

1.0 PREAMBLE

Regular inspections and maintenance of both the foul and surface water drainage systems is important to ensure the effective and efficient operation of the system and to reduce the likelihood of blockages and flooding on and off site.

Responsibility for maintaining and managing the drainage system on completion of the 12-month maintenance period will be by the landowner, through their site management company and/or tenants occupying the units. Principle contact is the landowner:

CSS TW Asset limited
2nd Floor
168 Shoreditch High Street
London
E1 6RA

This plan should be read in conjunction with the drainage design drawings and an up-to-date CCTV survey report.

The Operation and Maintenance (O&M) manuals and/or Health & Safety (H&S) files must contain copies of:

- This Drainage Maintenance Plan
- Record Copy of drainage design drawings
- Manufacturers information for ancillary items
- Pump supplier contact and service agreements
- Post construction CCTV survey report

The post construction CCTV report acts as a physical record of the drainage system at handover, as installed running at full efficiency. Any further CCTV surveys should be inserted and replace previous where appropriate.

Sewers, manholes and drainage channels are unlikely to require maintenance other than periodic inspections, unless a blockage occurs.

2.0 DESIGN

Below ground drainpipes for both the surface and foul water networks have been designed to achieve self-cleansing velocity and in accordance with:

Approved Document H: Drainage and waste disposal
BS 8301: 1985 Code of practice for Building Drainage

3.0 GUIDANCE

If **sudden failure** occurs inspections should be carried out at the earliest opportunity by a specialist. Blockages must be cleared, and remediation works undertaken to ensure the effective operation of the drainage system.

The following should be carried out on an annual basis:

- Inspection chambers, manhole chambers and drainage channel outlets noted as **silt traps, sump pits, downstream defenders** or **filter units** must be inspected and cleared.

- **Drainage channels** and **gully's** must be inspected and cleared.

The following should be carried out every two years:

- The gully traps should be plunged and thoroughly flushed out with clean water.
- Covers of inspection chambers and manholes should be removed and the sides, benching and channels cleaned.
- Main and branch drains should be rodded, jetted, and then flushed with clean water.
- Note that correct ends of rods should be used to avoid damage to pipes and them becoming detached.

Reference should be made to the manufacturer's information and maintenance requirements for recommended intervals and safe methods of cleaning for the following proprietary systems which are located on the record drawings:

- storm water storage system
- drainage channels
- petrol interceptors
- flow controls such as hydrobrakes, orifices
- downstream defenders

A full CCTV survey will also be carried out at 10 yearly intervals to assess the condition of the drainage system.

Jetting should be carried out downstream to suit the flow of effluent but should not be attempted to push through an attenuation tank, interceptor, or flow control. A vacuum tanker should be used upstream of each inlet into the tank or other ancillary item noted.

4.0 PUMPS

A service contract agreement will be in place with the supplier of the package pump. Routine maintenance will form part of the agreement with provision for emergency situations. General inspections will generally include the following:

- The plant is visually checked, working tests are undertaken to ensure correct functioning of each item of equipment and minor adjustments made, as necessary.
- The level control equipment is cleaned as far as is practicable from ground level, chamber de-sludged by hand control of the pumps.

5.0 SAFETY

Petrol interceptors are designed to trap and store hydrocarbon contamination which may emanate from the yards and as such, should only be cleaned out by a suitable qualified and licensed specialist Contractors.

In all instances, inspection and cleaning is to be carried out by a suitable Specialist Contractor, following the guidelines given in BE EN 752 Part 7 1998 "Maintenance and Operations" and "Safe Working in Sewers and at Sewage Works", published by the National Joint Health and Safety Committee for the Water Services.

All underground and under-floor drains and manholes (including oil interceptors) represent confined spaces. Appropriate precautions will be taken before entering drains and manholes. Access will only be undertaken by appropriately trained personnel.

PROPRIETARY SYSTEMS		
Maintenance schedule	Required action	Typical frequency
Routine maintenance	Remove litter and debris and inspect for sediment, oil and grease accumulation	Six monthly
	Change the filter media	As recommended by manufacturer
	Remove sediment, oil, grease and floatables	As necessary – indicated by system inspections or immediately following significant spill
Remedial actions	Replace malfunctioning parts or structures	As required
Monitoring	Inspect for evidence of poor operation	Six monthly
	Inspect filter media and establish appropriate replacement frequencies	Six monthly
	Inspect sediment accumulation rates and establish appropriate removal frequencies	Monthly during first half year of operation, then every six months

ATTENUATION STORAGE		
Maintenance schedule	Required action	Typical frequency
Regular maintenance	Inspect and identify areas that are not operating correctly. If required, take remedial action	Annually
	Remove debris from the catchment surface (where it may cause risks to performance)	Monthly
	Remove sediment from pre-treatment structures and/or internal forbays	Annually, or as required
Remedial actions	Repair/rehabilitate inlets, outlet, overflows and vents	As required
Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually
	Survey inside of tank for sediment build-up and remove if necessary	Every five years or as required

FILTER STRIPS		
Schedule	Required action	Typical frequency
Regular maintenance	Remove litter and debris	Monthly (or as required)
	Cut the 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 filter strip surface to identify evidence of erosion, poor vegetation growth, compaction, ponding, sedimentation and contamination (e.g. oils)	Monthly (at start, then half yearly)
	Check flow spreader and filter strip surface for even gradients	Monthly (at start, then half yearly)
	Inspect gravel flow spreader upstream of filter strip for clogging	Monthly (at start, then half yearly)
	Inspect silt accumulation rates and establish appropriate removal frequencies	Monthly (at start, then 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% of the filter strip area
Remedial actions	Repair erosion or other damage by re-turfing or reseeded	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