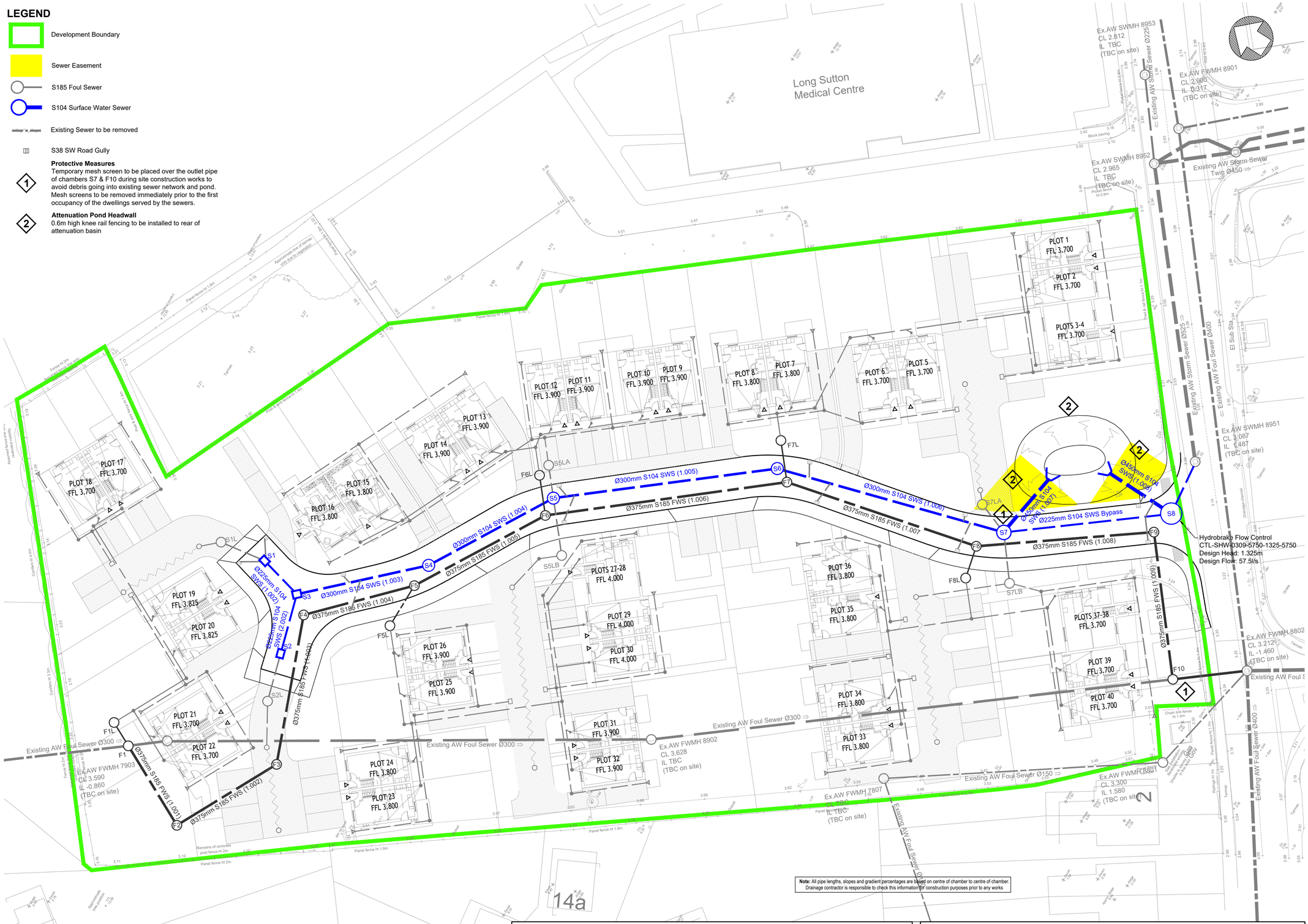
LEGEND

- Development Boundary
- Sewer Easement
- S185 Foul Sewer
- S104 Surface Water Sewer
- Existing Sewer to be removed
- S38 SW Road Gully

Protective Measures
1. Temporary mesh screen to be placed over the outlet pipe of chambers S7 & F10 during site construction works to avoid debris going into existing sewer network and pond. Mesh screens to be removed immediately prior to the first occupancy of the dwellings served by the sewers.

