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EIA Scoping Report

Houghton Main Renewable Energy Park, Barnsley, South Yorkshire

Peel Environmental Limited

'Experience and expertise working in unison'

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EIA Scoping Report

Project:	Houghton Main Renewable Energy Park, Barnsley
For:	Peel Environmental Ltd.
Status:	**FINAL**
Date:	February 2014
Author:	Tom Bland, Principal Consultant
Reviewer:	Kevin Parr, Director

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EXECUTIVE SUMMARY

A. Peel Environmental Ltd (**Peel**) is a property development company developing new infrastructure for the waste, mineral and environmental technology sectors across the UK.

B. Peel facilitates projects for recycling, converting waste materials into renewable heat and electricity and providing facilities where cutting-edge environmental technologies can flourish through the development of Resource Recovery Parks and energy from waste solutions.

C. Peel is seeking planning permission to develop land offPark Spring Roadas a Renewable Energy Park comprising a 60,000 tonne per annum (**tpa**) Anaerobic Digestion (**AD**) facility and a 150,000tpa Timber Resource Recovery Centre (**TRRC**).

D. It is our view that the proposed development falls within Category 10 of Schedule 1 to the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (the **EIA Regulations**). The proposed development will have a capacity in excess of 100 tonnes per day. As a Schedule 1 development, the planning application will need to be supported by an Environmental Impact Assessment (**EIA**).

E. This report accompanies a formal EIA scoping opinion request submitted under Section 13 of the EIA Regulations. The purpose of this report is to highlight the areas and approach currently considered appropriate for inclusion within the EIA to assist with the formal scoping process and this report sets out:

- A brief description of the proposed development;
- A plan to show the location of the development;
- A description of its possible effects on the environment; and
- A proposed methodology for undertaken an EIA of the proposed development.

F. An EIA will be undertaken to assess any likely significant effects of the proposal and its results will be presented within the Environmental Statement (**ES**) that will accompany the planning application.

1.0 INTRODUCTION

1.1 Peel proposes the development of land off Park Spring Road as a Renewable Energy Park comprising a 60,000tpa AD facility and a 150,000tpa TRRC.

1.2 The subject site is located approximately 1km west of Little Houghton and 6.5km east of Barnsley town centre. Access to the site is from a spur off a roundabout (known as Houghton Main Colliery Roundabout) on the A6195 Park Spring Road.

1.3 The proposed development site is approximately 3.8 hectares in area and is shown edged red on the attached drawing '*Site Boundary Plan*'. The site is brownfield land and is allocated as an '*Employment Policy Area*' (Policy DA3) and an '*Area of Investigation for Potential Employment Development*' (Policy DA4) in the Barnsley Unitary Development Plan (**UDP**) (December 2000) (Saved Policies).

1.4 The development of the site will create two distinct but compatible energy generation facilities with the potential to generate 23MW of electricity (20MW (net) from the TRRC and 3MW from the AD facility) and to provide a direct heat and/or electrical supply to appropriate offtakers in the local area.

1.5 This scoping report has been compiled by Enzygo Limited, on behalf of Peel, to provide background information on the proposed development, and to identify the scope of environmental issues to be addressed in detail in an Environmental Statement (**ES**). This report forms part of a formal request to Barnsley Metropolitan Borough Council (**BMBC**) for an EIA scoping opinion under Section 13 of the EIA Regulations.

1.6 In accordance with the EIA Regulations, Peel, as Applicant, will undertake an EIA and submit an ES to accompany the planning application for the project at the identified site.

2.0 SITE LOCATION AND PLANNING HISTORY

The Site

2.1 The subject site is off Park Spring Road and comprises approximately 3.8 hectares of land in an approximate triangular shape to the west of the A6195 Park Spring Road.

2.2 The site is located approximately 1km west of Little Houghton and 6.5km east of Barnsley town centre.

2.3 The site is bounded by the A6195 Park Spring Road to east and curved flood defence bunds to the north and west which follow the alignment of a disused rail line. The River Dearne runs in a north-south direction to the west of the site.

2.4 The site is brownfield land primarily vegetated with rough restored grassland. Some scattered shrubs and small trees are also present on the site. The site is flat except for the bunding at its northern and western boundaries.

2.5 The site was historically part of the Houghton Main Colliery Site and was reclaimed some time ago. The colliery was subsequently open cast mined by UK Coal in the late 1990s. Open casting was completed and the land was reclaimed and compacted to provide a platform suitable for industrial development.

2.6 There is a large Distribution Centre, currently occupied by a clothing retailer, on adjacent land to the east and south east of the site. The warehouse was developed by Prologis and was constructed under Reserved Matters Approval 2005/1441 (which followed Outline Planning Permission B/03/0762/HR granted in 2003 for Class B1, B2 and B8 development of the site). The existing warehouse has recently been granted planning permission for an extension (ref: 2012/1018).

2.7 The site is relatively remote from any residential properties.

Access

2.8 Access to the site is from a spur off an existing roundabout (known as Houghton Main Colliery Roundabout) on the A6195 Park Spring Road.

2.9 The existing access will be improved as part of the proposed development and tailored to suit the development proposals.

2.10 The site is well connected to the strategic highway network, with the both the A1(M) and M1 approximately 9km away to the east and west respectively. Access to the motorway network can be gained using the A6195 and other A class roads linking to it. Similarly, a good class of road (A635) provides connection to Barnsley town centre.

Planning History

2.11 A search of the BMBC's Planning Explorer database on 11 December 2013 reveals the planning permission history for the site and surrounding area set out in Table 2.1 below.

Application Number	Site Address	Development Description	Status	Date Registered	Decision
2013/0860	Park Spring Road, Little Houghton, Barnsley	Erection of 3 no. turbines wind farm with a height of 80m to hub and 126.5m to blade tip, including substation building and ancillary infrastructure. (Environmental Impact Assessment)	Registered	09-09-2013	
2012/1018	ASOS, Park Spring Road, Little Houghton, Barnsley, S72 7GX	Erection of extensions to southern and western elevations of existing distribution warehouse and extension to existing surfaced car parking area	Final Decision	13-09-2012	Approve with Conditions
2011/1443	Land off Park Spring Road, Houghton Main, Little Houghton, Barnsley	Erection of 19 industrial units with associated external works and landscaping (Extension to time limit of application 2008/1426)	Final Decision	20-12-2011	Approve with Conditions
2011/0951	Land off Park Spring Road, Little Houghton, Barnsley, S72	Installation of a 70m high meteorological data gathering mast (Temporary for 2 Years).	Final Decision	08-08-2011	Approve for a Temporary Period
2008/1426	Land off Park Spring Road, Houghton Main, Grimethorpe Barnsley	Erection of 19 industrial units with associated external works and landscaping	Final Decision	11-09-2008	Approve
2005/1441	Park Springs, off Park Spring Road, Little Houghton, Barnsley.	Erection of a distribution warehouse and associated offices, car parking, service areas and landscaping (Reserved Matters).	FINAL DECISION	22-08-2005	Approve with Conditions
B/03/0762/HR	S/O Houghton Main Colliery, Middlecliffe Ln, Little Ho	Outline for modification of Condition No. 1 of planning consent B/99/1064/HR for use of land for industrial/employment uses	Final Decision	14-05-2003	

Table 2.1: *Planning History of the site and surrounding land (as at 11 December 2013). Orange highlighting indicates permissions covering the subject site.*

3.0 DESCRIPTION OF THE PROPOSED DEVELOPMENT

Introduction

3.1 Peel proposes a masterplan-type development of the site under a single planning application for an AD facility and TRRC on the land edged red on the *Site Boundary Plan* at Appendix 1.

3.2 The development of the site in the manner proposed will create two distinct but compatible energy generation facilities with the potential to generate 23MW (net) of electricity and to provide a direct heat supply to appropriate heat-offtakers in the local area.

3.3 The indicative layout of the proposal is shown on drawing 1302_SK001B, entitled *Proposed Site Layout*, at Appendix 1.

Proposed Facilities

3.4 The AD facility will be constructed and operated by Tamar Energy, a renewable energy company with significant experience in delivering AD projects in the UK. Tamar Energy is currently establishing a network of some 40 AD plants around the UK, having several already in commissioning and operation.

