

APPLICATION NUMBER	CB/10/01359/FULL
LOCATION	The Marston Vale Millennium Country Park, Station Road, Marston Moretaine, Bedford, MK43 0PR
PROPOSAL	Full: Erection of a 120.5 metre high wind turbine and ancillary infrastructure.
PARISH	Marston Moretaine
WARD	Marston
WARD COUNCILLORS	Cllr Roger Baker, Cllr Mike Gibson
CASE OFFICER	Mary Collins
DATE REGISTERED	27 April 2010
EXPIRY DATE	27 July 2010
APPLICANT	Marston Vale Trust
AGENT	
REASON FOR COMMITTEE TO DETERMINE	Councillor Baker request as concerns expressed by Marston Parish Council regarding the height of the turbine.
RECOMMENDED DECISION	Full Application - Granted

SITE LOCATION:

The application site lies at The Marston Vale Millennium Country Park, Station Road, Marston Moretaine. The Forest Centre building sits within the country park and operates as a visitor centre, cafe and office/training facilities. The building is of a modern, almost contemporary design with weatherboarding and a rendered finish. The park has a circular cycle route, horse trail and a wetlands area. The site lies within the Forest of Marston Vale which is one of 12 community forests established by central government in 1991.

THE APPLICATION:

This application seeks permission for the erection of a 120.5 metre high wind turbine and ancillary infrastructure.

The wind turbine will be similar to an Enercon E-70 machine which has a hub height of up to 85 metres, a rotor diameter of 70 metres and a maximum height of 120.5 metres to the blade tip. The turbine will be situated on a slightly raised area of land at 41m AOD.

The proposed wind turbine will require a foundation, comprising stone and concrete measuring 12 metres in diameter

An adjacent area of hardstanding measuring about 22 metres by 35 metres will provide a level and stable base on which to lay the turbine components ready for assembly and erection and to site the crane(s) necessary to lift the tower sections, nacelle and rotor into place.

A construction compound approximately 30 metres by 25 metres will provide a

temporary facility for the storage of equipment and materials during the construction period.

A screening opinion application was submitted earlier in the year and it was established that, in the opinion of the Local Planning Authority, the development does not have significant effects on the environment sufficient to trigger the need for an Environmental Impact Assessment.

RELEVANT POLICY:

National Policy

Planning Policy Statement 1: Delivering Sustainable Development (2005)
Supplement to Planning Policy Statement 1: Planning and Climate Change (2007)
Planning Policy Statement 22: Renewable Energy (2004)
Planning Policy Statement: Consultation – Consultation on a Planning Policy Statement: Planning for a Low Carbon Future in a Changing Climate (2010)
The UK Low Carbon Transition Plan (2009)
The UK Renewable Energy Strategy (2009)
Draft Overarching National Policy Statement for Energy (EN-1) (2009)
Draft National Policy Statement for Renewable Energy Infrastructure (EN-3) (2009)
Planning Policy Statement 5: Planning for the Historic Environment (2010)
Planning Policy Statement 7: Sustainable Development in Rural Areas (2004)
Planning Policy Statement 9: Biodiversity and Geological Conservation (2005)
Planning Policy Guidance 24: Noise (1994)

Central Bedfordshire Council's Core Strategy and Development Management Policies Development Plan Document (2009)

CS3 - Healthy and Sustainable Communities
CS4 - Linking Communities
CS11 - Rural Economy and Tourism
CS13 - Climate change
CS15 - Heritage
CS16 - Landscape and Woodland
CS17 - Green Infrastructure
CS18: Biodiversity and Geological Conservation
DM1 - Renewable Energy
DM4: Development within and beyond settlement envelopes
DM14 - Landscape and woodland
DM15 - Biodiversity
DM16 Green Infrastructure
DM17 - Accessible Greenspaces

Supplementary Planning Guidance

Mid Bedfordshire District Landscape Character Assessment Final Report August 2007.

RELEVANT PLANNING HISTORY

Planning History

MB/97/00807/FULL	Full: Creation of a cycle path and horsetrail around perimeter of site. creation of wetland habitat. Proposed visitor centre (including one wardens flat) and associated car parking and access. Approved:
MB/98/01203/FULL	Full: Erection of visitor centre, construction of car park and pergola. (revision to planning permission ref. 29/97/807 dated 4.11.97). Approved: 03/11/1998
MB/03/01771/ADV	Advertisement Consent: Replacement main entrance sign, 3 no. access road signs (one double sided) and one wall mounted entrance sign on building. Approved: 15/12/2003
MB/04/00183/FULL	Full: Change of use of land for retention of existing shipping container for storage of country park machinery and tools. Approved: 09/04/2004
MB/04/02239/FULL	Full: Alterations to cycle, pedestrian and wheelchair access to Country Park. Approved: 11/02/2005
MB/05/01818/FULL	Full: Erection of temporary meteorological mast up to 30 metres in height. Approved: 12/01/2006
MB/06/02012/FULL	Full: Formation of secure store under existing observation deck. Approved: 23/01/2007
MB/07/00195/FULL	Full: Retention of an existing temporary 30m meteorological mast for a further period of up to two years. Approved: 21/03/2007
MB/07/01136/FULL	Full: Extension to kitchen. Approved: 10/08/2007
CB/09/06918/FULL	Full: Construction of surfaced footpath to the wetlands. Erection of 3 ground level bird hides, 1 tower hide with associated ramp. 3 wooden board walks across wetlands. Approved: 05/02/10

REPRESENTATIONS:

Town/ Parish Councils

Marston Moretaine PC

Object: Believe that the sheer size of the wind turbine will have a major overbearing impact on the visual amenity of the area. The site was always considered to lie within an "area of great landscape value" and whilst the weight attributed to this definition may have changed the site's relationship to some of the best panoramic views from the vale to the surrounding Greensand Ridge; the panoramic views from the ridge across the entire vale, especially those seen from Ampthill Park, will be materially impaired.

Whilst the Council appreciates that wind power is fuel free and has no emissions as opposed to petrol/diesel engines; there are concerns that close residents may be subject to potential noise emanating from the turbine especially during evenings and night time. Local residents are also concerned about light flicker.

Given that the country park is a haven for many different species of home and migrating birds the council express concern over whether the turbine will alter their natural flight. These comments also relate to how bats will relate to the turbine.

Whilst the council are satisfied with the access route proposed for the construction of the turbine; they are unhappy with the alternative access route. By detailing it as an "alternative access route" it gives contractors the ability to use this route as an alternative to the preferred route. It does nothing to discourage them. This would take large vehicles carrying heavy and abnormal loads through the centre of the village close to a doctors surgery , school routes, homes and shops. Manoeuvring would be impossible. There is currently a raised area at the junctions of Bedford Road and Station Road which was installed for traffic calming purposes. There is no doubt that heavy loads will damage this area which will be of detriment to the local area and people. The 7.5 tonne weight restriction for the village will also be breached. The council does not wish to set a precedent for others by allowing unsuitable vehicles through the village.

Not against the Country Park, in principle but feel that structures of this magnitude in scale could set a precedent in an area of regenerated natural habitat.

Houghton Conquest PC
Hulcote and Salford PC

No objections

Size of the wind turbine will have a major overbearing impact on the visual amenity of the area and will detrimentally affect the views from the vale to the surrounding Greensand Ridge; and the panoramic views from the ridge across the entire vale, especially those seen from Ampthill Park.

There are concerns that neighbouring residents will suffer disturbance from the noise generated by the wind turbine.

Given that the country park is a haven for many different species of home and migrating birds express concern over whether the turbine will alter their natural flight. These comments also relate to how bats will relate to the turbine.

Lidlington PC

The turbine will be at a great height and the Council have enormous concerns over this in relation to the impact on local wildlife, including migrating birds that will be hampered tremendously by the turbine.

The turbine's great height will impact on many local residents visually and also through continuous noise pollution generated by the blades. The noise will also impact the wildlife.

If planning permission is granted such an application would set a precedent for the area in the future and the Council are concerned deeply over this and the implications this will have.

The site is very low lying so there appears to be little benefit of the turbine being positioned on such a site in relation to wind exposure.

Considerable concern over the rural country lanes surrounding the site and if permission granted, how

Cranfield PC
Millbrook PC
Ridgmont PC
Stewartby PC

construction vehicles carrying the blades and other materials would access the site without causing significant damage to the roads and verges.

The Council feel that this application must be refused for the above reasons.

No response received

No response received

No response received

No response received

Neighbours

Eight letters of objection received

Response 1.

If approved height of the wind turbine will set a precedent for future applications such as the proposed incinerator by Covanta.

Response 2.

Out of keeping with the area and will face a hazard to wildlife in the area. The noise will cause issues - especially at night when the area is generally quite quiet. This monstrosity will be a carbuncle on the landscape and its size will dominate the skyline for miles around.

Whilst realise the need for greener energy, everything should be in proportion. If the forest centre planned for a smaller more in keeping wind turbine would have no issue, in fact would back the plan.

Response 3.

Too near to bridleway for safety

Impact on existing and migrating birds.

There are maternal roosts of bats within 1 km of the proposed site.

The country park has actively encouraged horse users to the site as it is a "safe environment" to ride in, not on the public highway with all the conflict of horses and cars. This is a circular route and has proved popular especially with children. To meet a 85 metre tall structure with moving blades making a humming noise and possibly creating a shadow flicker will be frightening for the horse and potentially dangerous for the rider and general public.