Attenuation Pond Headwall
2. 0.6m high knee rail fencing to be installed to rear of attenuation basin



Note: All pipe lengths, slopes and gradient percentages are based on centre of chamber to centre of chamber. Drainage contractor is responsible to check this information for construction purposes prior to any works

S104 Adoptable Manhole Schedule

MH Ref.	Cover Level	Invert Level	Pipe Dia. (mm)	Depth to Soffit (m)	MH Type	MH Size (mm)	Frame	Cover	Easting (m)	Northing (m)
8951	3.087	1.487	525	1.075	Existing	Existing	Existing	Existing	542845.080	322888.568
S1	3.664	2.560	225	0.879	D	900x675	675x675x150mm	D400	542770.188	322988.327
S2	3.679	2.572	225	0.882	D	900x675	675x675x150mm	D400	542760.652	322980.157
S3	3.681	2.449	300	0.932	D	900x750	675x675x150mm	D400	542768.568	322982.353
S4	3.779	2.376	300	1.103	E	Ø1200	600x600x150mm	D400	542780.874	322969.238
S5	3.849	2.299	300	1.250	E	Ø1500	600x600x150mm	D400	542797.082	322959.548
S6	3.684	2.176	300	1.208	E	Ø1200	600x600x150mm	D400	542815.757	322935.938
S7	3.377	1.898	450	1.029	E(S)	Ø1500	600x600x150mm	D400	542823.921	322905.641
S8+	3.181	1.332	375	0.975	Special	Ø2700	600x600x150mm	D400	542837.504	322887.763

+ Denotes Flow Control chamber with 500mm sump [level shown is to sump invert]

S104 Adoptable Pipe Schedule

Pipe Ref.	Upstream IL	Downstream IL	Diameter (mm)	Distance (m)	Fall (m)	Pipe Gradient 1:X	Pipe Gradient %	Pipe Material	Pipe Bedding
CS Out - S8	1.855	1.832	450	9.781	0.023	1:425.7	0.235%	Concrete	Class S
S1 - S3	2.560	2.524	225	6.190	0.036	1:170.0	0.588%	Vitrified Clay	Class S
S2 - S3	2.572	2.524	225	8.215	0.048	1:170.0	0.588%	Vitrified Clay	Class S
S3 - S4	2.449	2.376	300	17.985	0.073	1:245.1	0.408%	Vitrified Clay	Class S
S4 - S5	2.376	2.299	300	18.883	0.077	1:245.1	0.408%	Vitrified Clay	Class S
S5 - S6	2.299	2.176	300	30.103	0.123	1:245.0	0.408%	Vitrified Clay	Class S
S6 - S7	2.176	2.048	300	31.378	0.128	1:245.0	0.408%	Vitrified Clay	Class S
S7 - CS In	1.898	1.875	450	9.262	0.023	1:410.0	0.244%	Concrete	Class S
S8 - 8951	1.832	1.636	375	7.619	0.196	1:38.9	2.570%	Concrete	Class S

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General Notes

1. DO NOT SCALE.
2. This drawing is to be read in conjunction with all other relevant drawings and details.
3. Should there be any conflict between the details indicated on this drawing and those on other drawings the Engineer should be informed PRIOR to construction on site.
4. Until technical approval has been obtained from the relevant Authority, it should be understood that all drawings issued are Preliminary and NOT for construction. Should the Contractor commence site work prior to such approval being given it is entirely at their own risk.
5. Sketch proposals are for illustrative purposes only and as such are subject to detailed site investigation including ground conditions / contaminants, drainage, design and planning / density negotiations.
6. All dimensions are in millimetres unless otherwise stated.
7. The Farrow Walsh Consulting Designers Risk Assessments for this project must be reviewed PRIOR to the commencement of any works on site.

