

**GOOSE FARM
SHALLOAK ROAD
BROAD OAK
KENT, CT2 0QE**

DRAINAGE MAINTENANCE AND OPERATION MANUAL

**FOR
WOODCHURCH HOMES LTD.**

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REV -

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1 Introduction

This report has been produced to provide general maintenance guidance procedures for the various components of the foul and surface water drainage systems serving the proposed development at Goose Farm, Shalloak Road, Broad Oak, CT2 0QE.

This document has been produced in accordance with current best practice and recommendations and guidance set out in CIRIA C753 'The SuDS Manual'

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2 Surface Water Drainage

This section of the report will provide general maintenance procedures for the various components comprising the surface water drainage systems, serving the proposed development.

2.1 Attenuation Tanks

Regular inspection of geo-cellular storage systems is required to ensure effective long term performance of the system. Maintenance needs of the system should be monitored and schedules adjusted to suit the specific requirements of the development.

The following maintenance regime would be recommended as a minimum but actions and frequencies should be adjusted to suit the specific requirements of this development. However, manufacturer's specific recommendations should always be followed.

Table 2.1 – Recommended Maintenance Requirements

Maintenance Schedule	Required Works/Action	Frequency
Regular Maintenance	<ul style="list-style-type: none"> Inspect and identify incorrect operation. 	Monthly
	<ul style="list-style-type: none"> Debris removal from catchment area using sweeping and vacuuming. 	3 Monthly
	<ul style="list-style-type: none"> Removal of sediment from pre-treatment components i.e catchpits. 	6 Monthly

Current best practise suggests that underground geo-cellular storage systems are constructed with access 'turrets' to ease future maintenance. These 'turrets' allow the annual removal of any silts or sediments directly from the tank ensuring effective long term performance.

2.2 Flow Control Devices

Regular inspection of flow control devices is required to ensure effective long term performance of the system. Maintenance needs of the system should be monitored and schedules adjusted to suit the specific requirements of the development.

The following maintenance regime would be recommended as a minimum but actions and frequencies should be adjusted to suit the specific requirements of this development. However, manufacturer's specific recommendations should always be followed.

Table 2.2 – Recommended Maintenance Requirements

Maintenance Schedule	Required Works/Action	Frequency
Regular Maintenance	<ul style="list-style-type: none">Inspect and identify incorrect operation.	Monthly
	<ul style="list-style-type: none">Removal of sediment from pre-treatment components i.e. catchpits.	6 Monthly

2.3 Surface Water Pumping Stations

Pumping Stations are bespoke items provided by specialist Contractors and the supply of such includes a Maintenance Contract which ensures that the pumps are regularly inspected and serviced to provide continuity of service. Pumping stations also include alarms and warning telemetry to ensure that Engineers respond in the event of a failure. Maintenance contracts also include regular cleaning and desludging of the wet well.

The specific maintenance requirements of the pumping station shall be subject to the manufacturer's recommendations and any required maintenance agreement.

2.4 General Maintenance

Regular inspection and maintenance of drainage systems is essential to ensure effective long term performance. Maintenance needs of the system should be monitored and schedules adjusted to suit the specific requirements of the development.

The following maintenance regime would be recommended as a minimum but actions and frequencies should be adjusted to suit the specific requirements of this development. However, as previously discussed, component specific regimes and any manufacturer's specific recommendations should always be followed.

Table 2.3 – Recommended Maintenance Requirements

Maintenance Schedule	Required Works/Action	Frequency
Routine Maintenance	<ul style="list-style-type: none"> Inspect and identify incorrect operation. 	Monthly
	<ul style="list-style-type: none"> Debris removal from catchment area using sweeping and vacuuming. 	3 Monthly
	<ul style="list-style-type: none"> Removal of sediment from pre-treatment components i.e catchpits. 	6 Monthly

3 Foul Water Drainage

This section of the report will provide general maintenance procedures for the various components comprising the foul water drainage systems, serving the proposed development.

3.1 Foul Water Pumping Stations

Pumping Stations are bespoke items provided by specialist Contractors and the supply of such includes a Maintenance Contract which ensures that the pumps are regularly inspected and serviced to provide continuity of service. Pumping stations also include alarms and warning telemetry to ensure that Engineers respond in the event of a failure. The wet well within the pumping station includes sufficient capacity to store 24 hours of average flow to ensure that in the event of a failure there is little risk of flooding occurring before Engineers resolve the issues. Maintenance contracts also include regular cleaning and desludging of the wet well.

The specific maintenance requirements of the pumping station shall be subject to the manufacturers recommendations and any required maintenance agreement.

3.2 General Maintenance

Regular inspection and maintenance of drainage systems is essential to ensure effective long term performance. Maintenance needs of the system should be monitored and schedules adjusted to suit the specific requirements of the development.

