

Small Scale 15kW Wind Turbine

Laneside Farm
Pendleton
Lancashire
BB7 1PU

Design and Access Statement May 2012



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1. Introduction

This report contains a design and access statement for the proposed installation of a 15kW wind turbine at Laneside Farm, Pendleton. It is written to provide supplementary information to the planning application, landscape assessment and detailed drawings.

The following sections describe the site, the background and proposal, local and planning policy and the recently adopted National Planning Policy Framework, how they apply as well as specific assessments relevant to this application. It is not a definitive document and should be read in conjunction with all the additional information supplied with the planning application. In order to achieve the aim of the report it is divided into the following sections.

Background

This section describes the location, the current energy requirements and reasons for selecting a renewable energy source.

Proposal

This section details the proposal for the wind turbine, including details regarding the specification of the turbine, energy output, noise and shadow flicker impact and colour proposals.

Installation

This section describes what is required for the installation of the proposed turbine in terms of earthworks, additional plant and equipment, supporting works and maintenance works.

Alternative Energy Solutions

This section details the alternative energy solutions that have been looked at in terms of the energy production for the business. It highlights the continued reliance on fossil fuels for energy generation and draws attention to the reliance on this within the UK.

Planning Policy Assessment

This section details local planning policy and National Planning Policy Framework and sets out whether the proposed turbine meets with these policies. It particular references policies pertaining to developmental planning, renewable energy and where applicable any specific policies regarding wind turbines.

Consultations

This section details any consultations that have taken place in relation to the proposed installation of a Wind Turbine at this site.

2. Background

The proposed site is near to Laneside Farm, Pendleton, Lancashire. It is a lowland area comprising of reclaimed pastures and meadows interspersed with some woodland. The A59 passes to the West of the site and the site is visible from the highway from certain aspects.

Laneside Farm is a medium size dairy farm with 65 cows and 60 lambing sheep. The power to run the farm is currently provided via the National Grid with annual consumption averaging in the region of 68,500 units (kWh). The owner of the farm wishes to reduce their carbon footprint and generate their own electricity.

Laneside Farm, being a dairy farm has extremely high energy usage. The power to run the milking machines, pumping the milk and the bulk cooled storage of the milk is currently provided via the National Grid. A small scale 20kw wind turbine will help reduce the reliance on mains electricity consumption of the power intensive farm operation. A turbine of this size will not produce enough power during these intensive periods to completely power the dairy operation, however it will help reduce the reliance on mains electricity consumption during peak periods. At other periods the wind turbine may produce a surplus of electricity which will be fed back into the national grid.

3. Planning History

This planning application follows on from a previous application for a wind 15kW turbine on a 15m tower at Laneside Farm (Ref:3/2011/0361) in July 2011. The previous application was refused on the grounds that:

“The proposal would represent an isolated, incongruous feature into the open landscape surrounding a major landmark to the detriment of the visual amenity of the area, and thereby prejudicing the aims and enhancement of the Area of Outstanding Natural Beauty.”

The current proposal has, in consultation with the LPA Officer and the AONB Officer, looked to address the above reasons for refusal. It was agreed that by re-siting the turbine in a lower (25m lower) and less prominent location nearer to the edge of the AONB and the farm development it would result in the turbine, from many viewpoints, not projecting against the major landmark of Pendle Hill and thus significantly reducing its visual impact upon the AONB. The landscape and visual impact assessment included as part of this application describes the impact in more detail.

4. Proposal

The proposal is to construct a single wind turbine with a hub height of 20m and a blade length of 6.5m from the hub, giving an overall blade tip height of 26.5m.

The CF15e is rated as a 15kw turbine to allow it to run into a single phase supply but it has the physical characteristics of a 20kW turbine.

The turbine specification has a rated output of 15kw giving an estimated annual output of 43,400 units (kWh). Appendix A contains drawings of the dimensions of the proposed turbine and the power rating and out put curves for the proposed turbine.

The proposal has been scaled in order to minimise the visual impact upon the surrounding countryside and therefore does not produce a constant surplus of electricity. This demonstrates a balance has been sought between the size of the turbine and thus the energy savings for the farm enterprise and the visual impact of siting a turbine in a rural setting.

Colour

The turbine tower and base kit are all mild steel hot dip galvanised, which is grey in colour. The colour can be selected as necessary to compliment the surrounding landscape and mitigate the visual impact of the turbine. The turbine housing is of the same material however white in appearance. The blades and cone are all made of fibre glass and the standard colour for these is also white but can also be changed if required. The most neutral effect for turbines of this size is often matt grey RAL7045 on a galvanised tower and is in line with Ribble Valley Borough Council's recommendation for turbine colours. However, should it be required a combination of colours can be used for mast and blades if this is deemed necessary.

Noise

Due to the size of the C & F Green Energy 15e wind turbine there is no requirement for the turbine itself to have a gearbox. Therefore the generation of noise and vibration from this type and size of turbine is minimal and due to the noise of the turbine blades cutting through the air. The CF15e is rated as a 15kw turbine to allow it to run into a single phase supply but it has the physical characteristics of a 20kW turbine. Therefore for the purposes of noise a CF20 noise report has been used as part of this application. It will therefore provide a worse case scenario for the impact of noise from the proposed wind turbine. An assessment of the noise generation of the 20kW turbine is separately as part of this application.

Noise (cont.)

Operational noise from wind farms is assessed following the procedure set out in standard European guidance: ETSU-R-97, The Assessment and Rating of Noise from Wind Farms. This specifies limits on the levels of wind farm noise that are considered acceptable at the nearest occupied properties. These are set relative to the existing background noise levels at the houses, which were measured as part of the baseline surveys. The guidance for noise levels from wind turbines as set out in ETSU-R-97 are as follows:

- Max 37dB(A) or 5dB(A) above background noise level.
- ETSU-R-97 provides for a relaxation of the noise limit for those with a financial interest in the turbine to 45dB(A).

