant consisting of one open cycle gas turbine unit or up to three reciprocating gas engines, including turbine buildings, diesel generators and storage tanks for black start start-up prior to gas-firing and emissions stacks;
 - Work No. 1C - combined cycle gas turbine plant cooling infrastructure, comprising up to three banks of cooling towers, cooling water pump house buildings and cooling water dosing plant buildings; and
 - ancillary buildings, enclosures, plant, equipment and infrastructure connections and works.
 - The **'Proposed Electricity Connection'** (Work No. 3) - electrical connection works, comprising:

- Work No. 3A - up to 400 kilovolt ('kV') underground electrical cables to and from the existing National Grid ('NG') 400 kV substation;
- Work No. 3B - works within the NG substation, including underground and over electrical cables, connection to busbars and upgraded or replacement equipment.
- The **'Proposed Cooling Water Connections'** (Work No. 4) - cooling water connection works, comprising works to the existing cooling water supply and discharge pipelines and intake and outfall structures within the River Aire, including, as necessary, upgraded or replacement pipelines, buildings, enclosures and structures, and underground electrical supply cables, transformers and control systems cables.
- The **'Proposed Ground and Towns Water Connections'** (Work No. 5) - ground and towns water supply connection works, comprising works to the existing groundwater boreholes and pipelines, existing towns water pipelines, replacement and new pipelines, plant, buildings, enclosures and structures, and underground electrical supply cables, transformers and control systems cables.
- The **'Proposed Access and Rail Works'** (Work No. 10) - rail infrastructure and access works, comprising alterations to or replacement of the existing private rail line serving the existing coal-fired power station site, including new rail lines, installation of replacement crossover points and ancillary equipment and vehicular and pedestrian access and facilities.
- The **'Proposed Surface Water Discharge Connection'** (Work No. 9) - surface water drainage connection works to Hensall Dyke to the south-east of the main coal stockyard, comprising works to install or upgrade drainage pipes and works to Hensall Dyke.
- The **'Proposed Gas Connection'** (Work No. 6) - gas supply pipeline connection works for the transport of natural gas to Work No. 1, comprising an underground high pressure steel pipeline of up to 1,000 millimetres (nominal bore) in diameter and approximately 4.6 kilometres in length, including cathodic protection posts, marker posts and underground electrical supply cables, transformers and control systems cables, running from Work No. 1 under the River Aire to a connection point with the National Transmission System ('NTS') for gas No. 29 Feeder pipeline west of Burn Village.
- The **'Proposed AGI'** (Work No. 7) - an Above Ground Installation ('AGI') west of Burn Village, connecting the gas supply pipeline (Work No. 6) to the NTS No. 29 Feeder pipeline, comprising:
 - Work No. 7A - a compound for National Grid's apparatus; and
 - Work No. 7B - a compound for EPL's apparatus.
- The **'Proposed Construction Laydown Area'** (Work No. 2A) - an area for temporary construction and laydown during the construction phase, including contractor compounds and facilities.
- The **'Proposed Carbon Capture Readiness ('CCR') Land'** (Work No. 2B) - an area of land to be reserved for carbon capture plant should such technology become viable in the future. It is proposed that this 'reserve' land is provided on part of the area to be used for temporary construction and laydown.
- The **'Proposed Retained Landscaping'** (Work No. 8) - encompassing the existing mature tree and shrub planting along the northern side of Wand Lane and to the eastern boundary of the existing coal-fired power station site, including that on the embankment around the eastern, southern and western boundaries of the main coal stockyard.

- 1.16 The ‘associated development’, for the purposes of section 115 of the PA 2008 comprises Work Nos. 2 to 10 of the Proposed Development.
- 1.17 It is anticipated that subject to the DCO having been made by the SoS (and a final investment decision by EPL), construction work on the Proposed Development would commence in early 2019. The overall construction programme is expected to last approximately three years, although the duration of the electrical and water connection and gas supply pipeline connection works would be significantly less. The construction phase is therefore anticipated to be completed in 2022 with the Proposed Development entering commercial operation later that year.
- 1.18 A more detailed description of the above components of the Proposed Development is provided at Schedule 1 ‘Authorised Development’ of the draft DCO and Chapter 4 ‘The Proposed Development’ of the ES Volume I (Application Document Ref. 6.2).

The Purpose and Structure of this Document

- 1.19 The PA 2008 and related regulations do not require an application for a DCO to be accompanied by a DAS. However, Section 10 ‘Sustainable development’ of the PA 2008 (subsection (3)(b)) states that in setting policy for NSIPs (through National Policy Statements) the SoS must have regard to the desirability of achieving ‘good design’.
- 1.20 ‘The Overarching National Policy Statement for Energy (EN-1)’, Part 4 ‘Assessment Principles’ 4.5 ‘Criteria for good design for energy infrastructure’, is clear that applicants should have regard to achieving ‘good design’ in energy infrastructure projects, and that these should be as attractive, durable and adaptable as possible.
- 1.21 The DAS has therefore been prepared to describe the approach that has been taken to the design of the Proposed Development and to demonstrate how regard has been had to the surrounding context and to good design.
- 1.22 The structure of the DAS is set out in Table 1.1 below:

Table 1.1 - Design and Access Statement Structure

Section	Title	Overview
Section 2	Legislative and Policy Context	Provides a summary of relevant policy and guidance relating to design.
Section 3	Site Description, Context and Appraisal	Describes the Proposed Development Site, its immediate context, the surrounding area and appraises this context and the opportunities provided by the Site.
Section 4	Design Flexibility and Information	Explains the design flexibility that is being sought by EPL and sets out the design information being provided with the Application.
Section 5	Design Approach and Evolution	Describes the design process that has been followed, including the broad approach that EPL has taken to the design of the Proposed Development and where the design has evolved.
Section 6	Design Components	Describes the final design of the Proposed with reference to its key design components, including use, the amount of development, its layout, scale, appearance and also

Section	Title	Overview
		landscaping.
Section 7	Access Arrangements	Considers access both to and within the Proposed Development Site.
Section 8	Securing Detailed Design	Sets out how the detailed design of the Proposed Development will be in accordance with the design details and parameters upon which the Environmental Impact Assessment of it has been based.
Section 9	Conclusions	Sets out the conclusions that can be drawn with regard to design and access matters.

2.0 LEGISLATIVE AND POLICY CONTEXT

2.1 This section summarises the design related legislative context and policy framework in respect of NSIPs, with particular emphasis on the relevant National Policy Statements. Planning policy more generally is considered within the Planning Statement (Application Document Ref. 5.5).

Legislative Context

2.2 Section 10 'Sustainable development' of the PA 2008 (subsection (3)(b)) states that in setting policy for NSIPs (through National Policy Statements) the SoS must have regard to the desirability of achieving 'good design'. However, the PA 2008 and related regulations do not require applications for NSIPs to be accompanied by a DAS.

2.3 The Town and Country Planning (Development Management Procedure) (England) Order 2015 (S.I 2015 No. 595), while applying to applications for planning permission under the Town and Country Planning Act 1990 (the 'TCPA') is of relevance as it sets out the matters to be addressed within a DAS. Article 9 'Design and access statements' of the Order confirms (paragraph 2) that a DAS must:

- explain the design principles and concepts that have been applied to the development;
- demonstrate the steps taken to appraise the context of the development and how the design of the development takes this context into account;
- explain the policy adopted as to access, and how policies relating to access in relevant local development documents have been taken into account;
- state what, if any, consultation has been undertaken on issues relating to access to the development and what account has been taken of the outcome of any such consultation; and
- explain how any specific issues which might affect access to the development have been addressed.

2.4 Article 9 (paragraph 4) confirms that a DAS is not required for applications involving engineering or mining operations.

2.5 With regard to Article 9, it is relevant to note that while the Proposed Power Plant and the AGI involve new buildings and structures the other works comprised within the Proposed Development (e.g. the electrical, cooling water, ground and towns mains water, surface water and gas supply connection and rail works) for the most part represent engineering works. The main focus of this DAS is therefore upon the Proposed Power Plant and the AGI.

National Policy Statements

2.6 The planning policy framework for examining and determining applications for NSIPs is provided by a number of National Policy Statements ('NPSs'). Section 1 of the PA 2008 confirms that where NPSs are in place, these shall be the primary basis for decisions by the SoS on applications for NSIPs. Policy relating to design contained within the NPSs of relevance to the Proposed Development is set out below.

Overarching NPS for Energy (EN-1)

2.7 The Overarching NPS for Energy (EN-1) defines the need for nationally significant energy infrastructure and sets out certain assessment principles and criteria against which applications for such infrastructure should be considered. This includes Section 4.5 'Criteria for good design for energy infrastructure'.

2.8 Paragraph 4.5.1 recognises that the functionality of buildings and infrastructure, including fitness for purpose and sustainability, are as equally important as visual appearance and aesthetic considerations. It goes on to state that applying good design to energy projects should produce sustainable infrastructure sensitive to place, efficient in the use of natural resources and energy used in their construction and operation, matched by an appearance that demonstrates 'good aesthetic' as far as possible. It is acknowledged however:

"...that the nature of much energy infrastructure development will often limit the extent to which it can contribute to the enhancement of the quality of an area."

2.9 Paragraph 4.5.2 of EN-1 notes that good design is also a means by which many policy objectives in EN-1 can be met, for example, good design, in terms of siting and use of appropriate technologies can help mitigate adverse impacts such as noise.

2.10 Paragraph 4.5.3 confirms that in assessing applications, the SoS will need to be satisfied that energy infrastructure developments are sustainable and, having regard to regulatory and other constraints, are as attractive, durable and adaptable (including taking account of natural hazards such as flooding) as they can be. In doing so, it goes on to state that the SoS should be satisfied that:

"..the applicant has taken into account both functionality (including fitness for purpose and sustainability) and aesthetics (including its contribution to the quality of the area in which it would be located) as far as possible. Whilst the applicant may not have any or very limited choice in the physical appearance of some energy infrastructure, there may be opportunities for the applicant to demonstrate good design in terms of siting relative to existing landscape character, landform and vegetation. Furthermore, the design and sensitive use of materials in any associated development such as electricity substations will assist in ensuring that such development contributes to the quality of the area."

2.11 Paragraph 4.5.4 stresses the importance of applicants being able to demonstrate in their application documents how the design process was conducted and how the proposed design evolved. However, it is clear that in considering applications the SoS should take into account the ultimate purpose of the infrastructure and bear in mind the operational, safety and security requirements that the design has to satisfy.

NPS for Fossil Fuel Electricity Generating Infrastructure (EN-2)

2.12 EN-2 provides limited additional guidance on 'good design' for fossil fuel generating stations over and above that provided by EN-1. Paragraph 2.3.15 does, however, state that the principles of good design set out at Section 4.5 of EN-1 should be applied to all energy infrastructure.

2.13 Paragraph 2.3.16 states that applicants should demonstrate good design in respect of landscape and visual amenity and in the design of the development to mitigate impacts such as noise and vibration, transport impacts and air emissions.

NPS for Gas Supply Infrastructure and Gas and Oil Pipelines (EN-4)

- 2.14 Paragraph 2.3.1 states that Section 4.5 of EN-1 sets out the principles of good design that should be applied to all energy infrastructure.
- 2.15 Paragraph 2.3.2 states that for the reasons given at Section 4.5 of EN-1, applicants should demonstrate good design, in particular, when mitigating the impacts relevant to the infrastructure.

NPS for Electricity Networks Infrastructure (EN-5)

- 2.16 Paragraph 2.5.1, as with EN-4, refers to the principles of good design set out at Section 4.5 of EN-1.
- 2.17 Paragraph 2.5.2 states that proposals for electricity networks infrastructure should demonstrate good design in mitigating the potential adverse impacts that can be associated with overhead electric lines, particularly impacts upon biodiversity and geological conservation, landscape and visual, noise and vibration and electro-magnetic fields.

National Planning Policy Framework and Planning Practice Guidance

- 2.18 The National Planning Policy Framework ('NPPF'), introduced in March 2012, sets out the Government's planning policies for England. It is a material consideration in planning decisions. Although the NPPF does not contain policies in relation to NSIPs, paragraph 3 confirms that the NPPF may be considered by the SoS to be both 'important and relevant' for decision making on NSIPs.
- 2.19 Section 7 of the NPPF 'Requiring good design' sets out policies on design. Paragraph 56 emphasises the importance of good design in the built environment and the role it plays as a key aspect of sustainable development. Much of the guidance is of limited relevance for energy infrastructure, however, the overall aim is to promote developments that function well, create attractive places, optimise the potential of sites, respond to local character and incorporate good architecture and appropriate landscaping.
- 2.20 The Planning Practice Guidance ('PPG'), launched in March 2014, brings together planning practice guidance for England in an online format. It includes a section of design guidance, as with the NPPF, it states that good quality design should be an integral part of sustainable development. In designing new developments it sets out a number of issues that should be considered, including local character and landscape setting.
- 2.21 With regard to local character, the PPG states that the successful integration of new development with its surrounding context is an important design objective. Developers should take into account landform, natural features and heritage resources, while views into and out of large sites should be carefully considered. The importance of high quality landscaping as a means of integrating development within the wide environment is also highlighted.

Local Planning Policy

- 2.22 Local planning policy relating to design is contained within Selby District Local Plan (adopted February 2005) and the Selby District Core Strategy Local Plan (adopted October 2013).

2.23 'Saved' Policy ENV1 of the Selby District Local Plan requires development to be of a good quality and states that in considering proposals the local planning authority will take account of matters including:

- the effect upon the character of the area or the amenity of adjoining occupiers;
- the relationship of the proposal to the highway network, the proposed means of access, the need for road/junction improvements in the vicinity of the site, and the arrangements to be made for car parking;
- the standard of layout, design and materials in relation to the site and its surroundings and associated landscaping;
- the potential loss, or adverse effect upon, significant buildings, related spaces, trees, wildlife habitats, archaeological or other features important to the character of the area;
- the extent to which the needs of disabled and other inconvenienced persons have been taken into account; and
- the need to maximise opportunities for energy conservation through design, orientation and construction.

