

From: Barnes, Richard [REDACTED]
Sent: 06 November 2014 15:44
To: Chris Stanworth
Cc: Watson, Paul; Colin Wilson
Subject: RE: Bulby's Wood DM/14/MISC/5166

Chris

Thank you for your e-mail dated 4/11/14 regarding some outstanding issues with the Planning Application. I think that Paul has now dealt satisfactorily with items 3, 7 and 12, does this mean that the application can now be validated?

I have looked into the issues around Core Strategy Policy 25 and the provision of renewable energy and discussed options with the electrical and mechanical engineers for the project. A number of options were considered such as solar panels and photovoltaics but the cost of installation, the unpredictable nature of the use for the building, and the maintenance implications for this location has ruled them out. However, as part of the design process we have looked at technology that will contribute to reducing energy consumption and I have included some information on this from our design team below.

Electrical:

- The electrical design, as always, incorporates the latest innovations in energy efficiency.
- All luminaires are high output LED. All internal luminaires and extract fans are individually controlled by local PIR presence detectors.
- The approximate watts per metre squared is 6.6w/m² (a typical fluorescent light source would be double this value).
- The life expectancy of the LED lamp is around 50,000 hours (fluorescent – 12,000hours), so the lamp will not need to be changed for 15 years or more, given the intermittent use of the building.
- The external LED luminaires are only 14 watts and are controlled by a photoelectric cell and time clock. With this control arrangement the luminaires will see very little use from May to September.
- I would suggest that energy consumption for lighting will be extremely low and almost impossible to calculate given the intermittent use of the building.

Mechanical:

- Cavity wall insulation will typically reduce heat loss through a wall by approx. 15 to 25% depending upon the wall construction and insulation properties.
- We have 1no. instant demand hot water heater (Accessible WC), which is rated at 2.8 kW and only uses this when the tap is opened. As no electricity is used when the tap is turned off, it is very efficient. The other 2 no. electric hot water heaters, which are rated at 2 kW have a small amount of stored hot water which is constantly maintained and then replenished whenever a hot tap is opened. These units are highly insulated to conserve heat to reduce electricity consumption. Unfortunately, I was unable to specify the instant type throughout, (rated at 2.8 kw) due to the impact upon the available electricity supply and because there would have to be duplicate heaters per Toilet, (rather than the single unit specified) as there are 2 wash hand basins in each.
- The drawings currently indicate borehole water being piped to the urinal cistern. However, if the urinals were changed to a waterless type then there would be a saving on the water used but it would still require the operation of the borehole water system for other outlets.
- The extract fans are operated via PIR's and have a run on timer so that the fans will switch off when

timed out to prevent them running when not activated.

- The frost protection heaters have inbuilt thermostatic controllers to switch the heaters on and off as required, depending upon prevailing air temperature.

It is almost impossible for me to estimate running costs and/or anticipated energy savings for any of the above as it all depends upon how frequently the facility is used and the time of year

I hope that the above information is sufficient for you to acknowledge that we have done all we can on this project to ensure that making the building as energy efficient as possible has been achieved.

As you know, we are hoping to start construction on site early in the New Year so I am getting a little concerned about timescales, any help you can give us to move this application forward will be most appreciated.

Regards

Richard

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