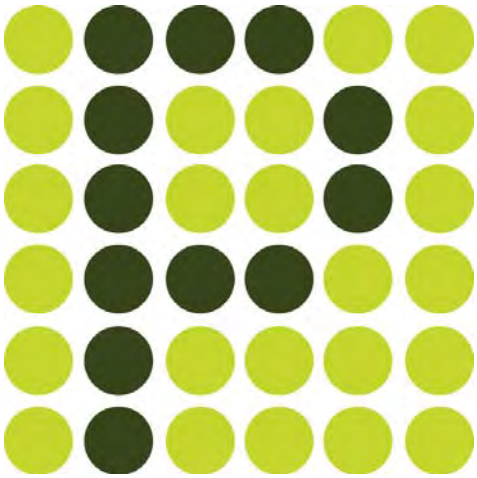
JOHN POINTON AND SONS LTD

CHEDDLETON INDUSTRIAL ESTATE

PLANNING APPLICATION
FOR A RENEWABLE ENERGY FACILITY TO PROVIDE ELECTRICITY AND HEAT TO EXISTING INDUSTRIAL OPERATIONS AT THE WIDER JOHN POINTON'S AND SONS SITE INCLUDING RE GRADING OF EXISTING EMBANKMENTS

ENVIRONMENTAL STATEMENT



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PREFACE

(i) This Environmental Statement accompanies the planning application submitted by John Pointon & Sons Limited for the erection of a renewable energy facility to provide electricity and heat to existing industrial operations including re- grading of existing embankments at the wider John Pointon's And Sons site at Cheddleton, Staffordshire.

(vi) Owing to the nature of the proposals and size of the application area, it is considered that the proposals constitute EIA development as defined under the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 ("the EIA Regulations"), and this Environmental Statement sets out the findings of the EIA process.

(vii) Environmental Impact Assessment was first introduced into English law by regulations in 1988, though the original procedure was originally known as Environmental Assessment. The Town and Country Planning (Environmental Impact Assessment) Regulations 2011 (EIA Regulations), came into force in August 2011 and consolidated and replaced provisions of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 1999 and any amending legislation.

(viii) Copies of this Environmental Statement are available for inspection at the offices of Staffordshire County Council and at the application site. Further copies may be purchased at a cost of £150 from:

David L Walker Limited
Albion House
89 Station Road
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(ix) The Environmental Statement (ES) is additionally accompanied by a Supporting Planning Statement (SPS) and a Non-Technical Summary (NTS), the purpose of the latter document being to ensure that the findings of the studies undertaken can more readily be disseminated to the general public and that the conclusions are easily understood by non-experts as well as decision makers. It is therefore essential that the NTS reflects in an accurate and balanced way the key information contained in the ES and SPS, describing all conclusions, and the facts and judgements on which they are based.

(x) The SPS provides a full review of Development Plan policies (both adopted and emerging) and sets out a justified need argument for the proposed development.

SECTION 1 INTRODUCTION

1.1 Aims of the Environmental Statement

1.1.1 The Environmental Impact Assessment (EIA) Regulations integrate the EIA procedures into this existing framework of local authority control and these procedures provide a more systematic method of assessing the environmental implications of developments that are likely to have significant effects. Where the EIA procedure reveals that a project will have an adverse impact on the environment, it does not follow that planning permission must be refused. It remains the task of the local planning authority to judge each planning application on its merits within the context of the development plan, taking account of all material considerations, including potential environmental impacts.

1.1.2 For developers, EIA can help to identify the likely effects of a particular project at an early stage. This can produce improvements in the planning and design of the development; in decision-making by both parties; and in consultation and responses thereto, particularly if combined with early consultations with the local planning authority and other interested bodies during the preparatory stages. In addition, developers may find EIA a useful tool for considering alternative approaches to a development. This can result in a final proposal that is more environmentally acceptable, and can form the basis of a more robust application for planning permission. The presentation of environmental information in a more systematic way may also simplify the local planning authority's task of appraising the application and drawing up appropriate planning conditions, enabling swifter decisions to be reached.

1.1.3 The main objectives of this Statement are:

(a) to identify and describe the existing environmental status of the site and its surrounding environs;
(b) to describe the proposed developments including the working method and restoration provisions, having full consideration of the size, scale and duration of various elements of the scheme;
(c) to identify any significant environmental effects of the development and, in the case of any effect which may be perceived to be harmful, the measures which are proposed in order to ameliorate it;
(d) in respect of enhancement, the long term benefits derived from the mineral extraction operations will be considered; and
(e) finally, a summary and conclusions are provided.

1.1.4 The application includes an Environmental Statement and a Supporting Planning Statement (SPS). In accordance with the

provisions of the Environmental Impact Assessment Regulations, a Non-Technical Summary is additionally provided.

1.1.5 This Environmental Statement details:

- Background Details to the Proposals;
- Existing Conditions;
- Proposed Development;
- Potential Environmental Impacts; and
- Summary and Conclusions.

1.1.6 Reviews of Development Plan policy and the need argument are provided in the SPS.

1.2 Assessment Requirements

General

1.2.1 The Environmental Statement identifies the existing baseline setting, the potential impacts of extending the mineral extraction operations, and any mitigation and/or management measures to overcome or reduce the potential impacts.

1.2.2 The Applicant has developed a good understanding of the impacts associated with operations at Cheddleton. Based on this and the Waste Planning Authority's planning application requirements the following technical areas have been considered:

- Air Quality
- ecology;
- Flood Risk;
- landscape and visual;
- noise; and
- transport.

Air quality

1.2.3 A comprehensive Air Quality Impact Assessment was undertaken by specialist consultants that involved a detailed review of potential emissions associated with the proposed development. The assessment considers the potential impacts of aerial emissions from the proposed operations on local receptors. The methodology follows the framework described in the IAQM: Land Use Planning and Development Control: Planning for Air and Environment Agency (EA) Air Emissions Environmental Risk Assessment Guidance for environmental permitting facilities.

Ecology

1.2.5 The Natural England and JNCC websites were consulted to obtain information pertaining to internationally protected sites and for citations of any Sites of Special Scientific Interest (SSSI) within 5km of the site. Information was also gathered on any National Nature Reserves (NNR) within 5km and Local Nature Reserves (LNR) within a 2km radius of the site.

1.2.6 The Extended Phase 1 Habitat Survey detailed in this report was undertaken by Crestwood Environmental on behalf of the applicant company.

1.2.7 An Extended Phase 1 Habitat Survey was carried out at the Site, in addition to this the following surveys were also carried out:

- Desk study to locate the presence of any designated wildlife sites that could be potentially affected by the Proposed Development;
- A Preliminary Bat Roost Assessment of trees at the Site; and
- A survey 30m outside of the Site boundary specifically for Badger setts.

Flood Risk

1.2.8 An assessment of baseline conditions for both hydrology and flood risk of the application site and surrounding area has been undertaken and includes a detailed review of:

- condition of waterbodies on or in the vicinity of the application site;
- information regarding existing users, local abstraction and discharge consents;
- extent of any catchment to be affected;

1.2.9 This information has been used to build a conceptual model and the assessment describes the impact of the proposed operations on the local surface water network as well as groundwater, including an assessment of the impacts on the water quality and catchment balance during operations and any proposed mitigation measures designed to combat these effects, i.e. overall drainage management regime.

Landscape and Visual

1.2.10 An independent landscape consultant has been commissioned to undertake a Landscape and Visual Impact Assessment of the proposed development (during construction and post completion).

1.2.11 The assessment takes account of government advice and the current guidance on assessment methodology. (Guidelines for Landscape and Visual Impact Assessment - 2013) .

1.2.12 The assessment evaluates and characterises the landscape in the context of existing landscape character assessment. Visually sensitive receivers within the zone of visibility of the site have been identified in order to assess the extent and nature of views.

1.2.13 The landscape impacts have been assessed in relation to the site itself; the impact of the proposed development on the identified landscape resources of the site and its character and the effects of the scheme on local landscape character, within the area surrounding the site. Viewpoints have been used to indicate the degree of visual impact during site operations and following commissioning of the plant. The extent of site visibility from public vantage points is graded (no view, glimpse, partial view, open view) and the character of the view described.

1.2.14 The information gained from the landscape and visual assessment has contributed to influencing any amendments to the scheme design and the baseline data is used to visually assess each stage of site operations including the use of 3D digital modelling of the proposed development.

Noise

1.2.15 A noise impact assessment has been undertaken to identify potential noise sensitive locations around the application site, measure existing background noise levels at selected locations, predict noise levels from site operations, compare predicted levels with measured levels and guidance limits and finally propose mitigation measures to reduce any potential noise impact.

1.2.16 Noise predictions have been undertaken for the proposed site operations at suitable points/noise sensitive locations, taking into account proposed mitigation measures where appropriate.

1.2.17 A comparison of predicted levels with background levels has been made, and an assessment of conformity with NPPF guidelines will be undertaken. This has assessed with the determination of significance of impacts, in terms of people affected, magnitude of impact and duration, and may lead to the implementation of additional mitigation measures.

1.2.18 Noise monitoring has been undertaken at free field locations with the microphone placed at a height of 1.5 metres above ground level. Noise monitoring instrumentation corresponds to Type 1 of BS:6698 and instrumentation has been calibrated before and after each monitoring period.

Transport

1.2.19 The existing operations at the John Pointon and sons wider site are long established and subject to existing limits and controls for vehicle movements (including times and overall numbers) derived from extant planning controls.

1.2.20 The application site sits wholly within the existing industrial site footprint which in turn benefits from a purpose built modern access road to the public highway.

1.2.21 The proposed development will generate additional vehicle movements (on average 15 in and 15 out per day) but these will be within the existing overall vehicle movements restrictions and comprise similar vehicles to those employed elsewhere on the wider site at present.

1.2.22 It is considered therefore that the predicted vehicle movements, hours of operation and likely movement patterns are such that a dedicated transport Assessment for the proposed development is not necessary and this can be scoped out of any EIA and Environmental Statement.

Other Issues to be Included

1.2.23 The Environmental Statement provides definitive descriptions of the proposed development which includes the erection of bespoke plant and machinery and associated earthworks. Full details are reproduced within Appendix 6 of this ES.

1.2.24 The Environmental Statement also makes reference to the potential impact on the public rights of way network in the vicinity of the application site.

1.2.25 The Environmental Statement makes reference to the Development Plan with the provision of a Planning Statement (SPS), which will itself include details on the need for the development and the potential socio-economic impacts.

1.2.26 The Environmental Statement examines the proposals in relation to current government advice documents that deal with the relevant issues identified through the Environmental Assessment process.

1.2.27 It is not considered that an assessment of alternatives is necessary in this instance as the proposed development is intrinsically linked to the established operations at the wider industrial facility.

1.2.28 Finally, the Waste Planning Authority's planning application validation criteria has been reviewed in full in order to identify the requirement for supplementary assessments.

1.3 The Applicant Company and Project Team

1.3.1 In addition to the in house staff of the applicant, the following technical experts have contributed to the EIA process:

- David L Walker Limited Chartered Surveyors – EIA Co-ordination Project Management and Town and Country Planning;
- Brooks Landscape Architecture– Landscape and Visual Impact;
- Vibrock – Noise;
- Smith Grant – Air Quality
- Crestwood Environmental - Ecology

Key Facts

1.3.2 Proposed Development – erection and operation of a biomass fuelled renewable energy plant for provision of heat and electricity to existing operations at the John Pointons and sons facility;

1.3.3 Application Area – 2.24 Ha

1.3.4 Current land use – cleared land within footprint of industrial operations

1.3.5 Maximum Stack height – 35m

1.3.6 Hours of operation – in line with existing operations

1.3.7 Anticipated maximum HGV movements per day – 15 in and 15 out

SECTION 2 SITE LOCATION AND CONTEXT

2.1 General

2.1.1 The 'Application Site lies approx. 1.5km south of Cheddleton and 6km south of Leek (national grid reference SJ976504). The site extends to approx. 2.2 hectares and comprises a man-made terrace and is one of three terraces part-bounded by remnant stone walls which descend a north-easterly facing slope to the east of the existing main industrial plant. An industrial warehouse occupies the northern (lowest) terrace and has a roof height extending to approx 219m above Ordnance Datum (AOD) with surrounding ground level at approx 204.5m AOD.