3.5 The AD facility will be located on the northern and eastern portion of the site and will receive and process approximately 60,000tpa of material to generate an estimated 3MW (net) of energy via anaerobic digestion for the creation of bio-methane for use in modern gas-engines on site.

3.6 The TRRC will be developed by Carbonarius, a joint venture company between O-Gen UK and the UNA Group. The construction and operation of the TRRC will be carried out under contract by a blue chip Engineering, Procurement and Construction (**EPC**) contractor (yet to be contracted). Carbonarius is currently developing similar facilities in Plymouth and Tyseley, Birmingham.

3.7 The TRRC will receive approximately 150,000tpa of biomass which may include construction and demolition waste timber and will subject it to a process that recovers clean ferrous and non-ferrous material for recycling and generates approximately 20MW net of renewable electrical power.

3.8 The TRRC will be located on the southern and western portion of the site.

Site Access

3.9 Both facilities will share the existing western access off the Houghton Main Colliery Roundabout with each facility enjoying a dedicated access into its own portion of the site. The final design of the access to each site will be determined following the completion of a Transport Assessment as part of this EIA process but an indicative layout has been shown on the *Proposed Site Layout* drawing at Appendix 1 for information.

Fuel Source

3.10 It is anticipated that the AD facility will be fuelled by locally and sub-regionally sourced food waste derived from the municipal and commercial market. The TRRC is anticipated to be

fuelled by biomass which may include timber derived primarily from commercial and industrial sources.

4.0 PLANNING POLICY CONTEXT

Introduction

4.1 A review of the policy context and guidance at the European, national, regional and local level relating to waste management development will be undertaken with respect to the proposed Facility. In general, the National Planning Policy Framework (**NPPF**) establishes that where an adopted or approved development plan contains relevant, up to date policies an application for planning permission will be determined in accordance with the plan unless material planning considerations indicate otherwise. In addition Planning Policy Statement (**PPS**) 10 – *Planning for Sustainable Waste Management* is of particular relevance to this proposal.

The Development Plan

4.2 The site falls within the administrative area of BMBC. In the current context, the development plan for the application site comprises:

- The Barnsley Core Strategy (Adopted September 2011);
- The remaining Saved Policies of the Barnsley Unitary Development Plan; (adopted December 2000) and
- Barnsley, Doncaster and Rotherham Joint Waste Plan (adopted March 2012).

4.3 Since the adoption of the Core Strategy an Economic Strategy for the borough was agreed. The Key element of the Economic Strategy was underpinned by the Development Sites and Places Development Plan Document (**DPD**) document which was to *"Create the conditions for economic growth and greater prosperity through the provision of quality employment sites...."*

4.4 The former Houghton Main Colliery site was allocated within the Unitary Development Plan for Major Employment site. A range of potential employment sites were assessed as part of the preparatory process for the Development Sites and Places DPD. The proposed site was selected potentially for Employment development within this DPD.

4.5 Consideration will be given to adopted Development Plan documents, as well as national planning policy (in particular the NPPF and PPS10) and other supplementary planning guidance and documents in the assessment of the development proposal.

4.6 The relevant policies and guidance will be reviewed and key points of relevance summarised within the ES. This will set the context for more detailed topic analysis that will be included in the specific chapters of the ES.

4.7 The detailed findings of the planning review will be provided in the Planning Statement which will be prepared in support of the planning application for the development.

5.0 PROPOSED CONTENT OF THE ENVIRONMENTAL STATEMENT

Background

5.1 The EIA Regulations require an EIA to be carried out in order to support a specified range of major development proposals. EIA is defined in the Department of the Environment, Transport and the Regions' Circular 02/99 as:

> "*a means of drawing together, in a systematic way, an assessment of a project's likely significant environmental effects. This helps to ensure that the importance of the predicted effects, and the scope for reducing them, are properly understood by the public and the relevant competent authority before it makes a decision.*"

5.2 The information gathered by an applicant and put forward in conjunction with a planning application is referred to as an ES. Information that must be included within the ES is defined in Schedule 4, Part II of the EIA Regulations. In addition, Schedule 4, Part I sets out further information that the ES may include by way of explanation or amplification.

Need for an EIA

5.3 The proposed scheme has been assessed against the criteria set out in the EIA Regulations to determine the requirement for an EIA.

5.4 The EIA Regulations specify certain types of development for which EIA is mandatory (Schedule 1 Developments) and categories of development where an EIA may be required (Schedule 2 Developments) "*if it is likely to have significant effects on the environment by virtue of factors such as its size, nature or location*".

5.5 It is our view that the proposed development falls within Category 10 of Schedule 1 to the EIA Regulations which covers:

> "*Waste disposal installations for the incineration or chemical treatment…of non-hazardous waste with a capacity exceeding 100 tonnes per day.*"

5.6 The Timber Resource Recovery Facility which forms part of the development proposals will have a capacity in excess of 100 tonnes per day. In determining whether a development is '*EIA Development*' for the purposes of the EIA Regulations, it is necessary to consider development proposals as a whole. As such, it is our opinion that the development proposals constitute EIA Development and accordingly require the carrying out of an EIA.

Proposed Structure of the ES

5.7 The document will be broadly divided into two main sections.

5.8 **Part One** will provide the background to the development proposals for which planning permission is being sought, and the details of the application site. It will describe the development proposals and highlight the environmental topic areas identified by the scoping process as likely to result in significant environmental effects.

5.9 **Part Two** will set out the potential environmental effects of the proposed development and highlight proposed mitigation measures which need to be employed to reduce the overall environmental effects of the proposals.

5.10 Collaboration between the EIA team will take place during the assessments to ensure that, where cross-boundary issues arise, they are dealt with in the most appropriate way.

5.11 Part One:

- **Chapter 1: Background, Introduction and Context** – This section will include narrative on the format and content of the ES and the statutory background to the EIA process. It will also include information regarding the applicant, the assessment team and the organisation of the ES.
- **Chapter 2: Site Description** – This chapter will describe the general physical and environmental characteristics of the application site and its surrounding environs. Other chapters of the ES will provide detailed descriptions of the application site in relation to particular environmental topics, providing baseline surveys against which the effects of the proposals may be evaluated.
- **Chapter 3: Proposed Development** – This chapter will describe the development for which planning permission is sought including the layout of the proposed facility together with description of the waste processes to be undertaken on site and will set out the basis against which the EIA will be conducted.
- **Chapter 4: Planning History and Policy Context** – This chapter will include information regarding the planning history of the site and a summary of the policy context at the European, national, regional and local level. The relevant policies will be reviewed and key points of relevance summarised. This will set the context for more detailed topic analysis that will be included in the specific chapters of the ES.
- **Chapter 5: Need and Alternatives** – These issues are linked and will be addressed in one chapter of the ES. Need will be assessed in the context of current local and national policy relating to the generation of renewable energy, including Paragraph 98 of the National Planning Policy Framework which makes it clear that individual applicants are not required to demonstrate the overall need for renewable or low carbon energy. A feedstock availability assessment will also be prepared using publicly available information, together with a review of existing facilities with the capacity to manage similar feedstock. The assessment of alternatives will focus on a review of the alternative sites and technology investigated as part of the project.

5.12 Part Two:

- Chapter 6: Air Quality and Emissions
- Chapter 7: Human Health (subject to the outcome of the scoping process)
- Chapter 8: Traffic and Transport
- Chapter 9: Noise and Vibration
- Chapter 10: Landscape and Visual Impact

- Chapter 11: Ecology and Nature Conservation
- Chapter 12: Land and Water Quality
- Chapter 13: Hydrology and Flood Risk
- Chapter 14: Archaeology and Cultural Heritage
- Chapter 15: Socio-Economic Impacts
- Chapter 16: Cumulative Impacts
- Chapter 17: Summary

5.13 The proposed content of the Part Two chapters is set out in the following sections of this report.

5.14 The ES will also include a non-technical summary (**NTS**), which will provide a summary of the ES in non-specialist language. This is aimed at a wide audience and will be available as a separately bound document to ensure a widespread circulation.

