

Rooley Moor Wind Farm

- Final
- 29 June 2012



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ENVIRONMENTAL IMPACT ASSESSMENT: SCOPING REPORT

- Final
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Contents

Contents

1.	Introduction	1
1.1.	Background	1
1.2.	Purpose of this Scoping Report	2
1.3.	Coronation Power - Profile	2
1.4.	Stakeholder Consultations	3
2.	The Proposed Development	4
2.1.	Rationale for Development	4
2.2.	Description of Proposed Development	4
2.3.	Grid Infrastructure	5
2.4.	Description of Development Site	5
2.5.	Cumulative Impacts	7
3.	Proposed EIA Methodology	9
3.1.	Introduction & Scope	9
3.2.	Climate Change and Atmospheric Emissions	10
3.3.	Cultural Heritage	12
3.3.1.	Overview	12
3.3.2.	Baseline Description	12
3.3.3.	Assessment Methodology	13
3.3.4.	Potential Mitigation Measures	14
3.4.	Geology, Hydrology and Hydrogeology	15
3.4.1.	Overview	15
3.4.2.	Baseline Description	15
3.4.3.	Guidance/Legislation	17
3.4.4.	Proposed Scope of Assessment	18
3.4.5.	Potential Impacts	19
3.4.6.	Cumulative Impacts	20
3.4.7.	Mitigation	20
3.4.8.	Enhancement and Restoration	21
3.5.	Landscape and Visual	21
3.5.1.	Overview	21
3.5.2.	Baseline	21
3.5.3.	Landscape Designations	23
3.5.4.	Potential Effects	24
3.5.5.	Assessment Methodology	25
3.5.6.	Assessment Process	26



3.6. Ecology	38
3.6.1. Overview	38
3.6.2. Baseline Description	38
3.6.3. Site surveys	38
3.6.4. Designated Sites	38
3.6.5. Habitats	40
3.6.6. Species	40
3.6.7. Assessment Methodology	41
3.6.8. Potential Mitigation Measures	41
3.7. Ornithology	41
3.7.1. Overview	41
3.7.2. Statutory Designations	42
3.7.3. Breeding Bird Survey	43
3.7.4. Non-breeding Bird Surveys	43
3.7.5. Ornithological Assessment	43
3.8. Noise	44
3.8.1. Overview	44
3.8.2. Baseline Description	44
3.8.3. Assessment Methodology	44
3.8.4. Identification of Sensitive Receptors	44
3.8.5. Initial Calculations	45
3.8.6. Background Noise Monitoring	45
3.8.7. Production of Noise Curves	46
3.8.8. Operational Noise Impact Assessment	46
3.8.9. Cumulative Impacts	46
3.8.10. Construction Noise Impact Assessment	47
3.8.11. Impacts Scoped out of the Noise Assessment	47
3.8.12. Potential Mitigation Measures	47
3.9. Traffic, Transport and Access	47
3.9.1. Overview	47
3.9.2. Baseline Description	48
3.9.3. Guidance/Legislation	48
3.9.4. Proposed Scope of Assessment	48
3.9.5. Potential Impacts	49
3.9.6. Cumulative Impacts	49
3.9.7. Mitigation	50
3.10. Shadow Flicker	50
3.10.1. Overview	50
3.10.2. Baseline Description	50
3.10.3. Assessment Methodology	51
3.10.4. Potential Mitigation Measures	51
3.11. Telecommunications and Aviation	51



3.11.1. Overview	51
3.11.2. Assessment Methodology	52
3.11.3. Potential Mitigation Measures	52
3.12. Socio-Economics	53
3.12.1. Overview	53
3.12.2. Assessment Methodology	53
3.13. Potential Mitigation Measures	53
3.14. Environmental management	53
3.15. Land Use	54
3.15.1. National Trails and Public Rights of Way	54
3.16. Decommissioning and Restoration	55
3.17. Summary of Proposed Scope of the EIA	55
3.18. Draft Outline of Environmental Statement Structure	56
4. Invitation to Comment	58



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1. Introduction

1.1. Background

Coronation Power Limited (Coronation Power) is seeking to develop a wind farm, which for the purposes of this scoping report, is to be known as the ‘Rooley Moor Wind Farm’. The proposed wind farm site (shown in **Figure 1**) is situated approximately 3.5km southwest of Bacup, 4.5km southeast of Rawenstall and 6.5km north of Heywood. The towns of Rochdale and Bury lie approximately 5km and 6km to the southeast and southwest respectively. A site boundary for scoping purposes is illustrated in **Figure 2**. The site covers an area of approximately 460.38 hectares (4.6 square kilometres) and is located within the administrative boundaries of Rochdale Borough Council in the Greater Manchester area and Rossendale Borough Council in Lancashire. The habitats on the site are primarily upland heathland and blanket bog.

The initial design for Rooley Moor is a for a wind farm site comprising of 17 wind turbines, each with a power rating of 2.5MW and a height of up to 135m. The final choice of turbine size and layout will be based on environmental and technical considerations identified and evaluated during the scoping and environmental impact assessment stage of the proposed development.

Based on the initial design, the wind farm would have an indicative capacity of 42.5MW and would generate renewable, carbon-free electricity for supply to the local electrical distribution grid to power over 25,000 homes per year¹ and eliminate significant quantities of carbon dioxide emissions per year through the displacement of conventional fossil fuel electricity generation.

The proposed development will require planning permission to be granted by Rochdale Borough Council and Rossendale Borough Council (the Councils) under the Town and Country Planning Act 1990 (as amended). It is understood that Rochdale Borough Council will take the lead in processing the application. In support of the planning application, an Environmental Impact Assessment (EIA) is to be undertaken, as required by the Environmental Impact Assessment (England) Regulations 2011 (“the EIA Regulations”). An Environmental Statement (ES) will be prepared to inform the EIA and will comprise the formal written statement of the developer’s assessment of the likely significant effects arising from the proposed development. The ES will address the predicted positive and negative impacts on the environment during the construction and operational periods of the development, as well as the predicted impacts during decommissioning, restoration and aftercare operations. The document will form part of the material informing and supporting the planning application

¹ This figure is based on an installed capacity of up to 45MW. It is based on assumptions of a wind turbine capacity factor (30%) published within the BWEA web-site and will be refined to take into account site specific factors on completion of the wind farm detailed design.



1.2. Purpose of this Scoping Report

Coronation Power has commissioned SKM Enviros (SKM) to begin the EIA process, with the preparation of this Scoping Report, which constitutes a formal request to the Councils for a scoping opinion on the proposed Rooley Moor Wind Farm. As required by the EIA Regulations, this report provides the necessary background information for the Councils to prepare a scoping opinion. The document will also be circulated to a number of statutory and non-statutory consultees for comments.

This Scoping Report will enable the Councils and consultees to formally comment on the proposed methodologies and the environmental issues that have been identified, and provides an opportunity for the Council and consultees to highlight any additional issues that they believe should be addressed within the EIA. The Councils and consultees are also invited to identify additional sources of information which may be of interest to SKM in the course of the EIA.

This Scoping Request outlines the following:

- A description of the proposed project;
- The methodology to be adopted in the EIA;
- The possible effects of the proposals;
- A preliminary assessment of issues considered to be significant, based on existing information and SKM's previous experience in conducting EIAs for wind farm developments;
- An opinion on those issues that are not considered to be significant and which can, therefore, be scoped out of the EIA; and
- Identification of relevant and appropriate consultees and stakeholders in the process.

1.3. Coronation Power - Profile

Coronation Power Limited is a London-based company developing wind projects in the UK. Its goal is to develop, construct and operate wind farms that strike a fair balance between sustainability, the environment and economic investment, and at all times work in partnership with local communities. Coronation Power has been working in the North West and particularly in the South Pennines area since 2004 and has achieved consent for the Todmorden, Crook Hill and Reaps Moss Wind Farms which are located in the local authority areas of Rochdale, Rossendale and Calderdale.



1.4. Stakeholder Consultations

Consultation is an important component of the EIA process, allowing interested and affected parties and organisations to become involved in the planning and development process of the project, and to ensure that their concerns, ideas and hopes for the project are considered.

Formal consultation begins with the submission of this Scoping Report to the Councils, who will then formally circulate it to a number of consultees for their opinion which will, in turn, allow the Councils to prepare their formal 'Scoping Opinion'. This Scoping Report will also be forwarded to a number of local stakeholders and non statutory consultees.

The benefits associated with stakeholder consultations are fully recognised by Coronation Power. Throughout the EIA, each environmental discipline specialist will liaise and consult with key stakeholders relevant to their assessment.

A public consultation exercise will also be carried out by Coronation Power during the EIA process. This will be designed to inform the local community of the proposals and provide the community with the opportunity to give valuable feedback on the project.

The output from any consultations will be reported within the Environmental Statement.

2. The Proposed Development

2.1. Rationale for Development

Wind power, together with other renewable energy development, is regarded as an important component of the UK Government's, and the European Union's strategy in tackling global climate change and an important contributor to the growth of local and national economies.

The issue of climate change has been identified as a key challenge for the UK power generation sector. Under the Climate Change Act of 2008, the UK has set legally binding targets to reduce greenhouse gas emissions by at least 80% by 2050 in the UK, with a reduction in emissions of at least 34% by 2020; both of these targets are measured against 1990 levels. Renewable energy developments such as Rooley Moor Wind Farm will assist in the achievement of the UK's domestic CO2 emission reduction target, through the displacement of fossil fuelled power generation.

In addition, the proposed development will assist in the continued drive to achieve targets with respect to renewable energy generation. The wind farm is predicted to provide the equivalent amount of clean, green electricity over a year as would be used by over 23,000 homes, at the proposed 42.5MW installed capacity.

The installation and operation of additional renewable energy generation can also provide greater diversity in the UK's energy mix, which is vital in ensuring security and continuity of electricity supply as fossil fuels continue to deplete.

2.2. Description of Proposed Development

Coronation Power is currently considering a development comprising 18 wind turbines of approximately 2.5MW capacity each (total installed capacity: 45MW). The final choice of turbine size and layout will be based on environmental and technical considerations identified and evaluated during the scoping and environmental impact assessment stages of the development and the design specification of the chosen turbine supplier.

The different components of the proposed development are listed below:

- Eighteen 2.5MW wind turbines, with a hub height up to 90m above ground level and a rotor diameter of up to 90m, resulting in a maximum potential blade-tip height of up to 135m above ground level;
- Concrete crane pads adjacent to each turbine site for installation and maintenance - of the order of 20 by 40m in extent and turbine foundations constructed to a depth up to 3.5m;



- Wind turbine transformers (one per turbine) - these will either be enclosed inside the tower or located in a small enclosure adjacent to the base section of each turbine tower;
- Access roads for construction and operational access, with passing areas and turning points as required;
- Temporary lay-down and construction compound areas;
- One permanent meteorological monitoring mast with a height comparable to the wind turbine hub-height;
- One on-site electrical substation;
- Underground power and communication cables between the turbines and on-site substation, and
- Extraction of approximately 100,000m³ stone sourced from within the site boundary.
- Coronation power applied for planning permission in May 2012 to install a meteorological mast to provide data on the wind resource at the site, prior to construction. This application is currently pending consideration.

2.3. Grid Infrastructure

In selecting a preferred cable route and connection to the grid, National Grid will be consulted to determine the location of their electricity transmission assets. The proposed turbine layout will comply with the guidance provided by National Grid such as the location of turbines at least three rotor diameters distance from away from National Grid Overhead Lines. The design of the proposed wind farm will incorporate the statutory electrical safety clearances with no permanent buildings, plant, machinery or scaffolding being located or encroaching within 5.3m to the nearest conductor and no buildings being constructed beneath overhead lines. A grid capacity study has identified that there is sufficient capacity in the BSP network local to Rooley Moor to allow connection to the Belfield 132/33kV substation.

A study of connection of the proposed Rooley Moor wind farm to the grid has been undertaken and confirmed there is available capacity.

2.4. Description of Development Site

The proposed site for the Rooley Moor wind farm lies within the jurisdiction of Rochdale Borough Council in Greater Manchester and Rossendale Borough Council in Lancashire. The site occupies two parcels of land – Rooley Moor to the south and Brandwood Moor to the north. **Figure 1** presents the site location (including landownership boundaries). The site is located on open upland heathland and blanket bog with a series of reservoirs to the west and a number of quarried areas



within the site boundary. The current, indicative site boundary covers 460.38ha (4.6 square kilometres) and has an elevation of between 247mAOD and 474mAOD.

There are no designations of natural heritage interest recorded on the site but a number are in close proximity, such as the Lee Quarry SSSI located 500m to the east of the northern section of the site and the Healey Dell Local Nature Reserve, 500m to the east of the south eastern corner of the site.

There are also no World Heritage Sites, Scheduled Monuments, Registered Battlefields or Listed Buildings within the proposed application boundary. However, a number of cultural heritage interests are located within 5km of the site such as three Grade II Registered Parks and Gardens (Falinge Park, Rochdale; Rochdale Cemetery; and Whitworth Cemetery) and a number of Listed Buildings within the towns of Rochdale and Whitworth.

The nearest national landscape designations are the Peak District National Park (c.18km), Yorkshire Dales National Park (c.34km), Forest of Bowland AONB (Pendle Hill (c.16.5km))and Nidderdale AONB (37km).

The key hydrological features on or close to the site include the River Irwell (north), River Spodden (east) and Naden Brook (south), as well as Cowpe Reservoir (north), Cowm and Spring Mill reservoirs (east) and the three Naden Reservoirs to the south.