In conclusion the general amenity of a circular safe route on horseback in the Marston Vale Community Forest (which is at the bottom of a valley) will be compromised if this industrial structure is given permission to be built there.

Response 4.

Stewartby Water Sports Club: The main issue concerning the sailing club is the disturbance to the wind across the southern end of the lake. A wind turbine would have a significant effect on the wind and, while they are used to the fact that environmental factors such as hills and groups of trees affect the wind flow, a wind turbine may contribute extremely variable disturbance across the lake that would be almost impossible to compensate for or to predict. Extreme changes in wind direction, caused by turbulence from the turbine blades, will almost certainly lead to boats capsizing and their members being put at risk.

It should be understood that the prevailing winds within the United Kingdom are from the southwest and the location of the turbine southwest of the most southerly one-third of the lake gives rise to concern.

Any wind effect would seriously impact on the suitability of Stewartby as a venue for sailing events. The club have raised their profile substantially over the past few years. Their work with juniors has led to them being recognised with the award of Volvo champion club status and this year, for the first time in many years, they will host a national championship event.

Apart from the effect this would have on the club's core activity of dinghy racing it would also have a serious impact to the activities of the sailing school. The prevailing winds are usually from the west and the sailing school regularly uses the shelter of the west bank when introducing novices to sailing, particularly on windy days, the disruptive effect a turbine would have to these activities would be hard to imagine.

Whilst supportive of the sustainability aims of the Forrest Centre, who are their landlords, are concerned that, while the plans set out the visual and noise impact on the surrounding area, the submission does not include any assessment of the effect the turbine will have on the use the water sports club has of the lake.

Response 5.

What benefit will the area receive from the wind turbine.

If permission is granted will set a precedent.

The Millennium Park is used by the general public. This area has been restored to its natural beauty. Please don't fill it with these unsightly objects, already fighting proposed incinerator at Rookery Pit. What use will be

imposed on this area of the Marston Vale.

Response 6.

The proposed turbine is out of all proportion with the surrounding landscape and will have an overbearing and dominating effect on the visual amenity of the area. The Design and Access Statement (page 11) describes the environment which the turbine will be sited in very negative industrial terms painting a picture to justify the application. This is the same general area that a planning inspector previously described as an "area of great landscape value". A structure of the size will have a negative effect on some of the best panoramic views in Central Bedfordshire. It will detrimentally affect the views from the vale to the surrounding Greensand Ridge; and the panoramic views from the ridge across the entire vale, especially those seen from Ampthill Park.

Response 7.

The application would result in further environmental noise in the area. Have been near to other wind turbines in other areas and the constant sound of the blades turning is intrusive. There are so many planned projects in this area it is now becoming a platform for anyone to build and develop anything and this is yet another scheme to add to the list. It will invade the village with additional heavy traffic and noise during construction and will invade the environment with the noise produced.

Response 8.

All for sustainable energy sources, however find the wind turbine proposed to be of industrial size and much bigger than is required for the Forest Centre complex. Concerned about the impact it will have on the Marston Vale. The size of the turbine itself will mean it dominate the surrounding landscape.

Two letters of support received

Covanta Energy Limited voice their support for renewable energy projects and raise no objections to the wind turbine application

One letter of support from local resident and frequent user of the Millennium Country Park. Support the idea of erecting a wind turbine as proposed. Not only is this an ecologically sound idea but it will provide a point of interest and set a good educational example, particularly for young visitors. In their opinion (based on experience of wind farms in Mid Wales) wind turbines are dramatic, graceful and aesthetically pleasing. The development would thus complement and enhance the

facilities offered by the Park.

CONSULTATION/ PUBLICITY RESPONSES

Publicity dates

Site notice posted 15/05/10	Response received see above
Application advertised 14/05/10 and 27/08/10	Response received see above

Internal

Highways

Recommend condition attached requiring no development until a Construction Traffic Management Plan (CTMP) has been submitted to and approved in writing by the Local Planning Authority. Please be aware that in providing a condition for the proposal to generate more funding and move forward, do not confirm that the chosen route for the transportation of the turbine or other related traffic is achievable.

Public Protection Team

Recommend approval subject to imposition of conditions regarding noise rating level and amplitude modulation.

Archaeological officer

The area around the proposed site of the turbine contains a number of archaeological heritage assets representing later prehistoric, Roman, Saxon and medieval occupation and agricultural activity. However, the turbine's location has been heavily disturbed by clay extraction and munitions testing in the Second World War. This means that archaeological remains are very unlikely to survive at the site and so construction of the turbine will not affect important heritage assets at the site.

There are a number of Scheduled Monuments within the visual envelope of the turbine. Some of these are mentioned in the Planning Statement (Moat Farm, Marston Moretaine; Ampthill Castle and Houghton House). Other Scheduled Monuments within similar distances from the turbine location are Thrupp End moats and medieval settlement at Lidlington, Old Rectory Moat, Houghton Conquest and Kempston Hardwick Moat. The turbine will impact the setting of the Monuments at Marston Moretaine, Thrupp End, Houghton Conquest and Kempston Hardwick as it will be clearly visible from them. However, these sites are in the low lying clay vale (Marston Vale) and while the turbine will be visible from them, they will not be dominated by the presence of the turbine in the landscape. Ampthill Castle and Houghton House are on the Greensand Ridge and have panoramic views out over the Marston Vale which was part of the reason for their location on the crest of the ridge.

These views will include the turbine which will be clearly visible from the two sites, but the views of it will be relatively distant and again it will not dominate the views. Therefore, although the turbine will have an impact in the setting of the designated heritage assets do not think that the impact will be overwhelmingly detrimental.

On this basis no objection to this application on the grounds of its impact on either buried archaeological heritage assets at the site of the turbine itself or its impact on the setting of designated heritage assets.

Community Paths officer

The proposed location of the turbine will only be 19m away from Footpath 72. Obviously there will be an initial safety fear that the turbine's location is too close to the public footpath, and should it fail and topple, any member of the public using the footpath at the time will be in serious danger.

Other Local Authorities

Milton Keynes Borough Council
Bedford Borough Council

No response received
No response received

Aviation

National Air Traffic Services

NATS (en Route) has no safeguarding objections to the proposal

Civil Aviation Authority

Can advise that the CAA have been previously involved in consultation aimed at attempting to gauge the scale of the turbine at the site.

There are no Luton Airport related concerns
The council will need to take into account comments from Cranfield Airport.

Ministry Of Defence - Defence Estates
(Ops North)

No safeguarding objections to this proposal. In the interests of air safety request that the turbine is fitted with aviation lighting. All turbines should be fitted with 25 candela omni-directional red lighting at the highest practicable point.

London Luton Airport Operations Ltd
Cranfield Airport

No response received
No response received

Telecommunication

Anglian Water

As the windfarm has the potential to affect Anglian Water Services business microwave and UHF radio communications links, object to the application subject to the detailed analysis and possible mitigation

Home Office

No response received

National Telecommunications Limited

No response received

Wind Farm Site Clearances (OfCom)	No response received
Central Networks	No response received
Crown Castle UK Ltd	No response received
One2One	No response received
BT Cellnet Limited	No response received
Orange	Would not impact on any EE (Orange) microwave links.
Virgin Mobile	No response received
Cable & Wireless	No response received
O2 UK	No response received
T-Mobile (UK) Limited	No response received
Vodafone Ltd	No response received
The Joint Radio Company Ltd	Objects to the proposed wind turbine/wind farm on behalf of EON Central Networks and itself.
Radio solutions	No response received
EDF Connections	No response received

Landscape/ Visual

Natural England	Based on the information provided does not object to the proposals subject to mitigation being carried out as described in the Ecological Assessment and Ornithology Report and that planning conditions are attached to any permission to cover concerns.
Wildlife Trust	No comments on the impacts on County Wildlife Site as the impact has been assessed appropriately and Natural England will be looking at protected species issues.
Garden History Society	No response received
Bedfordshire Garden Trust	No response received
English Heritage	Have concern that proposal will adversely impact on the setting of a number of highly graded heritage assets specifically Amptill Park House, Amptill Park, Houghton House, Millbrook Conservation Area and Stewartby Conservation Area. On the basis of the limited information provided to date, it would appear that the proposed turbine would break the skyline in a number of views from key heritage assets and this coupled with the movement associated with turbines, will exacerbate the impact of the turbine on the setting of a number of heritage assets both in the vale and along the Greensand ridge.
CPRE Bedfordshire	Awaiting reply on additional information received. CPRE is fully aware of the need to conserve energy, reduce carbon emissions and to develop renewable sources of energy generation. In principle it supports a policy which aims to bring about an increase in renewable energy generation which is efficient in terms of carbon saving and investment cost.

However CPRE also has a duty on behalf of the whole nation to ensure that any loss of amenity due to adverse environmental impact on the countryside is proportionate to the level of benefit.

The Landscape Character Assessment study for this area of Central Bedfordshire acknowledges that in landscape terms the area has suffered a period of decline due to past industrial activities but also records that it is an “improving landscape”. This is not only due to the end of major industrial activity but also natural ecological regeneration plus a conscious effort on behalf of local authorities to reinstate the rural character of the area.

While only rating the area as *moderately sensitive to change* it does emphasise that change could have a strongly adverse impact on features such as the adjacent Greensand Ridge.

It also points out that change could impact on the setting of the listed brickworks chimneys.

In this context the proposed turbine would produce an adverse impact on this setting in the long view.