EIA Methodology

5.15 The ES will follow established EIA procedures. In EU countries, procedures are based on the EU Directive 97/11/EC (updating 85/337/EEC) which is implemented in the UK by the EIA Regulations (as amended). The ES will also be prepared in accordance with EIA guidance including:

a. "Preparation of Statements for Planning Projects that Require Environmental Assessment: A Good Practice Guide" (DoE, 1995)

b. "Environmental Impact Assessment: A Guide to Procedures" (DETR, 2000); and

c. "Guidelines for Environmental Impact Assessment", (IEMA, 2004)

5.16 The assessment will examine the construction and operational effects of the proposals for each topic area. The guidelines and methods used in determining the scale and significance of any impacts, together with the basis on which predictions have been made, will be identified in each chapter of the ES.

5.17 Evaluation of the significance of an environmental effect is an essential part of the EIA process. The level of significance determines the resources that should be deployed in avoiding or mitigating an adverse effect, or identifying the actual value of a positive effect. It is the combined significance of the mitigated effects that determine the overall environmental acceptability of a proposal.

5.18 The significance of an effect will be determined by the interaction of two factors: first being the value, importance or sensitivity of the environmental receptor or resource being affected; and second, the scale of magnitude, or severity of the impact or change. Criteria will be developed by the EIA team to determine the sensitivity of a receptor and the magnitude of change for each environmental topic.

5.19 Account will also be taken of timescale, permanence and whether the effects are adverse or beneficial. Where significant adverse environmental effects are identified, mitigation measures will be proposed where possible, which aim to either alleviate the adverse effects,

or reduce their significance. The residual effects remaining after mitigation will also be assessed and summarised in the ES.

Alternatives

5.20 The EIA Regulations provide detailed guidance on the need for and content of EIA. With regards to alternatives, Schedule 4 (Part II) of the Regulations states that ES should include:

> "*An outline of the main alternatives studied by the applicant or appellant and an indication of the main reasons for his choice, taking into account the environmental effects*"

5.21 Supporting the planning application will be an assessment of the suitability of the proposal in relation to feasible alternatives. This will be summarised in the ES chapter on alternatives, together with details of any project specific design alternations. The assessment of alternatives will be set in the context of local plan policy and site allocation considerations.

Cumulative Effects

5.22 The EIA will also consider the cumulative effects of the proposed development and other proposed developments in the surrounding area, during both the construction and operational phases of the project. The potential cumulative effects of issues such as noise, traffic, emissions to air and visual impact are considered to be of particular importance. The scoping process provides the opportunity for consultees to make the applicant aware of any other developments that may be relevant to the EIA process.

6.0 AIR QUALITY AND EMISSIONS

Introduction

6.1 In the first instance, local baseline air quality conditions will be determined using a number of sources, including the examination of maps and plans, analysis of air quality monitoring data and reports published by the Council, and use of the national background pollutant database published by Defra.

Emissions Assessment

6.2 The assessment of emissions from the TRRC and AD facility at the proposed facility will be undertaken using the ADMS-5 dispersion model. This model is widely used in the UK for the assessment of industrial emission sources.

6.3 The assessment will focus upon emissions of oxides of nitrogen (**NOx**), carbon monoxide (**CO**), sulphur dioxide (**SO2**), fine particles (PM10 and PM2.5), and any other relevant pollutant emissions that are identified. The plant will be designed to comply with WID 2000/76 and IED 2010/75/EU emission limits.

6.4 Contributions of emissions from the stack sources to pollutant concentrations at nearby sensitive locations will be assessed against existing background environmental air quality at the location and criteria published by the Environment Agency and Defra. This will include the impacts on nearby residential properties, as well as local sites of sensitive ecology, including the Carlton Main Brickworks Site of Special Scientific Interest (**SSSI**) and the West Haigh Wood Local Nature Reserve (**LNR**).

6.5 Stack height will be calculated through dispersion modelling to ensure that there are no adverse effects on any sensitive receptors.

6.6 The assessment of vehicle emissions will focus upon the impacts of nitrogen dioxide and fine particles (PM10 and PM2.5), as these are the principal pollutants of concern.

6.7 The assessment of vehicle emissions will identify the air quality impacts associated with vehicle movements generated by the development (including vehicles delivering fuel to the site, vehicles removing AD and gasifier waste products, staff vehicle trips, and other service vehicles). The assessment will be undertaken using the ADMS-Roads dispersion model, which is widely used in the UK for assessing the air quality impacts of vehicle emissions. The model will be verified against local air quality monitoring data, which is an essential step for all road traffic dispersion models.

6.8 The air quality assessment will adhere to all relevant European national and local guidance and legislation relating to air quality.

Odour Assessment

6.9 From operational experience at other similar plant it is expected that the Timber Resource Recovery Centre will to be odour free in operation, but there are a number of processes involved with the proposed AD plant that have the potential to release odours that may lead to impacts at nearby properties. These include:

- delivery and handling of food waste;

- storage of food waste prior to digestion;
- storage of digestate (solid and liquid); and
- transfer and removal from site of digestate (solid and liquid).

6.10 The odour assessment will be undertaken using a qualitative methodology, which will examine the location of the facility in relation to nearby sensitive locations; the type, volume and location of feedstock stored on site; the processes of food waste delivery, food waste storage, digestate removal, scrubbing of the gas and combustion of the biogas; local meteorological conditions; cumulative impacts with other odour sources; and all relevant published guidance and legislation.

Construction Dust

6.11 The potential air quality impacts associated with dust and PM10 from construction activities will be assessed using the qualitative methodology published by the Institute of Air Quality Management (**IAQM**). This method involves an examination of scale and nature of construction activities, and the proximity to sensitive receptors.

6.12 Where necessary, mitigation measures to minimise the risk of impacts during construction will be recommended and a construction management plan will be produced following contract award to the EPC contractor.

Environmental Statement

6.13 The findings of the assessment will be drafted into an ES chapter, in an appropriate format, for submission to Barnsley Council in support of the planning application.

7.0 HUMAN HEALTH

Introduction

7.1 It will be necessary to undertake a Human Health Risk Assessment (**HHRA**) to consider the effects of human exposure to air emissions via direct inhalation, via uptake through the food chain and drinking water, and via dermal contact with soil and water.

Methodology

7.2 The HHRA would be undertaken using the IRAP-h model developed by Lakes Environmental. This model is widely used for HHRA throughout the world. Inputs to the IRAP-h model would be provided by a number of sources including map and terrain data, published tools and guidance, and ADMS-5 dispersion model outputs.

7.3 The HHRA will focus upon compounds of potential concern which include polychlorinated dibenzodioxins and polychlorinated dibenzofurans (PCDDs and PCDFs) and heavy metals (antimony, arsenic, cadmium, chromium (III & VI), mercury, lead and nickel).

7.4 It is not anticipated that the pollutants listed above would be emitted in significant quantities from either the AD or Timber Recovery gasification processes. It is therefore possible that the HHRA would be screened out of the EIA. In the event that the local authority requires an HHRA is undertaken, then this would be done so following the methodology outlined above.

8.0 TRAFFIC AND TRANSPORT

Methodology

8.1 The baseline appraisal will form the foundation for the final development access design, sustainability, movement and highway strategy that will meet the future needs of staff and operational vehicles, and minimise the traffic impact of the final development proposal. The appraisal will include undertaking a comprehensive review of existing traffic and road safety conditions, current and emerging proposals, and accessibility of the site by non-car modes.

8.2 Specifically, the appraisal work will include:

- Site visit and scoping meeting with council
- Review of local policy, transport studies and existing local area strategy
- Walking, cycling and public transport accessibility and connectivity analysis
- Collection and review of existing local area traffic flows, vehicle speeds and historic accident patterns
- Assessment of traffic impact of the proposal on the local network
- The appraisal will include undertaking a scoping exercise with the local highway authority.

8.3 A scoping report will be prepared at this stage detailing the key assessment parameters and methodology for the production of the Transport Assessment and transport chapter of the ES to be submitted with the planning application.

8.4 It is anticipated that there will not be a requirement for extensive junction capacity assessment for a development of this type. We would expect the required study area for detailed assessment to include the access junction with the A6195 (Houghton Main Colliery Roundabout) and link flows for the A6195 Park Spring Road N and Park Spring Road S. The study area will also include the A6195 Cathill and Broomhill Roundabouts to the south of the site to allow impact evidence (in terms of forecast change in traffic flow numbers resulting from the proposal) to be presented to the local highway authority.

