



Surface Water Strategy:

1. Surface Water Discharge

Proposed private surface water to discharge to a new manhole connection on Southern Water Storm Sewer beneath Wrotham Road at peak flow rate of 5.0 l/s. Subject to capacity check.

2. Flow Control

Gravity vortex flow control to discharge at 5.00 l/s. Controlled flows are to Southern Water adapted surface water network in Wrotham Road.

3. Cellular Attenuation

Cellular tank to receive flows from external hard paving and roof catchments. Chambers immediately upstream of tank to include silt traps.

4. Maintenance

Geocellular Attenuation Tank to be fitted with access tunnels for maintenance of feature. Minimum 1m cover to be vented in accordance with manufacturer recommendations.

5. Exceedance Flows

Beyond the capacity of the proposed surface water network and attenuation, exceedance flows would be directed away from the proposed building and towards areas of landscaping, and/or car parking, wherever possible. Beyond the capacity of the site, flows would continue north on to Woodville Place as per existing conditions.

Foul flows generated by the proposed site to connect to the existing adopted foul sewer network in Woodville Place, via on-site connection. If necessary a new connection at an appropriate invert could be required. Position and invert of the existing on-site foul connection to be confirmed.

Alternative foul connection to existing public foul network to east may be possible.

Connections subject to capacity checks with Southern Water.

Linear drain with Heelguard covers to highway edge

Key:

- Site Boundary
- Existing drainage:
 - Surface Water Sewer
 - Foul Water Sewer
 - Foul Water Chamber
 - Surface Water Chamber
- Proposed drainage:
 - Building impermeable Catchment
 - Hardstanding Impermeable Catchment
 - Cellular Storage Tank
 - Surface Water Sewer
 - Foul Water Sewer
 - Private Surface Inspection Chamber
 - Private Foul Inspection Chamber
 - Flow Control Chamber
 - Private Surface Water Manhole
 - Overland Flood Flow Route

Area Summary Schedule

Net Developable Area	0.362 ha
Impermeable Catchment	0.194 ha

Pre-Development Runoff

The greenfield runoff rates have been assessed for the 'net developable area' using the ICP-SuS Method. The calculation excludes large areas of open space which will remain undeveloped.

The brownfield runoff rates have been assessed, using the Modified Rational Method, for a contributing area (0.283ha) that is considered likely to discharge to the existing drainage network on site.

Return Period	Greenfield Rate	Brownfield Rate
1yr	0.7 l/s	33.7 l/s
50yr	1.8 l/s	95.1 l/s
100yr	2.6 l/s	126.5 l/s

Attenuation Summary

Cellular Storage Tanks	0.194 ha
Catchment	Hydrobrake limited to 5.0 l/s @ 0.5m head
Hydraulic Control	Ref: MD-SHE-0113-5000-0500-5000
Porosity	95%
Dimension	Tank 18.5m X 10.0m X 0.5m deep

Total 100yr+40% Volume 84.6m³

Total 100yr+40%CC Discharge: 5.0 l/s

Notes:

15.03.2022		INITIAL ISSUE		VS	JB	CPY	
REV	DATE	DESCRIPTION			BY	CHK	APD
DRAWING STATUS:							
PLANNING APPLICATION							
CLIENT:							
CHURCHILL RETIREMENT LIVING							
PROJECT:							
WINDMILL STREET, GRAVESEND							
TITLE:							
PRELIMINARY DRAINAGE LAYOUT							
PROJECT No:		DRAWING No:			REV:		
1305		01-PDL-1001			A		
SCALE @ A1:							
0 1:200 10 metres							

