

DRAINAGE NOTES:

1. Do not scale.
2. Refer to all other Project Drawings and supporting notes.
3. All sewers to comply with the requirements of Design and Construction Guidance together with Southern Water's Addendum. All public sewers are to be the subject of a Section 104 agreement of the Water Industry Act 1991.
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5. Invert levels of existing manholes and sewers are to be checked on site before construction commences and results reported to engineers.
6. The Contractor is responsible for maintaining continuity of flow for all existing sewers within the site boundary and limit of works for the duration of the project.
7. All manhole ironworks to comply with BS EN124, and be stamped with BS Kitemark. Covers to suit loading as below;
- Carriageways and Roads - D400
- Driveways and Verges - C250
- Footways and Pedestrian Areas - B125
- Gardens/Landscaping - A15
8. All sewer pipes, up to, and including 225mm are to be vitrified clay to BS EN255. All sewer pipes 300mm diameter and above to concrete pipes to BS EN1916.
9. All drainage shall be installed and tested strictly in accordance with the Manufacturers' printed instructions, BS EN 752, BS EN 1601, Local Water Authority requirements and the Building Regulations.
10. All bedding shall be Class 5 unless noted otherwise.
11. All trenches under existing and proposed public highways are to be backfilled with thoroughly compacted Type 1 granular sub-base material.
12. Drainage laid beneath roads and areas of vehicular access (car parking etc) with less than 1200mm of cover shall be encased in concrete bed and surround with associated movement joints. Drainage laid beneath paths, footways and pedestrian areas with less than 900mm of cover shall be similarly treated.
13. Chambers with outgoing pipes greater than 600mm diameter shall be fitted with guard bars, safety chains or other approved safety devices.
14. The use of precast concrete products made with sulphate resisting cement is mandatory, unless a laboratory report proves such precautions are not necessary.
15. All gully covers are to use a minimum diameter pipe of 150mm and to be surrounded by a minimum of 150mm of grade C8/C10 concrete over its full length (which should not exceed 15m) and its connection to the carrier system.
16. All sewers to be abandoned must be surveyed to identify any lateral connections that are still live with any found to be reported to the Engineer.
17. All laterals to be 150mm laid at 1:80 (surface) or 1:60 (foul) unless otherwise stated.
18. All private drains to be 100mm diameter unless otherwise stated.
19. All foul and storm water drains which are not to be adopted as public sewers shall be in accordance with Document H of the Building Regulations, together with NHC Standards Chapter 5.3 and BS3031.
20. Where pipes pass through footings, retaining or screen walls, lintels to be provided over drains.
21. Where inverts are less than 0.6m deep inspection chambers (min dia. 150mm) or access fittings (225 x 100mm) to be used, elsewhere proprietary plastic, brick or pcc is to be used and sized in accordance with Table 11 of Document H of the Building Regulations (<0.6m to invert min DN300, >0.6m to invert min DN475).
22. All gullies connected direct to drains to be roddable.
23. Rainwater downpipes to be easily removable for rodding or to be provided with rodding access at ground level.
24. Unless noted otherwise FW IC's and RE's to be 0.6m below DPC level, SW IC's and RE's to be 0.45m.
25. Adequate precautions in accordance with Approved Document H and manufacturers' recommendations to be taken to protect drains (particularly plastic) at shallow depths.
26. Catchpits to be as IC's but with 300mm sump below outgoing pipe invert level except where detailed elsewhere.
27. Trees and shrubs of a large size or heavy canopy with a moderate or high water demand must not be planted within any sewer easement.
28. Gullies within and adjacent to area of site works to be suction cleaned at commencement and completion of works.
29. 1m deep root barrier of an approved type to be installed vertically along the back edging kerb of all areas of footway/demarcation to protect from both proposed and future plantation.
30. Where connections are being made to pipelines rather direct to manholes all connections are to be made using oblique 45° junctions.

