SuDS Maintenance Strategy

OBJECTIVES

The aim of this maintenance strategy is to provide an insight into the maintenance regime for the Sustainable Drainage (SuDS) devices proposed for this project at Land Adjacent to 49 Lamble Street, London NW5 4AT during post-development and operational phases of the development.

This maintenance strategy should be read in conjunction with drawing with reference 1609-SPW-Z0-ZZ-DR-C-6000 - Below Ground Drainage - P1 by Spillways Limited. It is important to note that this drawing and document are pending approval at the time of preparation and should be updated post-planning and completion to incorporate any additional drainage related items.

LIMITATIONS

This report has been prepared for assisting the client in understanding the anticipated maintenance regime associated with the site. Spillways Ltd accepts no liability for any use of this document other than by its client and only for the purposes, stated in the document, for which it was prepared and provided. No person other than the client may copy (in whole or in part) use or rely on the contents of this document, without the prior written permission of Spillways Ltd. Any advice, opinions, or recommendations within this document should be read and relied upon only in the context of the document as a whole.

Spillways Ltd has endeavoured to assess all information provided to them during this appraisal. The report summarises information from several external sources and cannot offer any guarantees or warranties for the completeness or accuracy of information relied upon.

No cost has been included within this report. Should estimate costs be required, it is recommended that a quantity surveyor or similarly experienced party to review the contents of this document and price against the proposed drainage strategy. This will provide an indicative figure only and should be used for the purposes of estimates only until the final installation is complete and reviewed by a maintenance engineering company.

This report does not negate the need for additional maintenance works required where advised at any time by a specialist through good practise, and or through on-site practicality.

BACKGROUND TO DRAINAGE

This development will benefit from a full greenroof system. The greenroof is proposed to be an extensive greenroof system Which has a low substrate depth, simple planting and a general Lower maintenance regime. The greenroof will cover the entire Area with hardy planting which will establish slowly but the long term biodiversity is proposed to be of high value. The Growing medium will be typically 20-150mm thick which will provide Water retention assumed for the 5mm of surface water that Lands on it.

Once the medium is fully saturated; surface water Will enter the below ground drainage system. A flow control chamber has been proposed to control the Surface water discharging into the Thames water sewer. The Control rate is 0.8 l/s and achieved using a hydrobrake (vortex Flow control device). The outfall pipe from the flow control chamber into the combined water manhole will benefit from a flap valve to prevent foul water flows from backing up into the surface water chamber.

Foul water is proposed to discharge directly into the combined water outfall.

Maintenance of SuDS

Like all drainage systems, SuDS components should be regularly inspected and maintained. This ensures that the SuDS device remains efficient throughout its design life and prevents undesired failure.

The maintenance of the SuDS devices is generally no more complex than the maintenance of piped systems. For certain above and below ground SuDS, such as greenroofs and flow control/monitoring units are more intensive and long-term actions are usually incorporated into a maintenance plan.

The maintenance recommendations proposed in the following section are based on devices assumed to have been handed over as fully operational. By this we refer to the cleaning of any construction silt and debris which may have accumulated within the network which may result in future blockages or failure.

It is recommended that underground networks are thoroughly checked using CCTV. Similarly, over ground devices and structures are to be visually inspected, certified and recorded. A copy of the installation is to be provided to Spillways Ltd.

At all times during the lifetime of this development; full records of maintenance must be kept in the form of physical paper copies, electronic copies and photographic evidence signed and dated upon each inspection, maintenance and remedial works. Copies of the responsible body carrying out the work should be retained along with detailed records of materials, work carried out and the method of works.

Thames Water will be responsible for the maintenance and upkeep of CWMH-01.

SUDS DEVICES

Silt Trap and Catchpits including Gullys, Channels and Inspection Chambers

Catchpits and silt traps are online/offline design localised lower points along the drainage to allow the settlement of debris and silt. These devices ensure the risk of blockage and impact on the performance of the drainage system is reduced.

Silt traps will be found on collector units such as gullys, channels and inspection chambers

Maintenance of silt traps is carried out by lifting the access covers to gullys and channels and any silt/debris is removed manually (by hand).The silt traps are often shallow units within gullys and channels. Catchpits would be accessed by lifting the access cover of the chamber and debris would need to be removed using mechanical suction as the catchpit can be deep.

The anticipated maintenance of catchpits and silt traps can be found in Table 1 (below):

Schedule	Action	Frequency
Routine Maintenance	• Lift all access covers and remove any debris & silt.	Three Monthly
	• Check silt buckets and catchpits	Three Monthly
	• Carry out any jetting required to remove leaves and other bound silt	As Required
	• Check access covers for correct seating, sealing and lockability. Always carry spare bolts and grease sealing rings where needed. Clear frame of any debris before placing cover back.	Six Monthly
Inspections	• Lift access covers and remove any debris & silt	Autumn Season Twice Monthly
	• Check access covers for correct seating, sealing and lockability	
	• Check silt buckets and catchpits	
	• Carry out any jetting required to remove leaves and other bound silt.	
• Any pipework with debris post completion of the project should be jetting out and cleansed prior to handover.		

