Planning Application Ref 2009/ 1534

Design and Access statement.

Proposed erection of 'Vertical axis wind turbine' at Dearne Carrfield Primary School.

Dearne Carrfield Primary school has undergone a scheme of works over the last couple of years with the aim of becoming a 'Low or zero carbon school' with funding raised on this basis.
To this end the following interventions are now complete; the replacement of the old 'coal fired' boilers with new Biomass, installation of Solar Photovoltaic's, Solar thermal cells, 'smart metering' and general thermal improvement of the fabric of the building.

The final intervention to reduce the school's 'carbon footprint' is to install a wind turbine to further reduce the schools required 'off-grid' power.
The proposal is to install a 'vertical axis' turbine as opposed to the more traditional style. This type of turbine ahs been chosen for its reduced wind noise, the lack of impact upon local ecology and increased efficiency. Other advantages for this type are listed in the table below.

The proposal is to install a 2.5Kw generator with 5m (h), 4Kw blades on a 12m mast to the southern side of the site adjacent to the running track and football field. The turbine will be supplied by Maglev UK, 32 Curtis Road, Norwich, NR6 6RB.

In noise tests a 2.5Kw Maglev VA turbine situated in an urban setting was found that at an average wind speed of 4.5m/s the turbine could not be heard from 3m away. (Daytime ambient noise 50-60 dB's / Night time ambient noise 35-45 dB's).

The turbine has been sited in a location to achieve the greatest yield on the basis of advice from Maglev's Engineer. The site is surrounded by mature tress of significant height and therefore the turbine needed to be some distance from these in order that wind may 'reform'. Also housing borders the boundaries of the school site and therefore it has been sited to reduce any impact upon local residents. Also to reduce any impact upon the use or future use of the sports field the turbine has been placed at the base of the incline adjacent the path below the level of the sports field.