Given that the nearest residential dwelling, that of the applicant who has a financial interest, to the turbine is a distance of over 280m away from the proposed site and that this property **no significant** adverse noise effects are predicted for the 20kW turbine given the noise assessment provided for this turbine.

Shadow Flicker

Shadow Flicker occurs when the sunlight on rotating Wind Turbines react in such a way that a moving shadow is cast on the ground or stationary objects. The Shadow Flicker effect can be seen when the shadow passes across a specified location that falls within the range of the Wind Turbine Shadow. The factors that need to be in place for Shadow flicker to occur are listed below:-

- The receptor must be in range of a shadow from the Wind Turbine.
- This shadow must be of an intensity that is deemed to be strong enough to create Shadow Flicker effect.
- The sun must be shining and not obscured by clouds or fog or any other intervening objects.
- The Turbine must be operational in that the blades are rotating.
- The blades must be perpendicular to the receptor in order for the shadow to be cast through the rotating blades.
- The receptor must not be obscured by any intervening structure.
- The Turbine must track the sun at exactly the same rate as it moves across the sky.

If **ALL** of the above criteria are met Shadow Flicker will potentially occur at a receptor and this is referred to as the “worse case scenario”.

Shadow Flicker Assessment Methodology

Within the UK at present there are no prescribed guidelines for the assessment of Shadow Flicker or limits for the acceptable exposure to Shadow Flicker. This is largely due to the underdeveloped onshore Wind Turbine Industry within the UK. It is prudent to seek guidance from countries with a more developed and experienced Onshore Wind Turbine industry. General guidance from within Europe recognises that Shadow Flicker impacts reduce with distance and will only occur when the sun is low in the sky. On Shore Wind Farm Guidance states that “only dwellings within 130 degrees either side of North relative to a Turbine can be affected and the shadow can only be experienced within 10 rota diameters (RD) of the Wind Turbine”.¹ It is recognised that at distances beyond 10 RD the intensity of the shadow is reduced significantly so as not to be noticeable when moving across a stationary object. The exposure limits it is generally recommended that Shadow Flicker should not exceed 30 hours per year in total or 30 minutes in any one single day². The Shadow Flicker recommendations are based on research by Predac, a European Union sponsored organisation promoting best practice in energy use and supply and draws on experience from Belgium, Denmark, France, The Netherlands and Germany. The limits should only be applied to occupied properties.

Analysis

There are dwellings that falls within 10RD of the proposed site (See Figure 1) and therefore shadow flicker is **not** a concern with this application.

¹ Update of UK Shadow Flicker Evidence Base, Department of Energy and Climate Change, March 2011

² The shadow flicker recommendations are based on research by Predac, a European Union sponsored organisation promoting best practice in energy use and supply which draws on experience from Belgium, Denmark, France, the Netherlands and Germany.

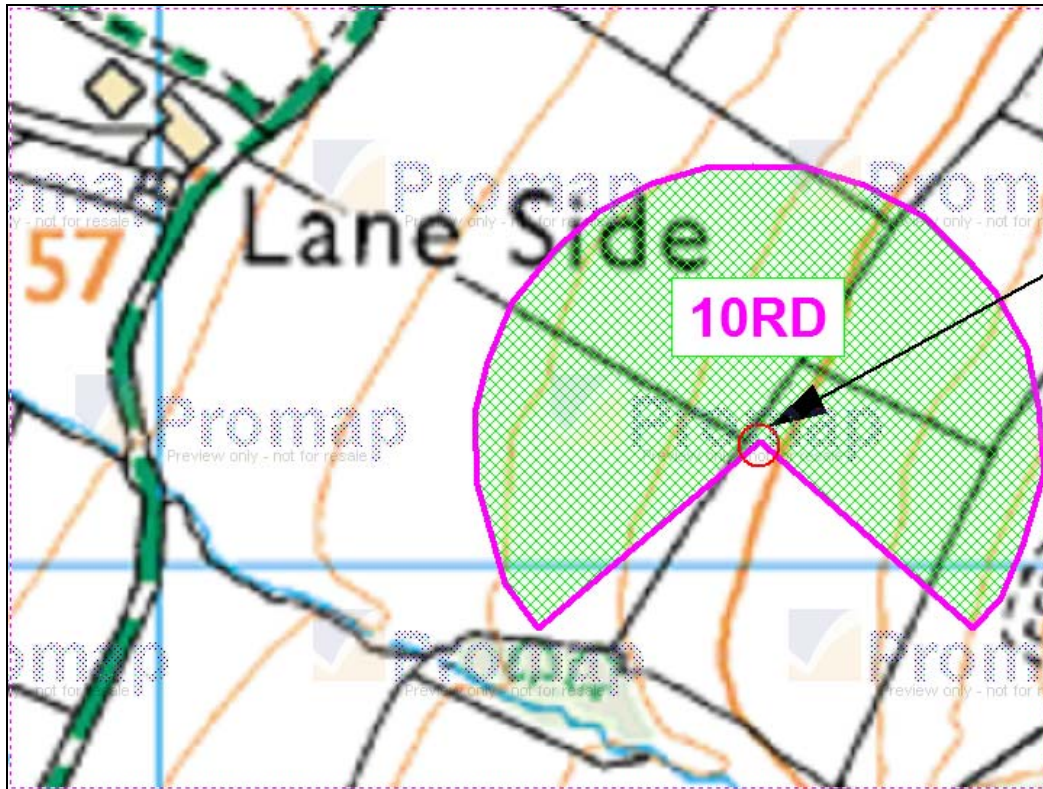


Figure 1: Area of Potential Shadow Flicker

5. Installation

The turbine will be installed at the site shown in Appendix B which is approximately 280m from Laneside Farm. The land is grazed pastureland and is used for agricultural purposes. Access to the site is from the farm lane to running to the West of the site. The size of the foundation for this turbine is will vary depending upon the allowable soil pressure, details are included in Appendix A.