2.1.2 The Application Site lies on the middle terrace at an elevation of approx 209.5 AOD, and the southern terrace lies at approx 216.5m AOD. Both are open and comprise compacted subsoil surfaces. The three terraces are separated by steep engineered slopes with gradients of approx 1:1.5 to 1:1.8 each achieving a level change of approx 4-5m. The terraces were formed in advance of the construction of the energy centre consented under SMD/2008/0936 but which has not been built. The natural slope of the hillside is approx 1:13 and is followed by an access track and public footpath (Cheddleton 39) adjacent to the terraces and separated from agricultural land by an intact stone wall.

2.2 Landscape

Landform and Drainage

2.2.1 The Application Site is situated on boulder clay overlying Triassic mudstones which give rise to non-calcareous stagnolys. It lies at an elevation of approx. 209.5m AOD and comprises one of three man-made terraces formed on the north-east facing slope of the Churnet Valley south of Cheddleton. The slope rises to the south-west to an elevation of approx. 225 – 230m AOD with a high-spot at 234m AOD to the south-west of the existing industrial plant, and falls to approx. 130 – 140m AOD along the course of the valley bottom where both the River Churnet and the Caldon Canal are located. The topography of the area is a complex defining characteristic and is illustrated on Figure 2 Topography and Drainage within Appendix 1 of this ES.

2.2.2 The watercourses flow from Cheddleton in the north to the south-east with several tributaries joining the river from both sides of the valley, notably the streams through Consall Wood on the western side and Combes Brook and Collyhole Brook from the east. South-east of Cheddleton the River Churnet and Combes Brook meander across

more open floodplains before the river becomes more enclosed by steep wooded valley sides approx. 1km north of Consall Station. The eastern valley slope rises steadily to an elevation of over 300m AOD along Ipstones Edge approx. 5-6km to the east of the Application Site, eventually rising to 380m AOD at Blackheath, and to the far north-east the edge of the Peak District plateau at Morredge lies at approx. 400m AOD.

2.2.3 To the west the rolling topography lies in a series of minor ridgelines either side of the Deep Hayes valley and rises to the west and south-west to over 250m AOD in the vicinity of Rownall approx 2.4km to the west of the Application Site and Werrington approx. 4km to the south-west.

2.2.4 Standing water comprising small naturally or artificially retained pools along stream corridors is a feature of several locations including Combes Brook and Colleyhole Brook valleys, Consall Hall Gardens and woodland, Old Hall at Consall, and Ashcombe Park.

Land Cover

2.2.5 In the wider landscape farmed land dominates and is generally of Grade 4 poor quality i.e. land with severe limitations which significantly restrict the range of crops and/or level of yields, being either under permanent pasture or occasionally farmed as arable land. Overall woodland cover is generally confined to the slopes of the Churnet Valley particularly north and south of Consall Station where ancient and semi-natural deciduous woodland habitat covers the steeper valley slopes associated with the SSSI designation. More extensive ancient replanted woodland comprising mixed and coniferous plantation connects older woodland blocks at Consall Wood approx. 0.5km to the south-east of the Application Site, and between the site and Ashcombe Wood to the north whilst Ashcombe Park supports extensive woodpasture and parkland. Overall tree cover is high and in addition to woodland comprises mature hedgerow standards, over-mature hedgerows and belts of trees. Other habitat cover includes floodplain grazing marsh associated with the River Churnet and Combe Brook, and lowland fen at points along the river corridor.

2.2.6 There is very little vegetation within the Application Site and that which exists comprises colonising ruderal species and self-sett scrub on the slopes between the terraces, a small standard tree beyond the

north-western boundary and self-sett scrub alongside the south-eastern boundary. Fox's Plantation comprising mature deciduous woodland lies to the west of the existing industrial site. Established screen planting is located to the south of an external processing / silo area associated with the existing site, in a belt to the north-east of the existing plant, and to the north of the shed on the northern terrace.

Land Use and Settlement

2.2.7 Cheddleton village lies approx. 1.5km to the north of the Application Site and comprises mainly C20th residential expansion areas either side of the A520 with the older village core overlooking the Churnet Valley in the north. The Ashcombe Park Cricket Club with playing field and clubhouse is located along Basford Bridge Road on the southern edge of the village and is used by local football and cricket teams throughout the year and for community events. The John Pointon Sports and Recreational Facility is located adjacent to Bones Lane to the west and provides outdoor sports facilities and children's playground.

2.2.8 The A520 links Cheddleton with the edge of Stoke-on-Trent at Werrington approx. 4km to the south-west. South of the main part of Cheddleton lies an area of mostly C20th residential properties located around the junction of the A520 and Folly Lane, and the village of Wetley Rocks is located at the junction of the A520 and A522 approx. 1.5km to the south of the Application Site. Away from the main roads the village of Consall lies approx 1.75km to the south of the Application Site, the village of Ipstones lies approx. 4.5km to the south-east, the hamlet of Basford Green lies approx. 1.8km to the north-east, and the dispersed settlement of Rownall lies along Rownall Road road approx. 2.4km to the west of the Application Site.

2.2.9 Isolated non-agricultural land uses include the existing industrial site, a water treatment works approx 1km to the north-east of the Application Site, industrial estates at Leekbrook and to the north of Cheddleton, and a range of tourist attractions based on historic land uses such as the Caldon Canal and Churnet Valley Railway and stations alongside the River Churnet to the east, and the gardens and woodland at Consall Hall. Occasional infrastructure uses include several communications masts on Ipstones Edge, wind turbines above Morridge Side adjacent to the Peak District National Park, and lines of pylons and overhead lines crossing the landscape to the west of Rownall.

Public Rights of Way

2.2.10 Footpath Cheddleton 39 is located along the track defining the eastern boundary of the site and provides a link between the Churnet Valley in the east and, continuing as Footpath Consall 6, Folly Lane south of Cheddleton in the west. Footpath Cheddleton 40 crosses Ashcombe Park to the south of Cheddleton to join Cheddleton 39 near the water treatment works. In addition The Staffordshire Way and Churnet Way long distance footpaths follow the route of the Caldon Canal towpath and The Staffordshire Moorlands Walk follows several routes across the west-facing hillside of the Churnet Valley

Cultural Influences

2.2.11 The area is predominantly rural with limited remaining influence of the historic industry which brought about the construction of the canal and railway which are now both components of a heritage landscape focused on the promotion of tourism to support the rural economy.

2.2.12 The canal and railway form key points of interest within the wider Churnet Valley Masterplan area. The Caldon Canal was built in 1776 to carry limestone from the quarries at Cauldon Low (on the edge of the Peak District in the east and delivered to the canal by tramway) to Stoke on Trent. The canal is now managed by the Caldon and Uttoxeter Canals Trust as a navigable waterway.

2.2.13 The Churnet Valley Railway was opened in 1849 and although originally envisaged as a main route between Manchester and Derby it was generally operated as a local route serving Macclesfield and Uttoxeter. As a consequence efforts to promote the Churnet Valley as a tourist destination were closely linked to the viability of the railway which was at times used to provide a means of transport to Alton Towers, and the valley was publicised as ‘Little Switzerland’ by local entrepreneurs. The Cauldon (sic) Lowe Branch Line (formerly the canal tramway) is also part of the tourist line.

2.2.14 The Coombes and Churnet Valleys RSPB reserves generally correspond to the extent of the SSSI areas and reflect a strong public interest in the wildlife of the area.

2.2.15 The Staffordshire Moorlands Historic Landscape Character Assessment (HLCA) (SMDC, 2010) identifies the historic industrial land use of the rendering plant with the Application Site under agricultural use lying adjacent to the eastern boundary of the

Ashcombe Park historic park and garden. The original park may have been a deer park associated with the 16th-century Botham Hall which previously stood on the site. The present Grade II* house was built between 1807 and 1811 and the current landscape including Ashcombe Wood and Fox's Plantation dates from the early 19th century with early 20th century additions. Historic geometrical field patterns associated with the 1737 Enclosure Act and are still largely evident and would have included the Application Site in its undeveloped state. The aesthetic attributes of the listed buildings, parkland and planned enclosures are highly valued although the land is in private ownership and there is no public access other than via Footpath Cheddleton 40.

Aesthetic and Perceptual Qualities

2.2.16 These attributes relate to the experiential aspects of the landscape and people's emotional responses which are influenced by their understanding, preference, associations and memories. It is often reflected in statements about the scenic quality of a landscape, i.e. its sense of place, tranquillity, wildness etc.

2.2.17 The study area has a strong sense of place which is readily experienced when moving through the landscape and which is evident through the contrast between the different scales of enclosure within the small cloughs and larger Churnet Valley which are also often wooded, and the more elevated, open, and managed farmland of the plateaus. Land use, land cover and cultural associations are strongly related to the underlying landscape pattern. The high scenic quality and recreational opportunities of the area enhance people's enjoyment of the landscape and consequently the area attracts large numbers of visitors.

2.2.18 Tranqulity is relatively high within the Churnet Valley and to the east, and on the plateau south of Cheddleton, but quickly declines near busy roads and towns. There are occasional discordant elements such as the existing industrial plant but also notable vertical elements such as communications masts, wind turbines and lines of pylons and overhead lines in a landscape with an otherwise predominantly horizontal emphasis particularly from elevated locations.

Baseline Landscape Character

2.2.19 Landscape character is the distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another rather than better or worse, and which creates a particular sense of place.

2.2.20 Landscape character assessments distinguish between character types and areas and have been prepared at a range of scales. Landscape character types are broadly homogenous in character with similar generic combinations of topography, vegetation cover, drainage, land use etc, and may be found at several geographical locations. Landscape character areas are derived from types but are unique to a particular location, often incorporating a local name or reference. The landscape character assessment has drawn on existing studies to define the landscape character of the study area supported by evidence from the site visit. Relevant landscape character types and areas are illustrated on Figure 3 Landscape Character.

National Landscape Character

2.2.21 At a national level, England has been classified into character areas each with a descriptive profile maintained by Natural England. The Proposed Development site lies within the more easterly rural part of National Character Area NCA 64 Potteries and Churnet Valley away from the urban influence of the Stoke-on-Trent and Newcastle-under-Lyme conurbation. Relevant key characteristics, pressures for change and 'Statements of Environmental Opportunity' of NCA 64 are summarised in Table 1.1 below (Natural England 509, 2015).

Local Landscape Character

2.2.22 Local landscape character is broadly described in terms of landscape character types (LCT) and sub-types in 'Planning for Landscape Change' (SCC, 2001), and in more detail as landscape character sub-areas within the 'Churnet Valley Landscape Character Assessment' (CVLCA) (SMDC, 2011) which is also based on the landscape description units underpinning the LCTs. The Application Site lies within LCT Settled Plateau Farmland sub-type Farmland, and within sub-area 4a Consall.

2.2.23 The LCT Settled Plateau Farmlands sub-type Farmland is a landscape comprised of “dairying with some mixed farming in a semi-regular pattern of hedged fields, with scattered woods and areas of remnant heath. There is a dispersed settlement pattern of hamlets and farmsteads, with urban influences in places”.