There are no dwellings within the site boundary.

Section 6 (Summit to Lumb) of the Pennine Bridleway National Trail utilised by walkers and horse riders runs through the central section of the site and is part of a larger 130 mile recreational trail running through north west England.

The landowner stated they were not aware of any major underground services. Overhead Transmission Lines cross the cross the southern half of the site in a northeast – southwest direction. A 135m buffer has been applied to this constraint.

SKM also made online enquiries using the Linesearch website², basing this enquiry on coordinates of the centre of the site and a 3km search radius that encompassed the whole site. Linesearch only identified the National Grid Electricity Transmission (Overhead Line) passing through the site. It should be noted that this search facility may not be comprehensive and additional surveys will be required should the scheme progress.

² www.linesearch.org

2.5. Cumulative Impacts

The proposed development is located immediately adjacent to the operational Scout Moor Wind Farm and within 6km of the consented Reaps Moss , 6.5km of the consented Crook Hill 8 (Rochdale and Calderdale) and 6.5km of the consented Crook Hill 12 (Rochdale, Rossendale and Calderdale) Wind Farm sites.

The following wind energy developments are known within 60km of the site.

Table 2.1: Known wind energy developments within 60km of the development site

Wind farm	Location	No. of Turbines	Status	Capacity (MW)
The University of Sheffield	South Yorkshire	1	Operational	0.9
Marr	South Yorkshire	4	Operational	8
Hazlehead	South Yorkshire	3	Operational	6
Dewlay Cheese	Lancashire	1	Operational	2
Port of Liverpool / Mersey Docks	Merseyside	4	Operational	10
Scout Moor	Lancashire	26	Operational	65
Knabs Ridge, Felliscliffe	North Yorkshire	8	Operational	16
Caton Moor Repowering	Lancashire	8	Operational	16
Ovenden Moor	West Yorkshire	23	Operational	9.2
Chelker Reservoir	North Yorkshire	4	Operational	1.2
Coal Clough	Lancashire	24	Operational	9.6
Hameldon Hill	Lancashire	3	Operational	4.5
Scout Moor	Lancashire	26	Operational	65
Hook Moor	West Yorkshire	5	Consented	15
Orchard End Resubmission	Lancashire	2	Consented	4
Causeway Bridges Farm	Cheshire	1	Consented	0.75
Todmorden Moor resubmission	West Yorkshire	5	Consented	15
Hameldon Hill Ext	Lancashire	3	Consented	6
Mars Complimentary Petcare	Yorkshire	1	Consented	2
Spicer Hill	South Yorkshire	3	Consented	6.9
Hyndburn	Lancashire	12	Consented	24.6
Hampole	South Yorkshire	4	Consented	8
Crook Hill 8 (Rochdale and Calderdale)	West Yorkshire	8	Consented	20
Reaps Moss,	Lancashire	3	Consented	9
Crook Hill 12(Rochdale , rossendale and calderdale)	Lancashire	12	Consented	36



Blackstone Edge	South Yorkshire	3	Consented	6.9
Heysham	Lancashire	1	Planned	2
Heysham South	Lancashire	3	Planned	7.5
Causewayside Farm	Lancashire	1	Planned	0.225
Lower Hazel Hurst Farm	West Yorkshire	2	Planned	0.5
Chapel Farm	South Yorkshire	1	Planned	0.5
Fanny House Farm	Lancashire	1	Planned	2
Lancaster University	Lancashire	1	Planned	2.5
Dearne Head	West Yorkshire	4	Planned	10
Bishopwood	North Yorkshire	7	Planned	17.5
Woodlane	North Yorkshire	14	Planned	35
Coal Clough Repowering	Lancashire	10	Planned	20
Ovenden Moor Repowering	West Yorkshire	10	Planned	20
Scout Moor Extension	Lancashire	TBC	Planned	TBC

The list of cumulative projects will be updated as the EIA progresses. Cumulative impact issues such as impacts on the landscape and visual environment, local and regional ecological interests and traffic levels on the surrounding road network will be assessed as part of the ES which will accompany the planning application for the development of a wind farm. The assessment of potential environmental impacts and proposed mitigation measures will incorporate the possible additional effects of other developments on the application site and also within the wider environment.

3. Proposed EIA Methodology

3.1. Introduction & Scope

The key output of the EIA process is the ES, an independent document which sets out the predicted significant environmental impacts and effects of the proposed development. The ES then enables, in this case, Rochdale and Rossendale Borough Councils and their consultees to determine whether or not the proposals (and associated impacts) are acceptable. Schedule 4 of the EIA Regulations states that the ES should describe the environmental effects on:

‘population, fauna, flora, soil, water, air, climatic factors, material assets, including architectural and archaeological heritage, landscape and inter-relationship between the above factors.’

These environmental issues, as reported in this Scoping Report, are listed under a number of headings highlighted in the second column of Table 3.1 below. These headings will also be adopted for the ES.

Table 3.1: Environmental topics headings for the Environmental Statement

Environmental Issue	EIA Regulations Terminology
Climate Change and Atmospheric Emissions	Air, Climatic Factors
Cultural Heritage	Architectural and Archaeological heritage
Geology, Hydrology and Hydrogeology	Soil and Water
Landscape and Visual	Landscape
Ecology	Fauna and Flora
Ornithology	Fauna
Noise	Population
Traffic and Transport	Population, Air, Climatic Factors
Shadow Flicker	Population
Telecommunications and Aviation	Material Assets
Socio-Economic	Population
Land Use, Recreation and Access	Material Assets

It is considered that the key environmental issues associated with the development needing comprehensive assessment will be landscape and visual; noise; cultural heritage and ecology, particularly ornithology. Other issues that will require to be assessed include communication systems (i.e. telecommunications, television and radar), traffic and transport, hydrology, shadow flicker and socio-economic.



A number of additional introductory chapters in the ES will describe the proposed development, application site and its setting within the wider region. This reporting will describe project design evolution over time based on consultations with the public and statutory consultees and the alterations made as a result.

The Socio-economic chapter will provide information on the proposed Community Fund.

Decommissioning and restoration will form part of the Design and Construction Chapter.

Each EIA chapter of the ES will be structured using the following headings:

- Assessment methodology;
- Key consultations;
- Baseline conditions;
- Potential impacts;
- Mitigation; and
- Predicted residual effects.

The ES will include a Non-Technical Summary and details of all consultation undertaken and the outcomes of the consultation. A Planning Statement and an Access and Design Statement will also accompany the planning application and information will be provided to enable the local authority, in consultation with English Nature, to assess whether Appropriate Assessment, as required by Regulation 48 of the Habitats Regulations 1994 is necessary.

To assist consultees in preparing their scoping response, Sections 3.2 to 3.13 below, include an overview of the topic, a concise baseline description, the proposed assessment methodology and the likely mitigation for each of the key EIA chapters. Consultees are invited to comment on these within their scoping response.

3.2. Climate Change and Atmospheric Emissions

Peatlands are important carbon sinks however, the poor management and development of these habitats have the potential to release the carbon held in these soils as gaseous emissions to atmosphere and thereby greatly increase carbon losses. The drainage of peatlands which can arise from wind farm developments may result in a lowering of the water table, which in turn increases plant respiration and increases the release of CO₂. This is often coupled with a loss of CO₂-fixing vegetation as a result of development.

An issue when planning a wind farm development in forests or on blanket bogs is whether there is potential for overall CO₂ savings when the changes in CO₂ emissions associated with the land use



change are included. Consideration of carbon emissions and wind farm development falls in two parts.

Firstly to be considered is the carbon “payback” time for a wind farm development over its lifecycle. This considers the carbon emitted during all aspects of the development from turbine construction to transport on site.

The second issue is particularly pertinent to development on peat. Peat can act as a carbon store and as such disturbing the peat will release this stored carbon into the atmosphere. The level of carbon storage is dependent on the quality and integrity of the peat. Areas of drying out or eroding peat will be releasing carbon into the atmosphere.

The methodology specified in *‘Calculating potential carbon losses and savings from wind farms on Scottish Peat lands: a total life cycle perspective’* and supported by the report titled *‘Calculating carbon savings from wind farms on Scottish peat lands – a new approach’* (Nayak et al, 2008), is currently used as the best practice and was developed from the Technical Guidance note produced by SNH in 2003 for calculating carbon 'payback' times for wind farms. This model uses site specific parameters to model the impacts of installation and operation of wind farms on peat soils, taking into account the wider potential impacts on peatland hydrology and decomposition of organic matter, as well as the lifecycle costs of the turbines. Carbon reduction is calculated for a range of grid displacement factors and also permits the modelling of the effect of different mitigation techniques on overall site payback. Although this methodology was modelled on Scotland, it currently represents the best available methodology for sites across the British Isles in the absence of country specific alternatives.

Detailed assessment is usually undertaken for developments to be constructed on peatland sites. In the case for the proposed Rooley Moor development, the purpose of the assessment would be to identify whether:

- 1) The wind farm lifecycle would further add to existing carbon release occurring due to existing site activities and present nature of the overturned disturbed peat;
- 2) The time taken for the wind farm to “payback” any such additional carbon release due to the wind farm specifically; and
- 3) Payback time for the wind farm to offset carbon release due to existing operations on the site.

3.3. Cultural Heritage

3.3.1. Overview

Wind farm developments may have both direct impacts upon the physical fabric of cultural heritage features and also indirect impacts on the setting of cultural heritage assets. The assessment will therefore: establish the archaeological potential of the development site through the identification of known cultural heritage assets, both within the limits of the application site and beyond; assess the predicted impacts, both physical and on setting; and propose mitigation measures.

3.3.2. Baseline Description

A review of information contained in Defra's MAGIC database and English Heritage website indicates that there are no World Heritage Sites, Scheduled Monuments, Registered Battlefields, Conservation Areas or Listed Buildings within the proposed application boundary. Three Grade II Registered Parks and Gardens (Falinge Park, Rochdale; Rochdale Cemetery; and Whitworth Cemetery) and a number of Listed Buildings lie within 5km of the application boundary. These are generally subsumed within the towns of Rochdale and Whitworth.

A preliminary review of other national (National Monuments Record) and local data sets, Greater Manchester and Lancashire Historic Environment Records (GMHER & LHER respectively) and historic maps was also undertaken. No designated assets are present within the site boundary. A number of recorded assets of local significance were identified within site boundary as a result. These have been summarised in Table 3.2 below and are shown on **Figure 3**.

Table 3.2. Cultural Heritage Assets within the Site Boundary

Asset Name/Type	Description
Bagden Hillocks probable Bronze Age cairns (HA 1)	These two cairns are potentially of regional importance. They should be preserved in situ to avoid potential impacts on satellite burials and any other associated features that may be present.
Naden Head farmstead (site of) (HA 2)	A farmstead and associated enclosures and cultivation remains dating to the 16th century with probable 12th century antecedents. Potentially of regional importance.
Turnshaw Hill farmstead (site of) (HA 3)	Site of a farmstead dating to the 16th century. Extents and condition uncertain, its location having been modified by quarrying and colliery operations. Possibly destroyed.
Rooley Moor Road (HA 4)	This road linked Rochdale to Rossendale and served the quarries on the moor. The GMHER indicates that it is of 18th century date, but there is a local tradition that it is Roman. The current surface was, however, built during the 1860s. Assuming that the GMHER is correct it is of local importance, but in the first instance should be preserved in situ if possible as an important part of the historic landscape.
Rooley Moor Stone Bridge (HA 5)	19th century bridge of local importance. Should be preserved in situ.

Asset Name/Type	Description
Moor Cock Inn (site of) (HA 6)	The site of an 18th century inn of local importance. Should be preserved in situ.
Extractive remains	There are numerous quarries, collieries and associated remains present on the moor that date to the 19th century, with some having been operational well into the 20th century. Only those operational in the 19th century have been mapped. These are considered to be of local importance. In the first instance they should be preserved in situ.

In addition to the above sites, local enthusiasts have identified possible prehistoric features on Hamer Hill. Their exact location is at present unknown and they are not therefore mapped.

The moor's altitude is likely to have precluded intensive or long term occupation throughout history. However, there have been several finds of early prehistoric lithics during quarrying. This indicates that the moor was seeing low level, probably seasonal, activity such as hunting during early prehistory. There is therefore some potential for archaeological remains relating to such activity to be present. The location of the cairns at Bagden Hillocks has been taken as being indicative of their having been intended to be seen from the west; it is therefore concluded that area of Naden Head has an elevated potential to contain prehistoric archaeology. This potential can be dealt with through a programme of archaeological works that will allow for recording of any archaeological features present within the construction footprint.

3.3.3. Assessment Methodology

The assessment will be carried out with reference to the following guidance:

- National Planning Policy Framework (2012);
- The Setting of Heritage Assets: English Heritage Guidance (2011);
- Standard and Guidance Archaeological Desk-Based Assessment (Institute for Archaeologists 2011);
- Wind Energy and the Historic Environment (English Heritage 2005);
- Conservation Principles (English Heritage 2008); and
- Relevant national and local planning policy and guidelines including the Rochdale Borough Unitary Development Plan (UDP), Rossendale Borough Core Strategy DPD and the Greater Manchester Joint Waste and Minerals Development Plan Documents.
- Relevant data and information would be obtained from:
 - Rochdale Borough Council;
 - Rossendale Borough Council;
- Lancashire County Council; and



- English Heritage.

During the production of the desk study all readily available and relevant documentary sources would be analysed. These will include historical maps, aerial photography, archaeological reports, geotechnical data and other readily available published sources.

