



HBL ASSOCIATES LTD
DRAINAGE MAINTENANCE REPORT

For
NELL LANE, CHOLORTON
Nell Lane, Manchester, M21 7UH

On Behalf Of
Southway Devco Ltd

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1. INTRODUCTION

- 1.1. Drainage systems require maintenance to ensure that all elements including the SuDS components operate effectively for their lifetime.
- 1.2. This typical drainage maintenance report has been prepared to accompany the Drainage Strategy / Proposed Drainage Plan for the Nell Lane, New Apartments providing an overview of the operation and maintenance requirements for the drainage features included within the proposed drainage plan:

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- 1.3. Full consideration to long term maintenance should be given, as part of the detailed design process and installation/construction of the proposed drainage system and this report should be updated accordingly.
- 1.4. Where proprietary products are specified, the manufacturer's instructions and recommendations should be followed in priority to this document unless specifically noted otherwise due to project constraints.
- 1.5. The recommended operations and frequencies in this report are typical only and should be more frequent initially to ensure that there are no unforeseen issues with the operation and then adjusted to suit the site requirements.
- 1.6. Maintenance of systems during construction and for agreed period after the development is complete, will be the responsibility of the developer Denton Construction Ltd.
- 1.7. The developer should take all possible measures to prevent debris of any kind entering the drainage system.
- 1.8. Any specialist or proprietary products that has been specified, should be installed in accordance with the manufacturer's design and details and should be issued by the manufacturer with specific maintenance regime, which should be followed during construction period and included within the Operation and Maintenance Manual for the site.
- 1.9. The developer will keep records of maintenance activities, silt removal operation for duration of the construction and agreed period post construction. This information can be used to make modification to the ongoing maintenance plan which will be adopted by Southway Housing Ltd upon completion.
- 1.10. Detailed maintenance schedule, based on as built drainage plans, post construction CCTV surveys with supporting information from manufacturers of all drainage components/proprietary systems, should be incorporated within the Operation and Maintenance (O&M) manual for the site and should be accessible to those who undertake maintenance.

2. MAINTENANCE RESPONSIBILITIES

- 2.1. Private drainage network/components including SuDS features and ordinary watercourse within the curtilage of the site, during construction and for agreed period after completion:
- **Denton Construction Ltd,**
8 Bexley Square Salford M3 6BZ
- 2.2. Future maintenance of private drainage network/components including SuDS features and ordinary watercourse within the curtilage of the site, upon completion:
- **Southway Devco Ltd,**
729 Princess Rd, Manchester M20 2LT
- 2.3. Public sewers
- **United Utilities Group Plc.**
Haweswater House, Lingley Mere Business Park, Lingley Green Avenue, Great Sankey, Warrington, WA5 3LP

3 OVERVIEW OF MAINTENANCE

- 3.1. All drainage systems, whether piped systems or SuDS require regular maintenance, therefore a suitable maintenance strategy should be adopted to ensure that the drainage network is cleaned regularly, and the routine maintenance and cleansing regime undertaken is documented.
- 3.2. The maintenance of the SuDS system at the proposed Nell Lane, New Apartments should be included alongside other regular maintenance tasks and is assumed will be the responsibility of an on-site facility maintenance team.
- 3.3. A copy of final construction drainage layout (as built Drainage Plan based on post construction CCTV survey) and detailed maintenance schedule should be provided within the Operation and Maintenance (O&M) manual for the site and should be accessible to those who undertake maintenance.
- 3.4. It is recommended that the drainage system is inspected as a minimum twice a year, with the system also being inspected after any major storm event.
- 3.5. If any areas of significant sediment deposition are identified following major storm events, a post event clean-up operation may be required including removal of litter, vegetation, sewerage debris and any larger objects.
- 3.6. Long-term management practices should include monthly sweeping of external paved areas to remove sand and contaminants directly from paved surfaces before they become mobilised during storm events and transported to the drainage system.
- 3.7. During the winter months, drainage features such as gullies and channels should be cleared of ice, snow, debris and litter.
- 3.8. The table below gives an overview of typical maintenance tasks and the frequency with which they need to be undertaken.

Table 1: Drainage Systems - Typical Maintenance Tasks

DRAINAGE SYSTEMS - TYPICAL MAINTENANCE TASKS		
ACTIVITY	INDICATIVE FREQUENCY	TYPICAL TASKS
Routine/ Regular Maintenance	Monthly to annually (For typical care of SuDS components)	• Litter picking • Inspection of inlets, outlets, and control of structures
Occasional Maintenance	Annually (Dependent on the design)	• Silt control • Vegetation management around components • Suction, sweeping of pavings, • Silt removal from catch pits,
Remedial Maintenance	As required (tasks to repair problems due to damage)	• Inlet/outlet repair, • Erosion repairs, • Reinstatement of edgings • Reinstatement following pollution • Removal of silt build up.