2.24 Policy SP19 of the Selby Core Strategy Local Plan 'Design Quality' states that all new development will be expected to achieve high quality design and have regard to the local character, identity and context of its surroundings. It sets out a number of key requirements that development should meet, including to:

- make the best, most efficient use of land without compromising local distinctiveness, character and form;
- be accessible to all users and easy to get to and move through;
- facilitate sustainable access modes;
- incorporate new and existing landscaping;
- minimise the risk of crime; and
- adopt sustainable construction principles.

2.25 The compliance of the Proposed Development with national and local planning policy is considered in detail at Section 5 of the Planning Statement (Application Document Ref. 5.5).

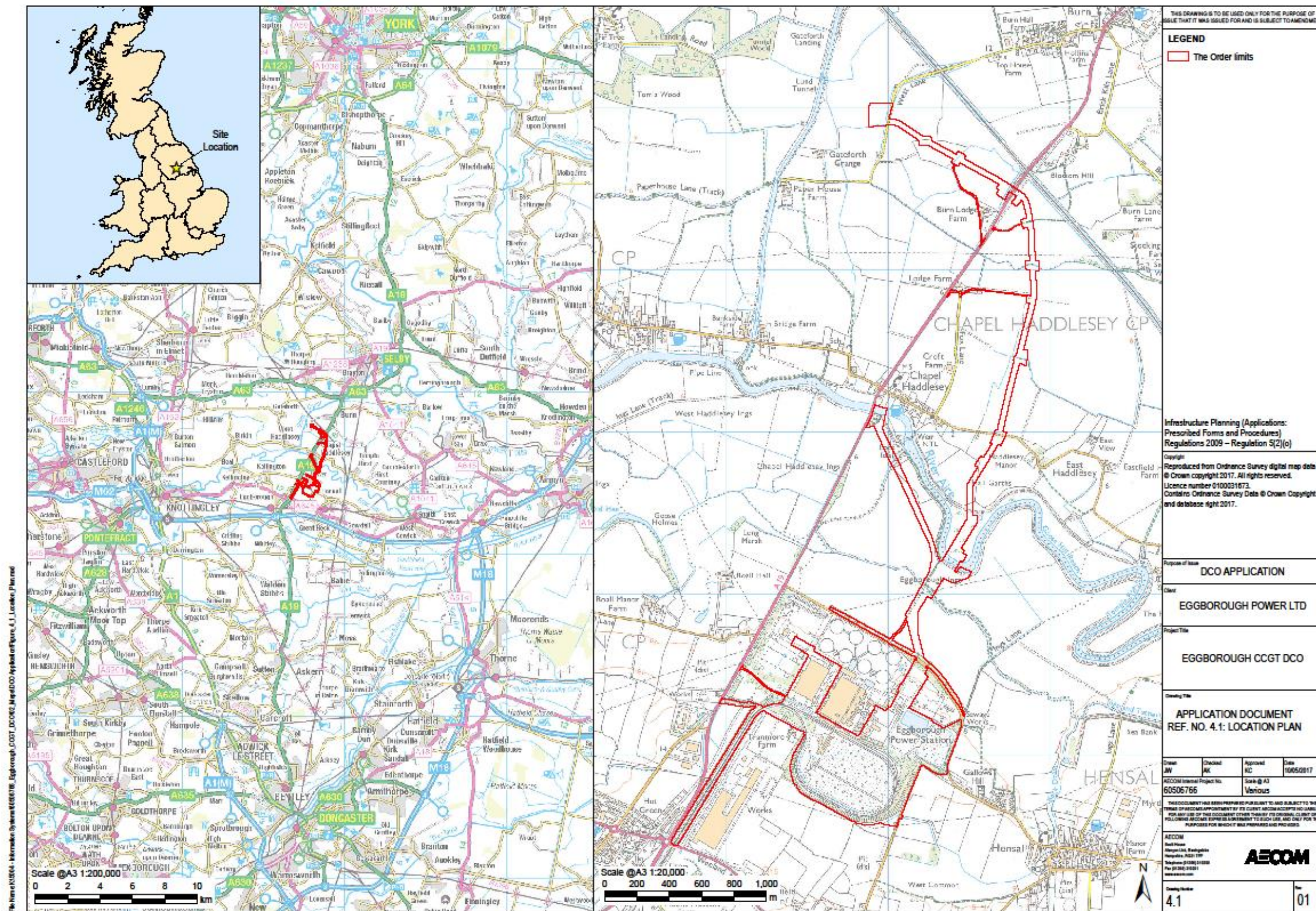
3.0 SITE DESCRIPTION, CONTEXT AND APPRAISAL

- 3.1 This section describes and appraises the Proposed Development Site's context. This includes a description of its location, the Project site itself, the immediate context within which it sits, the surrounding area and how access is achieved. It also explains the planning context for the site. Finally, it appraises the characteristics of the site, including the opportunities and constraints it presents for development.

Site Location

- 3.2 The Proposed Development Site (the 'Site') is located at and in the vicinity of the existing Eggborough coal-fired power station (the 'existing coal-fired power station') approximately 8 km south of Selby.
- 3.3 The Site comprises for the most part of land within the boundary of the operational area of the existing coal-fired power but also includes some corridors and areas of land outside this boundary for various infrastructure connections, notably for the gas supply pipeline connection and AGI works.
- 3.4 The existing coal-fired power station Site comprises four coal-fired boilers units, which together are capable of generating up to 2,000 MW of electricity. It also includes a turbine hall and boiler house, emissions stack, eight concrete cooling towers, administration and control blocks, a substation that is owned and operated by National Grid, coal stock yards and related rail facilities, in addition to ancillary buildings, structures, infrastructure and utility connections.
- 3.5 The existing coal-fired power station is bound to the north by Wand Lane, with the River Aire located approximately 650 m further to the north. The Eggborough Sports and Social Club and its associated recreational and sports ground are located immediately to the west, which in turn are adjoined by the A19 Selby Road. The small settlement of Gallows Hills is located approximately 200 m to the east beyond which is Hensall Village. Approximately 300 m to the south is the A645 Weeland Road, which links with the A1(M) to the west and immediately to the south-west are the Saint Gobain glassworks. Eggborough Village is located approximately 750 m to the south-west across the A1(M).
- 3.6 The gas supply pipeline connection corridor runs north of the existing coal-fired power station site, crossing the River Aire to the east of Chapel Haddlesey before turning north-west and terminating at the proposed AGI to the south-west of Burn Village.
- 3.7 The location of the Site is shown in Figure 3.1 on the following page.

Figure 3.1 - Site Location



Site Description

3.8 The Site extends to approximately 102 hectares and comprises the following areas:

- The **'Proposed Power Plant'** (Work No. 1) - including 1A, 1B and 1C - this largely comprises the main coal stockyard of the existing coal-fired power station.
- The **'Proposed Electricity Connection'** (Work No. 3, including 3A and 3B) - encompassing a corridor of land running north from the north-west corner of the main coal stockyard to the National Grid ('NG') substation and includes the NG substation.
- The **'Proposed Cooling Water Connections'** (Work No. 4) - a corridor of land running north from the boundary of the existing coal-fired power station to the existing cooling water outfall within the tidal section of the River Aire and then turning north-west to the existing cooling water intake/abstraction within the River Aire to the south of Chapel Haddlesey.
- The **'Proposed Ground and Towns Water Connections'** (Work No. 5) - corridors of land running west and north-west from the north-west corner of the main coal stockyard to an existing groundwater abstraction borehole within the golf course area of the Eggborough Sports and Social Club and west and south to an existing groundwater abstraction borehole near the A19/A645 Weeland Road junction; and corridors of land running north to Wand Lane and west to the A19 to existing towns water supply infrastructure.
- The **'Proposed Access and Rail Works'** (Work No. 10) - encompassing the existing private rail lines and sidings along the northern and eastern edges of the main coal stockyard.
- The **'Proposed Surface Water Discharge Connection'** (Work No. 9) - an area of land to the south-east of the main coal stockyard encompassing part of Hensall Dyke.
- The **'Proposed Gas Connection'** (Work No. 6) - a corridor of land to the proposed connection point with the National Transmission System ('NTS') for gas, running north from the existing coal-fired power station site, crossing the River Aire to the east of Chapel Haddlesey before turning north-west and terminating at the proposed AGI to the west of Burn Village.
- The **'Proposed AGI'** (Work No. 7, including 7A and 7B) - an area of land adjacent to the proposed connection point to the NTS west of Burn Village.
- The **'Proposed Construction Laydown Area'** (Work No. 2A) - an area of land to the north-east of the main coal stockyard encompassing the existing coal-fired power stations back-up cooling water storage lagoon and strategic coal stockyard.
- The **'Proposed Carbon Capture Readiness ('CCR') Land'** (Work No. 2B) - part of the same area of land (the strategic coal stockyard) that would be used as the Proposed Construction Laydown Area.
- The **'Proposed Retained Landscaping'** (Work No. 8) - encompassing the existing mature tree and shrub planting along the northern side of Wand Lane, on the western side of Wand Lane to the east and south of the strategic coal stockyard and that on the embankment adjoining the eastern, southern and western boundaries of the main coal stockyard.

3.9 The location and extent of the above area (and Works Nos.) are shown on the Works Plans (Application Document Ref. 4.4).

Immediate Site Context

- 3.10 The immediate context for much of the Site is formed and dominated by the extensive industrial complex of the existing coal-fired power station and other adjacent industrial development.
- 3.11 Although the existing coal-fired power station site is not specifically allocated within the local development plan, the development plan documents do recognise its importance for power generation and are supportive of power generation and related development.
- 3.12 The existing coal-fired power station was consented in October 1961 by the then Minister of Power. The Central Electricity Generating Board ('CEGB') started construction in 1962 and the Power Station began supplying electricity to the National Grid in 1967. The official opening of the Power Station was on 18 September 1970. Subsequently to this, the Secretary of State for Trade and Industry granted consent in December 2001 for the installation of flue gas desulphurisation ('FGD') equipment to two of the coal-fired boiler units (Units 3 and 4). The FGD works commenced in 2001 and the equipment was fully commissioned on both units in 2005.
- 3.13 The existing coal-fired power station is currently operating at a reduced capacity and most recently has provided back-up electricity for winter 2016/17 to the National Grid through a Supplemental Balancing Reserve ('SBR') contract. A further contract has been secured for winter 2017/18. It is anticipated that the existing coal-fired power station will be decommissioned and demolished in the next few years.
- 3.14 The existing coal-fired power station comprises the following principal elements:
- four coal-fired boilers units (Units 1-4) that are capable of generating up to 2,000 MW of electricity (500 MW each);
 - flue gas desulphurisation ('FGD') equipment (installed to Units 3 and 4);
 - a turbine hall and boiler house;
 - an emissions stack (chimney) of approximately 198 m in height;
 - eight reinforced concrete cooling towers of approximately 115 m in height;
 - administration and control blocks;
 - a main coal stockyard and associated conveyors and rail loop or 'merry-go-round' system for the unloading of coal;
 - a strategic (emergency) coal stockyard;
 - a cooling water pump house;
 - a lagoon for back-up cooling water storage;
 - a 400 kilovolt electricity substation (operated by National Grid Electricity Transmission PLC);
 - workshops and stores;
 - internal access roads and parking areas; and
 - ancillary buildings, structures, hard standings, storage areas and infrastructure/utility connections.

- 3.15 The boundary of the operational area of the existing coal-fired power station is bound to the north by Wand Lane, while to the north-east it adjoins the Air Liquide plant site and a sewage works. The Air Liquide site manufactures and processes a range of gases for industrial and medical use.
- 3.16 To the east it is bound by Wand Lane and Hazel Old Lane, with the former Lytag plant site being located on the eastern side of Hazel Old Lane, from which it is accessed. The Lytag plant was used to process fly ash from the power station to produce lightweight aggregate for use in concrete manufacture. The plant closed in 2005 and the site has since been cleared.
- 3.17 The land immediately to the south of the existing coal-fired power station is primarily agricultural and includes Tranmore Farm, a residential property comprising a former farmhouse and a number of outbuildings. Immediately adjoining the power station to the south-west are the Saint Gobian glass works.
- 3.18 To the west the existing coal-fired power station site adjoins the Eggborough Sports and Social Club and its associated club house and recreational and sports grounds, including a bowling green and 9-hole golf course, which in turn borders the A19 Selby Road. The northern, eastern (with the A19) and southern boundaries of the Sports and Social Club are characterised by mature trees and shrubs and there is further planting within the golf course. As with other coal-fired power stations from the same era, these facilities were originally provided for the benefit of power station employees.
- 3.19 There is limited tree and shrub planting within the boundary of the operational area of the existing coal-fired power station, although there are extensive grassed areas around the cooling towers, while there is existing mature tree and shrub planting along the northern side of Wand Lane, on the western side of Wand Lane to the east and south of the strategic coal stockyard and a landscaped embankment around the eastern, southern and western boundaries of the main coal stockyard. This mature planting provides some visual screening of the lower level elements of the power station buildings and structures from the surrounding area.
- 3.20 The existing coal-fired power station's cooling water outfall and intake/abstraction structures are situated to the north and north-east (south of Chapel Haddlesey) on the River Aire. The cooling water pipelines are buried and are not visible.
- 3.21 The private rail line that serves the existing coal-fired power station site (which serves the main coal stockyard) runs south-west, passing under the A645 (Weeland Road) to the east of its roundabout junction with the A19 and Eggborough village to the junction with the railway network at Whitley Bridge. The rail line is set on an embankment and there is mature tree planting along its western side.
- 3.22 The immediate context of the Site is therefore very much industrialised. It has been significantly altered over the years by human activity and development, most notably since the development of the coal-fired power station in the late 1960s.

The Surrounding Area

- 3.23 The wider area around the existing coal-fired power station Site, including the area through which the Proposed Gas Connection would pass, is generally rural and for the most part comprises agricultural land interspersed with small settlements. The land is largely characterised by arable fields divided by hedgerows and is predominantly flat. The River Aire is a major feature of the

area and flows to the north of the power station and across the southern section of the Proposed Gas Connection.

