

Flood Risk Assessment Report

Micro Wind Turbine System:

Cheese Bottom Farm, Cheese Bottom, Thurgoland, Sheffield, Yorkshire, S35 7AH.

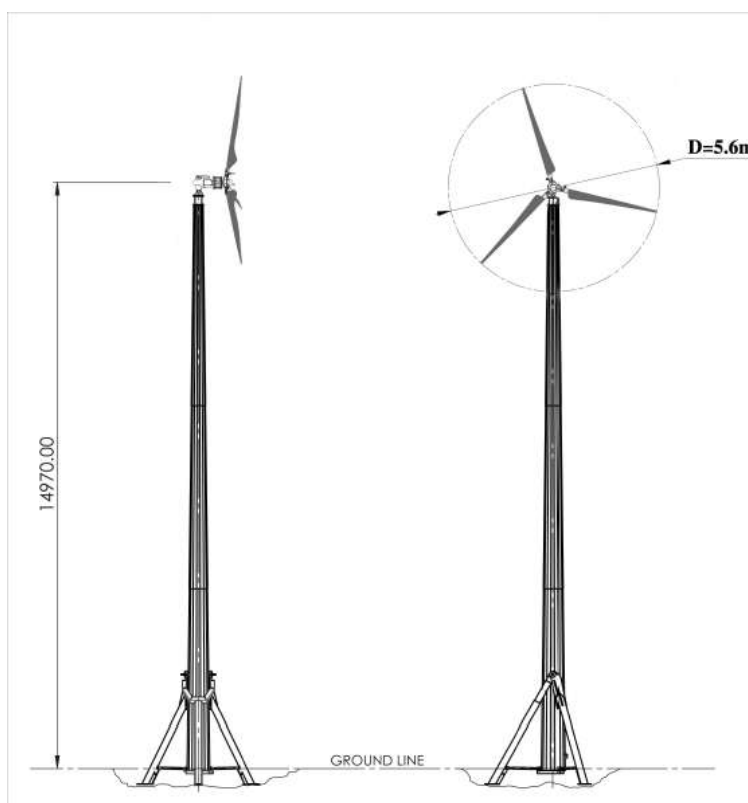
(1) The Application

The Application is for planning permission to install One Quiet Revolution QR-H5 micro wind turbines on land at Cheese Bottom Farm, Cheese Bottom, Thurgoland, Sheffield, Yorkshire, S35 7AH.

The turbine will be installed on a 15m tower which is supported by a patented tripod system which is located on three helical piles, each of 4m depth. This type of foundation system has the advantage of being more environmentally sensitive than large concrete blocks and easier to remove to reinstate the site in the future.

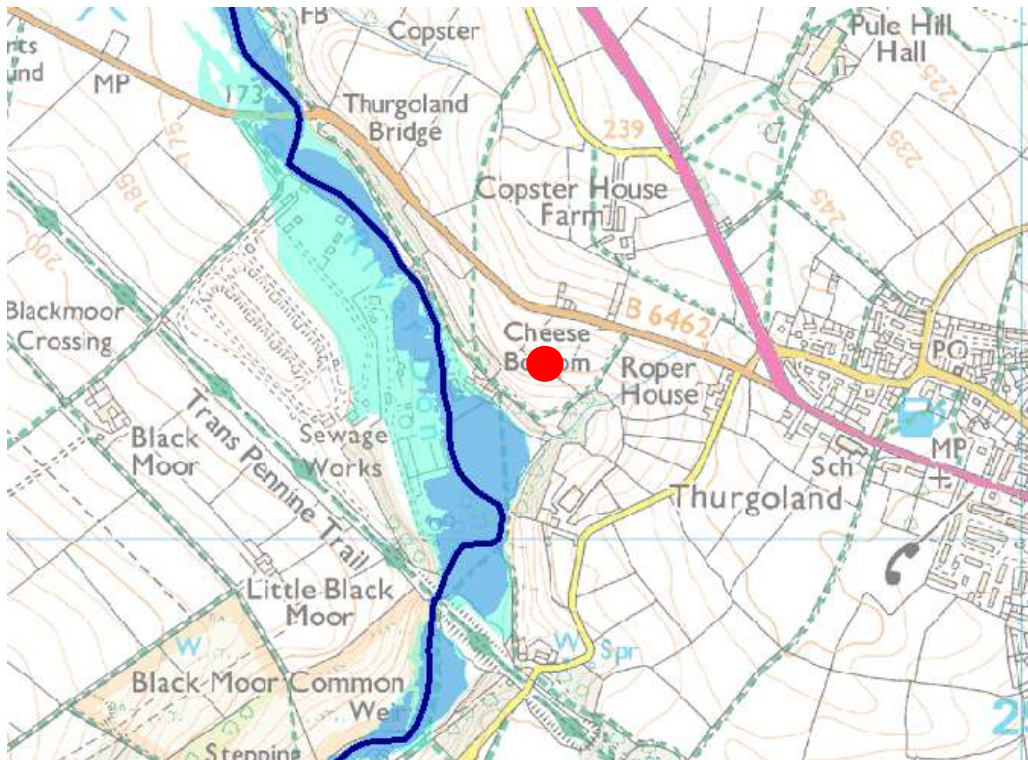
System Specification

Wind turbine:	Quiet Revolution QR-H5
Rated power:	5kW@12m/s(26.0mph)
Hub height (ground to centre of hub):	14.97m
Rotor diameter:	5.6m
Tower type:	Tapered free standing tower (steel) & Helical Pile Foundation
Turbine finish:	All exposed parts pot galvanised, painting in white
Blade finish:	Glass Fibre Reinforced Composite, anti-erosion coating in white
Tower finish:	Matt grey Galvanised to BSEN1461
Rotor speed:	240 rpm nominal- maximum 280 rpm
Tip speed:	70.3 m/sec nominal- maximum 82.1 m/sec
Rotor orientation:	Downwind, self-regulating.
Rotor swept area:	24.63m ²
Number of blades:	3
Power regulation:	Variable pitch system (mechanical) & G59 compliant inverter
Electrical connection:	Single phase



(2) The Application Site

The application site is within Flood Risk Zone 1.



The map provided is taken from the Environment Agency web site.

The location of the proposed development has been added and shown in red.

(3) Assessment

The system uses no concrete for the foundation and as such will not present any risk of disruption to natural water flows or drainage. As such there is no impact of the system on the flood risk of the surrounding site.

The development does not require the creation of any hard standing.

As set out above, the tripod system supports the tower and is put into the ground to a depth of around 5-6m dependent on the nature of the sub-soil.

The system controls are contained in a separate enclosure that will be mounted at the electrical connection point and at a height no less than 350mm from ground level or within the building that will be receiving the electricity generated. This will ensure that there is no risk to the electrical systems from even the highest expected flood levels.

(4) Conclusion

This property is in a Flood Zone 1 but the risk of significant flood levels is very low and the development is not susceptible to flood damage. The development will also have no impact on the flood risk of the surrounding site.