The site is located to the East of Laneside Farm. The farm has had considerable development carried out in recent years and therefore additional ground disturbance is unlikely to have any detrimental effect on the immediate landscape around the farm. The cable from the site of the turbine will run underground to Laneside Farm. An excavator will be required to carry out the excavation for the turbine foundation and for the cable trenching works. A small telehandler will be required to erect the turbine and any hard standing necessary for this will be installed and then subsequently removed once installation is in place and the ground returned to its original state. All excavations will be reinstated and landscaped in keeping with the surrounding ground. As the site is close to a local road network and an access track runs very close to the site there is no requirement for a permanent track for installation or maintenance purposes. The company supplying the turbine will be maintain it annually to ensure the turbine is running smoothly and efficiently at all times.

6. Crime Prevention

During the construction phase of the development, all measures to secure the site, all associated materials, plant, and equipment will be made in order to prevent theft or vandalism. Once erected it is unlikely that the turbine will be involved in any crime issues and as it is securely fixed to a large concrete foundation and therefore it is unlikely to attract thieves.

7. Alternative Energy Solutions

This section details the alternative energy solutions that have been looked at and deemed insufficient for this site in terms of the energy production and the continued reliance on fossil fuels. At present 76% of UK energy is produced from fossil fuels and 16% from nuclear. Only 7% of the UK energy production is from renewable or other sources of which 3% is from wind power³.

Present Arrangement (Mains Electricity)

The current arrangement is for the farm to continue using mains electricity. Although there is a suitable mains supply to the farm its continuing use of this from the national grid will continue to use the finite resources.

Hydro Power

Hydro power has been installed on a small scale at farms across the region, but it is often only enough to supplement existing energy requirements and not sufficient to completely replace existing supplies. However, there is no suitable significant water source for this type of energy generation Laneside Farm.

Solar/PV Cells

The use of Solar Power for electricity generation is becoming increasingly more prevalent as the costs of the installation decreases and the efficiency of the PV cells improves. It is often only enough to supplement existing energy requirements and not sufficient to completely replace existing supplies. It would not provide a viable efficient replacement to the energy requirements at Laneside Farm.

The uptake in commercial PV has then been further upset by the uncertainty in the Feed in Tariffs that are constantly being reviewed by the government.

³ UK Energy in Brief 2011, Department of Energy and Climate Change (DECC), 2011

8. Planning Policy Assessment

This section considers the local and national planning policies and how the proposal meets within these policies. The following policies have been considered.

National Planning Policies

The recently released National Planning Policy Framework (NPPF) contains the latest Government advice on combating climate change and indicates in section 10 that planning plays a key role in helping to reduce greenhouse gas emissions by supporting the delivery of renewable and low carbon energy. When determining planning applications local planning authorities should not require applicants for energy development to demonstrate the overall need for renewable or low carbon energy and should recognise that even small scale projects can provide a valuable contribution to cutting greenhouse gas emissions. In the section on decision taking, it is stated that local planning authorities should apply the presumption in favour of sustainable development.

The NPPF also states that applications for planning permissions must be determined in accordance with the development plan unless materials considerations indicate otherwise.

The Ribble Valley District Wide Local Plan contains policies dealing with renewable energy proposals including wind energy.

Policy ENV24 indicates a general presumption in favour of renewable energy proposals provided that such developments do not cause unacceptable harm to interests of acknowledged importance.

Policy ENV25 indicates that proposals for renewable energy schemes will be considered with reference to specific issues including the local and wider benefits the proposal may bring and the fact that certain renewable energy resources can only be harnessed where the resource occurs.

The proposal meets satisfactorily with Policy ENV26 and it is believed that the site lends itself to the use of wind energy and the visual impact on the landscape is justifiable due to the limited number of viewpoints where the turbine has a significant impact.

In the case of the present proposal the benefits of wind energy are well documented and wind turbines by their very nature need to be in an area where they will function most efficiently, or as policy ENV25 states they are harnessing the wind resource where it occurs.

In the case of the present proposal the effect of the wind turbine on the character and appearance of the area is considered to be outweighed by the benefits in the provision of a renewable and sustainable energy resource. The Council is requested to support the proposed development in accordance with the recommended presumption in favour of sustainable development.

Forest of Bowland AONB Renewable Energy Position Statement.

This document sets out the Forest of Bowland AONB Joint Advisory Committee's position with regards to the siting of renewable energy developments, both within and adjacent to the boundaries of the Forest of Bowland AONB.

The policy document sets out definitions with regard to the scale of various types of renewable energy development into four categories:

Micro, Small Scale, Medium Scale and Large Scale. It is stated in the document that the Joint Advisory Committee considers medium to large scale renewable energy development is not appropriate within the AONB.

The proposed turbine is 26.5m in height from the ground to the blade tip and this means that it would be considered small scale as defined in the Renewable Energy Position Statement.

Paragraph 3.4 states that the Joint Advisory Committee considers that micro and small scale renewable energy development may be appropriate within the designated area and paragraph 4.1 refers to PPS22. This is now superseded by the provisions of the National Planning Policy Framework. The aims and objectives of the NPPF are broadly similar to those of the Renewable Energy Position Statement. Renewable energy development is supported provided that it satisfies local plan policies which usually include landscape protection from inappropriate development.

The Renewable Energy Position Statement indicates that in all instances, micro and small scale wind energy development should:

- Be of a form and design that is appropriate for the landscape and visual characteristics of the location.
- Be an appropriate scale for the location
- Not be sited on a skyline or close to a prominent feature or within the setting of important historic features or landscapes
- Not have significant cumulative impacts with other operational or consented wind energy development.

The foregoing analysis of the proposed development set out in this statement shows that it would meet the requirements of the Position Statement for small scale wind energy development.

9. Consultations

Ribble Valley Borough Council

An on site meeting was held with the applicant, the applicant's agent, the LPA and Forest of Bowland AONB officers. Various options for siting the turbine were discussed at this meeting and it was determined that the current site considered within this application would address many of the concerns highlighted in the previously refused application at this site.

