



**CHARLES CHURCH**



# **Landscape & SUDS Maintenance Plan**

## **Land South of Sketchley Lane, Burbage**

Charles Church Developments Limited  
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Rev: B

## **Introduction**

Sustainable Drainage Systems (SuDS) are an environmentally friendly approach to managing rainfall that uses landscape features to deal with surface water. SuDS aim to:

- Control the flow, volume and frequency of water leaving a development area.
- Prevent pollution by intercepting silt and cleaning runoff from hard surfaces.
- Provide attractive surroundings for the community.
- Create opportunities for wildlife.

The purpose of this document is to provide concise and easy to follow guidance for the long-term management and maintenance of the SuDS to be constructed at Land off Sketchley Lane, Burbage, following recommendations from The SuDS Manual (CIRIA C753). This document sets out the basis of the development SuDS Maintenance Plan to ensure that the management company is entrusted with a robust inspection and lifetime maintenance programme which results to the optimum operation of the surface water drainage network.

The activities listed in this document are generic to the relative SuDS types and represent the minimum maintenance and inspection requirements, however additional tasks or varied maintenance frequency may be instructed by the management company (or others) as required. Specific maintenance needs of the SuDS elements should be monitored, and maintenance schedules adjusted to suit requirements.

All those responsible for maintenance should follow relevant Health and Safety legislation (Health and Safety at Work Regulations, 1999) for all activities listed within this report including lone working, if relevant) and risk assessments should always be undertaken.

Any contractor employed by the Management Company (or others) shall conduct periodic maintenance of all such SuDS in accordance with the contents of this document. Inspection checks shall be conducted by a qualified and competent person, at the minimum intervals listed within this document and the appropriate work carried out.

## **SuDS Features at Land off Sketchley Lane, Burbage**

The development at Sketchley Lane comprises a combination of conventional piped drainage and SuDS feature as part of the overall surface water drainage strategy. The SuDS feature includes a single online attenuation basin with a hydrobrake control device limited to 13.5l/s

## **Managing the SuDS**

The SuDS at Sketchley Lane have been designed for easy maintenance and will require three categories of maintenance activities.

- **Regular maintenance** (including inspections and monitoring) - this consists of basic tasks done on a frequent and predictable schedule, including vegetation management, litter and debris removal, and inspections.
- **Occasional maintenance** - this comprises tasks that are likely to be required periodically, but on a much less frequent and predictable basis than the routine tasks (sediment removal is an example).
- **Remedial maintenance** – this comprises intermittent tasks that may be required to rectify faults associated with the system, although the likelihood of faults can be minimised by good design. Where remedial work is found to be necessary, it is likely to be due to site-specific characteristics or unforeseen events, and as such timings are difficult to predict.

### Maintenance Responsibilities

Leep Holdings (Utilities) Ltd will be responsible for the operation and maintenance of adoptable storm and foul drainage systems coloured brown for foul water and blue for surface water as indicated on drawing No. 23053/160 Rev C & 23053/161 Rev C. This includes the hydrobrake control device serving the attenuation basin.

Highway drainage runs and road gullies will be the responsibility of the Highway Authority (Leicestershire County Council).

The attenuation basin and landscaped areas will be maintained by a management company or others i.e. Parish Council.

Between the construction period and formal adoption / handover of the adoptable drainage, highway drainage, attenuation pond /structures and POS areas, the maintenance responsibilities of these features will lie with Charles Church Developments Ltd.

### Maintenance Regime

The landscape maintenance principles for the open space areas will be conducted by the management company (or others) based on a frequency of 20 visits per year. It is proposed that maintenance visits will be conducted as follows:

- April – October – two visits a month
- November – March – one visit a month
- Plus one reserve visit as required.

A record of maintenance visits and remedial operations shall be kept as per the '*SuDS Monthly Inspection Record*' document. The following guidelines are proposed as an initial regime, but maybe either increased or decreased by the management company (or others) depending on the local environment and any external contributing factors.

### Attenuation Basin

The key maintenance requirement for the attenuation basin and its associated inlet / outlet headwalls / pipework will be the maintenance of vegetation and mowing of grass within and on the banks/verges and the removal of accumulated sediments and collection of litter and debris.

During the inspections, the general operation and structural condition of the inlet / outlet headwalls and other structures should be identified and rehabilitated as required. De-silting of the attenuation ponds will usually be dependent on the on-going silt level checking. Any desilting work will be conducted under the supervision of consulting engineers and to a pre-agreed method statement.

