

Crown St – Blue Roof Maintenance Plan

Items to be maintained

■ = Aco Channel
■ = Roof Outlets / flow control chambers



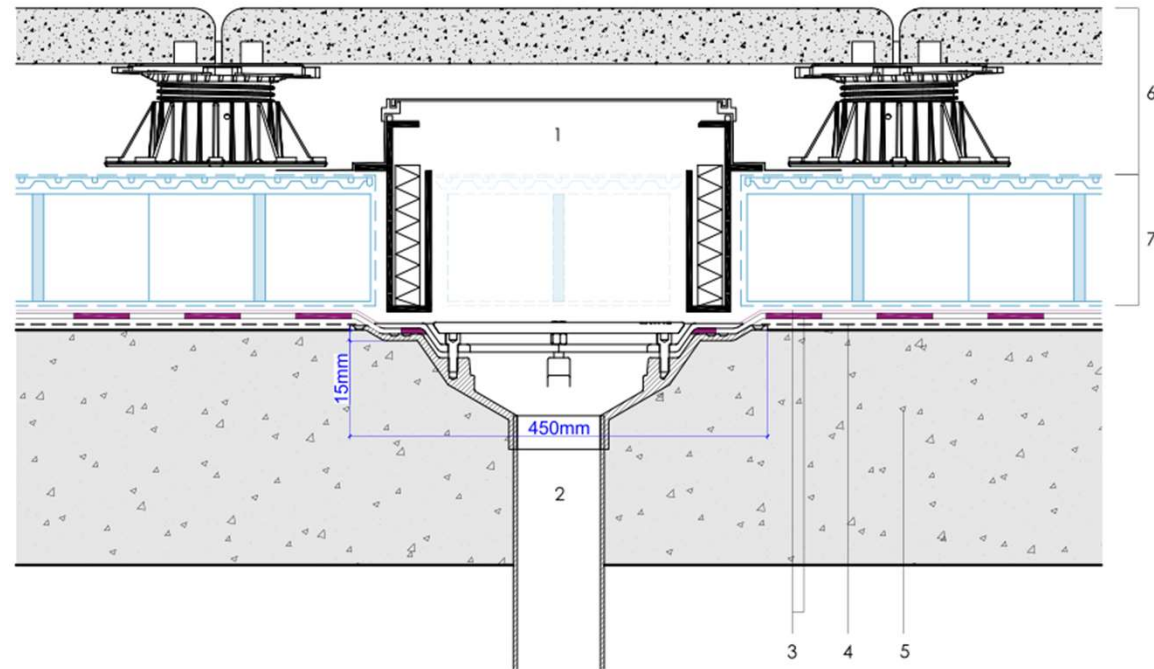
CROWN STREET - DRAINAGE INSPECTION & MAINTENANCE SCHEDULE

Maintenance Schedule	Required Action	Typical Frequency
Below Ground Drainage Pipes, Manholes, etc		
Regular maintenance	Lift covers and inspect manholes for evidence of debris and silt deposits and evidence of blockages (standing water). Carry out CCTV survey if required	Quarterly
Remedial actions	High pressure jetting and/or remove minor blockages and silt build up	As required – 20% loss of pipe cross-section
	Replace broken access covers, remove major blockages, repair structurally defective pipework	As required
Flow Control Chamber		
Regular maintenance	Lift covers and inspect chamber for evidence of debris and silt deposits and evidence of blockages. Test bypass door operating correctly.	Quarterly
Remedial actions	Replace broken access covers, remove major blockages, repair/replace defective flow control devices	As required
	High pressure jetting and/or remove minor blockages and silt build up	As required
Linear Channel Drains and Gullies		
Regular maintenance	Lift access covers and inspect for silt/debris accumulation	Quarterly
Remedial actions	High pressure jetting and or remove minor blockages and silt build up	As required
	Replace broken access covers, gratings	As required
Rainwater Pipes		
Regular maintenance	Inspect rainwater goods for evidence of leaking pipework	Quarterly
Occasional maintenance	Remove rodding eyes and carry out high pressure jetting to remove any debris	Annually
Remedial actions	Replace cracked/leaking pipework	As required
Filter Drains		
Regular maintenance	Remove litter and debris from filter drain surface, access chambers and pre-treatment devices	Monthly (or as required)
	Inspect filter drain surface, inlet/outlet pipework and control systems for blockages, clogging, standing water and structural damage	Monthly
	Inspect pre-treatment systems, inlets and perforated pipework for silt accumulation, and establish appropriate silt removal frequencies	Six monthly
	Remove sediment from pre-treatment devices	Six monthly
Occasional maintenance	Remove or control tree roots where they are encroaching the sides of the filter drain using recommended methods (e.g. NJUG, 2007 or BS 3998:2010)	As required
	At locations with high pollution loads, remove surface geotextile and replace, and wash or replace overlying filter medium	Five yearly, or as required
	Clear perforated pipework of blockage	As required
Attenuation tank		
Regular maintenance	The majority of inspection and maintenance requirements are in the flow control downstream of the system.	See above
	Internal inspection and debris removal can be achieved via entry into the attenuation structure via manhole at basement level B1.	As required

Crown St – Blue Roof – Flow Control Chambers

LEGEND:

1	AQUAMODUL blue roof restrictor chamber system to suit design requirements
2	AXTER aluminum vertical rainwater outlet
3	WILOTEKT-PLUS structural waterproofing system
4	WILOTEKT-PLUS primer
5	Support structure by specialist contractor
6	Roof finishes in accordance with landscape architects design (minimum 80kg/m ²)
7	AQUAMODUL blue roof system to include perforated drainage board, fully wrapped in geotextile filter layer to suit required depth specifications



