Item D3

Wind turbine with 15m mast and solar photovoltaic panels – Swanley Technology College, St Mary's Road, Swanley – SE/09/889

A report by Head of Planning Applications Group to Planning Applications Committee on 14 July 2009.

Application by Swanley Technology College for the erection of a 6kW wind turbine with 15m mast to the front lawn of college buildings and the installation of solar photovoltaic panels on college flat roof (Ref: SE/09/889)

Recommendation: Permission be granted subject to conditions

Local Member(s): Mr. R Brookbank **Classification:** Unrestricted

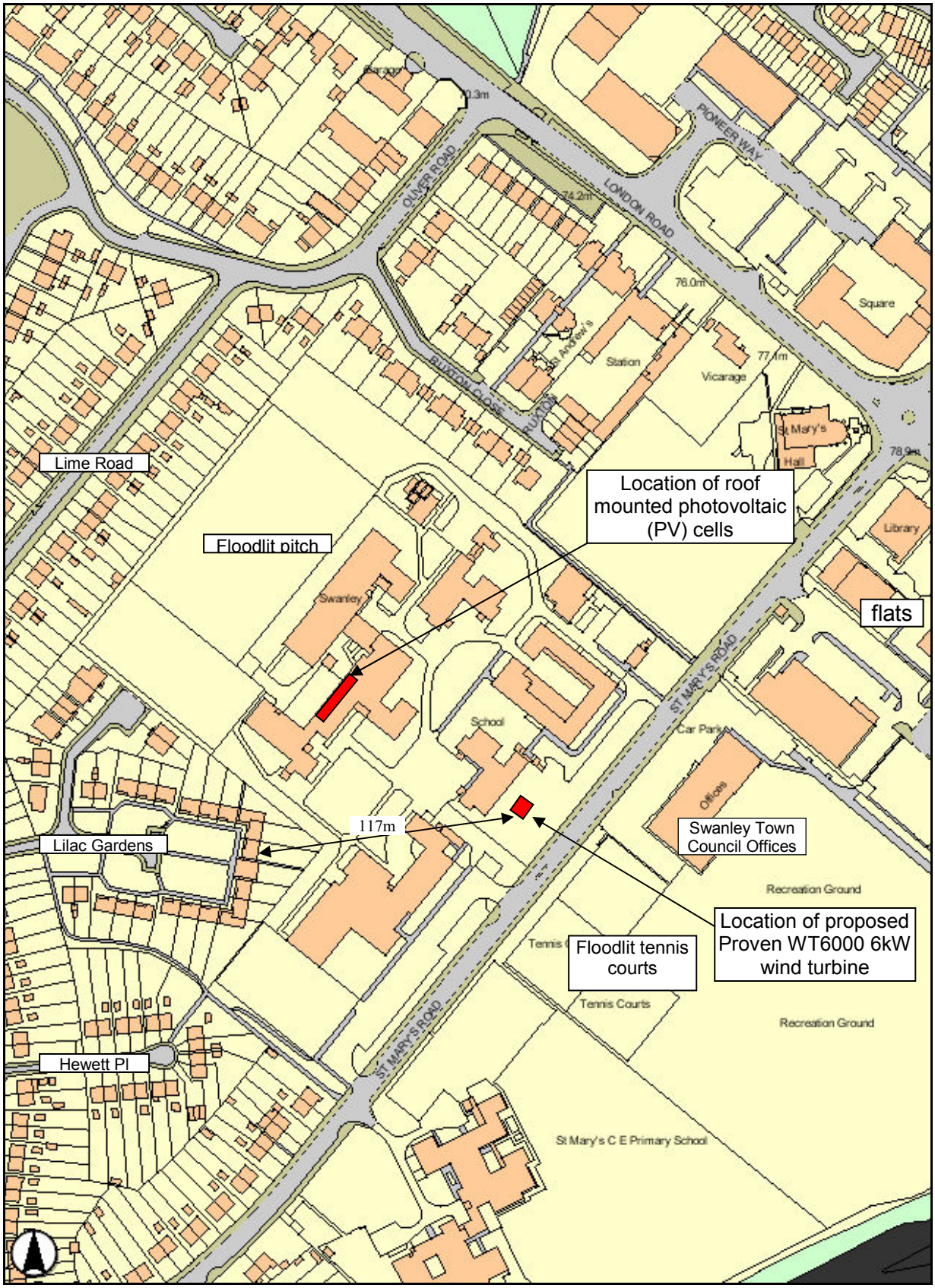
Site

1. Swanley Technology College is located within the built confines of the town of Swanley. The site is accessed from St. Mary's Road which leads off London Road, the main road through Swanley. The site is bordered by residential properties to the North and South-westerly sides and St. Mary's Road to the east. Beyond the road to the east are the offices of Swanley Town Council, a recreation ground and St. Mary's CE Primary School.
2. There are no specific land use designations in the Adopted Local Plan which relate to this specific site. A site location plan is attached on page (D3.2), which shows the location of the proposed wind turbine and photovoltaic solar panels.

Proposal

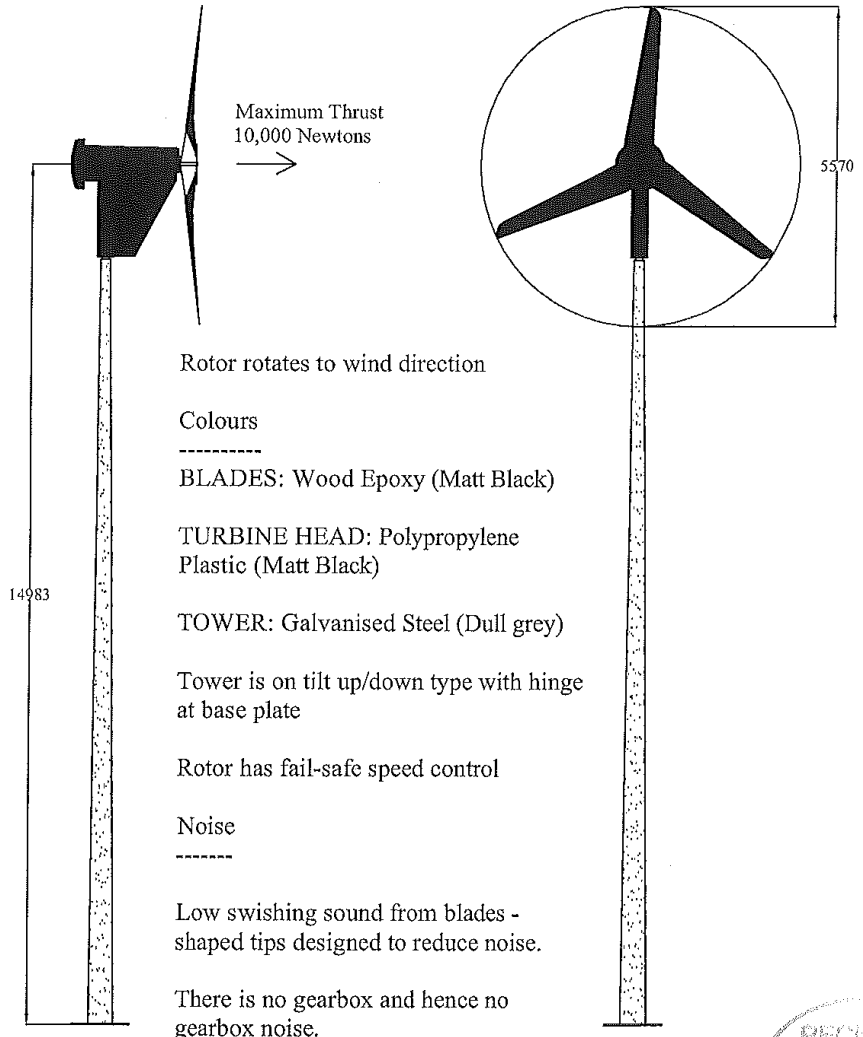