Following this meeting a screening opinion (3/2012/0077P) was requested (See Appendix C) and it was determined that an Environmental Impact Assessment would not be required for this application. However the screening opinion requested the following:

- A visual impact assessment and noise impact assessment. – This has been included as a separate document as part of this application.
- Given the distance to the AONB and the secluded nature of the site it was determined that a ZTV was required as part of this application. It was suggested by the LPA that a radius of 5km would be sufficient. However in order to meet with recommended guidance a 10km radius ZTV was produced.
- The ZTV was produced with a 10km radius and the LPA and AONB officers consulted, as requested in the screening opinion, as to where the viewpoints should be taken from. A selection of 7 photomontages from various viewpoints and an LVIA of these in order to be carried out..

10. Environmental Statement

A full ecology report was carried out as part of the previous application. This has been included as part of this application due to proximity of the previous site to the current one and the similarity in scale of turbine. This report has been submitted separately as part of this application.

11. Public Rights of Way

The nearest right of way lies to the north and west of the site (LCC Ref: BW1). The distance of these from the proposed site to the right of way is 280m.

Previous Planning Guidance stated that a turbine should be located at a distance equal to the tip height of the turbine plus 10% from public rights of way. Under these guidelines the turbines would need to be sited at least 29.8m from any public right of way which the current site is comfortable within.

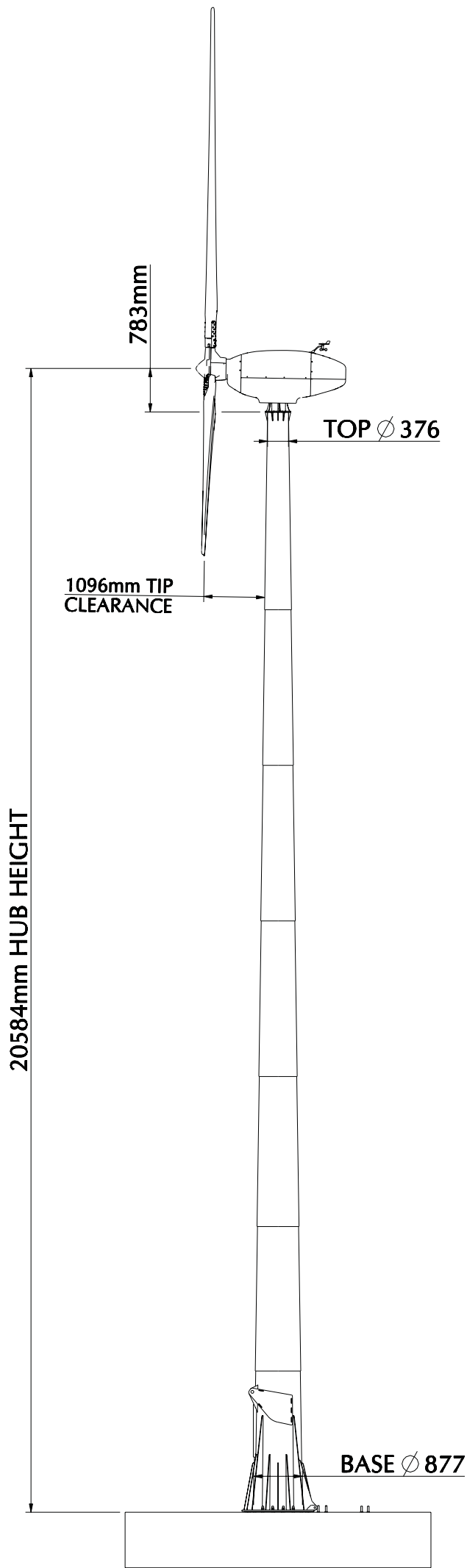
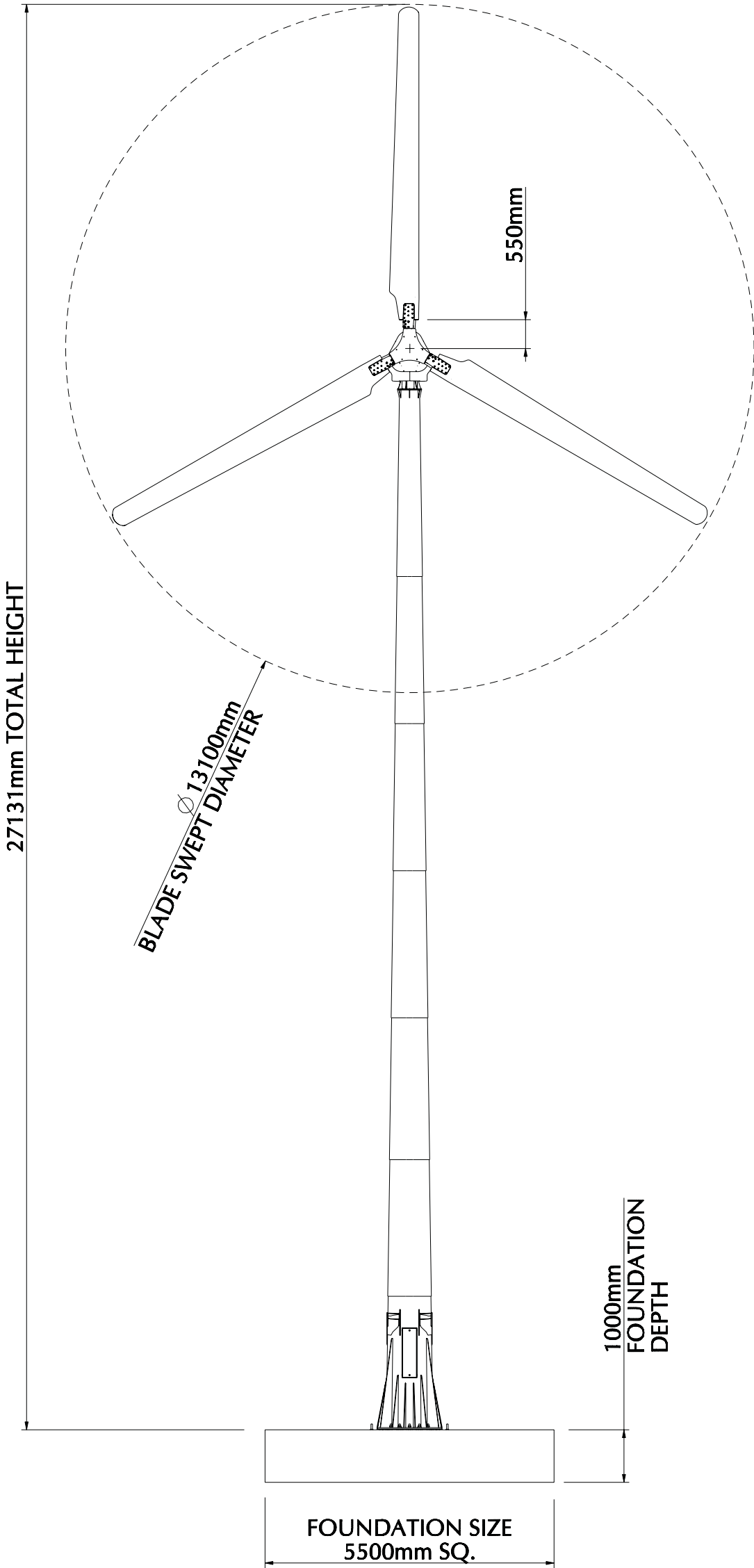
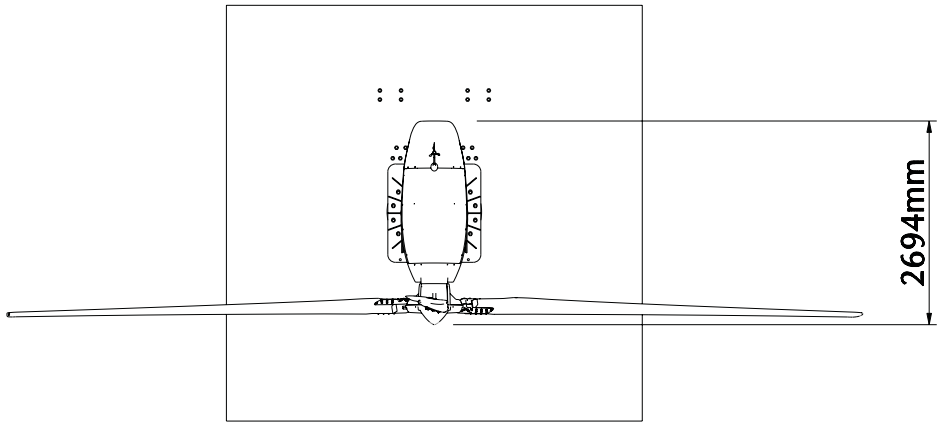
The main recreational use affected by the turbine will be users of local footpaths and bridleway. The consideration of these has been assessed separately within this application in the Landscape and Visual Impact Assessment.