A walk-over survey would also be carried out to confirm the findings of the desk-based assessment and identify previously unidentified assets. Visits would also be carried out to assets which are identified as being at risk from significant impacts upon setting by the assessor or consultees. The consultees that would be approached would include the English Heritage (North West Regional Office), Rochdale Arts and Heritage Service and Lancashire County Archaeological Service.

The assessment of impacts will consider:

- Potential direct and indirect construction impacts upon cultural heritage assets within the application boundary;
- Potential impacts, both direct and indirect, of transmission connection infrastructure such as underground cabling on identified features of cultural heritage interest.
- Potential impacts upon the setting of all recorded archaeological and cultural heritage features including Grade I and II* (England) Listed Buildings, Registered Parks and Gardens and selected Grade II listed buildings within 10km of the development boundary. The distance between the cultural heritage assets and the development will be considered and the setting impacts will be restricted to those associated with visual effects. Other assets beyond 10km will be considered generally, but will only be assessed where they are raised by consultees or where the assessor considers there to be potential for significant impacts.

Impacts will be assessed with reference to the values outlined in Conservation Principles Guidance (2008) and setting will be considered with reference to the definition of setting therein.

Further consultation with English Heritage, Rochdale / Rossendale Borough Councils and Lancashire County Council would be carried out to confirm whether further archaeological investigation would be required following the completion of the archaeological desk-based assessment.

3.3.4. Potential Mitigation Measures

The potential for either the planned site survey or archive search to identify constraints that cannot be addressed through micro-siting or recording in situ is considered to be low.

The findings of the desk-based assessment and walkover will be taken into account during the design of the development in order to prevent or reduce impacts as far as is reasonably practicable.



Measures will be taken to preserve identified features within the application boundary – for instance through the adoption of appropriate standoff distance to avoid potential impacts on satellite burials. Where preservation in situ is not possible, preservation by record would be necessary. In the case of the cairns (HA 1), Naden Head farmstead (HA 2) and Rooley Moor Road and Bridge (HA 4 & 5 respectively) the residual impact, assuming complete loss, could be significant.

The altitude of the moor is likely to have precluded intensive or long term occupation throughout history. However, there have been several finds of early prehistoric lithics during quarrying. This indicates that the moor was seeing low level, probably seasonal, activity such as hunting during early prehistory. There is therefore some potential for archaeological remains relating to such activity to be present. The location of the cairns at Bagden Hillocks has been taken as being indicative of their having been intended to be seen from the west; it is therefore concluded that area of Naden Head has an elevated potential to contain prehistoric archaeology. This potential can be dealt with through a programme of archaeological works that will allow for recording of any archaeological features present within the construction footprint.

The operational phase may also potentially have a significant impact upon the setting of the designated cultural heritage assets (Listed Buildings and the Registered Park and Garden) within the surrounding landscape. Significant impacts on the setting of archaeological sites can only be mitigated through design changes and these will be addressed during the Environmental Impact Assessment process.

3.4. Geology, Hydrology and Hydrogeology

3.4.1. Overview

The construction and operational phases of a wind farm have the potential to impact on the hydrology, hydrogeology and geology within the localised area, including drainage patterns, watercourses and both shallow and deep groundwater systems.

3.4.2. Baseline Description

Surface Water Hydrology

The key hydrological features on or close to the site include the River Irwell (north), River Spodden (east) and Naden Brook (south), as well as Cowpe Reservoir (north), Cowm and Spring Mill reservoirs (east) and the three Naden Reservoirs to the south. Owing to the plateau extending west to Scout Moor, Cowpe Reservoir and the Naden Reservoirs are anticipated to provide the natural northwest and southwest intercepts for surface water flows with Cowm and Spring Mill



reservoirs intercepting easterly surface water flows. These rivers and reservoirs are served by a network of smaller tributaries.

The lower north-western slopes of Rooley Moor (below approximately 300mAOD) are characterised by the presence of springs, water sources, and waterfalls. The north east has manmade water features associated with Britannia Quarries. The area to the south east, west of Whitworth, has redundant quarry workings with associated water features.

Surface water features are shown on **Figure 4**.

Flood Risk

A review of the Environment Agency's flood map indicates that the entire site is situated within flood zone 1 (i.e. low flood probability). However, the Environment Agency flood mapping does not consider the potential impact of climate change on flood risk locally or for localised flood problems such as culvert blockages or flooding from small catchments and drains. A Flood Risk Assessment is not considered to be required as part of the planning application, however there will be confirmed on conclusion of scoping and baseline assessment.

Geology and Groundwater

Drift: British Geological Survey mapping (GeoIndex) indicates that the site is underlain by Peat and Devensian till. The peat extends across the north of Rooley Moor and Scout Moor. A preliminary peat survey undertaken during January/ February 2012 indicated variable peat depth across the site, ranging from less than 0.1m to greater than 3m. A full peat survey across the site is to be undertaken in order to assess the extent and quality of peat across the site.

Solid: The site and surrounding area is underlain by Sandstone, Siltstone and Mudstone associated with the Pennine Lower Coal Measure Formation and the Rossendale Formation.

Groundwater: The Environment Agency bedrock aquifer map classifies the area around the site as a Secondary A aquifer, these are permeable layers capable of supporting water supplies at a local rather than a strategic scale, and in some cases forming an important source of base flow to rivers. There are no Source Protection Zones (SPZs) in the area.

Groundwater flows can be highly reactive to changes in the peat due to the large amounts of water it stores.

Private Water Supplies: Based on the presence of the extensive surface water drainage network and underlying bedrock it is recognised that properties within the surrounding area have the

potential to be served by Private Water Supply. A full assessment of local private water supplies is to be undertaken, to include, formal consultation and site visits.

Designated Sites

There is one Site of Special Scientific Interest (SSSI), Lee Quarry (a Geological Conservation Review Site) to the north of the site boundary and one Local Nature Reserve (LNR) Site, Healy Dell (an Urban Fringe to the southeast) within a radius of around 5km from the middle of the of the proposed wind farm site. These are summarised in table 3.3 below. The potential impact of the proposed development on these sites will be considered in the ES.

Table 3.3 Designated sites within 5km

Site	Designation	Description
Lee Quarry	SSSI	Lee Quarry is a large disused quarry on the south side of the Rossendale Valley, south of Bacup. The quarry is characterised by the presence of rich trace-fossil assemblages and good sedimentary features, making it of great importance to studies of late Carboniferous environments and palaeogeography. Lee Quarry is now an important tourist attraction since being converted into a purpose built mountain biking centre by Rossendale Borough Council.
Healy Dell	LNR	Healey Dell nature reserve is an area of rich industrial archaeology and natural beauty located in the Spodden Valley along Whitworth-Rochdale border.

Baseline Summary

An initial review of the baseline hydrological, hydrogeological and geological conditions on and around the site indicates that sensitive receptors are likely to include any water abstractions in close proximity to the site and peat deposits in the north of the site. The hydrological environment will be particularly vulnerable to development impacts associated with sediment release, as well as contamination from chemical pollution and impacts associated with altered flows.

3.4.3. Guidance/Legislation

There currently are no defined criteria for assessing the impacts of developments on the water and soils environment. Therefore this assessment will be based on the guidance given in the Institute of Environmental Management and Assessment (IEMA) Guidelines for Environmental Impact Assessment. SKM has developed a methodology based on this guidance for assessing impacts on the water and soils environment. The methodology is based on defining the baseline sensitivity of the water and soils environment and defining criteria for impact magnitude relating to a range of water and soil processes.

3.4.4. Proposed Scope of Assessment

Hydrology and Hydrogeology

A Hydrological and Hydrogeological Impact Assessment will be undertaken, which will be in accordance with the Water Framework Directive. The assessment will be based on site visits, a desk-based data collection exercise and thorough consultation. A site visit is a critical element to determine the sensitivity of the hydrological and soils environment and identify potential watercourse crossings. Data will be collected from a wide range of sources including the following as appropriate:

- Topographical mapping;
- British Geological Survey (BGS) and the Soil Survey;
- Private water supplies information from the local authorities; and
- Surface water and groundwater information from the Environment Agency and local authority.

Private water supplies and other water uses (e.g. agriculture) which rely on flows from the site are to be investigated and could be of particular importance at this location given its remote nature. This will be investigated by collecting information on private water supplies from the Local Authority Environmental Health department, issuing questionnaires to potential properties reliant on private water supply and a door to door survey which will aim to identify and locate private water supplies. Potential effects on nearby reservoirs, including impacts on water quality, will also be considered as part of the assessment.

Consultation will be important to establish the land drainage and flooding constraints. The following bodies will be consulted:

- Environment Agency;
- British Geological Survey;
- Coal Authority;
- Rochdale Metropolitan Borough Council;
- Rossendale Borough Council; and
- United Utilities.

Peat Slide Risk Assessment

An initial peat depth survey has been undertaken across the site and the findings are represented on **Figure 5**.



A detailed peat depth survey will be carried out during 2012 using a 100m grid across the site as part of the Peat Slide Risk Assessment. An experienced Geotechnical Engineer will conduct the assessment using a Peatslide Hazard Rating System (PHRS). The system is fully compliant with best practice outlined in the Scottish Government document “*Peat Landslide Hazard and Risk Assessments: best practice guide for proposed electricity generation developments*”, which is recognised as the best available guidance for PSRA on sites in the UK.

The PHRS is based on ten hazard factors, which include:

- Rainfall and climate;
- Presence of water on the slope;
- Rockhead or subsoil;
- Peat profile and depth;
- Peat strength (vane shear test);
- Slope and slope regularity;
- Geomorphology and site history;
- Sub-profile damage;
- Peatslide history; and
- Potential peatslide severity.

In addition, information on the character of the peat and the level of humification will be recorded. Once collected these 10 categories will be evaluated, scored and totalled in order to identify the most hazardous locations, as sites with higher levels of risk will have higher scores.

3.4.5. Potential Impacts

The construction of a wind farm often requires various activities which may have the potential to directly impact on water quality and flow of both surface water and groundwater, and indirectly impact ecological factors. These include:

- Unmanaged erosion/sediment deposition and suspended solids generated from ground disturbance could cause modification to stream channel morphology, potential smothering of habitats/impact on aquatic flora and fauna, especially fish and affect water abstracted for drinking supply;
- Oil/fuel pollution (from accidental spillage or incorrect transport, storage or refuelling procedures) which has the potential to impact on both terrestrial and aquatic flora and fauna and also on human activities such as water abstracted for drinking supply; and



- Any alteration of natural drainage or sub-surface hydrogeological patterns could disturb natural subsurface water flows to either water dependent habitats or to local abstraction points, unless properly managed. Likewise, the development of new tracks across existing streams and channels has the potential to block water flow. Poorly designed drainage on unstable areas may increase landslip risk on sloping ground.
- Peat disturbance and peat slide risk in areas with deep peat and considerable incline.

3.4.6. Cumulative Impacts

Potential cumulative impacts upon the water and soils environment will be assessed and consultation will determine the committed or planned developments that should be considered.

3.4.7. Mitigation

The design of the mitigation measures will be based on relevant guidance provided by the Environment Agency Natural England and others, such as Construction Industry Research and Information Association (CIRIA). It is expected that mitigation will come through appropriate design and layout modifications following consultations with the Environment Agency and other key stakeholders.

The following mitigation measures are expected to be included within the wind farm design:

- Adoption of best practice pollution prevention control measures, including: stand off from ditches; cut-off drains or small bunds around potentially polluting activities; designated areas for fuel storage and refuelling; and Environmental Management Method Statements for contractors working on-site;
- Protection of existing land drainage requirements, through the appropriate use of oversized culvert crossings, if required;
- Appropriate design of foundation installation, the management of soil water levels and the potential to generate excess groundwater contaminated with sediments will be outlined;
- During the decommissioning phase, underground cabling, if installed, will be removed from the upland site with restoration to baseline conditions following this undertaking, and
- Proposed package of peatland habitat restoration during the decommissioning phase.

The presence of peat and the risk for peat slide will also form the initial constraints to the site layout. As a result of the PHRS, the following design constraints will be employed when developing the site layout:



- Avoidance of areas of deep peat (> 2m);
- Avoidance of areas of steep gradient (> 10°); and
- Avoidance of areas of wet ground using a buffer of 50m from minor watercourses and 100m from major watercourses.

Further assessment on the risk of generating a peat slide will be carried out once a preliminary turbine and track layout has been established.

3.4.8. Enhancement and Restoration

Alongside this scheme there will be the potential for peat restoration work to be carried out on site and details of this will be included in the ES.

3.5. Landscape and Visual

3.5.1. Overview

A wind farm development introduces a number of elements into the landscape which are likely to be visible from outside the development site, including turbines, access tracks, anemometer masts and control buildings. The introduction of these elements into the landscape can alter the landscape character of an area and can result in visual effects which may be experienced by a variety of different receptors.

The assessment of the potential effects upon the landscape is carried out as an effect on an environmental resource, i.e. the landscape, whereas visual effects are assessed as one of the interrelated effects on population (Guidelines for Landscape and Visual Impact Assessment, 2002).

This section provides a brief outline of the landscape baseline and describes the approach to the landscape and visual assessment that will form part of the EIA.

3.5.2. Baseline

The Site and its Surroundings

The landscape character of the study area is considered in the following baseline assessments:

- Countryside Commission (1998) Countryside Character Volume 2: North West;
- Standing Conference of South Pennine Authorities (SCOSPA): The Landscape Character Assessment;
- Lovejoy (2005) Landscape Sensitivity to Wind Energy Developments in Lancashire (Lancashire County Council, Blackpool and Blackburn with Darwen Borough Councils).