2.2.24 The CVLCA describes the landscape character of the main study area stating, *the* "Churnet Valley is characterised by deeply incised, generally wooded valleys associated with the River Churnet and its tributaries. Outside of the valleys the land becomes a more gentle rolling landscape, with smaller valley features, and a more open, pastoral nature. Fields are mostly bounded by hedges, with dry stone walls associated with dwellings. The proximity to upland and gritstone landscapes changes the nature of the land to less intimate, with more ridgelines, and field boundaries are interspersed with dry stone walls. Views are generally experienced from higher ground. More enclosed views are experienced from within the cloughs and valleys. Remnant Historic Parkland is located throughout the study area creating a strong character to the area. The Caldon Canal, Churnet Valley Railway with disused railway lines, Rudyard and Tittesworth Reservoirs are distinct man made interventions of high value within the landscape."

2.2.25 The CVLCA was also informed by the HLCA which identifies the existing industrial land use of the rendering plant as lying within Historic Environment Character Zone 12 Ashcombe Park, with the Application Site outside the character zone but adjacent to the eastern boundary of the Ashcombe Park historic park and garden. The HLCA confirms that the Character Zone has high historic value because of the legibility of the remaining heritage assets, and high aesthetic value because of the well preserved parkland, listed buildings and their association with the planned enclosure.

Landscape Condition and Value

2.2.26 LCT Settled Plateau Farmlands sub-type Farmland is covered by a Landscape Policy Objective of ‘landscape enhancement’ and the policy objective states that “these areas have suffered some erosion of strength of character and loss of condition of landscape elements. In some, but by no means all cases, this appears to be linked to a change in the farming pattern, from grassland to arable production. It may be that in time a new character will emerge from that change, but

it is unlikely that the condition of traditional features such as small woodlands and hedges will improve without intervention. There is a particular need, therefore, to encourage relatively small-scale landscape conservation schemes such as hedgerow maintenance, habitat creation and tree and woodland planting, to stem the decline in landscape quality that will otherwise become more evident." The landscape quality of the area is stated as being moderate.

2.2.27 This local character area, while retaining many aspects of its scenic value, is under pressure and this is reflected in Planning for Landscape Change as the area having 'moderate' quality. In contrast the character of the Application Site and adjacent terraces has changed dramatically over a short space of time with the sudden loss of key characteristics and incomplete transition to a new character. It is considered to be degraded and in a poor condition with low susceptibility to change

2.3 Ecology

Baseline Conditions

2.3.1 Using a combination of desk study and field survey work the Baseline Situation (Baseline Conditions) of the Proposed Development has been established. This provides a transparent basis from which assessment results have been determined and against which professional judgements have been made.

2.3.2 During the field survey, the flora, fauna and other notable ecological features of the Site were recorded

2.3.3 As recommended in the Appropriate Guidelines, the value of features, habitats and species (flora and fauna), both within and surrounding the Proposed Development, were considered from international to Site value scales.

Desk Study

2.3.4 Prior to the field survey visit; a desktop data-gathering exercise was undertaken using available online resources.

2.3.5 The desk study included a search for statutory and non-statutory designated sites within the following ranges of the Site's boundary based on the estimated ZoI for the particular ecological feature:

- 2 km for sites of International/European nature conservation importance, which comprise: Special Areas of Conservation (SAC), Special Protection Areas (SPA),and Ramsar sites, as

well as all sites proposed for designation as such (candidate sites);
- 2 km for sites of national nature conservation importance, which comprise: Sites of Special Scientific Interest (SSSI) and National Nature Reserves (NNR);
- 2km for other statutory and non-statutory designated sites of nature conservation importance, comprising: Local Nature Reserves (LNR); Local Wildlife Sites (LWS) and Potential Local Wildlife Sites (pLWS)); and
- 250m for Habitats of Principal Importance (HPI) and Ancient Woodland.

2.3.6 Using a combination of aerial imagery (Google Earth) and OS mapping, the surrounding 500m was investigated for any presence of ponds, or other water bodies, which may be suitable for Great Crested Newts and connected to the Site by suitable habitat.

Field surveys

2.3.7 The Survey Area for each of the surveys listed below varies and is shown on the associated Figures within the Extended Phase 1 Habitat Survey Report Appendices.

Extended Phase 1 Habitat Survey

2.3.8 The Site is located off Bones Lane, Cheddleton in Staffordshire. The Site is currently an area of Bare Ground with some scattered spoil heaps and other minimal vegetation.

2.3.9 The surrounding land use is made up of agricultural land with several woodlands surrounding the Site in the local area and a large transport facility located to the southwest of the Site.

2.3.10 In the local area the main habitat wildlife corridors present are the Churnet Valley Railway Line, located approximately 1km northeast of the Site and the Caldon Canal and River Churnet located approximately 765m and 880m northeast of the Site respectively. A tributary from the Caldon Canal flows from the east to the south of the Site located approximately 350m at its closest point. Additionally, the numerous hedgerows in the local area will also act as corridors for wildlife. Fragmented areas of woodland within the local area and scattered trees may act as ecological “stepping stones” to provide some connectivity within the wider landscape.

2.4 Flood Risk

2.4.1 A Flood Risk Assessment (FRA) has been prepared in support of the planning application for a Renewable energy facility to provide electricity and heat to existing industrial operations at the wider John Pointon's and Sons site including re-grading of existing embankments

2.4..2 The proposals are situated on brownfield land immediately north of the existing operations on site comprising a series of graded landforms reflecting the hill side nature of the site.

2.4.3 The application site covers an area of 22,355m^2 situated on a hill side setting with a fall from 221m AOD in the south of the site, down to 204m AOD in the north. This is a manmade landform with elements of impermeable and permeable surfacing.

2.4.4 The application site has already been accepted as a location suitable for a waste related use via the provisions of planning consent SMD/2010/0411 dated 6 September 2010.

2.4.5 As such it is considered that the strategic test (i.e. stage 1 of the sequential test) has already been met. Similarly the land use (i.e. less venerable) is considered compatible in Flood Zone 1 (refer to guidance in the Flooding PPG).

2.5 Noise

2.5.1 Sound levels were measured continuously during a 4 – 5 day period from 12:00 on Friday 25 November to 12:00 on Tuesday 29 November 2016.

2.5.2 The data collected during this period has been used to characterise the existing acoustic environment at residential premises within the vicinity of the proposed site.

2.5.3 The location of the selected assessment locations identified for the purposes of this Report are shown in Figure 1 of the Noise Assessment reproduced at appendix 3.

Instrumentation

2.5.4 Monitoring was undertaken using the following equipment.

- Cirrus Class 1 Integrating Sound Level Meter CR:811C D20222FD
- Cirrus Class 1 Integrating Sound Level Meter CR:811C D21904FD
- Cirrus Class 1 Integrating Sound Level Meter CR:171B G056448
- Cirrus Class 1 Integrating Sound Level Meter CR:1710 G078475
- Cirrus Class 1 Integrating Sound Level Meter CR:171B G078477
- Cirrus Acoustic Calibrator CR:515 64328

2.5.5 The monitoring positions were ‘free field’ (no vertical reflective surfaces within 3.5 metres of the microphone) and at a height of between 1.2 – 1.5 metres above ground level. During all measurements the microphones were protected with outdoor windshields.

2.5.6 The following set-up parameters were used:

- Time Weighting: Fast
- Frequency Weighting: A
- Averaging-Integrating Period: 15 minutes
- Data Logging: Repeat (Contiguous)

2.5.7 With the equipment set up in the configuration used during measurement, field calibration checks were performed on site immediately before and after the survey period using a sound calibrator. No significant drift (i.e. no greater than ±0.5 dB) in the calibration value was observed between the initial and final checks.

Observations

2.5.8 Weather conditions during the background noise survey were dry and settled, with average wind speeds considered to be less than 5 ms-1 and predominantly from an eastnorth- easterly direction. Cloud cover varied between 2 – 8 oktas and temperatures ranged from 0 – 7oC.

2.5.9 The acoustic environment in the vicinity of the site is influenced by road traffic using the A520 Cheadle Road along with other local links. Industrial plant, activities and vehicle movements associated with the existing John Pointon & Sons site also contributed to the measured levels at some locations. Other notable sound sources included frequent birdsong, occasional aircraft, leaf rustle, agricultural activity and domestic noise associated with residential dwellings.

Results

2.5.10 A summary of the measured sound levels during time periods relevant to the noise assessment are presented in the table overleaf :

Location	Period	Time Period (T)	LAeq,T (dB)	LAmax,T (dB)	LA90,T (dB)
Glenhole, Bones Lane			Weekday		
	Daytime	07:00 – 23:00	53	83	47
	Night-time	23:00 – 07:00	51	71	48
			Weekend		
	Daytime	07:00 – 23:00	49	77	46
	Night-time	23:00 – 07:00	46	73	44
Cheadle Road			Weekday		
	Daytime	07:00 – 23:00	52	77	46
	Night-time	23:00 – 07:00	47	75	40
			Weekend		
	Daytime	07:00 – 23:00	51	84	44
	Night-time	23:00 – 07:00	44	65	35
Felthouse Farm			Weekday		
	Daytime	07:00 – 23:00	53	86	42
	Night-time	23:00 – 07:00	43	69	39
			Weekend		
	Daytime	07:00 – 23:00	53	87	40
	Night-time	23:00 – 07:00	40	64	32
Park House Farm			Weekday		
	Daytime	07:00 – 23:00	50	78	40
	Night-time	23:00 – 07:00	38	65	32
			Weekend		
	Daytime	07:00 – 23:00	50	77	39
	Night-time	23:00 – 07:00	39	68	31
Folly Lane			Weekday		
	Daytime	07:00 – 23:00	47	71	39
	Night-time	23:00 – 07:00	40	64	37
			Weekend		
	Daytime	07:00 – 23:00	44	74	38
	Night-time	23:00 – 07:00	34	63	32

2.6 Air Quality

Existing Development

2.6.1 The existing industrial facilities on site comprise an animal rendering plant which is operated under an Environmental Permit, ref: EPR/BK00861Y/V004, issued by the Environment Agency (EA). The primary activity at the plant is the extraction of tallow and meat and bone meal (MBM) from animal byproducts and which is undertaken within enclosed buildings. The main process odours are passed through 2 thermal oxidisers and discharged via two flues (Thermal Oxidiser No 1 and No 2) from a 28m high stack. Additional energy requirements for the process are provided by 4 gas fired (formerly

tallow fired) boilers which are connected to four flues in a common stack 28m high.

2.6.2 The Permit specifies emission limit values (ELVs) and monitoring requirements for the thermal oxidisers (NO2 and PM10); no ELVs are specified by the gas-fired boilers.

2.6.3 The Environmental Permit also includes for a meat and bone meal wastes biomass co incinerator and AD (Anaerobic Digestion) Plant; these facilities are however no longer to be constructed.

2.6.4 The closest residential properties to the wider site boundary are located to the immediate east at the site access on Bones Lane. The closest residential receptors to the proposed development are Felt House Farm and Woodlands Hall, located about 200m to the northwest of the eastern site boundary.

2.6.5 Ashcombe Park, a Grade II* Listed Building, is located 410m to the north of the site at its closest point. A hotel is located 55m southwest of the site entrance off the A520. There are no schools or hospitals or other such highly sensitive receptors within 500m of the site.

Nature Conservation Sites

2.6.6 No international statutory designated sites of nature conservation (SPAs, SACs, RAMSARs etc) have been identified within 5km of the site. One national statutory designated site (SSSIs) has been identified within 2km as detailed below. In addition, a number of non statutory local nature sites have been identified within 2km of the site as summarised below; these include Sites of Biological Importance (stated as being equivalent to Local Wildlife Sites) and Biodiversity Alert Sites. Of these Ashcombe Wood, a Biodiversity Site, forms the closest ecological receptor, lying about 265m of the site boundary.

