


Appendix F Foul Water Drainage Strategy Calculations

Hydraulic models

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Midpoint Alencon Link Basingstoke, RG21 7PP	South Woodham Ferrers Foul Drainage	
Date 28/07/2021 File Foul Drainage_v3_RECOVE...	Designed by BT Checked by KW	
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FOUL SEWERAGE DESIGN

Design Criteria for Foul - Central and East

Pipe Sizes STANDARD Manhole Sizes STANDARD


Industrial Flow (l/s/ha)	0.00	Add Flow / Climate Change (%)	0
Industrial Peak Flow Factor	0.00	Minimum Backdrop Height (m)	0.200
Flow Per Person (l/per/day)	222.00	Maximum Backdrop Height (m)	1.500
Persons per House	3.00	Min Design Depth for Optimisation (m)	1.200
Domestic (l/s/ha)	0.60	Min Vel for Auto Design only (m/s)	0.60
Domestic Peak Flow Factor	6.00	Min Slope for Optimisation (1:X)	150

Designed with Level Soffits

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Manhole Schedules for Foul - Central and East

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
F1	20.247	1.337	Open Manhole	1200	F1.000	18.910	150				
F2	21.372	2.541	Open Manhole	1200	F1.001	18.831	150	F1.000	18.831	150	
F3	20.872	2.298	Open Manhole	1200	F1.002	18.574	150	F1.001	18.574	150	
F4	20.615	2.183	Open Manhole	1200	F1.003	18.432	150	F1.002	18.432	150	
F5	20.607	2.304	Open Manhole	1200	F1.004	18.303	150	F1.003	18.303	150	
F6	20.974	2.829	Open Manhole	1200	F1.005	18.145	150	F1.004	18.145	150	
F7	21.778	3.939	Open Manhole	1200	F1.006	17.839	150	F1.005	17.839	150	
F8	22.081	4.365	Open Manhole	1200	F1.007	17.716	150	F1.006	17.716	150	
F9	20.881	1.881	Open Manhole	1200	F2.000	19.000	150				
F10	22.053	4.531	Open Manhole	1200	F1.008	17.522	150	F1.007	17.552	150	30
								F2.000	17.552	150	30
F11	21.843	4.595	Open Manhole	1200	F1.009	17.248	150	F1.008	17.248	150	
F12	22.030	4.868	Open Manhole	1200	F1.010	17.162	150	F1.009	17.162	150	
F13	22.522	5.534	Open Manhole	1200	F1.011	16.988	150	F1.010	16.988	150	
F14	21.701	5.211	Open Manhole	1200	F1.012	16.490	150	F1.011	16.490	150	
F15	20.873	4.568	Open Manhole	1200	F1.013	16.332	150	F1.012	16.305	150	
F16	20.794	4.725	Open Manhole	1200	F1.014	16.069	150	F1.013	16.069	150	
F17	20.006	4.108	Open Manhole	1200	F1.015	15.898	150	F1.014	15.898	150	
F18	19.025	3.248	Open Manhole	1200	F1.016	15.777	150	F1.015	15.777	150	
F19	15.861	1.961	Open Manhole	1200	F1.017	13.900	150	F1.016	13.900	150	
F20	14.363	1.863	Open Manhole	1200	F1.018	12.500	150	F1.017	12.500	150	
F21	13.605	2.105	Open Manhole	1200	F1.019	11.500	150	F1.018	11.500	150	
F22	20.156	1.350	Open Manhole	1200	F3.000	18.806	150				
F23	21.375	2.698	Open Manhole	1200	F3.001	18.677	150	F3.000	18.677	150	
F24	21.864	3.526	Open Manhole	1200	F3.002	18.338	150	F3.001	18.338	150	
F25	22.158	3.934	Open Manhole	1200	F3.003	18.224	150	F3.002	18.224	150	
F26	22.161	4.027	Open Manhole	1200	F3.004	18.134	150	F3.003	18.134	150	
F27	21.909	3.878	Open Manhole	1200	F3.005	18.031	150	F3.004	18.031	150	
F28	19.289	1.834	Open Manhole	1200	F3.006	17.455	150	F3.005	17.455	150	
F29	17.562	0.700	Open Manhole	1200	F3.007	16.886	150	F3.006	16.862	150	
F40	17.424	1.393	Open Manhole	1200	F3.008	16.031	150	F3.007	16.031	150	
F41	16.623	1.363	Open Manhole	1200	F3.009	15.260	150	F3.008	15.260	150	
F42	15.720	1.050	Open Manhole	1200	F4.000	14.670	150				
F43	16.347	1.858	Open Manhole	1200	F3.010	14.489	150	F3.009	14.489	150	
								F4.000	14.489	150	
F44	15.426	1.050	Open Manhole	1200	F5.000	14.376	150				
F45	15.401	1.201	Open Manhole	1200	F3.011	14.200	150	F3.010	14.200	150	
								F5.000	14.200	150	

