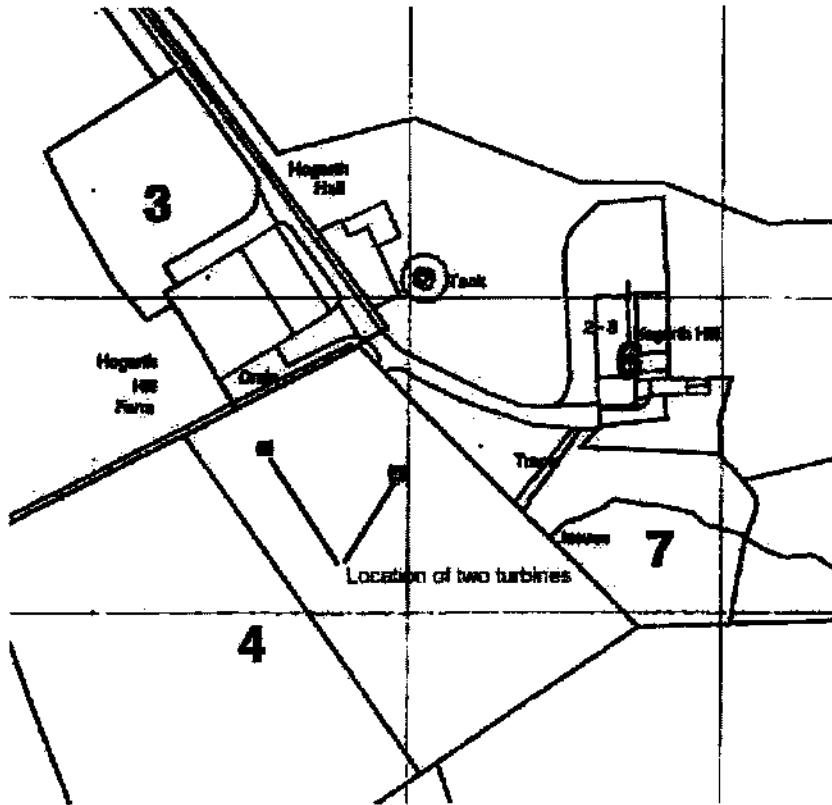


Application for the erection of two domestic wind turbines by ethical partnership

16/06/2008

Site location plan: Hogarth hall

Scale 1:2500 at A4



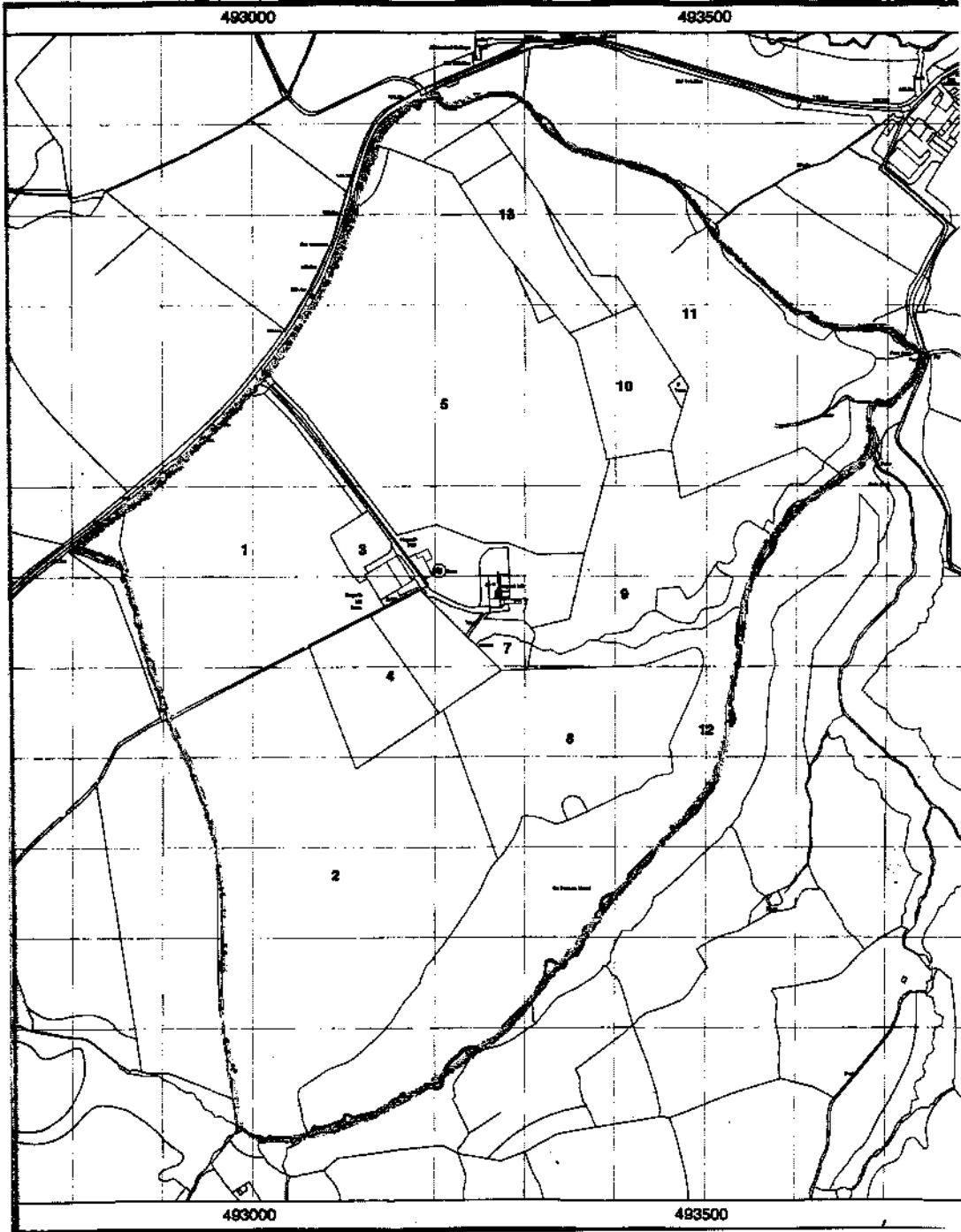
ethical partnership
28 Windsor Terrace
South Gosforth Newcastle NE3 1YL
t/f 0191 284 6875
www.ethicalpartnership.co.uk

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Application for the erection of two domestic wind turbines by ethical partnership

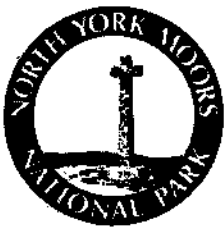
16/06/2008 Land ownership plan- Hogarth hall

Note: land owned by the applicant outlined in blue



ethical partnership
28 Windsor Terrace
South Gosforth Newcastle NE3 1YL
t/f 0191 284 6675
www.ethicalpartnership.co.uk

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08/0465 Pt. 1

Application for Planning Permission. Town and Country Planning Act 1990

Publication of planning applications on council web sites

Please note that with the exception of applicant contact details and Certificates of Ownership, the information provided on this application form and in supporting documents may be published on the council's website.

If any other information that is provided as part of the application which falls within the definition of personal data under the Data Protection Act and is not to be published on the council's website, please contact the council's planning department.

1. Applicant Name, Address and Contact Details

Title: First name: Surname:

Company name:

Street address:

Town/City:
 County:
 Country:

Postcode:

Telephone number:

Mobile number:

Fax number:

Email address:

Are you an agent acting on behalf of the applicant? Yes No

2. Agent Name, Address and Contact Details

Title: First Name: Surname:

Company name:

Street address:

Town/City:
 County:
 Country:

Postcode:

Telephone number:

Mobile number:

Fax number:

Email address:

3. Description of the Proposal

Please describe the proposed development including any change of use:

Has the building, work or change of use already started? Yes No

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4. Site Address Details

Full postal address of the site (including full postcode where available)

Description:

House: 0 Suffix:
House name: Hogarth Hall
Street address:
Fylingdales
Town/City: WHITBY
County:
Postcode: YO22 4QQ

NYM / 2008 / 0 4 6 5 / F L

Description of location or a grid reference
(must be completed if postcode is not known):

Easting: 493192
Northing: 501723

5. Pre-application Advice

Has assistance or prior advice been sought from the local authority about this application? Yes No

If Yes, please complete the following information about the advice you were given (this will help the authority to deal with this application more efficiently):

Officer name:

Title: Mr First name: Mark Surname: Hill

Reference: site visit

Date (DD/MM/YYYY): 21/05/2008 (Must be pre-application submission)

Details of the pre-application advice received:

The positions of the two proposed turbines as set out in the application were the positions that Mr Hill considered to be the most likely to be supported by the authority.

6. Pedestrian and Vehicle Access, Roads and Rights of Way

Is a new or altered vehicle access proposed to or from the public highway? Yes No

Is a new or altered pedestrian access proposed to or from the public highway? Yes No

Are there any new public roads to be provided within the site? Yes No

Are there any new public rights of way to be provided within or adjacent to the site? Yes No

Do the proposals require any diversions/extinguishments and/or creation of rights of way? Yes No

7. Waste Storage and Collection

Do the plans incorporate areas to store and aid the collection of waste? Yes No

Have arrangements been made for the separate storage and collection of recyclable waste? Yes No

8. Neighbour and Community Consultation

Have you consulted your neighbours or the local community about the proposal? Yes No

9. Council Employee / Member

Is the applicant or agent related to any member of staff or elected member of the council? Yes No

10. Materials

Please state what materials (including type, colour and name) are to be used externally (if applicable):

Walls - description:

Description of *existing* materials and finishes:

not applicable +

Description of *proposed* materials and finishes:

not applicable

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10. Materials (continued)

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Roof - description:Description of *existing* materials and finishes:

not applicable

Description of *proposed* materials and finishes:

not applicable

Windows - description:Description of *existing* materials and finishes:

not applicable

Description of *proposed* materials and finishes:

not applicable

Doors - description:Description of *existing* materials and finishes:

not applicable

Description of *proposed* materials and finishes:

not applicable

Boundary treatments - description:Description of *existing* materials and finishes:

not applicable

Description of *proposed* materials and finishes:

not applicable

Vehicle access and hard standing - description:Description of *existing* materials and finishes:

not applicable

Description of *proposed* materials and finishes:

not applicable

Lighting - add descriptionDescription of *existing* materials and finishes:

not applicable

Description of *proposed* materials and finishes:

not applicable

Others - description:

Type of other material:

Description of *existing* materials and finishes:

not applicable

Description of *proposed* materials and finishes:

Galvanised steel monopole.Composite GRP blades - grey

Are you supplying additional information on submitted plan(s)/drawing(s)/design and access statement?