4 SITE DRAINAGE COMPONENTS - TYPICAL MAINTENANCE

4.1. The following components have been included within the drainage design for the proposed development:

- Gratings, drainage channels and gullies,
- Pipes,
- Inspection chambers, manhole,
- Silt/filter chambers & catchpit chambers,
- Attenuation tank,
- Flow control chamber.

Gratings, drainage channels and gullies.

- 4.2. Gratings – inspect monthly to check for damage, blockages, and silt accumulation. Remove all debris and silt from apron below grating where present. Evaluate requirements to rod, jet pipe run at each inspection and annually after leaf fall. Strim 1m area around structure where in grass.
- 4.3. Channels and gullies should be inspected and cleaned in accordance with the manufacturer's details. Channel units can be cleaned using a high-pressure hose; this can be fed into the channel system through access units strategically placed along the channel run. The throat section of channel units should be kept clear at all times to ensure uninterrupted flow of surface water into the drainage channel and any debris within the throat should be removed.
- 4.4. Locking bolts should be replaced and sufficiently tightened, taking care that the bolt heads do not stand above the top surface of the cover or grate. If covers are allowed to move within their frame, this may cause damage to the frame or seating.
- 4.5. Sediment\material removal should be undertaken in consultation with the environmental regulator to confirm appropriate protocols; especially where run-off is taken from potentially contaminated area such as the car park channels.

Table 2: Inlets, outlets, gratings, drainage channels and gullies - Typical Maintenance

INLETS, OUTLETS, GRATINGS, DRAINAGE CHANNELS AND GULLIES – TYPICAL MAINTENANCE		
MAINTENANCE SCHEDULE	REQUIRED ACTION	TYPICAL FREQUENCY
Monitoring (to be undertaken more frequently within the first year of operation and adjusted as required)	Initial Inspection	Half yearly and after large storms.
Regular inspection/ maintenance	Litter/debris removal.	Monthly or as required.
	Inspect and remove vegetation/weed growth near channel runs.	Monthly or as required.
	Inspect for evidence of poor operation and/or weed growth. If required, take remedial action. Inspect silt accumulation rates and establish appropriate brushing frequencies. Silt can also be caused by adjacent landscaping areas which should be reprofiled to provide a flat area or berm adjacent to the paving.	Every 3 months, 24-48 hours after large storm.
Remedial Maintenance	Inspect access/outlet boxes and rod through poorly performing channels and outlets as initial remediation	As required.

Pipes

- 4.6. Pipes are proprietary products, and the materials can vary across the site and as such where used the manufacture's recommendations should be followed. All manufacturer's products data sheets and recommendations should be included within the Operation and Maintenance (O&M) manual for the site and should be accessible to those who undertake maintenance.
- 4.7. Pipes are intended to be the main conveyance across the development and where oversized they form the attenuation volume required by the limitation of the discharge rate. They are intended to be dry except for during rainfall events. These have been designed to be self-cleaning where possible for smaller diameter pipes, and for larger diameters the risk is reduced due to the overall pipe size.
- 4.8. Access for maintenance is provided through access chambers and manholes.
- 4.9. Regular inspection and maintenance is important to identify areas which may have been obstructed and may not be functioning correctly.

Table 3: Pipes - Typical Maintenance

PIPES – TYPICAL MAINTENANCE		
MAINTENANCE SCHEDULE	REQUIRED ACTION	TYPICAL FREQUENCY
Monitoring (to be undertaken more frequently within the first year of operation and adjusted as required)	Initial Inspection should be as part of the post construction CCTV survey.	Post construction CCTV survey.
Regular inspection/maintenance	Inspect for evidence of poor operation by assessing water level in access chambers. If required, take remedial action.	Every 3 months, 24-48 hours after large storm.
Remedial Maintenance	Rod through poorly performing pipe runs as initial remediation.	As required.
	If poor performance continuous jet and CCTV survey.	As required.
	Seek advice as to remediation techniques suitable for the type of performance issue, location, pipe material.	As required.

Access points - inspection chambers and manholes.