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Manhole Schedules for Foul - Central and East

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
F46	15.489	1.353	Open Manhole	1200	F3.012	14.136	150	F3.011	14.136	150	
F47	15.210	1.115	Open Manhole	1200	F6.000	14.095	150				
F48	14.914	1.043	Open Manhole	1200	F3.013	13.871	150	F3.012	13.871	150	
								F6.000	13.871	150	
F49	12.500	1.284	Open Manhole	1200	F7.000	11.216	150				
F50	12.300	1.253	Open Manhole	1200	F3.014	11.047	225	F3.013	11.122	150	
								F7.000	11.122	150	
F51	14.490	3.950	Open Manhole	1200	F8.000	10.540	150				
F52	14.310	3.939	Open Manhole	1200	F3.015	10.371	225	F3.014	10.371	225	
								F8.000	10.446	150	
F53	13.798	3.743	Open Manhole	1200	F3.016	10.055	225	F3.015	10.055	225	
F54	11.500	1.030	Open Manhole	1200	F9.000	10.470	150				
F55	13.393	3.687	Open Manhole	1200	F3.017	9.706	225	F3.016	9.706	225	
								F9.000	9.781	150	
F56	13.654	4.528	Open Manhole	1200	F3.018	9.126	225	F3.017	9.126	225	
F57	13.457	4.462	Open Manhole	1200	F1.020	8.995	300	F1.019	9.070	150	
								F3.018	9.070	225	
F	12.824	3.922	Open Manhole	0		OUTFALL		F1.020	8.902	300	
F58	23.010	2.010	Open Manhole	1200	F10.000	21.000	150				
F59	23.050	2.401	Open Manhole	1200	F10.001	20.649	150	F10.000	20.649	150	
F60	22.640	2.340	Open Manhole	1200	F10.002	20.300	150	F10.001	20.300	150	
F61	21.370	1.530	Open Manhole	1200	F10.003	19.840	150	F10.002	19.840	150	
F62	20.900	1.500	Open Manhole	1200	F10.004	19.400	150	F10.003	19.400	150	
F63	19.650	1.500	Open Manhole	1200	F10.005	18.150	150	F10.004	18.150	150	
F64	18.160	1.500	Open Manhole	1200	F10.006	16.660	150	F10.005	16.660	150	
F65	16.950	1.500	Open Manhole	1200	F10.007	15.450	150	F10.006	15.510	150	60
F66	15.850	1.500	Open Manhole	1200	F10.008	14.350	150	F10.007	14.350	150	
F67	15.150	1.500	Open Manhole	1200	F10.009	13.650	150	F10.008	13.650	150	
F68	14.380	1.500	Open Manhole	1200	F10.010	12.880	150	F10.009	12.880	150	
F69	13.850	1.500	Open Manhole	1200	F10.011	12.350	150	F10.010	12.350	150	
F70	17.964	1.748	Open Manhole	1200	F11.000	16.216	225				
F71	18.081	1.927	Open Manhole	1200	F11.001	16.154	225	F11.000	16.154	225	
F72	18.343	2.348	Open Manhole	1200	F11.002	15.995	225	F11.001	15.995	225	
F73	18.560	2.639	Open Manhole	1200	F11.003	15.921	225	F11.002	15.921	225	
F74	18.893	3.034	Open Manhole	1200	F11.004	15.859	225	F11.003	15.859	225	
F75	20.130	4.431	Open Manhole	1200	F12.000	15.699	225				
F76	19.554	3.923	Open Manhole	1200	F11.005	15.631	225	F11.004	15.699	225	68

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Manhole Schedules for Foul - Central and East

