

**HARBOUR PLACE, FORTY ACRE FARM,
BEDHAMPTON**

OWNERS MANUAL

Relating to Surface Water Drainage Maintenance

The site has been designed in accordance with Sustainable Drainage Systems (SUDS) techniques.

The SUDS Manual (CIRIA C753) states that “Sedimentation is one of the primary removal mechanisms in SUDS. Most pollution in runoff is attached to sediment particles and therefore removal of sediment results in a significant reduction in pollutant loads”.

In order to remove sedimentation the surface water drainage design utilises deep seal trapped gullies throughout, catchpit manholes upstream of the surface water storage/infiltration devices and distribution tanks within the permeable paved areas.

Drawings are attached for the permeable paving, soakaway and filter drains

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1) Explanation of the Surface Water Drainage System

The Principle of SUDs has been adopted for the whole of the site, calculations have been carried out using MicroDrainage with a storm return period of 100 years, an allowance of 40% for climate change and an allowance of 10% for urban creep.

2) Operating and Maintenance Responsibility

Barratt David Wilson Homes are responsible for maintaining the surface water drainage systems on this site during the construction period. A management company will be set up by Barratt David Wilson (BDW) in the name of 'Harbour Place Management Company Ltd' or similar which during the construction period BDW will act as sole directors. Upon handover and occupation, the maintenance company will be handed over to residents who will take over as Directors. The Management Company will appoint a managing agent who will ensure that the SuDS are operated and maintained as set out in this document. The maintenance and operation will be funded through contributions from the Residents to the maintenance company.

3) Maintenance Schedule for solid wall pipes

Maintenance Schedule	Required Action	Recommended Frequency
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action.	Monthly for 3 months, then six monthly.
	Debris removal from catchment surface (where may cause risks to performance)	Monthly
	Inspect chambers and manholes for evidence of pipes operating correctly and take remedial action if necessary, to include jetting of pipework.	Monthly for 3 months, then annually

4) Maintenance Schedule for Filter drains

Maintenance Schedule	Required Action	Recommended Frequency
Regular maintenance	Remove litter (including leaf litter) and debris from filter drain surface, access chambers and pre-treatment devices	Monthly (or as required).
	Inspect filter drain surface, inlet/outlet pipework and control systems for blockages, clogging, standing water and structural damage	Monthly
	Inspect pre-treatment systems, inlets and perforated pipework for silt accumulation, and establish appropriate silt removal frequencies	Six monthly
	Remove sediment from pre-treatment devices	Six monthly or as required
Occasional maintenance	Remove or control tree roots where they are encroaching the sides of the filter drain, using recommended methods (eg NJUG, 2007 or BS 3998:2010)	As required.
	At locations with high pollution loads, remove surface geotextile and replace, and wash or replace overlying filter medium	Five yearly, or as required
	Clear perforated pipework of blockages	As required.

5) Maintenance Schedule for swales

Maintenance Schedule	Required Action	Recommended Frequency
Regular maintenance	Remove litter and debris	Monthly (or as required).
	Cut grass – to retain grass height within specified design range	Monthly (during growth 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	As required

	gravel trench, flow spreader or at top of filter strip	
	Remove and dispose of oils or petrol residues using safe standard practices	As required

6) Maintenance Schedule for infiltration Basins

Maintenance Schedule	Required Action	Recommended Frequency
Regular maintenance	Remove litter, debris and trash	Monthly
	Cut grass – for landscaped areas 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
Occasional maintenance	Reseed areas of poor vegetation growth	As required or if bare soil is exposed over 10% or more of the swale treatment area
	Prune and trim trees and remove cuttings	As required
	Remove sediment from pre-treatment system when 50% full	As required
Remedial actions	Repair erosion or other damage by re-turfing or reseeding	As required
	Realign the rip-rap	As required
	Repair or rehabilitate inlets, outlets and overflows	As required
	Rehabilitate infiltration surface using scarifying and spiking techniques if performance deteriorates	As required
	Relevel uneven surfaces and reinstate design levels	As required

Monitoring	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 pre-treatment systems for silt accumulation; establish appropriate silt removal frequencies	Half yearly
	Inspect infiltration surfaces for compaction and ponding	Monthly

7) Maintenance Schedule for grilles

Maintenance Schedule	Required Action	Recommended Frequency
Regular maintenance	Litter and debris removal	Monthly (or as required).
Occasional maintenance	Check moving parts and locks. Oil and ensure free moving. Replace when necessary.	Six monthly
Remedial actions	Remove build-up of sediment.	As required.
Monitoring	Inspect inlets and facility surface for silt accumulation. Establish appropriate silt removal frequencies.	

8) Reasons for Maintenance

Surface water contains variable amounts of sediment which settles out at certain locations and could cause blockages if left.

Road gullies also trap oil and prevent it entering the surface water sewer system.