### Existing Unnamed Watercourse

An ordinary watercourse partially falls within / adjacent to the site boundary of the Sketchley Lane development. This therefore makes the landowner (Charles Church Developments Ltd) the riparian owner of this watercourse. Maintenance responsibility of the watercourse lies with the riparian owner. The key principle for keeping this watercourse well maintained is to ensure proper flow of water by preventing obstructions. Key maintenance proposals will include the following:

1. **Keeping the watercourse free of debris** - this will involve removing any physical obstructions such as large rocks, rubble, fallen trees, branches and other waste materials (litter, grass cuttings etc.) so that water can flow freely. Monitoring of the watercourse will be carried out monthly or after significant rainfall events. Vegetation clearance of the watercourse banks will be carried out half yearly (start of spring & autumn seasons) or when required. Maintenance works on the watercourse will be undertaken in mid-Autumn in preparation for increased winter rainfall. Unless there is a major rainfall event, vegetation clearance works will be carried out after vegetation has begun to die in late September/October. Vegetation clearance works will ideally be carried out when the water level is at its lowest.
2. **Monitoring of structures within the watercourse** – this will involve constant monitoring of culverts, headwalls, trash screens and grilles along the watercourses to ensure these are clear of any debris and enable unobstructed flow of water. These structures will be monitored on a monthly basis all year round and especially at times of anticipated high flow / prior to significant rainfall events.
3. **Removal of excess silt / sediment** - Silt which naturally builds up in the watercourse will be removed along its length to ensure unobstructed flow of water. The frequency of silt /sediment removal will be as and when required or subject to the monthly watercourse monitoring period. All non-organic waste will be completely removed off site and disposed of in an appropriate manner. Any desilting work will be conducted under the supervision of consulting engineers and to a pre-agreed method statement.

In addition to the above, the below tables provide guidance for operational and maintenance requirements for attenuation pond. The maintenance regime for the existing unnamed watercourse will generally follow the same maintenance regime as that of swales / ditches – referenced below:

**Operation and maintenance requirements for ponds (The SuDS Manual):**

| Maintenance schedule   | Required action                                                                                            | Typical frequency                                                                                                     |
|------------------------|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Regular maintenance    | Remove litter and debris                                                                                   | Monthly                                                                                                               |
|                        | Cut grass – for spillways and access routes                                                                | Monthly (during growing season), or as required                                                                       |
|                        | Cut grass – meadow grass in and around basin                                                               | Half yearly (spring – before nesting season, and autumn)                                                              |
|                        | Manage other vegetation and remove nuisance plants                                                         | Monthly (at start, then as required)                                                                                  |
|                        | Inspect inlets, outlets and overflows for blockages, and clear if required.                                | Monthly                                                                                                               |
|                        | Inspect banksides, structures, pipework etc for evidence of physical damage                                | Monthly                                                                                                               |
|                        | Inspect inlets and facility surface for silt accumulation. Establish appropriate silt removal frequencies. | Monthly (for first year), then annually or as required                                                                |
|                        | Check any penstocks and other mechanical devices                                                           | Annually                                                                                                              |
|                        | Tidy all dead growth before start of growing season                                                        | Annually                                                                                                              |
|                        | Remove sediment from inlets, outlet and forebay                                                            | Annually (or as required)                                                                                             |
|                        | Manage wetland plants in outlet pool – where provided                                                      | Annually (as set out in Chapter 23)                                                                                   |
| Occasional maintenance | Reseed areas of poor vegetation growth                                                                     | As required                                                                                                           |
|                        | Prune and trim any trees and remove cuttings                                                               | Every 2 years, or as required                                                                                         |
|                        | Remove sediment from inlets, outlets, forebay and main basin when required                                 | Every 5 years, or as required (likely to be minimal requirements where effective upstream source control is provided) |
| Remedial actions       | Repair erosion or other damage by reseedling or re-turfing                                                 | As required                                                                                                           |
|                        | Realignment of rip-rap                                                                                     | As required                                                                                                           |
|                        | Repair/rehabilitation of inlets, outlets and overflows                                                     | As required                                                                                                           |
|                        | Relevel uneven surfaces and reinstate design levels                                                        | As required                                                                                                           |

**Operation and maintenance requirements for swales (The SuDS Manual):**

| Maintenance schedule   | Required action                                                                                                                        | Typical frequency                                                                   |
|------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| Regular maintenance    | Remove litter and debris                                                                                                               | Monthly, or as required                                                             |
|                        | Cut grass – to retain grass height within specified design range                                                                       | Monthly (during growing season), or as required                                     |
|                        | Manage other vegetation and remove nuisance plants                                                                                     | Monthly at start, then as required                                                  |
|                        | Inspect inlets, outlets and overflows for blockages, and clear if required                                                             | Monthly                                                                             |
|                        | Inspect infiltration surfaces for ponding, compaction, silt accumulation, record areas where water is ponding for > 48 hours           | Monthly, or when required                                                           |
|                        | Inspect vegetation coverage                                                                                                            | Monthly for 6 months, quarterly for 2 years, then half yearly                       |
|                        | Inspect inlets and facility surface for silt accumulation, establish appropriate silt removal frequencies                              | Half yearly                                                                         |
| Occasional maintenance | Reseed areas of poor vegetation growth, alter plant types to better suit conditions, if required                                       | As required or if bare soil is exposed over 10% or more of the swale treatment area |
| Remedial actions       | Repair erosion or other damage by re-turfing or reseedling                                                                             | As required                                                                         |
|                        | Relevel uneven surfaces and reinstate design levels                                                                                    | As required                                                                         |
|                        | Scarify and spike topsoil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface | As required                                                                         |
|                        | Remove build-up of sediment on upstream gravel trench, flow spreader or at top of filter strip                                         | As required                                                                         |
|                        | Remove and dispose of oils or petrol residues using safe standard practices                                                            | As required                                                                         |



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