

Surface Water Drainage Maintenance Statement

Kings College London, Kidderpore Avenue, Hampstead NW3 7ST
Project No: 11581

Description and Purpose of Drainage System

General

The layout of the surface water drainage system is shown on the attached drawing 11581/200.

The purpose of the system is to convey surface water from the development to Thames Water's local sewer network. The system has also been designed to discharge surface water flows to the sewer network at controlled flow rates in order to decrease the risk of sewer flooding in lower lying areas served by the sewer network. Accordingly the surface water system incorporates vortex flow control devices and temporary surface water storage (attenuation) as provided within the culvert sections located immediately upstream of each flow control chamber.

There are two main connections to the sewer network. One is located at the western end of the site and the other at the eastern end. Accordingly there are two flow control chambers and two attenuation facilities.

SuDS

The vehicular access road running between Kidderpore Avenue and Roselind Franklin is constructed with a permeable paved surface. This allows surface water to percolate into the granular sub-base where it is collected within a perforated filter-drain and subsequently conveyed to the main surface water drainage network.

The "roof slab" over the basement car park has been provided with a green roof cover consisting of open lawn areas, planted beds and footpaths. Unlike most green roofs this area is at "ground" level and is fully accessible by pedestrians and small maintenance vehicles. The area is underlain by a drainage blanket placed on the car park roof slab. This drains to collector gullies connected to suspended drainage beneath the slab. Each gully has an inspection cover at ground level.

Both the permeable paving and the green roof facilities are Sustainable Drainage Systems (SuDS) and will provide both reduction in surface water flows and improvement in water quality draining from the site.

Suspended Drainage

Certain lengths of the surface water drainage consist of suspended drainage within car park and basement areas.

Pump Facility

Due to the level regime within the development a surface water pumping station is located within the plant room beneath Roselind Franklin House. This is required in order to pump surface water draining from the eastern side of both Roselind Franklin and Lord Cameron.



Maintenance

The surface water drainage system requires regular inspection/clearing to prevent blockages due to accumulation of silt and debris. It is recommended that the following items are initially inspected and cleared by a suitably trained person every 6 months for at least the first 2 years of operation.

- Rainwater roof outlets
- Rainwater downpipe outlets at ground level
- Trapped gullies
- Drainage channels
- Suspended drainage
- Silt-traps and catchpit manholes chambers
- All flow control devices

Based upon the findings during this initial period a long-term regular inspection/clearing regime appropriate for the site will then be established:

Inspection/clearing should also be carried out after every major storm event and to the manufacturer's recommendations. Table 1 below provides a maintenance schedule.

Any debris obstructing or in danger of obstructing the flow should be removed within a period not exceeding two weeks from inspection. Any blockage or partial blockage of the inlet or outlet structures reported to the managing organisation should be removed within a period not exceeding two weeks.

Entry below ground sections of the drainage should only be carried out by those suitably trained with respect to man-entry into confined spaces.

In addition to the above it is recommended that the pipe network be CCTV surveyed once every five years.

The maintenance of the permeable block paving road construction must be carried out in accordance with the relevant supplier's recommendations. This may involve periodic sweeping/cleaning by a specialist permeable paving contractor to maintain acceptable permeability through the road construction.

The green roof area will require mowing and the removal of weeds, fallen leaves and other loose debris. In addition the gullies will need to be inspected and checked for blockage.

The surface water pumping station is to be maintained under the terms of a maintenance agreement with a pump station maintenance specialist.

Maintenance Plan

A site-specific drainage maintenance plan is to be incorporated within the Health and Safety file, which, in addition to the details mentioned above, should include all manufacturer's details and maintenance recommendations. In addition it should hold the records of any inspections, together with any remedial measures undertaken. The drainage maintenance plan should be made available for inspection by the local authority if requested. A table summarising the maintenance plan is provided below.

The drainage inspection regime and maintenance costs will be the responsibility of a management company appointed by Mount Anvil or their successors in title and must be carried out by suitably trained persons.



Maintenance Schedule

Item	Task	Frequency	Location	Access	Comments
Main Drainage Network					
Rainwater downpipes	Clean out at roof level and ground level	Twice yearly for the first 2 years of operation then annually or as agreed.	Around building perimeter	Private front/rear patios, communal hard/soft landscaped areas. High level access required to roof outlets. Internal RWP in Block A.	Works undertaken by appropriately qualified person(s)
Chambers, silt-traps & catchpits	Clean out chamber/sump		Throughout the site	Access road, parking areas, private front/rear patios/gardens, communal hard/soft landscaped areas	
Pipe network drainage channels & suspended drainage	Pipes to be inspected and condition assessed. Pipes/channels to be cleaned (jetted) as necessary				
Pipe network	CCTV inspection and clean (jetted) as necessary	Every 5 Years	Throughout the site		
Flow Control Chambers					
2No Chambers	Clean out chamber/sump	Twice yearly for the first 2 years of operation then annually or as agreed.	Chambers downstream of permeable pavement/tanks	Both are located are landscaped communal areas	Works undertaken by appropriately qualified person(s)
	Inspect vortex flow control device and remove debris				
Permeable Pavement					
Pavement structure	Remove organic matter from paving (with brush and suction cleaner)	Twice yearly for the first 2 years of operation then annually or as agreed.	Access Road	Communal Area	Provide clear warning of obstructions, minimise potential conflict between road users and road works. Works undertaken by appropriately qualified person(s)



Green Roof					
Green roof	Cut grass areas, remove weeds, loose leaves and other debris. Inspect gullies for blockage.	As required Twice yearly and then annually or as agreed.	Full extent of ground level area over basement car park	Communal Area	Works undertaken by appropriately qualified person(s)
Surface Water Pumping Station					
Surface water pumping station	Check, maintain pumps & switchgear	In accordance with manufacturer's recommendations	Rosalind Franklin Plant Room	Plant room access	To be carried out by specialists