12. Summary

This document has examined the various effects of the proposed development on landscape character residential amenity and the business and environmental need of the development. It has been concluded that the development will cause no undue harm to interests of acknowledged importance. It should be read in conjunction with all other documentation attached to this application.

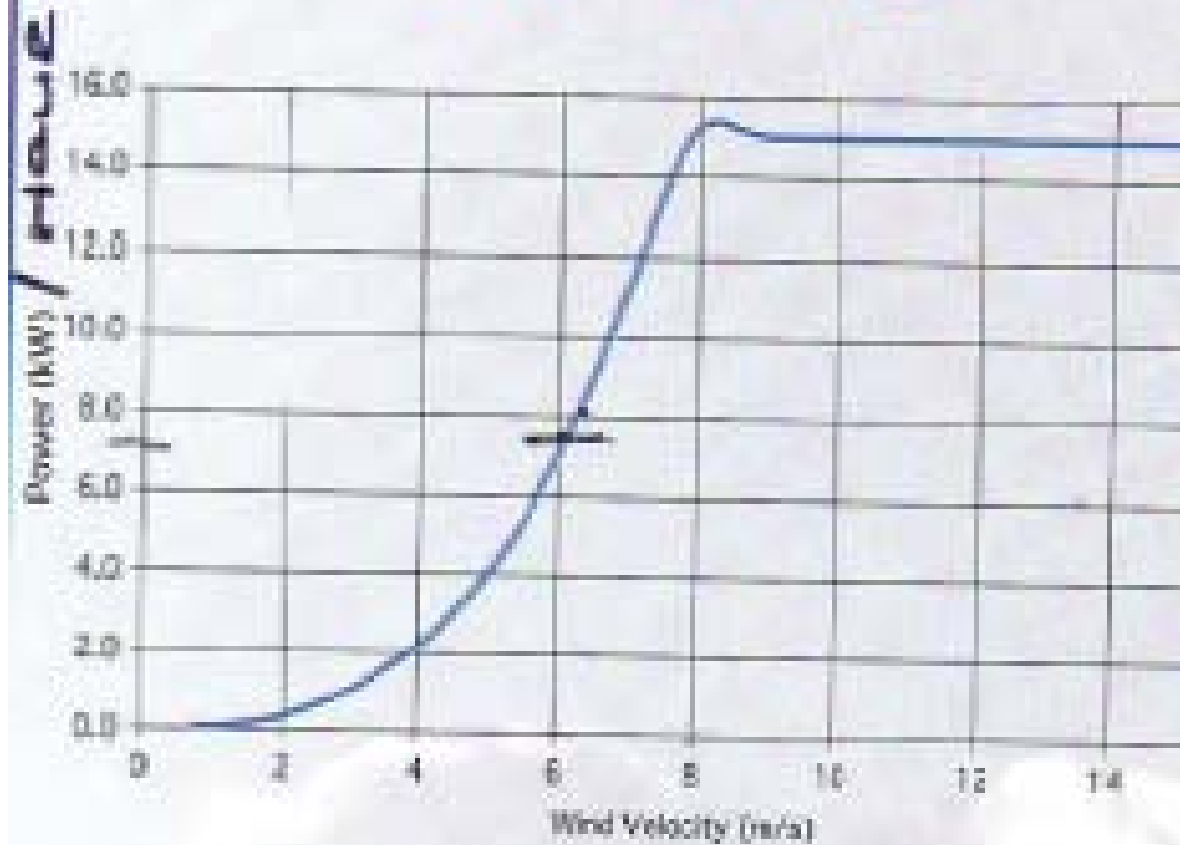
Given the size of the turbine will not fully cover the electrical energy requirements of the farm the proposal has demonstrated a balance has been sought between the size of the turbine and the visual impact of siting a turbine in a rural setting. Therefore officers are requested to seriously consider supporting this application given the issues discussed surrounding the NPPF and policies ENV24, ENV25 and ENV26.