CPRE is of the view that this proposal would serve to reverse the process of improving the rural character in this area of Bedfordshire and would reduce the level of amenity benefit to the community. On balance believe that the potential benefits in terms of renewable energy are considerably outweighed by the overall harm to the rural quality of the area.

CPRE is opposed to this application and recommends that it be refused.

Chilterns Conservation Board

No comments to make. The application is not one on which the board would generally comment. It limits its input on planning applications to commenting on those which are considered to be the most significant type (either in scale or potential impact on the AONB) or which would set a dangerous precedent.

In all cases, however, the principles detailed in the Chilterns AONB Management Plan, the Chilterns Buildings Design Guide and Supplementary Technical Notes on Chilterns Building Materials (Flint, Brick and Roofing Materials) should be applied.

Footpaths/ bridleways

Ramblers Association

No response received

Other

Royal Society for the Protection of Birds	No response received
Environment Agency	Support the monitoring of bats that is proposed for the first two years of operation and this information will be valuable in contributing towards current knowledge of the impacts of wind turbines on bats.
Bat Conservation Trust	No response received
Bedford Group of Drainage Boards	No response received
Highways Agency	As the application will not have a material impact on the A421 trunk road do not wish to comment on the application

DETERMINING ISSUES

The main considerations of the application are;

1. Policy and principle
(incl wider benefits, CO2 reduction etc)
2. The impact of the development upon landscape character
3. Cultural heritage and archaeology considerations
4. Ecology considerations (birds, mammals, bats etc.)
5. The effect on the residential amenity of nearby residents
(noise, shadow flicker and visual impact)Hydrology/ geology/ flood risk/ contamination
6. The impact of the development upon the Millennium Country Park
7. The effects upon the enjoyment of the countryside by members of the public, including those using local rights of way
8. Telecommunication considerations
9. Aviation considerations
10. Traffic generation and access
11. The effects upon the enjoyment of the countryside by members of the public, including those using local rights of way
12. De commissioning

CONSIDERATIONS

1. Policy and principle

Sustainability and climate change, and the need to increase renewable energy generation and reduce carbon emissions, are key components of current planning policy. Therefore this must carry considerable weight in determining the application. The development will contribute towards the renewable energy and carbon reduction targets for Central Bedfordshire and should be encouraged in accordance with the national, regional and local policies specified. Tackling climate change is a key Government priority. Accordingly, the planning policy context, at all levels, is supportive of renewable energy schemes.

PPS 22 specifically deals with renewable energy. It promotes and encourages

the development of renewable energy resources and it notes that small-scale projects can provide a limited but valuable contribution to overall outputs of renewable energy and to meeting energy needs both locally and nationally. Planning authorities should not therefore reject planning applications simply because the level of output is small.

The Core Strategy and Development Management Policies Development Plan Document 2009 takes a positive approach to renewable energy developments in line with guidance set out in PPS1 Supplement and PPS22.

Policy DM1 states that the Council will consider favourably proposals for renewable energy installations, provided that they fit the following criteria:

- Have good accessibility to the transport network;
- Not be harmful to residential amenity, including noise and visual amenity;
- Be located and designed so as not to compromise the landscape and scenic beauty of the Chilterns AONB;
- In other areas identified through the Landscape Character Assessment as having high sensitivity, be located and designed so as to respect the character of the landscape.

In terms of the above criteria:

- The site is close to the transport network;
- The impact on residential amenity shall be assessed later in the report;
- The site is not located so as to compromise the landscape and scenic beauty of the Chilterns AONB;
- The Mid Bedfordshire District Landscape Character Assessment (August, 2007) characterises the landscape as the North Marston Clay Vale (5d). The overall landscape character sensitivity is considered to be moderate. In visual terms, the report notes that the landscape is considered to be moderately sensitive to change. The impact on the character of the landscape shall be assessed later in the report.

The principle of development is therefore considered to be acceptable, subject to the detailed considerations below.

2. The impact of the development upon landscape character

The application site lies within the North Marston Clay Vale (5d) which is not identified as being of high sensitivity.

The sensitivity is considered to be moderate. The landscape is highly disturbed as a consequence of mass clay extraction. Nevertheless, the area does contain a number of individual sensitive features. The overall process of landscape restoration, in particular establishment of the Forest of Marston Vale is also critically important.

The Mid Bedfordshire Landscape Character Assessment describes the visual sensitivity of the North Marston Clay Vale as a flat, open landscape offering extensive views - any development/significant change within the vale is

therefore likely to be visible.

The most visually sensitive areas of the vale are those that border the prominent landform of the adjacent Woburn and Maulden Wooded Greensand Ridge (6a and 6b) and the Cranfield to Stagsden Clay Farmland (1a) where the landform (and wooded) contrast with the vale is dramatic (and where much of the base of the slope has remained free from development). Visual sensitivity in the vale is likely to reduce, in time, as newly planted woodland matures to reduce the extent of views.

In terms of landscape strategy this is a landscape that has been disturbed and interrupted due to industrial activity, urban fringe development and the presence of major transport corridors. As a result the character of the landscape has become highly fragmented. The overall strategy is to continue to enhance/renew the landscape of the Marston Clay Vale. In addition, the history of mineral extraction provides opportunities to create new landscape character - as is evident through large scale restoration.

Development considerations outlined in the Mid Bedfordshire District Landscape Character Assessment are to conserve the open character of the vale and the important views of the Wooded Greensand Ridge (6a and 6b) and the Cranfield to Stagsden Clay Farmland (1a). Also to conserve the unique, historic character of Stewartby and conserve the Stewartby chimney stacks as landmark features.

There are views of the Marston Vale from the higher ground of the Greensand Ridge to south and east. The Mid Greensand Ridge (6b) is considered to have a high character sensitivity and in visual terms the landscape is considered to be moderate to high sensitivity to change.

There will also be views from the Clay farmland and the Cranfield to Stagsden Clay Farmland (1a) to the west. The overall landscape character of the Cranfield to Stagsden Farmland is judged to be moderately sensitive, whilst in visual terms the landscape has moderate to high sensitivity with the areas of highest visual sensitivity being the areas of open elevated plateau at the crest of the subtle valleys, areas of open gently rolling landform and the slopes abutting the North Marston Clay Vale (5d)

The landscape impacts arising from installation of a wind turbine involve primarily visual disruption, changes to landscape character and loss of tranquillity (which includes visual disturbance as well as noise) .

There is very little guidance available to help assess the appropriateness of a wind turbine or wind farm in it's landscape setting. It is generally accepted that individuals have a personal response to wind turbines but their general acceptability is greatly determined by the scale of the setting .

The turbine will be a prominent feature in the vale punctuating the skyline but its physical structure and movement is not considered to detrimentally disrupt important landscape panoramas or distinctive countryside. The turbine is sited relatively centrally within the vale and away from the visually sensitive areas of the vale that border the prominent landforms of the Greensand Ridge to the south/east and the Clay farmland to the west. The turbine will not detrimentally disrupt views of these distinctive landforms.

There will be views of the turbine from these vantage points but as it is sited away from the slopes of these landforms, views will be distant.

There will be views from the north from the Bedford by pass along the vale of the wind turbine. The existing chimneys at Stewartby are clearly visible being 70-80 metres high. There are also the Cardington Sheds clearly visible in this part of the vale. They are enormous, dominating the skyline for miles around and measuring 247 metres x 84 metres x 55 metres. The vale has a number of strategic routes through it and lines of pylons which punctuate the skyline.

The application has been accompanied by a ZTV map (Zone of Theoretical Visibility). This is a map which shows the theoretical visibility of a turbine from specified grid squares and assumes bare ground with no screening by intervening buildings or vegetation.

The tips of the blades can theoretically be seen from the Area of Outstanding Natural Beauty (The Chilterns) and from Harlington. However due to the intervening distance it is likely that the introduction of a single turbine more than 11km away where views are likely to be screened by intervening vegetation and buildings would not harm or adversely affect the Chilterns AONB.

There will be views from the key transport routes within 10 kilometres of the turbine. Views of the turbine from the wider environment and from main routes will be intermittent.

The turbine will be a tall modern feature with a sculptural form with clear views of it. It has a relatively slim profile being approximately 5 metres in diameter at the base decreasing to 4 metres at the junction with the hub. It is not considered to represent an overly intrusive feature in the landscape.

3. Cultural heritage and archaeology considerations

The proposal will be visible from a number of heritage assets (i.e. Scheduled Ancient Monuments and Conservation Areas). Provided the conclusions on the impact on these heritage assets are supported by other consultation bodies, the proposal will accord with PPS5, PPS22 and Policy CS15.

Wind turbines are far greater in vertical scale than most historic features and where an historic feature such as a hilltop monument or fortification, a church spire, or a plantation belonging to a designed landscape) is the most visually dominant feature in the surrounding landscape the construction of a turbine adjacent to them may be inappropriate. In this instance the Church at Marston Moretaine and the chimneys at Stewartby are the tallest structures within the immediate vicinity. Although of a larger scale the turbine has a modern slimline look and will not compete visually or dominate these listed structures. In this case the solitary wind turbine is not considered to be visually detrimental.

Certain archaeological or historic landscape features were intended to be seen from other historic sites. There is no intervisibility between historic sites across the vale that will be affected by the proposal. The turbine does not detrimentally disturb any vistas and sight-lines from designed landscapes and

does not affect key panoramas.

