

## 1.0 Surface Water Drainage

In accordance with National Planning Policy Framework (NPPF), Building regulations Approved Document H and the local LLFA guidance, options for disposal of surface water from new developments should follow the hierarchy below:

1. Discharge to ground via infiltration.
2. Discharge to watercourse/waterbody
3. Discharge to surface water sewer.
4. Discharge to a combined sewer.

Sustainable Drainage Systems (SuDS) should also be used wherever possible to mimic as far as practicable the natural run off regime, improve water quality, reduce run-off volume and attenuate peak flows. These should be designed in accordance with the current guidance, CIRIA C753 'The SuDS Manual'.

An assessment of each method is presented below in priority order.

### 1.0.1 Infiltration

To determine the viability of infiltration systems as a suitable method for the disposal of surface water flows from the development, a desktop study of the likely strata encountered. Based on the British Geological Survey (BGS) online mapping, the ground encountered is Predominantly Till which is considered an impermeable material and therefore infiltration can be discounted as a surface water disposal method.

Figure 1.0 below shows an extract taken from the BGS website describing the geology of the site area.



Figure 1.0 – BGS map

## 1.0.2 Watercourse

As infiltration is seen as an unacceptable method for surface water disposal, the next option in the hierarchy is to outfall to a watercourse. There is a watercourse (Leagram Brook/Old Mill Stream) located within close proximity to the north of the site which would be suitable for surface water disposal. The BGS map above in Figure 1.0 shows the location of the watercourse in relation to the proposed development.

## 1.0.3 brownfield runoff analysis

The proposed development should seek to limit the surface water flows leaving the development to the same or less than the existing run off. In order to calculate the existing runoff rates for the development, a development area is to be determined. Refer to figure 2.0 below for the proposed impermeable areas plan for the development.

Previous impermeable area 0.05Ha

Previous peak discharge 7.0l/s

Peak discharge 50% reduction 3.5l/s

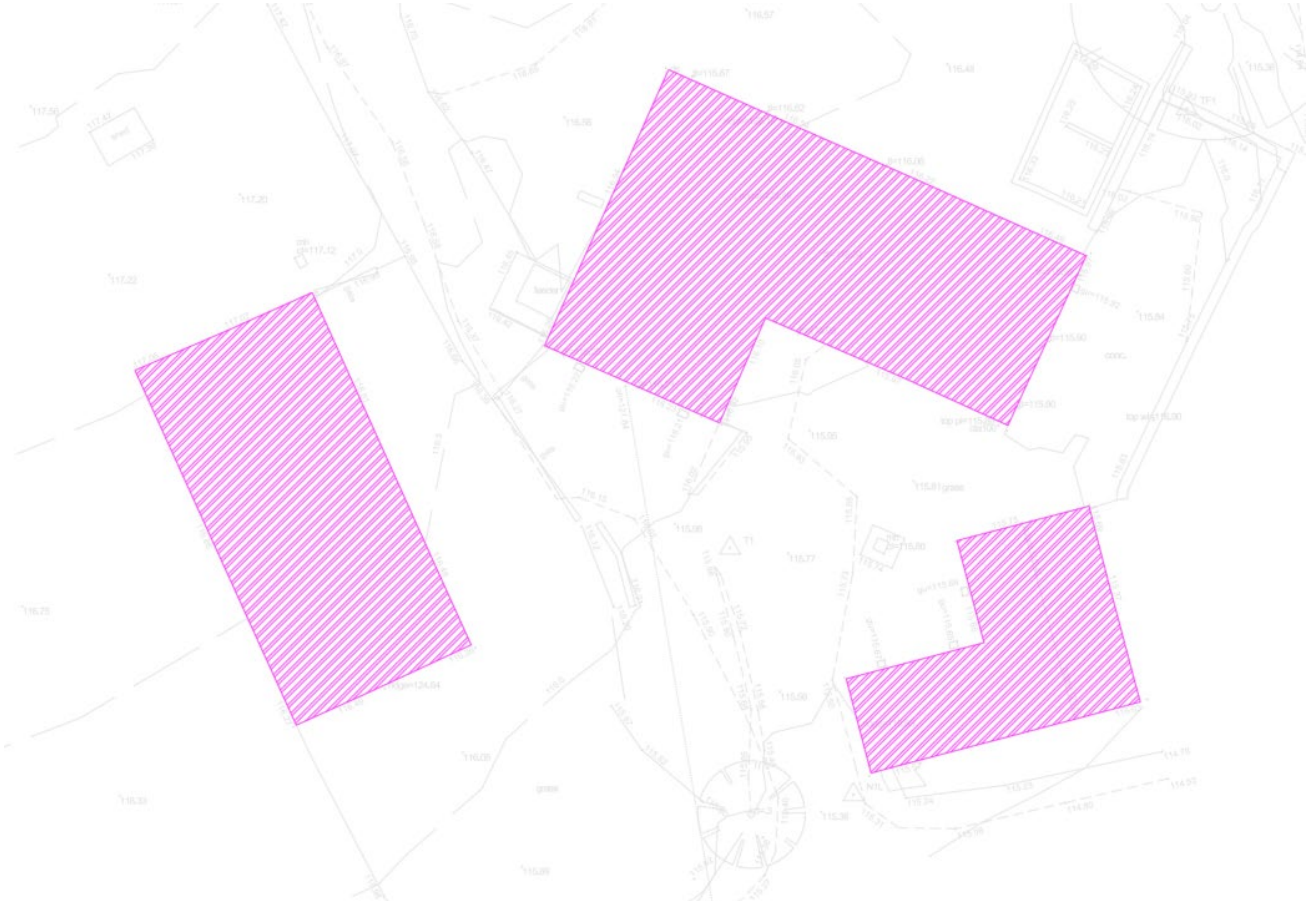


Figure 2.0 – Impermeable areas plan

### 1.0.4 Surface Water Drainage Proposals

To manage the surface water proposals and limit the discharge to the brownfield discharge rate, it is proposed that the surface water will enter a flow control device which will discharge surface water into the watercourse at the new brownfield discharge rate.

### 1.1. Foul Water Drainage Proposals

As a priority, foul water drainage systems should seek to follow the below hierarchy for the discharge location, using the highest option up the list as reasonably practicable.

1. Public sewer
2. Private/shared sewer
3. Package treatment plant
4. Septic tank
5. Cesspit

To determine a suitable outfall for the site, an assessment of the existing utility records has been undertaken. Refer to Figure 13 below for an extract of the united utilities records.

From a site visit it appeared that there were no sewers or manholes visible around the development, however there is a watercourse within close proximity to the north of the development. It is proposed to treat the foul water on-site before discharging into the proposed surface water sewer and entering the watercourse.