Background Airborne Pollutant Concentrations

2.6.7 Predicted background air quality data for NO2, NOx, PM10 and PM2.5 were obtained from the Defra LAQM website for the 1km x 1km grid squares in which the application site and nearby receptors are located.

2.6.8 The predicted data is based on 2013 ambient monitoring and meteorological data and incorporate revised information on the age and distribution of vehicles and emission factors. Predicted data is provided by Defra for each year from 2013 to 2030. These interpolated measurements take into account existing local sources of emissions.

2.6.9 Predicted background concentrations for the current year (2017) are summarised in the table 5.2 of the Air quality assessment reproduced at appendix 4. The average background NO2 and PM10 concentrations for the grid square in which the assessment site is

located are predicted to be substantially below the AQS objectives at 35% and 42% respectively of the objectives in 2017.

2.6.10 It should be noted that the data are effectively an average concentration across each 1 km square. The pollutant concentrations will therefore be higher close to any significant source, such as main roads, junctions, and concentrated habitation.

2.6.11 A full analysis of the baseline air quality is set out within the air quality assessment attached.

SECTION 3 PROPOSED DEVELOPMENT

3.1 General

3.1.1 The site layout, vehicular access and elevations of the proposed renewable energy facility are shown on Reygen Ltd drawings 1782/2/001A2revF and 1782/2/002A1revD (reproduced at Appendix 6) and relevant aspects of the Proposed Development are described below.

3.1.2 The new buildings would be located on the middle terrace which would be re-graded to achieve formation levels of 207m AOD in the north-west of the site sloping up to 212m AOD in the south-east. Use of the available space across the slope would be optimised by extending the middle terrace to the south and by using retaining structures on the slopes between the application site and the terraces to the north and south. The existing track and PRoW would be re-graded to achieve the 212m AOD level required to provide vehicular access to the development from the south-east.

3.1.3 The footprint of the development would lie on a north-west to south-east axis and would comprise two buildings referred to as the turbine hall and the fuel hall, and several ancillary structures such as silos and adiabatic condensers adjacent to the sides of the buildings. The turbine hall would be approx. 47m wide (north-west to south-east) by 83m long (south-west to north-east) with a roofline at 20.5m above ground level (AGL) (extending to 227.5m AOD) and a finished floor level (FFL) of 207m AOD. The fuel hall which lies to the east of the turbine hall would be approx. 47m wide (north-west to south-east) by 76m long (south-west to north-east) with a roofline at between 15.5 and 10.0m AGL (extending to 222m AOD) with FFL of between 207m AOD in the west and 212m AOD in the east adjacent to the existing track due to the change in slope.

3.1.4 Three emissions stacks at the north-western end of the turbine hall would rise to a height of up to 35m AGL, i.e. 14.5m higher than the roofline, and would be grey in colour. The main body of the building would be faced in muted dark and light green metal sheet cladding with grey louvre ventilation panels and opaque windows approx. 5m below the roofline. External lighting would be restricted to down-lighting in vehicle and pedestrian circulation areas.

3.1.5 Fuel for the facility would be delivered in similar HGVs to those servicing the rendering plant and would approach the site from the existing track to the south of the Application Site and reverse into the development to deliver the fuel to the fuel hall. Upon leaving the building vehicles would turn left along the northern boundary of the site and leave the site using a newly constructed access track to the north-west of the turbine hall.

3.1.6 The transformer and metering equipment for the electricity generated by the proposed facility would be located inside the building. The steam generated by the process would be piped below ground to provide a resource for the existing industrial plant processes. Other utilities (electricity, telecoms, mains water and sewerage) would be installed beneath new hard standing areas where necessary within the development area with connections to services within the existing industrial plant area. There would be no requirement for surface water storage and all surface water would be collected and piped to existing surface water drains or used within the site.

3.1.7 Construction of the facility and external areas is anticipated to take approximately 12 - 18 months. Works would involve clearance of any remaining vegetation prior to the start of the bird nesting season, earthworks and construction of retaining walls, construction of the fuel hall and turbine hall including the use of cranes where necessary, utility connections to the existing industrial site, construction of a weighbridge, and external hard surfacing to allow vehicle circulation.

3.1.8 During operation the facility would generate electricity and steam 24 hours a day 7 days a week although vehicle movements would be restricted to between 7am and 7pm Monday to Friday and 7am to 2pm on Saturdays..

3.1.9 The REF will comprise a Biomass CHP plant, with a thermal input capacity of 44MWth and an electrical generating capacity of 6.5MWe, and associated infrastructure in the eastern part of the site. The combustion process will use moving grate technology to drive an Organic Rankine Cycle (ORC) turbine for electricity generation, and to produce heat for use by the wider facility. The proposals involve processing of approximately 83,000 tonnes per annum (tpa) of wood waste arising from construction and demolition activities delivered to the site for use as fuel.

3.1.10 The biomass is to comprise waste wood arising from construction and demolition wastes, and as such may be contaminated with halogenated compounds and heavy metals. The plant therefore will be covered by the waste incineration elements (Annex VI) of the Industrial Emissions Directive (referred to as the IED) and as such the plant will need to incorporate equipment to ensure compliance of combustion emissions with the limits and emission standards set by the IED.

3.1.11 The exhaust gas will be passed to three stacks located within the western part of the facility; following the review of results of preliminary modelling the stack heights have been increased to 35m.

3.1.12 On completion of the development it is envisaged that 3 of the 4 existing gas fired steam producing boilers would be utilised as stand-by boilers. All material is to be imported by road utilising the existing site access and weighbridge.

SECTION 4 DESIGN STATEMENT

4.1 General

4.1.1 With a view to minimising the environmental impact of their meat and bone meal rendering operations, to safeguard future employment at the plant and associated supply industries and to minimise costs, John Pointon & Sons have approached specialist consultants to investigate the opportunities for developing a biomass fired Combined Heat & Power (CHP) plant on the Cheddleton site to generate heat, in the form of steam and electricity to displace the fossil fuels being consumed on the site each year.

4.1.2 The existing site has sufficient space to allow the development of a biomass fired CHP plant and fuel preparation facility at the Eastern edge of the site on cleared land that lies wholly within the footprint of the wider industrial site.

4.1.3 The proposed energy generation facility has been designed as being a Combined Heat & Power operation to minimise biomass consumption and maximise the renewable thermal and electrical energy generation.

4.1.4 Significant work was then undertaken to identify the nature and extent of all energy consumption on the site as well as the operational requirements for all of the inter-linked energy consuming processes.

4.1.5 After detailed analysis by the consultants, it was confirmed that all of the steam demands from the three main steam boilers in boiler house #2 could be displaced by the same grade and temperature of steam being generated as part of the CHP process. It was also apparent that certain other gas fired processes could not be altered as they formed part of the operational abatement processes.

4.1.6 The initial, and all subsequent, designs have been based upon the electrical generation being based upon the Organic Rankine Cycle (ORC) process, rather than traditional steam turbines. The ORC generation process is a much more reliable and robust generation process, particularly with these smaller (less than 10 MW electrical output) generation projects. ORC generation is also much more versatile across the entire output range of the generator plant and, unlike steam driven systems, will not stall out at low outputs.

4.1.7 The first designs included for biomass fired two boilers feeding a single ORC generation plant with an electrical output (gross) of around 4.5 MW.

4.1.8 Further investigation of the steam demand cycle identified that this initial configuration would not entirely satisfy the thermal demand and would also significantly limit the electrical generation capabilities.

4.1.9 The second design iteration considered a third biomass fired boiler and, to cope with the available thermal energy at times when the steam demand was low, a single ORC generation plant with an electrical output (gross) of around 6.5 MW.

4.1.10 This configuration provided an energy generation package which allowed the full thermal (steam) demand to be met while at the same time generating sufficient on-site electricity to meet the electricity requirements for the established business.

4.1.11 The three biomass boiler system configuration provides sufficient redundancy that full steam demand can be met (at the sacrifice of electricity generation) if one boiler is out of service for any reason. When all three boilers are in operation and steam demand is low the project will also be capable of exporting zero carbon electricity into the local electricity grid.

4.1.12 The current design configuration will allow John Pointon & Sons Ltd to significantly reduce their environmental emissions, reduce their carbon footprint, control energy costs, safeguard local employment and provide clean electrical energy into the local community.

4.1.13 Full details of the proposed development layout and elevations are reproduced at Appendix 6.

SECTION 5 ENVIRONMENTAL CONSIDERATIONS

5.1 Introduction

5.1.1 Impact prediction for the scheme involves the analysis of potential impacts from the proposed operations on the environment and the determination of likely effects. The magnitude of physical extent of predicted impacts should be presented in quantifiable terms wherever possible.

5.1.2 It is considered that the basic stages of impact prediction are:

- identifying the activities in the development process likely to generate impacts, both positive and negative;
- identifying resources and receptors likely to be affected by those impacts;
- establishing the chain of events or pathways linking cause with effect;
- predicting the likely nature, extent and magnitude of any anticipated changes or effects;
- evaluating the consequences of any impacts identified; and,
- establishing which potential impacts (positive or negative) should be regarded as significant.

5.1.3 An integral part of the design process is to ensure that potentially adverse effects are avoided or minimised to an acceptable level by working to high environmental standards. The Applicant Company seeks to additionally ensure that, as far as practicable, the development entails a beneficial element by way of long term environmental improvements created through the substitution of fossil fuels in their established operations with more stainable renewable energy sources. The site design is aimed at balancing protection of the local environment with the need to provide the necessary heat and electricity to an established industrial operation that is consistent with sustainable development objectives.

5.1.4 The ‘receptors’ of environmental impacts arising from the proposed development are those elements of the environment that will be affected in some way by the development. For the purpose of the Environmental Assessment, these elements have been sub-divided into a combination of environmental elements and actual site activities and are as follows:

- visual impact;
- ecology;
- flood risk;
- noise;
- air quality and
- cumulative impact and interaction effects.

5.1.5 Each topic area is considered in terms of impact and is supported where necessary by mitigation measures in accordance with the EIA regulations.

5.2 Landscape and Visual Impact

General

5.2.1 The assessment of visual impacts likely to arise from the Proposed Development based on the assessment criteria for sensitivity, magnitude of change, and likely significance set out in Appendix 1. The assessment of visual effects is also supported by Key Viewpoints 1 – 13 on Figures 10-19 (including Viewpoints 2, 7 and 10 which have also been developed as photomontages).

5.2.2 The visual assessment has been undertaken for three stages of activity (construction, Year 1 and Year 15 of operation) in relation to the baseline situation which comprises the terraced slope, and in the context of the adjacent existing industrial plant site to the north-west and the existing industrial shed to the north.

5.2.3 The summary below identifies the visual impacts of the proposed scheme and focuses on significant effects, i.e. those which are Substantial or Large, and Moderate effects which cumulatively may have the potential to be significant. Other likely effects are described where relevant. It also considers the potential cumulative visual effects of the Proposed Development and its potential influence on or compliance with adopted policy.

Construction

5.2.4 There would be a Significant adverse effect on viewers at Viewpoint 10 Footpath Cheddleton 39 (south) which overlooks the terraced hillside adjacent to the existing access track. Users of this local PROW which is also located within the Green Belt are considered to be highly sensitive and the location provides an expansive view to a distant skyline formed of upland hills including The Roaches and Morredge at the PDNP boundary in the north, and Ipstones Edge and Consall Wood in the east. Construction of the Proposed Development would involve a high adverse magnitude of change to components of the view resulting in a high adverse effect with activities including clearance, regrading (including the access track), building construction (involving cranes) and construction traffic. The effect would be very localised and views of the skyline are reduced and interrupted by the roofline of the existing shed as the viewer descends the hillside.