The movement, sound or light effects associated with wind turbines as well as their scale may be a significant issue in certain historic settings. In this instance adequate distance has been provided between the turbine and the conservation areas at Millbrook and Stewartby and Ampthill Park to avoid these sites being overshadowed or affected by noise and shadow flicker effects.

Due to the changes that have taken place in the vale, there are few historic sites that have remained unaltered in their settings that would be especially vulnerable to modern intrusions such as wind turbines.

There are a number of highly graded heritage assets. There are a number of Scheduled Monuments within the visual envelope of the turbine. Some of these are mentioned in the Planning Statement (Moat Farm, Marston Moretaine; Ampthill Castle and Houghton House). Other Scheduled Monuments within similar distances from the turbine location are Thrupp End moats and medieval settlement at Lidlington, Old Rectory Moat, Houghton Conquest and Kempston Hardwick Moat. The turbine will impact the setting of the Monuments at Marston Moretaine, Thrupp End, Houghton Conquest and Kempston Hardwick as it will be clearly visible from them. However, these sites are in the low lying clay vale (Marston Vale) and while the turbine will be visible from them, they will not be dominated by the presence of the turbine in the landscape. Ampthill Castle and Houghton House are on the Greensand Ridge and have panoramic views out over the Marston Vale which was part of the reason for their location on the crest of the ridge. These views will include the turbine which will be clearly visible from the two sites, but the views of it will be relatively distant and again it will not dominate the views. Therefore, although the turbine will have an impact in the setting of the designated heritage assets it is considered that the impact will be not overwhelmingly detrimental.

4. Ecology considerations (birds, mammals, bats etc.)

The application site is sufficiently removed from any statutory designated sites for nature conservation to ensure that impacts to special interest features will be negligible.

The application site is immediately adjacent to a number of County Wildlife Sites and an area of 0.08 hectares will be lost from Stewartby Lake CWS through the development footprint.

The Ecology Report describes the habitat to be affected as being of comparatively low ecological quality and proposes mitigation of detailed botanical surveys that will feed into the ongoing management plan for the site for future years. Provided that this is the case and that any losses can be compensated for by enhanced management on adjacent land, it is considered that there will be no overall net loss of habitat in the longer term.

A number of species that reside in the CWS, especially birds, bats and great crested newts are potentially affected by the proposal.

Birds

Breeding and overwintering surveys have revealed that the site is used by a variety of wildfowl, raptors and wintering flocks of gulls, several of which are noted as being Biodiversity Action Plan (BAP) priority species, or RSPB Species of Conservation Concern. The presence of Hobby as a likely local breeding species and the use of the site by large flocks of wintering Lapwing and Gulls are of particular note.

The potential impacts of the proposal are mainly through direct habitat loss, displacement and collision risk. The development footprint is relatively small and given the abundant alternative grassland and scrub nesting and foraging habitat in the vicinity, it is unlikely that bird populations will be impacted through this loss in the longer term. The proposals include mitigation through adjusting the scrub management regime on the site so that alternative habitat can be encouraged elsewhere. Disturbance displacement through construction and operation of the turbines is assessed in the report as being of low magnitude and Natural England are satisfied with this conclusion.

With regard to collision, the report describes that the notable raptor species using the site (such as Hobby and Red Kite) are unlikely to be at risk due to the limited time that they were observed utilising the proposed turbine site, and the manoeuvrability of these species in the air. Given the relatively small scale of the development, the impacts to these species are more likely to be through a limited amount of displacement rather than collision.

Following discussions with the applicants ecologist, Natural England received further justification as to the lack of Collision Risk Modelling (CRM) in the Ecology Report, specifically with regard to Lapwing and Gulls, both of which are recorded in substantial numbers at the site. Whilst CRM is useful in providing a baseline for predicted collisions for some species, the applicants ecologist deemed that the model is not robust enough to accurately cover the behaviour of flocking species such as Lapwing and Gulls, and would provide a substantial over-estimation of collision risk. Experiences on other wind farm sites has shown that Lapwing will instead modify their behaviour to avoid the turbine, and utilise other airspace to carry out their large wheeling movements, at no known detriment to the individuals concerned. In addition to this, the movement of Gulls across the site was not modelled as the main flight paths did not pass through the proposed turbine location.

The mitigation procedures outlined in the Ecology Assessment are acceptable to Natural England who recommend that details of any bird strikes and general observations of birds interacting with the turbine should be recorded as part of a monitoring program enforced by way of a planning condition

Bats

The Ecology report highlights that a series of automated surveys have been carried out at the site over the summer of 2009. The basis for a two monitoring program is outlined (page 43 of the Ecological Assessment) which will include further automated data gathering and dawn corpse searching.

There is some ambiguity over the number of Noctule that are actually using the site between August, September and October. Natural England recommends that prior to the erection of the turbine an estimation of the bats

on the site should be made by a suitably experienced observer during these key months and that this information should be used in conjunction with annabat data as a baseline to judge the future monitoring results against.

The bat monitoring program should feed into turbine operating procedure, so that if certain times of the year or specific weather conditions are found to increase the risk of bat mortality, the turbines can either be shut down for periods of the night, or be set to only operate at higher wind speeds. This should be sufficient to substantially reduce any remaining risks to local bat populations.

Further to this as the site is used by the public, there should be clear protocol in place to ensure that observations by visitors are reported to a single point of contact, so that they can be logged and fed into the monitoring program (eg if a visitor finds a dead bat/bird, or observes bats/birds interacting with the operating turbine).

Natural England recommend that a condition is imposed requiring a detailed Ecology Monitoring Program prior to any construction activity.

Other species

The Ecology report also highlights potential risks to badgers, great crested newt, reptiles and priority BAP invertebrates as a result of habitat loss and disturbance during construction activities. Natural England are satisfied with the mitigation procedures outlined on pages 33 and 34 of the Ecology Assessment and recommend a condition is imposed to ensure the mitigation measures are carried out.

The proposal is located within a County Wildlife Site. The conclusions of the Planning Statement and Ornithology Report with regards to the impacts on habitats, birds, bats and other local fauna are supported by Natural England and the proposal is considered to accord with policies CS18 and DM15.

5. The effect on the residential amenity of nearby residents (noise, shadow flicker and visual impact)

The main properties which might be affected are the properties on Station Road to the south west

Outline planning permission has also been granted reference MB/06/00593/OUT for residential development off Bedford Road for a mixed use development comprising approximately 480 dwellings, 3 hectares of B1 employment use, primary school, local centre, community sports hall and other engineering operations (all matters reserved except means of access)

The main ways in which they might be affected are: noise; shadow flicker and visual impact.

Noise

PPS 22 notes that renewable technologies may generate small increases in noise levels, such as aerodynamic noise from wind turbines. The local

planning authority should ensure that renewable energy developments have been located and designed in such a way to minimise increases in ambient noise levels and the 1997 report by ETSU for the Department of Trade and Industry should be used to assess and rate noise from wind energy development.

The Council's Public Protection team have recommended that two noise conditions, one for noise rating level and one for amplitude modulation are attached to mitigate against noise. The proposal is therefore considered to be acceptable in this respect.

Shadow flicker

Tall structures such as wind turbines cast shadows, which vary in length according to the sun's altitude and the position of the sun's azimuth (bearing).

PPS22 states: Under certain combinations of geographical position and time of day, the sun may pass behind the rotors of a wind turbine and cast a shadow over neighbouring properties. When the blades rotate, the shadow flicks on and off; the effect is known as "shadow flicker". It only occurs inside buildings where the flicker appears through a narrow window opening. A single window is likely to be affected for a few minutes at certain times of the day during short periods of the year.

Guidance on shadow flicker is included in Planning for Renewable Energy, A Companion Guide to PPS22, which states that "Flicker effects have been proven to occur only within ten rotor diameters of a turbine." Therefore in this instance as the rotor diameter is 70 metres all residential properties within 700 metres of the proposed turbine have been considered in the Noise and Shadow Flicker Assessment.

Furthermore, the path of the sun in the UK is such that only properties within 130 degrees either side of north, relative to the turbines can be affected at the latitudes within the UK. Turbines do not cast long shadows on their southern side.

Two properties were considered by the report to be affected by shadow flicker. One being the first floor residential accommodation at the Forest Centre being 425 metres west of the turbine and a property on the new development approximately 690 metres west and shown on the developers master plan as 19. The predicted shadow flicker effects are the theoretical worst-case scenario. The evidence submitted with the application suggests that potential impacts from noise and shadow flicker at the Bedford Road, Marston Moretaine development could be mitigated through design and landscaping. If permission is granted, noise and shadow flicker will need to be monitored and an appropriate condition set in place to mitigate against this.

The guidance document, 'Onshore Wind Energy Planning Conditions Guidance Note', commissioned by the Renewables Advisory Board notes that where it has been predicted that shadow flicker effects may occur in theory, a local planning authority may consider it appropriate to impose a planning

condition to provide that wind turbines should operate in accordance with a shadow flicker mitigation scheme which shall be submitted to and approved by the local planning authority prior to the operation of any wind turbine unless a survey carried out on behalf of the developer in accordance with a methodology approved in advance by the local planning authority confirms that shadow flicker effects would not be experienced within habitable rooms within any dwelling.

Visual impact

As already acknowledged, PPS 22 notes that, 'Of all renewable technologies, wind turbines are likely to have the greatest visual and landscape effects (para. 20).

The impact of the loss of an open view will vary with the Receptor and with their experience of the landscape – but for many people the introduction of movement, rather than just the height of the turbine may be highly intrusive.

