

Subject: RE: APP/23/00583 - 76 The Brow, Waterloooville, PO7 5DA

Hi Joseph

In connection with your email we've undertaken some basic solar studies in respect to the impact on the solar panels of (Redacted). Please note that the solar studies are for guidance only. We've tried to research the matter but there doesn't appear to be any specific technical guidance other than a court case in 2019 that made it a material consideration in determining planning applications. The BRE guidance 'Site Layout Planning for Daylight and Sunlight' does not cover overshadowing of solar panels.

Our solar studies are attached for the four seasons (the autumn equinox would be the same as the spring equinox). Based on the western orientation of the solar panels they would not receive direct sunlight until about noon of each day, therefore we've indicated the time at which they would start to overshadow up until when they are close to full shadow. We've also shown one form of calculation as an example - how much sunlight do 75% of the panels get out of the maximum daylight hours assuming it was sunny for the whole period. On the spring and autumn equinox, for example, the existing panels receive about 4hrs of sunlight compared to 3.75hrs with the proposed extension and dormer, this equates to approximately 33% and 31% respectively of the maximum available sunlight on that day (12hrs). In the winter this reduces to about 2.25hrs and 2.15hrs respectively and in the summer increases to 7.5hrs for both the existing and the proposed scheme. The available sunlight reduces considerably when the actual average sunshine is considered, in March the average is 4hrs and in September is 5.1hrs (data collected 1991 to 2020, website link below) compared to a maximum of 12hrs, therefore on the September equinox 1.7hrs and 1.6hrs are expected respectively (existing/proposed), a difference of about 6 minutes.

<https://www.currentresults.com/Weather/United-Kingdom/average-sunshine-september.php>

There are also a couple of other points to consider:

- The dormer and existing ridge line could be extended (i.e. gable, gablet or barn hip) under PD rights without planning permission.
- Whether the solar panels are appropriately located – these are positioned in the middle of the west facing roof, these could have been placed higher and/or on the southern slope (less south facing panels could have performed just as well).

Please let me know if you require any further information.

Regards

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Director Architect

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