SITE:	The Cart Shed (Barn C) Upper Grove Farm, Moraston Lane, Sellack, Ross
	on Wye, Herefordshire HR9 6LZ
TYPE:	Planning Permission
DESCRIPTION:	Proposed change of use and conversion of a redundant farm building to one detached domestic dwelling.
APPLICATION NO:	212950
GRID REFERENCE:	OS 355713 - 225902
APPLICANT:	Mr Paul Rimmer

Our knowledge of the development proposals has been obtained from the following sources:

- Application for Planning Permission;
- Proposed Site Plan (Ref: 21009-06);
- Block Plan (Ref: 21009-02);
- Drainage Plan (Ref: 21009-08);
- Flood Risk Assessment;
- Design & Access Statement.

Overview of the Proposal

The Applicant proposes the change of use and conversion of a redundant farm building to one detached 2 bed dwelling. The site covers an area of approx. 0.1237ha. The topography of the site is relatively flat however the surrounding area slopes towards the site. The area to the west of the site slopes down from southwest to northeast. The land to the east of the site slopes from northeast to southwest.

Site Location





Flood Risk

Fluvial Flood Risk

Review of the Environment Agency's Flood Map for Planning (Figure 1) indicates that the site is located within the low risk Flood Zone 1. As the proposed development is less than 1ha and is located within

Flood Zone 1, in accordance with Environment Agency standing advice, the planning application does not need to be supported by a Flood Risk Assessment (FRA). This is summarised in Table 1:

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	Within Flood Zone 3	Within Flood Zone 2	Within Flood Zone 1
Site area less than 1ha	FRA required	FRA required	FRA not required*
Site area greater than 1ha	FRA required	FRA required	FRA required

*except for changes of use to a more vulnerable class, or where they could be affected by other sources of flooding

Surface Water Flood Risk

Review of the EA's Risk of Flooding from Surface Water map indicates that the site is at risk of surface water flooding due to a flow route associated with a large pond to the north west of the site, which flows down the natural valley to the south into Wells Brook. We note on the Drainage Plan that the existing Finished Floor Level is 81.53mAOD. In line with the modelled surface water flood levels within the FRA for a 1 in 100 year plus 50% chance of blockage, FFL should be raised to a minimum of 81.75mAOD to mitigate against the risk of flooding should the pond overtop.



Other Considerations and Sources of Flood Risk

There may be a risk of surface water flooding from higher land. The risk of ingress would be mitigated against by the raised FFL.

Review of the EA's Groundwater map indicates that the site is not located within a designated Source Protection Zone or Principal Aquifer.

Surface Water Drainage

We understand that infiltration testing in accordance with BRE 365 has been conducted within the land ownership boundary. **The raw infiltration test results should be submitted.** The average infiltration rate recorded was 2.07s/mm which we have converted to 2.396x10⁻⁵m/s, which is an acceptable rate for discharging surface water runoff to ground.

The surface water arrangements for the proposed conversion are unclear.

The drainage plan shows an infiltration trench will be used; however, the Flood Risk Assessment suggests that the existing surface water drainage system, which already includes an infiltration trench, with an overflow linked to the existing pond will be retained as part of the development. Existing soakaways are also mentioned, but details of these have not been provided.

It is suggested that infiltration trenches will attenuate and discharge runoff from the impermeable parking areas, but it is unclear where this soakaway would be located.

As the infiltration rate was positive, surface water runoff from the proposed development should be discharged to ground. As the proposed development is for a residential conversion, the SuDS system should be designed to attenuate and discharge surface water runoff for a 1 in 100 year plus 40% climate change event.

We note that upon exceedance of the surface water system, the overland flow routes are downgradient from the proposed development.

It should be noted that soakaways should be located a minimum of 5m from building foundations, that **the base of soakaways and unlined storage/conveyance features should be a minimum of 1m above groundwater levels** and must have a half drain time of no greater than 24 hours. We note that a groundwater test pit has not been undertaken. Groundwater levels should be confirmed.

We assume that the development is part of a larger proposal to redevelop redundant farm buildings. Therefore, if the proposed barn conversions are going to be separately owned, then, where possible, the drainage infrastructure for each development should be located within the plot red line boundary. If this is not the case, the Applicant must confirm the proposed adoption and maintenance arrangements for the surface water drainage system. The Drainage Layout plan should reflect the ownership of the respective drainage components.

Foul Water Drainage

We understand that a package treatment plant discharging to a drainage field is proposed. It appears that the drainage field would be gravity fed, given the levels provided on the drainage plan. The sizing and specific location (distance from the proposed dwelling) of the drainage field is yet to be provided.

Although infiltration testing has been undertaken, no percolation test results (undertaken to BS6297) to inform the size of the proposed drainage field have been submitted. We note that the infiltration rate proved a discharge to ground was viable, therefore we will accept a drainage field which is sized based on a converted infiltration rate. The raw infiltration test results should be submitted.

If percolation testing results prove soakage is viable, the following must be adhered to for Drainage Fields:

- The drainage field should be located a minimum of 10m from any watercourse or water feature, 15m from any building, 50m from an abstraction point of any groundwater supply and not in any Zone 1 groundwater protection zone. The drainage field should be sufficiently far from any other drainage field, to ensure that overall soakage capacity of the ground is not exceeded.
- Drainage fields should be constructed using perforated pipe, laid in trenches of uniform gradient which should not be steeper than 1:200. The distribution pipes should have a minimum 2m separation.
- Drainage fields should be set out in a continuous loop, i.e. the spreaders should be connected. If this feature is missed, it will gradually clog with debris and the field will become increasingly ineffective.

In accordance with Policy SD4 of the Core Strategy, the Applicant should provide a foul water drainage strategy showing how it will be managed. **Foul water drainage must be separated from the surface water drainage.** The Applicant should provide evidence that contaminated water will not get into the surface water drainage system, nearby watercourse and ponds.

Overall Comment

We recommend that the following information is provided prior to the Council granting planning permission:

- Confirmation of Finished Floor Levels.
- Submission of raw infiltration test results.
- Confirmation of a surface water drainage strategy, including location and size of proposed drainage features.
- Submission of a foul water drainage strategy.