5.2.5 Viewers at Viewpoint 9 Folly Lane / Footpath Consall 6 and Viewpoint 11 Footpath Cheddleton 39 (Felt House Farm) to the south and north respectively of Viewpoint 10 would not be significantly affected but the degree of change would be Medium adverse as higher level

construction activities would be noticeable and there would be a Moderate adverse effect on views from these locations.

5.2.6 Other visual effects during construction are limited to Slight adverse or No Change and involve both highly sensitive receptors such as residents, users of other PROW, the Green Belt, and visitors to the Churnet Valley Railway, and less sensitive visual receptors such as travellers, and users of the sports pitches.

Operation Year 1

5.2.7 In Year 1 of operation there would continue to be a Significant adverse effect on viewers at Viewpoint 10 Footpath Cheddleton 39 (south) where the new building would dominate the scene and greatly disrupt the skyline by reducing its scale and horizontal emphasis although views of the distant hills and woodland would remain. The view would also include more frequent movement of vehicles along the access track and overall there would be a Very High adverse magnitude of change resulting in a Substantial adverse effect. Viewers at Viewpoint 9 Folly Lane / Footpath Consall 6 and Viewpoint 11 Footpath Cheddleton 39 (Felt House Farm) would not be significantly affected although the degree of change would continue to be Medium adverse due to the inclusion of one or both of the rooflines and the new stacks in the views. There would continue to be a Moderate adverse effect on views from these locations.

5.2.8 The effect on the visual amenity of the Green Belt would remain as Slight adverse. Although the new development would impose a Very High degree of change in the immediate vicinity of the site and an overall Medium adverse effect on the PROW link comprising Cheddleton 39 and Consall 6 there would be no more than a perceived Low adverse magnitude of change elsewhere. The extent of affected publicly accessible open space is limited to a local PROW (Cheddleton 39) in the vicinity of the Proposed Development and there would be only a limited effect on views and skylines from other publicly accessible spaces within the Green Belt.

5.2.9 The effect for other receptors would continue to be Slight adverse or No Change based on either a low degree of visibility of the new development which would generally be perceived as being integral to the existing industrial plant site, or no perceivable change in view.

Operation Year 15

5.2.10 The Significant adverse effect on viewers at Viewpoint 10 Footpath Cheddleton 39 (south) would continue into Year 15 and beyond and in the absence of any intervening visual screening the new building would still dominate the scene and skyline and levels of vehicles movements would be the same. Overall there would be a Very High adverse magnitude of change resulting in a Substantial adverse effect.

5.2.11 By Year 15 the effect on both Viewpoint 9 and Viewpoint 11 would reduce to Slight adverse due to the greater visual screening coincidentally provided by maturing planting to the south of the main industrial site in the case of Viewpoint 9, and to the north of the existing shed in the case of Viewpoint 11. This would reduce the visibility of the rooflines of the new buildings but not the new stacks and there would be a reduced Low adverse magnitude of change.

5.2.12 The effect on the visual amenity of the Green Belt would remain as Slight adverse and although there would be a perceivable reduction in visibility of the new development from some publicly accessible locations the Significant effect on Viewpoint 10 would remain. The effect for other receptors would also continue to be Slight adverse or No Change.

Cumulative Visual Effects

5.2.13 In terms of visual effects three types of cumulative impact are considered as follows: Simultaneous visual impacts where two or more developments would be visible from a viewpoint within the same arc of view; Successive visual impacts where two or more developments would be visible from a viewpoint within successive arcs of view, i.e. by turning around;

5.2.14 Sequential visual impacts where one or more developments would be visible from a series of viewpoints along a linear route such as a road or footpath. There are no anticipated significant cumulative effects to views or visual amenity as a consequence of the Proposed Development.

5.2.15 Viewers using the PROW link between Folly Lane and Basford Bridge Lane formed by Footpaths Consall 6 and Cheddleton 39 are sensitive receptors and would experience several opportunities to view the construction and operation of the Proposed Development Views would include smaller-scale perceivable changes at distance involving the upper levels of construction, rooflines and the stacks, and large-scale dominant changes involving the disruption of the skyline, foreshortening of the view and introduction of the new buildings in views from the access track adjacent to the Application Site.

5.2.16 There are still lengths of the route that would have no view of the Proposed Development due to the visual screening of intervening landform and vegetation, and with time maturing screen planting associated with the existing industrial site would also lessen the visibility of the new buildings in more distant views. There would be a very localised impact on simultaneous views from Footpath Cheddleton 10 along the access track adjacent to the Application Site where the Proposed Development would be seen at the same time as the existing industrial plant.

5.2.17 On balance there would be a Medium adverse magnitude of change and a Moderate adverse effect on sensitive sequential and

simultaneous views from this route. There would be no significant visual effect In terms of the strategic visual amenity of the Green Belt and wider effect on the PDNP.

5.2.18 It should be reiterated that the ZVI of the Proposed Development is likely to be similar or less than that of the existing industrial plant and stacks taking account of the higher elevation of the existing plant site and close proximity of the two areas and while views of the site may include an extended industrial component the overall ZVI is unlikely to be increased. The effect on the visual amenity of the PROW adjacent to the Application Site would be great but not all of the Green Belt identified within the ZTV mapping would be publicly accessible or have views towards the Proposed Development. Overall the magnitude of change in views would be Low adverse resulting in a Slight adverse effect on the visual amenity of the Green Belt.

5.2.19 A comparison of the bare earth ZTV for the Proposed Development (which represent the worst case scenario) and the visually screened ZTV for the proposed Leekbrook development (JBA Consulting, 2015) shows that the zones would overlap in elevated areas to the north of Bradnop and to the west of Morredge. Viewpoint 13 (Figure 16) from Bleaklow Road at Morredge illustrates the view from the boundary of the PDNP and overlooks the hillside above Bradnop and beyond to Cheddleton. It includes the location of the proposed Leekbrook development situated visually 'in front' of Cheddleton although generally at a lower elevation within the wooded valley.

5.2.20 Both the proposed Leekbrook development and the Proposed Development would be almost indistinguishable from Viewpoint 13 due to distance or visual screening and would have a negligible adverse combined impact resulting in No Change on views from the PDNP. The increased level of industrial land use would result on a Low adverse impact and Slight adverse effect on the visual amenity of the Green Belt.

Additional Mitigation

5.2.21 No additional mitigation is proposed to reduce, avoid or compensate for the potential adverse effects of the Proposed Development due to the constraints associated with limited available space within the Application Site and no feasible use of off-site locations.

Residual Significant Visual Effects

5.2.22 There would be no change to the type of visual effects anticipated as no additional mitigation is proposed. The residual visual effects of the Proposed Development would be as described previously.

Effects of the Proposed Development in Respect of Policy

5.2.23 As with the landscape assessment aspects of adopted policy which require an assessment of potential visual effects for new development

have been complied with. It has been established that the Proposed Development would result in a very localised Significant adverse effect on views from a section of Footpath Cheddleton 39 which passes adjacent to the site and which would also involve views of regrading works to the access track on which the PROW is located.

5.2.24 As a Significant adverse effect this finding has the potential to be a fundamental consideration in the decision-making process regarding the acceptability of the Proposed Development in visual terms. However, the degree to which this effect would result in 'unacceptable visual harm', which is one of the criteria listed under paragraph 5.118 of the SCC Joint Waste Local Plan, should be considered in the context of the current degraded and discordant appearance of the Application Site which is due to a lack of positive use, and the wider but considerably less severe effects of Slight adverse or No Change for the majority of visual receptors.

5.3 Ecology

Baseline Conditions

5.3.1 Using a combination of desk study and field survey work the Baseline Situation (Baseline Conditions) of the Proposed Development has been established. This provides a transparent basis from which assessment results have been determined and against which professional judgements have been made.

5.3.2 *Defining the Zone of Influence*

The potential impact of a development is not always limited to the boundaries of the site concerned. The development may also have the potential to impact on ecologically valuable sites, habitats or species beyond the site boundaries. The area over which a development may impact ecologically valuable receptors is known as the Zone of Influence (ZoI).

5.3.3 The ZoI is determined by the source/type of impact, a potential pathway for that impact and the location and sensitivity of the ecologically valuable receptor beyond the boundary. For the majority of (unmitigated) impacts identified as part of the Proposed Development, the ZoI is generally considered to be the application site and immediately adjacent areas.

5.3.4 In ecological terms, the ZoI can also vary considerably depending upon the species potentially affected by the proposed development. For example, some species may be confined to a specific location whilst others, such as birds and Bats, are more mobile and can occupy larger territories or home ranges. The ZoI is also likely to be influenced by the presence of dispersal barriers, such as roads and hardstanding, which either stop or reduce the likelihood of animals

crossing it. As a consequence this could isolate areas of potentially suitable habitat within the application site due to fragmentation.

5.3.5 The ZoI for species or species groups has been determined by research and the professional judgement of the ecologist. For example, Common Lizards (*Zootoca vivipara)* have restricted mobility and generally occupy smaller home ranges (up to 700m2) (Langton & Beckett, 1995). The ZoI for each species or species-group is identified in the relevant section.

Level of Ecological Importance

5.3.6 Certain species (flora or fauna) and habitats present at a Site are assessed for their ecological importance. It is important that ecological features of high importance; such as those that are of high biodiversity value or significantly contribute to ecosystem services should be protected and enhanced where possible.

Extended Phase 1 Habitat Survey

5.3.7 The method used for the Extended Phase 1 Habitat Survey is based on guidelines provided by JNCC (JNCC, 2010) and CIEEM (CIEEM, 2013). During the survey visit, habitat types and signs of protected or notable species were recorded and mapped using specific standard mapping colours and target notes.

Preliminary Roost Assessment of Trees for Bats

5.3.8 The survey included a survey of mature trees at the Site from ground level, recording any evidence of Bat roosts, droppings, staining, scratch marks and feeding remains, or any potential roost sites within the trees themselves in accordance with the Bat Survey Good Practice Guidelines 3rd Edition (Collins, 2016).

Badger Survey

5.3.9 A survey for Badgers was carried out following recognised guidance (Harris et al, 1989). All potential habitats within the Site, plus 30m outside of the Site boundary, were surveyed for evidence of Badger activity, and specifically for the presence of setts. Field signs searched for included active or inactive setts, Badger pathways, latrines, hair, discolouring of and damage to fencing, signs of foraging and feeding remains.

Invasive Plant Species

5.3.10 The Site visit included recording the presence of invasive plant species listed on Schedule 9 of the Wildlife and Countryside Act 1981 (as amended).

Impacts assessment

5.3.11 To help inform the design of the Proposed Development and to inform the planning and decision making process, an assessment of the likely impacts and effects on ecological features has been made taking into account the following impact/effect types in line with relevant guidance (CIEEM, 2013), (CIEEM, 2016):

- Positive/Negative;
- Direct/Indirect;
- Cumulative; and
- Temporary/Permanent.

General Description of Habitats within the Site

5.3.12 The habitat types identified at the Site, as listed below, relate to the guideline habitats listed within the Handbook for Phase 1 Habitat Survey (JNCC, 2010). These habitats are recorded are described in more detail below.

Bare Ground

5.3.13 Bare Ground is the dominant habitat and is present throughout the Site No floral species are present within this habitat.

Ephemeral/Short Perennial

5.3.14 Ephemeral/Short Perennial habitats are present in several small areas at the Site; in a thin strip along the northern and western boundary lines as well as in a small area located at the centre of the Site. Species present include: Yorkshire Fog (*Holcus lanatus*), Groundsel (*Senecio vulgaris*), Common Mouse Ear (*Cerastium fontanum*), Rosebay Willowherb (*Chamerion angustifolium*), Pineappleweed (*Matricaria discoidea*), Broad-Leaved Dock (*Rumex obtusifolius*), Shining Cranesbill (*Geranium lucidum*), Creeping Thistle (*Cirsium vulgare*) and Dandelion (*Taraxacum agg*.).