 Yes No

If Yes, please state references for the plan(s)/drawing(s)/design and access statement:

pattinson_DAS_application_100608

11. Vehicle Parking

Please provide information on the existing and proposed number of on-site parking spaces:

Type of vehicle	Existing number of spaces	Total proposed (including spaces retained)	Difference in spaces
-----------------	---------------------------	--	----------------------

12. Foul Sewage

Please state how foul sewage is to be disposed of:

Mains sewer Package treatment plant Unknown Septic tank Cess pit

Other

not applicable

Are you proposing to connect to the existing drainage system? Yes No Unknown

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13. Assessment of Flood Risk

Is the site within an area at risk of flooding? Refer to the Environment Agency's Flood Map showing flood zones 2 and 3 and consult Environment Agency standing advice and your local planning authority requirements for information as necessary.

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 Yes No

If Yes, you will need to submit an appropriate flood risk assessment to consider the risk to the proposed site.

Is your proposal within 20 metres of a watercourse (e.g. river, stream or beck)? Yes No

Will the proposal increase the flood risk elsewhere? Yes No

How will surface water be disposed of?

Sustainable drainage system

Main sewer

Pond/lake

Soakaway

Existing watercourse

14. Biodiversity and Geological Conservation

Is there a reasonable likelihood of the following being affected adversely or conserved and enhanced within the application site, OR on land adjacent to or near the application site:

a) Protected and priority species

Yes, on the development site Yes, on land adjacent to or near the proposed development No

b) Designated sites, important habitats or other biodiversity features

Yes, on the development site Yes, on land adjacent to or near the proposed development No

c) Features of geological conservation importance

Yes, on the development site Yes, on land adjacent to or near the proposed development No

15. Existing Use

Please describe the current use of the site:

agricultural land

Is the site currently vacant? Yes No

Does the proposal involve any of the following:

Land which is known to be contaminated? Yes No

Land where contamination is suspected for all or part of the site? Yes No

A proposed use that would be particularly vulnerable to the presence of contamination? Yes No

Application advice

If you have said Yes to any of the above, you will need to submit an appropriate contamination assessment.

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16. Trees and Hedges

Are there trees or hedges on the proposed development site? Yes No

And/or: Are there trees or hedges on land adjacent to the proposed development site that could influence the development or might be important as part of the local landscape character? Yes No

If Yes to either or both of the above, you will need to provide a full Tree Survey with accompanying plan before your application can be determined. Your Local Planning Authority should make clear on its website what the survey should contain, in accordance with the current 'BS5837: Trees in relation to construction - Recommendations'

17. Trade Effluent

Does the proposal involve the need to dispose of trade effluents or waste? Yes No

18. Residential Units

Does your proposal include the gain or loss of residential units? Yes No

19. All Types of Development: Non-residential Floorspace

Does your proposal involve the loss or gain of non-residential floorspace? Yes No

20. Employment

If known, please complete the following information regarding employees:

	Full-time	Part-time	Equivalent number of full-time
Existing employees	0	0	0
Proposed employees	0	0	0

21. Hours of Opening

If known, please state the hours of opening for each non-residential use proposed:

21. Hours of Opening (continued)

Use	Monday to Friday		Saturday		Sunday and Bank Holidays		Not Known
	Start Time	End Time	Start Time	End Time	Start Time	End Time	

22. Site Area

What is the site area?

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23. Industrial or Commercial Processes and Machinery

Please describe the activities and processes which would be carried out on the site and the end products including plant, ventilation or air conditioning. Please include the type of machinery which may be installed on site:

Application to erect two domestic pole mounted wind turbines. Poles are 9m high turbines have a diameter of 5.4m. Total height is 11.7m

Is the proposal for a waste management development? Yes No

24. Hazardous Substances

Is any hazardous waste involved in the proposal? Yes No

25. Site Visit

Can the site be seen from a public road, public footpath, bridleway or other public land? Yes No

If the planning authority needs to make an appointment to carry out a site visit, whom should they contact? (Please select only one)

The agent The applicant Other person

27. Declaration

I/we hereby apply for planning permission/consent as described in this form and the accompanying plans/drawings and additional information.

Date

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16 JUN 2008

RTPI 

Application to erect two domestic pole mounted wind turbines

**Hogarth Hall
Boggle Hole Road
Whitby
North Yorks
YO22 4QQ**

Design & Access Statement & Supporting Information

NYMNPA

16 JUN 2008

Agent for the application.

**ethical partnership
28 Windsor Terrace
South Gosforth
Newcastle
NE3 1YL
t/f 0191 284 6675
www.ethicalpartnership.co.uk**

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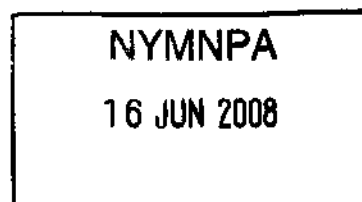
Applicant	Mr D & Mrs A Pattinson	Agent	ethical partnership
Address	Hogarth Hall Boggle Hole Road	Address	28 Windsor Terrace South Gosforth
	Whitby		Newcastle upon Tyne
Post code	YO22 4QQ	Post code	NE3 1YL
Tele. no.		Tele. no.	0191 2846675
mobile		mobile	07845 709600
email		email	enquiries@ethicalpartnership.co.uk
Site Address	As above		

1. Outline description of the application

The application is for the erection of two wind turbines each on 9m high monopoles for the generation of electricity for the use by the applicant and their tenants. The proposed Turbines would be the model ISKRA AT5-1. Details of the wind turbine are included with this statement.

This Design & Access Statement has been prepared following the guidance in Department for Communities and Local Government Circular 1/06. (Section 3) and as requested by North Yorks Moors National Park Office

It is available in electronic format.



2. Reasons for the application

The applicant owns Hogarth Hall and the nearby Hogarth Hill cottages (No's 1-4 and Flats No's 1-3) All are occupied for rent by local people. The applicant also owns the agricultural land as shown on the planning application forms. The applicant wishes to use the locally abundant wind to generate electricity for use by the farmhouse, the farm and the rented accommodation. In so doing to assist in reducing the costs of operating the holding and in a small way in meeting the regional and national targets for increasing the proportion of energy from renewable sources.

The space heating and domestic hot water heating for the buildings is presently through oil with the consequential high carbon footprint. The applicant has invested in energy efficiency measures to reduce the demand for energy from each of the properties. This has been through the installation of double glazing and loft insulation in all the cottages and flats. The applicant is presently refurbishing the interiors of each property by cladding the insides of all the exterior walls with insulating plasterboard. The buildings do not have cavity walls. Subject to approval from the national park planning authority each of the rented properties will be fitted with solar thermal roof mounted collectors that will meet more than 50% of the domestic hot water demands from each of these properties. In this way the applicant is seeking to reduce the need for fossil based fuels.

The applicant has a commitment to meet the energy needs for the community from renewable sources. To this end the applicant has recently received planning permission for the construction of lakes to provide sufficient head of water for the installation of a small hydro electricity system. The applicant intends to invest in using the electricity generated to power ground source heat pumps which will meet the space heating and remaining DHW requirements. This will significantly reduce the carbon footprint of the small community at Hogarth Hall. The addition of the hydro proposals will assist in moving the community towards independence from the grid and carbon neutrality. The energy strategy is based on using electricity. The Hydro scheme will provide electricity intermittently when sufficient water is available in the lakes. The site has an abundant supply of wind and it the aspiration of the applicant that this wind will meet the base electricity loads for the community. This base load is estimated at 20-30 kWp (Kilowatts peak). The Hydro will supply intermittently a maximum of 10kWp

This application will further assist towards enabling the applicant and the community at Hogarth Hall to meet all their energy needs from renewable sources.

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3. Pre-application discussions¹

A site meeting was held on the 21st May 2008. This meeting discussed which locations would be most acceptable and the form and scale of the turbines that might be acceptable in these locations.

4. Ownership

The land is wholly in the ownership of the applicant. A plan at 1:2500 is enclosed showing the extent of this land ownership -outlined in blue.

5. Appraising the Context ² - Evaluation of the site and its characteristics

Appraising the context of the proposal has involved a site visits to the site by Allen Creedy BA (Hons) MRTPI to carry out an assessment of the Design & Access issues associated with the application and to provide North Yorks Moors National Park office with supporting information.

Allen Creedy has 25 years experience as a chartered town planner. He is a qualified ecologist and environmental auditor with considerable experience of managing renewable energy planning applications. He is a partner in ethical partnership which specialises in planning applications for renewable energy developments. The landscape character assessment for this enhanced DAS has been carried out by staff within ethical partnership accordance with guidance from the Countryside Agency (Natural England). This has been carried out by reference to field surveys, aerial photograph interpretation and desk research.

The site was walked to evaluate the landscape character and to identify site constraints. Information on background noise and wind exposure was gathered. A technical appraisal of the site was conducted by Richard Scott of Solar Utilities. The selection of the site has been guided by the need to meet the manufacturers' requirements for available wind, avoidance of turbulence, avoidance of exposure to noise. A telegraph pole with a wooden X was installed on

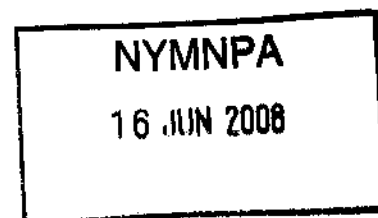
¹ PPS1. Pre-application Discussions

² Circular 1/06 - DAS Assessing the context para 97

the site to assess the suitability of a particular location this is visible in some of the photographs in the annex this is on a pole 12m high. The appraisal has indicated that this site is too close to the residential units from a perspective of noise. Also there is the potential for turbulence from the topography and a reduction in the available wind speed. Accordingly a site some 80m west from the telegraph pole has been selected as meeting all the technical and policy requirements

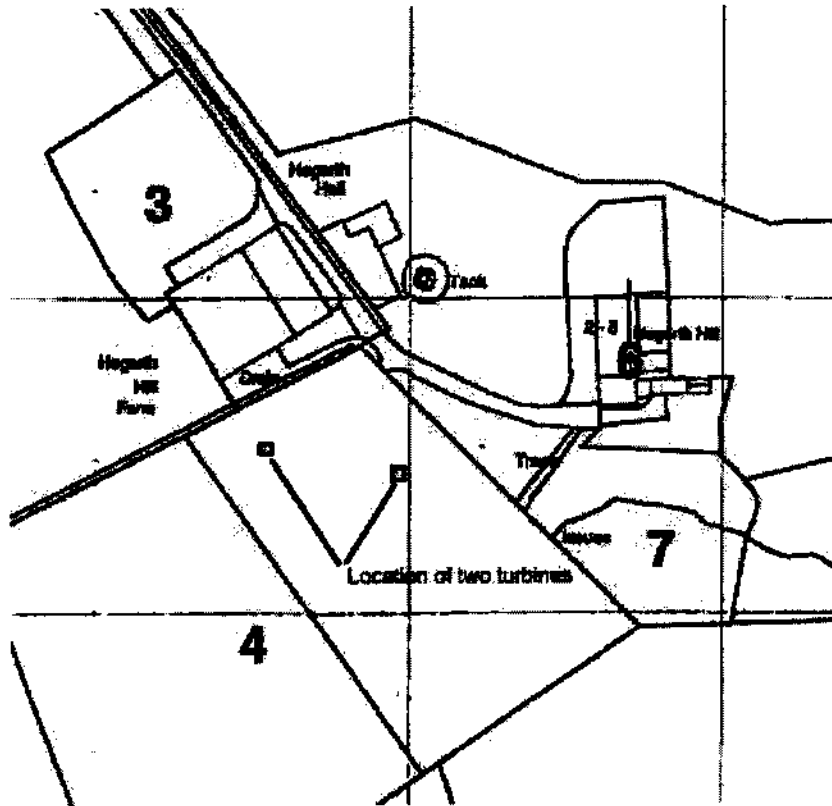
The visibility of the site from the surrounding was assessed

Appraising the context of the site has involved an evaluation process that has sought to balance the various aspects of the proposal. Details of this appraisal and evaluation are included in this statement. It is considered that the site chosen by the applicant and the turbine selected satisfies the requirements of local and national policies for the National Park, Built & Cultural Heritage, Public Safety and Security, Ecology and Hydrology, Landscape and Access.