The landscape assessments referenced above have been used to inform the Landscape Capacity Study for Wind Energy Development in the South Pennines (2010). This study is the most contemporary appraisal available of the areas landscape sensitivity to wind farm development and is referenced by both Rochdale and Rossendale as forming the evidence base for their respective Local Development Frameworks. The Landscape Capacity Study used the SCOSPA Landscape Character Assessment as the starting point for the landscape sensitive assessments and consideration of landscape capacity.

Figure 10 of the Landscape Capacity Study (LCS) illustrates that the proposed Rooley Moor Turbines would be located exclusively within the High Moorland Plateau Landscape Character Type (LCT). Figure 9 of the LCS identifies that this LCT has an overall landscape sensitivity to wind farm development of High. However, the detailed consideration of landscape sensitivity for this area (pages 55-56 of the LCS) states that the area to the west is of lower sensitivity (moderate to high). In particular it states that *“locally there are significant areas of somewhat lower (moderate-high) sensitivity, particularly around Scout Moor to the west, where the landscape has already been affected by extensive wind energy development and other influences such as quarrying and urban fringe pressures, and is also of lesser scenic quality and natural heritage interest”*.

In order to undertake the landscape capacity study the steering group decided to define bespoke Capacity Areas (CAs) rather than using the SCOSPA Landscape Character Areas (LCAs) or National Character Areas (NCAs). The rationale being that the LCAs were too small and NCAs were too large. As such a spatial framework was developed for assessing the landscape capacity of the South Pennines which amalgamated LCAs into broad brush areas of similar and/or closely related character that would be recognisable to planners and the public, whilst still being underpinned by the underlying LCA.

The Capacity Areas are illustrated on Figure 8 of the LCS. The proposed Rooley Moor turbines would be located wholly within the Scout Moor Capacity Area (CA 4). The detailed appraisal of Capacity Area 4: Scout Moor is presented at pages 89-90 of the LCS.

The LCS describes CA4 as follows:

“Scout Moor is an outlying block of A: High Moorland Plateaux west of and separate from the main South Pennine ridge. The area is ringed by the Irwell, Roch and Spodden valleys and by built up areas, including Bury, Rawtenstall and Rochdale. The enclosed landscapes of D: Moorland Fringes/Upland Pastures and F: Settled Valleys lie to the west, north and east, while to the south are areas of G: Wooded Rural Valleys. The moor rises to a height of 474m and at a broad scale has a gently domed form, marked by a number of smaller knolls such as Knowl Hill. The north and east sides of the moor are somewhat steeper and more dramatic than the south and west which

have a gentler, more rolling form. There is an existing wind farm on Scout Moor (26 turbines 100m high). The turbines are mainly located on the southern and western parts of the moor and accessed from the west”.

The LCS identifies a number of constraints such as deep peat, ancient woodland, historic parks and conservation areas in the surrounding valleys and important recreational routes (e.g. Pennine Bridleway & Rossendale Way). However, it goes on to state in respect of opportunities that *“there may be scope for a further wind energy development without major additional impacts”.*

The LCS provides the following guidance in respect of this Capacity Area:

- Avoid siting turbines on prominent knolls that occur on the moorland summit.
- Set back turbines from the moorland edge by at least 400m (Bacup and Whitworth in particular).
- Layout should minimise impact of peat, natural heritage and cultural heritage features and recreational routes.
- Maintain a separation distance of at least 3-4km to other turbines in the east.
- Integrate design with existing Scout Moor turbines (and now any future extension).

The LCS goes on to conclude that Capacity Area 4: Scout Moor may have capacity for *“two large wind farms or one very large wind farm with large turbines”.* The findings of the study are somewhat ambiguous and clarification has been sought in respect of the correct interpretation. This has confirmed that the LCS concludes that there is capacity for an extension to the existing Scout Moor Windfarm (i.e. one very large windfarm) or one additional large wind farm (up to 20 new turbines), i.e. the capacity identified in the study includes the existing turbines and is not in addition to them.

Table 4 on page 18 of the LCS sets out the wind energy development typology considered in the study. This confirms (in the context of the finding for Capacity Area 4: Scout Moor) that a large wind farm (with large turbines) would comprise 11-20 turbines with a blade tip height of 90-130m. A very large wind farm would comprise 21-30 turbines with a blade tip height of 90-130m.

3.5.3. Landscape Designations

Figure 4 of the Landscape Capacity Study (2010) identifies national and local level landscape designations.

The nearest national designations are:

- Peak District National Park (c.18km)



- Yorkshire Dales National Park (c.34km)
- Forest of Bowland AONB (Pendle Hill (c.16.5km))
- Nidderdale AONB (37km)

Given the separation distances to the Yorkshire Dales National Park and the Nidderdale AONB the impacts on these designations will be scoped out of the assessment. Assessment would focus on the special qualities of the remaining designated areas and how these would potentially be affected by the proposed development.

The proposed Rooley Moor site is outside all designated areas with the exception of the locally designated South Pennine Heritage Area (SPHA). The SPHA covers a vast area and encompasses a number of the existing and consented wind farm sites.

The SPHA is defined by the influence of man on the landscape and was not used as a reason to refuse Scout Moor, Todmorden, Reaps Moss or Crook Hill Wind Farms. As such the location of the proposed Rooley Moor wind turbines within the SPHA should not be considered a constraint on the development potential of the site. This is to some degree reflected in the Landscape Capacity Study which identifies further capacity for more turbines in proximity to the existing Scout Moor Wind Farm.

In addition to the designations illustrated on Figure 4 of the Landscape Capacity Study the proposed Rooley Moor site is washed over by an area of Green Belt to the north of Rochdale. The inspector for the public inquiry into Coronation Power wind farms to the east of Rooley Moor was very clear in respect of the compatibility of windfarm development and Green Belt policy. Paragraphs 11.3 -11.14 of the Inspector's report deals with Green Belt issues and concludes (by reference to the adjacent Scout Moor Wind Farm decision) that wind turbine development within the Green Belt is inappropriate development and that very special circumstances to justify inappropriate development need to be demonstrated. As such it is proposed that the impacts upon Green Belt will be dealt with through the planning policy assessment and demonstration of any very special circumstances.

3.5.4. Potential Effects

Potential effects resulting from the proposed development are likely to comprise the following:

- Physical change to the fabric of the site via the loss of existing vegetation cover and the introduction of wind turbines and site infrastructure;
- Changes in the character of the surrounding landscape resulting from the introduction of wind turbines which may disrupt the existing characteristics of the area;



- Changes in views from residential properties, the local road network, local footpaths and other outdoor recreational areas;
- Cumulative effects arising from the proposed development together with other developments, which may be different to/greater than the effects of the development in isolation.

3.5.5. Assessment Methodology

Current Guidance and Source Data

The assessment process will be based on published guidelines provided in the following documents:

- Landscape Institute and Institute of Environmental Management and Assessment (1995 and revised 2002) Guidelines for Landscape and Visual Impact Assessment Spon Press;
- Swanwick C (2002) Landscape Character Assessment - Guidelines for England and Scotland Countryside Agency/Scottish Natural Heritage;
- University of Newcastle (2002) Visual Assessment of Wind Farms: Best Practice Scottish Natural Heritage Commissioned Report F01AA303A;
- The Countryside Agency / Scottish Natural Heritage (2004) Topic Paper 6: Techniques and Criteria for Judging Capacity and Sensitivity;
- Scottish Natural Heritage Guidance (Version 2 revised 2005) Cumulative Effect of Wind Farms;
- The Countryside Agency / Scottish Natural Heritage (2004) Topic Paper 9: Climate Change and Natural Forces – The Consequences for Landscape Character;
- Horner & MacLennan / Envision (2007) Visual Representation of Windfarms Good Practice Guidance Scottish Natural Heritage, and
- Scottish Natural Heritage, (2009). Siting and Designing Windfarms in the landscape.

Any effects of the proposed development on landscape designations will be considered as part of the landscape assessment outlined below.

Where necessary, liaison will be carried out with other disciplines to determine the nature and extent of any mitigation measures required.



The study area will be determined in accordance with the guidance set out in Visual Representation of Windfarms Good Practice Guidance (Scottish Natural Heritage 2007) and is anticipated to be a 35km radius from the proposed turbines for Zones of Theoretical Visibility (ZTV).

The landscape and visual impacts will be considered for Historic Parks and Gardens, however, it will not consider effects upon the setting of cultural heritage features. Liaison will be carried out with the project archaeologist/cultural heritage consultant if required to help determine the changes in view from such features which may affect their cultural heritage setting. Features with cultural heritage interest may also be visual receptors, (e.g. a residential property that is also a listed building) but effects on visual amenity and cultural heritage interest are not necessarily the same and are assessed using different methodologies and by different disciplines.

3.5.6. Assessment Process

Design Stage

Input will be provided into the design stage of the proposal in order to identify any likely significant landscape and visual effects that could be reduced / eliminated by changes to the layout, turbine size or other aspects of the design. In addition, enhancements to the surrounding landscape fabric would be reviewed.

Landscape

The landscape assessment considers the potential effects of the proposed development on the landscape as an environmental resource. Physical change to the landscape may also result in changes to the distinctive character of that landscape and other surrounding landscapes and how they are perceived.

The landscape baseline for the assessment will be established by both desk-based and field-based surveys in order to identify, describe and classify the physical and perceived aspects of the landscape within the defined study area. An understanding can then be gained of the individual elements, features and characteristics of the landscape and the way that these interact and combine to form distinct character areas.

This then allows an assessment to be made of the effects of a proposed development, both in terms of actual physical change to the landscape fabric and change in character.

The significance of effects on both landscape fabric and landscape character that will result from the proposed development is determined by considering the sensitivity of the resource, the magnitude of change arising from the development and professional judgement.



The effects of the proposed development on any statutory and non-statutory landscape designations within the study area will also be assessed in relation to their special qualities, or any extant study underpinning the designation in question.

The sensitivity of each character area to the scale of wind farm development proposed will initially be considered using sensitivity assessments set out in the Landscape Capacity Study for Wind Energy Developments in the South Pennines (2010). In addition, the 2005 Lovejoy study will also be reviewed for areas not covered by the South Pennine Study and areas of overlap to understand/investigate any areas of disagreement /inconsistency between the two reports. Finally the assessment will review the findings of these reports against the sensitivity criteria set out in the landscape capacity study to verify/challenge the findings of the assessment in the context of this more detailed LVIA.

Guidance in Topic Paper 6 - Techniques and Criteria for Judging Capacity and Sensitivity (The Countryside Agency / Scottish Natural Heritage 2004 recommend consideration of the following when determining sensitivity:

- Impacts upon particular aspects of landscape character including landform, land cover, enclosure and settlement pattern;
- Impacts on aesthetic aspects such as the scale, pattern, movement and complexity of the landscape;
- Potential visibility of the development and the number of people of different types who are likely to see it;
- Scope to modify visual impacts by various appropriate forms of mitigation measures.

Where the findings of the LVIA identify any differences in the assessed landscape sensitivity from those set out in the baseline studies referenced above this will be clearly stated and the rationale explained within the assessment.

The sensitivity of the landscape fabric will be based upon the comparative rarity and substitutability of the elements within the landscape that would be affected by the proposed development.

The sensitivity of landscape designations will be based upon the purpose and special qualities of the individual designated areas as well and the sensitivity of the landscape character areas which underpin the designations.

Given the nature of the development, the overriding influence on sensitivity will be impacts on aesthetics and potential visibility. There will be limited impact on particular aspects of landscape



character such as landform, land cover etc. and there is likely to be only limited scope for mitigation other than through site selection, micro siting and turbine design.

The sensitivity of the landscape will be expressed on a five-point scale as per the Landscape Capacity Study ranging from High to Low with justification for the allocation of levels of sensitivity provided as part of the assessment.

The magnitude of change that will occur due to the development would be expressed on a seven-point scale ranging from Very Large to No Change, with justification for the levels of change identified for each landscape receptor provided as part of the assessment.

The degrees of magnitude of change upon landscape character which will be used in the assessment are set out below:

- Very Large - Fundamental change in the make-up and balance of landscape characteristics over an extensive area (i.e. creation of a wind farm landscape);
- Large - Very obvious change in the balance of landscape characteristics over an extensive area; ranging to particularly intensive change over a more limited area (i.e. creation of a landscape with wind farms as a key characteristic, but co-dominant with other characteristics);
- Medium - Changes in an extensive area which whilst notable do not alter the balance of the landscape characteristics; ranging to moderate changes in the localised area which whilst obvious do not fundamentally change local character (i.e. wind farm a feature in the landscape/views but underlying characteristics still dominant);
- Small - Limited change in any components of the wider landscape with modest and unremarkable changes in the localised area;
- Very Small - Very small and unremarkable change in any components of the landscape;
- Negligible - Change, which whilst occurring would be virtually imperceptible within the wider landscape.
- No Change

Once the landscape sensitivity is established the overall assessment of effect will be determined by considering the magnitude of the change against the sensitivity of the landscape receptor guided by the matrix below:

Magnitude of Landscape Change	<i>Very Large</i>	<i>Moderate</i>	<i>Moderate to Major</i>	<i>Major</i>	<i>Major to Substantial</i>	<i>Substantial</i>
	<i>Large</i>	<i>Minor to Moderate</i>	<i>Moderate</i>	<i>Moderate to Major</i>	<i>Major</i>	<i>Major to Substantial</i>
	<i>Medium</i>	<i>Minor</i>	<i>Minor to Moderate</i>	<i>Moderate</i>	<i>Moderate to Major</i>	<i>Major</i>
	<i>Small</i>	<i>Slight to Minor</i>	<i>Minor</i>	<i>Minor to Moderate</i>	<i>Moderate</i>	<i>Moderate to Major</i>
	<i>Very Small</i>	<i>Slight</i>	<i>Slight to Minor</i>	<i>Minor</i>	<i>Minor to Moderate</i>	<i>Moderate</i>
	<i>Negligible</i>	<i>Negligible</i>				
	<i>No Change</i>	<i>No Material Effect</i>				
		<i>Low</i>	<i>Low to Moderate</i>	<i>Moderate</i>	<i>Moderate to High</i>	<i>High</i>
	Sensitivity of Landscape Receptor					

NB: Grey shading indicates significant effect in EIA terms.

