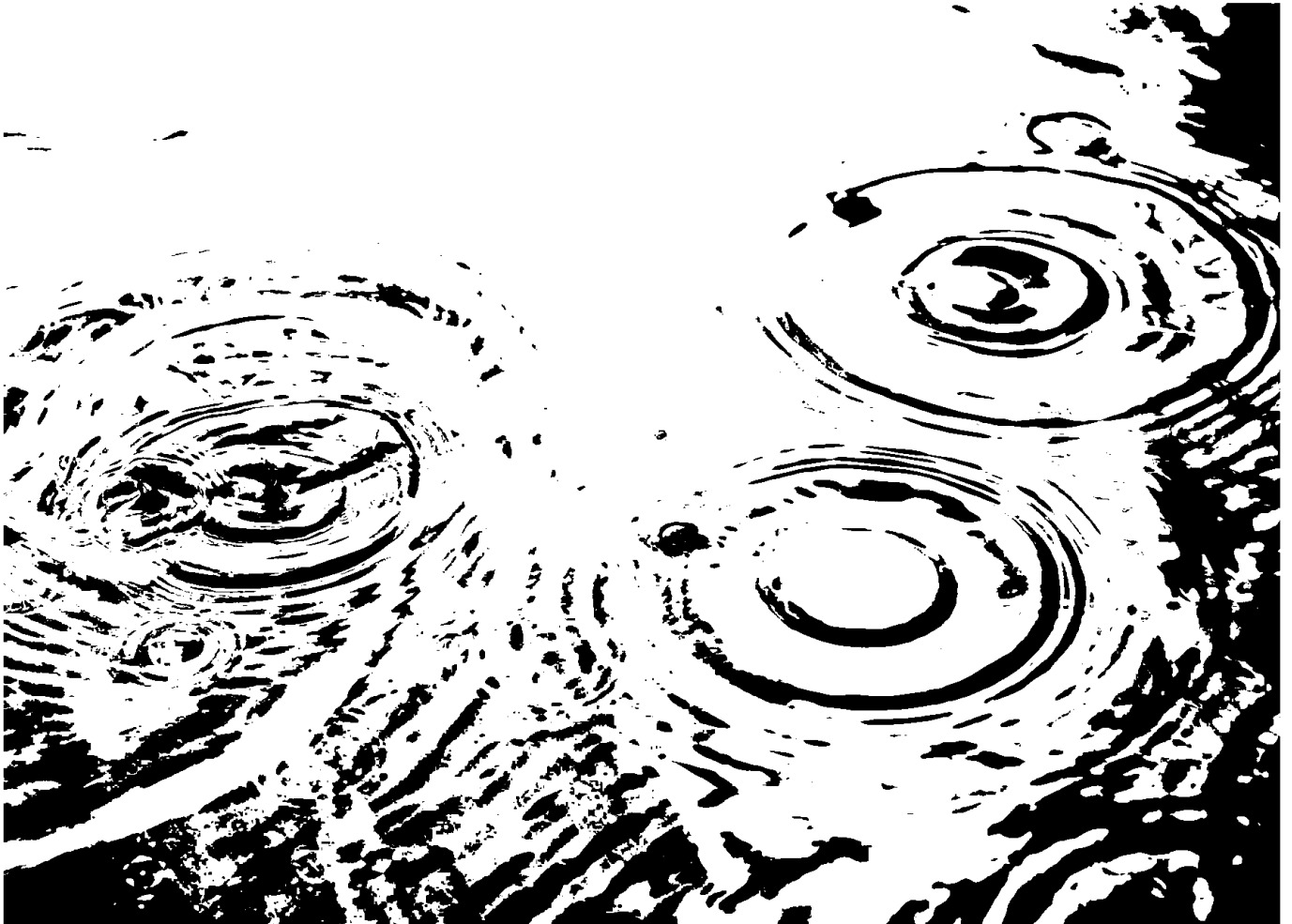




Whalley Road, Barrow

Sustainable Drainage System (SuDS) Management Strategy

681117-R1(00)
September 2023



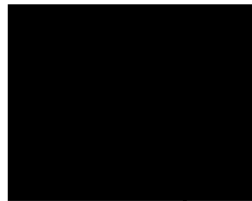
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RSK GENERAL NOTES

Project No.: 681117-R1(00)
Site: Whalley Road, Barrow
Title: Drainage Management Strategy
Client: LNT Construction
Date: September 2023
Office: Wigan
Status: Draft

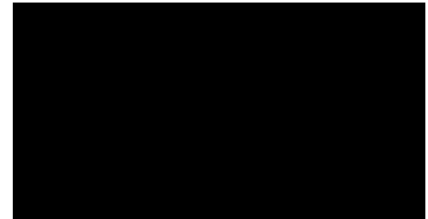
Author



Signature

Date: 15.09.23

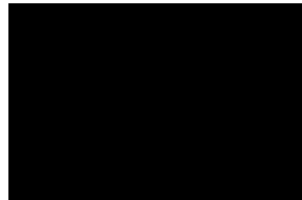
Technical reviewer



Signature

Date: 15.09.23

Project Manager



Signature

Date: 15.09.23

Issue No	Version/Details	Date issued	Author	Reviewed by	Approved by
00	Initial Draft	15.09.23	CW	MC	CW

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Where field investigations have been carried out, these have been restricted to a level of detail required to achieve the stated objectives of the work.

This work has been undertaken in accordance with the quality management system of RSK LDE Ltd.

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INSPECTION CHECKLIST

1 INTRODUCTION

This SuDS management strategy has been prepared by RSK Land and Development Engineering Ltd on behalf of LNT Construction, to satisfy planning conditions related to a care home developed off Whalley Road, Barrow (The Development).