8.5 Traffic data collection will be required to cover the identified junctions in the study area and for the establishment of baseline conditions. Traffic data collection will be sub-contracted to a reliable survey company on a competitive basis or data will be purchased from BMBC's permanent ATC database.

8.6 The transport implications of the proposed development will be analysed in terms of impact on the local highway network. In the case of this type of scheme key transport implications will include employee travel and the movement of materials to the site.

8.7 The assessment of transport implications of the development will also include the development of proposals to promote travel by modes of transport other than the car, and to minimise car use. This will include consideration of the existing infrastructure and public transport services available and the identification of measures to improve these connections and promote the transfer of trips from cars to other modes of transport. This is a required

element of transport assessment and planning for all major development proposals and can be beneficial in mitigating the traffic effects of development.

8.8 This aspect of the assessment work will focus on practical measures that can be included within the scheme proposals to promote walking and cycling, and to improve the accessibility and attractiveness of public transport services.

Tasks & Output Documents

8.9 The transport output documents include a Transport Assessment, ES transport chapter and Framework Travel Plan. The tasks that will be undertaken in the production of these documents are outlined below.

8.10 The scope of these documents and key assessment parameters would be agreed with the local highway authority at the preliminary stage.

ES Chapter

8.11 The format of the chapter will be based on the recommendations of the Institute of Environmental Management and Assessment (**IEMA**) '*Guidelines on the Environmental Assessment of Road Traffic*'.

8.12 The assessment will focus on the main access routes to the facility. Workforce movements and transport of materials to the site will be considered as part of the assessment.

8.13 The key roads in the vicinity of the site are the site access junction, the A6195 link north and south of the access junction, Cathill Roundabout and Broomhill Roundabout. The assessment will identify traffic flow changes on the key sections of road (link flow changes) near the site and the environmental effects of traffic.

8.14 Traffic routeing associated with workforce movements will be estimated based on an assessment of population distribution within the likely workforce catchment area. Routeing of delivery vehicles will be established following identification of the sources of materials and preferred access routes.

8.15 The impacts of the proposed works will be quantified for the construction phase and residual traffic. Impacts will be evaluated in terms of the IEMA categories as set out above.

8.16 Mitigation measures will be proposed at any locations at which significant traffic impacts are identified.

8.17 The impact of the proposal on public rights of way will also be considered. This will include user impacts and any necessary alterations to the rights of way network.

Travel Plan

8.18 The proposals for promotion of travel by a range of modes of transport will be developed into a Framework Travel Plan for the proposal. This will supplement the Transport Assessment and will serve as a standalone proposal for implementation as part of the redevelopment scheme.

8.19 The measures proposed would be taken from latest Government and local authority guidance and best practice. The framework will also include recommended management and monitoring measures for adoption upon occupation of the site. The framework

measures will seek to maximise accessibility to the site and reduce the impact of the development proposals on the local environment.

9.0 NOISE AND VIBRATION

Introduction

9.1 The noise and vibration assessment will include the following work stages:

- Quantification of existing baseline noise data for the area. We would envisage that the plant(s) would run 24 hours following commissioning and as such this has been assumed within the proposed scope.
- 3-D Acoustic modelling of the impacts of the proposed plant and equipment operational on the site (including HGV and vehicle movements) on the closest noise sensitive receptors.
- Consideration of the noise from HGV's and vehicle movements off site on the wider road network associated with feed stock supply.
- Consideration of construction noise impacts.
- Production of a chapter and associated appendices/figures with regard to noise in an appropriate format as supplied.

Methodology

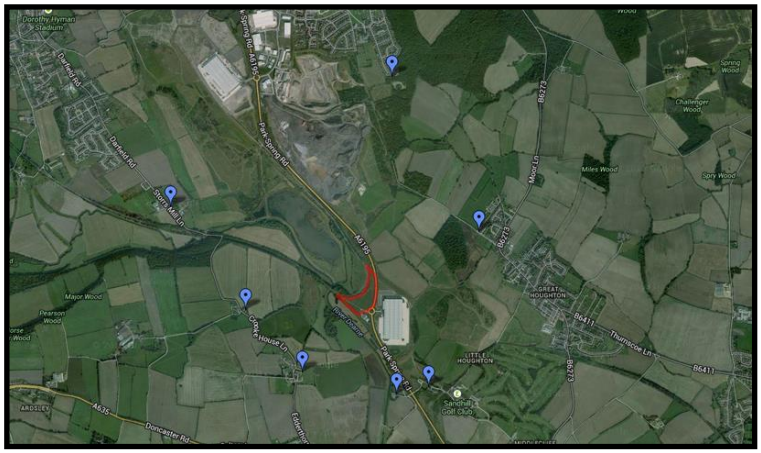
9.2 The following key stages and aspects of work will be undertaken:

a. Liaison with the Environmental Health department at the LPA so as to confirm:

- Monitoring survey locations and durations;
- Scope and Assessment Methodology; and
- Any LPA specific guidance with regard to noise.

b. A baseline noise survey will be completed so as to quantify the existing noise climate at the closest sensitive receptors around the proposed site covering both daytime and overnight as presented broadly on the plan below:

- Long term Survey locations – up to 2 locations; and
- Survey locations – up to 5 locations.



9.3 The exact specifics of the locations would be agreed with the LPA during the consultation phase but would be expected to cover those presented above. The durations covered in the baseline survey would be as detailed below.

Measurement Type		Description of Measurement
Longer term	24 hours	Monitoring would be completed at up to two of the above locations (subject to access) to cover both weekday and weekend periods – Approx. survey length of up to 7 days.
Short term	Daytime period (07:00 – 23:00)	Measurements will be completed at the remaining 5 locations around site for between 60 and 120 minutes during a normal working weekday period
	Overnight period (23:00 – 07:00)	Measurements will be completed at the remaining 5 locations around site for between 30 and 60 minutes during a normal working week night period.

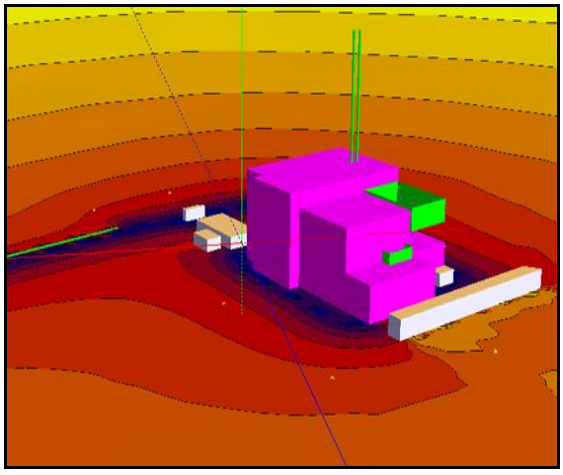
9.4 The exact specifics of which of the locations would be long term and which short term would be concluded on site due to access permission and safety of the equipment.

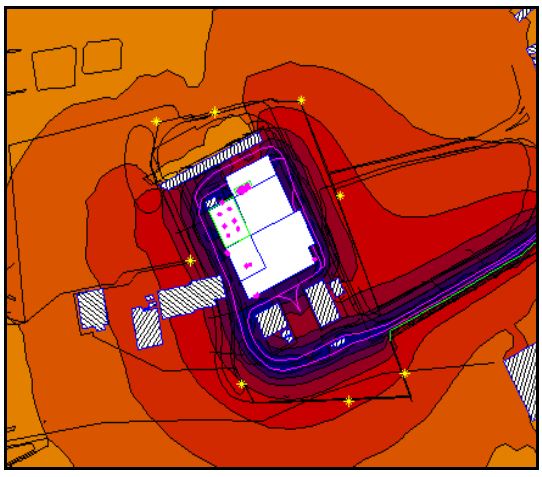
9.5 Noise levels will be measured in terms of A-weighted broad band L_{eq}, L_{10}, L_{90} and L_{max}.

9.6 Construction of a 3D noise model of the site and surrounding area within SoundPLAN 7.2 to predict the propagation of noise generated by the AD and Gasification facilities to the identified nearby noise sensitive receptor locations.