Table 1 - Silt Trap and Catchpits including Gullys, Channels and Inspection Chambers Maintenance

Vortex Flow Control *Device*

The vortex flow control unit regulates the flow of surface water. It is entirely self-activating and requires no manual intervention unless blockages occur.

The location of the vortex flow control device has been shown in the drainage strategy drawing.

The anticipated maintenance of vortex flow control device can be found in Table 2 (overleaf)

Schedule	Action	Frequency
Inspections	• Lift access cover and check for debris or silt accumulation at base.	Monthly
	• Check visible fixing bolts to ensure they are not corroded or unsecure	Six Monthly
	• Check to see of vortex flow control is not damaged	Six Monthly
	• Check for any blockages of the outlet	Monthly
	• Check flow of water is freely leaving the vortex flow control unit	Monthly
	• Check wire cable for emergency drain down is operating with ease	Monthly
Maintenance	• Remove any Silt or debris accumulation	As required

Table 2 - Vortex Flow Control Maintenance

Extensive Greenroofs

Extensive greenroof system have a low substrate depth, simple planting and a general lower maintenance regime. The greenroof will cover the entire area with hardy planting which will establish slowly but the long-term biodiversity is proposed to be of high value. The Growing medium will be typically 20-150mm thick which will provide water retention assumed for the 5mm of rainwater that lands on it.

Maintenance of greenroof is carried out at roof level and caution needs to be exercised working at height. A specialist company is required to obtain all necessary health and safety measures and a suitable method statement to carry out the work. The manufacturer specification and recommendations will need to be incorporated into the maintenance strategy.

Schedule	Action	Frequency
Regular Inspections	• Inspect all components including soil substrate, vegetation, drains, membranes and roof structure for proper operation, integrity of waterproofing and structural stability	Annually and after severe storms
	• Inspect soil substrate for evidence of erosion channels and identify any sediment sources	Annually and after severe storms
	• Inspect drain inlets or ensure unrestricted run-off from the drainage layer to the conveyance or roof drain system	Annually and after severe storms
	• Inspect underside of roof for evidence of leakage	Annually and after severe storms
Regular Maintenance	• Remove debris and letter to prevent clogging of inlet drains and interference with plant growth	Six monthly and annually or as required
	• During establishment (i.e year one), replace dead plants as required	Monthly (but usually responsibility of manufacturer)
	• Post establishment, replace dead plans as required (where >5% coverage)	Annually (in autumn)
	• Remove fallen leaves and debris from deciduous plant foliage	Six monthly or as required
	• Remove nuisance and invasive vegetation, including weeds	Six monthly or as required

	• Mow grasses, prune shrubs and manage other planting as required. Clippings should be removed and not allowed to accumulate.	Six monthly or as required
Remedial Actions	• If erosion channels are evident, these should be stabilised with extra soil substrate similar to the original material, and sources of erosion damage should be identified and controlled	As required
	• If drain inlet has settled, cracked or moved, investigate and repair as appropriate.	As required

CONCLUSION

The aim of this maintenance strategy is to provide an insight into the maintenance regime for the Sustainable Drainage (SuDS) devices proposed for this project at Land Adjacent to 49 Lamble Street, London NW5 4AT during post-development and operational phases of the development.

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The client for Spillways Limited will be responsible for the maintenance of the drainage and SuDS.

The extent of maintenance and monitoring will vary between the current design stages and the final construction stages and therefore will require re-assessment at a later stage. Due to this degree of variance between design and construction, the costs associated with maintenance are unknown.

Should a budget cost be required for the maintenance of SUDS, a suitably experienced surveyor and/or maintenance specialist is recommended to be appointed to price for any maintenance works using this document and the drainage strategy drawing.

If the building is unoccupied; a management firm should be employed to oversee the routine maintenance of the drainage network.

Any parts, products, materials and devices used by the contractor should be inserted into the maintenance handbook and the recommended manufactures maintenance should also be adhered to. The manufacturer's recommendations should supersede the information in this report.

All maintenance should be recorded to a detailed standard.

Manufactures and specialist contractors are asked to provide a comprehensive maintenance schedule for all items. The maintenance schedules should form part of the operational manual for the building.

A post completion CCTV survey is to be carried out by the contractor.

This Maintenance Report is to be updated following full and final comments by the client and contractor.

Should the drainage network be installed and laid as designed; by carrying out the maintenance; it is considered that the drainage system will serve the building for its intended design life.