Lift covers and inspect chamber for evidence of debris and silt deposits and evidence of blockages. Test bypass door operating correctly.	Quarterly
Replace broken access covers, remove major blockages, repair/replace defective flow control devices	As required
High pressure jetting and/or remove minor blockages and silt build up	As required

Crown St – Blue Roof – Flow Control Chambers



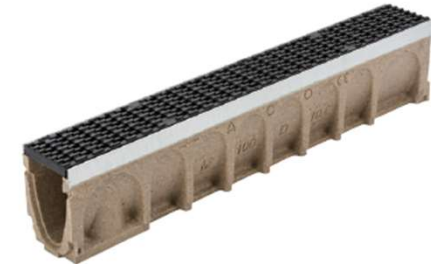
Maintenance of a blue roof is critical to the viability to its function. It is recommended that:

1. Following any significant storm event, the outlets should be visually inspected to ensure no blockage has occurred.
2. Following any significant traffic or remedial works that take place on or around the roof, each of the outlets should be visually inspected to ensure all drainage holes are clear and free draining.
3. Quarterly each outlet, should be inspected and cleared of any build up or debris. All leaf litter mainly autumnal visit, should be removed from the roof surface. Debris must be removed from the roof and not simply flushed down rainwater pipes.
4. Cut back tree limbs that overhang the roof to give at least a 1 metre clearance, this will significantly reduce any risk of any blockage to outlets.

It is also recommend during maintenance visits to visually inspect the waterproofing system at all upstands, to ensure it is firmly adhered to the detail that it is waterproofing.



Maintenance of ACO MultiDrain®



Method

- 1 Remove access unit top.
- 2 Position the jetting unit near the access unit or gully.
- 3 Attach a suitable jetting head and insert into access unit, towards the direction of travel. In this example a 1 inch (25mm) diameter tandem jetting head with forward and backward facing jets was used.
- 4 Introduce a 3-6 inch (75-150mm) suction hose into the adjacent gully/outlet.
- 5 This suction hose will remove the silt/detritus that the jetting hose flushes out.
- 6 Introduce the jet into the sump/access unit, facing the direction of channel section which is to be cleaned.
- 7 Activate the suction hose and jetting hose. A suitable initial jetting pressure is 80 bar or 1160 psi.
- 8 As the jetting head travels up the length of the channel, place boards or other suitable material over the channel grates to prevent the escape of water (spray back) and protect any vehicles or nearby property.
- 9 The jetting head will be propelled to the end of the channel or a determined length. When it reaches the end, increase the pressure to 150 bar (2176 psi).
- 10 Use a hydraulic winch to pull the jetting head backwards toward the access unit. The suction hose previously inserted in the gully/outlet will remove the water and detritus.
- 11 If a reduction of 'spray back' is required reduce the pressure to 80 bar (1160 psi). This pressure will still be sufficient to clean the channel.
- 12 If cleaning brickslot, pressure jet down through the slot with a standard hand held attachment, and repeat the flushing of the channel.
- 13 Replace the silt bucket and grate/access lid, and secure.

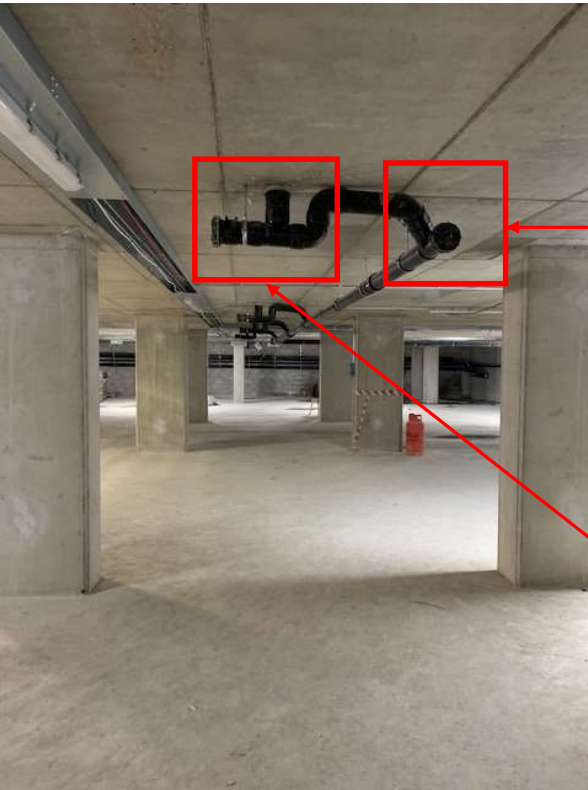
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Linear Channel Drains and Gullies

Regular maintenance	Lift access covers and inspect for silt/debris accumulation	Quarterly
Remedial actions	High pressure jetting and or remove minor blockages and silt build up	As required
	Replace broken access covers, gratings	As required

Crown St – Blue Roof – Roof Outlet
Gulleys

Rainwater Pipes		
Regular maintenance	Inspect rainwater goods for evidence of leaking pipework	Quarterly
Occasional maintenance	Remove rodding eyes and carry out high pressure jetting to remove any debris	Annually
Remedial actions	Replace cracked/leaking pipework	As required



Rainwater pipes have a
rodding point to allow rodding
from below if necessary

Roof outlet gulleys have a
rodding point to allow rodding
/ clearance of roof outlet from
below if necessary