9.7 The model would cover all identified on site noise generating operations including fixed and mobile plant (internal and external) and on site vehicle movements. This modelling exercise would be undertaken in line with the following recognised methodologies and would cover both daytime and night-time operations:

- **ISO 9613-2:1996** *Acoustics -- Attenuation of sound during propagation outdoors -- Part 2: General method of calculation*; and
- **BS 5228-1:2009** *Code of practice for noise and vibration control on construction and open sites-Noise*





9.8 Consideration of vehicle noise associated with the fuel that would require to be shipped onto site. Consideration would be made of both on and off site vehicle movements subject to the availability of information.

9.9 Consideration of construction noise and vibration issues on the basis of a combined quantitative/qualitative basis covering control measures and limits on construction operations.

9.10 Assessment of the impact of the proposed facility would be undertaken at the identified nearby sensitive receptor locations in accordance with, but not limited to, the assessment methodologies as detailed below:

- National Planning Policy Framework 2012;
- BS4142: 1997 - Method for rating industrial noise affecting mixed residential and industrial areas;
- BS8233: 1999: 'Sound insulation and noise reduction for buildings - Code of Practice';
- BS 5228-1:2009 Code of practice for noise and vibration control on construction and open sites-Noise; and
- Design Manual for Roads and Bridges (HD213/11 Rev1)

9.11 Where appropriate consideration within the design stage of the facilities would be given to appropriate noise mitigation measures in order to ensure that appropriate noise limits are met based upon the above standards and guidance criteria.

9.12 The assumptions used in the production of the noise model will be verified at commissioning by repeating the baseline noise survey.

10.0 LANDSCAPE AND VISUAL IMPACT

Introduction

10.1 The site is allocated for industrial uses and, as a former colliery, is considered previously developed. However, a preliminary desk-based site search indicates that the development site would be visible from a number of potentially sensitive receptors, including public rights of way (**PRoW**) and residential properties:

- the local footpath and bridleway network associated with the Dearne Valley, including the Dearne Valley Way regional trail;
- the local and regional road network, notably the A6195 (Park Spring Road) which abuts the site and Storrs Mill Lane to the west;
- residential areas in the villages of Great Houghton. Little Houghton, Edderthorpe and Cudworth Common; and
- isolated residential properties and farmsteads such as Crook House Farm.

10.2 In addition to these receptors the site also lies in close proximity to the local Green Belt, so consideration should also be given to the potential impacts on the Green Belt and its setting.

Methodology

10.3 The Landscape and Visual Impact Assessment (**LVIA**) will consider the potential effects of the development upon:

- Individual landscape/townscape features and elements;
- Landscape/Townscape character and quality (condition); and
- Visual amenity and the people who view the landscape.

10.4 A LVIA of the proposed scheme will be undertaken by a Chartered Landscape Architect with experience of similar types of development. The assessment will be undertaken in accordance with best practice outlined in published guidance:

- Guidelines for Landscape and Visual Impact Assessment, 3rd Edition (2013) Landscape Institute and the Institute for Environmental Management and Assessment;
- landscape Character Assessment Guidance for England and Scotland (2002) The Countryside Agency and Scottish Natural Heritage; and
- Guidelines for Environmental Impact Assessment (2004) Institute for Environmental Management and Assessment.

10.5 A key element of the LVIA process involves establishing the sensitivity of the baseline landscape and visual receptors. Criteria thresholds will be established to determine the landscape and visual sensitivity. These are for general guidance only and the assessment will also rely on professional judgement, which will be clearly explained, as necessary, in the technical report.

10.6 The development of the scheme proposals and the assessment will be an iterative process. Baseline information regarding landscape features and existing built form and sensitive

visual receptors, and the likely change in the landscape character and visual amenity of the site and its surroundings, will be used to identify potential impacts and inform the final scheme as appropriate.

10.7 Mitigation measures will be developed in tandem with the proposals to minimise adverse impacts as part of the iterative design process. Options for screening various components of the scheme will be investigated and adopted as mitigation measures where appropriate.

10.8 Criteria thresholds for assessing the degree of change as a result of the scheme will be established, in line with best practice, and the final layout of the scheme will be reviewed to ascertain the magnitude of change in the landscape and in views. Visual impact on historic features of interest will also be assessed which will in turn inform the cultural heritage assessment of impact on setting of such features. Where appropriate the assessment will consider cumulative landscape and visual impacts including those arising from adjacent and nearby proposals, which have planning consent or, which are under construction or operation.

Zone of Visual Intrusion

10.9 The Zone of Visual Intrusion (**ZVI**) of a scheme defines the broad area from within which it may be possible to see any part of the proposed works and helps to establish the potential for sensitive visual receptors. The site will not be visible outside this area or will be very difficult to perceive. However, there will still be pockets within this zone from which there are no views of the study area due to the local screening effects of vegetation or other features such as buildings. Landscape features, which form visual barriers and restrict views towards parts of the study area, such as landform, settlements and woodland, can then be evaluated and significant barriers identified to refine the baseline visibility of the proposals. Visual detractors and focal points will also be identified.

Representative Viewpoints

10.10 Within the extent of the ZTV, it would impractical to illustrate the visual impact on every individual visual receptor affected by a scheme. Therefore, representative viewpoints will be agreed with the Local authority and then used to assess the impacts on the different range of views towards the site. These viewpoints will be illustrated photographically using a 50mm lens SLR camera or digital camera and the site boundary and significant features will be identified together with landmarks and features in the surrounding area.

10.11 Visual receptors, including the Key Viewpoints, will be recorded in a table detailing the following information: the nature and location of the visual receptor/viewpoint, the direction and angle of the view towards the scheme, the distance from the scheme and the nature and key components within the baseline view including any details about existing visual barriers.

10.12 The number and location of the representative viewpoints will be assessed by desk-based and site surveys and agreed in principal with the LPA landscape officer. Unless otherwise directed by the LPA the number of representative viewpoints will not exceed ten in number.

11.0 ECOLOGY AND NATURE CONSERVATION

Introduction

11.1 A Preliminary Ecological Appraisal (**PEA**) will be undertaken for the site in accordance with Institute of Ecology and Environmental Management (**IEEM**) Guidelines (2012).

Methodology

11.2 The PEA will consist of the following elements:

- Enhanced Phase I Habitat Survey and Protected Species Audit (field survey);
- Digitised Phase I Habitat Map;
- Habitat Quality Assessment (desk-based analysis); and
- Desk Study to include interrogation of DEFRA Magic Database, commissioning of 2km biological records search and consideration of local biodiversity plan.

11.3 In addition a full problematic species survey will be undertaken to check for the presence of undesirable species such as Japanese knotweed Fallopia japonica.

11.4 Whilst undertaking the PEA/problematic species surveys Enzygo would also undertake an evaluation of existing trees and structures on site to evaluate their potential for hosting roosting bats – as this would be a material consideration on any planning application.

Report

11.5 Based on the field survey and the desk-based information, a report will be prepared for inclusion in the ES. The report will include:

- A Phase 1 Habitat Map;
- Description of habitats and species present,
- A problematic species audit and mapping (if present),
- A Preliminary Bat Roost Assessment
- Recommendations for ecological mitigation/enhancement; and
- Recommendations for any further ecology work which may be necessary.

Specialist Additional Surveys

11.6 Depending on the findings of the initial ecological appraisal, it may be necessary to recommend additional ecological surveys to support the ES and planning application.

12.0 LAND AND WATER QUALITY

12.1 The following work will be undertaken in accordance with the model procedures for the Management of Land Contamination (CLR11):

- Site inspection walkover by an experienced consultant;
- Collection of geotechnical and environmental data;
- Inspect historical and geological maps and records;
- Review of historical maps;
- Borehole records available from the British Geological Survey;
- Obtain a mining search report, to include coal mining entry list and a mine gas emissions report and coal mine abandonment plans. We note that the site is in an area where risk has been identified; and
- Obtain planning information from the local authority web portal.

12.2 Based on the findings of the Phase I data collection we will prepare a report discussing the information obtained and assessing potential environmental risk.