3. The application has been submitted by Swanley Technology College and proposes the construction of a 6 kW wind turbine on a 15 metre high mast to the front of the College site together with an array of 36 photovoltaic (PV) panels installed to the second floor of an existing flat-roofed building. As noted above, a plan showing the locations of both elements of the proposal is shown on page (D3.2).
4. The College, being a Technology College, are keen to promote the use of modern renewable energy technology to support a sustainable way of living, and demonstrate the College's determination to encourage the youth of today to act in a responsible manner regarding energy conservation. It is proposed that the kilowatts generated by the proposed wind turbine and PV cells would be used by the College which in turn would reduce its reliance on the use of fossil fuel derived energy.
5. The wind turbine proposed is a Proven WT6000 free standing wind turbine. Its proposed height would be 15 metres to the hub, with a 5.6m rotor diameter, therefore giving an overall height of 17.8 metres to the highest point. The turbine would be located on an existing area of grass to the front of the College site. The wind turbine proposed here is rated to have an output of 6 kW and is a type commonly used for powering community and local authority projects. The same wind turbine has recently been permitted at Eastchurch Church of England Primary School in Swale. A number of similar wind turbines can be found on sites across the County, including Shorne Woods Country Park and Sandwich Technology School (5kW). *An elevation of the wind turbine is attached on page (D3.3).*

