



EDENFIELD ROAD, NORDEN, ROCHDALE

# DRAINAGE MAINTENANCE STRATEGY REPORT

19 March 2024

Edenfield Road, Norden, Rochdale

Drainage Maintenance Strategy Report

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Edenfield Road, Norden, Rochdale

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STONEBOND - EDENFIELD ROAD, NORDEN, ROCHDALE



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Alan Johnston Partnership Ltd.

Company No. 13204766

## Edenfield Road, Norden

# Drainage Maintenance Strategy Report

### 1.0 INTRODUCTION

This drainage maintenance strategy report has been prepared on behalf of Stonebond Developments Ltd in connection with a planning application for the construction of a residential development at Edenfield Road, Rochdale, OL12 7SP. It is to be read in conjunction with the manufacturers recommendations and the projects drainage drawings and reports.



### 2.0 SITE DESCRIPTION

The site is currently a mix of derelict industrial areas to the East and West of the site and a woodland area in the centre. The site is located in the village of Norden on the western outskirts of the town of Rochdale. The national grid reference for the site is E: 385715, N:414727. To the North of the site is a woodland area and fields. To the East of the site is a residential area. To the South of the site is Naden brook with Edenfield Road beyond. To the West of the site is Greenbooth Road.

The development site has a general fall from North-West to South-east, with levels falling from the Northern boundary at approximately 170.130mAOD to levels at South boundary at approximately 160.780mAOD. To enable a viable scheme, the proposed site levels are constrained by the surrounding watercourse, highways and woodland area.



### 3.0 PROPOSED DEVELOPMENT

The proposed development is to demolish the existing commercial buildings and to construct 49 residential units with associated access roads, car parking and landscaped areas.



### 4.0 FUTURE MANAGEMENT & MAINTENANCE

The proposed drainage solution uses SuDS techniques in accordance with the CIRIA SuDS Manual C753. The surface water run-off from the proposed development is restricted using a vortex flow control device and the attenuated run-off is stored using oversized pipes and manholes.

It is envisaged that the following components have been or will be included within the drainage strategy for the proposed development:

- ◆ Inspection chambers, manholes and catchpits.
- ◆ Pipes.
- ◆ Drainage channels and gullies.
- ◆ Vortex flow control device.
- ◆ Permeable/porous tarmac.

A suitable maintenance strategy should be adopted to ensure the drainage network is cleaned regularly and the routine maintenance and cleansing regime should be documented.

It is assumed that the proposed drainage will remain private and therefore maintenance of the surface water drainage system will be the responsibility of MUA group and therefore a copy of the final construction drainage layout should be provided in the Operations and Maintenance Manual.

As such, the maintenance of the specified SuDS should be included within the developments Operation and Maintenance Manual and should be detailed in accordance with the CIRIA SuDS Manual C753, as per the operation and maintenance guidance outlined below.

#### 4.1 General Maintenance & Inspection Requirements

- ◆ No work shall be carried out on the drainage system without permission from a nominated person, who has access to information/a working knowledge of the system.
- ◆ Maintenance/inspection work shall be carried out in a safe/planned manner.
- ◆ All work is to be carried out by competent persons suitably trained and equipped in accordance with current statutory safe working policies.
- ◆ Entry into confined spaces shall be kept to a minimum and be restricted to suitably qualified/equipped persons working in accordance with current statutory safe working policies.
- ◆ Drainage systems shall be inspected on a regular basis or should any problems be suspected. Any debris/defects discovered shall be recorded and a programme of cleaning/ repair initiated. Urgent repairs/cleaning shall be actioned as soon as practicable.
- ◆ 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.
- ◆ Clearing of the drainage system can be achieved by a number of methods depending on the nature of the work;
  - Rodding - Manual/Mechanical with flexible rods.
  - Jetting - High pressure water jetting.
  - Plunging.

## 4.2 Inspection Chambers, Manholes and Catchpits

The appropriate health and safety equipment must be used when accessing manholes/catchpits. 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. The following operations should be carried out annually.

- ◆ Covers of inspection chambers and manholes shall be removed and the sides, benchings and channels cleared.
- ◆ Accumulated deposits of silt in inspection chambers, catchpits and manholes shall be removed. Any traps shall then be plunged and thoroughly flushed out with clean water. This should be completed in Autumn, after leaf fall.
- ◆ 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.
- ◆ Covers of inspection chambers, manholes and catchpits 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.

## 4.3 Pipes

Regular inspection and maintenance are important to identify areas which may have become obstructed/clogged and may not be draining correctly, as failure to do so would expose the development to a greater level of flood risk.