12.3 Based on this we will prepare an ES chapter for contaminated land and mining for inclusion within the ES with the Phase I report included as a Technical Appendix.

13.0 HYDROLOGY AND FLOOD RISK

Background

13.1 For the purpose of assessing the hydrology and flood risk as part of our proposal for the site, a brief desk based assessment of the flood risk has been undertaken in accordance with NPPF and associated Technical Guidance has included a review of the Environment Agency Flood Zones and Strategic Flood Risk Assessment (**SFRA**).

13.2 The Hydrology and Flood Risk work will be split into two separate phases of work, these are:

- Flood Risk Assessment; and
- Environmental Statement.

13.3 The FRA and ES will be undertaken in accordance with the policies and advice obtained from the Environment Agency, the Water Regulators, the Barnsley SFRA and the Local Planning Authority.

Flood Risk Assessment

13.4 The FRA will detail the flood risk at the site and how this would be managed and mitigated to allow development of the site for an integrated waste management facility. The proposed scale of development may present risks of flooding on-site and/or off-site if the surface water run-off is not effectively managed. To this end the applicant has included for SUDs within the proposal.

13.5 For the purpose of assessing the flood risk as part of this FRA proposal, a brief desk based assessment of the flood risk has been undertaken in accordance with the NPPF & TG, has included a review of the Environment Agency Flood.

13.6 Standing advice from the Environment Agency states that:

> *"All planning applications located in flood zone 3 and/or 2, or on sites over 1 hectare should be accompanied by an FRA".*

13.7 NPPF also states that an appropriate FRA for a site will be required to demonstrate how flood risk, from all sources, to both the development site and other areas will be managed both now and in the future, taking into account climate change. This includes an assessment of surface water and drainage. Therefore, a FRA for this site will be required to gain Environment Agency and Local Planning Authority (**LPA**) approval.

Methodology

13.8 The aim of the study is to assess the level of flood risk at the development site, based on current Environment Agency flood level information. To this end we present the following scope of works, costs and timetable for the study, as outlined below.

13.9 In order to achieve the overall project aim, the following objectives will be satisfied:

- Assess the flood risks posed to the site from all sources (e.g. fluvial, tidal and surface water/sewer drainage) using current data;
- The effects of climate change throughout the lifetime of the development will be taken into account;

- Determine the effects on the proposed developable area based on the current understanding of flood risk;
- Carry out sewer searches and consult with Yorkshire Water in relation to foul and surface water discharges;
- Discussions will be held with the Environment Agency to discuss both the proposals and the flood risks to the site. Enzygo will also take this opportunity to collect any additional data that has become available; and
- Determine suitable mitigation measures and prepare a report in accordance with the NPPF & Technical Guidance.

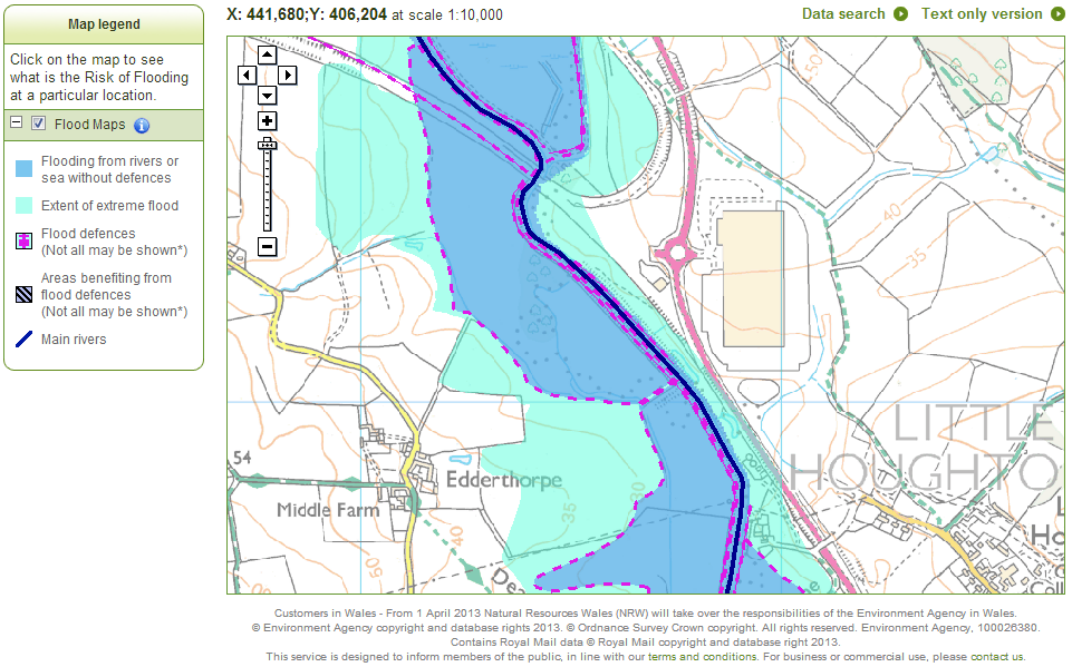
Current Flood Risk

13.10 From our initial investigation with regards to flood risk at the site we have concluded that the site has a 'low probability' of flooding due to the site being located within the Environment Agency's Flood Zone 1, this is based on the leasehold boundary and not the overall red line boundary (see below).

13.11 The proposed development would only be compatible with the flood risk after the completion of a satisfactory flood risk assessment.

13.12 From our initial assessment, we regard the key issues at this site to be:

- Surface water drainage from the developed site; and
- Flood risk to offsite locations due to an increase in surface water runoff.



Approach to this Scheme

13.13 The FRA will be undertaken in the following stages:

a. Project Start-up Meeting, Liaison/Meetings with the Water Regulators It is expected that an initial telephone conversation will be held with the Environment Agency at an

early stage and the Water Regulators to discuss their views to this development and agree a detailed methodology in order to avoid issues at a later stage.

b. Assessment of flood risk using the available data the existing and future flood risks to the site from all sources will be undertaken (e.g. tidal and drainage networks). The effects of climate change (*e.g.* sea level rise) using the industry standard advice given in the NPPG and TG will be taken into account. Site specific flood risk mitigation measures will be recommended to manage and mitigate the flood risk posed to the development site including recommendations with regards to appropriate flood resilience and resistance measures will be made.
c. Surface Water Management Strategy will be incorporated into the FRA detailing the range of options for the attenuation of storm water runoff through the use of Sustainable Drainage techniques. It is proposed that a MicroDrainage WinDes model will be constructed of the site in order to determine the required levels of storm water storage required.
d. Sequential Test, should the detailed developed built boundary encroach on the floodplain this assessment would be required.

ES Chapter

13.14 The findings and conclusions from the above assessment work will be incorporated into a chapter for inclusion in the ES. The FRA will form an appendix of the ES.

14.0 ARCHAEOLOGY AND CULTURAL HERITAGE

Methodology

14.1 Cultural Heritage assets (archaeology, historic buildings and historic landscapes) within a 2 km radius and designated assets within 5 km radius will be reviewed. Direct impacts affect only assets within the site boundary and it is thought that few if any features may survive within this area, although this will need to be confirmed. Surviving industrial features may be included as historic environment assets. Indirect impacts, principally visual intrusion, will need to be checked with reference to ZTV.

14.2 We will adopt the following methodology:

- Review records for direct impacts of the proposed development (site boundary and immediate locality);
- Review records for indirect impacts (2km radius all sites, listed buildings and other designated sites), 2–5km radius all designated sites); and
- Review documentary, cartographic and air photographic records for the location in order to identify any assets not listed in the Historic Environment Record.

14.3 The tasks to be undertaken will include the following:

- Acquire Historic Environment Records information for 2kM radius and designated sites within 5 km radius;
- Undertake reviews of recorded assets;
- Check published local history and other sources;
- Check published documentary, cartographic (Tithe Map and historic OS maps) and air photographic (Google earth and if necessary National Monument Records air photographs) data;
- Prepare summary archaeology and landscape development description;
- Undertake predictive analysis on archaeological data;
- Identify direct and indirect impacts; and
- Produce mitigation strategy.

14.4 The assessment will be presented as a chapter for inclusion in the ES.

15.0 SOCIO-ECONOMIC IMPACTS

Introduction

15.1 This assessment will take into account the potential impact of the Facility in terms of employment, economic impact and community.

