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Aldi Store, Foxlow Farm, Buxton

Drainage Maintenance Report

November 2022

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S2: Suitable for Information

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Report Details

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Revision History

Version	Date	Suitability	Revision
P01	04/04/22	S2: Suitable for Information	Issued For Information
P02	14/11/22	S2: Suitable for Information	Report updated to reflect updated drainage design, combining the 3 independent soakaways into a single central soakaway.

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1. Introduction

- 1.1. This maintenance document covers the drainage system for the new Aldi store on the development site.
- 1.2. It is expected that this report will also cover the maintenance of the nursery and retail units either side of the access road, although their drainage networks are unknown at time of writing.

2. Initial Design

2.1. Surface Water

- 2.1.1. The drainage network on the site has been designed in accordance with the Flood Risk Assessment, covering the development, prepared by BSP Consulting.
- 2.1.2. The 100-year storm event makes allowance for 40% climate change.
- 2.1.3. The design has been based on an impermeable service yard, access road and car park being drained using a conventional gravity-fed system.
- 2.1.4. The design uses infiltration techniques to discharge the water into the ground, requiring the use of attenuation tanks to accommodate roof water run-off and surface water run-off throughout the development site.
- 2.1.5. A single attenuation tank deals with the surface water from the car park and the Aldi roof and the other two development plots.
- 2.1.6. The soakaway has been designed with an infiltration rate of 0.51m/hr, which was determined by on-site testing.
- 2.1.7. All drainage from the car park surfacing, service yard and access road has been designed to pass through an oil separator with a silt trap which has been sized for the developed area and will treat the initial flush of surface water that may contain oils, whilst the silt trap removes the sediments within the water.
- 2.1.8. All ACO channels are required to discharge using a sump unit which will also prevent silts from entering the drainage network and reduce the impact of silts on the soakaways.
- 2.1.9. All road gullies are expected to be fitted with a silt bucket which will also prevent silts from entering the drainage network and reduce the impact of silts on the soakaways.

2.2. Foul Water

- 2.2.1. Foul water has been designed to discharge under gravity into the adopted sewer to the north-west of the site, under Church Meadow Road.
- 2.2.2. Aldi drainage is limited to domestic waste from toilets, wash basins and a staff kitchen area with some small discharge from the condensate system serving the refrigeration to the building.
- 2.2.3. Connections to the foul network have been provided to the two other developments as required.

3. Maintenance Requirements

- 3.1. Given the drainage installation is a gravity fed system the requirements for maintenance are similar to any typical installation.
- 3.2. It is recommended that all manholes on the development are cleared of silts on a bi-annual basis to help mitigate the risk of silts entering the system.



- 3.3. It is recommended that road gullies are cleared of silt build up on an annual basis to prevent the build-up of silts within the below ground drainage network.
- 3.4. In a similar manner, the ACO channels should be cleared on an annual basis ensuring that the proprietary silt traps are cleaned as necessary.
- 3.5. Car park areas should be swept of debris, particularly around the autumn months to reduce the ingress of leaf litter.
- 3.6. Alarms associated with the oil separator should be alarmed back to the managers office within the Aldi store. When the alarm sounds, information will be available in the operation and maintenance manuals to instruct on how to proceed. This will generally be contacting a drainage specialist to diagnose the issues to correct the fault.
- 3.7. The oil separator should be maintained in accordance with BS EN 858-2 which gives advice on the frequency and type of inspection to be carried out. Appendix A contains extracts of this document.
- 3.8. At the very least this should be every six months or in accordance with the manufacturers' specification. The inspection shall determine the depth of oil in the system and the depth of sediment/ sludge present together with details of any repairs.
- 3.9. The soakaway tanks, within the development, has been specified as ESS Versavoid tanks. These are capable of jet cleaning and vacuuming as with any conventional drainage pipe with access points either directly over the tank or at the upstream end.
- 3.10. Appendix B gives information from ESS regarding maintenance of their systems. It should be noted that silt traps within the ACO channels and the upstream separator shall reduce the likelihood of silts entering the soakaway tank.
- 3.11. As with any drainage system it is recommended that jet clearing of the system is undertaken on a 5 yearly basis. This should check for defects in the pipework and allow for the removal of any debris.

