

**DRAINAGE STRATEGY**  
**FOUL & STORM WATER DESIGN -**

**GENERAL** - The storm water drainage scheme shown is designed to conform with the those requirements as set out in SuDS manual CIRIA document 753, ensuring run off water is source controlled appropriately.

Foul water is shown as connecting to a public sewer but may connect via a nearer public or indirectly through a private system subject to further detailed survey. Note, NOT ALL PUBLIC SEWERS ARE INDICATED ON THE SEWERAGE AUTHORITY MAPS.

**STORM WATER** - The existing greenfield site measures some 0.12 ha in area. It is located in flood zone 1 area for fluvial and tidal flooding. The proposed development adds offer the following areas:

Red line boundary area	1233 sq.m
Predevelopment soft area	1233 sq.m
House roof area	260 sq.m
New car parking area	75 sq.m
Paving at front of houses	71 sq.m
Patios at rear of houses	62 sq.m
<b>TOTAL IMPERMEABLE AREAS</b>	<b>468 sq.m</b>
Soft areas	765 sq.m
<b>TOTAL SITE AREA</b>	<b>1233 sq.m</b>

**QBar rate** - The Q bar rate is the established greenfield run off rate from the site. An require this rate to be that apportioned to the impermeable run off and not the whole site. As the impermeable run off area is only 468 sq.m, the Q bar rate of 0.1 l/s is very low and impracticable to achieve. Therefore the outflow is controlled with a manufacturer of flow control device able to achieve a rate of 0.7 l/s.

**Roof** - The roof downpipes from the front of the houses shall be drained through a system of pipes and catchpits which connect to the positive storm drainage connection from the site. The roof downpipes at the rear of the houses will drop to drain with a rain diverter to a 210 ltr water butt.

**Geocell Attenuation** - The offline geocell attenuation tanks provides the 100 year + 45% climate change event storage required for the outflow from the site of 0.7 l/s, established as 91 cu.m. This volume is provided in 3 nr. 0.5m deep geocellular module tanks wrapped with an impermeable membrane. The tanks are at a suitable depth required to overcome flotation due to the high winter groundwater levels likely.

**DESIGN EXCEEDANCE FLOWS** - Where design storms and attenuation volumes are exceeded, such flows will run down the road towards the lowest part of the site and to the highway.

**OWNERS SUDS DRAINAGE MAINTENANCE PLAN** - Where attenuated volumes are provided in permeable construction make ups which are inaccessible without conventional excavation, it is important to provide features on the drainage system which minimise silt migration.

- All rainwater hopperheads, pipes and gutters should be cleaned twice a year.
- Empty and clean the rainwater butts yearly.
- All pipes should be cleaned/jetted once a year.

**FOUL WATER** - The new houses may connect direct to the public sewer as indicated. However due to the 2011 regulations of adoption of pipes draining two properties or more, closer public foul sewers, not recorded on the Sewerage Undertaker maps, may be present. The foul design is therefore subject to further survey findings on site.