6: Site location plan (Layout)

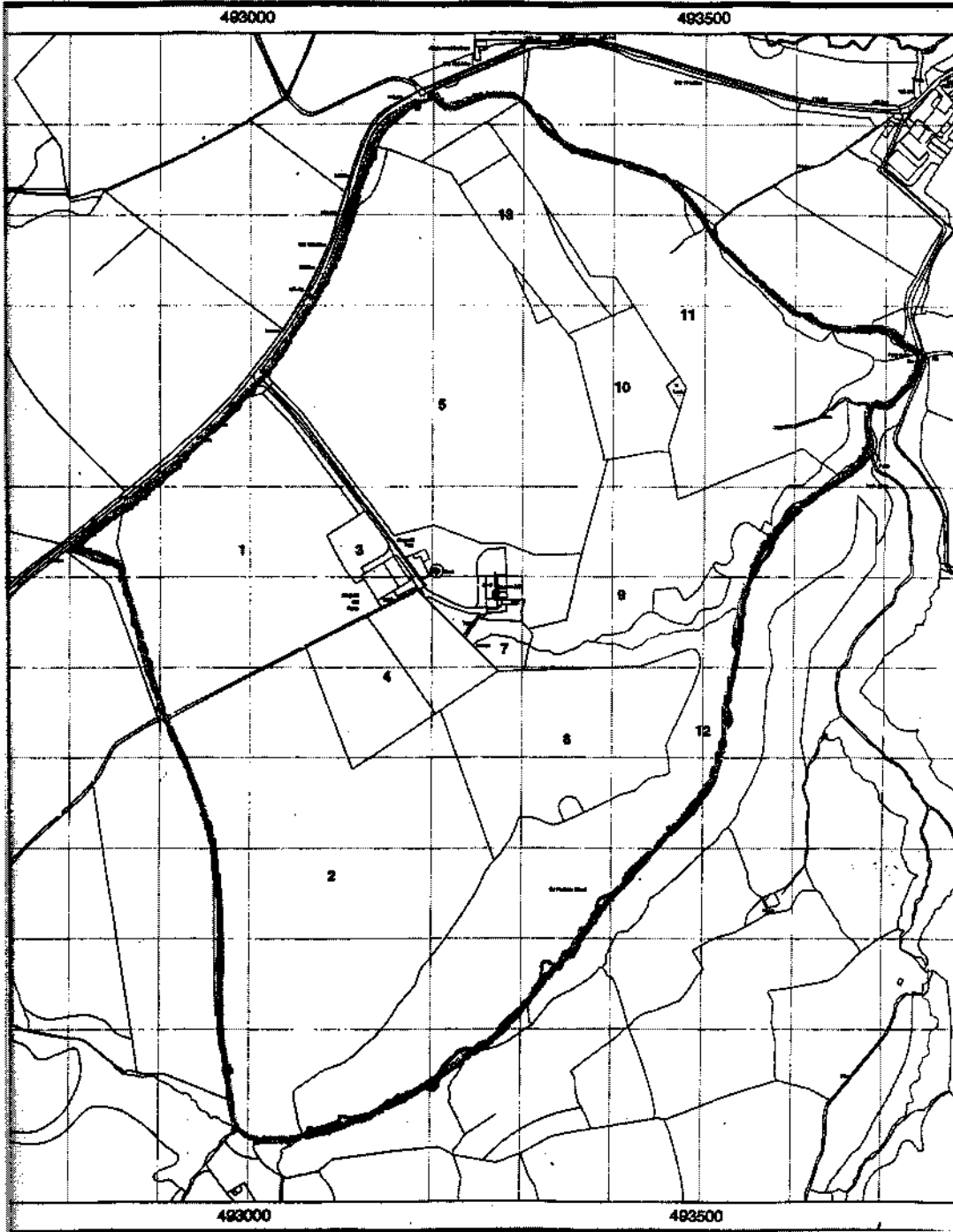
Scale 1:2500 at A4



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7. Land ownership plan-

Note: land owned by the applicant outlined in blue



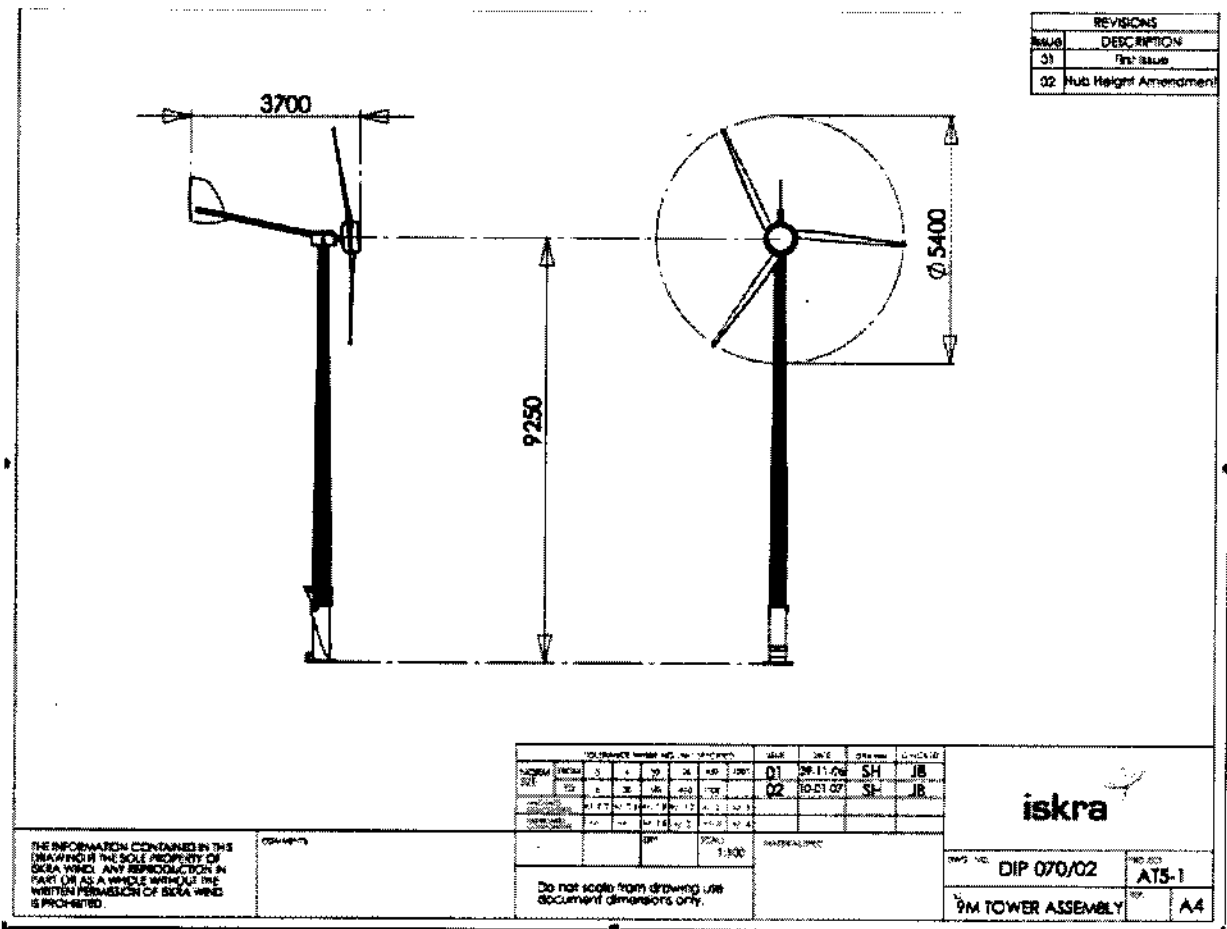
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8 Technical specifications

The wind yield varies with particular locations, with the wind speed varying about an annual mean value. The expected energy yields for each of the AT5-1 at various annual mean wind speeds (AMWS) is described below. It is expected that the AMWS will be in the range 4-5 for each turbine at Hogarth Hall.

AMWS m/s	Annual MWh	Daily kWh
4	3.6	10.0
5	7.5	20.0
6	11.9	32.6
7	16.2	44.3
8	19.9	54.5
9	22.7	62.3

Elevations – refer to dimensions do not scale.



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Technical Performance

1. Generator rating 5 Kw at 11m/s
2. Rotor speed 200 rpm nominal (variable)
3. Cut-in wind speed 3 m/s (6.7 mph)
4. Survival wind speed 60 m/s (134 mph)
5. Rotor diameter 5.4 m
6. Rotor orientation Upwind
7. Number of blades 3
8. Blade material GRP composite
9. Control system Passive blade pitching
10. Gearbox None
11. Brakes Electro-dynamic
12. Generator Permanent magnet alternator
13. Yaw control Tail vane
14. Tower height 9m, depending
15. Tower Free-standing

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9. Planning

9.1 Development control

The construction and operation of the proposed wind turbine³ is 'development' and requires planning permission. The information contained within this Design and Access Statement (DAS) provides a comprehensive appraisal of the design and access context of the proposal. It describes the **Amount**⁴ (Section 8.1), **Layout**⁵ (S. 6) **Scale**⁶ (S.8) **Landscaping and Appearance**⁷ (S.15) and **Access**⁸ (S16) aspects of the development. In addition the statement addresses the material issues of Noise (S 11) Built and Cultural Heritage (S12), Public Safety and Security (S13) and Ecology and Hydrology (S. 14) . The statement provides details of the specific environmental, economic and social benefits that arise from this renewable energy project.⁹

The statement provides the necessary objective criteria based information for the planning authority to address the key development control issues and to determine the application. However the applicant recognises that notwithstanding the contents of this submission, local politicians and stakeholders may have questions or may require further information. The applicant (and representatives) is prepared to meet with politicians and stakeholders to provide any further information and in order to address any subjective concerns as part of the planning application determining process. Should the planning authority be minded to refuse the application based on any such concerns, then the applicant would wish to have the opportunity to provide further information, to modify the application, submit to relevant conditions or negotiate a developer obligation before a refusal was issued.