The turbine would measure up to 85 metres to the hub, with a maximum ground to tip height of 120.5 metres. The main base of the turbine will be 85 metres tall and stationary whilst the upper section and the three blades mounted onto the hub moving.

The turbine will be seen especially from properties along Station Road to the south west and from Station Lane to the south. From these properties the turbine is likely to be visible but may be partially screened by intervening vegetation in close proximity to the properties.

The turbine would be visible from the properties to the west in Bedford Road and the dwellings in the roads off the east side of Bedford Road. The turbine will also be visible from the new residential development given outline consent off Bedford Road. From the rear of some of these properties the full extent of the turbine will be visible. From others the turbine is likely to be screened by intervening properties and only a section of the turbine will be visible.

Given the height and slimline appearance of the turbine, it is not considered that it would appear overbearing to these properties and therefore their residential amenity would not be affected. Overall, in terms of the impact upon the residential amenity of nearby properties, the proposal is considered to be acceptable.

6. The impact of the development upon the Millennium Country Park

The site is designated as an area of Open Space, Sports and Recreation on the LDF proposals Maps (November 2009).

The construction compound is to be situated to the south east of The Forest Centre and alongside the existing footpath through the wetlands area of the site in the events field.

The construction compound is approximately 30 metres by 25 metres will provide a temporary facility for the storage of equipment and materials during the construction period. There will be an office, tool store, welfare, wet stores,

generator, fuel etc but these are shown indicatively only as the final requirements of the contractors may vary. No elevational details have been provided for the buildings but most will be portacabins or storage containers between 2.5 to 3 metres high. Surface vegetation and soil will be removed from the area and overlain by compacted stone to a depth of 500mm.

It is inevitable that there will be some disruption to the tranquil setting of the park and the loss of some open space during the construction period of such a structure. The construction phase of the development will take a maximum of three months (Planning Statement page 9) and as such it is considered that the construction compound would not be harmful to the longer term setting of the park.

The crane pad will be constructed close to the turbine and will be retained throughout the lifetime of the turbine to allow replacements of major components if required. The crane pad will be of geo-grid overlain with compacted stone and covered in limestone chippings which will promote the colonisation of species associated with calcareous habitats for which the Stewartby Lake. The hardstanding may be used for the decommissioning of the turbine. As such the hardstanding is not considered to be detriment of the visual amenities or biodiversity of the surrounding area.

The turbine will be in full view from The Forest Centre as it is sited on slightly higher ground on the edge of Stewartby Lake. With the full extent of the turbine visible, it is considered that the sculptural form of the turbine would not be unduly prominent in the landscape but would be in full view of the visitors to the Forest Centre.

The proposal is not considered to adversely affect existing accessible green space and accords with Policies CS3 and DM17.

7. The effects upon the enjoyment of the countryside by members of the public, including those using local rights of way

The public rights of way network is an important recreational resource for walkers, cyclists and horse riders. It forms an essential part of an integrated transport system. The routes and status of these paths are legally protected and there are legal powers available to protect the public's right to use these paths, including the prosecution of anyone who willfully obstructs a right of way.

The Public Footpath that is affected by the proposal is Public Footpath No. 72 from which the proposed location of the turbine will only be 19m away. Obviously there will be an initial safety fear that the turbine's location is too close to the public footpath, and should it fail and topple, any member of the public using the footpath at the time will be in serious danger.

Unfortunately there appears to be no guidance, either locally or nationally that relates to minimum distances turbines should be from Public Footpaths. The Companion Guide to PPS 22 (para 57) says "There is no statutory separation between a wind turbine and a public right of way. Often fall over distance is considered an acceptable separation, and the minimum distance is often taken to be that the turbine blades should not be permitted to oversail a public

right of way."

Cases of wind turbines collapsing or blades coming off are very rare but not totally unknown. In this instance the nacelle will not oversail the public footpath. Areas closer to the turbine will be accessible to members of public using the park. The fall over distance is height measured to the blade tip. This means that there will be a section of the public footpath that will fall within this 120.5 metre area. However as this distance represents a small section of the footpath, the turbine is not considered to detrimentally affect the enjoyment of walkers.

A horse trail will pass within 93 metres of the turbine and runs alongside the public footpath. The British Horse Society, which provides national guidance on equine matters including Rights of Way related bridleway issues, has produced advisory notes for developers and local authorities regarding wind turbines in the vicinity of routes for riding.

The Society believe that horses may react adversely to the rotors of the wind turbine which will cast a shadow on the ground which the horse is being asked to cross; horses may also be frightened by the blades starting to turn while in a horse's sight line and by the noise from the turbine.

In this instance as the turbine is sited to the north of the horse trail the turbine will not cast a shadow over the horse trail.

In the advisory notes it is suggested that there should be a separation distance of three times the overall height of the turbine between the riding route and the turbine itself. If this is to be implemented in this case, the turbine would need to be moved a further 268m away to comply with the guidance. The Companion Guide to PPS 22 states at para 56 that the British Horse Society has suggested a 200 metre exclusion zone around bridlepaths to avoid wind turbines frightening horses but goes on to say that this is not a statutory requirement.

In this instance the horse trail within the park is not a formal adopted or permissive bridleway but is a recreational facility which does not link up to any wider bridleway network. It is used by local riders, and it is considered that regular users of the park will be accustomed to the turbine and the applicant confirms that warning signs will be installed highlighting its presence.

The turbine and its foundation will not impinge on the surface of the nearby Public Footpath, it may require the path itself to be temporarily closed during the period of construction. This may also be the case for the construction of the new hard standing in the Event's Field. Should this be the case, it is imperative that the applicant contact the Rights of Way Team at the earliest opportunity to ensure that the path is legally closed and the public are prevented from accessing the site.

National Cycle Route 51 passes though the site. There is also a cycle path that runs around the perimeter of the site. The proposal is not considered to be detrimental to the enjoyment of the cycle paths.

Sailing club

The sailing club lies to the north of the application site and the turbine will cast a shadow over the lake and a shadow flicker effect may also occur. This is not considered to be detrimental to the users of the lake.

Concern has been raised that the turbine could disturb the wind across the southern third of the lake and that a wind turbine may contribute extremely variable disturbance across the lake that would be almost impossible to compensate for or to predict. The concern is that extreme changes in wind direction, caused by turbulence from the turbine blades could lead to boats capsizing and members being put at risk.

The prevailing winds within the United Kingdom are from the south west and the location of the turbine is to the south of the lake could interrupt the prevailing winds to the detriment of sailors.

Wind speeds vary with height above the ground and due to the height of the turbine above the surface of the lake, the impact of the turbine may not be detrimental on the winds that the boats would utilise. The lake is large being approximately 1km long by 1/2km wide and it is considered that the siting of the turbine and any associated wind disturbance will only affect a small area to the south west of the lake.

8. Telecommunication considerations

Wind turbines can potentially affect electromagnetic transmissions blocking or deflecting line of sight radio or microwave links or by the "scattering" of transmission signal.

With regards to the impact of turbines on airport operation, radar and aircraft, PPS 22 notes that it is the responsibility of developers to address any potential impacts, taking account of Civil Aviation Authority, Ministry of Defence and Department for Transport guidance in relation to radar and aviation, and the legislative requirements on separation distances, before planning applications are submitted (para 25).

The accompanying Design and Access Statement indicates that the applicant has undertaken work on this aspect of the proposal. Consequently, National Air Traffic Services have confirmed that they have no safeguarding objections to the proposal, London Luton Airport have confirmed that they have no safeguarding objections to the proposal and the MOD have noted that they have no objection to the proposal.

The Joint Radio Company Limited analyse proposals for wind turbine sites on behalf of the UK Energy Industry. It assesses their potential to cause interference to radio systems operated by Energy Industry Companies in support of their operational requirements for safety management of critical national infrastructure.

The Energy Industry considers that any wind energy development within 1km of a link operating below 3 GHz or 0.5 km of a link operating above 3 GHz requires detailed coordination. Unfortunately, part (or all) of the proposed

development is located within 1km/0.5km of a protected link site or path managed by The Joint Radio Company. As a consequence JRC objects to this proposal on behalf of EON Central Networks and itself. There is also an objection from Anglian Water.

A condition will be attached to ensure that further investigation is undertaken and that adequate mitigation is undertaken once the final design of the turbine is known to ensure that there are no adverse impacts on telecommunications.

9. Aviation considerations

Wind turbines like any large structure can potentially affect electromagnetic transmissions blocking or deflecting line of sight radio or microwave links or by the "scattering" of transmission signals and can affect systems concerned with aviation and radar. These effects can cause turbines to appear on returns on radar systems representing "clutter" for air traffic control services and degrading the signal when tracking aircraft through an area of a wind farm.

Consultations have confirmed that there are no detrimental impacts on aviation.

In the interests of air safety a condition will be imposed to ensure that the turbine is fitted with aviation lighting. All turbines should be fitted with 25 candela omni-directional red lighting at the highest practicable point.

10. Traffic generation and access

There is an existing access to the Millennium Country Park off Station Road, Marston Moretaine and a plan showing the proposed and alternative access routes have been submitted. 23445-r18a.dwg pattn and 23445-E006b stanm. The Design and Access Statement identifies certain locations on the route where there could be potential pinch points for abnormal loads. However tracking diagrams have not been submitted.