15.2 It will consider employment, business, tourism, and land-use issues in and around the development and provide comment where these are likely to be affected by the proposal.

Existing Conditions and Proposals

15.3 The site is located on brownfield land in an area identified as an '*Employment Policy Area*' (Policy DA3) and an '*Area of Investigation for Potential Employment Development*' (Policy DA4) in the Barnsley Unitary Development Plan (December 2000) (Saved Policies).

15.4 The potential impacts of the proposed development on the existing and future population and economy will be considered as a primary issue within the ES. Potential areas for consideration include effects on incoming investments, employment creation, business activities, property values, tourism, increases in traffic accidents and provision of heat and power associated with the proposed Facility.

15.5 The proposed development will result in temporary and permanent employment in the area for local people. There will be a temporary increase in employment of workers during the site preparation and construction phases. The new jobs likely to be created by the development will be associated with transport, and the general operation and maintenance of the plant. The project also has potential for increased spending in the local community primarily through indirect effects and potential benefits associated with energy recovery.

Method of Assessment

15.6 The assessment will comprise a desk based study and consultations with relevant organisations to obtain data on the local population and economy and the impacts of comparable schemes. It will examine the potential impacts of the proposed development on present and future businesses and residential development locally, including the provision of heat to local users, and will consider future employment and socio-economic impacts for the local and wider community.

15.7 The specific community impacts of associated traffic, noise and air quality assessment (evaluation in other sections of the ES) will be summarised.

16.0 OTHER CONSIDERATIONS

16.1 It is envisaged that the planning application may need to be accompanied by a number of other documents, as set out below. These will not be included in the ES but will form part of the planning application and are included here for completeness:

- Sustainability Statement;
- Planning Obligation Heads of Terms;
- Arboricultural Assessment; and
- Coal Mining Risk Assessment.

16.2 The requirement, or otherwise, for the above assessments and documents will be the subject of pre-application discussions with the Local Planning Authority (**LPA**).

17.0 CONCLUSIONS

17.1 Peel intends to apply to BMBC for planning permission to develop a Renewable Energy Park comprising a 60,000tpa AD facility and a 150,000tpa TRRC. The facility will generate a combined 23MW (net) of renewable energy.

17.2 The proposed project falls within Schedule 1 of the EIA Regulations. An EIA will be undertaken, and an ES produced to accompany the planning application.

17.3 This EIA Scoping Report is a formal request for a scoping opinion from the LPA under Section 13 of the EIA Regulations.

17.4 Where there are factors which have the potential to cause environmental impacts, these will be examined and the results included within the environmental statement.

17.5 The planning application for the proposed development will be accompanied by a supporting Planning Statement as well as the ES.

17.6 The ES will draw upon the interactions identified in this Scoping Report, in order to provide an assessment of the scale and significance of the potential impacts which may occur as a result of the proposed development. The ES will propose mitigation measures, as appropriate, to minimise and potential adverse impacts.

17.7 As an iterative process, the scope of the assessment will be refined following consultations with a wide range of authorities, statutory agencies and interested parties.

17.8 During the design process, account will be taken of studies on the following subjects:

- Air Quality and Emissions;
- Human Health;
- Traffic and Transport;
- Noise and Vibration;
- Landscape and Visual Impact;
- Ecology and Nature Conservation;
- Land and Water Quality;
- Hydrology and Flood Risk;
- Archaeology and Cultural Heritage;
- Socio-Economic Impacts and
- Cumulative Impacts.

17.9 The results of the studies and recommendations will be included and incorporated into the design of the site. Full regard will be given to the current and emerging national and local planning guidance and policies in the preparation of the Planning Statement and the ES.

APPENDIX 1: SITE BOUNDARY PLAN AND PROPOSED SITE LAYOUT PLAN

Key

Site Boundary

Little Park

Tunnel

Dismantled Railway

Track

Drain

Path

47m

Workings (disused)

Houghton Main Colliery Roundabout

River Dearne

Ash Tree Stables

Edderthorpe

CROOKE HOUSE LANE

North Carr Lane (Track)

PARK LANE

LITTLE

4070^{00}

4065^{00}

4060^{00}

4410^{00}

4415^{00}

4420^{00}

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enzygo
environmental consultants
STEP Business Centre, Wortley Rd, Sheffield, S36 2UH

CLIENT: Peel Environmental Ltd

SCALE: 1:5,000@A3

PROJECT REF: CRM.066.001.D.002

DRAWN: MG

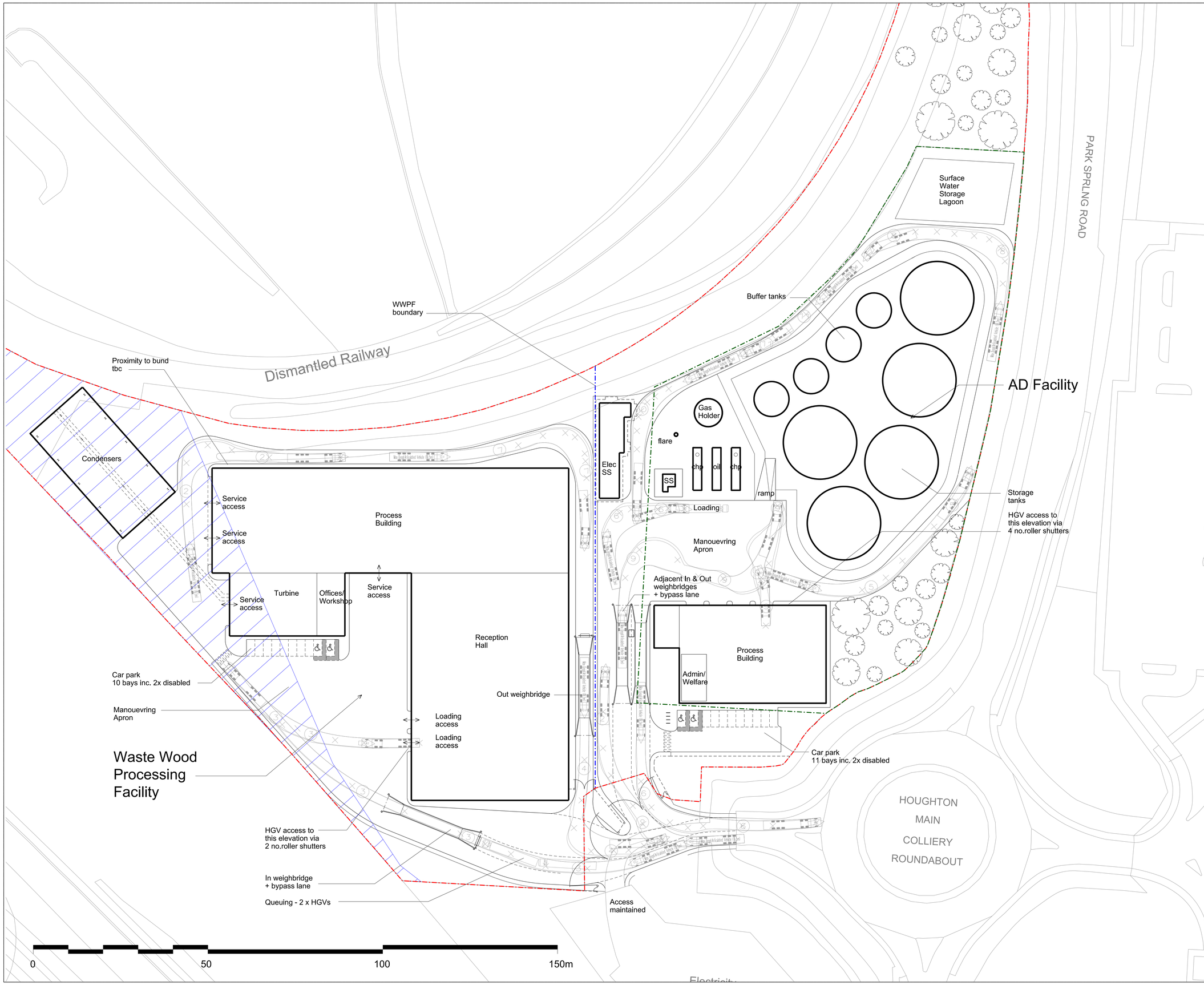
CHECKED: TB

DATE: Nov 2013

PROJECT: Houghton Main

TITLE: Site Boundary Plan

FIGURE NO: 1



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NORTH

KEY

- Site boundary
- AD lease boundary
- Flood zone 2 (EA ref 27509)
- Potential landscaping