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
F77	19.109	3.531	Open Manhole	1200	F11.006	15.578	225	F12.000	15.631	225	
F78	18.419	2.919	Open Manhole	1200	F11.007	15.500	225	F11.005	15.578	225	
F79	16.764	1.460	Open Manhole	1200	F11.008	15.304	225	F11.006	15.500	225	
F80	15.713	3.565	Open Manhole	1200	F11.009	12.148	225	F11.007	15.304	225	
F81	13.615	1.415	Open Manhole	1200	F13.000	12.200	150	F11.008	12.148	225	
F82	13.810	1.980	Open Manhole	1200	F13.001	11.830	150	F13.000	11.830	150	
F83	14.550	3.305	Open Manhole	1200	F13.002	11.245	150	F13.001	11.245	150	
F84	14.850	4.075	Open Manhole	1200	F11.010	10.775	225	F13.002	10.850	150	
F85	13.130	2.500	Open Manhole	1200	F10.012	10.630	225	F11.009	10.775	225	
								F13.002	10.850	150	
								F10.011	10.705	150	
								F11.010	10.630	225	
F86	11.850	1.560	Open Manhole	1200	F10.013	10.290	225	F10.012	10.293	225	
F87	11.060	1.500	Open Manhole	1200	F10.014	9.560	225	F11.010	10.630	225	
F88	10.610	1.500	Open Manhole	1200	F10.015	9.110	225	F10.012	10.293	225	
F89	10.700	1.669	Open Manhole	1200	F10.016	9.031	225	F10.013	9.560	225	
F90	10.290	1.500	Open Manhole	1200	F10.017	8.790	225	F10.014	9.110	225	
F91	10.270	1.553	Open Manhole	1200	F10.018	8.717	225	F10.015	9.031	225	
F92	10.330	1.786	Open Manhole	1200	F10.019	8.544	225	F10.016	8.790	225	
F93	9.700	1.500	Open Manhole	1200	F10.020	8.200	225	F10.017	8.717	225	
F	9.600	2.001	Open Manhole	0		OUTFALL		F10.018	8.544	225	
								F10.019	8.200	225	
								F10.020	7.599	225	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
F1	580727.918	198741.524	580727.918	198741.524	Required	
F2	580721.321	198732.176	580721.321	198732.176	Required	
F3	580747.344	198703.534	580747.344	198703.534	Required	
F4	580755.344	198683.865	580755.344	198683.865	Required	
F5	580757.970	198664.643	580757.970	198664.643	Required	

Midpoint
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
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Manhole Schedules for Foul - Central and East

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
F6	580753.677	198641.397	580753.677	198641.397	Required	
F7	580735.820	198599.066	580735.820	198599.066	Required	
F8	580735.265	198580.606	580735.265	198580.606	Required	
F9	580754.707	198562.519	580754.707	198562.519	Required	
F10	580743.181	198557.265	580743.181	198557.265	Required	
F11	580756.360	198518.410	580756.360	198518.410	Required	
F12	580757.474	198505.581	580757.474	198505.581	Required	
F13	580753.376	198479.867	580753.376	198479.867	Required	
F14	580733.711	198407.783	580733.711	198407.783	Required	
F15	580707.108	198415.913	580707.108	198415.913	Required	
F16	580674.578	198438.105	580674.578	198438.105	Required	
F17	580660.040	198416.955	580660.040	198416.955	Required	
F18	580656.736	198399.101	580656.736	198399.101	Required	
F19	580656.660	198341.480	580656.660	198341.480	Required	
F20	580657.289	198307.696	580657.289	198307.696	Required	

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Manhole Schedules for Foul - Central and East

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
F21	580640.857	198270.057	580640.857	198270.057	Required	
F22	580702.270	198773.639	580702.270	198773.639	Required	
F23	580689.398	198759.135	580689.398	198759.135	Required	
F24	580652.766	198794.364	580652.766	198794.364	Required	
F25	580637.036	198800.885	580637.036	198800.885	Required	
F26	580623.491	198800.823	580623.491	198800.823	Required	
F27	580609.242	198794.918	580609.242	198794.918	Required	
F28	580541.648	198741.066	580541.648	198741.066	Required	
F29	580472.486	198685.124	580472.486	198685.124	Required	
F40	580464.844	198675.009	580464.844	198675.009	Required	
F41	580451.789	198608.399	580451.789	198608.399	Required	
F42	580472.137	198591.387	580472.137	198591.387	Required	
F43	580446.317	198598.095	580446.317	198598.095	Required	
F44	580415.208	198595.812	580415.208	198595.812	Required	
F45	580423.197	198563.716	580423.197	198563.716	Required	