This application does not fall within the scope of the 1999 Environmental Impact Assessment Regulations. As such it does not require an Environmental Impact Assessment (EIA). This supporting information has been prepared to include details of the effects of construction and operation. It also identifies beneficial and adverse effects, together with relevant mitigation measures where necessary.

9.2 Relevant local planning policies

The North York Moors National Park has the twin purposes of conservation and public enjoyment:

- *to conserve and enhance the natural beauty, wildlife and cultural heritage of the National Parks*
- *to promote opportunities for the understanding and enjoyment of the special qualities of the Parks by the public.*

And in discharging these two duties to

³ For the purposes of Planning legislation defined as 'Plant and Equipment'

⁴ Circular 1/06. para 82-3

⁵ Circular 1/06. Para 84-87

⁶ Circular 1/06. Para 88-90

⁷ Circular 1/06. Para 91-96

⁸ Circular 1/06. Para100-104

⁹ PPS22 Companion Guide - para5.4 Key issues in Development Control

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- *'seek to foster the economic and social well-being of local communities'.*

The relevant local plan policy for electricity generation indicates that ¹⁰

The development of small scale installations for the generation of electricity particularly from renewable energy sources will be permitted provided the development is to meet local needs, and complies with Policy GP3 of this Plan.

The supporting text indicates that

Smaller generation schemes utilising renewable energy sources, however, may be able to be accommodated so long as there would not be an unacceptable impact on the Park's environment or landscape, or the amenity of residents or visitors. Given the need to protect the special qualities of the Park, it is not felt that it would be appropriate for renewable energy developments in the Park to serve regional or national energy requirements. Such schemes would, therefore, need to be for the benefit of communities in the Park so as to avoid the special environment of the Park being exploited simply to serve the general need for electricity which can be met from elsewhere.

The supporting text further cites that

Renewable energy developments could have a damaging impact on the special qualities and sensitive environment of the National Park, particularly the landscape, through adverse impact from such factors as scale, materials and location. This is especially so in the case of wind energy which, due to the size of modern wind turbines, can have a damaging visual impact over a very wide area, particularly if turbines are grouped into windfarms. As well as harming the landscape this can damage the amenity of the Park for visitors. Consequently, only small scale wind energy developments will be allowed where they can be accommodated in the landscape and all other impacts on the environment, such as noise, can be reduced to acceptable levels.

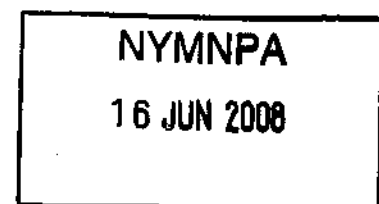
Policy GP3 (General Development) provides a set of criteria with which all development in the National Park must comply.

Development which accords with other relevant policies in this plan will be permitted where:

(1) the design of the scheme respects or enhances the character, special qualities and distinctiveness of the locality and wider landscape; and

(2) the nature of the proposal in terms of the type of use and level of activity, either individually or cumulatively, would not have an unacceptable impact upon the character, special qualities and distinctiveness of the locality and wider landscape, public amenity, the operation of surrounding land uses, or any interest of acknowledged importance; and

¹⁰ North York Moors Local Plan 2003 p policy U2



(3) the proposal provides safe and convenient access for all, and is of a scale which the existing road network can serve safely, and provides means of access to the highway network and car parking provision in line with standards adopted by the National Park Authority; and

(4) services can be provided without unacceptable impact, either individually or cumulatively, on the character, special qualities and distinctiveness of the locality and wider landscape, or other service users, and the proposal incorporates measures that prevent any unacceptable levels of pollution.

The Core Strategy and Development Policies March 2006. Core Policy 30 reflects the assessment (para 7.127) that almost the entire National Park was identified as having a landscape of high sensitivity to wind energy development. And in reflecting this assessment the preferred strategy is

"to encourage technology that enables the sustainable provision of energy at a scale appropriate within a protected landscape" "Proposals should therefore focus on domestic scale technologies or other small scale schemes which contribute towards meet the needs of individual communities within the National Park, and will be expected to accord with other relevant policies within the Local Development Framework".

And further states that the Planning & Sustainable Development Objective 4 is:

To promote the use of renewable energy sources that provides energy for communities within the National Park providing that any development involved does not significantly detract from the conservation of the landscape and built environment of the National Park.

This statement demonstrates that the proposal:

- meets the requirements of the applicable development plan policies;
- meets the broad area polices of the Regional Spatial Strategy
- does not compromise the reasons behind the designation of the National Park
- addresses the issue of visual impact
- provides details of the specific environmental, social and economic benefits
- contributes to meeting the regional targets for renewable energy

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9.3 Planning Policy Statement 22

In 2004 national government issued 'PPS 22 Planning for Renewable Energy' and it's associated 'Companion Guide'. These two documents provide the national framework within which local planning authorities decide on individual planning applications. The ministerial statement made by Yvette Cooper formalised government support for PPS22, It also encouraged local planning authorities to include in their local development frameworks polices requiring new developments to generate at least 10% of their own energy from on site renewable sources. The Government believes that climate change is the greatest long-term challenge facing the world today. Addressing climate change is therefore the Government's principal concern for sustainable development. Policies and priorities for action, both in the UK and internationally, are set out in the Climate Change Programme and the report of the 2006 Energy Review. PPS 22 sets the objective based criteria that must be applied by Local planning authorities in deciding individual planning applications to generate energy from wind.

10. Economic, Social and Environmental benefits of the proposed development

The Economic, Social and Environmental benefits of this proposal should be considered in as material considerations in determining the application¹¹. The proposed wind turbines will use wind energy – this is an abundant natural resource. It is non-polluting, clean and sustainable. The UK has one of Europe's windiest climates and therefore wind energy is an important element in achieving the UK Government's commitment to reduce carbon dioxide emissions to 12.5% below 1990 levels by 2010. More specifically, it is Government policy to achieve 10% of the nation's electrical requirements from renewable sources by 2010. In a small way this proposal will help to move towards these targets.

10.1 Economic benefits

The development is predicted to generate 19.2 MWh of electricity per annum. At current market prices (October 2007) this will result in energy bill reductions of £2500.20. This will replace grid-sourced electricity and over time reduce the revenue costs of running the homes and buildings.

This installed capacity will also help to contribute towards the regional targets for renewable energy generation for 2010. This installation will replace approximately 60% of the grid sourced electricity presently needed by the farm and associated residential units and accordingly significantly reduce the revenue costs of running the farm and homes. Further investments in Hydro are planned to allow the farm and homes to be self sufficient in energy. Connection to the grid is planned to allow net metering.

10.2 Social benefits

The supply of grid connected electricity to Hogarth Hall is vulnerable to interruptions arising from wind and tree damage to the overhead cables and the reliability of aged local transformers. Installing the wind turbines will provide an alternative source of electricity and ensure that on a day to day basis the applicants and their tenants can rely with greater certainty on having electricity for lights, heating and cooling. It will also replace the expensive and unsustainable oil based heating systems.

10.3 Environmental benefits

The wind turbines will save between 10 and 11 tonnes of carbon dioxide per annum. By installing ground source heat pumps to replace oil boilers the costs of heating for the tenants and the applicants will be reduced. The ambition is for the farm to produce zero carbon emissions from its activities (excluding transport). This proposal is part of the farm diversification plan to this end.

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¹¹ PPS22 Companion Guide - para5.4 Key issues in Development Control

11. Noise¹²¹³

11.1 Site Appraisal

Site visits have been made by planning and technical experts during the spring and summer of 2007 and the spring of 2008. A variety of wind conditions were prevalent during these occasions, including a force 5 wind. This provided an opportunity to assess existing background noise and evaluate the likely noise impact of the turbine. The site selected by the applicant is more than 60m from Hogarth Hall and more than 80m from the rented accommodation at Hogarth Hill. The prevailing wind on the site is from the south west, with more than 75% of the daily average wind from this direction, particularly important is the fact that most of the winds that are more than force 3 are from this direction.

11.1 Background noise levels

The Iskra AT5 has been appropriately specified, designed and located to allow sufficient distance between the wind turbine and any existing noise-sensitive development (60m Hogarth Hall and 80m Rented accommodation). Hogarth Hall has nearby agricultural buildings with agricultural noise generating activities.

Both of the noise sensitive residential developments are partially downwind from the turbine. However the location relative to these developments and the distances selected, it means that noise from the wind turbines will not be a nuisance or a material consideration in deciding the planning application. Consequently any increase in ambient noise levels are within acceptable levels with relation to existing background noise. The noise levels of this wind turbine are low (see specifications provided) and under normal operating conditions, it is likely that the noise would be completely masked by the background noise from the wind blowing through the nearby trees and buildings and existing overhead electricity supply lines.

11.2 Predicted noise levels¹⁴

Wind Turbine noise.

The noise can be considered to consist of 3 components, aerodynamic blade noise, mechanical noise from the alternator housing and the tower noise. The tower noise is essentially omni directional and at low level. The other two sources being broadly directional with combined maxima on the turbine axis i.e. upwind and downwind. From measurements the Iskra is predicted to generate the following noise levels

Background + Turbine 2-4 m/s 44dBA on axis, downwind

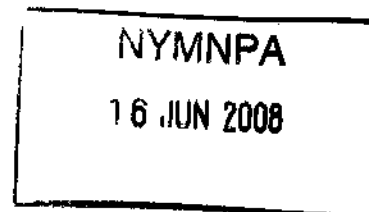
Background + Turbine 4 m/s 46dBA on axis, downwind

Background + Turbine 4 m/s 42dBA -30/45 degrees, downwind

¹² Planning Policy Statement 22 para 22

¹³ Planning for Renewables PPS22 A Companion Guide. Noise para 41-46

¹⁴ British Wind Energy Association: Noise from Wind turbines - The Facts.



Modelled microphone Height 1.5M, Anemometer height 2M 14.5C 71.5%R.H.

Modelled measurement distance 30 Metres, 5 Metres below hub height
Modelled ground sloping upwards from turbine to measurement positions.

Then the predicted figures at 100 metres would be -10dB lower than the 30 metre figures
Giving 32 dBA off axis and 34dBA - 36dBA on axis

Mechanical Noise

The Iskra AT5-1 turbine is of the direct drive type using a low speed permanent magnet generator. This eliminates the need for a gearbox of any sort, and completely eliminates this source of noise. All braking on the turbine is effected by the electronic control of electrical loads on the generator. Thus there is no mechanical braking system to act as a source of noise. Therefore, the only remaining source of mechanical noise is from any torque fluctuations associated with power extraction in the generator. By ensuring that the power extraction is smooth and continuous, this source of noise has also been minimised.

