

Application for approval of details reserved by condition imposed under planning permission BN/7/18/PL relating to condition

- 3 (proposed surface water drainage),**
- 4 (Discharge of watercourse)**
- 5 (Surface water drainage system)**

Land to the north of The Flint Barn Yapton Road, Barnham

These details are provided as additional information following refusal to discharge the conditions with a previous submission BN/29/18/DOC

The previous reason for refusal was as follows

"The Councils Drainage Engineers have been consulted and the details submitted are not considered to meet the aims and requirement of the condition as follows:-

Engineers Comments Regarding Conditions 3, 4 and 5

The applicant proposes to form a new swale and connect this into an existing ditch which runs to the south of the site. Winter groundwater monitoring was completed in March, which found ground water levels to be high. We believe groundwater would have peaked before March, therefore may be higher than those levels recorded and we agree with the conclusion that infiltration is unlikely to be viable. However, the applicant may wish to investigate shallow permeable paving solutions. The proposals currently include for the storage of the 1 in 30 year rainfall event on site. Please revise the plans to accommodate the 1 in 100 year plus 40% climate change event on site. Please also clarify the rate of discharge proposed, orifice diameters have only been provided. In order to discharge flows to an ordinary watercourse the applicant will need to obtain Ordinary Watercourse Land Drainage Consent, (the consent forms will be forwarded separately). I have inspected the watercourse which the applicant proposes on discharging into, it is heavily overgrown. The condition of this watercourse will need to be improved to ensure that flow can be conveyed downstream. The watercourse is culverted and runs under Yapton Road, the condition of this may also need to be reviewed.

Until such a time as consent is obtained and the above points are addressed I do not recommend that these conditions are discharged."

This application provides additional information to address these comments

Selection of SuDS:

Shallow permeable paving solutions were considered during the design and rejected. Due to the ground profile much of the parking area would be at a higher level than the floor level of the new building, this would negate the effectiveness of the permeable paving as it would be difficult to mobilise all the surface water over the whole area. The paving could have been designed to be deeper, however that would result in a greater volume of excavated/imported material. The swale has been designed to be as shallow as a permeable paving structure, but allows storage within an unconfined space (rather than relying on pore spaces in the sub-base) and thus takes up a lower

footprint. It can also provide an opportunity for amenity and biodiversity through sensitive landscape design, which the permeable paving surface wouldn't, and is therefore considered to be a more valuable sustainable solution.

Discharge rates during critical storm events:

Following discussion with Laura Gibbons it was agreed that a reasonable maximum discharge rate from the site to replicate pre-development conditions is 2 litres per second.

This maximum discharge rate has been applied to the 1 in 100 year + 40%cc allowance storm event.

It requires a protected orifice plate of 47mm diameter to be located at the discharge point from the site. The form and alignment of the swale does not change from that proposed previously.

Under these conditions, the hydraulic modelling (attached) shows that 1.5m³ of flooding occurs. This flood volume will spill from the swale and follow the surface profile to the south. It will drain into the landscaped seating area where it will pond and be allowed to percolate naturally into the ground after the storm has passed.

During the 1 in 30 year return period storm event, the discharge rate is limited to 1.8l/s. No flooding occurs.

Condition of the watercourse:

The watercourse has been cleared and photographs are attached below.

As can be seen there is a head wall at the southern end of the ditch with a pipe running under the driveways which continues under the road and in to Hill Lane

The ditch is 2.1m wide at the top and circa 1m wide at the base. The height from the bottom of the pipe (shown in the photo with a debris cage around it) to the top of the head wall is 1m and then a further 250-300mm from the top of the head wall to ground level.

The previous owner of the site who has lived there all his life advised that the ditch has been maintained and cleared every year and that it has always operated well. He replaced the section of pipe that is on his land a few years back and it has to his knowledge always operated well. Currently the greenhouses to the west of the ditch all discharge rainwater via downpipes in to the ditch and it disperses well without issue.

OWC application:

An OWC application has been submitted separately for the works





