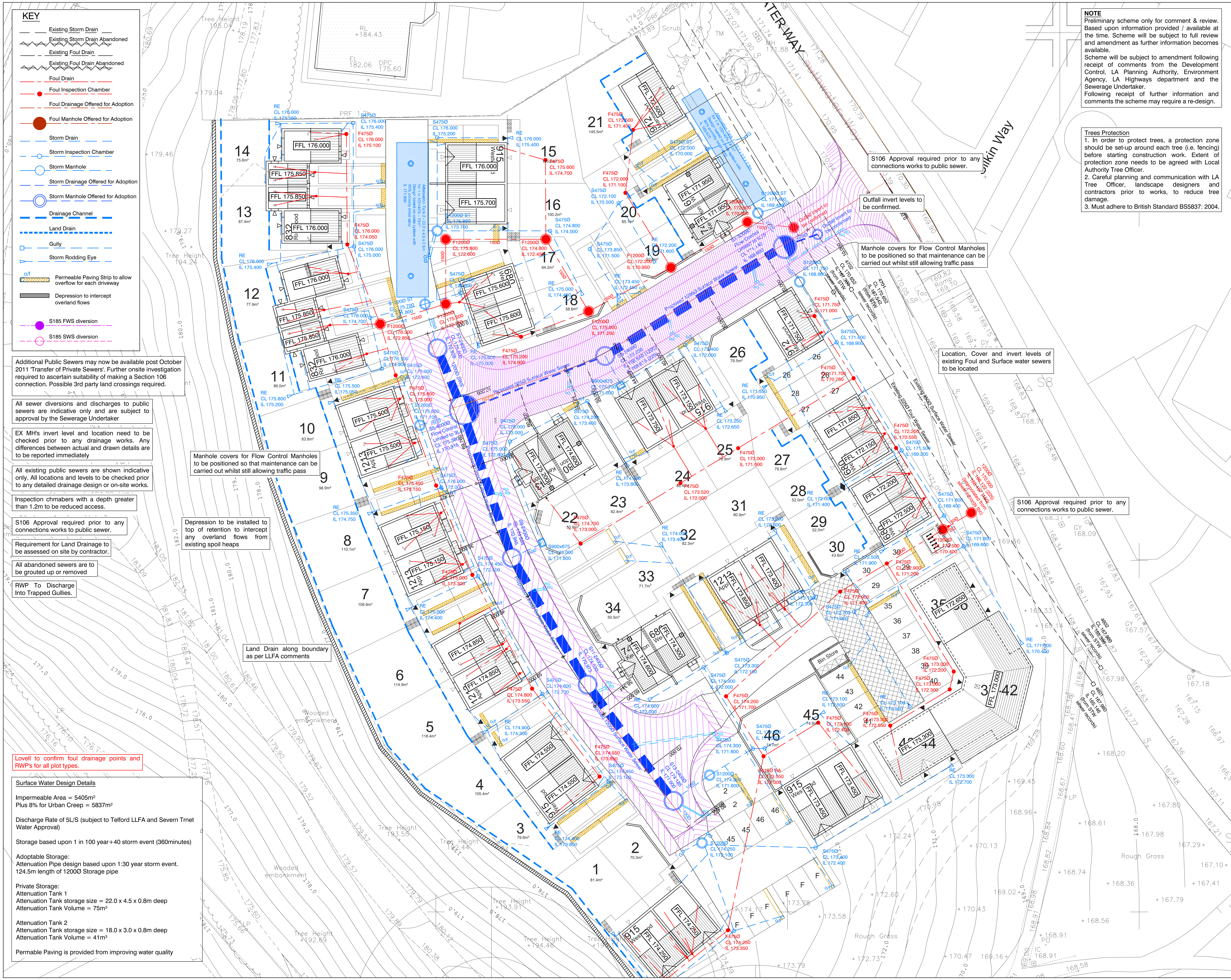

Surface Water Design Details

Impermeable Area = 5405m²
Plus 8% for Urban Creep = 5837m²

Discharge Rate of 5L/S (subject to Telford LLFA and Severn Trnet Water Approval)

Storage based upon 1 in 100 year+40 storm event (360minutes)

Adoptable Storage:
Attenuation Pipe design based upon 1:30 year storm event.
124.5m length of 1200Ø Storage pipe

Private Storage:
Attenuation Tank 1
Attenuation Tank storage size = 22.0 x 4.5 x 0.8m deep
Attenuation Tank Volume = 75m³

Attenuation Tank 2
Attenuation Tank storage size = 18.0 x 3.0 x 0.8m deep
Attenuation Tank Volume = 41m³

Permeable Paving is provided from improving water quality

Notes

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Drawings must not be scaled. Work to figured dimensions only