Running Water and Wet Ditch

5.3.15 A drainage ditch is present along the periphery of the northern and part of the southern boundaries, at the time of the survey, the water was slow flowing, shallow and was flowing in a southerly direction along part of it.

Scattered Trees

5.3.16 Three Scattered Trees are present along the southern boundary of the Site Species include: Elder (*Sambucus nigra*) and English Oak (*Quercus robur*).

Tall Ruderal

5.3.17 Tall Ruderal vegetation is present along most of the northern, eastern and western boundaries of the Site . Species include: Broad-Leaved Dock, Creeping Thistle, Rosebay Willowherb, Red Fescue (*Festuca rubra*), Groundsel, Oxeye Daisy (*Leucanthemum vulgare*), Dandelion, Redshank (*Persicaria maculosa*) and Herb Robert (*Geranium robertianum*).

Plant Species

5.3.18 No rare or protected plant species were present within the survey boundary.

Invasive Plant Species

5.3.19 No invasive floral species were found at the Site.

Fauna

5.3.20 It should be noted that unless otherwise stated within the brief, no species-specific surveys were carried out as part of the Extended Phase 1 Habitat Survey and the information provided below is based solely on incidental observations.

Great Crested Newt

5.3.21 According to OS mapping and aerial photography, there are no ponds at the Site and three ponds within 500m of the Site which is not separated by significant barriers to dispersal for amphibians. Two ponds located to the northwest of the Site were dry at the time of the survey, the third pond is located approximately 355m south of the Site centred at National Grid Reference: SJ 97621 50056. A Habitat Suitability Index (HSI) assessment of this pond was not considered necessary due to the lack of suitable aquatic and terrestrial habitat at Site for Great Crested Newts and the presence of significantly better quality terrestrial habitat in the local area in closer proximity to the pond. Furthermore, the Site falls significantly outside the range of core terrestrial habitat (50m) and intermediate terrestrial habitat (50m-250m) of the pond.

5.3.22 The aquatic habitat at the Site is considered to be unsuitable for Great Crested Newts due to the poor water quality, lack of aquatic vegetation and shallow water depth.

5.3.23 The terrestrial habitat at the Site is dominated by Bare Ground which is considered to be unsuitable for Great Crested Newts due to the lack of foraging and shelter opportunities. The areas of spoil may potentially be used by Great Crested Newts for hibernation purposes, however due to the presence of significantly better quality habitat in the local area this is considered to be unlikely. One record of Great Crested Newt was provided by the local biological records centre at a distance of approximately 1.8km north of the Site dated from 2007.

Other Amphibians

5.3.24 No records of other amphibians were provided by the local biological records centre within 2km of the Site. No evidence of other amphibians was recorded during the survey. The Site is considered to be largely unsuitable for other amphibians due to the poor quality of the aquatic habitat present at the Site and the dominant habitat of Bare Ground. Additionally, better quality habitat for other amphibians exists in the local area.

Reptiles

5.3.25 Records of Slow Worm (*Anguis fragilis*), Grass Snake (*Natrix natrix*) and Common Lizard (*Zootoca vivipara*) within 2km of the Site were provided by the local biological records centre, however only three records were dated within the last 20 years; all of Grass Snake. One record from 2012 is located approximately 1.5km northwest of the Site. One record from 2015 and another from 2006 are located approximately 1.8km northeast of the Site associated with the River Churnet. No evidence of Reptiles was found at the Site during the survey.

5.3.26 The areas of spoil and the dry stone wall present at the Site may provide suitable habitat for shelter and hibernation purposes for Reptiles, however the vegetative habitats present at the Site are considered to be of limited suitability for Reptiles due to the minimal extent of these habitats, low floral species diversity, poor structure and relatively sparse cover. Furthermore, the presence of better quality habitat within the local area further reduces the likelihood of the Site being utilised by Reptiles.

Badger

5.3.27 Several Badger records were provided within 2km of the Site by the local biological records centre. The most recent record is dated from 2012 and is located approximately 1.9km southwest of the Site.. No evidence of Badger activity was found at the Site and within 30m of the Site boundary during the survey. The dominant habitat of Bare Ground at the Site is considered to be unsuitable for foraging Badgers..

Bat Species

5.3.28 Five species of Bat have been recorded within 2km of the Site, including: Common Pipistrelle Bat (*Pipistrellus pipistrellus*), Soprano Pipistrelle Bat (*Pipistrellus pygmaeus*), Noctule Bat (*Nyctalus noctula*), Brown Long-Eared Bat (*Plecotus auritus*) and Daubenton's Bat (*Myotis daubentonii*). The most recent record for all species, excluding Daubenton's Bat, is dated from 2015 and is located approximately 1.5km northeast of the Site associated with areas of woodland within Basford Green.

5.3.29 The most recent record for Daubenton's Bat is dated from 2005 and is located approximately 1.7km northeast associated with the River Churnet. No records of Bat roosts were provided by the local biological records centre. No evidence of Bat roosting activity was recorded at the Site during the survey. The trees at the Site are considered to be unsuitable for roosting Bats due to their immaturity and lack of suitable roosting features (i.e. cracks, holes, split limbs etc.). The vegetative habitats at the Site are minimal in size and species poor and are therefore considered to be of limited value for foraging Bats. Furthermore, the lack of substantial linear features at the Site (i.e. hedgerows, rivers etc.) provide habitat of negligible value for commuting Bats.

Other Mammals

5.3.30 Several Water Vole (*Arvicola amphibius*) records were provided by the local biological records centre within 2km of the Site. All records are dated more than 30 years old and are associated with the Caldon Canal and the River Churnet habitats located approximately 750m and 900m east of the Site respectively at their closest points. Several records of Otter (*Lutra lutra*) were provided by the local biological records centre within 2km of the Site, the most recent records are dated from 2015 and 2009 and all records are associated with the Caldon Canal habitat east of the Site. Two records of Polecat (*Mustela putorius*) dated from 2004 are located approximately 1.8km north of the Site were provided by the local biological records centre. Numerous records for Hedgehog (*Erithaceus europaeus*) and Brown Hare (*Lepus europaeus*) exist within 2km of the Site. No evidence of other mammals was found at the Site during the survey.

5.3.31 The Site provides habitat of very low suitability for other mammals; the dominant Bare Ground habitat at the Site provides no opportunities for foraging or shelter. The vegetative habitats are limited to small areas along the periphery and central to the Site which are considered to provide minimal opportunities for foraging and shelter for other mammal species.

Birds

5.3.32 10 species listed on 'Schedule 1' of the WCA 1981 have been recorded within 2km of the Site including: Barn Owl (*Tyto alba*), Fieldfare (*Turdus pilaris*), Red Kite (*Milvus milvus*), Kingfisher (*Alcedo atthis*), Redwing (*Turdus iliacus*), Whooper Swan (*Cygnus Cygnus*), Little Ringed Plover (*Charadrius dubius*), Hobby (*Falco Subbuteo*), Brambling (*Fringilla montifringilla*) and Common Crossbill (*Loxia curviostra*). 23 species listed as 'Red' Birds of Conservation Concern (Eaton, 2016) have been recorded within 2km of the Site, species include: Lesser Redpoll (*Acanthis cabaret*), Pied Flycatcher (*Ficedula hypoleuca*), Whinchat (*Saxicola rubetra*), Grey Partridge (*Perdix perdix*), Lapwing (*Vanellus vanellus*), Little Ringed Plover, Woodcock (*Scolopax rusticola*), Curlew (*Numenius arquata*), Lesser Spotted Woodpecker (*Dendrocopus minor*), Willow Tit (*Poecile montana*),

Skylark (*Alauda arvensis*), Wood Warbler (*Phylloscopus sibilatrix*), Grasshopper Warbler (*Locustella naevia*), Starling (*Sturnus vulgaris*), Fieldfare, Song Thrush (*Turdus philomelos*), Mistle Thrush (*Turdus viscivorus*), Redwing, Spotted Flycatcher (*Muscicapa striata*), House Sparrow (*Passer domesticus*), Tree Sparrow (*Passer montanus*), Tree Pipit (*Anthus trivialis*) and Grey Wagtail (*Motacilla cinerea*). 22 species listed as 'Amber' Birds of Conservation Concern have been recorded within 2km of the Site, species include: Whooper Swan, Pink-Footed Goose (*Anser brachyrhynchus*), Greylag Goose (*Anser anser*), Teal (*Anas crecca*), Mallard (*Anas platyrhynchos*), Shoveller (*Anas clypeata*), Oystercatcher (*Haematopus ostralegus*), Common Sandpiper (*Actitis hypoleucos*), Snipe (*Gallinago gallinago*), Redshank (*Tringa totanus*), Black-Headed Gull (*Chroicocephalus ridibundus*), Lesser Black- Backed Gull (*Larus fuscus*), Short-Eared Owl (*Asio flammeus*), Kingfisher, Kestrel (*Falco tinnunculus*), House Martin (*Delichon urbicum*), Willow Warbler (*Phylloscopus trochilus*), Common Redstart (*Phoenicurus pheonicurus*), Dunnock (*Prunella modularis*), Meadow Pipit (*Anthus pratensis*), Reed Bunting (*Emberiza schoeniclus*), Bullfinch (*Pyrrhula pyrrhula)*.In addition, the following species which have not previously been mentioned are listed as LBAP species: Common Swift (*Apus apus*), Tufted Duck (*Aythya fuligula*), Swallow (*Hirundo rustica* Wheatear (*Oenanthe oenanthe*), Green Woodpecker (*Picus viridis*), Sand Martin (*Riparia riparia*), Whitethroat (*Sylvia communis*), Little Grebe (*Tachybaptus ruficollis*),

5.3.33 No bird species were observed within the Site boundary during the survey. The Scattered Trees present along the southern boundary of the Site, although relatively immature, still provide suitable nesting habitat for Breeding Birds.

*Invertebrates (Aquatic and Terrestrial**)***

5.3.34 Several records of White-Clawed Crayfish (*Austropotamobius pallipes*) were provided by the local biological records centre within 2km of the Site associated with the Caldon Canal, however all records are more than 20 years old. No evidence of White-Clawed Crayfish was found at the Site during the surveys and the aquatic habitat at the Site is considered to be unsuitable for this species due to poor water quality, narrow channel width, shallow water depth and the lack of diversity within the structure of the watercourse which is preferred by this species.

5.3.35 Bare Ground is the dominant habitat present at the Site which is considered to be of negligible importance to terrestrial invertebrate species due to the lack of floral diversity which results in negligible opportunities for foraging and shelter

Invasive Animal Species

5.3.36 No records of invasive species were provided by the local biological records centre within 2km of the Site. No invasive animal species were present at the Site during the survey.

Habitat Evaluation

5.3.37 The habitat types detailed above are evaluated against the Local Biodiversity Action Plan and habitats of Principal Importance according to Section 41 of the NERC Act 2006 They are also assessed for their suitability to support protected species in order to assess their Ecological Importance. The geographical level of Importance of these habitats is then related to Site, Local, Regional, National, or International scales to further inform the understanding of their ecological Importance

5.3.38 At a site-specific level, the habitats range from negligible to low levels of ecological value. These habitats are Important to a Site level only. Floral species diversity is low for the Site and the overall value of the Site is increased only by its limited suitability for protected species.

Identification and assessment of impacts

5.3.39 The potential impacts and effects arising from activities relating to the construction and operational phases of the Proposed Development on habitats and fauna have been considered below.