Visual

A visual assessment is concerned with the potential effects that may occur resulting from a proposed development upon the population likely to be affected. It assesses the change in visual amenity undergone by specific receptors that would arise from any change in the nature of views experienced.

The method of determining visual effects is ostensibly the same as for landscape effects. The sensitivity of the visual receptor is identified, as is the magnitude of the change that will occur.

The visual assessment will be undertaken using computer-generated Zones of Theoretical Visual Influence (ZTV), wireframes and photomontages, and extensive field work to determine the overall visual effects of the proposed wind farm. All visualisations, including ZTV mapping, wireframes

and photomontages would in line with current best practice as set out in Visual Representation of Windfarms Good Practice Guidance (Scottish Natural Heritage 2007).

An indicative blade tip ZTV based upon a maximal development scenario is illustrated on **Figure 6** along with suggested representative viewpoint locations.

An assessment of visual effects will be undertaken from a series of viewpoint locations within the study area. The change in view from each viewpoint would be illustrated by use of wireframes/photomontages. The viewpoints will be selected based upon their location within the ZTV of the proposed development and will be representative of well used recreational routes/land, popular viewpoints, residential areas and any other sensitive visual receptors identified.

The final number and location of viewpoints will be agreed following a site visit and in consultation with relevant landscape consultees. Provisional viewpoint locations are set out in the table below based on the scoping responses for the nearby Scout Moor extension, and are indicated on **Figure 6**:

Table 3.4: Provisional Viewpoint Locations

VP	Location	Distance Range
1	Peak District National Park A635 - Pennine Way at Wessenden Head or car park to west	20-30km
2	Pennine Way, Top Withens	20-30km
3	Pendle Hill summit, Forest of Bowland AONB	20-30km
4	Picnic site, Longridge Fell, Forest of Bowland AONB	20-30km
5	Winter Hill, summit	20-30km
6	Tandle Hill Country Park trig point/viewpoint	10-20km
7	Clegg Hall	5-15km
8	Hollingworth Lake Country Park south bank	5-15km
9	White House public house, A58, Blackstone Edge	10-20km
10	Basin Stone or Gaddings Dam	5-15km
11	Stoodley Pike	10-20km
12	Todmorden Golf Course	10-20km
13	Hawk Stones	10-20km
14	Pennine Bridleway, Hameldon	10-20km
15	Panoptican - Singing Ringing Tree	10-20km
16	A6177 Grane Road west of Haslingden Grane	10-20km
17	Darwen Hill	10-20km
18	Pennine Bridleway Rooley Moor Road	0-5km
19	Broadfield Park, Rochdale	0-5km
20	A627(M) northbound at Queensway (fallback car showroom N end of A627(M) southbound)	0-5km



21	Lobden Golf Club	0-5km
22	Prickshaw/Broadley Fold	0-5km
23	A671 Whitworth	0-5km
24	A671 Weir	0-5km
25	Maden Recreation Ground and Bacup Golf Club	0-5km
26	A681 at Bacup	0-5km
27	Boarsgreave	0-5km
28	Newchurch	0-5km
29	Pennine Bridleway adjacent to Cowpe Lowe	0-5km
30	Whitaker Park	0-5km
31	B6235 Helmshore	0-5km
32	Peel Tower	0-5km
33	B6214 south of Ramsbottom or Burrs Country Park	0-5km
34	Ashworth Road near Ashworth Moor Reservoir	0-5km

The list will be refined following the scoping exercise and site visits to ground truth locations. In addition the sequential visual impact on the following routes will be considered by reference to the viewpoints listed above, a detailed review of the ZTVs and wireframes /computer 3D models.

Routes Requiring Sequential Assessment of Visual Impacts
M66/A56 (northbound and southbound) between Radcliffe and Accrington
A627(M) (northbound)
M62 junctions 22 to 21 (westbound)
A58 (westbound)
A681 through Sharneyford (westbound)
A671 through Weir (southbound)
A6177 through Haslingden Grane (eastbound)
Pennine Way
Pennine Bridleway
Rochdale Way
Rosendale Way
Burnley Way

In addition to the assessment of effects from each viewpoint and strategic route, consideration of the wider visual effects of the proposed development will also be provided as part of the assessment

The sensitivity of visual receptors will be expressed on a five-point scale ranging from High to Low with justification for the allocation of levels of sensitivity provided below.

Sensitivity	Criteria (indicative)
High	Strategic recreational routes and other clearly well used rights of way; important landscape features with physical, cultural or historic attributes; views from residential buildings and associated gardens; views from beauty spots and picnic areas.
Moderate to High	Other non-strategic rights of way; views from important landscape features or beauty spots where existing visual detractors are present; views from outdoor recreational areas and publicly accessible land where the view is part of the visitor experience.
Moderate	Views from private access routes; views from roads or other transport routes where journeys are clearly recreational/tourism related; outdoor recreational areas, where the activities followed are not strongly related to the views available; other land accessible to the public away from well trodden footpaths.
Low to Moderate	Land accessible to the public away from well trodden footpaths, with little/no evidence of use; views from public buildings/ places of work with obvious outdoor spaces; views from minor rural roads/ other transport routes through rural areas.
Low	Views from industrial or commercial buildings or areas; drivers and passengers of vehicles engaged in commercial travel or commuting; views from primarily functional main roads; and views from trains.

The classification of the magnitude of visual change will be as follows in accordance with the criteria set out in Visual Assessment of Wind Farms: Best Practice Scottish Natural Heritage Commissioned Report F01AA303A (University of Newcastle 2002):

Magnitude of Visual Effects Criteria

Visual Size Class/ Magnitude	Size Class Descriptor	Appearance
Very Large	Dominant	Major changes in the character, make-up and balance of the view. Commanding, controlling the view
Large	Prominent	Standing out, striking, sharp, unmistakable easily seen
Medium	Conspicuous	Moderate changes in the nature of the view. Noticeable distinct, catching the eye or attention, clearly visible and well defined
Small	Apparent	Visible, evident, obvious
Very Small	Inconspicuous	Minor change in the nature of the view. Lacking sharpness of definition, not obvious, indistinct, not clear, obscure, blurred indefinite
Negligible	Faint	Weak, not legible, near limit of acuity of human eye

In considering the magnitude of change, a commentary will be provided to justify the reasoning for the magnitude criterion selected. This in turn will influence the significance of the effect. Such factors considered may include, for example: the potential for weather conditions to restrict views;



the principle aspect of the viewpoints/viewers; the proportion of any particular view affected; and the potential for the development to attract the eye or to become a focal point in the view to the detriment/benefit of competing visual elements.

Once sensitivity and magnitude are classified the two are considered to achieve an assessment of the significance of effect guided by the matrix below:

Magnitude of Change in Visual Amenity	<i>Very Large</i>	<i>Moderate</i>	<i>Moderate to Major</i>	<i>Major</i>	<i>Major to Substantial</i>	<i>Substantial</i>
	<i>Large</i>	<i>Minor to Moderate</i>	<i>Moderate</i>	<i>Moderate to Major</i>	<i>Major</i>	<i>Major to Substantial</i>
	<i>Medium</i>	<i>Minor</i>	<i>Minor to Moderate</i>	<i>Moderate</i>	<i>Moderate to Major</i>	<i>Major</i>
	<i>Small</i>	<i>Slight to Minor</i>	<i>Minor</i>	<i>Minor to Moderate</i>	<i>Moderate</i>	<i>Moderate to Major</i>
	<i>Very Small</i>	<i>Slight</i>	<i>Slight to Minor</i>	<i>Minor</i>	<i>Minor to Moderate</i>	<i>Moderate</i>
	<i>Negligible</i>	<i>Negligible</i>				
	<i>No Change</i>	<i>No Material Effect</i>				
		<i>Low</i>	<i>Low to Moderate</i>	<i>Moderate</i>	<i>Moderate to High</i>	<i>High</i>
	Sensitivity					

NB: Grey shading indicates significant visual effect in EIA terms.

Cumulative Effects

In addition to the landscape and visual assessment for the wind farm, a cumulative assessment would be undertaken in line with the guidance set out in Assessing the Cumulative Impact of Onshore Wind Energy Developments (Scottish Natural Heritage 2012). The cumulative assessment will consider other operational schemes, those that are under construction or have planning consent and those that are the subject of a formal planning application. The cumulative



assessment will consider effects upon the landscape fabric, landscape character and effects upon views from both static viewpoints and key routes.

The cumulative assessment will be predicated upon two development scenarios. Firstly the cumulative effects of the proposed development will be considered against a baseline of all operational and consented sites. Secondly, the cumulative effects of the proposed development will be considered against a baseline of all operational and consented sites and all sites that are the subject of a formal planning application.

Planning Advice Note 45 (Scottish Government) indicates that in assessing cumulative effect of wind farms it is unreasonable to expect them to extend beyond schemes in the vicinity that have been built, have permission or are currently undetermined applications. This is supported in guidance provided by Scottish Natural Heritage (SNH) on the Cumulative Effect of Windfarms (SNH, 2005).

The site of the proposed development lies adjacent to the operational Scout Moor site, which is the subject of a possible extension. There are a number of other operational/consented sites in the area as well two historic sites which are the subject of re-powering proposals.

A provisional list of cumulative sites within c.30km of the proposed development site is set out in the table below.

Provisional Cumulative Sites

Wind Farm	Status
Scout Moor	Operational
Scout Moor Extension	Scoping/NIP
Coal Clough	Operational
Ovenden Moor	Operational
Hameldon	Operational
Reaps Moss	Consented
Crook Hill 12	Consented
Todmorden Moor	Consented
Hyndburn	Consented
Hameldon Hill Extension	Consented
Coal Clough Re-powering	In Planning
Ovenden Moor Re-powering	In Planning
Causewayside Farm	In Planning
Land off Wham lane	In Planning



Single turbine applications over 30m in height will be considered for inclusion within cumulative assessment. Rochdale and Rossendale Councils will be requested to provide information on the operational and proposed developments of this scale. The cumulative landscape assessment will consider the following:

- The cumulative impact of schemes on the extent, condition or integrity of landscape components such as woodland, moorland, hedgerows etc; and
- The cumulative impact on character as a result of wind farms as a new recurring element or component of the landscape, whether read as an isolated feature, a key characteristic or a dominant characteristic (i.e. creating a different landscape type in a similar way to large scale afforestation).

The cumulative visual assessment will consider the following potential impacts:

- In combination – where two or more features are seen together at the same time from the same place (viewpoint), in the same arc of view with their visual impacts being combined;
- In succession – where two or more features are present in views from the same place (viewpoint) but cannot be seen at the together because they are not in the same arc of view – as the arc of view experienced by the observer changes, the features become visible in succession; and
- In sequence – where two or more features are not present in views from the same point (viewpoint) on a route and cannot therefore, ever be seen at the same time even if the arc of view experienced by the observer changes; the observer must move to another point on the same route to see the second or more of them, so they will then appear in sequence. These sequential views may occur frequently along the route, or more occasionally.

A key element of this part of the assessment will be consideration of the sequential impact upon recreational routes in the area.

Residential Assessment

The assessment will consider how the change in view resulting from the presence of the proposed turbines would impact upon the residential visual amenity of nearby properties and whether these impacts would affect the overall living conditions. There is no published guidance that sets out criteria against which the impact of wind turbines upon living conditions can be assessed. However, the issue has been considered at a number of public inquiries.

The appeal decisions cited below are pertinent in respect of the visual aspects of residential amenity as this relates to the planning system.