- 3.24 Despite being generally rural, the area is subject to significant humanising influences. Not only is it interspersed with small settlements (the nearest being Eggborough, Gallows Hill/Hensall, Chapel Haddlesey and Burn) but it is also crossed by transport infrastructure, including the East Coast Mainline railway to the north and east, the A645 Weeland Road to the south and the A19 Selby Road to the east. There are also numerous other roads in addition to overhead electricity lines and pylons associated with the existing coal-fired power station and other power stations (e.g. Ferrybridge 'C' and Drax) within the wider area.
- 3.25 There are no designated nature conservation sites near to the Site. The nearest is the Burr Closes Site of Special Scientific Interest approximately 6 km to the north of the Site.
- 3.26 The nearest designated heritage assets are:
- a scheduled monument (Roman fort) located approximately 600 m to the north-west of the existing coal-fired power station's main entrance from the A19 Selby Road;
 - two Grade II structures to the east of the power station; a pair of gate piers to Roall House 250 m to the north-west of the power station's main entrance from the A19, and a milestone 320 m north-east of the main entrance from the A19;
 - three Grade II and two Grade II* buildings in Hensall between approximately 1 and 1.5 km to the south-east/east of the power station;
 - the Grade II Temple Manor approximately 1 km east of the Proposed Gas Connection corridor;
 - the Grade II Tankards Bridge, Paper House Bridge and Selby Canal Paper House Bridge, which are all bridges over the Selby Canal, between approximately 660 m and 1 km from the Proposed Gas Connection corridor.
- 3.27 There are no Conservation Areas within 5 km of the Site.
- 3.28 There are a number of non-designated heritage assets within and around the Site. These include Hall Garth, a medieval moated site which is considered to be of schedulable quality, located to the east of the Proposed Gas Connection corridor near Haddlesey Manor.
- 3.29 The majority of the existing coal-fired power station is located within Flood Zone 3. A small section of the Proposed Construction Laydown and Proposed CCR Land is shown located in Flood Zone 3 on Environment Agency ('EA') flood zone mapping. However, recent EA modelling of the River Aire has confirmed that the location and extent of this Flood Zone 3 area is incorrectly identified is further north within the Proposed Construction Laydown and smaller in extent.
- 3.30 The Proposed Gas Connection passes through Flood Zones 1, 2 and 3 and the Proposed AGI is in Flood Zone 2.

Access to the Site

- 3.31 The existing coal-fired power station benefits from good road links. It can be accessed from Junction 36 of the M62 Motorway via the A645 Weeland Road and A19 Selby Road, which is the route that is used by heavy good vehicle ('HGV') traffic accessing the power station.

- 3.32 There are three main access points to the existing coal-fired power station site, all from the A19; Wand Lane running along the northern boundary of the operational area of the power station; the main power station entrance running through the Sports and Social Club golf course; and Tranmore Lane to the south. Wand Lane is used by contractors and maintenance staff, in particular, during planned shutdowns of the power station.
- 3.33 The existing coal-fired power station can also be accessed from the A645 via Hazel Old Lane, which runs northward along the eastern side of the power station and links with Wand Lane.
- 3.34 The A19 runs along the eastern side of much of the Proposed Gas Connection and provide the scope to access that area.
- 3.35 The nearest bus stops to the Site are located immediately to the west along the A19, with the nearest railway station being Hensall Station to the south-east. The distance to the Station is approximately 1 km, with Eggborough Station the next closest being approximately 2km to the south. These stations provide linked services to York in the north, Leeds in the west and Goole in the east. There are regular services from York and Leeds to London. Selby also provides services to London.
- 3.36 The existing coal-fired power station site also benefits from a private rail line that is used to deliver coal to the power station.
- 3.37 There are a number of Public Rights of Way ('PRoW' within the Site, including:
- a short (less than 150 m long) footpath heading east off the A19 along the north side of the Tranmore Lane entrance to the existing coal-fired power station;
 - a short (less than 100m long) footpath close to the existing coal-fired power stations intake/abstraction structure on the River Aire linking to the A19;
 - a footpath linking Chapel Haddlesey Weir to Gallows Hill that is crossed by the Proposed Cooling Water and Gas Connections; and
 - a bridleway east of the A19 opposite Burn Lodge Farm, which crosses the railway line and loops back to the A19 at Blossom Hill, south of Burn, which is crossed by the Proposed Gas Connection.

Site Appraisal

- 3.38 It is clear from the above that the immediate context within which much of the Site sits; formed by the existing coal-fired power station; is already very much industrialised in terms of its character and appearance. It is dominated by the large and functional power generation buildings and structures of the power station, notably the large turbine hall, the tall cooling towers and emissions stack, as well as the NG substation, overhead electric lines, coal yards and rail infrastructure.
- 3.39 While the wider area around the existing coal-fired power station, including the area through which the Proposed Gas Connection would pass, is generally rural and for the most part comprises agricultural land interspersed with small settlements, it is still dominated by the power station, which is visible across the flat landscape for several kilometres. The wider area is also subject to significant humanising influences, being interspersed with small settlements and crossed by major transport and power infrastructure. The Site does not therefore sit within a setting or landscape that is highly sensitive to change.

3.40 Taking account of the above, the Site presents a number of potential opportunities for the Proposed Development:

- the existing coal-fired power station offers areas of relatively flat, brownfield land for development;
- the existing coal-fired power station benefits from existing electricity grid and cooling water connections;
- there is a connection point to the NTS only 3.1 km north of the existing coal-fired power station, minimising the length of the Proposed Gas Connection;
- there is substantial mature tree and shrub planting around the existing coal-fired power station site that provides the opportunity to provide some screening of the Proposed Power Plant;
- the existing coal-fired power station benefits from good road and rail links and there are opportunities to access the Proposed Gas Connection and AGI; and
- the Site and the wider area are of relatively low environmental sensitivity.

3.41 The Site does however present some constraints. The most notable of these is the need to provide the existing coal-fired power station with the ability to continue to operate during the construction phase for the Proposed Development.

3.42 The Site's context, setting and the above opportunities and constraints have influenced the approach taken by EPL to the design of the Proposed Development, as explained in Section 6.

4.0 DESIGN FLEXIBILITY AND INFORMATION

4.1 This section of the DAS explains the flexibility that EPL has sought to incorporate within the design of the Proposed Development. It also explains the purpose and status of the design information that has been submitted as part of the Application.

Design Flexibility

4.2 Construction work on the Proposed Development, assuming that a DCO is granted by the SoS, would not commence until a final investment decision has been made by EPL and a contractor appointed. Following the award of the contract, the appointed contractor would carry out a number of detailed studies to inform the technology selection for the Proposed Power Plant and also to optimise its layout and design before proceeding with the discharge of the pre-commencement DCO requirements and starting work at the Site.

4.3 In a CCGT plant natural gas fuel is fired in the gas turbine, which is connected to a generator producing electricity. An amount of heat remains in the gas turbine exhaust and this is passed into a HRSG (a 'Heat Recovery Steam Generator' a type of boiler) to make steam to generate additional electricity via a steam turbine. The exhaust steam from the steam turbine is condensed back into water, which is returned to the HRSG to continue the process.

4.4 It has not been possible for EPL to fix all of the design details of the Proposed Development at this stage and it has therefore sought to incorporate sufficient flexibility within the Proposed Development to allow for the selection of a contractor and preferred technology post DCO grant. The flexibility that has been incorporated in the design of the CCGT would allow for two potential plant configurations, as follows:

- Up to three 'single-shaft' units - this is where each gas turbine links to a dedicated steam turbine and they share a generator ; and
- Up to one 'multi-shaft' unit - where two gas turbines link to a single steam turbine, which has its own generator and one single shaft unit.

4.5 Although they result in a comparable electrical output, single and multi-shaft CCGT plants are configured differently. Notably, with a multi-shaft configuration a number of buildings are combined resulting in a more compact plant footprint, while there are differing numbers of generators and transformers. The differences between single and multi-shaft in terms of plant configuration and appearance are shown upon the 'Indicative Generating Station Plans & Elevations' (Application Document Ref. 4.6). The single-shaft configuration consists of one gas turbine, one steam turbine, generator and HRSG per CCGT unit, while the multi-shaft configuration includes two gas turbines and generators per CCGT unit, with the steam from both HRSGs being fed into a separate steam turbine (with its own generator).

4.6 In order to provide sufficient flexibility and ensure a robust Environmental Impact Assessment ('EIA'), EPL has adopted the 'Rochdale Envelope' approach and, where relevant, assessed maximum design parameters for the Proposed Development. These include appropriate limits of deviation within which the various works (defined by the Works Plans - Application Document Ref. 4.4) can occur in addition to maximum dimensions for the main buildings/structures of the Proposed Power Plant. As the dimensions differ between the single and multi-shaft CCGT plant configurations the assessment has been based upon the largest dimension for a particular building/structure.

- 4.7 The fixed design details and maximum dimensions (for both single and multi-shaft configurations) that have been adopted for the purposes of the EIA of the Proposed Development are set out below in Tables 4.1, 4.2 and 4.3 below.

Table 4.1 - Fixed Design Details

Component	Point that is fixed	Fixed design detail/parameter
CCGT emissions stack locations (x 3 co-located stacks)	Centre point of each stack	Grid references: 457600 423933 457593 423944 457587 423933
CCGT emissions stack heights	Top of each stack	Maximum height of 99.9 m AOD

- 4.8 The location and height of the CCGT plant stacks have been fixed to ensure that the air quality assessment within the EIA is robust and that there is sufficient certainty as to air quality effects even if the final design and sizing of individual buildings may change within the assessed Rochdale Envelope at the detailed design stage.
- 4.9 The maximum height of the co-located stacks is based upon a maximum finished ground level of 9.9 m AOD at the Proposed Power Plant site. The limits of deviation within the DCO allow for a finished ground level for the Proposed Power Plant ranging between 7.7 m AOD and 9.9 m AOD.

Table 4.2 - Maximum Dimensions (Single-shaft)

Component	Maximum length (m)	Maximum width (m)	Maximum height (m)	Maximum footprint (m ²)
Gas turbine hall building	76	76	30	5,776
Heat recovery steam generator (HRSG)	63	28	50	1,764
Electrical building near HRSG	30	27	10	810
CCGT air intake filters (each)	24	16	30	624
Electrical building near air intake filter	39	16	10	624
Generator transformer	30	24	15	720
Feed water pump building	64	23	20	1,472
Demineralised water treatment plant, fire pumps and laboratory	57	33	20	1,881
Demineralised water storage tank	25 (diameter)		20	490.6
Gas reception facility	65	52	5	3,380
Gas compressors	50	20	10	1,000
Auxiliary boiler	30	15	20	450
Auxiliary boiler stacks (each)	1.5 (diameter)		25	1.8
CCGT standby diesel generators	19	9	8	171
CEMS container	10	3	3	30
Cooling towers (each)	240	27	25	6,480
Cooling water electrical module	15	6	10	90
Cooling water pumps	30	15	8	450
Cooling water sampling and dosing plant	19	11	8	42
Peaking plant building	103	65	30	6,045
Peaking plant stack(s) (each)	8 (diameter) for OCGT or 1.3 (diameter) for a 10 MW gas		45 for OCGT or 28 for gas	50.2 for OCGT or 1.3 for gas

Component	Maximum length (m)	Maximum width (m)	Maximum height (m)	Maximum footprint (m ²)
		engines	engines	engines
Black start facility	55	43	30	2,795
Black start facility stack(s) (each)	2.5 (diameter) for OCGT or 1.3 (diameter) for gas engines		45 for OCGT or 25 for gas engines	4.9 for OCGT or 1.3 for gas engines
Diesel tank for black start diesel generator	12	4 (diameter)		48
Electrical, control room and admin building	85	24	20	2,040
Electrical sub station	40	17	15	680
Workshop and stores	51	20	12	1,020
Raw and fire water tank	25 (diameter)		20	490.6
Gas bottle stores (each)	17	5	3	85
Closed-circuit cooling water (CCCW) coolers	15	10	10	150
Waste water treatment plant	55	28	20	1,540
Firewater and stormwater retention basins	110	50	0	5,500
Gatehouse	12	12	5	144

Table 4.3 - Maximum Dimensions (Multi-shaft)

Component	Maximum length (m)	Maximum width (m)	Maximum height (m)	Maximum footprint (m ²)
Gas turbine hall building	76	76	30	5,776
Steam turbine hall building	64	54	30	3,456
Heat recovery steam generator (HRSG)	133	48	30	1,764
Electrical building near HRSG	30	27	10	810
CCGT air intake filters (each)	24	16	30	624
Electrical building near air intake filter	24	16	10	384
Generator transformer	21	20	15	420
Feed water pump building	54	26	20	1,404
Demineralised water treatment plant, fire pumps and laboratory	57	33	20	1,881
Demineralised water storage tank	25 (diameter)		20	490.6
Gas reception facility	65	52	5	3,380
Gas compressors	50	20	10	1,000
Auxiliary boiler	30	15	20	450
Auxiliary boiler stacks (each)	1.5 (diameter)		25	1.8
CCGT standby diesel generators	19	9	8	171
CEMS container	10	3	3	30
Cooling towers (each)	240	27	30	6,480
Cooling water electrical module	15	6	10	90
Cooling water pumps	30	15	8	450
Cooling water sampling and dosing plant	19	11	8	42
Peaking plant building	103	65	30	6,045
Peaking plant stack(s) (each)	8 (diameter) for OCGT or 1.3 (diameter) for a 10 MW gas		45 for OCGT or 28 m for	50.2 for OCGT or

Component	Maximum length (m)	Maximum width (m)	Maximum height (m)	Maximum footprint (m ²)
	engines		gas engines	1.3 for gas engines
Black start facility	55	43	30	2,795
Black start facility stack(s) (each)	2.5 (diameter) for OCGT or 1.3 (diameter) for gas engines		45 for OCGT or 25 for gas engines	4.9 for OCGT or 1.3 for gas engines
Diesel tank for black start diesel generator	12	4 (diameter)		48
Electrical, control room and admin building	85	24	20	2,040
Electrical sub station	35	15	15	525
Workshop and stores	51	20	12	1,020
Raw and fire water tank	25 (diameter)		20	490.6
Gas bottle stores (each)	17	5	3	85
Closed-circuit cooling water (CCCW) coolers	15	10	10	150
Waste water treatment plant	55	28	20	1,540
Firewater and stormwater retention basins	110	50	0	5,500
Gatehouse	12	12	5	144

4.10 The kiosks at the Proposed AGI will have maximum dimensions of 7 m (length) x 5 m (width) x 3 m (height).

4.11 There will be no new buildings associated with the other components of the Proposed Development.

Design Information

4.12 The design information that has been submitted as part of the Application has been based upon the fixed design details, limits of deviation and the maximum design parameters. This information is set out in Table 4.4 on the following page.

