



West Winch Housing Access Road

Environmental Statement Chapter 11: Water Appendix J SuDS Maintenance and Management Plan

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Document Reference: NCC/3.11.01j

Version Number: 01

Date: November 2019



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1 Introduction

- 1.1.1 This document has been produced on behalf of Norfolk County Council to support a planning application for a proposed housing access road at West Winch, Norfolk. The total site area is approximately 9.5 ha. The proposed works comprise a new access road connecting the existing A10 and A47 with proposed development and dualling of the existing A47 to the Hardwick Junction.
- 1.1.2 This report gives guidance on the maintenance of Sustainable Drainage Systems (SuDS) and outlines who will be responsible for the maintenance.

2 Method Statement

2.1 Sediment Forebay/detention Basin

- 2.1.1 The detention basins will require ongoing regular maintenance to ensure continuing operation to design performance standards. Adequate access must be provided to all detention areas for inspection and maintenance.
- 2.1.2 Grass cutting should ideally retaining grass lengths of 75-150 mm with cuttings to be disposed of offsite. Detention basins should be inspected to note rate of sediment accumulation, sediment should be removed once exceeding 25mm depth.
- 2.1.3 The operation and maintenance requirements are given in the table below:



Table 2-1 – Sediment forebay/detention basin maintenance requirements

Maintenance Schedule	Required Action	Recommended Frequency
Regular Maintenance	Remove Litter and Debris	Monthly
Regular Maintenance	Cut Grass – for spillways and access routes	Monthly (during growing season), or as required
Regular Maintenance	Cut Grass – Meadow Grass in and around Basin	Half Yearly (Spring – before nesting season, and after autumn)
Regular Maintenance	Manage other vegetation and removed nuisance plants	Monthly (at start, then as required)
Regular Maintenance	Inspect inlets, outlets and overflows for blockages and clear if required	Monthly
Regular Maintenance	Inspect banksides, structures, pipework etc for evidence of physical damage	Monthly
Regular Maintenance	Inspect Inlets and facility surface for silt accumulation. Establish appropriate silt removal frequencies	Monthly (for first year) then annually or as required
Regular Maintenance	Check any penstocks and other mechanical devices	Annually
Regular Maintenance	Tidy all dead growth before start of growing season	Annually
Regular Maintenance	Remove sediment from inlets, outlet and forebay	Annually (or as required)
Regular Maintenance	Manage wetland plants in outlet pool – where provided	Annually (as set out in chapter 23)



Maintenance Schedule	Required Action	Recommended Frequency
Occasional Maintenance	Reseed areas of poor vegetation growth	As required
Occasional Maintenance	Prune and trim any trees and remove cuttings	Every 2 years, or as required
Occasional Maintenance	Remove sediment from inlets, outlets, foray, and main basin when required	Every 5 years, or as required (likely to be minimal requirements where effective upstream source control is provided)
Remedial Actions	Repair Erosion or other damage by reseeding or re-turfing	As required
Remedial Actions	Realignment of rip-rip	As required
Remedial Actions	Repair/rehabilitation of inlets, outlets and overflows	As required
Remedial Actions	Relevel uneven surfaces and reinstate design levels	As required

2.2 Filter Drains

2.2.1 These linear drainage features are visible SuDS components serving the purposes of conveyance, treatment of surface water runoff.

2.2.2 The operation and maintenance requirements are given in the table below:



Table 2-2 – Filter drain maintenance requirements

Maintenance Schedule	Required Action	Recommended Frequency
Regular Maintenance	Remove litter and debris	Monthly, or as required
Regular Maintenance	Cut Grass - to retain grass height within specified design range	Monthly (during growing season or as required)
Regular Maintenance	Manage other vegetation and remove nuisance plants	Monthly at start, then as required
Regular Maintenance	Inspect inlets, outlets and overflows for blockages, and clear if required	Monthly
Regular Maintenance	Inspect infiltration surfaces for ponding, compaction, silt accumulation, record areas where water is ponding for > 48 hours	Monthly, or when required
Regular Maintenance	Inspect Vegetation coverage	Monthly for 6 months, quarterly for 2 years , then half yearly
Regular Maintenance	Inspect inlets and facility surface for silt accumulation, establish appropriate silt removal frequencies	Half Yearly
Occasional Maintenance	Remove build-up of sediment at top of filter strip	As required
Remedial Actions	Relevel uneven surfaces and reinstate design levels	As required



Maintenance Schedule	Required Action	Recommended Frequency
Remedial Actions	Remove and dispose of oils or petrol residues using safe standard practices	As required

2.3 Vortex Flow Control / Orifice Flow Controls

2.3.1 These are proprietary systems which are custom made to control the onsite flows. Some of the proposed flow controls may be prone to blocking and should be monitored closely.

2.3.2 The operation and maintenance requirements are given in the table below:

Table 2-3 – Orifice flow control maintenance requirements

Maintenance Schedule	Required Action	Recommended Frequency
Regular Maintenance	Remove litter and debris and grass cutting and removal of cuttings from the upstream SuDS to prevent these being washed into the control. Inspection of control chamber and removal of any sediments, debris etc.	Quarterly or as required following Monitoring
Remedial Actions	Check the orifice flow control fixings to manhole chamber and access into the control chamber is functional.	Quarterly or as required following Monitoring
Monitoring	Inspect flow controls and overflows and check flow are not impeded.	Monthly or after periods of heavy rainfall



2.4 Design Life

- 2.4.1 The design life of the road is likely to exceed the design life of each of the SuDS components listed above.
- 2.4.2 During the routine inspections of any drainage components it may become apparent that they have reached the end of their functional lifetime. In the interest of sustainability repairs should be the first-choice solution where practicable. If this is not the case then it will be necessary for the property owners to undertake complete replacement of the component in question.
- 2.4.3 Maintenance of the system will be the responsibility of *Norfolk County Council?*