Appendix A – 15kW Wind Turbine, 20m Hub

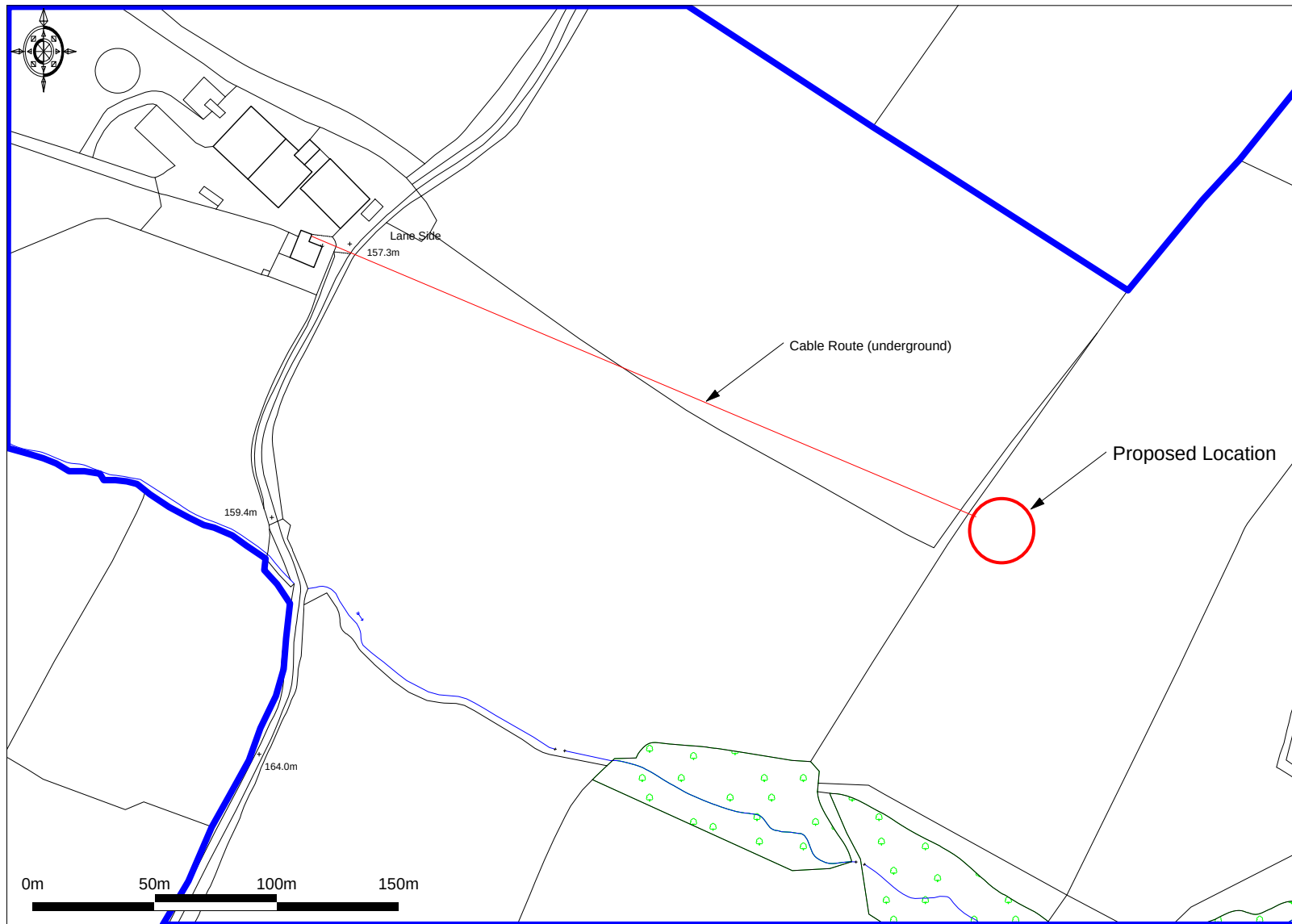


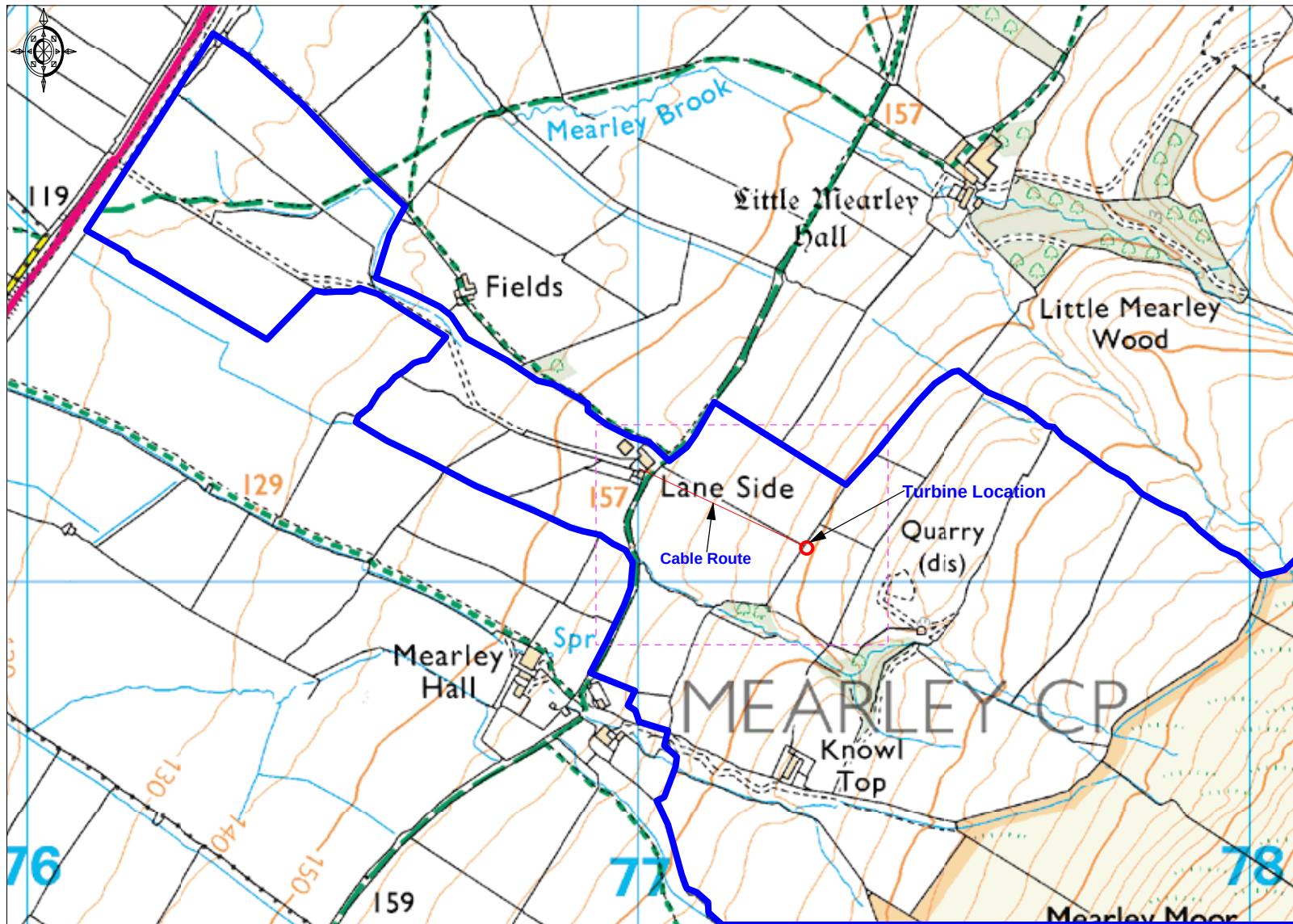
C&F Green-Energy 				CF15e		
DESCRIPTION: OVERALLS / PLANNING				QTY PER UNIT:	-	
				SCALE:	1:100	
MATERIAL:	Mast: S275 Galv				DWG SIZE: A3	
DRAWN:	C O'Neill	PAINT:	-			
CHECKED:	-	FINISH:	-	DRAWING CONFORMS TO ANSI Y14.3-1994		
DATE:	17-Feb-11	SHEET:	1 OF 1			

CF 15e



Appendix B – Site Location & Cable Route





Ordnance Survey © Crown Copyright 2012. All rights reserved. Licence number 100020449. Plotted Scale - 1:10000

Appendix C – Ribble Valley Council Screening Opinion



RIBBLE VALLEY BOROUGH COUNCIL

please ask for: Graeme Thorpe
direct line: 01200 414520
email: graeme.thorpe@ribblevalley.gov.uk
my ref:
your ref: 3/2012/0077/P
date: 8 March 2012

Council Offices
Church Walk, Clitheroe
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Tel: 01200 425111
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Dear Paul Mason,

RE – Request for a Screening Opinion under Regulation 5 of the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulation 2011.

Proposal: Proposed 20kW Wind Turbine on a 20m Mast.
Site Address: Lane Side Farm, Pendleton, Lancashire, BB7 1PU.

I write in reply the above request received at our offices on the 27 January 2012. Following my assessment of the information provided in respect of the above development, I now write to inform you of the Local Planning Authority's formal screening opinion under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011.

I can confirm that the local planning authority is of the view that the development proposals fall within Section 3 (i) of Schedule 2 of the Regulations, Installations for the harnessing of wind power for energy production (wind farms).