Habitats

5.3.40 The loss of the dominant habitat of Bare Earth at the Site is considered to have no important effect on ecology and biodiversity at the Site. The vegetative habitats present at the Site; Tall Ruderal and Short-Ephemeral Perennial habitats, are considered to be of very low – low ecological importance due to their poor structure, poor floral species diversity and limited suitability to support protected species. Therefore the loss of these habitats at the Site is considered to have a minor negative effect. The spoil heaps and dry stone wall present at the Site have the potential to provide hibernation habitat for Great Crested Newts and Reptile species and are therefore considered to be of low ecological importance in the context of the Site. However the presence of better quality terrestrial habitat within the local area for these species reduces the likelihood of these habitats being utilised by these species at the Site, therefore the loss of these habitats is considered to have a minor negative effect.

5.3.41 The Scattered Trees at the Site are considered to be of low ecological value within the context of the Site as they provide suitable nesting habitat for Breeding Birds and the trees are in fact immature and widespread in the local area. Therefore the loss of this habitat at the Site is considered to have a minor negative effect.

Fauna

5.3.42 Due to the lack of suitable habitat present at the Site for protected species and the presence of significantly better quality habitat in the

local area, it is considered that the Proposed Development will have a negligible effect on protected species

Conclusions and recomendations

5.3.43 The habitats at the Site are of Negligible - Low ecological importance. Overall, the Site offers minimal areas of vegetative habitats of low floral species diversity and the flora present within the habitats at the Site is typical of what would be expected. As such, it is concluded that the Site does not require any further surveys for its botanical interest.

Bats

5.3.44 The Scattered Trees at the Site are considered to be unsuitable for roosting Bats, the vegetative habitats are considered to be of limited suitability for foraging Bats and there is considered to be limited habitat for commuting Bats present at the Site; therefore no further surveys are recommended for Bats.

Birds

5.3.45 To reduce any impact upon breeding birds, avoid any breach in wildlife legislation and maintain the local breeding populations, any vegetation should be removed outside the bird breeding season (March-September inclusive for most species). If this is not possible then vegetation should be checked by a suitably qualified ecologist prior to removal.

Great Crested Newts

5.3.46 Due to the lack of suitable habitat present at the Site and the presence of significantly better quality habitat in the local area, no further surveys are recommended for Great Crested Newts. The removal of the Spoil heaps and dry stone wall (if not retained) should be undertaken before the hibernation period for Great Crested Newts (October-February inclusive) in order to prevent any injury/harm to any Great Crested Newts potentially using the spoil heaps for hibernation purposes, however unlikely. If Great Crested Newts are found during the removal of the spoil heaps or dry stone wall then works should cease immediately and an ecologist notified.

Reptiles

5.3.47 Overall, the habitats present at the Site are considered to be unsuitable for Reptiles with the exception of the spoil heaps and dry stone wall which may provide suitable hibernation habitat. However, better quality habitat is present in the local area which reduces the likelihood of these habitats being used by Reptiles, therefore no further surveys are recommended for Reptiles.

5.3.48 The removal of the spoil heaps and dry stone wall (if not retained) should be undertaken before the inactive period for Reptiles (October-

February inclusive) in order to prevent any injury/harm to any Reptiles potentially using the Spoil heaps for hibernation purposes, however unlikely.If Reptiles are found during the removal of the spoil heaps or dry stone wall then works should cease immediately and an ecologist notified.

Invertebrates (Aquatic and Terrestrial)

5.3.49 Aquatic habitat present at the Site is considered to be unsuitable for White-Clawed Crayfish. Furthermore, the presence of vegetative habitats at the Site are minimal and of low floral species diversity which is likely to be reflected in the terrestrial invertebrate assemblage at the Site; therefore no further surveys are recommended for Terrestrial or Aquatic Invertebrates.

Overall Assessment of Effects

5.3.50 It is considered that there would be no likely important adverse effects from the Proposed Development on fauna, flora, habitats and designated wildlife sites. If protected species are found to be present within the Site during construction of the Proposed Development, then appropriate surveys, mitigation and compensation measures should be devised and implemented prior to any construction work taking place.

5.4 Flood Risk

5.4.1 A Flood Risk Assessment (FRA) has been prepared in support of the planning application for a Renewable energy facility to provide electricity and heat to existing industrial operations at the wider John Pointon's and Sons site including re-grading of existing embankments.

5.4.2 Table 3 of the Flooding PPG provides a framework for Flood Risk Vulnerability Classification. In accordance with this table, the proposals are considered to comprise a less vulnerable landuse as it is associated with the treatment of waste (except landfill) and is therefore appropriate land use in flood zone 1.

5.4.3 The application site has already been accepted as a location suitable for a waste related use via the provisions of planning consent SMD/2010/0411 dated 6 September 2010.

5.4.4 As such it is considered that the strategic test (i.e. stage 1 of the sequential test) has already been met. Similarly the land use (i.e. less venerable) is considered compatible in Flood Zone 1 (refer to guidance in the Flooding PPG).

5.4.5 Taking into account the site location and based on the Environment Agency’s functional floodplain map, it is considered that there is a negligible risk of flooding occurring at the site.

5.4.6 However, there is a low risk of any consequential impacts to adjoining land uses because the of the re-grading of the existing landform required to develop the site.

5.4.7 Should such a flood event occur it will not be resultant of, or impinge on the continuation of permitted operations on the wider site, and are an acknowledged risk by the Applicant and landowner as a risk inherent to the nature of the operation, and has safe systems of work in place for such an event. There will be no off site impacts in this regard.

5.4.8 The existing surface water management regime will be maintained (and where necessary developed) in support of the proposals, with no impact on surrounding land uses.

5.5 Noise

5.5.1 The National Planning Policy Framework (NPPF) was issued in March 2012 and sets out the Government's planning policies for England and how these are expected to be applied.

5.5.2 Where issues of noise impact are concerned the NPPF provides brief guidance in paragraph 123 where it states that planning policies and decisions should aim to:

- Avoid noise from giving rise to significant adverse impacts on health and quality of life as a result of new development;
- Mitigate and reduce to a minimum other adverse impacts on health and quality of life arising from noise from new development, including through the use of conditions;
- Recognise that development will often create some noise and existing businesses wanting to develop in continuance of their business should not have unreasonable restrictions put on them because of changes in nearby land uses since they were established; and
- Identify and protect areas of tranquillity which have remained relatively undisturbed by noise and are prized for their recreational and amenity value for this reason.

5.5.3 Planning Practice Guidance further suggests that noise needs to be considered when new developments may create additional noise and when new developments would be sensitive to the prevailing acoustic environment. It is also suggested that noise should not be considered in isolation and separately from issues such as the economic, social and other environmental dimensions of proposed development.

Relevant Technical Guidance

5.5.4 BS 4142:2014 Methods for rating and assessing industrial and commercial sound was published in October 2014 and supersedes BS 4142:1997, which is withdrawn.

5.5.5 This edition describes methods for rating and assessing sound of an industrial and/or commercial nature. The methods described, use outdoor sound levels to assess the likely effects of sound on people who might be inside or outside a dwelling or premises used for residential purposes.

5.5.6 The significance of sound of an industrial and/or commercial nature depends upon both the margin by which the rating level of the specific sound source exceeds the background sound level and the context in which the sound occurs. When making assessments and arriving at decisions it is essential to place the sound in context.

Sound level Predictions

5.5.7 The level of noise in the local environs that arises from a site will depend on a number of factors. The more significant of which are:

- The sound levels of the plant or equipment used on site.
- The periods of operation of the plant on site.
- The distance between the source noise and the receiving position.
- The presence or absence of screening effects due to barriers, or ground absorption.
- Any reflection effects due to the façades of buildings, etc.

5.5.8 Potential sound levels from the proposed scheme have been predicted at nearby noise sensitive locations based on the recognised methodology and assuming the proposed buildings will be constructed using plastic coating steel panels. The facades of each building will also contain roller shutter doors, polycarbonate windows and ventilation louvres.

5.5.9 It is understood that roller shutter doors will remain closed during evening/night-time periods when no HGV deliveries are occurring. During the daytime period it has been assumed that roller shutter doors will remain closed for 50% of the time. The acoustic performance of each facade element has been assumed based on performance data of similar construction materials as follows:

- Plastic coated steel panels – Sound Reduction Index of 24 dB
- Ventilation Louvres/Windows – Sound Reduction Index of 10 dB
- Roller Shutter Doors (when closed) – Sound Reduction Index of 10 dB

5.5.10 Noise levels associated with the other elements such as the boiler flue terminations and external adiabatic condenser units have been based on typical levels of other similar installations as follows:

- Adiabatic condenser (per unit) – 60 dB(A) at 10 metres
- Flue termination (per flue) – 55 dB(A) at 10 metres

5.5.11 In order to calculate a 'worst-case' scenario, the calculations assume that there could be up to 2 movements during any one hour period along the site access road (Bones Lane) from Cheadle Road to the location of the proposed Fuel Preparation building. Deliveries are only proposed during daytime periods (i.e. Monday – Friday 07:00 – 18:00 and Saturday 07:00 – 13:00).

5.5.12 For the purposes of this assessment a sound power level of 106 dB has been utilised for HGV's. This is derived from information contained with Annex C of BS 5228 which presents current sound level data on specific items of site equipment and site activities

BS 4142 Assessment

5.5.13 This assessment has been undertaken with reference to the guidance provided within BS 4142 which requires the following levels to be established:

- The Background Sound Level
- The Specific Sound Level
- The Rating Level

5.5.14 The detailed Noise Impact Assessment is reproduced at appendix 3 attached and following an initial estimate of noise impact, along with consideration of the context and any potential effects of uncertainty, the overall outcome of the assessment indicates that there is likely to be a low impact at residential dwellings in the vicinity of the site.

5.6 Air Quality

5.6.1 A detailed Air Quality Assessment has been undertaken by specialist consultants with regards to potential emissions associated with the site. The assessment considers the potential impacts of aerial emissions from the proposed operations on local receptors. The methodology follows the framework described in the IAQM: Land Use Planning and Development Control: Planning for Air and Environment Agency (EA) Air Emissions Environmental Risk Assessment Guidance for environmental permitting facilities.

Assessment Methodology

5.6.2 In undertaking this air quality assessment expert consultants have carried out the following activities:

- site visit to view the site and surrounding area;
- review of baseline air quality, SCC and SMDC air quality reports and monitoring data;
- review of development proposals and design information, including current and proposed land uses;
- review of background site sensitivity data and nature conservation sites;
- review of existing pollution sources;
- review of technical data provided for modelling purposes;
- review of information associated with existing plant emissions and the Environmental Permit;
- review of baseline weather conditions, including wind speed and direction (5 years hourly sequential meteorological data from Leek Thorncliffe):
- modelling of stack emissions from the REF; including NOx / NO2, particulate matter, CO, SO2, and a full suite of pollutants specified within the Industrial Emissions Direction (IED) Annex VI using ADMS 5.2;
- assessment of impacts at selected human health and ecological receptors;
- sensitivity modelling.

Stack Emissions Assessment

5.6.3 The potential impacts of emissions from the stacks associated with the Biomass Plant on nearby receptors have been assessed using atmospheric dispersion modelling. The modelling has been undertaken using ADMS v5.2 supplied by Cambridge Environmental Research Consultants (CERC). The derivation of background data, emission rates and modelling methodology are detailed in Sections 5 and 6. Of the air quality assessment. It is understood that the additional associated REF vehicle movements can be accommodated within existing permissions. Information provided to SGP indicates that delivery of fuel to the development is predicted to generate an average of 30 2-way daily HGV movements (15 in / 15 out; on 6 workings day per week). The number of HGV movements therefore falls below the screening criteria provided IAQM1 as indicating the need for an air quality assessment (100 AADT for HGVs; for areas outside an Air Quality Management Area).