Table 4.4 - Design Information submitted as part of the DCO Application

Application Document Ref.	Purpose
Works Plans (Key Plan and Sheets 1-9) - Application Document Ref. 4.4	Confirms the location and extent of the Works Nos. comprised within the Proposed Development, as set out at Schedule 1 of the DCO, and also the lateral limits of deviation within which these works may occur.
Indicative Generating Station Plans and Elevations (Key Plan and Sheet 1-6) (Work No. 1, including 1A, 1B and 1C) - Application Document Ref. 4.6	Showing the layout and elevations of the Proposed Power Plant, including single-shaft and multi-shaft configurations.
Indicative Electrical Connection Works Plan (Sheet 1) (Work No. 3) - Application Document Ref. 4.7	Showing the routes for the electrical connection works at the Site.
Indicative Cooling Water Connection Works Plans (Key Plan and Sheets 1-3) (Work No. 4) - Application Document Ref. 4.8	Showing the routes for the cooling water connection works and associated structures.
Indicative Ground and Towns Water Connection Works Plan (Sheet 1) (Work No.5) - Application Document Ref. 4.9	Showing the routes and connection points for the ground and towns water connection works.
Indicative Gas Supply Pipeline Connection Works Plans (Key Plan and Sheets 1-7) (Work No.6) - Application Document Ref. 4.10	Showing the route and connection point of the Proposed Gas Supply Connection including key crossing points.
Indicative Above Ground Installation Plan (Key Plan and Sheets 1-2) (Work No.7) - Application Document Ref. 4.11	Showing the layout and elevations of the Proposed AGI.
Indicative Access and Rail Works Plan (Work No. 10) - Application Document Ref. 6.3.6	Showing the location and alignment of the proposed access and rail works.
Indicative Surface Water Drainage Plan (Sheet 1) - Application Document Ref. 4.12	Providing an indication of the proposed drainage works at the Site, including surface water drainage.
Indicative Landscape and Biodiversity Plan - Application Document Ref. 4.13	Providing an indication of the landscaping and biodiversity strategy to be implemented at the Site, including in relation to the Proposed Retained Landscaping (Work No. 8).
Electricity Grid Connection Statement - Application Document Ref. 5.2	Providing information on the installation of the Proposed Electricity Connection and who will be responsible for designing and building it.
Gas Connection and Pipeline Statement - Application Document Ref. 5.3	Providing information on the installation of the Gas Supply Connection and who will be responsible for designing and building the pipeline.
Indicative Landscape and Biodiversity Strategy - Application Document Ref. 5.10	Detailing the indicative landscaping and biodiversity strategy to be implemented at the Site.
Indicative Lighting Strategy - Application Document Ref. 5.11	Setting out indicative proposals for external lighting.

4.13 Due to the nature of the Proposed Development and the need to incorporate sufficient flexibility within its design, much of the design information that has been submitted as part of the Application is indicative. However, the information that has been provided would feed into the detailed design of the Proposed Development. The mechanisms by which the detailed design of the Proposed Development would be secured are dealt with at Section 8.

5.0 DESIGN APPROACH AND EVOLUTION

- 5.1 This section sets out the approach that EPL has taken to the design of the Proposed Development and how the design has evolved throughout the pre-application process.

Design Approach

- 5.2 The approach that EPL has taken to the design of the Proposed Development has been informed by the context within which it will sit, in addition to the opportunities and constraints that are presented by the Site.
- 5.3 As described in Section 3, the immediate context within which much of the Site sits (e.g. the Proposed Power Plant) - formed by the existing coal-fired power station - is already very much industrialised in terms of its character and appearance. It is dominated by the large and functional power generation buildings and structures of the power station, notably the large turbine hall, the tall cooling towers and emissions stack, as well as the NG substation, overhead electric lines, coal yards and rail infrastructure.
- 5.4 While the wider area around the existing coal-fired power station, including the area through which the Proposed Gas Connection would pass, is generally rural and for the most part comprises agricultural land interspersed with small settlements, it is still dominated by the power station, which is visible across the flat landscape for several kilometres. The wider area is also subject to significant humanising influences, being interspersed with small settlements and crossed by major transport and power infrastructure. The Site does not therefore sit within a setting or landscape that is highly sensitive to change.
- 5.5 Given the Site's context and setting and the influence exerted by the existing coal-fired power station, EPL has adopted a functional approach to the design of the Proposed Development, notably the Proposed Power Plant. The design has also been influenced by technical, engineering, environmental and safety considerations, in addition to the need for the existing power station to be able to operate during the construction phase for the Proposed Development.
- 5.6 Although the new buildings and structures would be functional in appearance, in terms of scale and massing, they would be far less prominent than the existing power station. Furthermore, the design and layout of the Proposed Development has sought to take advantage of the opportunities presented by the Site (e.g. existing mature tree and shrub planting to the existing coal-fired power station boundaries) to minimise landscape and visual effects.
- 5.7 The approach that has been taken to the design of the Proposed Development is considered appropriate given its context and purpose - to generate and export electricity to the National Grid. It is also important to recognise that this is not a situation where large scale development is being introduced into an area that is devoid of built development and characterised by particularly sensitive landscapes.

Design Evolution

- 5.8 The design process for the Proposed Development has been an iterative one. The main focus has been upon the Proposed Power Plant and the Proposed Gas Connection to the NTS in view of the fact that the electrical, cooling water and ground/towns mains water works largely relate to existing infrastructure.

5.9 As part of the design process a number of options have been considered for the location of the Proposed Power Plant within the existing coal-fired power station site and the routing of the Proposed Gas Connection. Changes have also resulted to the design and layout of the Proposed Power Plant as a result of engineering design development, environmental considerations and to some extent pre-application consultation. These are outlined below.

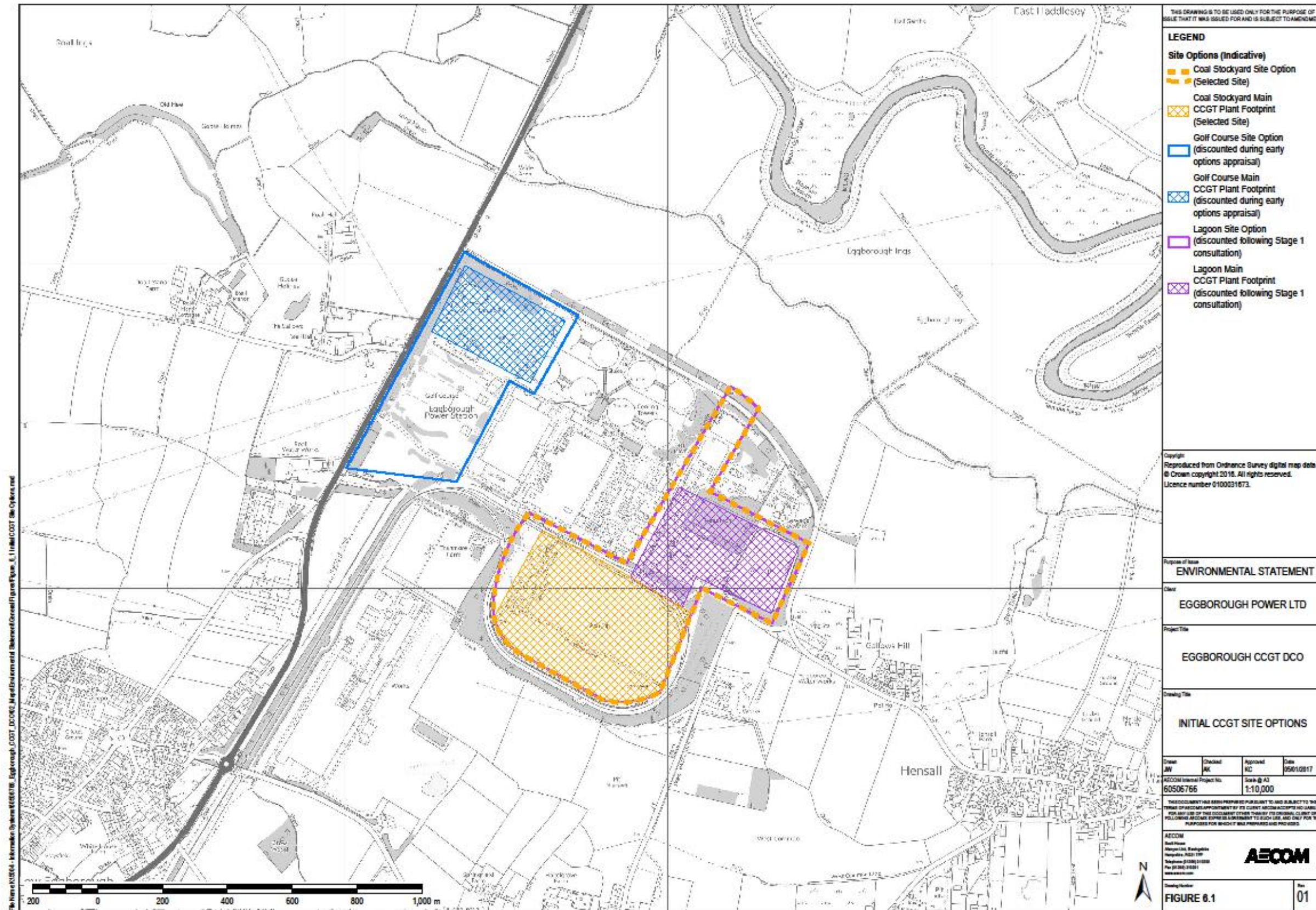
The Proposed Power Plant

5.10 At the outset a number of options were considered for the location of the Proposed Power Plant within the existing coal-fired power station site. Three potential options were identified that could potentially allow the existing power station to continue to operate during the construction phase for the Proposed Development:

- the main coal stockyard;
- the Eggborough Sports and Social Club golf course (the 'golf course site'); and
- the back-up cooling water lagoon and the strategic coal stockyard (the 'lagoon site').

5.11 The three potential options are shown in Figure 5.1 on the following page.

Figure 5.1 - Proposed Power Plant Site Options



- 5.12 The golf course was discounted for a number of reasons, including the loss of recreational/sports facilities and a significant area of mature tree and shrub planting; being too constrained in terms of size; proximity to and potential conflict with overhead electricity lines; potential fogging and icing effects of the A19 from the operation of the cooling towers if hybrid or wet cooling system are deployed; and proximity to designated heritage assets.
- 5.13 The main coal stockyard and lagoon site options were therefore shortlisted for more detailed consideration and both options were retained for the Stage 1 ('non-statutory') consultation undertaken in September/October 2016.
- 5.14 After detailed consideration of the two site options, the main coal stockyard was selected for the following principal reasons:
- the coal stockyard benefits from a greater level of physical separate from the buildings and structures of the existing coal-fired power station site;
 - it is located further from the nearest residential receptors;
 - the existing landscaped embankment around the eastern, southern and western boundaries of the main coal stockyard would provide localised visual screening of development;
 - the electrical connection route to the NG substation would be shorter and the cables could be routed underground whereas the lagoon site would require overhead cables, which would have greater visual impact and be more costly to install with associated increased cost and visual impact; and
 - the lagoon site would require infilling of the back-up cooling water lagoon, which would introduce unknown ground risks, whereas the main coal stockyard is known to be suitable for piled foundations.
- 5.15 The main coal stockyard was presented as the selected site option for the Proposed Power Plant during the Stage 2 ('statutory') consultation.
- 5.16 Following selection of the main coal stockyard, further refinement of the concept layout and design for the Proposed Power Plant was undertaken. Key changes made have included:
- defining appropriate limits of deviation for the Proposed Power Plant, including a finished ground level (of between 7.7 m and 9.9 m AOD), balancing the need for minimise flood risk and the import/export of material;
 - refining building orientation and dimensions for the CCGT plant to accommodate the specifications provided by the four main CCGT technology providers in addition to the optionality of deploying either a single-shaft or multi-shaft plant configuration;
 - committing to co-located CCGT emissions stacks and fixing the stack locations and heights to enable a robust assessment of associated environmental effects (e.g. air quality, landscape and visual);
 - committing to housing the proposed peaking plant within a dedicated building with associated co-located stacks, to enable a robust assessment of air quality and landscape and visual effects to be undertaken;
 - moving the main buildings/structures further west to increase the distance from the nearest residential properties at Gallows Hill (to the east), the former underground mine

working of Kellingley Colliery and to avoid the need to remove existing mature tree and shrub planting;

- increasing the size of the storm water retention basin in line with the surface water drainage strategy;
- including a rail 'run around' to allow continued rail access to the Site during the construction phase once the existing rail loop/merry-go-round is removed; and
- relocating the routes of underground pipelines to allow easier routing of exhaust ducts to any possible future carbon capture plant on the Proposed CCR Land.

The Proposed Gas Connection and AGI

5.17 Initially connections to two potential NTS pipelines - Feeder 7 and Feeder 29) were considered. However, through a combination of discussions with National Grid, who are responsible for the NTS, an evaluation of the capacity of the Feeders and the distance of the likely connection points from the Proposed Power Plant, Feeder 29 was established as the most appropriate connection point. In particular, it has a greater gas supply than Feeder 7 and is the shortest distance from the Proposed Power Plant.

