

Drainage Inspection and Maintenance Strategy

This document has been prepared to support the inspection and maintenance of the proposed below ground drainage of the Highgate Studios site. The drainage network comprises surface and foul water drainage systems:

- Surface water network will route all the rainwater towards the existing six outfalls. Green and blue roofs will provide an additional layer of interception at roof level prior to joining the permeable paving build-up.
- Foul water network from above ground level will be routed towards the outfall manhole via gravity.

In accordance with CIRIA C625 it is recommended that a private SuDS maintenance agreement is undertaken as a simple contract between the property owner and the maintenance provider (the maintainer). It is mainly to facilitate continuing maintenance of the SuDS that are in private ownership. The maintenance requirements are in accordance with the CIRIA C753 SuDS Manual 2015 and product manufacturer’s requirements.

The following Drainage / SuDS measures are proposed within the development:

- General Drainage:

Maintenance Period	Maintenance Task	Frequency
Regular maintenance	Inspect and identify areas that are not operating correctly. If required, take remedial action.	Monthly
	Inspect surface structures and covers removing obstructions and silt as necessary.	Monthly or as required
	Check there is no physical damage.	
	Remove overgrown vegetation 1m min. around structures and keep hard aprons free from silt and debris.	
Occasional Maintenance	Remove sediment from pre-treatment structures (e.g. gullies, channels silt traps).	Six-monthly or as required
	Remove cover and inspect inside, ensuring water is flowing freely and that the exit route for water is unobstructed.	Annually or as required
	Remove debris and silt.	
	Undertake inspection after leaf fall in autumn.	
Remedial Actions	Repair/rehabilitation of inlets, outlets, overflows and vents.	As required
Monitoring	Inspect all manholes, inspection chambers, inlets, outlets, overflows and vents to ensure they are in good condition and operating as designed.	Annually or after large storms.

- Inlets, Outlets and Inspection Chambers:

Maintenance Period	Maintenance Task	Frequency
Regular Maintenance	Inspect surface structures and covers removing obstructions and silt as necessary.	Monthly or as required

	Check there is no physical damage. Remove overgrown vegetation 1m min. around structures and keep hard aprons free from silt and debris.	Annually
	Remove cover and inspect inside, ensuring water is flowing freely and that the exit route for water is unobstructed. Remove debris and silt. Undertake inspection after leaf fall in autumn.	
Occasional Maintenance	Check topsoil levels are 20mm above edges off baskets and chambers to avoid mower damage.	As necessary
Remedial Work	Unpack stone in basket features and unblock or repair and repack stone as design detail as necessary.	As required
	Repair physical damage is necessary.	

- Flow control Structures:

Maintenance Period	Maintenance Task	Frequency
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action (for 3 months following installation).	Monthly
	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Six Monthly
	Remove sediment from pre-treatment structures.	
Monitoring	Inspect and carry out essential recovery works to return the feature to full working order.	Following all significant storm events

- Green/ Brown/ Blue Roofs:

Maintenance Period	Maintenance Task	Frequency
Regular Maintenance	During establishment, replace dead plants as required (for 12 months following installation).	Monthly
	Mow grasses (where required) and remove resultant clippings.	
	Remove fallen leaves and debris from deciduous plant foliage.	Six Monthly
	Remove nuisance and invasive vegetation, including weeds.	
	Remove debris & litter to prevent clogging of inlet drains and interference with plant growth.	
	Noxious weed treatment (3 times a year).	
Occasional Maintenance	Replace dead plants as required (typically in the Autumn).	Annually
	Inspect all components including soil substrate, vegetation, drains, irrigation systems (if applicable), membranes, and roof structure for proper operation, integrity of waterproofing and structural stability, act where required.	
	Inspect soil substrate for evidence of erosion channels and identify any sediment sources, act where required.	
	Inspect drain inlets to ensure unrestricted runoff from the drainage layer to the conveyance or roof drain system, act where required.	
	Inspect underside of roof for evidence of leakage, act where required.	

	Inspect and document the presence of wildlife.	
Remedial Action	Inspect and carry out essential recovery works to return the feature to full working order.	Following all significant storm events

- Permeable paving system:

Maintenance Period	Maintenance Task	Frequency
Regular maintenance	Inspect for sediment and debris in the inlet chambers and trim any roots that may be causing blockages.	Annually or as required based on inspections
	Cleaning of gutters and any filters on downpipes	
	Brushing and vacuuming (standard cosmetic sweep over whole surface).	Once a year, after autumn leaf fall, or as required,
Occasional maintenance	Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying.	As required, based on inspections
Remedial Actions	Remedial work to any depressions, rutting, cracked or broken blocks considered detrimental to the permeable paving performance.	As required
	Rehabilitation of surface and upper substructure by remedial sweeping.	Every 10 to 15 years or as required
	Jet washing and suction cleaning will substantially reinstate pavement to 90% efficiency (CIRIA RP992).	As required
Monitoring	Initial inspection.	Monthly for three months after installation
	Inspect inspection chambers and note rate of sediment accumulation and establish appropriate brushing frequencies.	Monthly in the first year and then annually
	Inspect for evidence of poor operation and/or weed growth – if required, take remedial action.	Annually
	Monitor effectiveness of permeable pavement and when water does not infiltrate immediately advise Client of possible need for reinstatement of top layers or specialist cleaning.	As required

- Rain gardens/ Tree Pit/ Stormwater Planter:

Maintenance Period	Maintenance Task	Frequency
Regular maintenance	Litter and debris removal.	Monthly
	Mulching (where required).	
	Inspect/check all inlets, outlets, surface and overflows (where required) to ensure that they are in good condition, free from blockages and operating as designed. Act where required.	
	Removal of nuisance and invasive vegetation.	Six Monthly
	Pruning and trimming of trees.	Annually
	Inspect and document the presence of wildlife.	
	Check for poor vegetation growth due to lack of sunlight or dropping of leaf litter and cut back adjacent vegetation where required.	
	Clean out of aeration/irrigation inlets (annually) – tree pit only	Annually

	Inspect underdrain system for blockage. Cleanout as required (LID treepits) – tree pit only	Annually
Remedial Actions	Repair erosion or other damage by re-mulching or re-seeding.	As Required
	Re-seed areas of poor vegetation growth. Alter plant types to better suit conditions, if required.	
	Scarify and spike topsoil layer to improve infiltration performance, break up silt deposits and prevent compaction of the soil surface (typically every 60-month period).	
	Remove build-up of sediment, reinstate design levels (typically every 60-month period).	
	Remove and dispose of oils or petrol residues using safe standard practices.	
	Tree pit replacement. Refer to ArborSystem Installation & Maintenance Manual 2019	
	Servicing of utilities if within ArborSystem. Refer to ArborSystem Installation & Maintenance Manual 2019	
Monitoring	Inspect and carry out essential recovery works to return the feature to full working order.	Following all significant storm events

Reference shall be made to CIRIA publication C753 (The SuDS Manual) and to the relevant maintenance guidance from the products manufacturers.

