



Affordable Housing, Oxford – Warren Crescent

SuDS Management Plan

On behalf of



Project Ref: 27920/011 | Rev: DRAFT | Date: October 2013



Document Control Sheet

Project Name: Affordable Housing, Oxford – Warren Crescent

Project Ref: 27920/011

Report Title: SuDS Management Plan

Doc Ref: DRAFT

Date: October 2013

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Revision	Date	Description	Prepared	Reviewed	Approved

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1 Introduction

- 1.0.1 The Warren Crescent surface water drainage system utilises Sustainable Drainage Systems (SuDS) in the form of permeable pavements, pipework and a swale (with limestone base) to attenuate and convey surface water across the development and provide a robust water quality treatment train to mitigate the impact of the development on the adjacent Lye Valley Site of Specific Scientific Interest (SSSI).
- 1.0.2 Attenuation, within the swale is provided up to and including the 1 in 100 year (+ 30% allowance for climate change) rainfall event.
- 1.0.3 As with any drainage system, SuDS require regular inspection and maintenance to ensure that they continue to operate as designed, both in terms of hydraulic capacity, potential pollutant removal, and maintenance of surface water quality.
- 1.0.4 This report sets out the inspection and maintenance requirements for the long term management of the development's surface water drainage system in accordance with The SuDS Manual, CIRIA C697, and also identifies the maintenance of the different elements of the system.
- 1.0.5 This draft has been issued for comment and subsequent liaison with Peter Brett Associates LLP (PBA) before finalising.

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2 Operation and Maintenance

- 2.0.1 The SuDS Manual, CIRIA C697, states that there are three types of maintenance activities associated with SuDS:
- 2.0.2 Regular Maintenance – ‘basic tasks undertaken on a frequent and predictable schedule’ including vegetation management, litter and debris removal, and inspections.’
- 2.0.3 Occasional Maintenance – ‘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).
- 2.0.4 Remedial Maintenance – ‘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.’
- 2.0.5 Monitoring and maintenance of the SuDS components within the surface water drainage system will be the responsibility of Oxford City Council’s Leisure and Parks Department.
- 2.0.6 In accordance with The SuDS Manual, CIRIA C697, specific maintenance needs should be monitored and maintenance schedules adjusted to suit a SuDS components particular requirements and location.
- 2.0.7 Table 1 in Appendix A defines the type of maintenance required by each of the SuDS utilised as part of the Warren Crescent surface water drainage system.

Appendix A SuDS Maintenance Table

Table 1

SuDS Maintenance Table

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Table 1: SuDS Maintenance Table

OCC Leisure & Parks O & M Activity	SuDS Component											
	Permeable Pavement		Catchpit		Pipework		Swale		Weir		Swale Limestone Base	
	Required Action	Frequency	Required Action	Frequency	Required Action	Frequency	Required Action	Frequency	Required Action	Frequency	Required Action	Frequency
Regular Maintenance	Brushing and vacuuming: Care should be taken in adjusting vacuuming equipment to avoid removal of jointing material of present. Any lost material should be replaced	At least twice a year - during spring and after leaf autumn fall, or as required based on site-specific observations of clogging or manufacturers' recommendations	Inspection	At least twice a year	Inspection from catchpit	At least twice a year	Litter and debris removal	A minimum of twice a year or when mowing takes place	Litter and debris removal	A minimum of twice a year or when mowing takes place	Litter and debris removal	A minimum of twice a year or when mowing takes place
							Grass cutting - to retain grass height within specified design range (to be determined at detailed design stage)	Monthly (during growing season) or as required	Inspection	At least twice a year	Inspection	At least twice a year
							Manage the integrity of the embankment through visual monitoring	Monthly at start, then as required				
Occasional Maintenance	Removal of weed	As required	Sediment Removal	As required	Sediment Removal	As required	Remove any unwanted vegetation growth. If necessary, reseed areas of poor grass cover	Annually, or if bare soil is exposed over 10% or more of the swale treatment area	As Required		As Required	
Remedial Maintenance	Remedial work to any depressions, rutting and cracked/broken blocks considered detrimental to the structured performance or a hazard to users.	As required	Any damage to catchpit to be repaired.	As required	Structure rehabilitation/repair	As required	Repair erosion or other damage by re-turfing or re-seeding.	As required	Repair any damage	As required	As required if monitoring picks up on any deterioration or damage - possible removal of surface layer and replacement may be needed in this instance	
	Rehabilitation of surface and upper structure: surface blocks should be uplifted and the affected areas of layering course material and geotextile disposed of. The existing sub-base can be left in situ. Fresh geotextile and laying course stone should be installed and the existing surface blocks re-used.	As required, perhaps after around 25 years or more (if infiltration and filtration performance is reduced as a result of significant clogging)					Re-level uneven surfaces and reinstate design levels.	As required				
							Scarify and spike topsoil layer to break up silt deposits and prevent compaction of the soil surface	As required				
Monitoring	Initial inspection	Monthly for three months after installation	Initial inspection	Monthly for three months after installation	Initial inspection	Monthly for three months after installation	Inspect infiltration and filtration surfaces for ponding, compaction and silt accumulation. Record areas where ponding is >48hours	Monthly, and after every large rainfall event	Inspection of weirs	At least twice a year	Inspection of limestone base	Every 5 years
	Inspect for evidence of issues with the permeable paving i.e. settlement, depressions, rutting, cracked/broken bricks and weeds. If required take remedial action.	Every three months, or 48 hours after large rainfall events	Monitor inspection chambers for sediment accumulation	At least twice a year	Inspection from catchpit	At least twice a year	Inspect inlets and overflows/weirs for blockages, and clear if required	Monthly				
	Monitor the amount of silt accumulation on the pavement and establish appropriate brushing frequencies.	Annually					Inspect inlet and facility surface for silt accumulation. Establish appropriate silt removal frequencies	Bi-annually				
							Visual monitoring of the embankment, to include checking for any landslips, burrowing and unwanted vegetation	A minimum of twice a year				