On the basis of the limited information provided with your Screening Opinion request under Section 5 of the regulations, the Local Planning Authority have carried out a full screening opinion to ascertain whether there is a need for an Environmental Impact Assessment.

In assessing the applicable thresholds and criteria of Schedule 2, whilst the development proposed involves the installation of only ONE turbine, the hub height of the turbine will exceed 15 metres. This therefore requires an assessment of the proposal in relation to Schedule 3.

The selection criteria for screening within Schedule 2 development considers that the following must be assessed,

1. Characteristics of development,
2. Location of development, and
3. Characteristics of the potential development.

Having assessed the scheme in relation to the above, the Local Planning Authority have concluded that an Environmental Impact Assessment will not be necessary in relation to this proposal as the turbine will,

- Not be a major development of more than local importance,
- Not impact on any particularly environmentally sensitive or vulnerable locations,

- Not have any unusually complex or hazardous environmental effects,
- Produce a maximum of only 20kW (well below the 500kW threshold),
- Be over 300m away from the nearest residential property (other than the Applicants)
- Be positioned reasonably close to an existing farm and its many associated buildings,
- There are no significant archaeological implications,
- Not be of a scale which would significantly affect a significant geographical area or population, and
- Be a sufficient distance from the adjacent P.R.O.W. and Bridleway so as not to be visual detriment of, or detrimentally affect the amenity of, users of the Rights of Way.

