

- Large roof areas – flow control (vortex or orifice type) devices on gutter outlets prior to discharge to the network.
- Car parks or similar areas – local underground storage by 'geocell' or similar prior to discharge to the network

In some situations where the ground topography and network hydraulics permit, the attenuation storage may be provided 'off-line' by ground level storage ponds. In such cases the storage ponds may be constructed by placing in-situ concrete or pre-cast concrete slabs over a 3mm thick HDPE membrane. The invert level of the pond must be such that it drains to a watercourse or the marine environment after the storm has passed.

27.1.3 Submittals

27.1.3.1 Products and Materials Approval

In order to verify compliance with the specification the Contractor shall submit information for all products and materials used in the Works to the Engineer for approval sufficiently in advance of their use in accordance with the Contract programme allowing for ordering and approval times. Reference shall also be made to Section 01600 of the specification on products and materials approval. Information to be submitted shall comprise but not necessarily be limited to:

- i. The manufacturers design calculations, complete and detailed specification and test results of the proposed flow control device and fabricated underground storage.
- ii. Should any details of the devices and proprietary storage be altered in any way during manufacture from those proposed and approved by the Engineer, submit for the Engineer's approval the revised details and test results.
- iii. Submit to the Engineer the results of all quality control tests carried out on the manufactured devices and/or proprietary storage as soon as practicable after testing and in any case not later than the time of delivery of the relevant products to the site.
 - Detailed reference list to fulfil criteria for acceptance.
 - Catalogues/Brochures.
 - Cross section drawings with detailed parts list, as applicable.
 - Detailed material specifications.
 - Completely filled-in and stamped data sheet.
 - Dimensioned general arrangement drawing, as applicable.