Wind turbine and photovoltaic panels at Swanley Technology College, Swanley – SE/09/889



Site Location Plan: Swanley Technology College
Scale 1:2500

Proven WT6000 6kW Wind Turbine with TM1500 15m Mast



Rotor rotates to wind direction

Colours

BLADES: Wood Epoxy (Matt Black)

TURBINE HEAD: Polypropylene Plastic (Matt Black)

TOWER: Galvanised Steel (Dull grey)

Tower is on tilt up/down type with hinge at base plate

Rotor has fail-safe speed control

Noise

Low swishing sound from blades - shaped tips designed to reduce noise.

There is no gearbox and hence no gearbox noise.

Nominal running speed 200rpm.

ZONE	REV	DESCRIPTION REVISIONS	DATE	APPROVED
	–	–	–	–
	–	–	–	–
	3	Change of address	20/08/03	–

PROVEN
PROVEN ENERGY

PREPARED BY BR

CHECKED BY KM

Proven WT6000 Wind Turbine with TM1500 15m Tower

Planning Drawing

FSCM NO.

DWG NO. 6000 PL 003.dwg

REV 3

SCALE 1:100 @ A4 | Date 16/09/03 | SHEET

Wind turbine and photovoltaic panels at Swanley Technology College, Swanley – SE/09/889

Example: Proven WT6000 wind turbine on 15m mast at Eastchurch CoE Primary School, Sheppey.

6. The proposed solar panels comprise of an array of 36 individual PV panels, which would be mounted in a linear row to a flat roof of an existing two storey classroom block. The panels would be mounted on an angle to attract optimum performance and power generation from the sun's rays and at the highest point would, once mounted on the flat roof, extend 300mm from the existing roof height.

Development Plan Policy

7. Planning Policy Statement 22*: Renewable Energy* sets out the Government's national policies for renewable energy, which it notes are vital to facilitating the delivery of the Government's commitments on both climate change and renewable energy. The Policy Statement sets out that Local Planning Authorities should consider the opportunity for incorporating renewable energy projects both in new developments and some existing buildings.

   The key principles of the document state 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 therefore not reject planning applications simply because the level of output is small".* The document also states that *"development proposals should demonstrate any environmental, economic and social benefits as well as how any environmental and social impacts have been minimised through careful considering of location, scale, design and other measures".*

   Further, the Government's Microgeneration strategy recognises the role of community buildings and schools in delivery of its objectives. The microgeneration installation on school sites help to reduce carbon emissions, help to educate and inform communities about energy and, hopefully, persuade people to reduce their own carbon footprint.

8. On 6 July 2009 the Kent and Medway Structure Plan ceased to have development plan status. The Development Plan Policies now relevant to the consideration of the application are summarised below:

(i) Adopted **South East Plan** (May 2009):

Policy CC1	Seeks to achieve and maintain sustainable development in the region.
Policy CC3	Encourages a reduction in the use of natural resources through energy efficiency.
Policy CC6	Refers to sustainable communities and character of the environment.
Policy NRM11	Local authorities should promote the use of renewable or low-carbon energy technology
Policy NRM15	Renewable energy development, particularly wind, should be located and designed to minimise adverse impacts on landscape, wildlife, heritage assets and amenity.
Policy S3	States that, local planning authorities, taking into account demographic projections, should work with partners to ensure the adequate provision of pre-school, school and community learning facilities

(ii) Adopted **Sevenoaks Local Plan** (2000):