Table 2.4 – Recommended Maintenance Requirements

Maintenance Schedule	Required Works/Action	Frequency
Routine Maintenance	<ul style="list-style-type: none">Inspect and identify incorrect operation.	Annually

Appendix 1

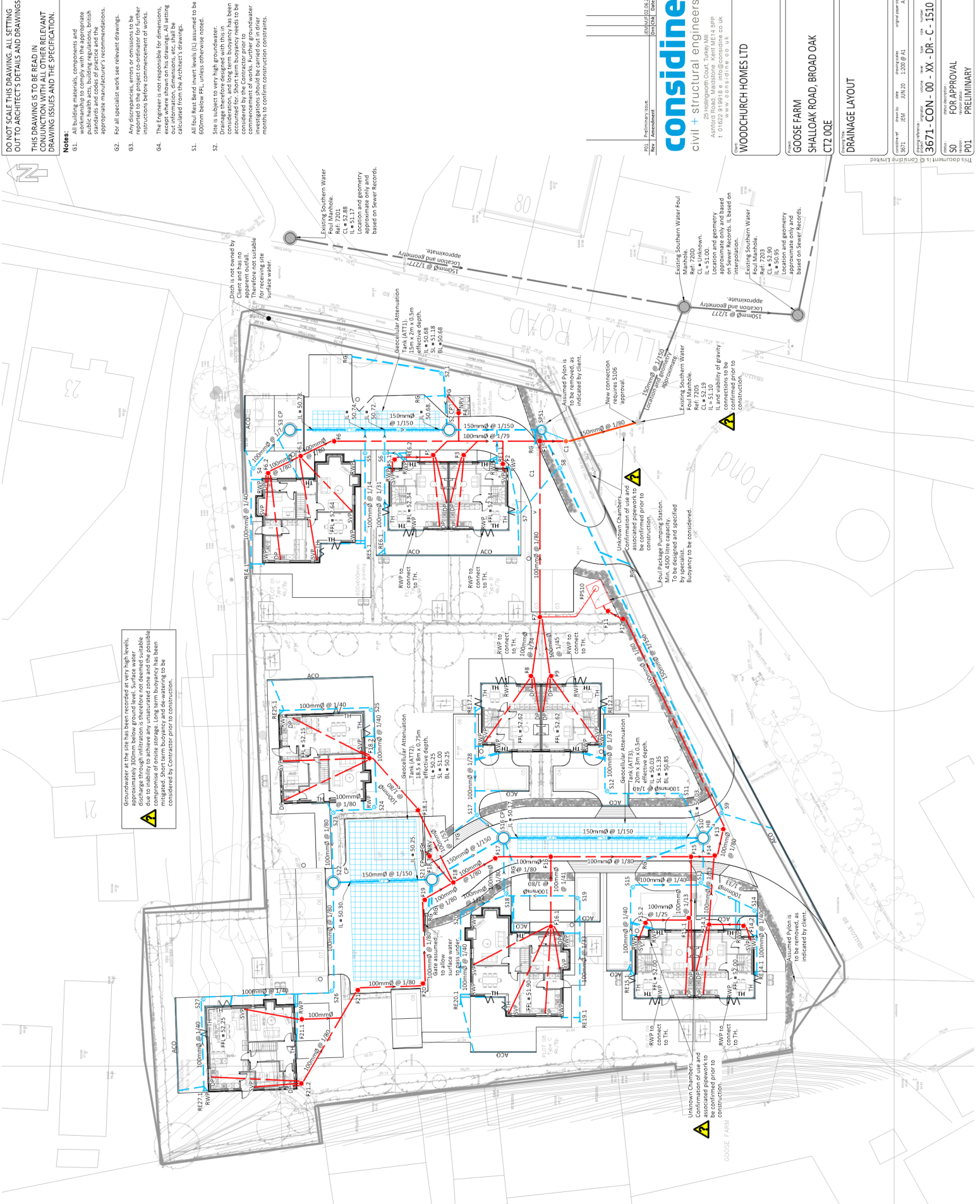
Proposed Drainage Layout

DO NOT SCALE THE DRAWING. ALL SETTING OUT TO ARCHITECT'S DETAILS AND DRAWINGS THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWING ISSUES AND THE SPECIFICATION.

- Notes:**
- All building materials, components and public health acts, building regulations, British standards and codes of practice and the appropriate manufacturer's recommendations.
 - For all specialist work see relevant drawings.
 - Any discrepancies, errors or omissions to be noted on drawings and corrected by the architect's instructions before commencement of work.
 - The Engineer is not responsible for dimensions, except where shown on his drawings. All setting out information, dimensions, etc. shall be calculated from the architect's drawings.
 - All foul best level invert levels (LI) assumed to be 600mm below FFL, unless otherwise noted.
 - Site is subject to very high groundwater. Consideration, and long term buoyancy has been accounted for. Short term buoyancy needs to be investigated. Further groundwater investigations should be carried out in other months to confirm construction constraints.

Groundwater at this site has been recorded at very high levels, approximately 300mm below ground level. Surface water discharge through infiltration is therefore not deemed suitable. Long term buoyancy has been considered. Short term buoyancy and de-watering to be mitigated. Short term buoyancy and de-watering to be considered by Contractor prior to construction.

- CDM 2015 RESIDUAL RISKS**
- High groundwater recorded at site. Contractor to be aware and take appropriate precautions.
 - Contractor to be aware and take appropriate precautions to divert overhead power cables.
 - Contractor to be aware and take appropriate precautions required to existing live foul sewer.
 - Contractor to be aware and take appropriate precautions.
- The above residual risks are for non-standard hazards. It is assumed that a competent contractor familiar with the above risks will be aware of the standard hazards. It is assumed that a competent contractor familiar with the above risks will be aware of the standard hazards.



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DRAINAGE LAYOUT

FOR APPROVAL
PRELIMINARY

