

Drainage Strategy

Change of use of an Agricultural Building to a Dwelling

The Site

The proposal is for the conversion of a various range of barns on land adjacent the farmhouse at Mowbray Farm, Frizington.

The application site relates to a group of existing buildings used for agricultural machine storage and formerly egg production.

Surface Water Drainage

As noted the project is to convert existing building with no extensions. The existing building is a pitched roof with gutters and downpipes discharging into an existing surface water drain and connects to a public sewer. No changes are proposed to the existing surface water drainage.

The proposals include removal of a three single storey elements which totals around 113m² and therefore reduces the amount of surface water run-off with an increase to the permeable area (mainly soft landscape).

The existing roof area is 762m². The proposed roof area after demolition of the single storey is 649m² (15% reduction).

Current surface water flow rate from the application site is 10.7 litres/sec and the proposed surface water flow rate from the site would be 9.1 litres/sec. The footprint of the building to be demolished will be soft landscape or gravel areas.

Paved areas will discharge into the soft landscape and naturally soakaway.

The site offers further opportunities to reduce surface water run-off (such as attenuation tanks or pond). The condition of the existing drains will need to be examined at the detail design stage which will involve some invasive investigation and best completed as enabling works prior to development. Should drains require up-grading larger capacity drains could be installed with flow restrictors to further control surface water run-off.

The development proposals and drainage strategy results in a substantial reduction in the drainage flow rates which will provide a small benefit to the area. It is normal practice to apply a planning condition for full details of surface water drainage to be applied which would be a sensible approach on a sensitive site.

Foul Drainage

The foul drainage from the site will be taken to a packaged treatment plant which will discharge to the surface water drain.

Management

All drainage shall remain private and be maintained by the site owners.

The Hydroshark (or equivalent alternative) stormwater filter shall be maintained in accordance with the manufacturer's instructions.

The attenuation tanks should be maintained in accordance with SuDS manual guidance table 21.3:

TABLE 21.3 Operation and maintenance requirements for attenuation storage tanks		
Maintenance schedule	Required action	Typical frequency
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action	Monthly for 3 months, then annually
	Remove debris from the catchment surface (where it may cause risks to performance)	Monthly
	For systems where rainfall infiltrates into the tank from above, check surface of filter for blockage by sediment, algae or other matter; remove and replace surface infiltration medium as necessary.	Annually
	Remove sediment from pre-treatment structures and/or internal forebays	Annually, or as required
Remedial actions	Repair/rehabilitate inlets, outlet, overflows and vents	As required
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually
	Survey inside of tank for sediment build-up and remove if necessary	Every 5 years or as required