Aerodynamic Noise

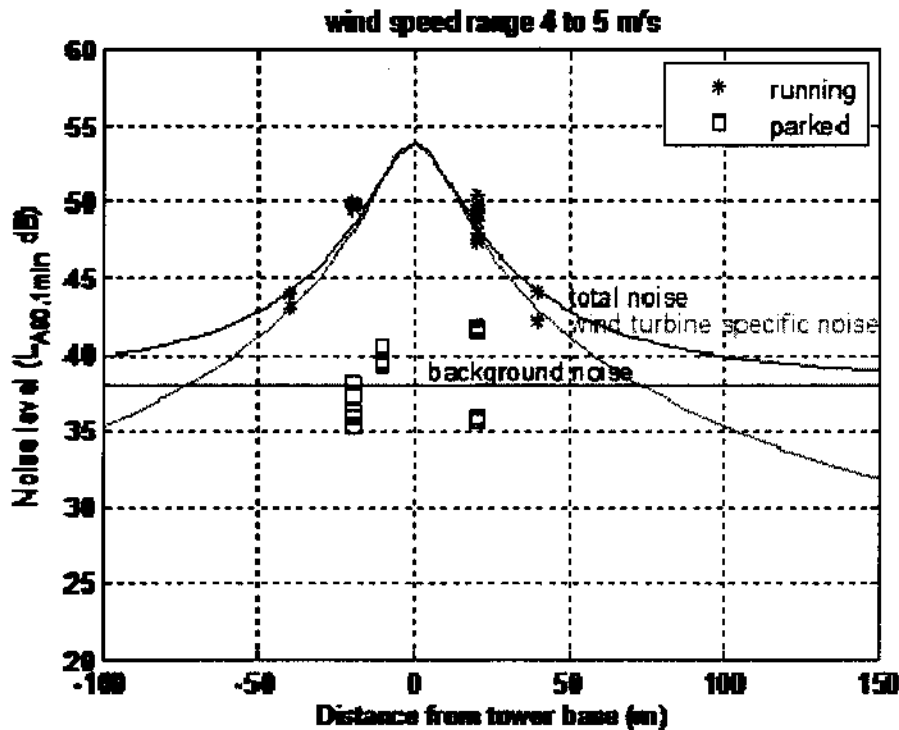
The Iskra AT5-1 turbine blades are specifically designed to minimise aerodynamic noise. To achieve this, the rotor is designed to operate at unusually low speed, with a typical blade tip speed of less than 60 m/s.

The blades vary in twist and chord along their length to maximise efficiency and thus minimise noise. In particular, the blade chord has been kept as small as practicable near the tip. Also the blade tips themselves are carefully shaped specifically to minimise noise. The rotor is upwind of the tower and therefore there is no risk of the 'thud' type noise which can be heard on some downwind machines as the blades pass through the 'wind shadow' of the tower.

Aerodynamic noise from wind turbines is normally most noticeable at low wind speeds, when the background noise caused by the wind blowing in the trees and around buildings is lowest. The Iskra wind turbine is variable speed, and this means the rotational speed of the wind turbine automatically reduces to further reduce aerodynamic noise at times of low wind speed, when the background noise is lowest.

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The Iskra Environmental Impact Noise Assessment figures (above) are based on calibrated noise assessments. Modelling is based on using inverse square law calculation which is appropriate for a point source.

$$SPL_0 - SPL_1 = 20 \log r_1 - 20 \log r_0$$

The predicted figure at 100m would thus be -14dB lower than the 20 metre figure. The above model would give a noise level from the turbine of 34dBA at 100m. On site modelling agrees with this calculations

Additional Path Attenuation

The inverse square law calculation takes account of only spreading due to distance, however in the near field, additional attenuation is offered by ground attenuation and reflections.

The acoustic path to the rented properties is through trees and so a conservative additional attenuation figure of 3 dB can be assumed (up to 20dB / 100m can be measured for long grass) Ref: Acoustic Noise Measurements: Bruel & Kjaer

Molecular absorption would only apply above 4 KHz over these path lengths and has not been considered. Wind and temperature gradients have not been considered as factors as their operation is complex and variable.

Acoustic Impact of the Installation

The turbine will not start to turn until the wind speed is sufficient and will thus not generate any significant noise in still or very low wind conditions. As the wind speed increases, the turbine will start to turn, producing noise, but the background noise from movement of plants, vegetation and trees will similarly increase.

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At high wind speeds building elements of the houses such as roofs, gutters etc. will produce additional broadband and resonant noises.

The wind turbine noise will be masked by the increased background noise, causing no overall LAeq increase at 100 metres.

To cause an increase in LAeq of just 1 dB the wind turbine noise would need to be within 6dB of the background i.e. between 44 and 48dB. The corrected turbine noise is 10dB lower than this.

The background noise of the turbine will be comparable to existing background noises and are within acceptable levels with relation to existing background noise. The noise levels of the ISKRA AT5-1 wind turbine are low (see specifications previously provided) and under most operating conditions, it is likely that the noise would be completely masked by the background noise from the wind blowing through the nearby trees and buildings and existing overhead electricity supply lines.

The ISKRA AT5-1 has been appropriately specified, designed and located to allow sufficient distance between the wind turbine and any existing noise-sensitive development

11.3 Proposed mitigation/compensation

The selected position maximises the exposure to the prevailing wind and minimises the risk of turbulence. The existing site is appropriate by virtue of noise assessment considerations. No mitigation or compensation is required as a result of the predicted noise arising from the operation of the proposed wind turbine.

11.4 Conclusion

The proposed wind turbines can be constructed and operated in accordance with best practice, and without causing noise nuisance or materially affecting the amenity of others.

12. Built & Cultural Heritage ¹⁵

12.1 Site Appraisal

Neither Hogarth Hall nor the apartment blocks are listed buildings. Desk surveys have concluded that there are no listed buildings in the vicinity of the application site. Desk studies and aerial photographic analysis have confirmed that there are no historical agricultural or cultural features or assets that are affected by the proposed development.

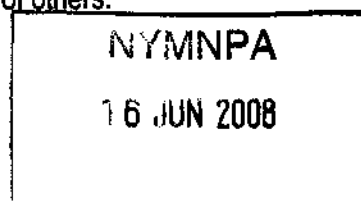
12.2 Predicted Impacts.

No listed building or the setting of any listed building is affected by the proposed construction or operation of the wind turbines¹⁶.

No Conservation Areas are affected by the proposed construction or operation of the wind turbines ¹⁷

¹⁵ PPS 15- The Historic Environment

¹⁶ Planning (Listed Buildings and Conservation Areas) Act 1990 (c. 9)



No Scheduled Monuments or known sites of archaeological interest are affected by the proposed construction or operation of the wind turbines¹⁸

12.3 Measures to be taken

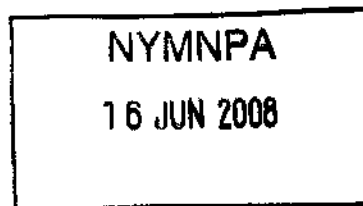
The applicant is concerned to assist the Local planning authority to meet the ambitions of PPS16 (Planning and Archaeology)¹⁹ Accordingly during the excavation of the void for the base of the wind turbine should any building foundations, artefacts or other unusual finds be made these will be notified to the relevant local authority archaeologist in accordance with the Code of practice.²⁰

12.4 Proposed mitigation/compensation

Neither the construction nor the operation of the proposed wind turbine will materially affect any built or cultural heritage assets. Consequently no mitigation or compensation measures are required.

12.5 Conclusion

The proposed wind turbine will not materially affect any built or cultural heritage assets. The measures to be taken as part of the construction of the proposed wind turbine will ensure that any unknown archaeological assets are identified and recorded.



13 Public Safety and Security

13.1 Site Appraisal

Bogglehole Road at its closest is 250m from the proposed location of the turbines. Public right of ways of way are at least 250m from the site. A private road owned by the applicant is 120m from the application site. This provides access to the private apartment and residential blocks at Hogarth Hill owned by the applicant.

13.2 Predicted impacts

Experience indicates that properly designed and maintained wind generators are a safe technology. The very few accidents that have occurred involving injury to humans have been caused by failure to observe manufacturers' and operators' instructions for the operation of the machines. There has been no example of injury to a member of the public. The only source of possible danger to human or animal life from a turbine would be the loss of a piece of the blade or, in most exceptional circumstances, of the whole blade. Many blades are composite structures with no bolts or other separate components. Blade failure is therefore most unlikely. Even for blades with separate control surfaces on or comprising the tips of the blade, separation is most unlikely. The minimum desirable distance between wind turbines and occupied buildings calculated on the basis of expected noise levels and visual impact will often

¹⁷Planning (Listed Buildings and Conservation Areas) Act 1990 (c. 9)

¹⁸Schedule of Monuments

¹⁹PPS 16 (Planning and Archaeology)

²⁰The British Archaeologists' and Developers' Liaison Group code of practice

be greater than that necessary to meet safety requirements. Fall over distance (i.e. the height of the wind turbine to the tip of the blade) plus 10% is often used as a safe separation distance.

The wind turbines are erected in accordance with manufacturer's instructions is a stable and safe structure. In accordance with good practice the proposed location has been chosen to achieve a set back of at least fall over distance from nearby roads, buildings, paths and public access routes.

The wind turbines will be separated from overhead power lines in accordance with the Electricity Council Standard 44-8 'Overhead Line Clearances'. No overhead cables are proposed to the installation. All underground cables will be installed in accordance with manufacturer's recommendations.

The construction and decommissioning of the wind turbines will take place in accordance with relevant health and safety legislation. The contractor will effectively manage any risks associated with public and contractor safety.

The design of the wind turbines and the choice of location have been consciously made to reduce the risks associated with; the collection of ice on the blades, the incidence of shadow flicker and of reflected light. On the basis of the manufacturer's guidance and historical performance of this model of wind turbine these aspects are not considered to pose any risk to public safety or security.

The design of the wind turbines and the choice of location have been consciously made to reduce the risks associated with interference with Electromagnetic Transmissions. In so far as line of sight radio and microwave links can be determined from site assessments it is considered that this installation will not cause the 'scattering' of transmission signals.

Access to the site for emergency vehicles is not anticipated as being necessary. Should such access be required then this is available via the access road to Hogarth Hall.

The design of the wind turbines and the choice of location have been consciously made to facilitate ease of dismantling of the equipment and restoration of the site at the end of its useful life – 20/25 years. Annual maintenance will be required during which the wind turbine and the tower will be lowered to the ground. Measures will be taken to ensure this is carried out in accordance with health and safety requirements and to protect the safety and security of the public.

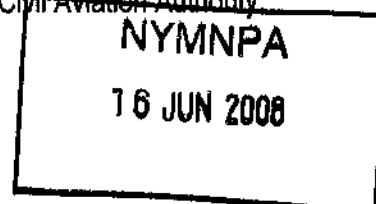
Neither the application site nor the scale or design of the wind turbines is covered by any known restrictions currently in force by the Ministry of Defence or Civil Aviation Authority.