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Manhole Schedules for Foul - Central and East

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
F46	580430.021	198557.059	580430.021	198557.059	Required	
F47	580484.999	198527.325	580484.999	198527.325	Required	
F48	580451.605	198523.654	580451.605	198523.654	Required	
F49	580407.447	198487.177	580407.447	198487.177	Required	
F50	580397.538	198488.403	580397.538	198488.403	Required	
F51	580411.139	198335.911	580411.139	198335.911	Required	
F52	580401.777	198335.954	580401.777	198335.954	Required	
F53	580424.522	198268.679	580424.522	198268.679	Required	
F54	580465.697	198172.545	580465.697	198172.545	Required	
F55	580503.025	198268.983	580503.025	198268.983	Required	
F56	580633.576	198269.593	580633.576	198269.593	Required	
F57	580634.495	198256.930	580634.495	198256.930	Required	
F	580640.038	198229.458			No Entry	
F58	581041.988	198293.832	581041.988	198293.832	Required	
F59	581094.589	198293.281	581094.589	198293.281	Required	

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Manhole Schedules for Foul - Central and East

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
F60	581146.784	198288.837	581146.784	198288.837	Required	
F61	581214.840	198277.233	581214.840	198277.233	Required	
F62	581243.107	198270.327	581243.107	198270.327	Required	
F63	581292.239	198256.096	581292.239	198256.096	Required	
F64	581349.019	198235.586	581349.019	198235.586	Required	
F65	581397.636	198214.203	581397.636	198214.203	Required	
F66	581436.948	198192.442	581436.948	198192.442	Required	
F67	581463.457	198176.158	581463.457	198176.158	Required	
F68	581484.010	198160.125	581484.010	198160.125	Required	
F69	581503.898	198141.900	581503.898	198141.900	Required	
F70	581622.742	198226.787	581622.742	198226.787	Required	
F71	581612.579	198229.796	581612.579	198229.796	Required	
F72	581589.540	198244.078	581589.540	198244.078	Required	
F73	581577.437	198247.776	581577.437	198247.776	Required	
F74	581566.866	198247.667	581566.866	198247.667	Required	


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Manhole Schedules for Foul - Central and East

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
F75	581536.037	198253.656	581536.037	198253.656	Required	
F76	581540.121	198242.906	581540.121	198242.906	Required	
F77	581541.795	198234.033	581541.795	198234.033	Required	
F78	581539.788	198220.917	581539.788	198220.917	Required	
F79	581530.016	198188.984	581530.016	198188.984	Required	
F80	581519.558	198158.102	581519.558	198158.102	Required	
F81	581711.850	198145.131	581711.850	198145.131	Required	
F82	581656.388	198143.764	581656.388	198143.764	Required	
F83	581568.906	198151.024	581568.906	198151.024	Required	
F84	581523.029	198144.817	581523.029	198144.817	Required	
F85	581523.593	198120.232	581523.593	198120.232	Required	
F86	581553.505	198079.505	581553.505	198079.505	Required	
F87	581565.308	198053.869	581565.308	198053.869	Required	
F88	581574.674	198033.526	581574.674	198033.526	Required	
F89	581563.517	198029.634	581563.517	198029.634	Required	

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Manhole Schedules for Foul - Central and East

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
F90	581564.085	198011.842	581564.085	198011.842	Required	
F91	581558.113	198002.694	581558.113	198002.694	Required	
F92	581559.889	197976.765	581559.889	197976.765	Required	
F93	581573.325	197932.067	581573.325	197932.067	Required	
F	581579.662	197842.163			No Entry	

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PIPELINE SCHEDULES for Foul - Central and East

