



Revision	Description	By	Checked	Date

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SUMMERGROVE, WHITEHAVEN – SuDS MAINTENANCE & MANAGEMENT SCHEDULE

1.0 INTRODUCTION

John Swift Homes Ltd and their nominated management company are responsible for the below maintenance regime associated with the development at Summergrove, Whitehaven. This schedule is to be adopted and developed by the appointed management company, for all drainage elements under their responsibility.

The Schedules detailed below are in accordance with Table 32.1 of the CIRIA SuDS Manual (2015).

2.0 DRAINAGE ITEMS

The following drainage items are to be considered:

ATTENUATION BASINS

Regular inspection and maintenance are important for the effective operation of the attenuation basins. The maintenance should be conducted by an experienced team that has the appropriate training and safety qualifications.

General maintenance requirements include inspection for clogging, litter, weeds and water ponding to identify the required remedial actions.

Maintenance Schedule – Sustainable Drainage	
Drainage Element – Attenuation Basin	
Required Action	Typical Frequency
Inspection of inlets and outlets and overflows for blockages and clear as required. Inspection of banksides, structures, pipework etc... for evidence of physical damage. Check any penstocks and other mechanical devices. Visual inspection for inefficiencies - such as surface water building up at the inlet. Prune and trim any surrounding trees and remove cuttings.	Regular
	Monthly
	Monthly
	Annually
	Quarterly
	Every two years, or as required in response to emerging issues between visits.
Tidy all dead growth before start of growing season. Remove litter and debris from gully and drain surface. Cut grass – for spillways and access routes.	Regular Maintenance
	Annually
	Monthly and as required

Cut grass – in and around basin.	Monthly (during growing season) or in response to emerging issues between visits. All in accordance with Landscape Management Specification.
Manage other vegetation and remove nuisance plants.	Normally fortnightly. Adjust frequency as appropriate to weather conditions and growth rate. All in accordance with Landscape Management Specification.
Remove sediment from inlets, outlets and forebay.	Monthly (at start, then in response to emerging issues between visits).
Re-seed areas of poor vegetation growth.	Annually (or in response to emerging issues between visits).
Repair erosion or other damage by re-seeding or re-turfing.	As necessary to respond to emerging issues between visits.
Repair/rehabilitation of inlets, outlets and overflows.	As required, in response to emerging issues between visits.
Relevel uneven surfaces and reinstate design levels.	As required, in response to emerging issues between visits.
	As required, in response to emerging issues between visits.

The above schedule is based upon 'Table 22.1 Operation and maintenance requirements for detention basins – CIRIA SuDS Manual 2015; Chapter 22: Detention Basins'.

PERMEABLE BLOCK PAVING

Regular inspection and maintenance are required to ensure the effective long-term operation of permeable block paving.

The areas of shared private drives will be maintained in accordance with advice provided by the manufacturer, while the responsibility for this maintenance will be placed with the landowner/tenant or appointed management company. The responsibility for maintenance of individual private drives will be placed with the landowner/tenant.

Maintenance Schedule – Proprietary Drainage	
Drainage Element – Permeable Block Paving	
Required Action	Typical Frequency
Brushing and vacuuming (standard cosmetic sweep over whole surface)	<p>Regular</p> <p>Annually, after autumn leaf fall, or reduced frequency as required, based on site specific observations of clogging or manufacturers recommendations – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment</p>

<p>Stabilise and mow contributing and adjacent areas</p> <p>Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying</p> <p>Survey inside of tank for sediment build-up and remove and clean if necessary</p>	<p>Occasional Maintenance</p> <p>As required</p> <p>As required - Annually</p>
<p>Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50mm of the level of the paving</p> <p>Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace jointing material</p> <p>Rehabilitation of surface and upper substructure by remedial sweeping</p>	<p>Remedial Actions</p> <p>As required</p> <p>As required</p> <p>Every 10 to 15 years or as required if infiltration performance is reduced due to significant clogging</p>
<p>Initial inspection</p> <p>Inspect for evidence of poor operation and/or weed growth – if required, take remedial action</p> <p>Inspect silt accumulation rates and establish appropriate brushing frequencies</p> <p>Monitor inspection chambers</p>	<p>Monitoring</p> <p>Monthly for three months after installation</p> <p>Three-monthly, 48 hours after large storms in the first 6 months</p> <p>Annually</p> <p>Annually</p>

The above schedule is based upon 'Table 20.15 Operations and maintenance requirements for pervious pavements – CIRIA SuDS Manual 2015; Chapter 20: Pervious pavements'.