13.3 Measures to be taken

No additional measures to those above are proposed.

13.4 Conclusion

The site selected satisfies public safety and security considerations and the measures proposed above for the construction and operation of the wind turbine will effectively manage any risks to local public safety or security.



14. Ecology and Hydrology

14.1 Site Appraisal

The site for the erection of the wind turbines is currently agricultural land on the margins of the recently excavated wetland areas. Immediately west of the turbines are the recently excavated lakes. These lakes do not have any established wildlife value. The margins include spread excavated subsoil. These have no ecological value at present.

The field to the immediate north was planted progressively 5-10 years ago with native hardwoods and a proportion of coniferous trees. These are shown in photographs at the annex. The trees are being managed using a combination of selective herbicides and manual weeding. The block of woodland has little ecological value at present.

The field boundaries are formed by open bottomed, irregularly spaced over mature hawthorn 'trees'. These have been allowed to become established as individual trees with a variety of heights and crown spread. These trees and smaller hedge specimens provide nectar for insects and the berries provide an important feeding source for birds and insects.

The fields to the west and east are grassland having been 'improved' by the application of fertilizers and herbicides. The fields adjacent to and in the general vicinity of the site of the wind turbine are not designated as having any local, regional, national or international ecological interest. The fields adjacent to where the wind turbines are proposed to be located contain no locally rare or protected species of plant, animal or bird. There are no adjacent sites designated for ecological value. No ecological assets of any significance will be affected by the construction and operation of the wind turbine.

As a result it is not necessary to conduct any breeding bird or other ecological surveys. The operations to construct the wind turbine will respect the interests of ground nesting bird and no construction operations will take place to adversely affect ground nesting birds.

The local hydrology will not be materially affected by the installation of the concrete pad. No designated main rivers or private watercourses or Ground Water Protection Zones will be materially affected by the construction of the concrete pad to support the wind turbine.

14.2 Predicted Impacts

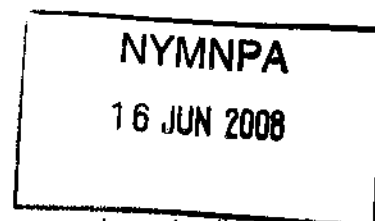
The fields around the concrete base of the turbine will be unaffected by the wind turbine. No impact is predicted on any ground living mammals or any plants. No impact is predicted on birds. The excavated materials will be used as part of the normal agricultural operations of Hogarth Hall.

14.3 Measures to be taken

No measures are proposed to be taken

14.4 Conclusion

The proposed site has been selected as suitable and therefore the proposed construction and operation of the wind turbine can be carried out without having any adverse impact on any ecological or hydrological features or assets of value.



15 Landscape and Appearance

15.1 Site Appraisal

This site appraisal has been carried out by the landscape division of ethical partnership.

Topography

The application site is located at 150m OD at the upper reaches of the east facing scarp slope above Robin Hood's Bay. The immediate site is an undulating flat former agricultural field now partially excavated to create water bodies that will provide the source for small scale hydro electric renewable energy. The turbines will be located on the northern and eastern margins of this field adjacent to the main feeder drain to the Stoupe Beck. From the location of the turbine the land slopes upwards to the north, south and west, it is therefore located within a very shallow bowl.

The site is within the upper reaches of the horseshoe shaped scarp to Robin Hood's Bay that is made up of the steeply sloping valleys of the Ramsdale, Mill and Stoupe Becks. Complex geology has produced a very undulating topography with significant local variations in aspect gradient and surface features.

The application site is at the uppermost reaches of the Stoupe Beck valley. The lowest point to the watershed of the catchment of the Stoupe Beck is at 164m OD approximately 1000m south west. The deeply incised valleys are flattening significantly as they ascend towards Flyingdales Moor creating the shallow bowl of land to the west of Hogarth Hall. Robin Hood's Bay is 4000m north east of the site

The scarp slopes ascending towards the bowl includes both convex and concave slopes, created by the erosion of the various Becks. The gradients of the slope vary significantly, being gentler close to the sea and on the upper reaches of the moor to the west of Hogarth hall.

The field boundaries date from the enclosure period are regular and orientated across the scarp slope and down/up the slope. Fields are generally rectilinear or delineated by the historical boundaries of roads and rights of way. Since the enclosures approximately 50% of the field boundaries have been removed, field sizes vary considerably with the larger fields on the more gentle slopes and smaller fields in the steeper valley sides. The visual appearance of the topography is significantly affected by the numerous farms and associated buildings, numerous roads, individual trees, blocks of woodlands, electricity and telecommunication pylon, gates and boundaries of the built environment.

Farm buildings

Hogarth Hall and its associated residential and apartment buildings, plant and equipment are separated from other developments in the locality. The Hcomplex of buildings includes physically separate and distinct apartments and rented accommodation blocks. These are visually associated with Hogarth Hall when viewed from the east but are not visible from the west due to the local topography and the interruptions provided by hedgerow trees and woodlands. These residential buildings are generally two and three storeys with pitched roofs.

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The agricultural buildings are in the range 10-15 m to eaves. However as a consequence of the immediate topography these heights do not present a visually consistent form or appearance in the landscape.

Hogarth Hall and all the other farmhouses and agricultural buildings on the scarp slope have mature trees or blocks of woodland planted close by. This has the effect of reinforcing the visual associations between these developments.

Most of the residential buildings are constructed of brick or natural/reconstructed stone; most of the agricultural buildings are constructed of mixed materials (brick/timber/stone/reconstituted stone/concrete blocks). Roof materials are not consistent across the buildings with a variety of concrete, clay and metal coverings. Fenestration details are not consistent across buildings reflecting the long period through which improvements and alterations have been made. With a diversity of materials and textures the farms and their buildings contribute a diversity of colours and shapes to the local landscape character.

Other development, plant and equipment

The unclassified road to Bogglehole, off which Hogarth Hall is accessed, has an orientation that is north east - south west; paralleling this lane approximately 50-100m away are 115kV electricity power lines suspended on 11m wooden poles. These lines punctuate the scarp slope ascending from Robin Hood's Bay and continue along the skyline of the watershed immediately above Hogarth Hall.

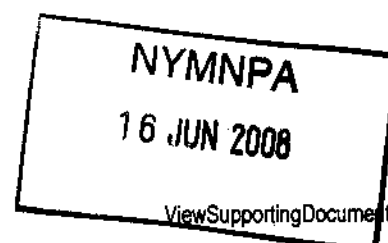
The numerous isolated farm buildings, telecommunications masts, and road signs punctuate the scarp slope contributing to its complexity and diversity of colour, shape and texture. Only the telecommunications masts and electricity pylons are located on the ridges of the moor.

Roads

The A171 dominates the watershed ridge. With few roadside trees, vehicles are very visible. Vehicles on Bogglehole road are well hidden by the adjacent tree belts and hedgerows together with the undulating nature of the lane and it being in cutting for much of its length from the A171 to the old railway. The lane has a number of tracks off that lead to the many farmhouses and buildings, these narrow metalled highways are generally hidden from the distant views by field boundaries of hedges, fences and walls.

Fields

Fields are generally permanent grassland with varying degrees of improvement. Howdale moor is 3000m to the south east and at 266m is heather moorland. There is limited arable cultivation. The grassland fields vary in size from less than 1 ha to over 5 ha. With a diversity of levels of improvement some exhibit floristic diversity whilst those that have been reseeded present a mono-cultural appearance. The site is centred within a horseshoe of CROW access land – however this open land is generally 1500m distant. The application site is only visible from the CROW access land to the south on Howdale Moor.



Boundaries

Hedges

Hogarth Hall has carried out an extensive tree planting programme to augment the landscape structure and reinforce farm diversification scheme. This programme has included limited hedgerow management and under planting. However few other farms on the scarp slope have carried out similar positively landscape management investments and few exhibit under planting, laying or shaping is taking place. As a consequence hedges are neither continuous nor of a consistent height or species composition. The effect on the landscape is for the hedges to provide intermittent lines of small trees randomly punctuating the landscape.

Walls

Few of the original enclosure wall boundaries remain visible, most of the short sections of unmanaged, unkempt walls are in a state of disrepair. These sections are not stock proof and have functionally been usurped by agricultural net fencing with wooden posts. Fied access is generally through old metal or old wooden gates with no consistent approach to either, materials, finish or maintenance.

Fencing

Agricultural net fencing is the dominant field boundary. With a diversity of ownerships the fencing beyond the applicant's ownership exhibits a diversity of styles, specifications and finishes. Much of the fencing outside the applicants landownership is old and rusting and in need of replacement.

Water courses and water bodies

The scarp slope has three Becks that have carved gullies into the hillside. These incised gullies are variously vegetated by wooded and grassland and provide diversity in the colour and texture of the visual appearance of the scarp slope. Agricultural operations have created a number of small ponds and employed a number of the natural spring lines on the scarp slope. These are used for cattle drinking and provide some limited wildlife value. Visually they provide more diversity in the landscape.

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Trees & Woodlands

The extensive new planting carried out by the applicant over the past 10 years has created a series of shelterbelts along the western and northern boundaries of the farm. These have the effect of screening the hall and the agricultural buildings. There are blocks of woodland along most of the length of Bogglehole road west of the site. Generally comprising mature native broadleaves, these provide a continuous and dominating landscape feature. Long and short views from Bogglehole road over the site are limited by these lane side trees. Road side trees along the A171 are 1000m distant to the west and effectively screen the proposed site from view.

The scarp slope between Robin Hoods Bay and the application site has a number of discontinuous hedgerows and hedgerow trees and numerous large blocks of woodland that effectively screen the application site from views from the east.

Landscape Character Assessment -Conclusions.

The landscape character into which the turbine is proposed to be located has been objectively assessed as set out above. This has ascertained the sensitivity of the landscape to change and to development. The assessment indicates that the landscape is a complex mosaic of natural and man made structures and habitats. There are few consistent or recognisable patterns in the appearance of the landscape either through colour, texture, form massing or their interrelationships.

The rate of change taking place in the landscape is relatively slow – changes in the appearance of the landscape have historically taken place slowly with few new buildings or developments in the last 30-40 years that are separated from existing development. However the rate of change has been significant in and around the existing farm buildings and individual houses, with extensions, refurbishment and replacement of agricultural buildings and construction of associated telecommunications masts etc. Changes arising from the management of trees woodlands and agricultural land have been very modest and largely seasonal.

The landscape character is a sensitive receptor to changes arising from new development that is isolated and separated from existing farms and groups of agricultural building. The Landscape is less sensitive to new development that is physically and visually associated with existing farm, residential and agricultural buildings.