NOTES

1. This drawing to be read in conjunction with all other relevant Engineers and Architect's details.
2. All work is to be carried out in accordance with the current British D400s, codes of practice, building regulations and with Sewers for Adoption 6th Edition guidance.
3. All drainage offered for adoption has been designed to not attenuate flows in excess of the 1:30 year return storm event.
4. The exact position, level, size and use of existing sewers to be confirmed on site by the Contractor. Any discrepancies to be reported to the Engineer prior to commencement of works.
5. All uncovered and shallow pipework to be protected against construction traffic as part of the Contractor's temporary works requirements.
6. Exact location line and level of existing stubs to existing manholes in the road to be confirmed on site prior to construction.
7. All connections to road gullies and channels shall be 150mm nominal bore pipework. No pipe work to be downsized in the direction of flow.
8. Connections to foul terminal fittings to be 100mm nominal bore pipework subject to confirmation of above ground pipe diameters and/or design flow. No pipe work to be downsized in the direction of flow.
9. All pipework to be U-PVC type in accordance with WIS 4-35-01 unless otherwise noted.
10. All pipes connecting to adopted manholes up to and including 300mm dia. to be Wavin Ultrarib or Polypipe Polysewer (See pipe Table A).
11. All pipes connecting to adopted manholes greater than 300mm dia. to be Concrete or Polypipe Ridgisewer (max. Ø900mm, see pipe Table A).
12. Pipes of different diameters entering manholes should be installed with soffits at the same level.
13. Pre-formed channels to be used at all manholes.
14. High strength Concrete benching to be steel trowelled to a dense smooth face neatly shaped and finished to all branch connections and laid in accordance with the specification.
15. Precast Concrete manhole rings will not be cut under any circumstances. Other options, manhole built up with Concrete or brick work to the top of the pipe.
16. All catchpits shall not be adopted.
17. Pipe bends to be provided to suit direction of flow.
18. All manhole covers to be 675x675mm coverand frame to maintain clear 600x600mm clear opening, unless otherwise stated, in accordance with BS EN 124. Class D400 kite marked covers and frames to be ductile iron heavy duty double triangular type, embossed 'FW' or 'SW' as appropriate, where applicable.
19. All proposed manhole covers & frames at a minimum of 675x675mm to comply with Severn Trent Water Ltd current Health & Safety D400s.
20. The use of infill covers and frames in block paved areas is not permitted in accordance with SFA 6th Edition, Section 2.9.6.
21. All new drainage to be constructed adjacent new and proposed tree planting to be protected against root activity using 'rootcontrol' root barrier material by green-tech or similar approved. All tree positions to be in accordance with the SFA 6th Edition, Section B.2.3.
22. First flexible joint in pipes adjacent to a manhole shall be 600mm max. From inside face of manhole, connecting to rocker pipe. For pipe diameters 150mm - 450mm the rocker pipe length shall be 500mm - 750mm and for pipe diameters 451mm - 675mm the rocker pipe length shall be 750mm - 1000mm.
23. Manholes with outgoing pipes greater than 600mm dia. shall be fitted with guard bars, safety chains or other approved safety devices.
24. Sewer easements at any change in width, these should be 2.5m to either side of the pipe for pipe sizes up to 300mm diameter, and 5.0m each side of the centre of the pipeline for pipes 300mm diameter or greater.
25. Protective Concrete cover slabs to be used on pipes in non-traffic area which doesn't achieve 0.9m/900mm cover level and 1.2/1200mm cover in traffic area.
26. All Concrete pipework with cover less than 1.2m shall be to Class 120 and have Concrete slab protection.
27. Where pipe crossing, Concrete membrane to be used for protection to eliminate any changes of cross contamination.
28. The outside of the sewer should be in vehicle carriageway (not footpath) and be at least 1.0m away from the kerb line. The outside of manholes should be at least 0.5m away from the kerb line.
29. All soft spots encountered in the trench formation to be removed and replaced with graded granular material unless instructed otherwise.
30. Where the formation of a pipe trench is above original ground level, levels are to be made up with compacted DTP Type 2 material or better.
31. All buried Concrete must cater for Class 2 sulphates conditions in accordance with Table 1 of BRE Digest 363.
32. Concrete protection shall be provided to all pipes with less than 300mm cover in pedestrian areas, to all pipes with less than 600mm cover in private driveways not used by commercial vehicles, and to all pipes with less than 1200mm cover in roads or private driveways used by commercial vehicles. Where Concrete surround is specified flexibility of joints is to be maintained by using compressible bitumen impregnated fibreboard at each point.
33. All materials used are suitable for the ground conditions.
34. The design of any temporary works required shall be the responsibility of the Contractor.
35. Any discrepancies are to be recorded and reported to the Engineers immediately.
36. All work is to be to the satisfaction of the Engineer and Severn Trent Water.
37. The Contractor is responsible for and must take all necessary precautions to ensure the stability of the works at all times during construction.
38. All services are to be located and protected as necessary by the Contractor prior to the commencement of the works.
39. No backdrops to be used, steeper gradients are preferred to the use of backdrops.
40. Type E manhole the opening cover and frame should be located centrally over the pipe. Refer to SfA 6th Edition Figure 2.8
41. Trees on the drawing are existing or proposed and adhere to B.2.3 (page 33) of sFA6. the trees specified will be as per sewers for adoption and positioned. Where Clearances with vegetation is not achievable, appropriate root protection will be provided.
42. In situations where traffic loading is anticipated to be heavier than would occur on a typical residential estate road (i.e. braking or turning near a junction) a higher specification cover (E600) should be used)
43. Lateral have been designed such as there wont be clashing or backdrops within the adoptable network

Rev	Description of updates	Drawn	Check'd	App'd	Date
T9	X-ref information updated to suit layout comments received 03.10.19.	PU	CB	JD	18.10.19
T8	Drawing updated to suit AW comments dated 03.10.2019.	CB	BM	JD	04.10.19
T7	Pipes revised from Plastic to Vitrified Clay following AW comments	JR	BM	JD	02.10.19
T6	Adoptable drainage has been updated following an increased discharge rate. Drawing has been updated to suit.	JR	BM	JD	30.09.19
T5	Adoptable pipe gradients revised to show actual falls, not rounded as per AW request	JD	BM	DM	24.09.19
T4	Headwall references added and Flow control denoted on schedules	JD	BM	DM	30.08.19
T3	Manhole types added to schedule and existing foul de-coloured as per Anglian Water comments. (24.06.2019)	CC	BM	JD	16.07.19
T2	Client updated to GEDA Construction Ltd.	CC	CB	BM	24.05.19
T1	Issued for Tender.	CC	CB	JD	18.04.19

Revision Schedule

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TENDER

Client: GEDA Construction Ltd.

Project: Station Road, Long Sutton

Title: Section 104 Layout

Drawn:	Checked:	Approved:	Date:	Scale:
CC	CB	JD	April 2019	1:250 @ A1

Drawing No. **FW1733-D-402**

Revision: **T9**