Policy EN1 Proposals for development will not be permitted unless they are, amongst other aspects, acceptable in terms of:

a. compatibility in terms of scale, height, density and site coverage with other buildings in the locality;

b. retain important features including trees, hedgerows and shrubs;

c. do not have an adverse impact on privacy and amenities of a locality by reason of form, scale, height, outlook, noise or light intrusion

d. the development is planned and designed so as to have regard to energy conservation and to avoid or minimise pollution

Consultations

9. **Sevenoaks District Council:** raises an objection for the following reasons:

"As no other sites which would be less conspicuous have been considered, the Council considered that the proposed development would by virtue of its scale and size have an adverse visual impact on the character and amenity of the area. In this respect the proposal is considered to conflict with Policy EN1 from the Sevenoaks District Local Plan, QL1 from the Kent and Medway Structure Plan, EN1 and EN5 from the South East Plan.

Insufficient information has been submitted with the application to adequately demonstrate that the proposed wind turbine would have no adverse impact on the amenities of adjacent properties. The proposed development is considered to conflict with Policy EN1 from the Sevenoaks District Local Plan".

Note: with the adoption of the South East Plan, the Kent and Medway Structure Plan is no longer part of the development plan.

10. **Divisional Transportation Manager:** raises no objection to the proposal.

11. **Swanley Town Council**: raises no objection to the proposal and offers full support to this application.

12. **KCC Noise Advisor**: following aural observations made at the site of the Eastchurch Primary School of the same 'Proven WT 6000 6KW wind turbine with a 15m mast, he has no concerns regarding the introduction the same wind turbine at the Swanley site.

Local Member

13. The local Member (now former) Mr M. Fittock was notified of the application on the 28 April 2009. A letter was received from Mr. Fittock in support of the planning application based on the following grounds:

- Considers that the turbine is not out of keeping with the street scene and the School already have a taller mobile phone mast on their site;
- On the other side of the railway line there are existing electronic communications additions to an office block which is much closer to residential dwellings than the 15 metre turbine mast proposed;

- Notes that the nearest development is the Swanley Town Council offices
- The noise from the proposed turbine should not affect the Town Council offices opposite or the adjacent graveyard. The area of the school where the proposed turbine would be erected also houses the technician training block where loud machines are in use and car mechanic engineering is taught, hence noise should not be an issue;
- Notes that there are quite exceptional wind currents in locality which wind turbines would be able to take full advantage of. Also, notes the level of support for the proposal by local children wanting to see something done for the environment.

Following the recent County Council elections the new local Member for Swanley, Mr R. Brookbank, was notified of the application on 25 June 2009.

Publicity

14. The application was publicised by the posting of a site notice on the front gate of the school.

Representations

15. No letters of representation were received in response to the proposal.

Discussion

Introduction

16. In considering this proposal, regard must be had to the Development Plan Policies outlined in paragraph (0) above. Section 38(6) of the 2004 Planning and Compulsory Purchase Act states that applications must be determined in accordance with the Development Plan unless material considerations indicate otherwise. Therefore, this proposal needs to be considered in the context of the Development Plan Policies, Government Guidance and other material planning considerations arising from consultation and publicity. Issues of particular relevance include impact upon the wider landscape, impact on visual local amenity and the potential noise pollution. Also relevant is the overall compatibility of the scheme with the goals and objectives of the Development Plan.

Landscape and visual amenity

17. The landscape and visual amenity impacts of the two different elements of the proposal vary significantly due to their nature and scale. Arguably the greatest visual impact would occur as a result of the proposed wind turbine installation, when compared to the relatively limited visual impact of the proposed PV panels. I consider that whilst the proposed PV panels would be installed on a flat roof of a two-storey building within a central part of the College site, the visual impact of that element of the proposal is likely to be negligible (see location on page D3.2).
18. It is acknowledged that Sevenoaks District Council has raised an objection to this proposal, largely based on the visual amenity impact of the wind turbine. It considers that as the applicant has not demonstrated that any less conspicuous locations for the proposed turbine have been considered within the planning application, it regards this aspect of the proposal as having an adverse visual impact on the character and amenity of the area contrary to Policy EN1 of the Adopted Local Plan. In response, the applicant advised that there is no other site within the school grounds that would have the minimum wind speed required to drive the wind turbine. Due to the nature of the proposal, the wind turbine needs to be exposed and not hidden in between buildings.

The only suitable location within the College satisfying these conditions is on the grass area in front of the school, opposite the floodlit tennis courts. Additionally, positioning the wind turbines in that location keeps the development as far away from any residential properties as possible.