5.18 Following the decision to select Feeder 29, three potential route corridors (each 500 m in width) were identified for the Proposed Gas Connection, all of which were presented for the Stage 1 consultation:

- Route Corridor A - to the north-west, approximately 4.5 km in length, joining Feeder 29 to the south of Gateforth (adjacent to the proposed connection point for the proposed Knottingley CCGT power station).
- Route Corridor B - to the north, approximately 3 - 4 km in length, joining Feeder 29 at one of three possible connection points:
 - (i) west of the East Coast Mainline railway line, off West Lane;
 - (ii) east of the railway and south of Burn Lane Farm; or
 - (iii) east of the railway and south of Stocking Green Farm.
- Route Corridor C - to the east, approximately 5 km in length, joining Feeder 29 to the north-west of Carlton (adjacent to the proposed connection point for the proposed Thorpe Marsh CCGT power station).

5.19 The three route corridors are shown in Figure 5.2 on the following page.

Figure 5.2 - Proposed Gas Connection Route Corridor Options

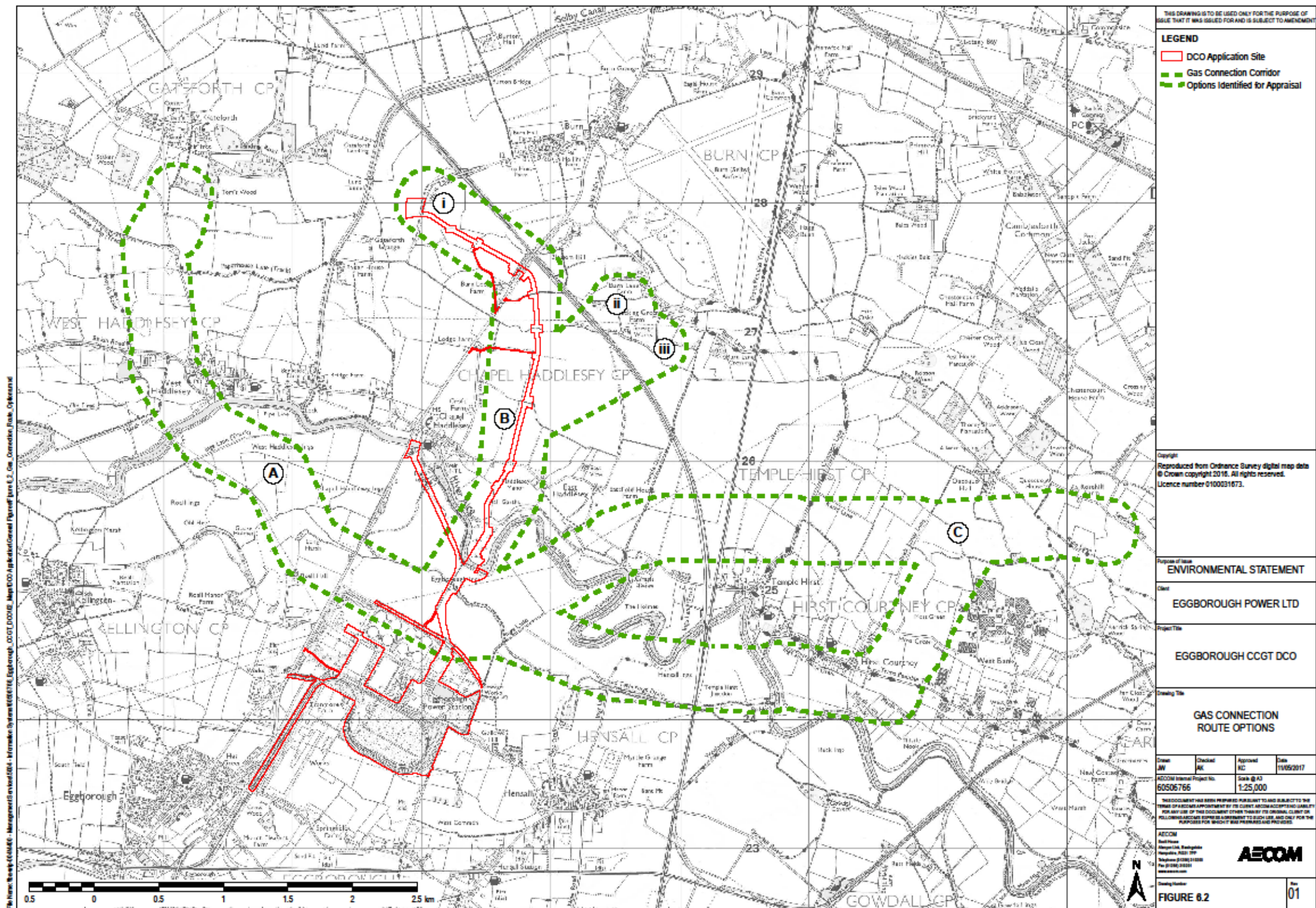
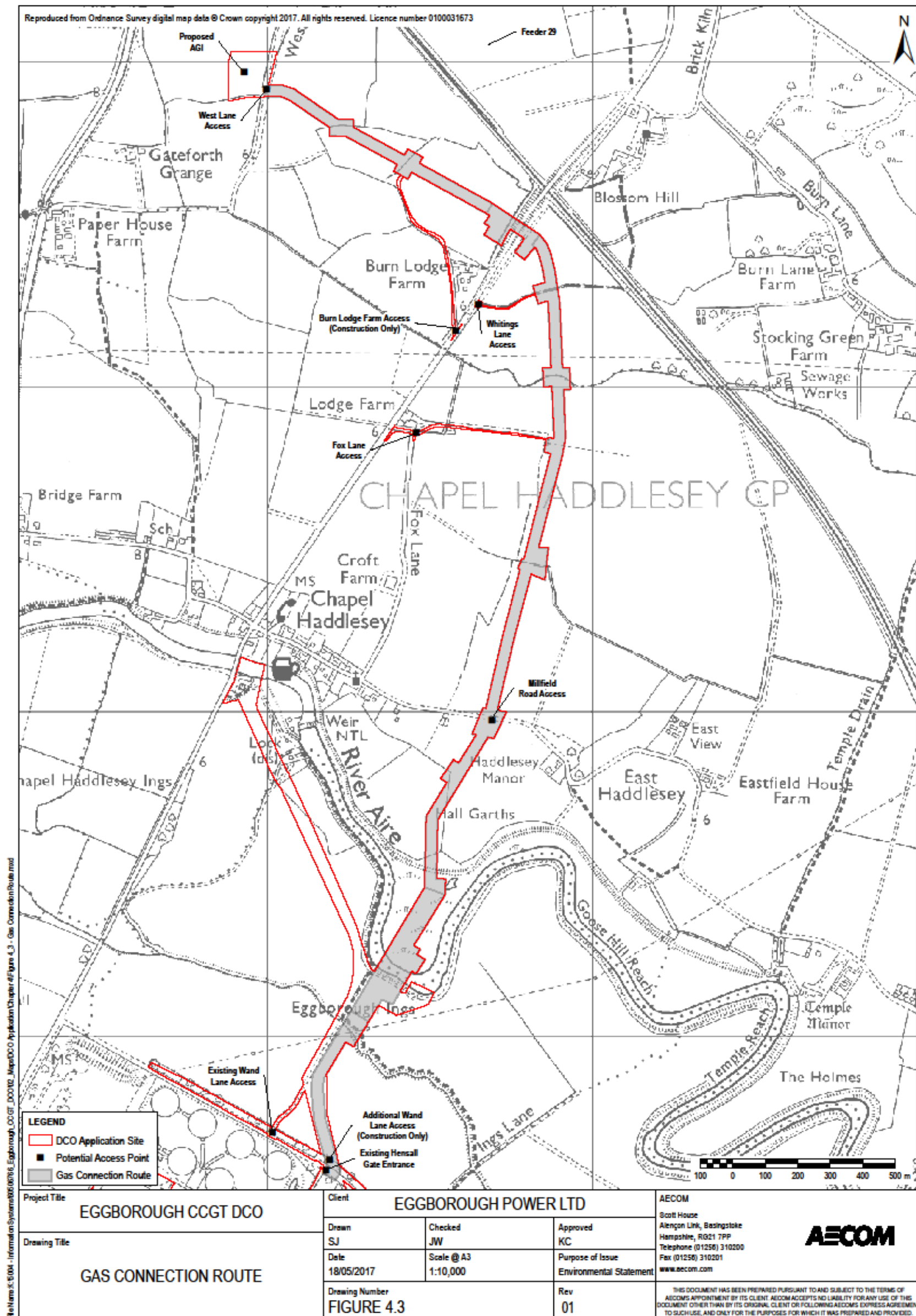


Figure 5.3 - Final Gas Connection Route Corridor



- 5.20 A 'heat mapping' exercise was conducted to evaluate each of the potential routes corridors taking into account a range of technical, environmental and health and safety considerations. Ultimately Route Corridor B(i) - west of the East Coast Mainline railway line with an AGI off West Lane - was selected for a combination of reasons, including the length of the route, proximity to relatively few residential properties, no significant environmental constraints and the need for fewer crossings (notably no crossing of the railway would be required).
- 5.21 The initial 500 m width of the selected route corridor was refined to a width of circa 100 m (wider at crossing and access points) following further survey works and this was presented at the Stage 2 consultation. The corridor subsequently underwent further refinement using additional survey, which reduced it to a 'working width' of 36 m (wider at crossing and access points).
- 5.22 Further information of the design evolution of the Proposed Development is provided at Chapter 6 'Need, Alternative and Design Evolution' at ES Volume I (Application Document Ref. 6.2).

6.0 DESIGN COMPONENTS

- 6.1 This section of the DAS describes the key design components of the Proposed Development. This includes in relation to use, layout, amount, the scale of the main buildings and structures, appearance and the approach taken to landscaping.

Use

- 6.2 The Proposed Development Site (the 'Site') comprises land within the operational area of the existing coal-fired power station for the Proposed Power Plant, electricity, borehole water, rail works and construction laydown (including CCR reserve land); corridors of land to the north for the cooling water and gas connections; and area of land to the south-east of the main coal stock yard for surface water discharge connections; and corridors of land to the south and west for borehole and towns mains water connections.
- 6.3 The primary use of the existing coal-fired power station site is for electricity generation with ancillary activities and uses. The primary use of the land required within the existing power station site for the Proposed Development will also be for electricity generation. As such, there will be no change in the use or character of the land at the existing power station. Furthermore, while some components of the Proposed Development, notably the cooling water and gas connections and AGI involve agricultural land, the works will for the most part (with the exception of the AGI compounds) be below ground and the land would be reinstated and returned to its previous use at the end of construction. .

Layout

- 6.4 The Proposed Power Plant (Work No. 1) will be for the most part accommodated on the main coal stockyard, including an area of land to the north-east of the coal stock yard.
- 6.5 The bulk of the Proposed Power Plant - the CCGT plant, including its co-located emissions stacks, the gas turbine halls, HRSGs, steam turbine hall and other process plant and equipment as well as the peaking and black start plants, will be located within the western part of the main coal stockyard.
- 6.6 The cooling towers will occupy much of the eastern half of the main coal stockyard. Three banks of cooling towers will be constructed within this area, orientated north-west/south-east, with the northern most bank of cooling towers sitting partly within the area to the north-east of the coal stockyard. The cooling water pumps, sampling and dosing, waste water treatment plant and firewater and storm water retention basins and waste. The water treatment plant, fire pumps and laboratory are located to the east.
- 6.7 The gas receiving area and gas compressors will be located to the north of the main coal stockyard close to where the Proposed Gas Connection will enter the Power Plant site.
- 6.8 The administration and control blocks and car park for staff and visitors will be located in the north-west part of the main coal stockyard close to the proposed main access to the Power Plant along Tranmore Lane from the A19 Selby Road and a second access from Wand Lane to the north. A car park will be located close to the entrance from Wand Lane. Weighbridges will be positioned on both access roads.

- 6.9 The layouts of the single and multi-shaft configurations are broadly similar, with the main Power Plant area, cooling towers, gas receiving area and administration/control block and car parking occupying the same areas. The main difference relates to the layout and arrangement of the CCGT plant. The single-shaft configuration incorporates three separate gas turbine halls whereas for the multi-shaft configuration a number of buildings, including the gas turbines halls are combined resulting in a more compact plant footprint. The multi-shaft configuration also includes a separate steam turbine hall. The two plant layouts are illustrated in Figures 6.1 and 6.2 on the following pages.