The Inspector's Decision in respect of the North Tawton (Den Brook) development (Appeal Ref: APP/Q/153/A/08/2017162) states the following:

*"...it may be the case **that development is proposed of such a scale and design or proximity that it would be so visually intrusive as to turn an otherwise satisfactory dwelling into one that is an unsatisfactory place to live.** That would compromise the aim of ensuring that everyone has the opportunity of a decent home (paragraph 23 (vii) of Planning Policy Statement 1 – 'Delivering Sustainable Development'). From the standpoint of those affected, this is a different test than simply judging whether the view would be significantly affected or not, because (as with non-visual impacts, such as noise and un-neighbourliness in general) it is the resulting adequacy of living conditions within dwellings and their gardens that is determinative, not the view itself. In essence, being able to see the turbines is one thing but not, in itself, sufficient to demonstrate unacceptable harm in a land use planning context. Indeed, to adopt visibility alone as the decisive criterion would potentially represent an arbitrary and unduly stringent restraint on development of many kinds in many locations".* [bold text for emphasis]

The Inspector's Decision in respect of the proposed Enifer Downs development (Appeal Ref: APP/X2220/A/08/2071880)³, which states that:

*"...In most cases, the outlook from a private property is a private interest, not a public one, and the public at large may attach very different value judgements to the visual and other qualities of wind turbines than those who face living close to them. Equally, people pass through a diverse variety of environments when going about their daily lives, whether by car or when using the local rights of way network, and I find nothing generally objectionable in turbines being part of that wider experience. However, when turbines are present in such number, size and proximity that they represent an **unpleasantly overwhelming and unavoidable presence in main views from a house or garden,** there is every likelihood that the property concerned would come to be widely regarded as an unattractive and thus unsatisfactory (but not necessarily uninhabitable) place in which to live. It is not in the public interest to create such living conditions where they did not exist before"*⁴ [bold text for emphasis]

The Inspector's Decision in respect of the proposed Sixpenny Wood development (Appeal Ref: APP/E2001/A/09/2101851) states that:

³ The Planning Inspectorate. *Appeal Decision APP/Q/153/A/08/2017162*. Paragraph 21

⁴ The Planning Inspectorate. *Appeal Decision APP/X2220/A/08/2071880*. Paragraph 66.

“There is no right to a view per se, and any assessment of visual intrusion leading to a finding of material harm must therefore involve extra factors such as undue obtrusiveness, or an overbearing impact leading to a diminution of conditions at the relevant property to an unacceptable degree”⁵.

In light of the decisions above, this assessment is concerned not simply with whether the turbines would be visible, but with whether they would constitute an unpleasantly overwhelming and unavoidable presence upon living conditions at nearby properties, which would constitute a material consideration to be weighed in the planning balance.

At present there is no published guidance on assessment of visual amenity from residences.

Residential visual amenity is not determined purely by visibility, but also takes into account factors including:

- The orientation and principal aspect(s) of a property;
- Whether visibility is from a house or its curtilage (and sometimes from where specifically in either of these);
- The composition of existing features within the view;
- The nature and extent of views available, for example whether they are: panoramic or narrow; unimpeded or partially/wholly obstructed; short-, medium- or long-range; and
- How the turbines would relate to any or all of the above, which may be influenced by factors including:
 - The number of turbines visible;
 - Whether clear views are available, or whether the turbines are wholly or partially obscured by other features;
 - The apparent vertical scale of the turbines (in relation to other visible features);
 - The horizontal proportion of the view occupied by the turbines;
 - The distance between the turbines and the property.

In respect of the final bullet point, appeal decisions have indicated that unacceptable impacts upon residential amenity are unlikely at distances in excess of 1km. As such the study area for the residential amenity assessment would be 1km from the nearest turbine. To ensure that properties just outside this study area are not excluded, a 1.5km buffer would be used. As such the residential assessment would consider the potential impact on residential amenity of all properties within 2.5km.

⁵ The Planning Inspectorate. *Appeal Decision APP/E2001/A/09/2101851*.



3.6. Ecology

3.6.1. Overview

This section provides information on the ecological survey and assessment methods and a brief summary of data gathered to date. Further details for all ecological surveys will be included within the ES. Birds are excluded from this section and covered separately in Section 3.7.

3.6.2. Baseline Description

Desk Study

To evaluate the potential presence of notable/protected species that may be impacted by the proposed development, records of such species occurring within 2km of the site will be requested from the local biological records centre (the Greater Manchester Local Record Centre). Further, relevant local data providers (e.g. local mammal and reptile groups) will be contacted, as appropriate, during the course of the EIA.

Information will also be requested from the Greater Manchester Local Record Centre relating to statutory and non statutory nature conservation sites occurring within 2km of the site. This search will extend to 10km for statutory sites through use of the Multi-Agency Geographic Information for the Countryside (MAGIC) web site⁶.

3.6.3. Site surveys

A walkover survey of Rooley Moor was undertaken by Ecology Matters Ltd on 20th December 2011. The findings of the survey are presented in **Figure 7**.

At this time of year the type of survey that can be undertaken is very limited, for instance most vegetation is dormant and it is not possible to provide a full botanical survey. No birds will be breeding and most animals are less active at this time. A full set of surveys are proposed for 2012.

The presence of white clawed crayfish on site will be fully investigated as there are remnant populations found in greater Manchester and in Rossendale.

3.6.4. Designated Sites

All statutorily designated sites within 10 km of the site are shown in Table 3.5. Sites/information relating specifically to ornithological interests are covered in Section 3.7 Ornithology.

⁶ <http://magic.defra.gov.uk/>



The only internationally designated site within 10km is the South Pennine Moors Special Areas of Conservation (SAC). There are four nationally designated Sites of Special Scientific Interest (SSSI) within 10km, the nearest being Lee Quarry SSSI, 0.5km to the North East. The potential impact of the proposed development on designated sites will be assessed in the ES.

Table 3.5: Statutory Designated Sites within 10km

Site and Designation	Distance & Direction from site	Reasons for Designation
International		
South Pennine Moors	9km North East and 8km East	<p>Primarily designated for its Annex 1 Habitats:</p> <p>European Dry Heaths</p> <p>The site is representative of upland dry heath at the southern end of the Pennine range, the habitat's most south-easterly upland location in the UK. Dry heath covers extensive areas, occupies the lower slopes of the moors on mineral soils or where peat is thin, and occurs in transitions to acid grassland, wet heath and 7130 blanket bogs. The upland heath of the South Pennines is strongly dominated by heather <i>Calluna vulgaris</i>. Its main NVC types are H9 <i>Calluna vulgaris</i> – <i>Deschampsia flexuosa</i> heath and H12 <i>Calluna vulgaris</i> – <i>Vaccinium myrtillus</i> heath. More rarely H8 <i>Calluna vulgaris</i> – <i>Ulex gallii</i> heath and H10 <i>Calluna vulgaris</i> – <i>Erica cinerea</i> heath are found. On the higher, more exposed ground H18 <i>Vaccinium myrtillus</i> – <i>Deschampsia flexuosa</i> heath becomes more prominent. In the cloughs, or valleys, which extend into the heather moorlands, a greater mix of dwarf shrubs can be found together with more lichens and mosses.</p> <p>Blanket Bogs</p> <p>This site represents blanket bog in the south Pennines, the most south-easterly occurrence of the habitat in Europe. The bog vegetation communities are botanically poor. Hare's-tail cottongrass <i>Eriophorum vaginatum</i> is often overwhelmingly dominant and the usual bog-building <i>Sphagnum</i> mosses are scarce. Where the blanket peats are slightly drier, heather <i>Calluna vulgaris</i>, crowberry <i>Empetrum nigrum</i> and bilberry <i>Vaccinium myrtillus</i> become more prominent. The uncommon cloudberry <i>Rubus chamaemorus</i> is locally abundant in bog vegetation. Bog pools provide diversity and are often characterised by common cottongrass <i>E. Angustifolium</i>.</p> <p>Old Sessile Oak Woods with Ilex and Blechnum in the British Isles</p> <p>Around the fringes of the upland heath and bog of the south Pennines are blocks of old sessile oak woods, usually on slopes. These tend to be dryer than those further north and west, such that the bryophyte communities are less developed.</p>
National (SSSI)		
Lee Quarry	0.5km North East	Lee Quarry shows one of the best available exposures in the Upper Carboniferous Haslingden Flags Formation, a unique development within the Millstone Grit of central England, probably of Yeadonian age. The formation consists mainly of fine-grained sandstones, siltstones and shales. The combination of rich trace-fossil

Site and Designation	Distance & Direction from site	Reasons for Designation
		assemblages and good sedimentary features marks Lee Quarry as being of great importance to studies of late Carboniferous environments and palaeogeography.
Hodge Clough	6km West	The stream exposure in Hodge Clough gives a well exposed section through the upper part of the Namurian Marsdenian Stage. A number of marine bands are present in the shales, with well developed faunas; the Helmshore Grit, hereabouts at its maximum thickness, is well exposed at the base of the section. The site is of particular importance as it has been proposed as the standard section for the upper part of the Marsdenian. A key reference section for the Upper Carboniferous.
Lower Red Lees Pasture	6km West	Lower Red Lees Pasture is important as one of the few remaining examples of herb-rich unimproved neutral to slightly acidic pasture typical of south-east Lancashire. This vulnerable habitat has become scarce nationally and has almost been completely destroyed in Lancashire due to agricultural intensification.
South Pennine Moors	9km North East and 8km East	The site is the largest area of unenclosed moorland within West Yorkshire and contains the most diverse and extensive examples of upland plant communities in the county. Extensive areas of blanket bog occur on the upland plateaux and are punctuated by species rich acidic flushes and mires. There are also wet and dry heaths and acid grasslands. These communities are typical of and represent the full range of upland vegetation classes found in the South Pennines.

The site is too far from the European sites listed above to have any significant effects. However a report will be submitted to the appropriate authority to allow them to undertake a screening exercise to screen out effects on these European sites.

3.6.5. Habitats

The majority of the site comprises upland moorland grassland of relatively poor vegetation quality (although no vegetation survey has been undertaken).

The area on the east side of the Rooley Moor Road consists of peat of varying thickness; in the flatter areas it is at least 100cm thick and on the slopes approximately 40cm thick. There is also a large area of deep peat between Top of Leach and Red Pits/Ding Quarry which forms a blanket bog.

The result of the Phase 1 Habitat survey will be provided in full in the ES.

3.6.6. Species

No constraints for protected species were noted. One possible outlying badger sett was found. No other evidence of badgers or otters was found although a full survey will be undertaken later in the



year. There are no adits or open shafts whereby bats could be hibernating. There are a few ponds on site that will require survey for great crested newt. The habitat is suitable for bird species such as golden plover, curlew and dunlin and a comprehensive set of bird surveys will be undertaken to cover breeding and non-breeding periods.

3.6.7. Assessment Methodology

The impact assessment methodology used in the EIA will follow the IEEM Guidelines for Ecological Impact Assessment in the UK⁷, incorporating other best practice guidance, e.g. Natural England guidance on bats and wind turbines, as appropriate.

Potential impacts upon ecological receptors will be assessed where these are considered to be of local, or greater, ecological value or are subject to legal protection.

Impacts to be considered will be based on the following broad themes:

- Habitat loss or disturbance during construction and decommissioning;
- Habitat severance during construction and operation;
- Disturbance to fauna (e.g. visual, noise, lighting etc) during construction, operation and decommissioning; and
- Collision with moving turbines during operation (bats).

3.6.8. Potential Mitigation Measures

Following the assessment of the potential environmental impacts, measures to prevent any significant adverse impacts or reduce them to acceptable levels will be developed, where appropriate. Proposals will also be provided for nature conservation enhancements as appropriate.

3.7. Ornithology

This section sets out the approach to the evaluation of the ornithological interest of the site, and to the assessment of potential effects on birds.

3.7.1. Overview

Wind farm developments have the potential to affect birds adversely through direct loss of habitat, displacement of birds (indirect habitat loss) or collision with turbine blades. An evaluation of the effects of the development through direct and indirect habitat loss due to land take and disturbance

⁷ Institute of Ecology and Environmental Management (2006). Guidelines for Ecological Impact Assessment, www.ieem.org.uk.



respectively during the construction, operation and decommissioning of the development will be carried out. This assessment will consider whether such displacement of birds is likely to occur as a consequence of construction or decommissioning work, or due to the presence of the close to nesting or feeding sites or important flight routes.

An evaluation of the potential effects on bird populations through collisions with rotating turbine blades will be undertaken. Where appropriate collision rates will be predicted through theoretical collision risk modelling.

Where necessary, measures will be considered to mitigate any identified adverse effects of the development on bird species. The findings of the survey work will be used to inform the detailed scheme design. Potential measures such as micro-siting, a review of construction timing and land management regimes will be considered, as appropriate, in consultation with the relevant statutory consultees.

To undertake the necessary evaluations, site-specific bird studies and surveys began in December 2011 to establish a robust baseline. These are required to make detailed judgments on the potential impacts the proposals may have on protected species and other species of nature conservation importance. These surveys will follow current SNH and Natural England guidance on survey methods (Whitfield et al. 2005). Additional relevant data on the site and its surrounds will be incorporated into the assessment where available.

Potential Mitigation Measures

Following the assessment of the potential environmental impacts, measures to prevent any significant adverse impacts or reduce them to acceptable levels will be developed, where appropriate. Proposals will also be provided for nature conservation enhancements as appropriate.

3.7.2. Statutory Designations

The only internationally designated site (excluding sites designated specifically for birds) within 10km is the South Pennine Moors Special Protection Areas (SPA). There are four nationally designated Sites of Special Scientific Interest (SSSI) within 10km, the nearest being Lee Quarry SSSI, 0.5km to the North East. The potential impact of the proposed development on designated sites surrounding the site will be assessed in the ES.