E	140204	Minor changes made
D	140127	Potential landscaping indicated
C	131219	AD tank layout revised
B	131125	AD layout revised
A	131115	WW circulation revised

FOR INFORMATION

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Fax. 020 7381 4995

HOUGHTON MAIN

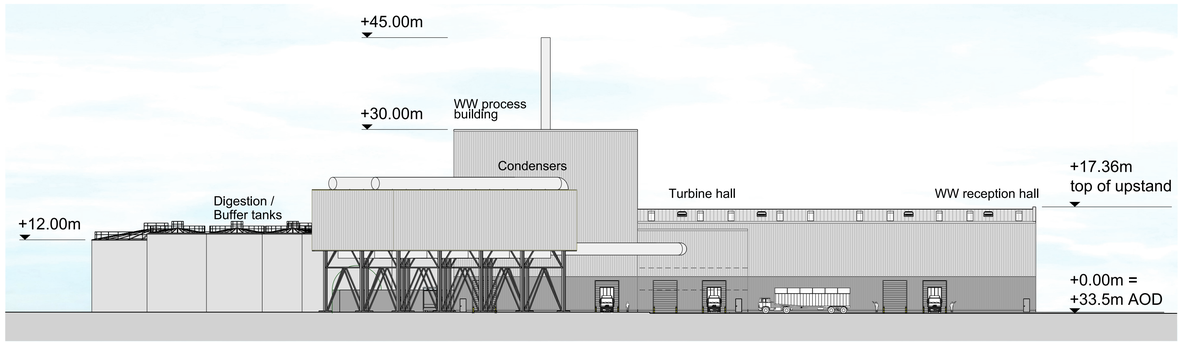
PROJECT

Proposed Site Layout

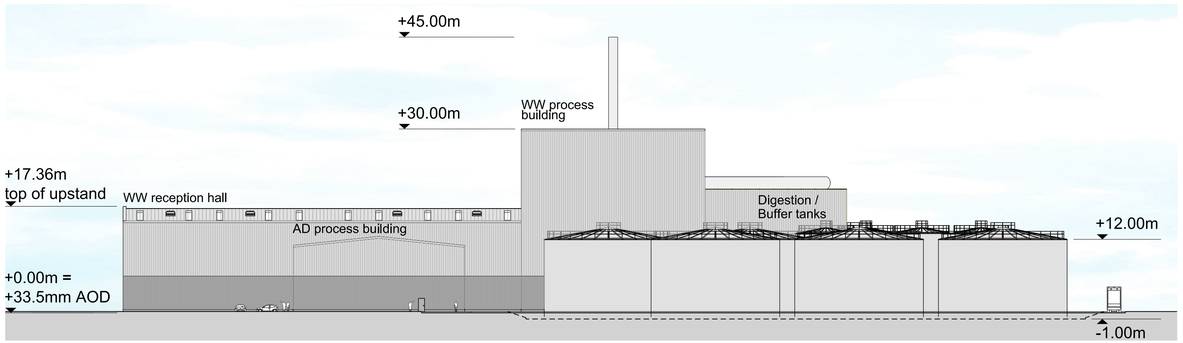
DRAWING

1:500@A1	140204
SCALE	DATE
1302_SK002	E
DWG. NO.	REVISION CHECKED

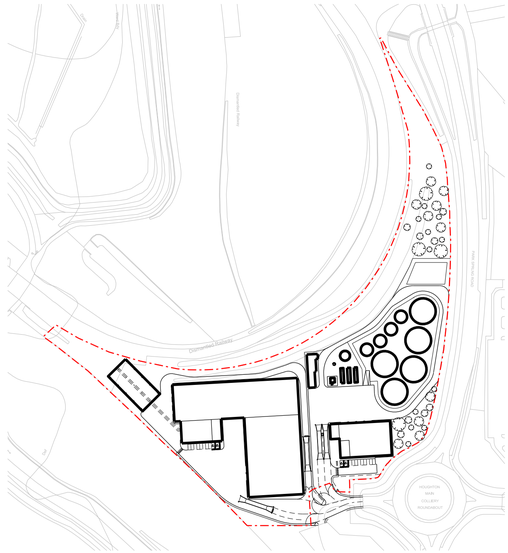
APPENDIX 2: INDICATIVE SITE ELEVATIONS



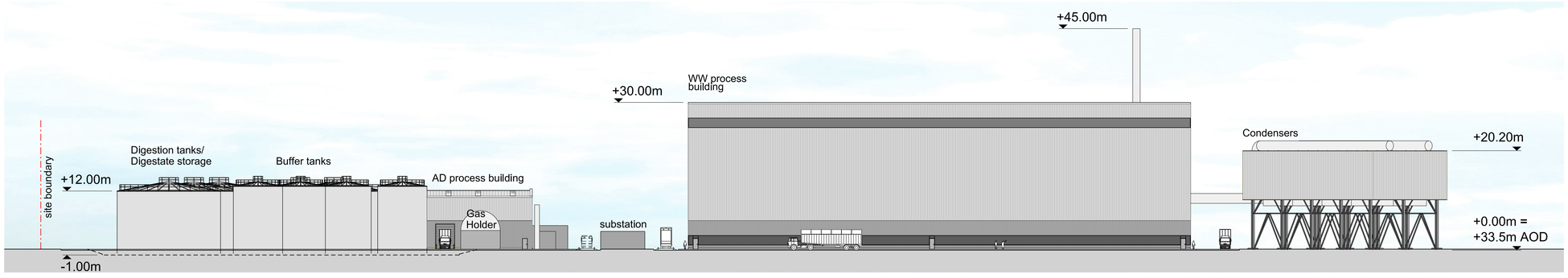
West elevation



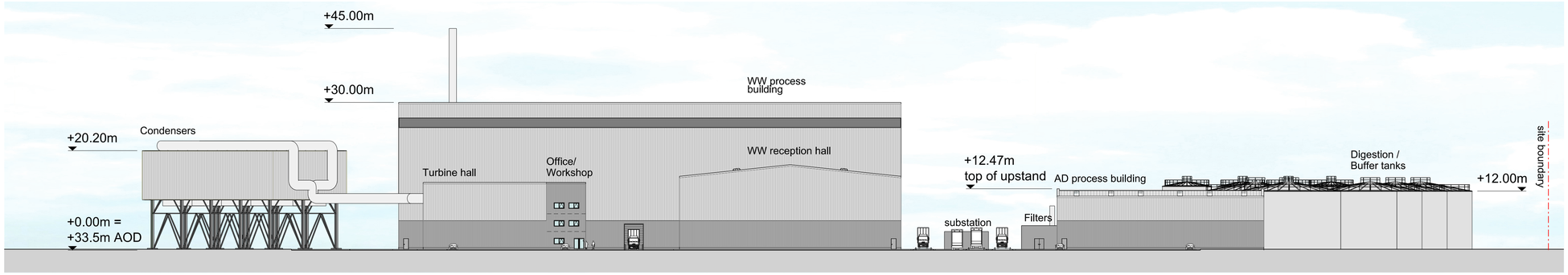
East elevation



Location plan 1:2500@A1



North elevation



South elevation

0 50 100 150m

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4. WHERE DISCREPANCIES EXIST BETWEEN REFERENCE OR ASSEMBLY DRAWINGS & DETAIL DRAWINGS, THE LATTER TAKE PREFERENCE.

KEY

Site boundary

B	140204	Louvers, vent cowls and rooflights shown
A	140127	Issued for information
-	140113	Issued for information

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HOUGHTON MAIN

PROJECT

Proposed Elevations

DRAWING

1:500@A1	140204
SCALE	DATE

1302_SK003	B	-
DWG. NO.	REVISION	CHECKED

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Minerals Planning
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Environmental Planning
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