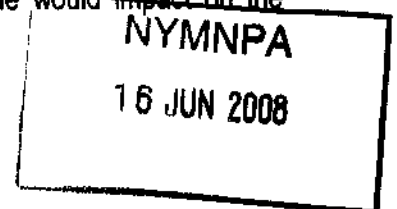
The skyline to the watershed of the scarp slope is sensitive to new developments that would create additional breaks or discordant elements in the skyline when viewed from the east – such developments would result in further degradation of the quality of the skyline views. Notwithstanding there are already a number of visually intrusive developments on the ridgeline – notably at Flask Inn camping and caravanning site and Grouse hill camping site. These present garish and discordant massing on the ridgeline when viewed from footpaths within the locality.

The random pattern and the unkempt condition of the hard structural fabric components of the landscape (fences, gates, walls pylons, and telegraph poles) across the scarp slopes means that the landscape is not sensitive to changes to these structures or in the contribution they make to the landscape character. Significant new structures that would be out of scale with the existing and separated from existing patterns or breaking the skyline would impact on the landscape character.

15.2 Predicted Impacts – Appearance, Visibility and Openness

Appearance

The selected turbines will be on monopoles of 9m in height providing a total height of 11.8m including the rotors it presents a structure that is similar in height to the many electricity pylons that punctuate the scarp slope and along the watershed of the scarp slope. The turbines will visually associate with the many pylons on the scarp slope..



The height of the turbine tower is similar to the height of the agricultural buildings at Hogarth hall. The location for the turbines has been chosen so that the turbine will be of a similar height to the adjacent agricultural and three storey residential properties – to ridge height.

The turbine poles are galvanised steel – the same colour and finish as the electricity pylons on the scarp slope and the same material used to form many of the exterior finishes on the agricultural buildings on the scarp slope

The turbine cover, rotors blades and the tail vane are painted squirrel grey (RAL7000). Grey is a tertiary colour evident throughout the landscape at all times of the year and particularly prevalent as part of the shading of buildings, structures and trees.

Visibility

The assessment of the visual impact of the turbines is based on the sensitivity of the receptor landscape together with the scale and degree of the impact. The assessment is based on the extent to which the turbine might create a visually discordant feature in the landscape. In assessing the visual impact of the turbine attention has been given to the extent to which they would be distinguishable in the landscape

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The turbines will be located within a shallow bowl where there is significant screening from the entire nearby principal visibility points (less than 300m) where its size could present a discordant element in the landscape.

The proposed turbine will be visible from the individual farm houses of Thomey Brow, Spring Hill, Low Flask farm and Howdale Farm –however these are approximately 800m-2500m distant. Views from these properties are only partially as they are obscured by nearby trees and shrubs in their gardens together with fences and trees in the fields between them and the application site.

The turbine will not be distinguishable in these views either in form, colour or shape as a consequence of the distance and as it will form part of the complex backdrop of agricultural buildings, farmhouses, woodlands and the hillside of Hogarth Hall.

With the exception of the residential properties under the control of the applicant, the closest other residential property is 800m away with most being over 1000m distant. At these distances the turbine will not be distinguishable.

The turbine will be visible to walkers who are walking in a southwest direction along the valley bottom through Oxbank wood along the Stoupe Beck. However the views will be oblique, intermittent and partial. The turbine will not break the skyline when viewed from the footpaths in the valley of the scarp slope but will be set against the backdrop of the hillside and the various farm buildings. This road is used by a small number of local people for walking. It is not a designated trail nor are any significant groups known to use it for public access purposes.

The Cleveland Way and the public right of way route that follows the former railway line are significant public access routes with high levels of use. However they are 2200m and 3500m respectively from the turbine. The turbine has been located so that the convex nature of the scarp slope effectively removes it from the views from these two routes. With binoculars it might be visible from the beach at Robin Hood's Bay, however it will be beneath the skyline and therefore not discernable in the landscape.

The public right of way from Colcroft Farm through to Low Flask Farm is not regularly used by local people. Stiles, gates and the surface of the routes demonstrate little or no evidence of regular use by local people. Accordingly although the turbines may be more distinguishable along these routes because these views are not discordant and there are hardly any users, the visual impact is within acceptable limits.

The application site and the turbine has the potential to be visible by passengers of vehicles using the A171. However these views are very partial, and obscured by undulations in the road and local topography. These partial views are at a distance of over 750m. The views are down the scarp with the turbines set against the agricultural building complex of Hogarth Hall. Against this backdrop and at this distance the turbines will not be distinguishable.

The size and location of the turbines means that beyond 500m they will be visible only with careful study and certainly will not be distinguishable in the landscape. So views from Howdale Moor and Stoney Marl Moor are from at least 1800m distant.

It is considered that evidence has been presented to demonstrate that the proposed wind turbines can be successfully absorbed into the landscape, as they are suitable in scale, form, appearance and are appropriately located.

Openness

The application is for development of two structures located on poles that are similar in height, scale colour and form to many of the structures present in the surrounding landscape.

The landscape character assessment carried out for this application has confirmed that the existing character and amenity of the landscape can be conserved by locating the turbines (and other similar developments) so that they are physically and visually associated with the existing buildings and structures when viewed from the south. In this way the turbines can be erected whilst preserving the openness of the landscape – i.e. the function of the landscape and spaces between buildings can be maintained and open.

The landscape character assessment has confirmed that the visual impacts of the development will be very limited by virtue of the scale and location of the proposals.

The development is proposed to take place within adjacent to an existing agricultural building. No encroachment into productive agricultural land is proposed. No land will be taken from agricultural production.

15.3 Measures to be taken

The site for the wind turbines has been carefully chosen to ensure that it blends into the local landscape and is largely indistinguishable in the landscape from most mid and distant public viewpoints. Where it is distinguishable from close vantage points on the public and private right of ways, the design, scale form and appearance has been selected to ensure that construction and operation on the proposed site will not be intrusive into the landscape.

As part of the care and maintenance of the landscape and as part of the agricultural operations of the farm, the applicant intends to continue to carry out landscape enhancement measures that will include further tree planting and hedgerow replanting along the field boundaries.

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between the site and the A171. The effect of this will be to introduce additional natural screening between the turbines and partial glimpses from vehicle users.

15.4 Conclusion

The visual effects of the wind turbines have been minimised through appropriate siting and design. The application site has been chosen so as to not compromise, conflict or undermine the key purposes for the designation of the National Park. The landscape character assessment and evaluation has demonstrated that the landscape character and amenity of the area can be maintained as open and that no harm to this openness will arise as a result of this proposal. By virtue of the economic, social and environmental benefits of the proposal outlined above, taken together with the demonstration of no harm it is considered that this development is appropriate for the location and purpose for which it is proposed.

This submission has demonstrated that the two small domestic scale wind turbines can be constructed and operated so that they will not adversely affect the integrity, character and value of the local landscape or the purposes for which the National Park has been designated.

16 Access

16.1 Site appraisal

Vehicular access to the application site is via an unclassified public road called Boggle Hole Lane, 250m to the north of the application site. The equipment and construction equipment necessary for the installation of the wind turbines will be brought into the site along this public road. It will then be taken into the fields using farm machinery etc. The cranes/ tele-hoists necessary will also use this public road.

16.2 Existing Public roads/footpaths/bridleways

Public rights of way are variously 500m and 250m distant from the application site.

16.3 Predicted impacts

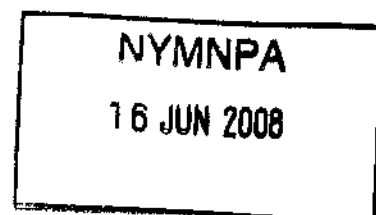
No impacts are predicted on the network of public roads or rights of way.

16.4 Measures to be taken

No additional measures are proposed to be taken

16.5 Conclusion

The proposed development may be carried out without prejudice to the viability or effectiveness of the public highway network.





Hogarth Hall Bat Risk Assessment

Version 1

Report prepared for Mr Pattinson Hogarth Hall

August 2008

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1 Introduction

Mr D Pattinson has applied for planning permission to erect two wind turbines on his land close to Boggle Hole, N. Yorkshire. The wind turbines will each be placed on 9m tall monopoles in a grazed paddock close to his house (at NZ 931 016).

Wind turbines are known to have some potential for killing bats. In the USA and in some European countries there is evidence that migratory species of bat can be killed by turbines that obstruct the migration route. In the UK there is less evidence of direct impact though it is generally understood that there is a potential problem if turbines are situated along flight lines and/or in foraging areas.

This survey was commissioned in order to investigate whether or not the size and position of the proposed tubines are likely to impact upon local bats. It was suggested that an assessment of an area of 50m radius around the turbine positions should suffice.

2 Site Description

The site comprises a collection of agricultural buildings, a residential building and a number of paddocks, hedges and tree lines. The proposed turbine position is in a heavily grazed field to the south of the main house and barns. To the north is a drive/track which is tree lined and to the south and east of the property is mature woodland in the valley. The immediate surrounding area is mostly pastoral with some arable fields. There are some hedges bordering fields.

The site location is shown in Appendix 1 – Location Plan. Appendix 2 contains photos of the site. A detailed description of the structures in close proximity to the turbine site to be impacted upon is given in Table 1.

Table 1 - Details of buildings to be impacted upon

Structure	Description	Potential
Building 1 Farmhouse Appendix 2, Photo 4	Heated residential property. Stone built with tiled roof. Well pointed with no discernible cracks or crevices in walls or roof. The house is approximately 80m to the north of the proposed turbine position.	Low
Building 2 Appendix 2,	A series of barns/sheds. 40m to the north of the turbine positions they are of breeze block and timber	Low

<p>Photos 5 & 6</p>	<p>construction. Roof is corrugated asbestos sheet. Currently used for storage and normal agricultural purposes. Between these structures and the turbine positions is a hedgerow that may have some potential for providing a movement corridor east/west across the site.</p>	
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3 Pre-existing information on bats at the survey site

North Yorkshire Bat Group was consulted for existing records of bats in the area within 2km of the site. No response has been received to date.

4 Survey methodology

4.1 Assessment methodology

The potential of the buildings to support bats was assessed. Bats are active during the hours of darkness but can leave physical signs of their presence that are best seen during daylight hours. The inspection included a systematic search of the buildings for any signs of bats, including droppings and feeding signs. An attempt was made to identify any possible entrance and exit holes, including crevices and small holes.

Where identified, potential access points were/are inspected for signs of polishing, scratching and/ or staining which might have been caused by the presence of bats.

A description of each building was made and features assessed for their suitability for both roosting and feeding bats, photographs were taken of the structures.

Landscape features were assessed in terms of their potential for foraging bats and as flight corridors from potential roost sites.

4.2 Personnel

Paul Lupton carried out the building assessment. Paul is a director of Argus Ecological Services, a member of Durham Bat Group and a Natural England licensed bat worker. He has held numerous Natural England development licenses and has carried out survey work on wind turbine projects.

5 Results

There are no potential roost sites within 50m of the proposed turbine positions other than the barns (building 2). Other buildings can be found within 100m of the positions but these must be considered as being of low risk in terms of their potential to support a bat roost. No physical signs of the presence of bats were found at the buildings surveyed and the structures appear to be either 'bat proof', in the case of building 1, or unsuitable due to the nature of the building materials in the case of building 2. There are no potential tree roosts within the 50m buffer zone with the only trees present being immature or semi-mature.