- 4.10. Access points have been located at the head of each run, at a change in direction and at a change of pipe size in accordance with Building Regulations Part H.
- 4.11. Inspect monthly and after major storms during year 1 to check for damage and blockages.
- 4.12. Annual inspection after leaf fall thereafter removing all accumulated debris and silt. Check control tubes flow freely.
- 4.13. The appropriate health and safety equipment must be used when accessing manholes. Confined space certificates must be held by any personnel entering a manhole and the appropriate permits should be obtained from the Maintenance Manager prior to any access.

Silt traps and sump units

- 4.14. Maintenance to be undertaken strictly according to manufacturer's specification and details. As a general guide, the following typical maintenance schedule is presented within table below:

Table 4: Silt Traps and sum units - Typical Maintenance

SILT TRAPS – TYPICAL MAINTENANCE		
MAINTENANCE SCHEDULE	REQUIRED ACTION	TYPICAL FREQUENCY
Routine maintenance	Inspection	Monthly.
	Litre/debris removal.	Monthly or as required.
Occasional Maintenance	Sediment removal - Silt baskets, catchpits should be emptied and/or filters changed.	6 monthly or as required.
Remedial Maintenance	Repair (as a result of damage)	As required.

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Attenuation storage tank.

- 4.15. Regular inspection and maintenance are important for the effective operation of attenuation tanks as designed. As the feature is buried, a regular inspection regime is very important to ensure the correct functionality of the surface water drainage network.
- 4.16. Maintenance to be undertaken strictly according to manufacturer's specification and details. As a general guide, the following typical maintenance schedule is presented within table below:

Table 5: Attenuation Storage Tanks - Typical Maintenance

ATTENUATION STORAGE TANKS – TYPICAL MAINTENANCE		
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, then annually.
	Remove debris from catchment surface (where it may cause risks to performance)	Monthly
	Remove sediment from pre-treatment structures and/ or internal forebays	Annually, or as required.
Remedial Maintenance	Repair/rehabilitation of 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 Clear blockages as required. Jetting and CCTV survey may be required.	Monthly and after large storms.
	Survey inside of tank for sediment build up and remove if necessary	Every 5 years or as required.

CIRIA SUDS MANUAL 2015 RECOMMENDATIONS

Flow Control Units

- 4.17. The flow control unit is intended for flood control and flow restriction and access or maintenance has been provided by locating it within manhole chambers.
- 4.18. Maintenance to be undertaken strictly according to manufacturer's specification and details. As a general guide, the following typical maintenance schedule is presented within table below:

Table 6: Flow Control Units

FLOW CONTROL UNITS – TYPICAL MAINTENANCE		
MAINTENANCE SCHEDULE	REQUIRED ACTION	TYPICAL FREQUENCY
Monitoring (to be undertaken more regularly within the first year of operation and adjusted as required)	Inspect inlets for blockages, and clear if required. If faults persist jetting and CCTV survey may be required.	
Routine maintenance	Inspection and identification of areas not operating correctly. If required, take remedial action.	Monthly for 3 months, then quarterly.
	Litre/debris removal.	Monthly or as required.
Occasional Maintenance	Sediment removal	6 monthly or as required.
Remedial Maintenance	Repair (as a result of damage)	As required.

CIRIA SUDS MANUAL 2015 RECOMMENDATIONS

Inspect inlets for blockages, and clear if required. If faults persist jetting and CCTV survey may be required.

Permeable Surfaces

- 4.19. Many of the specific maintenance activities for permeable surfaces can be undertaken as part of the general site cleaning contract.
- 4.20. A routine management and maintenance programme to keep the surface in good condition and free of debris and weed growth, will help to sustain the porosity, quality, and longevity of the system.
- 4.21. The SuDS Manual indicates that sweeping once per year is sufficient for most sites, however the sweeping frequency should be adjusted to suit site specific conditions and should also be informed by annual inspection reports.
- 4.22. Maintenance to be undertaken strictly according to paving manufacturer's specification and details. As a general guide, the following typical maintenance schedule is presented within table below:

Table 7: Permeable Surfaces - typical Maintenance

PERMEABLE SURFACES - TYPICAL MAINTENANCE		
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 - 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
Occasional Maintenance	Stabilise and mow contributing and advancement areas.	As required.
	Removal of weeds or management using glyphosphate 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 50 mm 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 structure by remedial sweeping	Every 10 to 15 years or as required (if infiltration 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

CIRIA SUDS MANUAL 2015 RECOMMENDATIONS

APPENDIX 1 – PROPOSED DRAINAGE LAYOUT

8796-HBL-XX-XX-DR-D-0501 (Rev. P09).

APPENDIX 2 – United Utilities Sewer Records

United Utilities Sewer maps 297117-17-06-2021-08-39-18