

Our ref: 6859SMP

SuDS Management Plan
for
Coed Derw
at
Goulbourne, Wrexham

For : Nunndale Ltd
1 Maes Tomos
Clapper Lane
Gresford
Wrexham
Ll12 8RP

07 December 2018

SuDS Management Plan at Coed Derw, Goulbourne, Wrexham

Document Verification

Project Title	Coed Derw, Goulbourne, Wrexham
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Prepared by



A Jones

*Senior Infrastructure Engineer***Document Revision**

Report Reference	Date	Description	Prepared	Checked and Approved
6859 SMP	07/12/2018	SuDS Management Plan	A Jones	A Jones

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1.0 Introduction

Coopers (Chester) Ltd, (Coopers) have been appointed by Nunndale Ltd to prepare a SuDS Management Plan for the proposed Coed Derw residential development on the Goulbourne estate in Wrexham.

The surface water drainage system provides storage for up to a 30-year storm event within oversized on-line pipes. The flow is restricted at the last manhole using a flow control device. This network will be adopted by Welsh Water via a S104 Agreement and therefore will be maintained by Welsh Water.

Nunndale Ltd will be responsible for the all components until the final certificates have been issued at the end of the maintenance period.

Additional storage for the 100-year + 30% climate change allowance will be accommodated within a buried off-line geo-cellular tank. This will be maintained by Nunndale Ltd for which this report sets out the inspection and maintenance requirements.

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2.0 Operation and Maintenance

As with any drainage system, SuDS require regular inspection and maintenance to ensure that they continue to operate as designed and are fully functional at all times. The Goulbourne SuDS components will consist of a buried geo-cellular tank, silt trap and associated pipework.

The SuDS components require regular inspection/clearing to prevent blockages due to accumulation of silt and debris. In general, it is recommended that they are initially inspected and cleared by a suitably trained person every 6 months for at least the first 2 years of operation and then establish a long-term regular inspection/clearing regime appropriate for the site:

Table 21.3 from CIRIA C753 The SuDS Manual provides a more detailed maintenance schedule. Inspection/clearing should also be carried out after every major storm event and to the manufacturer's recommendations.

If regular excessive accumulation of silts and debris is found in silt-traps/catchpits serving below ground attenuation/soakaway tanks, a CCTV inspection of the tank should be undertaken. The geocellular tanks are provided with a special unit type along the base to enable inspection via manholes/inspection chambers at each end. If required the inspection channel can also be used for water jetting to clear the tanks of silt/debris. Notwithstanding the above, a CCTV inspection of the tanks should be undertaken at least every five years.

Any debris obstructing or in danger of obstructing the surface water flow should be removed within a period not exceeding two weeks from inspection. Any blockage or partial blockages reported to the managing organisation should be removed within a period not exceeding two weeks.

This maintenance plan is to be incorporated within the Health and Safety file, which, in addition to the details mentioned here, should include all the installed manufacturer's details and maintenance recommendations. In addition, it should hold the records of any inspections, together with any remedial measures undertaken. The drainage maintenance plan should be made available for inspection by the council if requested.

Monitoring and maintenance of the SuDS components will be the responsibility of Nunndale Ltd. Details are as follows:

Nunndale Ltd

1 Maes Tomos
Clapper Lane
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LL12 8RP

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3.0 Maintenance schedule

CIRIA SuDS Manual 2015

TABLE 21.3 Operation and maintenance requirements for attenuation storage tanks		
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 the catchment surface (where it may cause risks to performance)	Monthly
	For systems where rainfall infiltrates into the tank from above, check surface of filter for blockage by sediment, algae or other matter; remove and replace surface infiltration medium as necessary.	Annually
	Remove sediment from pre-treatment structures and/or internal forebays	Annually, or as required
Remedial actions	Repair/rehabilitate 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	Annually
	Survey inside of tank for sediment build-up and remove if necessary	Every 5 years or as required

Extract from CIRIA C753 'The SuDS Manual'

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4.0 Reference Drawings

DO NOT SCALE



Legend

- Site Boundary
- Existing Combined Sewer
- Proposed Adoptable Foul Sewer
- Proposed Adoptable Surface Water Sewer
- Proposed Adoptable Combined Sewer
- Proposed Private Surface Water Drain
- Proposed Private Foul Drain
- Plot Slab Level
- Private Soakaways
- Private Attenuation
- Private Silt Trap

