

Principles & Practice of Landscape Maintenance

A key feature of SuDS is their integration within the local landscape and their amenity contribution, and it is appropriate therefore that landscape maintenance practice is applied to their management. An advantage of using property managers and landscape contractors to maintain SuDS is that they are likely to have an intimate knowledge of the development and already visit the site on a regular basis to undertake routine care such as grass cutting, sweeping and litter picking. This attendance should ensure regular monitoring of the drainage system, a rapid response to maintenance needs and a feeling of ownership of the SuDS features.

The principles of landscape maintenance have been established for some time and designers of SuDS have an opportunity to use existing management techniques to develop management plans and maintenance contracts. For large complex sites, the following landscape maintenance procedures are usually applied. These can be simplified for smaller development areas. It is recommended that the below approach is taken for the maintenance of the SuDs.

-  Management Plan - describing the management objectives for a site over time, and the management strategies that will be employed to both realise these objectives and reconcile any potential conflicts that may arise.
-  Specification - detailing the conditions under which the work will be done, the materials to be used and the standard of work required.
-  Schedule of Work – itemising the tasks to be undertaken and the frequency at which they will be performed.

Maintenance Requirements of Sustainable Drainage Components

Regular Maintenance Activities

-  Regular grass cutting – in line with Landscape Maintenance Specification.
-  Litter removal – in line with Landscape Maintenance Specification.
-  Inlet & outlet cleaning (if present) – at least twice a year.

Occasional Maintenance

-  Periodic removal of excess silt – around 20-30% normally removed once per year.
-  In the event of reduced permeability (infiltration swales only), a number of techniques can be used to open the surface to encourage infiltration:
 - Scarifying to remove 'thatch';
 - Aeration equipment to encourage water percolation;
 - Chisel or slitting tines, solid tines (spikes), hollow tines, and vibratory tines;
 - Remove and replace grass and top soil (last resort).
-  If silt accumulation is a problem:
 - Remove (reuse or compost) turf
 - Remove accumulated silt (subject to toxicity test) and land apply or dispose of to tip
 - Cultivate remaining topsoil to levels
 - Reuse or re-turf area to agreed levels

Remedial Works

The following items can often be managed out through good design. Where they are found to be necessary, this is likely due to site-specific characteristics or unforeseen events, and as such their frequency is difficult to predict:

-  Reinstatement of edgings to hard surfaces
-  Repair or relocation of damaged barriers
-  Reinstatement of levels & turf due to erosion by rills or gullies
-  Lifting turf, disposal of silt accumulation & reinstatement with new re-cycled topsoil & turf
-  Realignment of rip-rap or other erosion controls
-  Repair/rehabilitation of inlets, outlets & overflows
-  System rehabilitation following high silt loads discharged during a single event (see procedure in occasional maintenance).

Monitoring

-  Monthly visual inspections will be undertaken with potential additional inspections especially during the vegetation establishment period & after significant storm events to:
 - identify areas of erosion, scour or gullies
 - identify locations of silt deposits
 - determine the health of the vegetation & soil
 - identify areas of excessive water logging or other damage
-  Filter strips and swales accumulate silt naturally due to their primary position in the SuDS 'management train' sequence. The accumulation of silt occurs slowly, unless there is an unforeseen incident or badly managed construction site.
-  In the event that swales develop a 'wet' swale character, then manage as wetland vegetation.

Storms

In the event of a storm occurring the SuDs will be inspected to ensure the inlets and outlets are clear. If they are not clear, steps will be taken for any blockages to be removed.

A further inspection will take place following the storm to make sure no damage has occurred and any repairs will be arranged to be completed.

Pollutants

In the event of pollutants entering the SuDS features, RMG will instruct a specialist to attend to assess the situation, carrying out the appropriate testing and if required, arrange for the removal of any pollutants. The cost of which will be in addition to the SuDS maintenance contract.