C	9/21	Updated following ADC and CARE UK comments. Foul Spur added & Levels Adjusted. Swale sections added.	JS	SL
B	7/21	Updated following preliminary ADC comments	JS	SL
A	7/21	First Issue	JS	SL
Rev	Date	Description	Drawn	Checked

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Client

Frontier

Project

Dappers Lane Angmering

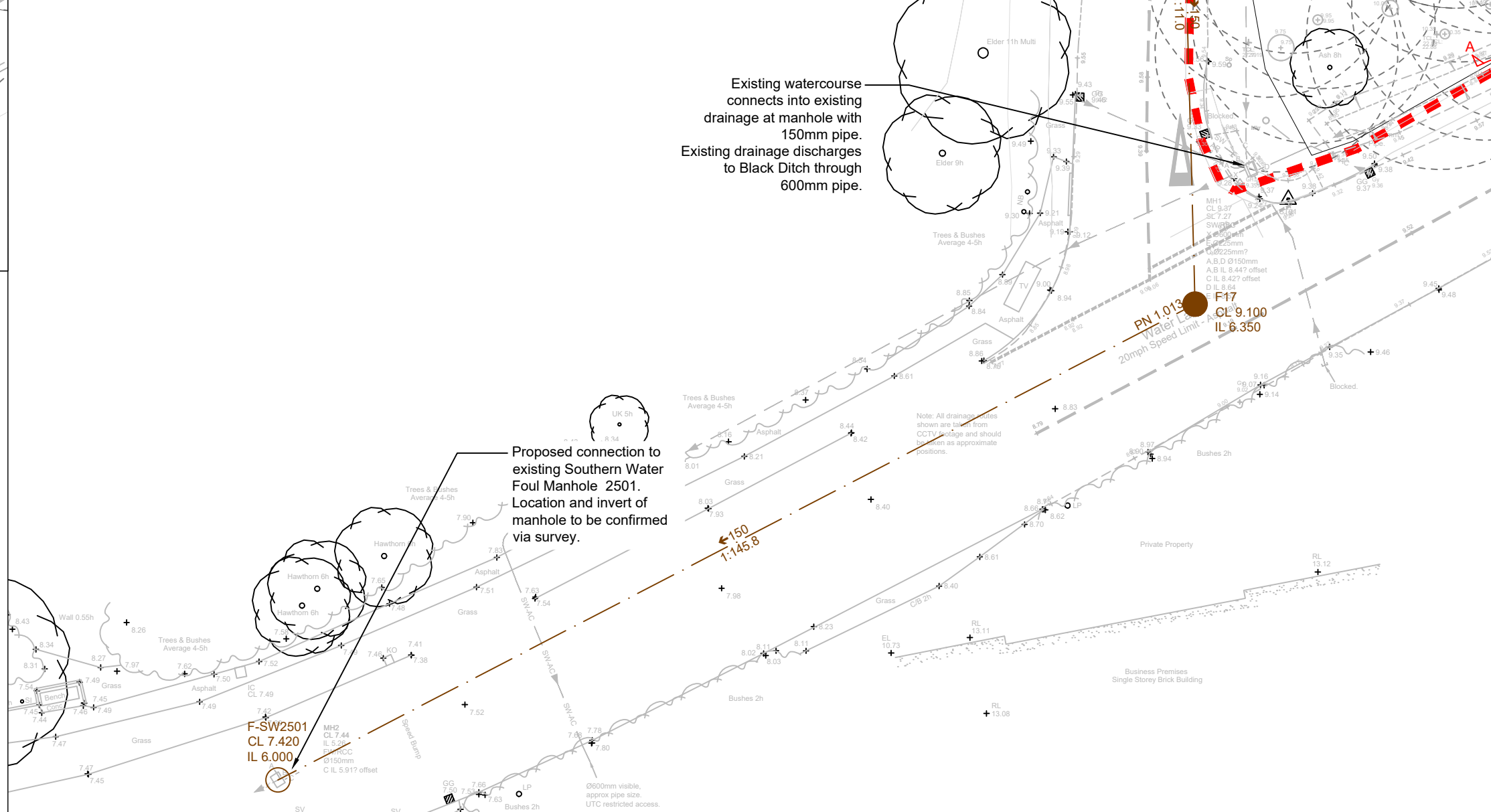
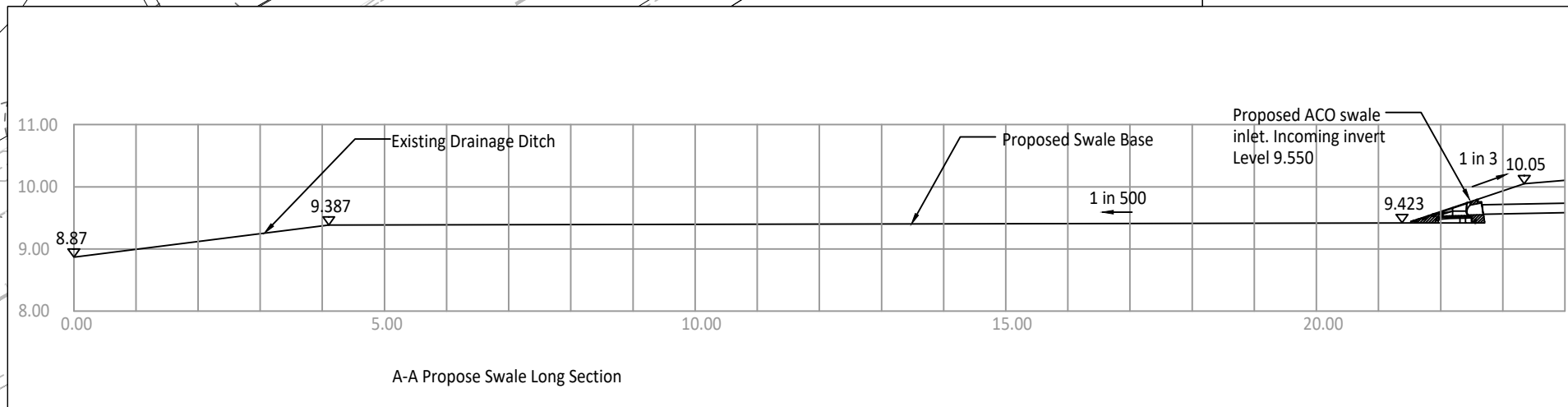
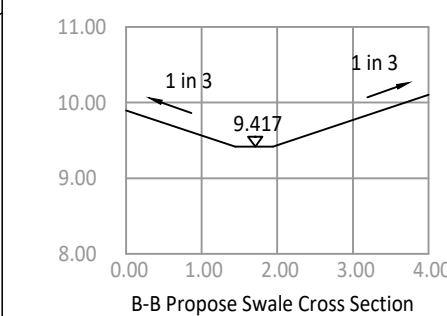
Title