Notes

- All dimensions are in millimetres unless otherwise shown.
- All adoptable drainage shall be constructed in accordance with 'Sewers for Adoption' 7th Edition, Welsh Ministers Standards and Welsh Water Details and Guidelines.
- All private drainage works are to comply fully with Part H of the Building Regulations.
- All existing invert levels to be checked by the contractor at the start of works and any other discrepancies notified to the Engineer prior to commencing works. All levels are based on topographical survey information provided by others.
- It is the responsibility of the Contractor to verify all information given with regards to existing services and drainage connections etc. prior to commencing the works.
- The Contractor shall adhere to the CDM Regulations at all times.
- Only trained personnel shall be permitted to enter confined spaces.
- All materials to bear the relevant B.S. Kitemark and comply fully with the Sewers for Adoption 7th Specification. All concrete & concrete products must use Sulphate resistant cement (unless the site investigation report proves that sulphate attack from soils and groundwater will not occur to withstand a class 3 condition).
- All opening notices etc. as required under Highways Acts etc. are to be obtained prior to commencement of works. All works are to be inspected by L.A., NHBC or Welsh Water as applicable.
- Trench backfill in highways to within 1m of highway shall, as directed by the Highway Authority be a suitable granular material all in accordance with Sewers for Adoption.
- Cover loadings shall be as detailed on the Manhole Schedule.
- Drain trenches should not be excavated lower than the foundations of any building nearby unless either:
 - The trench is within 1m of the foundation, the trench is filled with concrete up to the lowest level of the foundation, or
 - Where the trench is further than 1m from the building, the trench is filled with concrete to a level below the lowest level for the building equal to the distance from the build, less 150mm.
- All SVP and RWP connections are indicative and shall be confirmed by the client.
- Pipe gradients out of the building to connecting manhole to be laid at 1:40 in accordance with Building Regulations, Part H, Table 6.
- Where pipe sizes are not indicated :
 - 100Ø to be used for foul
 - 100Ø to be used for surface water unless stated otherwise.

Pipe Materials Table

Pipe Materials Table	Pipe Materials Table
100	CLAYWARE
150	CLAYWARE
225	CLAYWARE
300	CLAYWARE
375	CONCRETE

Contractor may elect to use thermoplastics pipes. These shall comply with the relevant provisions of BS EN 1401-1, BS EN 1852 and BS EN 12666-1 and should be Welsh Water approved products

Bedding and Surround Table

Depth to Soffit	Bedding and Surround Type
>1.2m	Class S
<1.2m	Class Z

Note:

Adoptable materials/workmanship to conform to part E of "Sewers for Adoption" 7th Edition.

APPROVAL

D	05.09.18	Venting note added to tank	AJ	AJ
C	05.09.18	Soakaway schedule added. Plots 3-5	AJ	AJ
B	13.07.18	Updated to suit WW comments	WC	AJ
A	22.04.18	Foul IC labels updated Plot 5 SW drainage updated	WC	AJ
Rev.	Date	Revision	By	Appd.

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Client

NUNNDALE LIMITED

Project

Residential Development
at former Groulbourne
Public house, Wrexham

Title

Drainage Layout

DRAWING NUMBER

6859 - 01

SCALE at A1 1:200

DATE 13.04.18

DRAWN WC

CHECKED AJ

REVISION

D

SOAKAWAY SCHEDULE

Ref	Location	Imp Area	Size	Base Level
SA1	Plot 3	140sq.m.	5.5m x 2.0m x 0.8m dp	81.40
SA2	Plot 4	110sq.m.	4.0m x 2.0m x 0.8m dp	81.00
SA3	Plot 5	140sq.m.	3.5m x 3.0m x 0.8m dp	80.60

NOTE:

Soakaways to be located entirely within suitable sand strata.

All soakaways to have a silt trap located upstream of inlet pipe

All soakaways to be located a minimum of 5m from foundations.

All soakaways have been designed to accommodate a 100yr + 30%CC storm event with no flooding.

Design Infiltration rate = 0.0275m/hr