19. With regards to the visual amenity impact, the school has a mix of one and two storey flat roof buildings. The Swanley Town Council Offices are two storeys high with pitched roofing. Across St Mary's Road there are ten floodlighting columns at least 10m high and a number of street lamp posts of similar height. There are some medium size trees to the front of the school and more mature taller trees across St Mary's Road, however the townscape otherwise appears quite open. The wind turbine would raise slightly above the tallest trees and therefore would be visible from wider distances due to the flat topography of the neighbourhood. It is likely that the wind turbine could create a landmark effect in the immediate locality on a small scale, but it is unlikely to be noticeable beyond 200m, as it is still in a built up area. On the other hand, the School wants a presence in the community and to be recognised in the neighbourhood for promoting green energy and use of modern technology. The Government encourages installations of community microgeneration production in its policies.

20. To aid the consideration of the visual impact, I attach a photograph of an identical wind turbine to that proposed, which has recently been installed at Eastchurch Church of England Primary School (D3.4). I note that the turbine in the photograph has a white blade finish and a white turbine head and appears to blend in with a cloudy sky backdrop. In my view, the turbine's head finished in white has much lesser visual impact to that finished in black. Also, it appears a less bulky installation being significantly less prominent from a distance. The lower part of the mast would be seen against one and two storey buildings backdrop which would not differ much from any other street lamp posts. Should the permission be granted, a planning condition could be imposed to secure a white finish of the turbine head and blades. Subject to this, I do not consider that the proposed wind turbine would have a detrimental impact on the visual amenity.

Noise

21. It is noted that renewable energy technologies, particularly wind turbines, have the potential to generate adverse noise impacts on surrounding uses, unlike the installation of solar photovoltaic cells. The common source of noise associated with wind turbines comes from the gear boxes. The proposed model does not have a gear box. Therefore the only noise that is audible in close proximity is the gentle "swishing" noise of the blades cutting through the air. However, this noise has been reduced substantially since first turbines were developed.

22. Any potential background noise increase as a result of the siting of the wind turbine needs to be carefully considered. In this instance, I note that the distance from the site of the proposed wind turbine to the front façade of nearby residential properties in Lilac Gardens (to the west of the College site) is approximately 117 metres away. This distance is largely separated by a mixture of single and two-storey College buildings. To the north of the site, the closest residential property façades (located in Ruxton Close) are approximately 141 metres away, and to the north-west the closest residential property façades (located on Lime Road) are approximately 225 metres away. This distance is separated by the school buildings and floodlit pitch. The nearest residential properties to the north east are flats of St Mary's Road 170m away, adjacent to Aldi store. The nearest non-residential property to the site of the proposed wind turbine are the offices of Swanley Town Council, located some 50 metres away.

23. The application was accompanied by technical data about the proposed wind turbine. As part of assessing the potential noise impact of this development on the local amenity, the County technical advisor visited the Eastchurch CoE Primary School to see an identical wind turbine on school site and to assess noise levels generated by this identical wind

turbine (see D3.4). On the site visit, the wind speed was sufficiently strong to turn the turbine at high speed continuously. Whilst on site, the noise engineer and I found that the noise levels at 40m from the turbine were negligible and at 65m distance were undetectable. This led to the conclusion that the turbine would be very unlikely to have an adverse noise impact of the locality of the proposed installation, and the noise engineer raised no concerns about the proposal. In particular that some noise level from traffic and existing activities in the locality would be greatly in excess of the raise from the turbine blades.

Conclusion

24. Notwithstanding the policy objection raised by Sevenoaks District Council as set out in paragraph (9) above, I consider that the chosen locations for the siting of a 6 kW wind turbine and solar panels at Swanley Technology College to be acceptable in terms of their impact on local amenity as well as their accordance with both Development Plan Policies and national planning guidelines as set out in Planning Policy Statement 22. In the absence of any substantive planning land use grounds to refuse the application, I recommend that planning permission be granted subject to the conditions as set out in paragraph (25) below.

Recommendation

25. I RECOMMEND that PLANNING PERMISSION BE GRANTED SUBJECT to conditions, including conditions covering:

- the standard time limit;
- white finish of the blades and turbine head
- the development be carried out in accordance with the approved details;

Case Officer – Anna Michalska-Dober	01622 696979

Background documents –See section heading