Foul and Surface Water Drainage Strategy

Status

For Approval

Scale	Date	Drawn	Checked
1:250 @ A1	July '21	JS	SL
Drawing No	Revision		
A360 - 01	C		



DRAINAGE KEY	
	FOUL
	STORM
	Proposed drain & MH
	Private 320 dia inspection chamber (0.6m depth) and invert level
	Catchpit Manhole
	Control Manhole with flow restriction device
	Permeable Block Paving
	Permeable Sub-base
	Concrete Baffle
	Headwall
	Cellular Storage
	Distribution tank (porous areas)
	Retaining Wall
	Proposed Level

244m² x minimum 0.4m permeable sub-base beneath car parking area to infiltrate at a rate of 2.87 x 10⁻⁴ m/s.
Minimum sub-base IL: 14.15
Cover Level 15.00
Measured Ground Water Level: 13.88-13.34

215m² x 0.4m permeable sub-base beneath car parking area to infiltrate at a rate of 7.90 x 10⁻⁴ m/s.
Minimum sub-base IL: 13.43
Cover Level 14.03
Measured Ground Water Level: 13.17

470m² x minimum 0.95m permeable sub-base beneath car parking area to infiltrate at a rate of 2.87 x 10⁻⁴ m/s.
Sub-base IL throughout: 13.50
Measured Ground Water Level: 13.34-13.17

Surface water run off from roof to discharge in to porous sub-base.

Concrete Baffle to separate infiltration areas
Gullies to provide redundancy in case of failure of soakaway.

Surface water run off from roof to discharge in to porous sub-base.

8m x 7m x 0.8m deep Cellular storage tank to attenuate excess flows for all storm events up to and including the 1 in 100 year event with a 40% allowance for climate change.
Product Number: CTL-SHE-0051-1400-1420-1400
Design Depth: 1.420m
Design Flow: 1.4 i/s
Orifice Diameter: 0.051m

Manhole to contain Hydro-Brake Optimum to limit flows to a maximum 1.4 i/s for all storms up to and including the 1 in 100 year event with a 40% allowance for climate change.
Product Number: CTL-SHE-0051-1400-1420-1400
Design Depth: 1.420m
Design Flow: 1.4 i/s
Orifice Diameter: 0.051m

Headwall to discharge in to proposed swale. Swale to connect in to existing downstream ditch

Surface water to discharge in to existing watercourse located at the bottom of the site mimicking existing situation. Trenches for drainage to be hand dug in this area to avoid damage to existing tree roots.

Existing watercourse connects into existing drainage at manhole with 150mm pipe. Existing drainage discharges to Black Ditch through 600mm pipe.