Building 1

The farm house is a heated domestic structure that has been newly pointed. No potential access points were evident. Given the 'airtight' nature of the building its potential to support bats is low. This building is also outside the 50m buffer zone.

Building 2

Potential for use of the barns by bats is low; the structures have poor thermal qualities and are lacking in suitable structures for roosting and feeding bats.

The breeze block walls are too low to be used by bats and the timber sections offer no roosting opportunities. The roof is fibre-cement sheeting with concrete and steel, providing no spaces suitable for roosting bats.

The interior is very dirty and thick with cobwebs, cobwebs indicate that the structure is not used by bats and would make it unattractive in terms of future use. The concrete supports are covered in dirt and cobwebs and have smooth surfaces making them unsuitable for use by feeding bats.

Although within the 50m zone of one of the turbines, the buildings offer so few opportunities to roosting bats that the potential for negative impact is low.

Flight lines

Most field boundaries are post and wire fences though there are a number of hedge lines and recently planted trees. Within the 50m buffer zone there is a single hedge to the north of the turbines (close to the barns) and a further area of young trees to the east. To the south is a mature hedge (photo 7) which is the only continuous feature immediately to the south of the turbines.

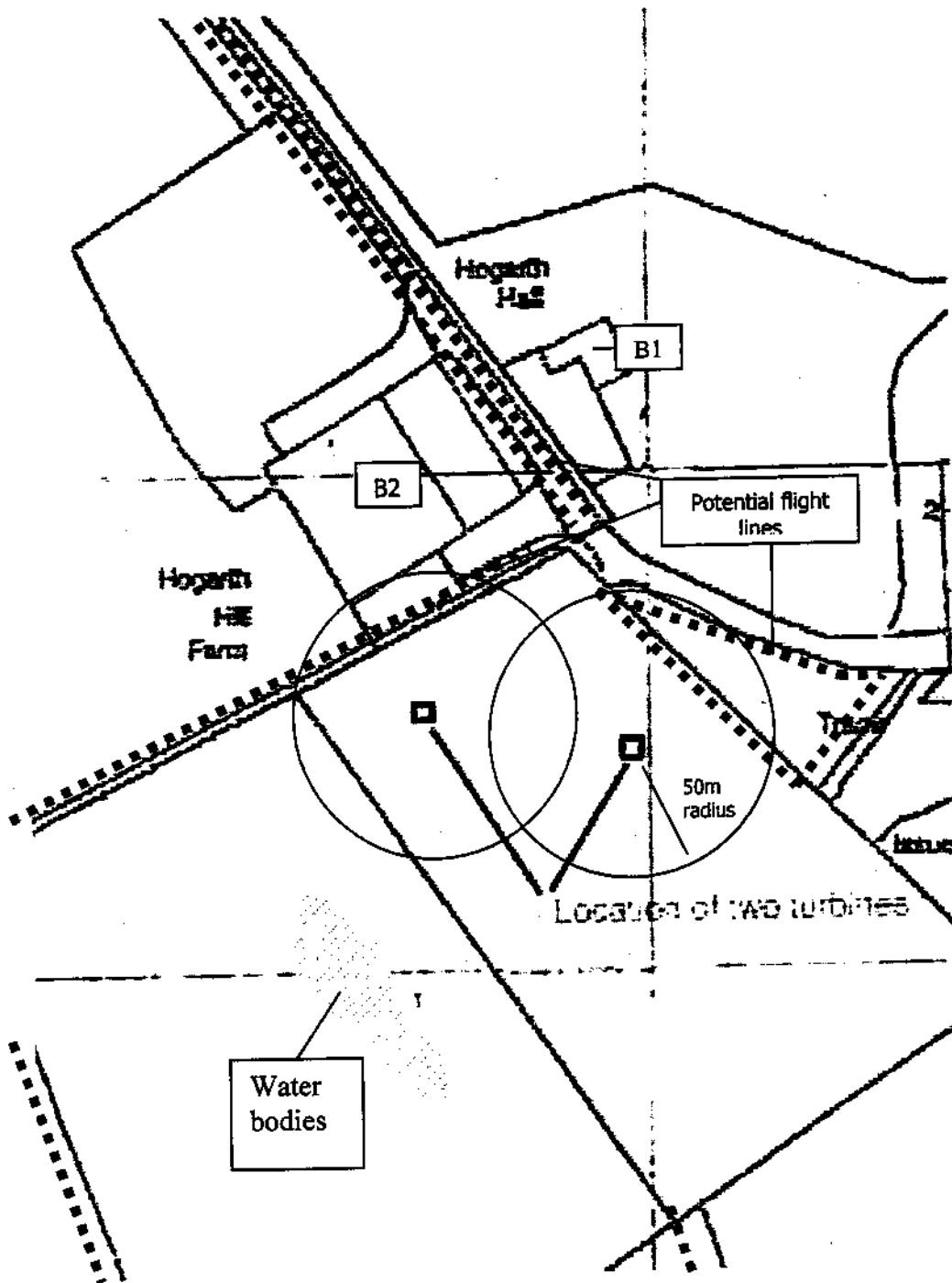
To the north the entrance drive provides a good quality tree lined avenue which you would expect to be used by foraging bats. This line does not continue as far as the field with the proposed turbines. Other than the hedges and young trees already mentioned there are a number of man made ponds to the west which form part of a

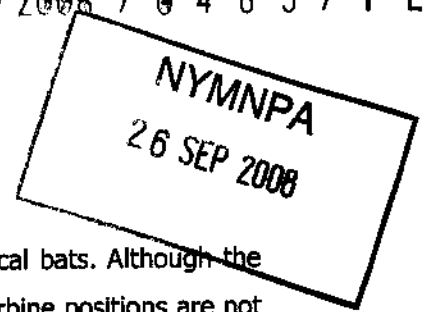
small hydro-electric scheme. They are likely to create a feature that bats may find attractive for foraging. Once again they are outside the 50m buffer zone.

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Figure 1 – Habitat features

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6 Potential Impacts of the turbines

We would not anticipate that the turbines would impact on local bats. Although the 50m buffer zone extends to two possible flight corridors the turbine positions are not along these lines and the field is poor in terms of its potential to provide foraging. All hedges and recently planted tree blocks effectively end at open fields and consequently there is a lack of continuity across the site. This will reduce the value of these potential flight corridors.

We have assessed the buildings as being of low potential as far as bat roosts. The open nature of the site is not conducive to bat movement with the likelihood being that most bat activity will be in the river valley immediately to the south of the site.

7 Conclusion

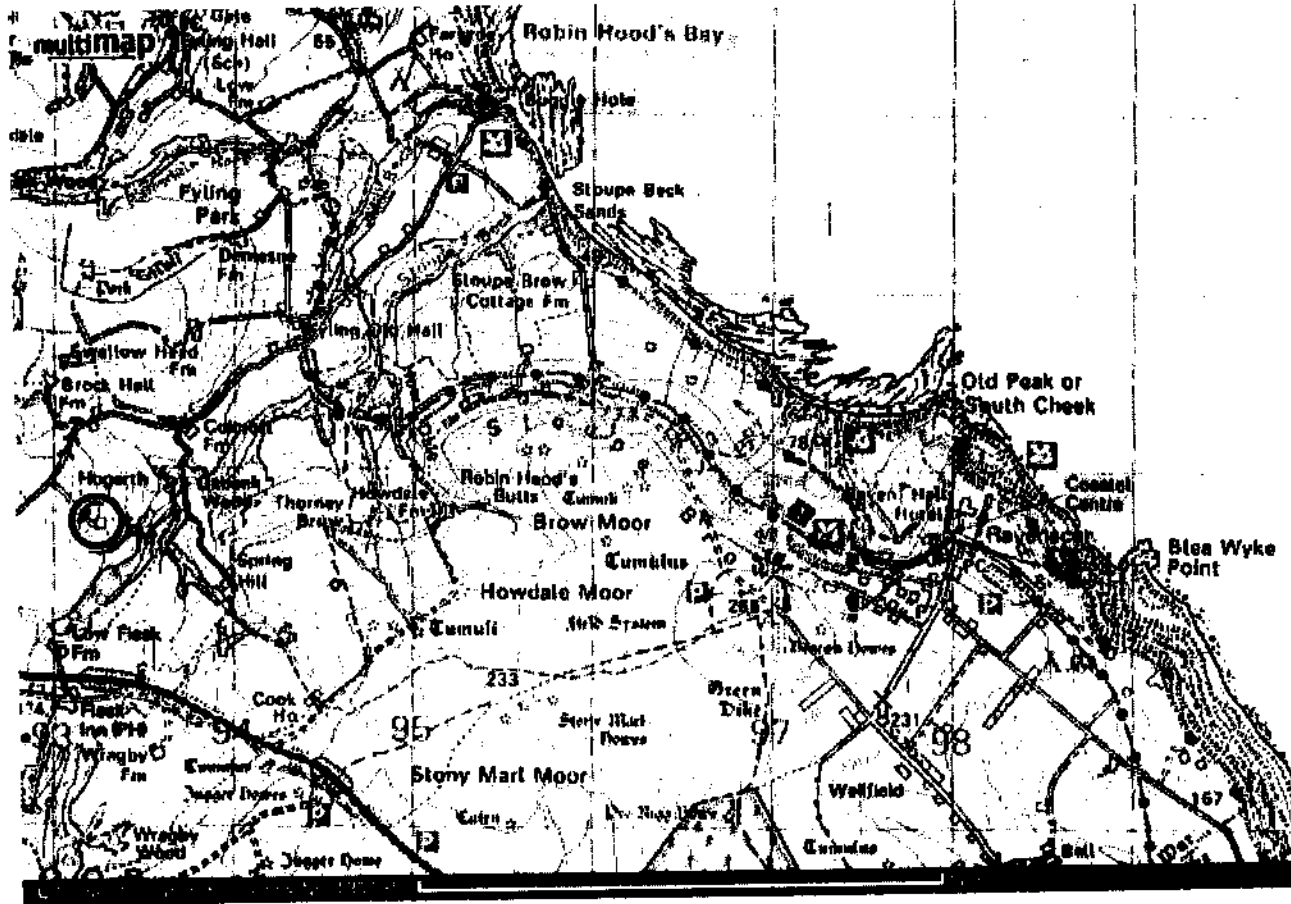
Mr D Pattinson has applied for planning permission to erect two wind turbines on his land close to Boggle Hole, N. Yorkshire.

The proposed turbine positions place them outside any obvious flight corridors though there are a number of potentially useful habitat features within 50m of the turbine positions.

No physical signs of bats were seen during the building assessment. The buildings are low risk in terms of potential for roosting or feeding bats having no features suitable for use by bats.

We would not anticipate any significant negative impacts on the local bat population of this proposed development.

Figure 2. Site Location Plan



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