
Drainage Resume.

Erection of New Farm Shop and Ancillary Café with Associated Access, Car Parking and Landscaping on Land North of Straight Mile, Croeshowell, Wrexham. LL12 0PA.

For and on behalf of
Ms L Jones

By
Woodsyde Developments Ltd

Introduction.

We note that the planning application has been referred to Natural Resources Wales, as a statutory consultee, and whilst they have no objections to the proposed development as submitted, they are seeking additional information as the development sits within a protected site – Special Area of Conservation (SAC). We further note that any proposal should not increase the amount of phosphate within a river SAC catchment, which could lead to damaging effects to the SAC. We understand that the drainage proposals should be specific in their design and that the interim planning advice should be followed and concluded that the development is not likely to have any significant effect on the SAC. The following report outlines the proposals and how the surface water and foul water will be dealt with and it shall be detailed that the discharge from both the foul and surface water will have no detrimental effect on the SAC and that phosphate levels and nitrate levels will be lowered to an acceptable level.

Location

The site is located along the main B5102 between Llay to the west and Rossett to the east. Currently the land is a vacant field and the location for the shop is proposed where the ground is considered to be less likely to produce good quality crops. The shop and ancillary café could serve as a visitor facility and provide parking and easy access to a future potential countryside walk to the woodland area if this comes forward. A right of way (PRoW) LLA/3 is located to the east and north east of the site.

Proposals

The proposal for the Planning Application is for the erection of a farm shop with ancillary café, associated access, carparking and landscaping on land at Rackery Farm, Higher Lane, Burton, Rossett. The proposal seeks to diversify the agricultural enterprise by providing a new stand-alone farm shop that would sell local farm

produce from local and surrounding agricultural enterprises. The building would also provide an ancillary café and a small meeting/function room.

The farm shop will drain to a soakaway for the surface water and a small package sewerage treatment plant will be provided, together with a drainage field for the foul water.

Surface Water Drainage

The surface water run-off from the proposed shop will be collected in a piped system and this will drain direct to a soakaway located to the front and south east of the building. We understand that the ground will have suitable porosity given that it is in close proximity to a sand and gravel extraction area which is just to the south east. This would suggest that the ground is a mixture of sand and gravels and would have a good infiltration rate. There is a possibility that the collected surface water run-off will initially be directed to a rainwater harvesting tank and this would be re-used following appropriate treatment within the building for flushing toilets.

Foul Water Drainage

The proposal will include a small café with up to 22 covers in one sitting. The building will have a small kitchen area and will be provided with two unisex toilets. Within the design an appropriately sized grease trap will be provided immediately outside of the kitchen to ensure that no cooking fats, oils or greases enter the foul water drainage treatment plant.

The sizing of the treatment plant will be based on the following:

- 22 covers x 3 turnaround per day = 66 covers internally with the café
- 4 x fulltime staff

As a calculation it would suggest the following:

Café = 66 x 15 litres per head	= 990 litres
4 x staff @ 90 litres per head	= 360 litres
Meeting/Function Room = max 8 persons @ 15 litres	= 120 litres
<u>Total = 1470 litres</u>	

All figures have been calculated and based on Flows and Loads 4.

The above figures provide an accurate representation of the likely usage of the café and facilities; however the proposals will ensure that adequate capacity is provided should the café receive higher footfall on the odd occasion. We would suggest the treatment plant is a WPL Diamond DMS3 or similar which, has a 5-11 population and either a gravity or pumped outfall.

In order to achieve betterment in terms of nitrate and phosphates discharging to the ground we would recommend the addition of an Actiflo Disc or similar, which is designed to achieve a high removal level of suspended solids and phosphorus. It is understood that the total removal rate is in excess of 95% of phosphorus. This will be provided alongside the treatment plant whereby the liquor discharged from the treatment plant will pass through the Actiflo treatment process, after which it will discharge to a suitably designed drainage field. From calculation the total discharge from the café will be in the region of 1470 litres, which is below the 2 cubic metres discharge permitted to ground. Clearly there will be a significant benefit in the

phosphorus scrubber and when combined with the new and additional landscaping will see an overall reduction in the nitrates within the ground.

Overall, we consider there would be significant improvement to the drainage of the site and a significantly reduced impact on the SAC, such that the proposals would meet with the current legislation and requirements.

Conclusion

In assessing the surface water drainage and foul water drainage to the site, we consider that appropriate measures will be provided to reduce phosphate loading of wastewater and improvement of the existing and proposed liquor that would discharge to a drainage field. A further option would be to include a reed bed beyond the treated liquor once it has passed through an active flow treatment system, which would further reduce flows and improve the quality of the wastewater. Overall the private sewerage treatment system would be less than the maximum daily discharge rate of 2 cubic metres. The re-use of the surface water run-off would supplement and in part replace the need for clean water from a mains supply and would overall reduce the discharge to ground.

In conclusion therefore we consider that a satisfactory drainage scheme is available to this proposal that would be fully compliant with Natural Resources Wales interim guidance and advice and the Council's own drainage policies.