1. Due to a change in legislation on 1st October 2011, there could be formally private sewers which have transferred over to the responsibility of the Sewerage Undertaker. If such sewers are located on site during construction works, please contact Stewart and Harris so that a Section 185 Agreement can be prepared to divert these sewers.
2. The survey information used in the preparation of this drawing is not warranted. The contractor shall check all dimensions and levels on site.
3. This drawing must be read in conjunction with the site investigation report. Before work commences contractor should consult the engineer and the SI report regarding any contamination issues. All necessary health and Safety measures to be taken.
4. Before work commences, the contractor shall liaise with all Statutory Authorities to determine the exact location of all apparatus and take all precautions deemed necessary to locate, protect and where necessary divert such equipment.
5. This drawing is subject to approval by Local Authority, Building Control, Sewerage Undertaker and the Environment Agency. Any works undertaken prior to the granting of these approvals is carried out at at risk to others.
6. Should any surplus excavated material require disposal off site, it should be taken to a suitably licensed landfill site.
7. The contractor shall check all dimensions and levels on site.
8. Setting out to be confirmed by the Architect.
9. Prior to commencing work on the drainage, all existing drains, sewers manholes and outfalls to remain shall be located, identified and a CCTV condition survey carried out. Where necessary, protection to the existing drainage infrastructure shall be provided.
10. All existing sewers and manholes abandoned due to the proposed works are to be either removed, and suitably backfilled or grouted up.
11. All external drainage works shall be constructed in accordance with civil engineering specification for the water industry and Sewers for Adoption 6th Edition for adoptable drainage, for private drainage in accordance with the Building regulations Part H and BS.EN 752.
12. All existing drainage levels, diameters & locations need to be checked on site prior to any drainage works, and any discrepancies need to be reported back to the Engineer.
13. Cover levels for manholes are approximate only and should be adjusted to match surrounding levels.
14. All manhole and drainage covers shall comply with BS.EN124. Manhole covers within block paved area and buildings shall be recessed. Cover strengths to be:-
    Class E600 in areas of heavy loading.
    Class D400 in heavy trafficked areas (roads, services yards).
    Class C250 Lightly trafficked areas (car parks).
    Class B125 in landscape and non trafficked areas (min. 100mm dp frame).
15. Drainage pipes 100mm Ø unless stated otherwise.
16. Pipes to be :- Vitrified clay to BS EN 295 or Concrete to BS 5911 or UPVC pipes to BS EN 1452 or Thermoplastic Structured wall pipes complying with WIS 4-35-01. BSi kitemarked. Class 8kM/m² nominal short term ring stiffness.
17. All pipes to be laid with soffits level, unless noted otherwise.
18. Where cover to pipes is less than 1200mm under carriageway - concrete bed and surround or concrete protection slab is required.
19. All pipes beneath buildings to be B&S in concrete. Where cover is less than 300mm the concrete is to be cast integrally with the floor slab.
20. Pipes Penetrating Walls.
    An opening is to be formed through walls to give pipes at least 50mm clearance all round. Brickwork over shall be supported by a lintel. Opening to be masked each side with rigid sheet material.
    Pipes embedded in walls shall have joints formed within 150mm of either wall face. Adjacent rocker pipes of max 600mm length with flexible joints shall continue the pipework.
21. Pipe runs near Buildings.
    If a trench is within 1m of a building it shall be filled with concrete up to the lowest level of the adjacent foundation. If a trench is greater than 1m from a building the trench shall be filled with concrete up to a level below the building equal to the distance from the building less 150mm.
22. Ventilation shall be provided at the head of the foul drainage runs.
23. For setting out of svp and rwp, see architects layout.
24. Threshold drainage is required where levels fall towards a building entrance. Architect to confirm if not required.
25. Yard Gully positions are indicative, should be adjusted on site to suit levels.
26. All gully positions to suit low points and to be trapped.
27. Road gullies shall be trapped 450Ø x 900mm deep with Class D 400 frame and grating to BS EN 124.
28. Drainage channel detailed design to be undertaken by manufactures. Alternative channels may be used, subject to Engineers approval.
29. All concrete to drainage, manholes bases, surrounds etc to be in accordance with the BRE special digest 1 - Concrete in aggressive ground. Refer to site investigation report for sulphate requirements.
30. All manholes, pipe trenches etc. to be backfilled with imported granular fill to Class 6F1-6F5 (Capping material) to (SHW) Table 6/1 & compacted in accordance with Table 6/4.
31. All pipelines shall be tested both before and after backfilling, using either air test or water test, in accordance with BS EN 1610.
32. Demarcation manholes and lateral drains need to be constructed in accordance with the Water UK/WRc "Sewers For Adoption 6th Edition".
33. All works to sewers/ manholes being offered for adoption or on existing public sewers should be in accordance with "Sewers for Adoption 6th Edition" and the Adopting Water Authority's recommendations
34. Requirement for Land Drains to be assessed on site by the Site Manager

F	12.08.20	Drainage updated to latest layout	DJH
E	22.07.20	Surface Water udated further to discussions with LLFA	DJH
D	05.06.20	Sewer easement removed	CS
C	15.04.20	Private drainage details added.	CS
B	03.03.20	Permeable paving amended and manhole S5 upsized	CS
A	12.02.20	Surface water system split and additional hydrobrake added to reduce depth	DJH
REV	DATE	AMENDMENT	BY

MUCKLOW & HARRIS
CONSULTING CIVIL & STRUCTURAL ENGINEERS

DRAWING STATUS: PRELIMINARY

CLIENT: LOVELL

PROJECT: Southwater Way Telford

TITLE: Drainage Layout

DATE: 05.02.20 | DRAWN: DJH
SCALE: 1:250 | SIZE: A1 | CHECKED: AM
DRAWING NUMBER: 20017-101 | REVISION: F