Pipes are proprietary products and therefore the materials used can vary across the site. As such, where used the manufacturer's recommendations should be followed. Access for maintenance of the pipes is provided through inspection chambers and manholes. The below table sets out the maintenance schedule for the pipe components of the proposed drainage systems.

| Maintenance Schedule | Required Action                                                                                                 | Typical Frequency                                                                    |
|----------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Regular Maintenance  | Inspect for evidence of poor operation via water levels. If required take remedial action.                      | Monthly for 3 months, then six-monthly intervals. Also, 48 hours after large storms. |
|                      | Check and remove large debris and/or vegetation growth near pipe runs.                                          | Monthly or as required.                                                              |
| Remedial Actions     | Rod through poorly performing runs as initial remediation.                                                      | As required.                                                                         |
|                      | If continued poor performance jet and CCTV survey poorly performing runs.                                       | As required.                                                                         |
|                      | Seek advice as to remediation techniques suitable for the type of performance issue.                            | As required, if above actions do not improve performance.                            |
| Monitoring           | Initial Inspection should be provided as post construction CCTV survey.                                         | N/A                                                                                  |
|                      | Inspect/check all inlets, outlets and overflows to ensure they are in good condition and operating as designed. | Monthly for 3 months, then six-monthly intervals. Also, 48 hours after large storms. |

#### 4.4 Drainage Channels and Gullies

Channels and gullies should be inspected and cleaned in accordance with the manufacturer's details. Channel units can be cleaned through the use of 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.

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. The below table sets out the maintenance schedule for the drainage channel and gullies components of the proposed drainage systems.

| Maintenance Schedule | Required Action                                                                                                                                                              | Typical Frequency                                                                    |
|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Regular Maintenance  | Litter and debris removal.                                                                                                                                                   | Monthly or as required.                                                              |
|                      | Check and remove large debris and/or vegetation growth near pipe 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. | Monthly for 3 months, then six-monthly intervals. Also, 48 hours after large storms. |
| Remedial Actions     | Inspect access/outlet boxes and rod through poorly performing channels and outlets as initial remediation.                                                                   | As required.                                                                         |
|                      | Seek advice as to remediation techniques suitable for the type of performance issue.                                                                                         | As required, if above actions do not improve performance.                            |
| Monitoring           | Initial Inspection including channel outlet boxes and gully sumps.                                                                                                           | Monthly for 3 months, then six-monthly intervals. Also, 48 hours after large storms. |

#### 4.5 Vortex Flow Control Device

Regular inspection and maintenance is important to identify if the vortex flow control device has become obstructed/clogged and may not be functioning correctly, as failure to do so would expose the development to a greater level of flood risk.

Vortex flow control devices are proprietary products and therefore can vary from manufacturer to manufacturer. As such, where used the manufacturer's recommendations should be followed.

- ◆ Normally, little maintenance is required as there are generally a vortex flow control device has no moving parts.
- ◆ If blockages occur they tend to do so at the intake of the vortex flow control device.
- ◆ Vortex flow control devices are generally fitted with a pivoting by-pass door, which allows the manhole chamber to be drained down should blockages occur.
- ◆ The smaller type conical units, below the minimum recommended size, are also supplied with rodding facilities or vortex suppressor pipes as standard.

- Following installation of the vortex flow control device it is vitally important that any extraneous material i.e. building materials are removed from the unit and the chamber.
- After the system is made live, it is recommended that each unit be inspected monthly for three months and thereafter at six monthly intervals with hose down if required. Units should also be inspected within 48 hours after large storms.

#### 4.6 Permeable/Porous Tarmac

The maintenance requirements for permeable/porous tarmac is covered under the pervious pavements section within the CIRIA SUDS Manual C753. As such, the maintenance requirements for permeable/porous tarmac are outlined within Table 20.15 of the CIRIA SUDS Manual C753. An extract of that table is given below to set out the maintenance schedule for the permeable/porous tarmac component of the proposed drainage systems.

**TABLE 20.15** Operation and maintenance requirements for pervious pavements

| 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 or manufacturer's recommendations – 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 sediment |
| Occasional maintenance | Stabilise and mow contributing and adjacent areas                                                                                                                                    | As required                                                                                                                                                                                                                                                                                                                  |
|                        | Removal of weeds or management using glyphosate 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 substructure 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, 48 h after large storms in first six months                                                                                                                                                                                                                                                                   |
|                        | Inspect silt accumulation rates and establish appropriate brushing frequencies                                                                                                       | Annually                                                                                                                                                                                                                                                                                                                     |
|                        | Monitor inspection chambers                                                                                                                                                          | Annually                                                                                                                                                                                                                                                                                                                     |

It should be noted that the Main Contractor should provide a Verification Report, including photographic evidence, to demonstrate that the drainage has been constructed as per the design drawings. As-built drawings should as be supplied by the Main Contractor, where the construction of the drainage varies from the design construction status drawings.