Table 3.6: Statutory Designated Sites within 10km

Site and Designation	Distance & Direction from site	Reasons for Designation
International		
South Pennine	9km North East	The site is of European importance for several upland breeding

Site and Designation	Distance & Direction from site	Reasons for Designation
Moors SPA	and 8km East	<p>species, including birds of prey and waders. Both Merlin <i>Falco columbarius</i> and Golden Plover <i>Pluvialis apricaria</i> spend some of their time feeding outside the SPA on adjacent areas of in-by land. The northern end of the South Pennine Moors SPA is within 10 km of the North Pennine Moors SPA which supports a similar assemblage of upland breeding species.</p> <p>This site qualifies under Article 4.1 of the Directive (79/409/EEC) by supporting populations of European importance of the following species listed on Annex I of the Directive:</p> <p>During the breeding season;</p> <p>Golden Plover <i>Pluvialis apricaria</i>, 752 pairs representing at least 3.3% of the breeding population in Great Britain (Count as at 1990)</p> <p>Merlin <i>Falco columbarius</i>, 77 pairs representing at least 5.9% of the breeding population in Great Britain</p> <p>Peregrine <i>Falco peregrinus</i>, 16 pairs representing at least 1.4% of the breeding population in Great Britain</p> <p>Short-eared Owl <i>Asio flammeus</i>, 25 pairs representing at least 2.5% of the breeding population in Great Britain</p> <p>This site also qualifies under Article 4.2 of the Directive (79/409/EEC) by supporting populations of European importance of the following migratory species:</p> <p>During the breeding season;</p> <p>Dunlin <i>Calidris alpina schinzii</i>, 140 pairs representing at least 1.3% of the breeding Baltic/UK/Ireland population</p>

3.7.3. Breeding Bird Survey

Breeding bird surveys will be carried out between April and July 2012. These will include a three-visit Common Birds Census surveys of the site plus a 500m buffer and vantage point surveys to quantify bird flight activity through the site. Surveys to date have recorded plover, dunlin and Twite and specific surveys will be carried out for these species between May and July 2012.

3.7.4. Non-breeding Bird Surveys

A programme of non-breeding bird surveys began in January 2012. This includes regular (twice-monthly) surveys of the site and its surrounds, and vantage point surveys to quantify bird flight activity through the site at that time of year (all following current SNH guidance), to provide a robust baseline for the ornithological assessment.

3.7.5. Ornithological Assessment

The assessment will include a full evaluation of the nature conservation importance of the site's bird populations and identification of any particularly sensitive areas (to feed into the site design process). Collision risk will be estimated for bird species of conservation importance regularly

over-flying the proposed wind farm site (based on the results of the vantage point surveys). This will be calculated using a standard modelling process (Band et al. 2007). Possible disturbance effects will be assessed by determining the bird populations of importance within the wind farm area and its surrounds (based on the field surveys and any additional information available), and by reference to the current literature on bird-wind farm interactions. The assessment methodology will follow that developed by SNH and BWEA (2002 and 2003) for assessing the effects of wind farms on ornithological interests.

3.8. Noise

3.8.1. Overview

Wind turbines have been specifically designed for use in areas with low existing ambient (background) noise levels. However, they are not totally quiet, and an assessment will be carried out on the noise levels predicted at the nearest residential properties to the proposed wind turbines. The assessment will involve comparing the predicted noise levels from the wind turbines with the existing ambient noise levels at sensitive receptors in the locality, in the context of protecting amenity.

3.8.2. Baseline Description

Residential properties have been identified in settlements in the valley to the north, east and, to a lesser degree, to the south of the site. These receptor locations have been identified as the closest residential properties and at which specific noise limits can be set.

3.8.3. Assessment Methodology

The assessment will be carried out in the context of existing planning guidance (Planning Policy Statement 22, 'Renewable Energy'). It will also be in accordance with current statutory and non-statutory guidance, with particular reference to the standard for noise assessment defined by the Noise Working Group - ETSU-R-97 ('The Assessment and Rating of Noise from Wind Farms'), as well as British Standards and other documents relating to noise and its effect on humans, including guidance on the character of wind farm noise. The assessment will also follow the procedure described in the Institute of Acoustics (IOA) 'Acoustics Bulletin' (Volume 34 No.2, March/April 2009). This outlines the best practice on the consideration of site-specific wind shear.

3.8.4. Identification of Sensitive Receptors

Wind turbine noise is currently controlled through the application of noise limits at the nearest noise-sensitive receptors which are aimed at protecting both night-time sleep and daytime amenity. The nearest residential properties occur to the north, east and south of the proposed development



boundary and these properties have therefore been initially identified as the nearest noise-sensitive receptors, for the purposes of setting specific noise limits.

3.8.5. Initial Calculations

The identified residential receptors have been assessed with respect to the requirement for a background noise survey. The guidance from the ETSU-R-97 report states that where it can be demonstrated that the expected levels of wind turbine noise would not exceed 35dB LA90,10min at a residential property for wind speeds of up to 10m/s at 10m height, then no background noise survey is required for that property, since a simplified condition will suffice to protect that property.

An initial modelling exercise has been undertaken, in order to estimate the requirement for background monitoring based on the current proposed layout and a candidate turbine type, using the most appropriate input parameters. This initial calculation has given a worst case assessment of the likely noise levels at the nearest receptors and therefore provides the justification for undertaking background noise monitoring. The modelling exercise was undertaken using the principles described in ISO 9613-1:1996.

3.8.6. Background Noise Monitoring

The background noise survey will be undertaken at a number of monitoring locations to be identified and agreed through further detailed consultation with the Environmental Health Department of the Council.

The precise locations for each of the monitoring points, once agreed, will be at a point 1.2m to 1.5m above ground and at least 3.5m from any reflecting surface. Noise levels, as consecutive LA90, 10min values, will be measured and recorded using a weather-protected Type 1 sound level meter at each location, whilst the wind speed and direction, measured at different heights (and derived to a height of 10 m), will be obtained from an anemometer located centrally at the wind turbine site, most likely on the proposed 60m wind monitoring mast, which is the subject of a recent planning application.

The heights of the wind speed measurements should be recorded relative to the proposed turbine height, not less than 60%, and between 40 and 50% of the proposed hub height. The aim will be to correlate, over identical periods, the measured noise levels with wind speeds measured at two different heights, not affected by rainfall, and then derived to a 10m level, taking account of wind shear. A rain gauge fitted to the met mast should also record rainfall during the monitoring duration. Wind speed and direction will be averaged over 10 minute periods and synchronised with the noise meter logging systems. The aim will be to correlate the measured background noise levels with wind speed over identical periods.



The ETSU-R-97 guidance states that the background noise survey at each of the properties has to be over a sufficient period of time to obtain noise levels during a variety of wind speeds (at least over the range 0m/s to 12m/s) and directions (representative of the site). It is estimated that monitoring will take place over a period of two weeks; however this will be extended should the range of measured wind speeds or directions be insufficient.

3.8.7. Production of Noise Curves

A plot of background noise levels against derived 10m height wind speeds will be produced for each measurement location for the quiet daytime hours and for the night-time and a regression analysis will be performed, according to the guidance in the ETSU-R-97 report. This will lead to the generation of a background noise curve from the measured data, characterising the noise levels at each receptor location as a function of the wind speed. Operational noise limits will then be agreed with the Environmental Health Department of the Council, based on the background noise curves and the guidance in ETSU-R-97.

3.8.8. Operational Noise Impact Assessment

Assessment of wind turbine noise levels predicted at the identified receptor locations, as a result of the operation of the proposed wind turbines, will be performed in accordance with the methodology described in ISO 9613-1:1996, which is the preferred method of predicting wind turbine noise emission levels.

The general approach for the assessment at each location will be as follows;

- Prediction of received noise levels at receptor;
- Comparison of predicted levels with agreed noise limits; and
- Assessment and Conclusion of significance of effects.

3.8.9. Cumulative Impacts

The proposed site is adjacent to the operational Scout Moor Wind Farm. A cumulative noise modelling exercise may be required predicting the noise levels at the receptor locations from the operation of the wind turbines at Scout Moor Wind Farm, any potential extensions to the Scout Moor site, and any other proposed wind turbines adjacent to the Rooley Moor site and the proposed wind turbines at the Rooley Moor site across range of wind speeds from 4m/s to 12m/s.

Cumulative impacts on the locality relating to noise will be addressed and scope of the cumulative assessment will be agreed through further detailed consultation with the relevant local council.

3.8.10. Construction Noise Impact Assessment

Noise generated during the construction phase will be addressed according to the guidance given in British Standard BS 5228-1:2009, 'Noise Control on Construction and Open Sites'. This will be considered in two phases – construction of the access tracks and foundations, followed by construction of the turbine towers and assembly of the turbines.

3.8.11. Impacts Scoped out of the Noise Assessment

The assessment will not address noise from construction traffic and operational traffic, as the impacts from noise levels generated by the short duration of construction traffic and the very low operational traffic volumes are considered to be insignificant. The relatively large distances and nature of construction activity also means that vibration levels during all phases of the development are not considered likely to affect sensitive receptors. Vibration impacts have therefore also been scoped out and will not be addressed as part of the EIA.

3.8.12. Potential Mitigation Measures

If required, potential mitigation options will be identified and could include advice on site layout and the effects of turbine selection. A monitoring scheme will be introduced during the operational phase of the development. This will record any noise complaints made by members of the public which will be investigated and addressed on an ongoing basis.

3.9. Traffic, Transport and Access

3.9.1. Overview

The EIA will examine the transport planning aspects of the project, including an assessment of the traffic generation during the construction, operation and decommissioning phases of the project and the potential environmental impacts arising from this.

Typically the most significant environmental impacts of traffic related to a wind farm occur during the construction phase of the project. The chapter will therefore principally cover the construction access strategy, types and volume of construction traffic, the profile of the construction programme in terms of numbers of workers and other vehicle movements, onsite parking provision for construction staff, assessment of impact on adjacent links and junctions and the interaction of construction traffic with other road users, including pedestrians, cyclists businesses and local residents.

The chapter will also outline the anticipated operational, maintenance and decommissioning traffic generated post-construction, however these traffic numbers are typically insignificant when compared to the construction phase.

3.9.2. Baseline Description

Vehicular access to the site will be taken via Rooley Moor Road. It is anticipated that both Abnormal Indivisible Load (AIL) movements and construction Heavy Goods Vehicle (HGV) traffic will travel to site via the A680, A58 from the M62 and M66 motorways.

The suitability of the preferred access route will be discussed and agreed with Rochdale Metropolitan Borough Council (the LHA) and the Highways Agency (HAg).

3.9.3. Guidance/Legislation

An assessment into the level of environmental impacts resulting from the additional traffic generated during the life of the wind farm will be considered in terms of the IEMA's Guidelines for the Environmental Assessment of Road Traffic⁸. Environmental impacts will be assessed against recognised thresholds of significance in terms of traffic impact, severance, driver delay, pedestrian amenity, fear and intimidation and accidents and safety. Potential impacts relating to noise, vibration and visual impact as a result of the generated traffic will be discussed elsewhere within the ES.

3.9.4. Proposed Scope of Assessment

The construction of a wind farm development requires the transportation of large components and plant items that are used to build the required infrastructure and to erect the turbines. Quantities of building materials including aggregate and concrete also need to be transported by road to site unless sourced and batched on-site.

The principle elements of the assessment study are as follows:

- A site visit will be undertaken to observe background transport conditions and identify access constraints / opportunities;
- Liaison with the LHA and the HAg to confirm an agreed route and to discuss the scope of work and the proposed methodology where necessary;
- Quantify the bulk construction materials, equipment and other materials required for construction;
- Identify likely sources of aggregates, concrete and other bulk materials;
- Estimate the likely numbers and types of vehicles that will be travelling to and from the site, and over what periods of time;

⁸ Guidelines for the Environmental Assessment of Road Traffic, UK, Institute of Environmental Assessment, 1993



- Assess the changes to background traffic flows as a result of wind farm construction traffic;
- An Abnormal Loads Routing Assessment (ALRA) will assess the suitability of the preferred access route for abnormal load vehicles and identify any temporary off-site road improvements or mitigation measures that may be required.
- Assess the significance of the impacts associated with the changes in traffic flow in terms of recognised thresholds of significance;
- Assess any potential temporary impacts on public transport with the site surroundings;
- Identify any mitigation measures which may be required and any alternatives that should be considered; and
- Set out the residual impacts of the development in terms of traffic and transport issues taking account of the recommended mitigation measures.

It is not anticipated that an assessment of background traffic numbers and types of vehicles will be required.

3.9.5. Potential Impacts

The potential impacts resulting from traffic likely to be generated by the proposed development during the construction and operation phase will be considered in relation to the following areas:

- Traffic Generation;
- Severance;
- Driver Delay;
- Pedestrian Delay;
- Pedestrian Amenity, Fear and Intimidation;
- Accidents and Safety; and
- Driver distraction.

Other potential impacts such as vibration caused by construction traffic will be considered in the Noise and Vibration chapter. It is envisaged that a number of small scale highway works, temporary traffic regulation orders and possible cutting back of vegetation may be required to enable delivery of the turbine blades. All such measures will be detailed in the ES chapter.

3.9.6. Cumulative Impacts

The main impacts upon traffic are likely to arise during the construction phase, therefore will be short term. It is therefore not expected that there will be significant cumulative traffic impacts associated with the proposed development and it is therefore proposed that this is scoped out of the environmental impact assessment.

3.9.7. Mitigation

Timings of abnormal loads will be considered to ensure their delivery has minimal impact on other road users. Given the very low number of vehicles anticipated during the operational phase of the development, no mitigation measures are anticipated.

3.10. Shadow Flicker

3.10.1. Overview

Under certain combinations of geographical position and time of day, the sun may pass behind the rotors of a wind turbine and cast a shadow over neighbouring properties. When the blades rotate, the shadow flicks on and off over a window resulting in an effect known as ‘shadow flicker’. This effect only occurs inside buildings and under a limited set of circumstances, e.g. when meteorological conditions are clear, the sun is low in the sky and the shadow of a turbine is cast onto a narrow window. Due to the movement of the sun, these shadows pass any point quickly and the effect therefore only lasts a short period of time.