The Council's Highways Consultants have accepted that in the absence of tracking plans that a condition can be imposed to ensure that no development shall take place until a Construction Traffic Management Plan (CTMP) has been submitted to and approved in writing by the Local Planning Authority. The CTMP shall include proposals for construction vehicle routes, site accesses, the management of junctions with, and crossings of, the public highway and other public rights of way, the scheduling and timing of movements, details of escorts for abnormal loads, temporary warning signs, temporary removal or replacement of highway infrastructure/street furniture, reinstatement of any signs, verges or other items displaced by construction traffic, and banksman/escort details. The development shall be carried out in accordance with the approved CTMP including any agreed mitigation measures and reinstatement/improvements of the highway works along the route.

It will be made clear to the applicant that if planning permission is granted the imposition of this condition does not provide confirmation that the chosen route for the transportation of the turbine or other related traffic is achievable.

11. Hydrology/ geology/ flood risk/ contamination

The application site is within Flood Zone 1 within which there is less than a 1 in a 1000 year chance of flooding occurring. There is therefore a low flood risk. The main concern is the method of surface water drainage from the access road and hardstanding.

There are no risks of flood risk or contamination.

12. Decommissioning

One important feature of wind energy developments is their general reversibility (in terms of landscape if not archaeological impacts).

The wind turbine will be designed with an operational life of 25 years. Following this the wind turbine will be dismantled and removed and the site reinstated.

As noted above, PPS 22 highlights the visual impact of turbines and it notes that these impacts may be temporary if conditions are attached to planning permissions which require the future decommissioning of turbines (para. 20).

The accompanying Design and Access Statement also acknowledges the fact that turbines such as this have a useful life span, at the end of which they may need dismantling. The statement specifically notes that the applicant and the turbine company have no objection to a condition being imposed on any planning permission granted which would require removal of the turbine at the end of its operational life and reinstatement of the land to its former condition.

Reasons for Granting

The proposal for the installation of a turbine would not impact detrimentally upon the surrounding landscape character, or upon cultural heritage or archaeology, or local ecology, hydrology or geology, or upon the residential amenity of nearby residential properties. The proposal is also considered to be acceptable in terms of telecommunication and aviation considerations and traffic generation and access. The scheme therefore, by reason of its site, design and location, is in conformity with Planning Policy Statement 1 (2005), Supplement to Planning Policy Statement 1: Planning and Climate Change (2007), Planning Policy Statement 22 (2004), Planning Policy Statement: Consultation – Consultation on a Planning Policy Statement: Planning for a Low Carbon Future in a Changing Climate (2010), The UK Low Carbon Transition Plan (2009), The UK Renewable Energy Strategy (2009), Draft Overarching National Policy Statement for Energy (EN-1) (2009), Draft National Policy Statement for Renewable Energy Infrastructure (EN-3) (2009), Planning Policy Statement 5: Planning for the Historic Environment (2010), Planning Policy Statement 7: Sustainable Development in Rural Areas (2004), Planning Policy Statement 9: Biodiversity and Geological Conservation (2005), Planning Policy Guidance 24: Noise (1994). It is also in conformity with Policies CS13, CS16, DM1, DM14, DM15 and DM17 of the Central Bedfordshire Council's Core Strategy and Development Management Policies Development Plan Document 2009.

- 1 The development hereby approved shall be commenced within three years of the date of this permission.

Reason: To comply with Section 91 of the Town and Country Planning Act 1990 which is designed to ensure that a planning permission does not continue in existence indefinitely if the development to which it relates is not carried out.

- 2 **No construction activity shall take place until a detailed Ecology Monitoring Programme has been submitted to and approved in writing by the Local Planning Authority, in consultation with Natural England. This will include details of automated data gathering for bats, and use of suitably experienced ecologists to carry out collision searches and monitor the activity of bats and birds in the vicinity of the turbine over the period beginning April to the end of October. Following two years of monitoring, the results shall be formally submitted to the Local Planning Authority, and used to modify turbine operating protocol if necessary.**

Reason: To ensure that biodiversity interests are protected.

- 3 **No construction activity shall take place until the mitigation measures outlined in the Ecological Assessment to minimise ecological impacts during the construction process have been gathered together into a single 'Construction Environment Management Plan' and have been submitted to and agreed in writing by the Local Planning Authority. This shall include a protocol for avoiding impacts to protected and notable species, such as timing constraints and procedure for undertaking construction activities in an ecologically sensitive manner, and a clear point of contact for ecological advice during the works. All contractors must be formally briefed on this document prior to their commencing work on site.**

Reason: To ensure that biodiversity interests are protected.

- 4 **No development shall take place until a scheme setting out measures for protecting all trees, shrubs and other natural features during construction work has been submitted to and approved in writing by the Local Planning Authority. No work shall commence on site until all trees, shrubs and features to be protected are fenced with 2.3 high weldmesh fencing securely mounted on standard scaffolding poles driven firmly in the ground in accordance with BS 5837:2005;**

- **for trees and shrubs the fencing shall follow a line 1.0m outside the furthest extent of the crown spread, unless otherwise agreed in writing by the Local Planning Authority;**
- **for upright growing trees at a radius from the trunk not less than 6.0m, or two thirds of the height of the tree whichever is the greater;**
- **for other natural features along a line to be approved in writing by the Local Planning Authority.**

Such fencing shall be maintained during the course of the works on the site. No unauthorised access or placement of goods, fuels or

chemicals, soil or other materials shall take place inside the fenced area.

Reason: To safeguard the existing trees on the site in the interests of visual amenity.

- 5 No development shall take place until a Construction Traffic Management Plan (CTMP) has been submitted to and approved in writing by the Local Planning Authority. The CTMP shall include proposals for construction vehicle routes, site accesses, the management of junctions with, and crossings of, the public highway and other public rights of way, the scheduling and timing of movements, details of escorts for abnormal loads, temporary warning signs, temporary removal or replacement of highway infrastructure/street furniture, reinstatement of any signs, verges or other items displaced by construction traffic, and banksman/escort details. Development shall be carried out in accordance with the approved CTMP including any agreed mitigation measures and reinstatement/improvements of the highway works along the route.**

Reason: To ensure the development is undertaken safely and without undue disturbance to the local community.

- 6 Prior to the commencement of development, a baseline television reception study in the Marston Moretaine area shall be undertaken by a qualified television engineer and submitted to the Local Planning Authority. Details of works necessary to mitigate any adverse effects to domestic television signals in the Marston Moretaine Area caused by the development shall also be submitted to and approved in writing by the Local Planning Authority. Any claim by any person for domestic television picture loss or interference at their household within 12 months of the final commissioning of the wind turbine, shall be investigated by a qualified television engineer and the results submitted to the Local Planning Authority. Should any impairment to the television reception be determined by the qualified engineer as attributable to the wind turbine on the basis of the baseline reception study, such impairment shall be mitigated within 3 months of this decision according to the mitigation scheme outlined.**

Reason: To ensure that the impact of the turbine on broadcast systems are adequately mitigated.

- 7 No development shall commence until a scheme detailing the investigation and alleviation of any potential interference to telecommunication links, caused by the turbine hereby permitted, has been submitted to and approved in writing by the local planning authority through consultation to the appropriate telecommunication providers. The approved mitigation measures shall be carried out prior to the erection of the turbine.**

Reason: To ensure that the impact of the turbine on telecommunications links is adequately mitigated.

- 8 **The wind turbine hereby approved shall operate in accordance with a shadow flicker mitigation scheme which shall be submitted to and approved by the Local Planning Authority prior to the operation of any wind turbine unless a survey carried out on behalf of the developer in accordance with a methodology approved in advance by the local planning authority confirms that shadow flicker effects would not be experienced within habitable rooms within any dwelling.**

Reason: To ensure shadow flicker is adequately mitigated.

- 9 The rating level of noise emissions from the wind turbine, (including the application of any tonal penalty) when determined in accordance with the attached Guidance Notes, shall not exceed 35dB LA90 at any dwelling for any relevant 10m height 10 minute mean above ground level measured integer wind speed between 1-12m/s and:

- A. Prior to the First Export Date the wind farm operator shall submit to the Local Planning Authority for written approval a list of proposed independent consultants who may undertake compliance measurements in accordance with this condition. Amendments to the list of approved consultants shall be made only with the prior written approval of the Local Planning Authority.
- B. Within 21 days from receipt of a written request of the Local Planning Authority, following a complaint to it alleging noise disturbance at a dwelling, the wind farm operator shall, at its expense, employ a consultant approved by the Local Planning Authority, to assess the level of noise emissions from the wind farm at the complainant's property in accordance with the procedures described in the attached Guidance Notes. The written request from the Local Planning Authority shall set out at least the date, time and location that the complaint relates to. Within 14 days of receipt of the written request of the Local Planning Authority made under this paragraph (B), the wind farm operator shall provide the information logged in accordance with paragraph (G) to the Local Planning Authority in the format set out in Guidance Note 1(e).
- C. Prior to the commencement of any measurements by the independent consultant to be undertaken in accordance with these conditions, the wind farm operator shall submit to the Local Planning Authority for written approval the proposed measurement location identified in accordance with the Guidance Notes where measurements for compliance checking purposes shall be undertaken. Measurements to assess compliance with the noise limit of this condition shall be undertaken at the measurement location approved in writing by the Local Planning Authority.
- D. Prior to the submission of the independent consultants assessment of the rating level of noise emissions in accordance with paragraph (E), the wind farm operator shall submit to the Local Planning Authority for written approval a proposed assessment protocol setting out the following:
 - (i) the range of meteorological and operational conditions (which shall include the range of wind speeds, wind directions, power generation and times of day) to

determine the assessment of rating level of noise emissions; and

- (ii) a reasoned assessment as to whether the noise giving rise to the complaint contains or is likely to contain a tonal component

The proposed range of conditions shall be those which prevailed during times when the complainant alleges there was disturbance due to noise, having regard to the written request of the Local Planning Authority under paragraph (B), and such others as the independent consultant considers likely to result in a breach of the noise limits. The assessment of the rating level of noise emissions shall be undertaken in accordance with the assessment protocol approved in writing by the Local Planning Authority.