4. Responsible Person

- 4.1. Each Aldi region has designated Property Managers who are based with the distribution centre that serves their store. The drainage maintenance falls under their remit with works sub-contracted as necessary to complete the requirement.
- 4.2. At the time of writing the report Matt Kelly is the Property Manager for the Bolton region and can be contacted at:

Aldi Distribution Centre
Bridgewater Avenue
Logistics North
BB5 1EE
Tel: 0161 974 1406



Appendix A: Oil Separator Maintenance

EXTRACT OF BS EN 858-2:2003 for maintenance of oil separators

6 Operation, inspection and maintenance

All parts which have to be regularly maintained shall be at all times reachable. Maintenance of the system has to be carried out at least every six months by experienced personnel. The maintenance shall be carried out in accordance with the manufacturers instructions, but at least shall include the following items:

- a) sludge trap
 - determination of sludge volume
- b) separator
 - measure the thickness of light liquids
 - check the operation of the automatic closure device
 - check the coalescing devices for permeability, if the water levels in front and behind the coalescing device show significant difference
 - check the function of the warning device
- c) sampling shaft
 - clean the drain channel

Light liquid and sludge shall be removed as required. Before putting in service sludge trap and separator shall be re-filled with fresh water.

NOTE Emptying is recommended when one half of the sludge volume or 80 % of the storage capacity of the separator is reached.

In exceptional circumstances, when personnel need to enter the separator, it shall be fully drained and thoroughly ventilated.

The regulations/decrees for avoiding accidents and the handling of dangerous materials shall be followed.

In intervals of at maximum five years the separator system shall be emptied and then submitted to general inspection covering the following items:

- tightness of the system;
- structural condition;
- internal coatings, if present;
- state of inbuilt parts;
- state of electrical devices and installations;
- checking of adjustment of automatic closure device, e.g. floating bodies.

The cleaning and maintenance records shall be kept and made available to the authorities upon request and shall contain remarks on specific events (e.g. repairs, accidents).



Appendix B: Attenuation Maintenance

Extract from VersaVoid Maintenance Document

Recommended maintenance schedule

Maintenance schedule	Required Action	Recommended Frequency
At Commission	Inspect all areas to ensure free from construction debris and silt	Once at Commission
Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial actions.	Monthly for 3 months then 6 monthly
	Debris removal from catchment surface (where may cause risk to performance)	Monthly
	Where rainfall infiltrates into blocks from above, check surface filter for blockage by silt, algae or other matter. Remove and replace surface infiltration medium as necessary.	Monthly (and after large storms)
	Remove sediment from pre treatment structures	Annually or as required
Remedial actions	Repair / rehabilitation of inlets, outlet, overflows and vents.	As required
Monitoring	Inspect / check all inlets, outlet, overflows and vents to ensure in good condition and operating as required.	Annually and after large storms

Maintenance strategies

In order to protect geocellular installations from damage, siltation and reduce onerous maintenance and inspection, systems are designed to protect the tanks from direct damage and intercept suspended solids. Recommended design measures and good practise to include in the specification for the installation are given below:

- Tanks are recommended to be designed to be "off-line" but "on-line" tanks incorporating a low flow bypass pipeline usually minimum 150mm in diameter is usually acceptable.
- Silt traps, hydrodynamic separators or similar should be installed "upstream" of the tank inlets.
- Allowance should be made for siltation and a percentage loss of capacity agreed over the design life of the installation.
- Where direct connections are to be made a temporary geotextile is recommended to be placed over/ around the units inlet pipes to prevent silt ingress during construction. This is removed prior to final commissioning.
- Isolation / Penstock control units should be provided to isolate the installation for maintenance and to prevent / control contaminated flows.
- Geocellular installation pipework / manifolds shall be CCTV accessible for inspection.
- No large shrubs to be planted over the geocellular installation plus or within 3m in all directions and 6m from small/medium specimen tree planting. Large trees such as Oaks should not be planted within 20m of the installation.
- Geocellular installation should not be constructed beneath the existing or the predicted full mature canopy of trees.
- A specialist contractor must be used for the sealing of the membrane which should be by automatic heat welding unit. Use of taped seams even on soakaway installations is not recommended.
- Warning tapes or a grid should be provided 300mm above the installation to visually indicate that there is a buried structure.
- Permanent above ground signage detailing location and depth should be provided.
- A pre agreed maintenance and inspection regime should be in place at handover to the client.