The likelihood of shadow flicker occurring at any property within the zone of influence (see Section 3.10.2) and the duration of any effect depends upon a number of factors including:

- The direction of the residence relative to the turbine(s);
- The distance from the turbine(s);
- The turbine hub-height and rotor diameter;
- The time of day and time of year;
- The proportion of day-light hours in which the turbines operate; and
- The frequency of bright sunshine and cloudless skies (particularly at low elevations above the horizon).

3.10.2. Baseline Description

The DECC publication “Update of UK Shadow Flicker Evidence Base” (2011) will be referenced throughout the assessment of potential shadow flicker impacts. This indicates that 1km or ten times rotor diameter is generally an acceptable distance for consideration of shadow flicker effects but exceptionally impacts may be experienced more widely. In the case of the Rooley Moor Wind Farm, the zone of influence is likely to extend to approximately 900m from each turbine assuming a maximum rotor diameter of 90m. An initial assessment indicates that there are a number of houses within this zone and potential impacts on these residents will be assessed.

3.10.3. Assessment Methodology

A site visit will be undertaken to establish the location of sensitive receptors and to identify a number of representative properties at which to determine shadow flicker effects.

The number of hours of shadow flicker resulting from the proposed wind farm will then be calculated using a commercial software programme. This model takes into account the movement of the sun with time of day and time of year and, through the accurate positioning of the wind turbines and potentially affected property, predicts the time and duration that shadow flicker is expected to occur at a representative window within the property.

3.10.4. Potential Mitigation Measures

There is no guidance within the English planning system on what criteria should be used to determine the need for mitigation of shadow flicker. European practice, however, is codified in Wind Energy Development Guidelines published by the Irish Government Department of Environment Heritage and Local Government in 2006⁹. Potential mitigation measures will be investigated to reduce any identified impacts. These could include modifications to the turbine layout, screening or the use of ‘flicker timers’ which stop a turbine operating under the conditions that would give rise to shadow flicker.

3.11. Telecommunications and Aviation

Telecommunications

3.11.1. Overview

Any large structure, such as a wind turbine, can cause interference with communication systems such as telecommunication systems, television and radar by reflecting and scattering Electro Magnetic signals, depending on the materials used and structure location, as well as the dimensions and layout of the structure(s). This can cause blocking or distorting of the signal or reflected signals may be superimposed on the original signal (commonly referred to as ‘ghosting’), with the result that the signal at the receiver will be degraded, decreasing the performance and reliability of the service.

⁹ Irish Government Department of Environment Heritage and Local Government, 2006. Wind Energy Development Guidelines



3.11.2. Assessment Methodology

An initial consultation exercise has identified a number of telecommunications links as shown on **Figure 8**. The impact assessment will comprise a thorough consultation exercise to establish and mitigate any impacts of the proposals. The following list illustrates those consultees that will be contacted during the course of the environmental impact assessment:

- Civil Aviation Authority;
- National Air Traffic Service (NATS);
- Ministry of Defence (MoD);
- Ofcom;
- Airwave Solutions
- BBC; and
- Joint Radio Company.

Spaven Consulting will be commissioned to undertake an assessment on behalf of the developer to determine if the proposed development is likely to have an impact upon their links and mitigation strategies developed where appropriate. Television reception will be fully assessed as part of the EIA and mitigation measures may be required.

3.11.3. Potential Mitigation Measures

Where impacts on telecommunications are predicted, the design of the wind farm may need to be adjusted. Discussions with the appropriate bodies will be held to identify the sensitivity and potential impact associated with the wind farm and to agree appropriate mitigation.

Aviation

Aeronautical, radar, and military constraints is a high risk issue. All airports and airfields within 30km of a proposed wind farm are statutory consultees and must be consulted following the submission of a standard proforma document to the Ministry of Defence (MOD) and National Air Traffic Services (NATS). The CAA no longer offers a pre-planning consultation service.

A full assessment of the constraints imposed on the layout and design of the proposed development from an aviation perspective will be undertaken to inform the ES and measures will be proposed to minimise the impacts of the scheme such as radar interference and identify technical solutions in consultation with NATS, airports and the MOD.



3.12. Socio-Economics

3.12.1. Overview

The potential for both adverse and positive local effects will be evaluated in the environmental assessment process. This will involve identification of the existing socio-economic baseline conditions in the surrounding area, and consideration of potential direct or indirect effects on employment, recreation and tourism and the local population in terms of community benefit and investment opportunities.

3.12.2. Assessment Methodology

There is currently no established EIA methodology for the assessment of socioeconomic impacts. The socio-economic impact assessment will therefore be based on professional experience and EIA good practice (DCLG, 2006).

Information on the socio-economic profile of the area and the recreational and tourism uses of the site and surrounding area will be collected from the Council and tourist information organisations, and potential effects of the wind turbines will be assessed using published data on the effects of wind farms. It is not proposed to undertake a full quantitative tourism impact assessment.

The assessment will consider the likely impacts of the proposed wind farm on the economic profile of the area (including short term employment opportunities), tourism and recreation. The Environmental Statement will also consider socio-economic impacts within other sections of the environmental statement (i.e. noise, landscape and visual, and traffic).

Land take associated with the development will be minimal and will not interfere with existing land use. It is therefore proposed that this issue will not be considered during the environmental impact assessment.

3.13. Potential Mitigation Measures

As the majority of socio-economic effects are anticipated to be positive in nature, Coronation Power will seek to enhance any such effects through the use of local staff and contractors where practicable.

In addition, full details will be provided on the proposed Community Fund to be developed.

3.14. Environmental management

This ES will provide a summary of the environmental assessment process completed and the impacts that will arise from the development during construction, operation and decommissioning, including the mitigation measures required and the residual impacts. Details of how the project will

contribute towards landscape enhancement, long term management of the site and the improvements it will bring to local ecological interests and hydrological integrity will also be provided, along with an appropriate grazing regime, where possible for the site to improve vegetation structure and composition.

This chapter will also include details of a monitoring programme to assess the impacts of the operational phase of the project such as noise levels, ecological and ornithological levels onsite and overall site conditions post construction.

3.15. Land Use

The impacts on the land use and recreation activities on site will be undertaken. The majority of the site is common land (CL). The assessment of this will include:

- Review of common land registers for the CL units that make up the site;
- Review of common land registers for CL units adjacent to the site;
- Analysis of use as allowed by the registers;
- Liaison with active commoners to find out about use; and
- Analysis of deregistering the proposed wind farm area on the common units.

This potential impacts, mitigation measures and predicted impacts from the proposed development on the commons will be prepared and presented as a chapter in the ES.

3.15.1. National Trails and Public Rights of Way

Public Rights of Way (PROW) across the site are shown on **Figure 9**.

Temporary impacts in relation to access to the Pennine Bridleway (PBW) may occur during the construction period of the project. Such works and associated temporary restrictions to access and possible mitigation measures will be described in the socio-economic chapter of the ES. Consideration will be given to accommodating the recommended separation distances between users of the Bridleway and the proposed turbine locations. Advice provided by the British Horse Society aimed at ensuring the safety of horses and riders and other users of the Bridleway will be adhered to in all proposals which may result in a temporary impact on public access to this national trail. Alternative routes which are suitable for use by walkers, cyclists and horse riders will be provided if access to parts of the Bridleway running through the site needs to be temporarily restricted during the construction phase. Such diversions will be drawn up in close consultation with the National Trails Officer for the PBW or the PBW ranger and will not be finalised without their formal agreement.

3.16. Decommissioning and Restoration

A chapter of the ES will be concerned with the decommissioning and restoration of the wind farm, including an assessment of the impacts associated with this element of the proposal.

3.17. Summary of Proposed Scope of the EIA

Sections 3.2 to 3.12 of this Scoping Report outline the proposed approach to the specialist chapters of the Environmental Statement and highlight the likely impacts of the proposed development and their mitigation.

In preparing this scoping request an attempt has been made to also identify those issues that are not considered to be relevant to the assessment. It is proposed that these issues, which are not considered to be significant, are scoped out of the EIA. These are summarised in Table 3.7.

Table 3.7 Environmental topics proposed to be 'Scoped out'

Environmental topic	Issue to be scoped out of assessment	Rationale
Noise and vibration	Traffic noise from construction and operational traffic	Temporary nature of traffic noise during construction and low levels of operational traffic
	Vibration	The relatively large distances and minor construction activity also means that vibration levels during all phases of the development are not considered likely to affect sensitive receptors.
Transport and traffic	Operational traffic	Operational traffic movements will be minimal.
	Cumulative construction traffic	Construction traffic will be minor and short term.
Air quality	Impacts on local air quality during construction phase	The generation of dust during construction activity is unlikely to have a direct impact on any human receptors and will be controlled by means of best practice.
Public safety	Public safety	Wind farms are inherently safe operations and the impacts on public safety are considered to be minimal.

It is therefore requested that Rochdale Borough Council and Rossendale Borough Council and their consultees consider whether these issues can be scoped out of the assessment. Scoping out irrelevant issues will enable the EIA process to focus on those issues that are potentially of significance. This appraisal has been made by a review of the site, its environmental setting and available baseline information and is based on professional judgement.



3.18. Draft Outline of Environmental Statement Structure

In addition to the technical assessments discussed above, the Environmental Statement will include a Non Technical Summary and a number of introductory chapters as follows:

- Stakeholder consultations;
- Project description;
- The site, its surroundings and selection; and
- Need for the proposal.

Planning Statement

A separate Planning Statement will be prepared to review the policy background against which the proposal will be considered. This will involve a planning policy review at national, regional and local levels including a review of local and regional plans (existing and emerging).

The objective will be to place the development proposal in a complete planning context and to provide a clear understanding to the decision making bodies, and the statutory consultees of how the proposal can be assessed against the strategic and local planning frameworks. This is very important, as the planning policy framework will encompass a diverse range of issues, such as the promotion of economic development, protection of the natural and built environment and the provision of infrastructure services. A careful balance will therefore need to be struck in weighing up the relevance and materiality of these differing policy areas.

Accordingly, the Planning Statement will consider at a broad level, the aims and objectives of the UK's energy policy and will seek to demonstrate how the proposal complies with and contributes to the thrust of European energy strategies and the UK's policy in this regard.

The Planning Statement will focus on the national planning policies that are applicable to the proposal. Regional planning policies will also need to be addressed as these will place an emphasis on how regional government agencies seek to improve the economic performance of the region.

As required by the Town and Country Planning Act 1990, the wind farm proposal will need to consider the applicable development plan policies. The determination made by Rochdale Borough Council and Rossendale Borough Council will need to be in accordance with these policies unless material considerations indicate otherwise.



Rochdale Borough Council's planning policy is contained in the Local Development Framework, set out in a collection of documents known as Development Plan Documents (DPDs). The DPDs and associated documents set out the planning policies that guides and controls development within Rochdale Borough. The main policy documents adopted as part of the Local Development Framework that are relevant for this project include:

- Rochdale Borough's Core Strategy DPD (to be replaced);
- Rochdale Borough's Unitary Development Plan (UDP); and
- Greater Manchester Joint Minerals DPD.

The Local Development Framework for Rossendale Borough Council is set out in the Core Strategy and associated documents (including Site Specific Allocation DPD, Proposals Map DPD and evidence base DPD). The Core Strategy document replaces the Rossendale District Local Plan and outlines the spatial vision and strategic objectives, and the main issues, opportunities and challenges that form the basis of the area's development plan. The development framework for Lancashire County is outlined in the 'Future North West', a high level, non-statutory framework published in August 2010 to replace the revoked 'Regional Spatial Strategy (RSS) for North West England'.

The Planning Statement will consider plans and policies within those and within any other emerging plans that are adopted as part of the Development Plan. Discussions will also be held with Rochdale Borough Council and Rossendale Borough Council to identify what (if any) new policies might be in development and when these might be released.

Design and Access Statement

A Design and Access Statement will also be prepared in accordance with Section 42 of the Planning and Compulsory Purchase Act 2004 which introduced a requirement for a statement covering design concepts and principles and access issues to be submitted with an application for planning permission for certain types of development, such as the proposed wind farm.

The Design and Access Statement will be produced with reference to the Commission for Architecture and the Built Environment's (CABE) guide 'Design and Access Statements: How to read, write and use them'. The Design and Access Statement will describe the context of the site, the reasoning for the location and design of the wind farm and the proposed access arrangements.



4. Invitation to Comment

Consultees are invited to comment on:

- The possible significant environmental effects of the proposed Rooley Moor Wind Farm;
- The proposed environmental impact assessment methodologies; and
- The Environmental Statement structure, as presented within this Scoping Report.

Consultees are also invited to highlight any additional issues that they believe should be addressed within the EIA and to identify any sources of information which may be of interest to SKM in the course of the EIA.

Consultee responses should be directed to Rochdale BC and Rossendale BC at the addresses below:

Planning and Regulation
Rochdale Borough Council
PO Box 32
Telegraph House
Baillie Street
Rochdale
OL16 1JH

Development Control
Rossendale Borough Council
Town Centre Offices
Lord Street
Rawtenstall
Rossendale
BB4 7LZ

It should be noted that consultees' responses will not be treated as confidential unless otherwise explicitly stated within the response.



Figure 1 Site Location



Figure 2 Site Layout



Figure 3 Cultural Heritage



Figure 4 Hydrology



Figure 5 Peat Depths and Slope Gradient



Figure 6 Blade Tip ZTV



Figure 7 Ecology



Figure 8 Telecommunications



Figure 9 Public Rights of Way