Figure 6.1 - Proposed Power Plant (Single-shaft Layout)

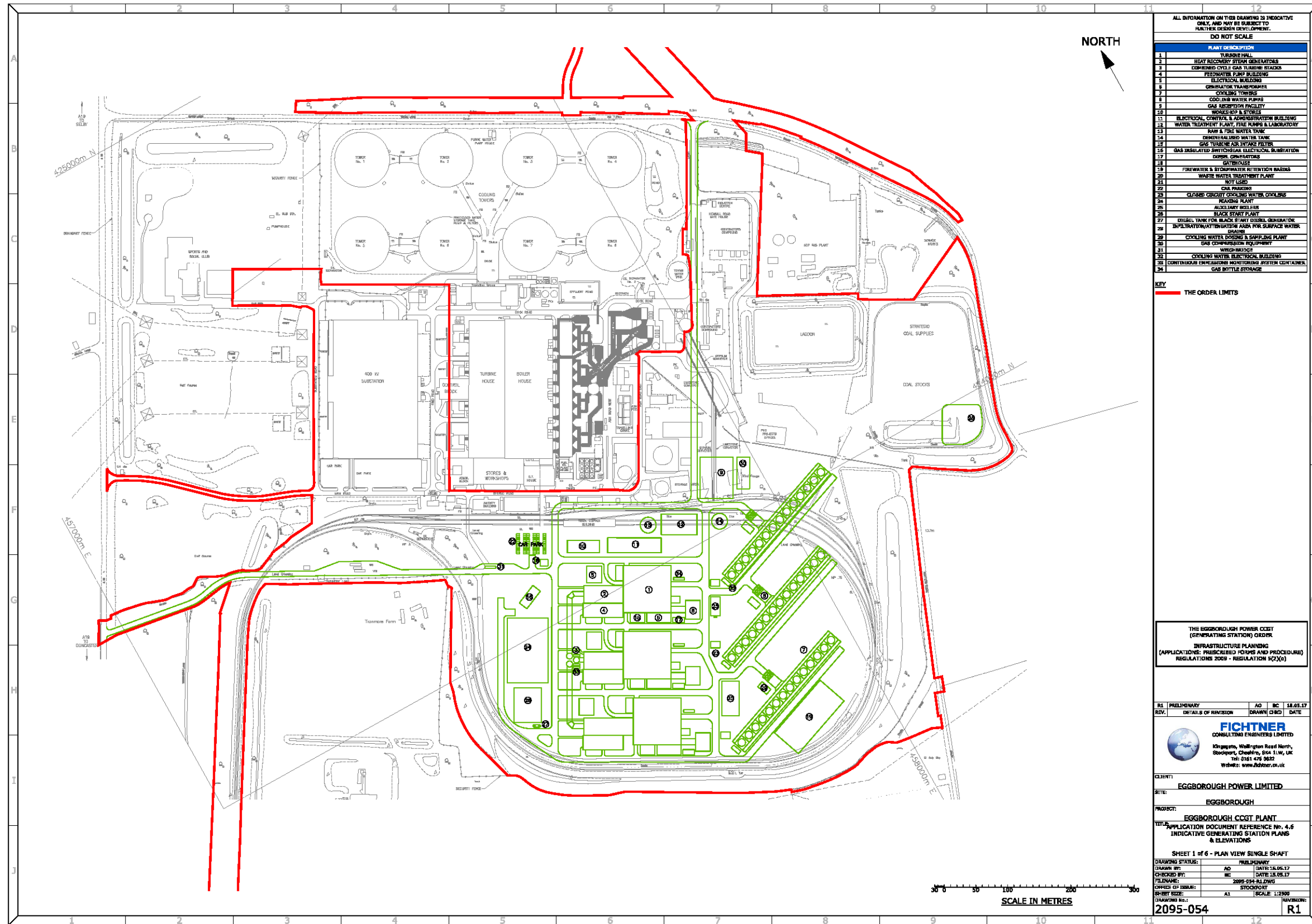
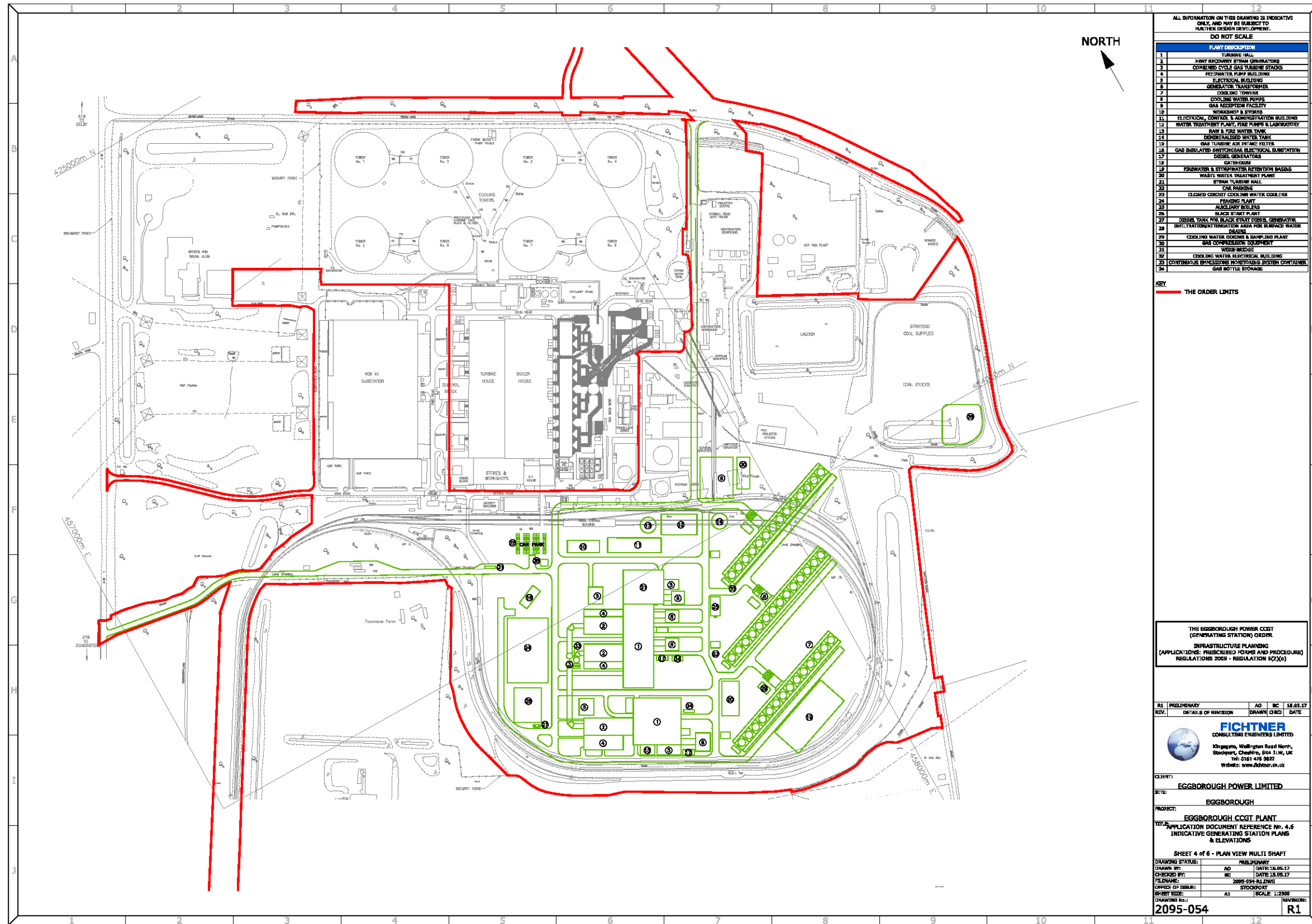


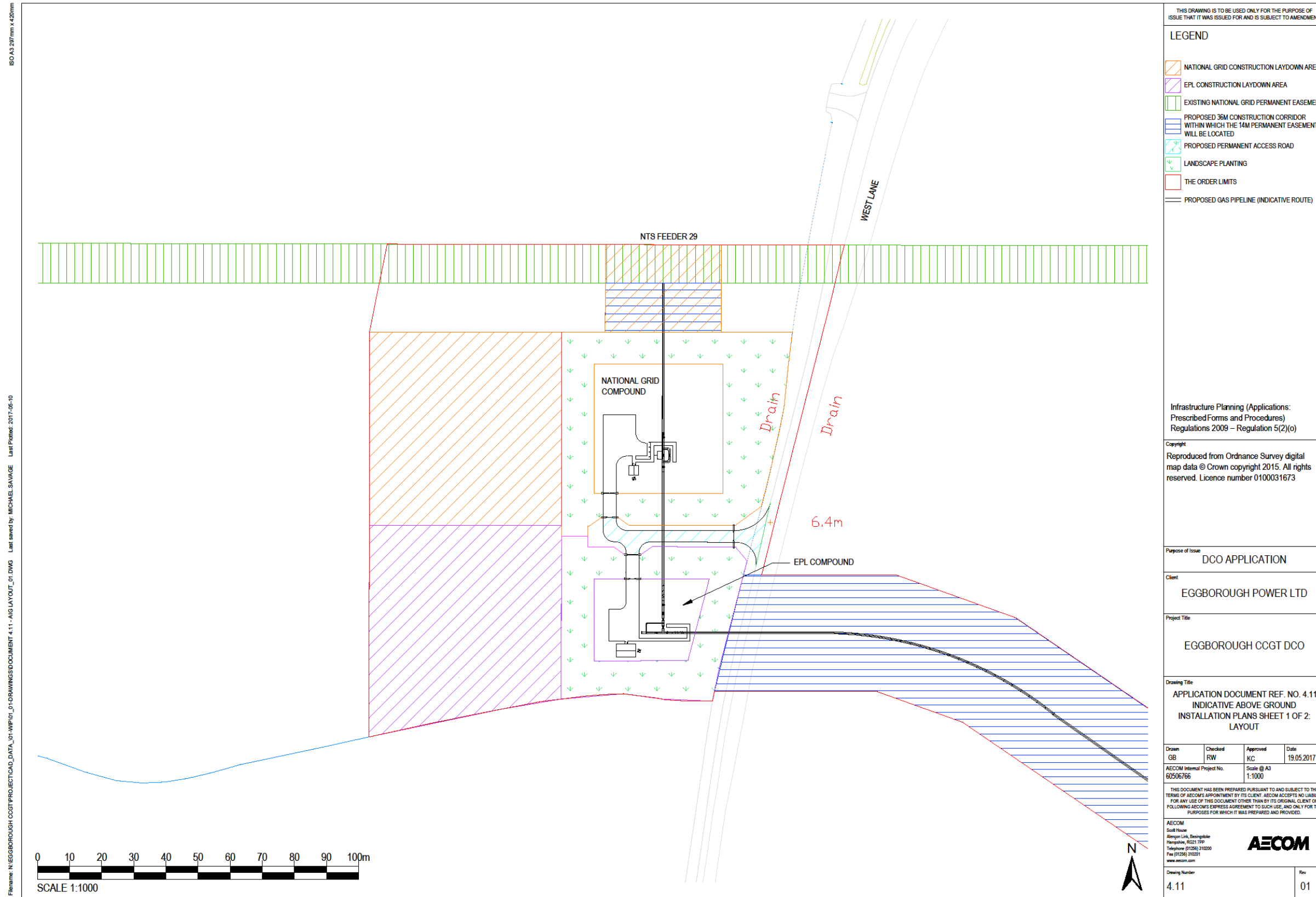
Figure 6.2 - Proposed Power Plant (Multi-shaft Layout)



- 6.10 The Proposed Electricity Connection (Work No. 3) encompasses a corridor of land running north from the north-west corner of the Proposed Power Plant site (the main coal stockyard) to the NG substation and also includes the NG substation. The connection to the substation will be made by underground electrical cables that will be routed through this corridor. There will be some connection works within the NG substation. The corridor is shown on Works Plan Sheet 3 - Application Document Ref. 4.4). Further detail on the electricity connection is provided in the Electricity Grid Connection Statement (Application Document 5.2).
- 6.11 The Proposed Cooling Water Connections (Work No. 4) encompass at corridor of land running north from the boundary of the existing coal-fired power station to the existing cooling water outfall within the tidal section of the River Aire and then turning north-west to the existing cooling water intake/abstraction with the River south of Chapel Haddlesey. The cooling water connection works will be below ground with the exception of works to the intake/outfall structures. The cooling water corridors are shown on Works Plan Sheet 4.
- 6.12 The Proposed Ground and Towns Water Connections (Work No. 5) include corridors of land running west and north-west from the north-west corner of the main coal stockyard to the existing groundwater abstraction borehole within the golf course and west and south to another existing groundwater borehole near the A19/A645 Weeland Road junction; and corridors of land running north to Wand Lane and west to the A19 to existing towns water supply infrastructure. The works will be below ground. The corridors are shown on Works Plan Sheet 5.
- 6.13 The Proposed Access and Rail Works (Work No. 10) encompass the existing private rail lines and sidings along the northern and eastern edges of the main coal stock yard. These would be retained and modified to allow for continued rail access to the Site. The remainder of the rail loop around the main cola stockyard would be removed to accommodate the Power Plant. The location of the Rail Works is shown upon Works Plan Sheet 9.
- 6.14 The Proposed Surface Water Discharge Connection (Work No. 9) encompasses and area of land to the south-east of the main coal stockyard around Hensall Dyke. It is shown upon Works Plan Sheet 8.
- 6.15 The Proposed Gas Connection (Work No. 6) encompasses a corridor of land to the proposed connection point with the NTS for gas. It runs north from the existing coal-fired power station, crossing the River Aire and continuing to run north (east of Chapel Haddlesey), before turning north-west and crossing the A19 (north of Burn Lodge Farm and south of the East Coast Mainline Railway), terminating at the proposed AGI to the west of Burn Village.
- 6.16 The length of the Proposed Gas Connection corridor is approximately 4.7 km and it will be generally 36 m in width, exception at certain crossing points (e.g. the River Aire and A19) where it will be wider. Most of the gas pipeline will be installed using an 'open cut' method where a trench is excavated and the pipeline placed within it to a depth of 1.2 m below ground before being covered over. Special crossing techniques, such as horizontal directional drilling, will be used for the crossings of the River Aire and A19 to prevent impacts and avoid disruption. The Proposed Gas Connection corridor is shown upon Works Plan Sheet 6 and further detail on the installation of the gas pipeline is provided within the 'Gas Connection and Pipeline Statement' (Application Document Ref. 5.3).
- 6.17 The Proposed AGI (Work No. 7) encompasses an area of land at the end of the Proposed Gas Connection corridor adjacent to the proposed connection point to the NTS on the western side of

West Lane, to the west of Burn Village. The AGI will comprise two compounds, including all the necessary apparatus to connection the gas pipeline to the NTS - one to accommodate National Grid's apparatus and the other for EPL's apparatus. The AGI is also shown on Works Plan Sheet 6. The area around the AGI will be landscaped to provide screening from the surrounding area. The landscaping proposals are described later within this section. An indicative layout for the AGI is shown in Figure 6.3 on the following pages.

Figure 6.3 - Indicative AGI Layout



ISO A3 297mm x 420mm

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SOUTH ELEVATION

EAST ELEVATION

NORTH ELEVATION

WEST ELEVATION

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LAYOUT

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AECOM
Small House
Stangate Lane, Donnington
Weymouth, Dorset DT98 7SP
Telephone 01305 312000
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- 6.18 The Proposed Construction Laydown Area (Work No. 2A) is located to the north-east of the main coal stockyard and comprises the existing coal-fired power stations back-up cooling water lagoon and strategic coal stockyard. This area would be used for contractor compounds and facilities and plant and material storage during the construction phase. The use and layout of this area would be determined by the appointed contractor prior to construction. Part of the Construction Laydown Area would be set aside as the Proposed CCR Land (Work No. 2B) post-construction. The extent of Work Nos. 2A and 2B are shown up Works Plan Sheet 2.
- 6.19 The Proposed Retained Landscaping (Work No. 8) encompasses the existing mature tree and shrub planting along the northern and eastern side of Wand Lane, to the east of the strategic coal stockyard, on the embankment to the eastern, southern and western boundaries of the main coal stockyard, around Hensall Dyke to the south-east of the coal stockyard and to the south of the NG substation and golf course. The landscaping proposals, including those for this area, are described later within this section. The extent of this area is shown on Works Plan Sheet 7.