- E. The wind farm operator shall provide to the Local Planning Authority the independent consultants assessment of the rating level of noise emissions undertaken in accordance with the Guidance Notes within 2 months of the date of the written request of the Local Planning Authority made under paragraph (B) unless the time limit is extended in writing by the Local Planning Authority. The assessment shall include all data collected for the purposes of undertaking the compliance measurements, such data to be provided in the format set out in Guidance Note 1(e) of the Guidance Notes. The instrumentation used to undertake the measurements shall be calibrated in accordance with Guidance Note 1(a) and certificates of calibration shall be submitted to the Local Planning Authority with the independent consultants assessment of the rating level of noise emissions.
- F. Where a further assessment of the rating level of noise emissions from the wind farm is required pursuant to paragraph 4(c) of the attached Guidance Notes, the wind farm operator shall submit a copy of the further assessment within 21 days of submission of the independent consultants assessment pursuant to paragraph (E) above unless the time limit has been extended in writing by the Local Planning Authority.
- G. The wind farm operator shall continuously log power production, nacelle wind speed, nacelle wind direction and nacelle orientation at the wind turbine all in accordance with Guidance Note 1(d). 10m height wind speeds averaged over 10 minute periods shall be measured at a location approved by the local planning authority for comparison with noise levels, for the duration of the noise level compliance check survey. Rainfall shall also be measured during any measurement regime at a location approved by the local authority in writing. These data obtained shall be retained for the life of the planning permission. The wind farm operator shall provide this information in the format set out in Guidance Note 1(e) to the Local Planning Authority on its request, within 14 days of receipt in writing of such a request.
- H. Once the Local Planning Authority has received the independent consultants noise assessment required by this condition, including all noise measurements and audio recordings, where the Local Planning Authority is satisfied of an established breach of the noise limit, upon notification by the Local Planning Authority in

writing to the wind farm operator of the said breach, the wind farm operator shall within 14 days propose a scheme for the approval of the Local Planning Authority. The scheme shall be designed to mitigate the breach and to prevent its future recurrence. This scheme shall specify the timescales for implementation. The scheme shall be implemented as reasonably approved by the Local Planning Authority and according to the timescales within it. The scheme as implemented shall be retained thereafter unless otherwise agreed with the Local Planning Authority.

For the purposes of this condition, a “dwelling” is a building which is lawfully used as a dwelling house and which exists or had planning permission at the date of this consent.

Reason: To ensure that the amenities of occupiers are not prejudiced by excessive noise.

10 The wind turbine shall not emit greater than expected amplitude modulation. Amplitude modulation is the modulation of the level of broadband noise emitted by a turbine at blade passing frequency. These will be deemed greater than expected if the following characteristics apply:

- a) A change in the measured L_{Aeq} 125 milliseconds turbine noise level of more than 3dB (represented as a rise and fall in sound energy levels each of more than 3dB) occurring within a 2 second period.
- b) The change identified in (a) above shall not occur less than 5 times in any one minute period provided that the L_{Aeq} , 1 minute turbine sound energy level for that minute is not below 28dB.
- c) The changes identified in (a) and (b) above shall not occur for fewer than 6 minutes in any hour.

Noise emissions at the complainant’s dwellings shall be measured not further than 35m from the relevant dwelling building, and not closer than 10m of any reflective building or surface other than the ground, or within 1.2m of the ground.

- i) Within 21 days from receipt of a written request of the Local Planning Authority, following a complaint to it alleging noise disturbance at a dwelling which relates to amplitude modulation, the wind farm operator shall, at its expense, employ a consultant approved by the Local Planning Authority, to assess whether there is greater than expected amplitude modulation from the wind farm at the complainant’s property. The written request from the Local Planning Authority shall set out at least the date, time and location that the complaint relates to. Within 14 days of receipt of the written request of the Local Planning Authority made under this condition, the wind farm operator shall provide the information logged in accordance with this condition to the Local Planning Authority in the format set out in Guidance Note 1(e).
- ii) Prior to the commencement of any measurements by the independent consultant to be undertaken in accordance with this condition, the wind

farm operator shall submit to the Local Planning Authority for written approval the proposed measurement location identified. Measurements to assess compliance with the noise limit of this condition shall be undertaken at the measurement location or locations approved in writing by the Local Planning Authority.

- iii) Prior to the submission of the independent consultant's assessment of the rating level of noise emissions in accordance with the requirements of this condition, the wind farm operator shall submit to the Local Planning Authority for written approval a proposed assessment protocol setting out the range of meteorological and operational conditions (which shall include the range of wind speeds, wind directions, power generation and times of day) to determine the assessment of rating level of noise emissions.
- iv) The proposed range of conditions shall be those which prevailed during times when the complainant alleges there was disturbance due to noise, or are identified as causing greater than expected amplitude modulation, having regard to the written request of the Local Planning Authority, and such other conditions as the independent consultant considers likely to result in a breach of the noise limits. The assessment of the noise emissions shall be undertaken in accordance with the assessment protocol approved in writing by the Local Planning Authority.
- v) The wind farm operator shall provide to the Local Planning Authority the independent consultant's assessment of greater than expected amplitude modulation within 2 months of the date of the written request of the Local Planning Authority unless the time limit is extended in writing by the Local Planning Authority. The assessment shall include all data collected for the purposes of undertaking the compliance measurements, such data to be provided in the format set out in Guidance Note 1(e) of the Guidance Notes. The instrumentation used to undertake the measurements shall be calibrated in accordance with Guidance Note 1(a) and certificates of calibration shall be submitted to the Local Planning Authority with the independent consultant's assessment of the rating level of noise emissions.
- vi) The wind farm operator shall continuously log power production, nacelle wind speed, nacelle wind direction and nacelle orientation at the wind turbine all in accordance with Guidance Note 1(d). 10m height wind speeds averaged over 10 minute periods shall be measured at a location approved by the local planning authority for comparison with noise levels, for the duration of the noise level compliance check survey. Rainfall shall also be measured during any measurement regime at a location approved by the local authority in writing. These data obtained shall be retained for the life of the planning permission. The wind farm operator shall provide this information in the format set out in Guidance Note 1(e) to the Local Planning Authority on its request, within 14 days of receipt in writing of such a request.
- vii) Once the Local Planning Authority has received the independent consultant's noise assessment required by this condition, including all noise measurements and audio recordings, where the Local Planning

Authority is satisfied of an established breach of the noise limit, upon notification by the Local Planning Authority in writing to the wind farm operator of the said breach, the wind farm operator shall within 14 days propose a scheme for the approval of the Local Planning Authority. The scheme shall be designed to mitigate the breach and to prevent its future recurrence. This scheme shall specify the timescales for implementation. The scheme shall be implemented as reasonably approved by the Local Planning Authority and according to the timescales within it. The scheme as implemented shall be retained thereafter unless otherwise agreed with the Local Planning Authority.

Reason: To ensure that the amenities of neighbouring occupiers are not prejudiced by excessive noise.

- 11 The turbine shall be fitted with 25 candela omni-directional red lighting at the highest practicable point and this shall be retained for the lifetime of the turbine.

Reason: In the interests of air safety.

- 12 The planning permission is for a period from the date of the installation until the date occurring 25 years after the date of Commissioning of the Development. Written confirmation of the date of commissioning of the development shall be provided to the Local Planning Authority no later than 1 calendar month after that event.

Reason: In the interests of visual amenity and landscape protection.

- 13 Not later than 3 months from the date that the planning permission hereby granted expires, or if the turbine ceases to operate for a continuous period of 6 months then, unless otherwise agreed in writing with the Local Planning Authority, it shall be dismantled and removed from the site and the land reinstated to its former condition.

Reason: To ensure that the turbine is removed at the end of its operational life and to safeguard the character of the locality.

Notes to Applicant

1. The granting of this planning permission does not absolve the applicants from complying with the relevant law protecting species, including obtaining and complying with the terms of conditions of any licences required, as described in Part IV B of *Circular 06/2005*.
2. Marston Moretaine Public Footpath No. 72 lies adjacent to the proposed development. The footpath does not appear to be affected by the proposal, however the surface of the footpath must not be disturbed and no materials can be stored on the path at any time.
The Applicant is advised that if the Public Footpath is to be temporarily closed a period of six weeks notice will be required to arrange the temporary closure.

3. The applicant is advised that in order to comply with Condition 5 of this permission it will be necessary for the developer of the site to enter into an agreement with Central Bedfordshire Council as Highway Authority under Section 278 of the Highways Act 1980 to ensure the satisfactory completion of the access and associated road improvements. Further details can be obtained from the Development Control Group, Development Management Division, Central Bedfordshire Council, Priory House, Monks Walk, Chicksands, Shefford SG17 5TQ.

