Surface Water System

Existing

There are no changes to the existing surface water system on the farmstead, this building would use the existing pipes on the farmyard.

Rainwater system to be the same as previous buildings - Gutters to be Hunter Stormflow 160 mm or equivalent, which accommodates 2.5 litres/second with downpipe at the centre or 6.6 L/sec with downpipe at one end.

Proposal

The roof area of the building would be 249m2

Roof pitch 15 degrees

As previously established Drigg area is 0.016 litre per second per square metre.

Rainwater will be 249 x 0.016 = 3.9 litres per second.

Water to River Irt

Same calculations as previously approved system.

Water carried away to River Irt via existing drain into local stream that serves buildings 1 and 3 on the plan.

Fall in pipe, based on 15 m from 1:10,000 Ordnance Survey map contours 25 m to 10 m, over a distance of 350 metres from building to point of contact with the river, hence a gradient of 1 in 20.

Drain 150 mm diameter, 40 litres per second.

Other buildings roof water disposed of via this drain or to be disposed using this pipe, are marked 1, 2, 3 and 4 on the plan.

Calculation for building 1 is 2.9 litre per second

Calculation for proposed building 2 (roof over midden) is 5.7 litre per second

Calculation for proposed building 3 (roof over) is 3.8 litre per second

Calculation for proposed silage pit roof is 3.8 litre per second

Total from buildings 1, 2, 3 and 4 is = 16.2 litres per second. Hence the 150 mm drain with a capacity of 40 litres per second is sufficient.

Location Plan PD1