Amount

- 6.20 The amount of development in terms of the total area of the Proposed Development Site (the 'Site') is approximately 102 hectares. The areas for the main components of the Proposed Development are as follows:
- Proposed Power Plant (Work No. 1) - 26.05 hectares.
 - Proposed Electricity Connection (Work No. 3) - 9.69 hectares.
 - Proposed Cooling Water Connections (Work No. 4) - 13.51 hectares.
 - Proposed Borehole/Towns Water Connections (Work No. 5) - 13.69 hectares.
 - Proposed Rail Works (Work No. 10) - 7.67 hectares.
 - Proposed Surface Water Discharge Connection (Work No. 9) - 0.89 hectares.
 - Proposed Gas Connection (Work No. 6) - 22.22 hectares.
 - Proposed AGI (Work No. 7) - 1.87 hectares.
 - Proposed Construction Laydown Area (Work No. 2A) - 17.54 hectares.
 - Proposed CCR Land (Work No. 2B) - 12.48 hectares.
 - Proposed Retained Landscaping (Work no. 8) - 10.74 hectares
- 6.21 The above areas and their extent are shown upon the Works Plans. A number of the areas overlap.
- 6.22 New permanent buildings and structures will be largely confined to the Power Plant and AGI sites. The amounts for the main buildings and structures and process areas (in terms of foot print) are set out in Tables 4.2 and 4.3 (single and multi-shaft layouts). The largest are as follows:
- Gas Turbine Hall - 5,766 sqm.
 - HRSG - 1,764sqm -1,764 sqm.
 - Steam Turbine Hall - 3,456 sqm.
 - Cooling Tower Banks - 6,480 sqm.

- Water Treatment, Fire Pumps and Laboratory - 1,881 sqm.
- Gas Reception Facility/Area - 3,380sqm.
- Peaking Plant Building - 6,045 sqm.
- Black Start Building/Facility - 2,795 sqm.

Scale

- 6.23 The scale of the Proposed Development relates to the dimensions (length, width and height) of the main buildings and structures that would be constructed at the Site. Almost all the buildings and structures form part of the Proposed Power Plant. The maximum dimensions of these (single and multi-shaft layouts) are set out in Tables 4.2 and 4.3.
- 6.24 The tallest buildings and structures comprised within the Proposed Power Plant (single-shaft configuration) are the CCGT co-located emissions stacks (90 m), the gas turbine halls (30 m), the HRSGs (50 m), the CCGT air intake filters (30 m), cooling tower banks (25 m), the peaking plant and black start emissions stacks (45 or 28 m dependent on whether an open cycle gas turbine or gas engines are deployed) and the peaking plant building (30 m). The largest buildings/structures in terms of area are the turbine halls (5,776 sqm), cooling tower banks (6,480 sqm) and peaking plant building (6,045 sqm).
- 6.25 For the multi-shaft configuration the tallest buildings/structures are the CCGT emissions stacks (90 m), the turbine halls (30 m), the HRSGs (at 35 m lower than for single-shaft), CCGT air intake filters (30 m), the cooling tower banks (at 30 m higher than for single-shaft), the peaking plant and black start emissions stacks (45 or 28 m) and the peaking plant building (30 m). The multi-shaft configuration also includes a separate steam turbine hall (30 m in height). The largest buildings/structures are, as for single-shaft, the turbine halls (5,766 sqm), cooling tower banks (6,480 sqm) and the peaking plant building (6,046 sqm). There is also the steam turbine hall (3,456 sqm).
- 6.26 The Indicative Generating Station Elevations (Application Document Ref. 4.6) are reproduced at Figures 6.4 and 6.5 on the following page and provide an indication of the scale and massing of the single and multi-shaft CCGT plant configurations and the differences between the two.

Figure 6.4 - Proposed Power Plant Elevations (Single-shaft)

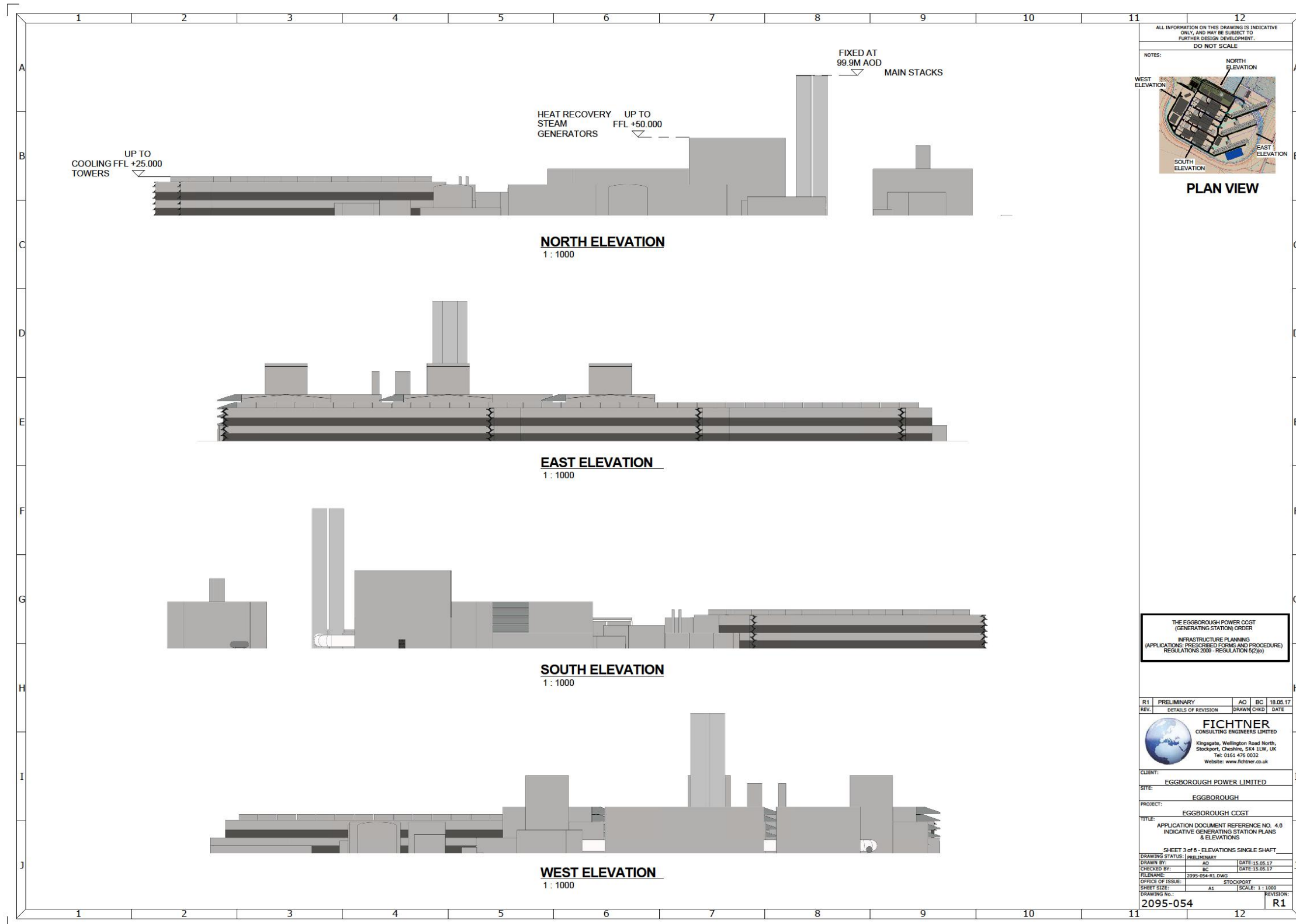
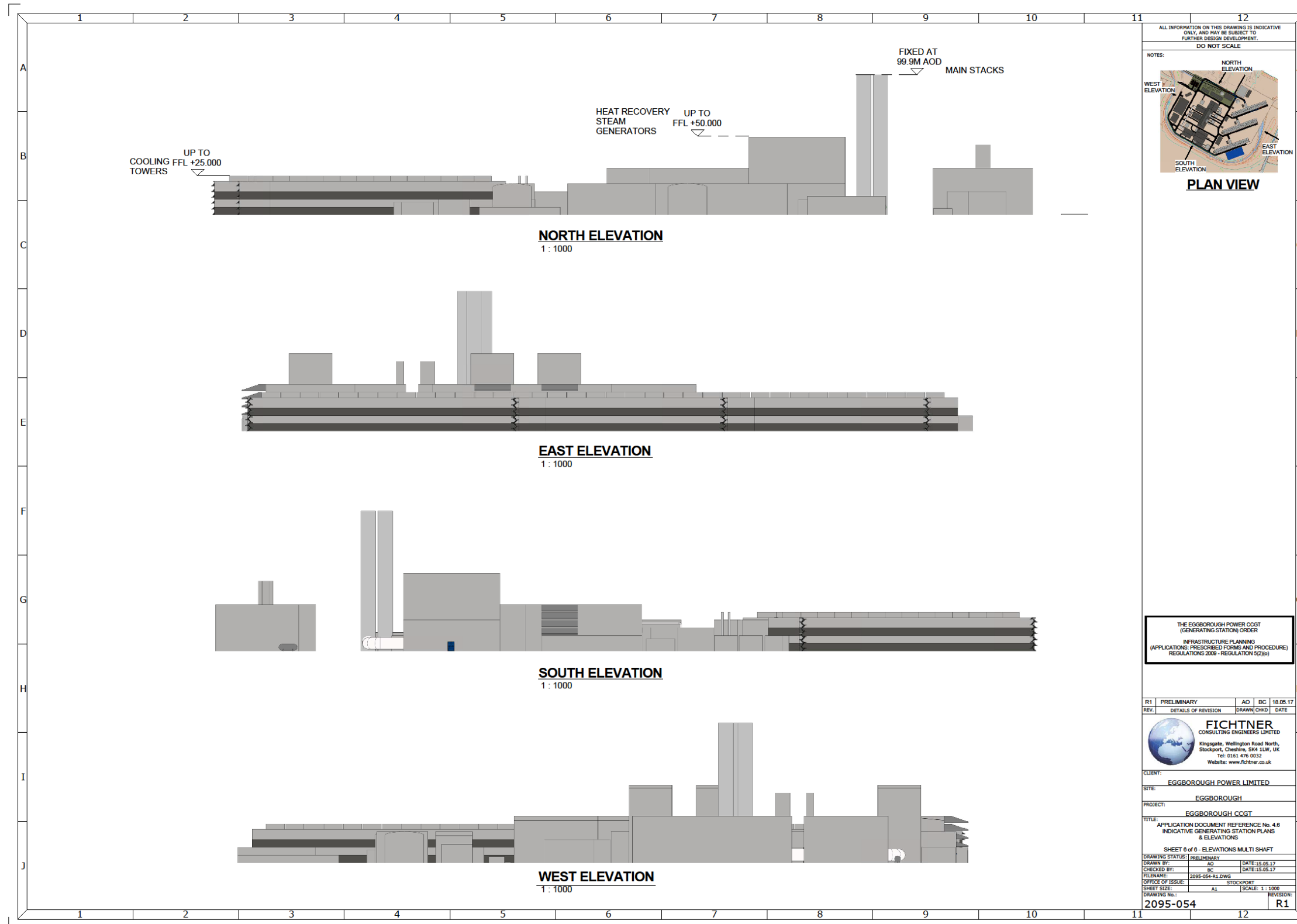


Figure 6.5 - Proposed Power Plant Elevations (Multi-shaft)



- 6.27 To place the scale of the Proposed Power Plant buildings/structures in some context, the emissions stack and cooling towers of the existing coal -fired power station are 198 m and 115 m respectively, while the turbine hall and boiler house are 36 and 60 m respectively. The bulk and scale of the coal-fired power station buildings and structures are also significantly greater than those for the Proposed Power Plant.
- 6.28 The AGI buildings (kiosks) will have maximum dimensions of 3 m (height), 7 m (length) and 5 m (width).
- 6.29 There will be no new buildings associated with the other components of the Proposed Development.

Appearance

- 6.30 The most visible components of the Proposed Development will be the Proposed Power Plant and the AGI. The electrical, water and gas connections will almost entirely involve below ground works while the rail works will not involve any significant structures and buildings/structures within the Proposed Construction Laydown Area will be temporary.
- 6.31 The appearance of the Proposed Power Plant will be consistent with its industrialised context/setting and has taken design references from the existing coal-fired power station. While the appearance of the buildings and structures are different to and on a much more modest scale than those of the existing power station, they are industrial, reflecting not only their surroundings but also their purpose, to generate electricity.
- 6.32 The main buildings and structures will be simple and functional in form and detailing, predominantly comprising of steel skeletons covered in appropriate cladding. The latter will be utilised to achieve holistic colour and treatment of the buildings/structures. It is envisaged that the materials for the envelopes of the main buildings/structures will comprise predominantly of metal and concrete cladding. There are a number of possible cladding solutions and a decision on those to employ would be made at the detail design stage.
- 6.33 The elevations at Figures 6.4 and 6.5 along with the 3-D visualisations presented on the following pages at Figures 6.6 and 6.7 provide an indication of how the Proposed Power Plant may appear, including the colouration of the cladding employed. The 3-D visualisations also underline the difference in scale between the Proposed Power Plant and the existing coal-fired power station.