Prior to the formal submission of a full application for the development, I would however like to bring your attention to the importance of the following relevant Local Plan Policies and the detailed information likely to be required with any such application.

The site in question lies within the Forest of Bowland Area of Outstanding Natural Beauty, and as such Policy ENV1 is considered relevant. This Policy notes that *'the protection, conservation and enhancement of the natural environment should be the most important considerations in the assessment of the proposals'*.

Policies ENV24, ENV25 and ENV26 are also relevant as they consider schemes for Renewable Energy and Wind Energy. Policy ENV24 states *'the Borough Council will support the development of renewable energy schemes provided it can be shown that such developments would not cause unacceptable harm'*, and Policy ENV25 states that *'in assessing proposals for renewable energy schemes, the Borough Council will have particular regard to the following issues,*

- i The immediate and wider impact of the proposed development on the landscape; and AONB in particular the need to protect features and areas of natural, cultural, historic and archaeological interest;*
- ii the measures that would be taken, during and after construction, to minimise the impact of the development on local land use and residential amenity;*
- iii the local and wider benefits the proposal may bring; and*
- iv the fact that certain renewable energy resources can only be harnessed where the resource occurs.*

More specific to Wind Energy, Policy ENV26 states that *'The Borough Council will approve proposals for wind turbine generators providing:*

- i the visual impact of the proposal on the wider landscape is justifiable;*
- ii the proposal does not harm any wildlife habitat or area of historical or architectural importance;*
- iii the degree of nuisance caused by noise and shadow flicker to nearby residential amenities, agricultural operations, recreational areas or the function of the countryside is minimal;*
- iv the proposal does not interfere with electromagnetic signals;*
- v the design, colour layout and scale of turbines and ancillary structures including access roads must be appropriate to the character of the area;*
- vi connections to electrical grids and sub stations etc. must be acceptable in the landscape setting;*
- vii adequate restoration and after use provision must be made;*
- viii suitable parking facilities should be provided where appropriate.*

Development proposals within or close to the Area of Outstanding Natural Beauty, sites of special scientific interest, local nature reserves, or scheduled ancient monuments will not be allowed, unless:

- i the proposal cannot be better located outside such statutory designated areas:*
- ii the proposal is acceptable in environmental and landscape terms; and*
- iii any adverse environmental impacts as far as practicable have been mitigated.*

Bearing this in mind, the main guidance I can offer is that given the site will be visible from views into and out of the Forest of Bowland Area of Outstanding Natural Beauty, the proposed siting of the turbine must be considered acceptable in environmental, visual and landscape terms, it must have minimal impact on users of the adjacent Public Rights of Way, the proposal must not harm any wildlife habitat and the design, colour and scale of the turbine and ancillary structures including access roads must be appropriate to the character of the area. As such, we recommend siting the turbine as close to the property/group of buildings to which the turbine will be associated with, and also recommend considering mitigating the visual impact of the turbine by additional planting. In most cases, a Phase One Habitat Survey will also help to identify the optimum site for the mast.

In order to form a visual assessment, I would also recommend submitting a Landscape Visual Assessment, with the key components of the assessment being:

- a) Detailed description of the full extent of the proposed wind turbine works,
- b) Zone of Theoretical Visibility Map - This should cover an area of up to 5km radius and show the zone of theoretical visibility (ZTV) of the proposed turbine at full height (this may not be a requirement however I have not had confirmation from the LCC A.O.N.B. Officer),
- c) Visualisations - Approximately 8 photomontages from a range of viewpoints within a 3km radius of the proposed turbine. It is recommended that the selected viewpoints be agreed jointly with the local authorities. I am happy to advise on the suitability of viewpoints.
- d) Assessment of the site and wider landscape's sensitivity and capacity to wind energy development. The *Landscape Sensitivity to Wind Energy Development in Lancashire, February 2005*, study (Lancashire County Council) should be helpful for this work, and can be found at the following website address <http://www.lancashire.gov.uk/environment/landscape/landscapewind/index.asp>
- e) Assessment of impacts on landscape character, landscape value, landscape amenity and landscape fabric. Further guidance on this is available in the *Guidelines for Landscape and Visual Impact Assessment, 2002* (Institute for Environmental Assessment and the Landscape Institute). The County Council's landscape character assessment can be found at the following website address <http://www.lancashire.gov.uk/environment/landscape/landscapecharacass/cover.asp> and the Forest of Bowland AONB landscape character assessment http://www.forestofbowland.com/landscape_character should be referred to for this work.
- f) Assessment of visual impacts.
- g) Assessment of cumulative impacts with operational and consented wind energy development.
- h) Possible mitigation of impacts.
- i) Assessment of the proposals against the key tests of planning policy.

With regards to potential noise impact of the turbine, I refer you to Policy ENV26 of our Local Plan, paragraph 4.11.11 that notes, *"Because of the potential nuisances that can arise from wind turbines, particularly from noise, it is necessary that these are fully described in applications. Prediction calculations to show the levels of nuisance, particularly at the nearest habitations, will therefore be required to properly judge proposals and to allow for any mitigation measures."* Therefore, in order to help enable the Council to assess the potential noise impact of the turbine proposed, the Council will require the manufacturers data as a bare minimum, however in compliance with that recommended within PPS22: Renewable Energy, and in the Technical Annex to 'Planning for Renewable Energy: A Companion Guide to PPS22', which refers to the document 'The Assessment & Rating of Noise from Wind Farms' (ETSU-R-97), further information in relation to the ETSU "method" would also be helpful. In my experience, in low noise environments such as this, wind turbine noise should be limited to an absolute level within 35 - 40 dB(A), and in line with guidance contained within PPG24, wind turbine noise should not exceed a nighttime maximum of 43dB(A).

I trust that these comments are helpful, however should you wish to discuss the matter further please do not hesitate to contact me on the above direct line or e-mail address.

Yours sincerely,



GRAEME THORPE
SENIOR PLANNING OFFICER

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