The drainage considered for the purposes of this statement, include drainage features that will be employed to reduce and manage surface water runoff from the development to a design return period of 100 years plus climate change. This is required so that the development will not increase the risk of flooding to the site and its environs. All drainage on site is discharged to a neighbouring ordinary watercourse.

This document outlines the long-term maintenance of the proposed surface water system and will refer to the following documents, some of which provide further detail on the maintenance operations required:

- CIRIA Report C753, 'The SUDS Manual', 2015
- CIRIA Report C625, 'Model Agreements for Sustainable Water Management Systems', 2004.

2 MAINTENANCE RESPONSIBILITIES

Responsibility for drainage within England and Wales rests with various bodies. For the Development, the drainage responsibilities will be divided between the following:

- **Private Landowner** – each householder will be responsible for the maintenance of drainage features within individual property curtilages.
- **Communal Areas** - A Management Company will be set up for the Development to maintain all porous storage material, stormwater attenuation tanks, outfalls, and any associated flow controls.

2.1 Inspections

As part of the on-going management of most drainage components there is a need for regular inspections to ensure that blockages, silt and excess litter are not adversely affecting the component or scheme. It is important that this is carried out and time is allowed for corrective action to be taken.

Routine inspections should be carried out once a month for most components, particularly for the first year after installation. This frequency can then be reviewed (and if appropriate reduced).

Recurring attendance by the same person/organisation ensures monitoring of the drainage system, a rapid response to problems and “ownership” of the SuDS components. The inspections should be recorded on a maintenance record.

3 MAINTENANCE REGIME

As the maintenance of the communal SUDS features will be carried out via a Management Company, the form of agreement should include the required maintenance listed below. Should the maintenance be transferred at a later date to a public body, then the model agreement SUDS MA1 should be used, details of which can be found in the CIRIA guidance C625.

The following section describes the required maintenance for each feature in turn. The Drainage maintenance requirements listed below should be reviewed after the first 5 years, with a view to agreeing a new regime for the ongoing maintenance.

Notwithstanding the routine inspections and maintenance requirements, after severe storm events all features shall be inspected to clear debris and repair damaged structures or features. Records of the maintenance carried out shall be prepared by the Management Company.

3.1 Permeable Paving

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment
Occasional maintenance	Stabilise and mow contributing and adjacent areas	As required
	Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying	As required – once per year on less frequently used pavements
Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50mm of the level of the paving	As required
	Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material.	As required
	Rehabilitation of surface and upper substructure by remedial sweeping.	Every 10 to 15 years or as required (if infiltration

Maintenance schedule	Required action	Typical frequency
		performance is reduced due to significant clogging)
Monitoring	Initial inspection	Monthly for three months after installation
	Inspect for evidence of poor operation and/or weed growth – if required, take remedial action	Three monthly 48h after large storms in first six months
	Inspect silt accumulation rates and establish appropriate brushing frequencies	Annually
	Monitor inspection chambers	Annually

3.2 Roadside Gulley and catchpits

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Removal of litter and debris	6 monthly
Occasional maintenance	Jetting of system	As required
	Removal of sediment, oil, grease and floatables.	As required
Remedial Actions	Clear pipework blockages.	As required
Monitoring	Initial inspection	Initial inspection
	Inspect for evidence of poor operation	Three monthly 48h after large storms in first six months
	Inspect system and establish appropriate replacement frequencies.	A Six monthly.
	Inspect sediment accumulation rates and establish appropriate replacement frequencies.	Monthly during first half year of operation, then every six months

3.3 Attenuation Tanks

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action	Monthly for 3 months, the annually
	Remove debris from the catchment surface (where it may cause risks to performance)	Monthly
	For systems where rainfall infiltrates into the tank from above, check surface of filter for blockage by sediment, algae, or other matter; remove and replace surface infiltration medium as necessary.	Annually
	Remove sediment from pre-treatment structures and/or internal forebays	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 5 years or as required

APPENDIX A INSPECTION CHECKLIST

General information			
Site ID			
Site location and co-ordinates (GIS if appropriate)			
Elements forming the SuDS scheme		Approved drawing reference	
Inspection frequency		Approved specification reference	
Type of development		Specific purpose of any parts of the scheme (e.g. biodiversity, wildlife, and visual aspects)	

Inspection Date	Details	Y/ N	Action required	Date completed	Details	Y/ N	Action required	Date completed
	construction or ground (e.g. underdrained swale or infiltration basin)?							
	Does permeable or porous surfacing require sweeping to remove silt?							
	Is there evidence of litter accumulation in the system? If yes, is this a blockage risk?							
	Is there any evidence of any other clogging or blockage of outlets or drainage paths?							
	Is the vegetation condition satisfactory (density, weed growth, coverage etc)? (check against approved planting regime)							
	Does any part of the system require weeding, pruning, or mowing? (check against maintenance frequency state in approved design).							
	Is there any evidence of invasive species becoming established? If yes, state action required							
	Are any check dams or weirs in good condition?							
	Is there any evidence of any accidental damage to the system (e.g. wheel ruts)?							

Inspection Date	Details	Y/ N	Action required	Date completed	Details	Y/ N	Action required	Date completed
Is there any evidence of cross connections or other unauthorised inflows?								
Is there any evidence of tampering with the flow control?								
Are there any other matters that could affect the performance of the system in relation to the design objectives for hydraulic, water quality, biodiversity, and visual aspects?								
Other observations								
Information appended (e.g. photos)								
Continue as current Increase maintenance Decrease maintenance								
Proposed date for next inspection								