4. **Guidance Notes for Noise Conditions**

These notes are to be read with and form part of the noise conditions 9 and 10. They further explain the conditions and specify the methods to be deployed in the assessment of complaints about noise emissions from the wind farm. The rating level at each integer wind speed is the arithmetic sum of the wind farm noise level as determined from the best-fit curve described in Note 2 of these Guidance Notes and any tonal penalty applied in accordance with Note 3. References to assessment of rating levels does not apply to the assessment of greater than expected amplitude modulation. Reference to ETSU-R-97 refers to the publication entitled "The Assessment and Rating of Noise from Wind Farms" (1997) published by the Energy Technology Support unit (ETSU) for the Department of Trade and Industry (DTI).

Note 1 applies to noise condition 9 on planning permission and Note 1(e) & 1(d) also applies to noise condition 10 on planning permission

- (d) Values of the LA90,10-minute noise statistic required for condition 9 should be measured at the complainant's property, using a sound level meter of EN 60651/BS EN 60804 Type 1, or BS EN 61672 Class 1 quality (or the equivalent UK adopted standard in force at the time of the measurements) set to measure using the fast time weighted response as specified in BS EN 60651/BS EN 60804 or BS EN 61672-1 (or the equivalent UK adopted standard in force at the time of the measurements). This should be calibrated in accordance with the procedure specified in BS 4142: 1997 (or the equivalent UK adopted standard in force at the time of the measurements). Measurements shall be undertaken in such a manner to enable a tonal penalty to be applied in accordance with Guidance Note 3.
- (e) The microphone should be mounted at 1.2 - 1.5 metres above ground level, fitted with a two-layer windshield or suitable equivalent approved by the Local Planning Authority, and placed outside the complainant's dwelling. Measurements should be made in "free field" conditions. To achieve this, the microphone should be placed at least 3.5 metres away from the building facade or any reflecting surface except the ground at the approved measurement location. In the event that the consent of the complainant for access to his or her property to undertake compliance measurements is withheld, the wind farm operator shall submit for the written approval of the Local Planning

Authority details of the proposed alternative representative measurement location prior to the commencement of measurements and the measurements shall be undertaken at the approved alternative representative measurement location.

- (f) The LA90, 10-minute measurements should be synchronised with measurements of the 10-minute arithmetic average wind speed and with operational data logged in accordance with Guidance Note 1(d), including the power generation data from the turbine control systems of the wind farm.
- (g) To enable compliance with the conditions to be evaluated, the wind farm operator shall continuously log arithmetic mean wind speed in metres per second (m/s), arithmetic mean wind direction in degrees from north and rainfall data in each successive 10-minute periods by direct measurement at the meteorological monitoring location approved by the Local Planning Authority. In relation to noise condition 9 it is this procedure, which is determined as valid in accordance with Note 2(b), such correlation to be undertaken in the manner described in Note 2(c). The wind farm operator shall continuously log arithmetic mean nacelle anemometer wind speed, arithmetic mean nacelle orientation, arithmetic mean wind direction as measured at the nacelle and arithmetic mean power generated during each successive 10-minutes period for each wind turbine on the wind farm. All 10-minute periods shall commence on the hour and in 10-minute increments thereafter synchronised with Greenwich Mean Time.
- (h) Data provided to the Local Planning Authority in accordance with paragraphs (E) (F) and (G) of noise condition 9 and as required under noise condition 10 shall be provided in comma separated values in electronic format.

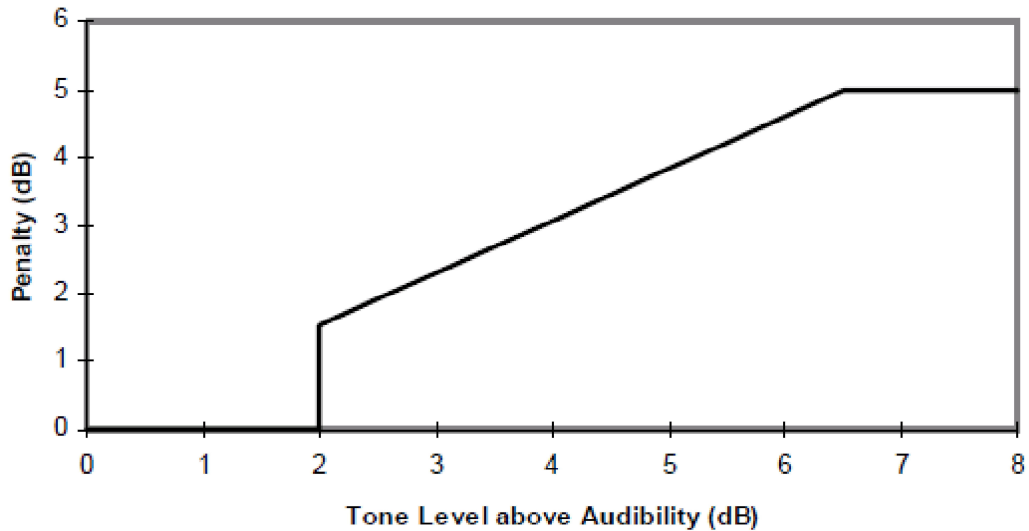
Note 2 applies to noise condition 9 on planning permission

- (a) The noise measurements should be made so as to provide not less than 20 valid data points as defined in Note 2 paragraph (b).
- (b) Valid data points are those measured in the conditions set out in the assessment protocol approved by the Local Planning Authority under paragraph (E) of the noise condition but excluding any periods of rainfall measured at the approved meteorological measurement location provided in accordance with the planning permission on the wind farm site.
- (c) Values of the LA90,10-minute noise measurements and corresponding values of the 10-minute ten metre height wind speed for those data points considered valid in accordance with Note 2 paragraph (b) shall be plotted on an XY chart with noise level on the Y-axis and wind speed on the X-axis. A least squares, "best fit" curve of an order deemed appropriate by the independent consultant (but which may not be higher than a fourth order) should be fitted to the

data points and define the wind farm noise level at each integer speed.

Note 3

- (a) Where in accordance with the approved assessment protocol under paragraph (D) of noise condition 9, noise emissions at the location or locations where compliance measurements are being undertaken contain or are likely to contain a tonal component, a tonal penalty is to be calculated and applied using the following rating procedure.
- (b) For each 10-minute interval for which $L_{A90,10\text{-minute}}$ data have been determined as valid in accordance with Note 2 a tonal assessment shall be performed on noise emissions during 2 minutes of each 10-minute period. The 2-minute periods should be spaced at 10-minute intervals provided that uninterrupted uncorrupted data are available ("the standard procedure"). Where uncorrupted data are not available, the first available uninterrupted clean 2-minute period out of the affected overall 10-minute period shall be selected. Any such deviations from standard procedure shall be reported.
- (c) For each of the 2-minute samples the tone level above audibility (L_{ta}), shall be calculated by comparison with the audibility criterion given in Section 2.1 on pages 104 -109 of ETSU-R-97.
- (d) The tone level above audibility (L_{ta}) shall be plotted against wind speed for each of the 2-minute samples. Samples for which the tones were below the audibility criterion or no tone was identified, a value of zero audibility shall be substituted.
- (e) A least squares "best fit" linear regression shall then be performed to establish the average tone level above audibility for each integer wind speed derived from the value of the "best fit" line fitted to values within $\pm 0.5\text{m/s}$ of each integer wind speed. If there is no apparent trend with wind speed then a simple arithmetic mean shall be used. This process shall be repeated for each integer wind speed for which there is an assessment of overall levels in Note 2.
- (f) The tonal penalty is derived from the margin above audibility of the tone according to the figure below.



Note 4

- (a) If a tonal penalty is to be applied in accordance with Note 3 the rating level of the turbine noise at each wind speed is the arithmetic sum of the measured noise level as determined from the best fit curve described in Note 2 and the penalty for tonal noise as derived in accordance with Note 3 above at each integer wind speed within the range set out in the approved assessment protocol under paragraph (E) of the noise condition.
- (b) If no tonal penalty is to be applied then the rating level of the turbine noise at each wind speed is equal to the measured noise level as determined from the best fit curve described in Note 2.
- (c) In the event that the rating level is above the limit in the noise condition the independent consultant shall undertake a further assessment of the rating level to correct for background noise so that the rated level relates to wind turbine noise emission only.
- (d) The wind farm operator shall ensure that all the wind turbines in the development are turned off for such period as the independent consultant or the Local Planning Authority requires to undertake the further assessment. The further assessment shall be undertaken in accordance with the following steps:
 - i. Repeating the steps in Note 2, with the wind farm switched off, and determining the background noise (L_3) at each integer wind speed within the range set out in the approved assessment protocol under paragraph (E) of the noise condition.
 - ii. The wind farm noise (L_1) at this speed shall then be calculated as follows where L_2 is the measured level with turbines running but without the addition of any tonal penalty:

$$L_1 = 10 \log \left[10^{L_2/10} - 10^{L_3/10} \right]$$

- iii. The rating level shall be re-calculated by adding the tonal

penalty (if any is applied in accordance with Note 3) to the derived wind farm noise L_1 at that integer wind speed.

- iv. If the rating level after adjustment for background noise contribution and adjustment for tonal penalty (if required in accordance with note (iii) above) at any integer wind speed lies at or below the values set out in the Tables attached to the conditions or at or below the noise limits approved by the Local Planning Authority for a complainant's dwelling in accordance with paragraph (C) of the noise condition then no further action is necessary. If the rating level at any integer wind speed exceeds the values set out in the Tables attached to the conditions or the noise limits approved by the Local Planning Authority for a complainant's dwelling in accordance with paragraph (C) of the noise condition then the development fails to comply with the conditions.