
Job Title

Crown Street Phase 02, Manchester

Prepared by

Renaker Build Ltd

Report Type

Drainage Management and Maintenance

Date

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Introduction

This document sets out the principles for the long-term management and maintenance of the below ground sustainable urban drainage system (SUDS) installed at the residential development at Crown Street Phase 02, Manchester.

The purpose of this document is to illustrate the robust inspection and maintenance programme, to be implemented by the management company (Zenith Management Limited) upon completion of the scheme. This is to:

- Ensure optimum operation of the drainage network is continually maintained for the lifetime of the development
- Prevent the risk of flooding both on and off the site

All those responsible for maintenance should follow relevant health and safety legislation for all activities listed within this report (including lone working, if relevant) and risk assessments should always be undertaken.

There are three categories of maintenance activities referred to in this report:

- **Regular Maintenance** (including inspections and monitoring)
Consists of basic tasks done on a frequent and predictable schedule, including vegetation management, litter and debris removal, and inspections of inlets, outlets and control mechanisms. This will include debris removal from slot drains.
- **Occasional Maintenance**
Comprises tasks that are likely to be required periodically, but on a much less frequent and predictable basis than the routine tasks (sediment removal from chambers and attenuation tanks is an example).
- **Remedial Works**
Where remedial work is found to be necessary, it is likely to be due to site-specific characteristics or unforeseen events, and as such timings are difficult to predict.

Drainage Maintenance Details

The scheme consists of below ground SUDS servicing:

- The residential buildings allowing discharge of rainwater collected at roof level
- Public realm areas

The extent of the surface water drawing networks and features for the development are shown on the drainage layout drawings Z1-WSP-G850-PL-XX-DR02, Z1-WSP-G580-DE-XX-DR03, Z1-WSP-G580-DE-XX-DR01, Z1-WTE-G770-PL-XX-PH01, Z1-WTE-G770-PL-XX-PH02, 19_021-Z1-MEP-G581-PL-B3-001

Details of the maintenance required to ensure that the drainage systems are working effectively, whilst reducing the risk of flooding on the development are as follows:

Attenuation Tanks

The management and maintenance of the attenuation tanks will be by the management company, who will ensure that the tank will remain in a suitable condition

The manhole upstream of each attenuation unit will be inspected and accessed for removal of silt/debris build up, as and when required, and on a regular basis

General Maintenance Requirements

1. No work shall be carried out on the drainage system without permission from a nominated person, who has access to installation information and has a working knowledge of the system
2. Maintenance/ inspection work shall be carried out in a safe and planned manner
3. All work is to be carried out by competent persons suitably trained and equipped in accordance with current statutory safe working policies
4. Entry into confined spaces shall be kept to a minimum and be restricted to suitably qualified and equipped persons working in accordance with current statutory safe working policies

5. High levels of hygiene shall be maintained at all times, with adequate welfare facilities being provided for the personnel
6. Drainage systems shall be inspected at least every 6 months. Any debris/ defects discovered shall be recorded and a programme of cleaning and repair initiated. Urgent repairs and cleaning shall be actioned as soon as practicable
7. The following operations should be carried out annually:
 - i) Covers of inspection chambers and manholes shall be removed and the sides, benching and channels cleared.
 - ii) Accumulated deposits of silt in soakaways, catchpit manholes, drainage channels, gullies etc. shall be removed. Any traps shall then be plunged and thoroughly flushed out with clean water. The trapped silt shall be disposed of offsite at a licensed facility.
 - iii) Main and branch drains shall be cleared as required and afterwards be flushed with clean water. Any obstructions found shall be removed and not flushed down the system.
 - iv) Covers of inspection chambers, manholes, gullies etc. shall be replaced, bedded in suitable grease or other sealing material as required and bolted/locked down as appropriate. Missing bolts and broken items shall be replaced in accordance with the manufacturer's details.
8. During prolonged periods of dry weather, traps shall be checked and replenished as necessary in order to maintain the seal and preventing the escape of odours.
9. Regular maintenance and inspection of cellular storage shall be carried out, with cleaning and inspection of silt traps, manholes, pipework and pre-treatment devices. Sediment and debris shall be removed as required. Every five years (or as required) a survey shall be carried out inside of tank for sediment build up and removal if necessary. After large storms all inlets, outlets, vents and overflows shall be inspected to ensure that they are in good condition and operating as designed.
10. Flow control manholes shall be inspected quarterly, with sediment removal carried out at least every six months.
11. Clearing of the drainage system can be achieved by several methods depending on the nature of the work.
 - i) Rodding – Manual/ Mechanical with flexible rods.
 - ii) Jetting – Low or High-pressure water jetting.
 - iii) Plunging.
 - iv) Flushing with Clean Water.

Maintenance Activities

A log of all maintenance activities is to be kept and made available to the local planning authority (LPA) and / or the Lead Local Flood Authority (LLFA) on request.

Enclosures

Z1-WSP-G850-PL-XX-DR02 – Proposed drainage layout
Z1-WSP-G580-DE-XX-DR03 – Manhole Ref C02 Construction Details
Z1-WSP-G580-DE-XX-DR01 – Manhole Ref C01 in Silvercroft Street Construction Details
Z1-WTE-G770-PL-XX-PH01 – Blue roof layout
Z1-WTE-G770-PL-XX-PH02 - Blue roof detail
19_021-Z1-MEP-G581-PL-B3-001 – Above ground and below ground drainage interface B1