Figure 6.6 - 3-D Visualisation (Single-shaft)



Figure 6.7 - 3-D Visualisation (Multi-shaft)

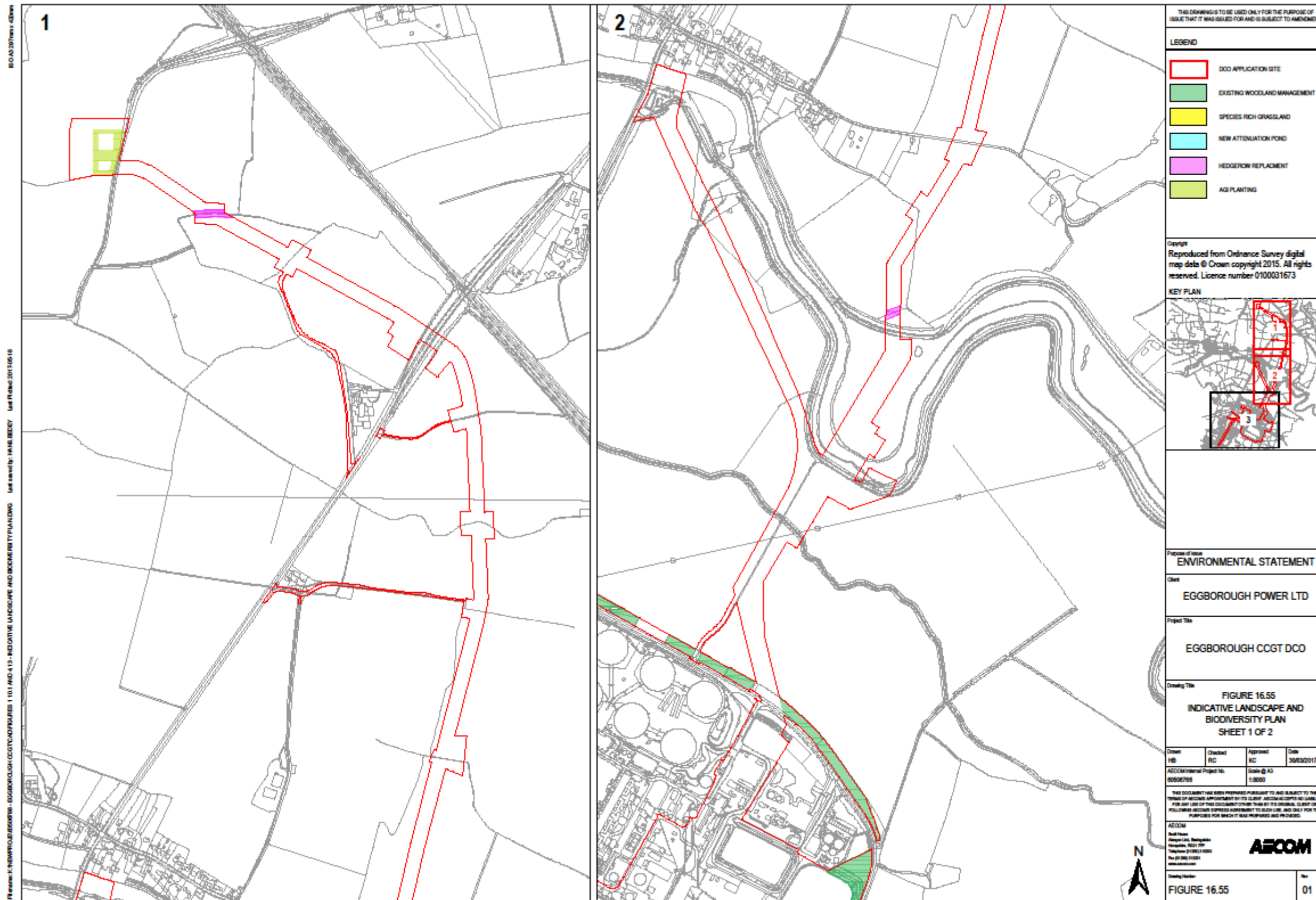


- 6.34 The AGI buildings will comprise a number of small metal clad and brick built kiosks for housing equipment.
- 6.35 The detailed design of the Proposed Development, including the design and appearance of buildings and the type and colour of materials to be employed would be secured by Requirement 5 'Detailed design') of the DCO.

Landscaping

- 6.36 The amount of development on the Proposed Power Plant site, combined with its layout and operational constraints, limits the opportunities for soft landscaping. Landscaping within this area would therefore, for the most part, take the form of concrete hard standing and gravel/crushed stones around the main power plant buildings and structures.
- 6.37 The limitation upon space within the Proposed Power Plan site have led to the soft landscaping proposals for the Proposed Development being focused primarily upon enhancing the existing mature tree and shrub (woodland) planting on the northern and eastern sides of Wand Lane, to the east of the strategic coal stockyard, to the eastern, southern and western boundaries of the main coal stockyard (the Proposed Power Plant site) and to the south of the NG substation and golf course. This existing planting, to be retained as part of the Proposed Development, would provide some visual screening of the Proposed Power Plant and other works at the Site within its vicinity and offers opportunities for landscape and biodiversity enhancement.
- 6.38 The proposals to enhance and manage the existing planting (and enhance biodiversity) are illustrated in Figure 6.8 on the following page and set out within the Indicative Landscape and Biodiversity Strategy that forms part of the Application (Application Document Ref. 5.10).

Figure 6.8 - Landscaping Proposals





- 6.39 Infill planting will be undertaken within the existing wooded areas to pre-empt gaps occurring and thus provide continued canopy cover and screening benefit. The proposed species composition would consist of a range of native species prevalent locally, including alder, downy birch, field maple, hazel, oak and silver birch, amongst others. Scrub planting will also be undertaken within these areas to promote the establishment of a new vegetated understorey improving habitat and cover for wildlife.
- 6.40 Species rich grassland will be promoted around the southern and western boundary of the Power Plant site, on and adjacent to the existing wooded bund/embankment. There will also be new woodland planting and the creation species rich grassland around Hensall Dyke to the south-west of the Power Plant site.
- 6.41 The Proposed Gas Connection crosses two species poor field boundary hedgerows, which will need to be partially or wholly removed during the installation of the gas supply pipeline. Up to 80 m of hedgerow may be affected. The proposals include replacement hedgerow planting with a diverse mix of native woody species such as hawthorn, blackthorn, hazel, holly and field maple, to improve biodiversity value.
- 6.42 Tree and scrub planting will be undertaken around to Proposed AGI compounds to provide screening and integrate these into the landscape. The planting will include locally prevalent native species with a number of evergreen species to provide all round screening.
- 6.43 The detail of the landscaping proposals and the implementation and management/maintenance of these will be secured by Requirement 6 'Landscaping and biodiversity protection, management and enhancement' of the DCO.

7.0 ACCESS ARRANGEMENTS

- 7.1 There will be two main vehicular accesses to the Power Plant. One from the A19 to the west along Tranmore Lane and another (also from the A19) to the north from Wand Lane. It is anticipated that the access from Wand Lane will be used by contractors and maintenance staff, in particular, during planned shut downs of the Power Plant. In addition, the existing main access to the coal-fired power station, running through the golf course will be retained for use.
- 7.2 Car parking facilities will be provided in connection with both vehicular accesses to the Power Plant. The car park for operational staff and visitors will be provided at the end of the Tranmore Lane access close to the administration and control blocks. The contractors' car park will be located close to Wand Lane.
- 7.3 Marked pedestrian and cycle routes will be provided within the Power Plant and there will be secure cycle parking facilities. Shower and changing facilities will also be provided.
- 7.4 Where possible, car parking areas, pedestrian routes and buildings within the Power Plant will be designed to provide for inclusive access. This will need to take account of operational and safety considerations given the nature of the use and operations.
- 7.5 The main access routes into/out of the Power Plant and within it are shown on Figure 6.1 and Figure 6.2 of this report.
- 7.6 Buildings would need to comply with the access requirements set out in the Buildings Regulations except where exemptions apply. Building Regulations approval would only be sought once a contractor has been appointed and detailed design has been completed.
- 7.7 HGVs and other large vehicles accessing the Power Plant will, in line with existing arrangements be routed from Junction 36 of the M62 via the A645 Weeland Road and A19.
- 7.8 The nearest bus stops are located immediately to the west along the A19, with the nearest railway station being Hensall Station to the south-east. The distance to the Station is approximately 1 km, with Eggborough Station the next closest being approximately 2km to the south. These stations provide linked services to York in the north, Leeds in the west and Goole in the east.
- 7.9 The existing private rail line will be modified and retained. It is anticipated that the rail line may be used during the construction of the Power Plant. The rail line may also be used in connection within any future development on the remainder of the existing coal-fired power station site, once it has been decommissioned and demolished.
- 7.10 Vehicular access to the AGI will be from the A19 via West Lane, which runs through Burn Village. Parking areas will be provided within the AGI site. The AGI compounds will be periodically inspected (usually on a weekly basis) by personnel in a light goods vehicle or transit van.

8.0 SECURING DETAILED DESIGN

- 8.1 Where flexibility is being sought in the design of a development it is important to ensure that appropriate mechanisms are in place to provide certainty to the Secretary of State, the relevant planning authority and any other relevant bodies, that its detailed design will be in accordance with the fixed design details, limits of deviation and maximum design parameters upon which the EIA has been based.
- 8.2 EPL has drafted the DCO for the Proposed Development (Application Document Ref. 2.1) to ensure that it must be carried out in accordance with the limits of deviation shown upon the Works Plans (Application Document Ref. 4.4), the fixed design details and the maximum design parameters set out in the Environmental Statement ('ES'). The DCO therefore includes a number of 'articles' and 'requirements' to secure the detailed design of the Proposed Development. The articles and requirements are summarised in Table 8.1.

Table 8.1 - DCO Articles and Requirements relating to Detailed Design

Heading	Heading	Heading
Article 3	Development consent etc. granted by the Order	Requires the Proposed Development to be constructed within the limits of deviation defined on the Works Plans.
Schedule 14	Design parameters	Part 1 defines the design parameters, including fixed design details and maximum dimensions for Work No. 1 should it be constructed in a 'single-shaft' configuration, with Part 2 specifying the same for a 'multi-shaft' configuration. Schedule 14 is linked to Requirement 5 'Detailed design' below.
Requirement 5	Detailed design	Requires details of Work Nos. 1 to 10, including in the case of Work No. 1, the siting, layout, scale and external appearance, including the colour, materials and surfaces finishes of all new permanent buildings and structures. Requirement 5(2) requires that prior to commencing any part of Work No. 1 the undertaker must notify the relevant planning authority whether it is to construct Work No. 1 in accordance with the design parameters (the 'relevant design parameters') in Part 1 of Schedule 14 'single-shaft parameters' or Part 2 of Schedule 14 'multi-shaft parameters'. Requirement 5(3) requires Work No. 1 to be constructed in accordance with the 'relevant parameters'.
Requirement 6	Landscaping and biodiversity protection, management and enhancement	Requires a landscaping and biodiversity management and enhancement plan to be submitted to the relevant planning authority for approval in respect of soft landscaping, including shrub and tree planting and biodiversity and habitat enhancement at the Site. Also requires the plan to set out maintenance and management details.
Requirement 8	External lighting	Requirement 8(2) requires details of all permanent external lighting (with the exception of aviation warning lighting covered by Requirement 29) to be submitted to the relevant planning authority for approval.
Requirement 9	Highway accesses	Requires details of any new or modified permanent

Heading	Heading	Heading
		means of access to a public highway to be submitted to the relevant planning authority for approval.
Requirement 10	Means of enclosure	Requirement 10(3) requires details of any permanent means of enclosure to be submitted to the relevant planning authority for approval.
Requirement 11	Site security - above ground installation (Work No. 7)	Requires a written scheme detailing security measures to minimise the risk of crime to be submitted to the relevant planning authority for approval.
Requirement 13	Surface and foul water drainage	Requirement 13(2) requires details of all permanent surface and foul water drainage systems to be submitted to the relevant planning authority for approval.
Requirement 14	Flood risk mitigation	Requirement 14(2) requires a scheme for the mitigation of flood risk during operation to be submitted to and approved by the relevant planning authority.
Requirement 28	Combined heat and power	Requirement 28(1) requires the undertaker to demonstrate to the satisfaction of the relevant planning authority that it has allowed space and routes within the design of the Proposed Development for the later provision of heat pass-outs for off-site users of process or space heating and its later connection to such systems, should they be identified and commercially viable.
Requirement 29	Aviation warning lighting	Requires the submission of details of aviation warning lighting in respect of Work No. 1 to the relevant planning authority for approval.
Requirement 31	Carbon capture and readiness site	Requires the undertaker to not dispose of any interest in the CCR site without the written consent of the Secretary of State.
Requirement 37	Approved details	Requires all details submitted for approval of the relevant planning authority under the requirements to be in accordance with the parameters of the environmental statement and to reflect the principles set out in the documents certified under Article 38.
Article 38	'Certification of plans etc.'	Requires the undertaker to certify certain plans and documents (e.g. the Works Plans and ES) and in effect ensures that the Proposed Development must be carried out in accordance with these documents in line with Requirement 35.

8.3 The above will ensure that the detailed design of the Proposed Development is controlled and secured.

9.0 CONCLUSIONS

- 9.1 This DAS sets out how EPL has had regard to design and access considerations in designing the Proposed Development.
- 9.2 EPL has taken account of the Site's context, appraised this and taken this into account in the design of the Proposed Development.
- 9.3 While flexibility has been sought in the design of the Proposed Development, EPL has defined design parameters upon which to base the EIA to ensure that the likely significant effects of the Proposed Development have been robustly assessed. EPL has also included appropriate articles and requirements to ensure that the detailed design of the Proposed Development is controlled and secured.
- 9.4 The final design of the Proposed Development is functional, reflecting its purpose to generate electricity and the context within which it would sit. In terms of siting and layout, opportunities have been taken to minimise the visual impact of the Power Plant by locating it within the main coal stockyard, which has a substantial landscaped embankment to its eastern, southern and western boundaries. While there is limited scope for soft landscaping within the Power Plant, EPL proposes to enhance the landscape and biodiversity value of the existing woodland areas around the existing coal-fired power station site, while there will be replacement hedgerow planting within the Proposed Gas Connection corridor and planting around the AGI site.
- 9.5 In summary, it is considered that the Proposed Development represents 'good design' for the purposes of energy infrastructure and policy set out in the relevant National Policy Statements.