5.6.4 The proposals include for the shredding and processing of waste wood at the facility. Such activities may give rise to particulate matter emissions resulting in nuisance dust and human health impacts from fine particulate matter (PM10). All materials handling and processing operations are to be undertaken within the building, with no external operations, reducing the potential for dust migration.

5.6.5 The nearest residential receptors are located at least 200m distant from the development site, and significant adverse impacts are unlikely. The presence of a public footpath to the immediate east is however noted and as such suitable measures will need to be undertaken to ensure minimisation of the release of dust from the operations and potential impacts on the public. The operations will be controlled and managed under an Environmental Permit which will include measures relating to fugitive dust emissions. On this basis, a detailed assessment of operational dust emissions has not been undertaken.

5.6.6 The assessment has considered the emissions from the REF stacks, the characteristics of which are detailed below

- stack heights 35 m
- volumetric flow rate(actual) 9.370 m3s-1
- effective internal diameter 1.096 m
- volumetric flow rate (reference conditions) 7.836 m3s-1
- flue gas exit velocity 9.93 ms-1
- flue gas temperature 185°C
- flue gas moisture content 13.4 %
- flue gas oxygen content 4.8 %

5.6.7 The pollutant emission rates for the stacks have been based on relevant Environmental Permit requirements. For the purposes of the assessment, it has been assumed that the REF will be operated in accordance with the requirements of Annex VI of the Industrial Emissions Directive.

Modelled Domain and Receptors

5.6.8 A grid spacing was used within the modelled domain based on a 20m spacing across a 4km x 4km area centred on site.

5.6.9 In addition to the area assessment, individual receptors were identified for specific modelling calculations, as detailed in the following table and shown in Figure 6.1 of the air quality assessment. These were selected to represent a range of potentially sensitive locations within 2km of the site, and include the closest centres of public occupation and use.

Sensitivity Analysis

5.6.10 As detailed in the air quality assessment, due to the mixed nature of the surrounding land, the model set-up has incorporated variable surface roughness across the domain. Preliminary modelling showed this to be more conservative than utilising a single surface roughness. Preliminary modelling also indicated the incorporation of local terrain within the model to be more conservative, with higher resulting pollutant concentrations at the most affected residential receptors.

5.6.11 The model has been undertaken using the latest version of ADMS, ADMS v5.2, released in December 2016, which was found to result in marginally higher predicted process contributions than the earlier version.

5.6.12 The model set-up is therefore considered to be robust and conservative.

Assessment of Significance

5.6.13 The overall significance of potential effects with respect to human health receptors takes into account a range of factors including the potential impacts at individual receptors discussed above. Where an impact is *moderate* or above the effect will typically be deemed significant. Other than for CrVI, the assessment predicts, at worse, *slight* impacts at a small number of residential receptors due to long term concentrations of NO2 and 1,3-butadiene. At worse, *slight* adverse impacts are predicted along a short stretch of the footpath for short-term NO2 concentrations.

5.6.14 With regards to CrVI an increase in concentrations at residential receptors is predicted to be, at worse, 2% of the AQAL, but most likely to be less than 1%. The estimated background concentration is however estimated to be substantially above the AQAL (assuming CrVI is present as 20% total Cr) resulting in the total concentration being above the stringent AQAL. Given the expectation that background concentrations will be lower, and that the most-likely process contribution from the proposed facility is *negligible*, the overall effect with regards to CrVI aerial emissions is not considered significant. Further to this it is anticipated that any permit granted by the EA will require the monitoring and further assessment of metal emissions and APC residues as has been typical of recent permits for similar facilities.

5.6.15 Taking into account these points, and the number of potentially affected receptors, the overall effect with regards to air emissions and human health receptors is considered to be **'**not significant'.

5.6.16 In addition to the potential impacts on human health, the assessment has also considered potential impacts on interests of ecological importance in the vicinity. The assessment concludes that the stack emissions can be considered to be insignificant with regards long-term NO2 and SO2 and short-term NO2 concentrations at the SSSI. Background concentrations of ammonia at the SSSI are however estimated to be above the most stringent ambient air Critical Level, hence resulting in long-term total concentrations being above this level. Process contributions are above the screening threshold at the parts of the SSSI closest to the development site but will decline away from the facility and eastwards across the SSSI. Exceedances of the screening threshold indicate a 'possible likely significant effect', but not that one will definitely occur. Given the predicted contributions

within the SSSI are, at most, 2.75% of the most stringent Critical Level, and the declining concentrations away from the proposed plant the potential effects associated with long-term NH3 concentrations are considered likely to be not significant.

Mitigation Measures – Air Quality

5.6.17 The assessment shows that the operation of the proposed REF is unlikely to cause significant adverse air quality impacts in the vicinity of the site, on the basis that a high standard of emissions management and control is maintained and the site is operated in accordance with Environmental Permitting requirements. Further detailed assessment of potential impacts associated with the stack aerial emissions will be required as part of the Environmental Permit application risk assessment, taking into account final full design details to ensure the absence of potential significant impacts on both human health and ecological receptors.

5.6.18 Following the granting of a Permit, the primary mitigation of any impacts will be the management, monitoring and reporting of emissions in compliance with the Permit for the process when it is in operation.

5.6.19 The conditions attached to any permit which may be issued will be based on the application and will include the following essential matters:

- management, including a Dust Management Plan and accident management plan;
- operations, including ongoing improvements and a site protection and monitoring programme;
- emissions and monitoring, including the management and monitoring of point source emissions (i.e. the stack and fugitive emissions from materials handling); and information, including records and reporting.
- A programme of planned maintenance, complying where appropriate with manufacturers' instructions, will be instituted to ensure that all plant and machinery, particularly abatement equipment, operates correctly.
- All staff will be formally trained on the causes, avoidance and reporting of incidents which might result in abnormal emissions leading to adverse impacts off-site
- A formal complaints procedure will be instituted to ensure that any incidents are investigated promptly, and any necessary corrective measures instituted.

5.6.20 Subject to these measures, emissions from the proposed facility are unlikely to cause any significant residual impacts off-site.

Mitigation Measures - Dust Emissions

5.6.21 Construction activities may give rise to dust emissions that may impact the nearby residents, golf course and recreational land users. These can be readily mitigated using standard dust management measures which will be detailed in a Construction Dust Management Plan.

5.6.22 All shredding and processing activities are to be undertaken within an enclosed building; the potential for the proposed operations to give rise to adverse dust impacts is therefore low. The appropriate management and control of dust emissions will be a requirement of the Environmental Permit.

HGV Exhaust Emissions

5.6.23 The assessment of vehicle exhaust indicates that no discernible impact will be caused and additional mitigation is not required

5.7 Alternatives

5.7.1 Schedule 4 of the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 sets out details that should be included in an ES. These provisions are reinforced via Circular 02/99 which states that it is important that they should be prepared on a realistic basis and without unnecessary elaboration. Other guidance in the Circular confirms that the EIA directive and the Regulations do not expressly require the developer to study alternatives but if alternatives or alternative sites have been considered, then these should be discussed within the Environmental Statement.

5.7.2 In this particular instance no alternatives have been explored as the proposed development uses proven technology as set out in section 4 of this ES. The proposal is a logical compliment to the existing industrial operations at the wider John Pointins and sons operational site.. The context of the site is such that the proposals will enable the replacement of fossil fuels with a more sustainable form of energy generation with minimal impact on surrounding environment. The application site has sufficient room for the proposal which could not be realistically located in a remote location.

5.8 Cumulative Impact and Interaction Effects

5.8.1 The proposed development is for the establishment of a renewable energy facility that will provide a sustainable source of heat and electricity to the established operations undertaken by the applicant company These consented operations are part of the baseline for the proposed extension and are therefore not required to be covered under the assessment of cumulative impact.

5.8.2 Nevertheless, the proposals envisage the retention and continued use of the existing plant site and ancillary facilities.

Interaction Effects

5.8.3 Owing to the size and nature of the proposals, the scope for interaction effects between the various technical disciplines is quite considerable. In this case the main sources of potential interaction effects have been identified as follows:

(i) Air quality impact on landscape, ecology and human health
(ii) the appropriate siting of the plant in relation to landscape and ecological impacts; and
(iii) the appropriate siting of stacks and general site design to minimise the scope for impact in relation to noise, dust and landscape.

5.8.4 In each of the above cases, many options have been considered to secure an appropriate balance between the various technical disciplines to minimise the scope of interaction effects.

SECTION 6 SUMMARY AND CONCLUSIONS

6.1 The proposals involve the construction and operation of an energy generation facility that has been designed as being a Combined Heat & Power operation to minimise biomass consumption and maximise the renewable thermal and electrical energy generation for the provision of heat and electricity to an established industrial operation.

6.2 In accordance with the Environmental Impact Assessment Regulations and advice contained within Circular 02/99 assessments have been undertaken in order to identify potential effects (both positive and negative) and to consider the significance of any such effects.

6.3 In respect of **Landscape and Visual Amenity** This LVIA has been undertaken to determine the significance of any impacts of the proposed Renewable Energy Facility on landscape elements and character, and views and visual amenity of the study area. The Proposed Development has been assessed as required by adopted policy and in accordance with the GLVIA3

6.4 The Proposed Development would share many of the same characteristics as the existing more recent elements of the industrial plant site in terms of style, massing and colour (muted greens), and would involve the construction of two large buildings, one of which would also include three tall stacks extending up to 35m AGL (approx 242m AOD). The tops of the new stacks would be at a lower elevation than the tops of the existing stacks at the main plant site estimated to be approx 250-255m AOD, and would also be 4m lower than the stack included in the consented development

6.5 The LVIA has concluded that there would be no significant adverse effects on landscape elements or character although there would be a limited but not significant intensification of industrial character within the wider LCT Settled Plateau Farmlands sub-type Farmland / Sub-area 4a Consall. Adverse landscape effects which when considered together may result in cumulative effects are very localised and include the regrading of part of Footpath Cheddleton 39, effects on the skyline, and aesthetic and perceptual effects, and are largely related to construction activities. **A significant cumulative adverse effect is not considered likely**.

6.6 In the context of the existing degraded landscape character of the Application Site, which is very unlikely to be reinstated to its original vernacular state, the Proposed Development represents a potential positive alternative use of the site which could be seen as a positive factor and which would involve active management of external areas adjacent to the buildings. The Slight adverse effect on the wider landscape character of LCT Settled Plateau Farmlands sub-type Farmland / Sub-area 4a Consall and the very localised Significant effect on the visual amenity of Footpath Cheddleton 39 **are not**

considered so great that the overall benefit to the Application Site cannot be accepted

6.7 With regard to **Ecology**, It is considered that there would be **no likely important adverse effects** from the Proposed Development on fauna, flora, habitats and designated wildlife sites. If protected species are found to be present within the Site during construction of the Proposed Development, then appropriate surveys, mitigation and compensation measures should be devised and implemented prior to any construction work taking place.

6.8 With regard to **Noise,** following an initial estimate of noise impact, along with consideration of the context and any potential effects of uncertainty, the overall outcome of the assessment indicates that there is likely to be **a low impact** at residential dwellings in the vicinity of the site.

6.9 With regard to **Air Quality** overall the site is considered **to be suitable for the proposed use** with regards to air quality aspects. The facility will require an Environmental Permit to operate; this will entail provision of detailed risk assessments and management plans to the Environment Agency and control of potential aerial emissions to ensure the facility does not result in unacceptable pollution.

Overall Conclusion

6.10 The proposals represent a sustainable and logical compliment to the existing industrial operations at the wider John Pointins and sons operational site. The context of the site is such that the proposals will enable the replacement of fossil fuels with a more sustainable form of energy generation with minimal impact on surrounding environment.