CONTROL MANHOLE

It is essential that the control manhole is checked regularly and especially after (significant) rainfall events, in order to maintain the effectiveness of the control. The control manhole will be maintained in accordance with the maintenance plan specified by the manufacturer, and it is recommended that the hydrobrake is inspected alongside pipework on site. A summary of the typical maintenance schedule is provided below.

Maintenance Schedule – Proprietary Drainage	
Drainage Element – Control Manhole	
Required Action	Typical Frequency
Inspect hydrobrake and inlet to ensure they are clear of blockages	Routine Maintenance Monthly for three months after installation. Biannually thereafter.

PIPEWORK, MANHOLES AND CHANNELS

The following maintenance items are recommended, for any pipework and manholes associated with the SuDS systems:

- Local repair or local replacement of damaged pipes or other structures in order to maintain the functioning of the sewer.
- Cleaning and removal of sediments, obstructions etc. to restore hydraulic capacity.
- Jetting/vacuum of sewers to be undertaken as often as necessary to remove silts and/or ordinary debris.
- In the event that any extraordinary issues are encountered during an inspection, further information may be required such as a CCTV survey report.
- Maintenance to be undertaken on a six-monthly schedule.
- All manhole covers should be lifted, and the manholes visually inspected for silt, debris and signs of blockages within the drainage system. Check manhole covers and frames for damage and ensure correctly bolted together. This should be undertaken on a six-monthly basis.
- Should any debris or blockages be detected, the manholes should be cleaned along with associated pipe runs using a high-pressure jetting unit. On completion, a CCTV surveyed should be undertaken to verify/identify that no further remedial works are required.
- To avoid damaging the pipe, PSI pressures need to be verified before jetting of plastic twin wall sewers. Cleaning of drainage systems may require the temporary sealing of the system and careful collection of the effluent for disposal off site.

Maintenance Schedule – Proprietary Drainage	
Drainage Element – Pipework and Manholes	
Required Action	Typical Frequency
Inspection of inlets and outlets. Ensure they are clear and flows are not impeded.	Regular Bi-annually and in addition following any significant storm event.

Inspection of manholes, gullies, sumps, channels and drains for debris and signs of blockages.	Quarterly
Inspection of manhole covers and frames for damage and ensure correctly bolted together.	Bi-annually
Inspection of water quality. Ensure water quality is free of algae, oils, or odours.	Bi-annually
Visual inspection for inefficiencies - such as surface water building up at the inlet.	Quarterly
Inspection of gullies, inlet/outlet pipework and control systems for blockages, clogging, standing water and structural damage.	Monthly for 1 year following construction completion, thereafter bi-annually.
Remove litter and debris from gully and drain surface.	Regular Maintenance Bi-monthly
Remove or control tree roots where they are encroaching the sides of drainage apparatus, using recommended methods (e.g. NJUG, 2007 or BS 3998:2010).	Bi-annually

WATERCOURSE

Regular inspection and maintenance are important for the effective operation of the watercourse and associated structures. General maintenance requirements include inspection for silting, clogging, litter and weeds to identify the required remedial actions.

Maintenance Schedule – Sustainable Drainage	
Drainage Element – Watercourse	
Required Action	Typical Frequency
Remove litter and debris.	Regular Annually, after autumn leaf fall, or reduced frequency as required, based on site specific observations of clogging or manufacturers recommendations – pay particular attention to areas where water runs into culverts as this area is most likely to collect the most sediment.
Cut grass – to retain grass height within specified design range.	Monthly (during growing season) or as required (subject to landscape management plan).
Manage other vegetation and remove nuisance plants.	Monthly (subject to landscape management plan).
Inspect trash screens and headwalls for blockages and clear if required.	Monthly
Inspect vegetation coverage to banksides.	Monthly for 6 months, quarterly for 2 years, then half yearly.

<p>Inspection of inlets and outlets for blockages and clear as required.</p> <p>Visual inspection for inefficiencies - such as surface water building up at the inlet to existing culvert.</p> <p>Inspect bed of watercourse for silt accumulation. Establish appropriate silt removal frequencies.</p>	<p>Monthly for 6 months, quarterly for 2 years, then half yearly or following periods of heavy rainfall and flooding.</p> <p>Half yearly</p> <p>Yearly</p>
<p>Remove sediment from inlets and outlets.</p>	<p>Occasional Maintenance</p> <p>Every 5 years, or as required.</p>
<p>Repair outfall and trash screen.</p> <p>Relevel uneven surfaces and reinstate design levels.</p> <p>Repair inlets and outlets.</p>	<p>Remedial Actions</p> <p>As required.</p> <p>As required.</p> <p>As required.</p>

The above schedule is based upon guidance within *CIRIA SuDS Manual 2015*.



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