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
F1.000	o	150	F1	20.247	18.910	1.187	Open Manhole	1200
F1.001	o	150	F2	21.372	18.831	2.391	Open Manhole	1200
F1.002	o	150	F3	20.872	18.574	2.148	Open Manhole	1200
F1.003	o	150	F4	20.615	18.432	2.033	Open Manhole	1200
F1.004	o	150	F5	20.607	18.303	2.154	Open Manhole	1200
F1.005	o	150	F6	20.974	18.145	2.679	Open Manhole	1200
F1.006	o	150	F7	21.778	17.839	3.789	Open Manhole	1200
F1.007	o	150	F8	22.081	17.716	4.215	Open Manhole	1200
F2.000	o	150	F9	20.881	19.000	1.731	Open Manhole	1200
F1.008	o	150	F10	22.053	17.522	4.381	Open Manhole	1200
F1.009	o	150	F11	21.843	17.248	4.445	Open Manhole	1200
F1.010	o	150	F12	22.030	17.162	4.718	Open Manhole	1200
F1.011	o	150	F13	22.522	16.988	5.384	Open Manhole	1200
F1.012	o	150	F14	21.701	16.490	5.061	Open Manhole	1200
F1.013	o	150	F15	20.873	16.332	4.391	Open Manhole	1200
F1.014	o	150	F16	20.794	16.069	4.575	Open Manhole	1200
F1.015	o	150	F17	20.006	15.898	3.958	Open Manhole	1200
F1.016	o	150	F18	19.025	15.777	3.098	Open Manhole	1200
F1.017	o	150	F19	15.861	13.900	1.811	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
F1.000	11.441	144.8	F2	21.372	18.831	2.391	Open Manhole	1200
F1.001	38.699	150.6	F3	20.872	18.574	2.148	Open Manhole	1200
F1.002	21.234	149.5	F4	20.615	18.432	2.033	Open Manhole	1200
F1.003	19.400	150.4	F5	20.607	18.303	2.154	Open Manhole	1200
F1.004	23.640	149.6	F6	20.974	18.145	2.679	Open Manhole	1200
F1.005	45.944	150.1	F7	21.778	17.839	3.789	Open Manhole	1200
F1.006	18.468	150.1	F8	22.081	17.716	4.215	Open Manhole	1200
F1.007	24.647	150.3	F10	22.053	17.552	4.351	Open Manhole	1200
F2.000	12.667	8.7	F10	22.053	17.552	4.351	Open Manhole	1200
F1.008	41.029	149.7	F11	21.843	17.248	4.445	Open Manhole	1200
F1.009	12.877	149.7	F12	22.030	17.162	4.718	Open Manhole	1200
F1.010	26.038	149.6	F13	22.522	16.988	5.384	Open Manhole	1200
F1.011	74.719	150.0	F14	21.701	16.490	5.061	Open Manhole	1200
F1.012	27.818	150.4	F15	20.873	16.305	4.418	Open Manhole	1200
F1.013	39.379	149.7	F16	20.794	16.069	4.575	Open Manhole	1200
F1.014	25.665	150.1	F17	20.006	15.898	3.958	Open Manhole	1200
F1.015	18.157	150.1	F18	19.025	15.777	3.098	Open Manhole	1200
F1.016	57.621	30.7	F19	15.861	13.900	1.811	Open Manhole	1200
F1.017	33.790	24.1	F20	14.363	12.500	1.713	Open Manhole	1200

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PIPELINE SCHEDULES for Foul - Central and East

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
F1.018	o	150	F20	14.363	12.500	1.713	Open Manhole	1200
F1.019	o	150	F21	13.605	11.500	1.955	Open Manhole	1200
F3.000	o	150	F22	20.156	18.806	1.200	Open Manhole	1200
F3.001	o	150	F23	21.375	18.677	2.548	Open Manhole	1200
F3.002	o	150	F24	21.864	18.338	3.376	Open Manhole	1200
F3.003	o	150	F25	22.158	18.224	3.784	Open Manhole	1200
F3.004	o	150	F26	22.161	18.134	3.877	Open Manhole	1200
F3.005	o	150	F27	21.909	18.031	3.728	Open Manhole	1200
F3.006	o	150	F28	19.289	17.455	1.684	Open Manhole	1200
F3.007	o	150	F29	17.562	16.886	0.526	Open Manhole	1200
F3.008	o	150	F40	17.424	16.031	1.243	Open Manhole	1200
F3.009	o	150	F41	16.623	15.260	1.213	Open Manhole	1200
F4.000	o	150	F42	15.720	14.670	0.900	Open Manhole	1200
F3.010	o	150	F43	16.347	14.489	1.708	Open Manhole	1200
F5.000	o	150	F44	15.426	14.376	0.900	Open Manhole	1200
F3.011	o	150	F45	15.401	14.200	1.051	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
F1.018	41.070	41.1	F21	13.605	11.500	1.955	Open Manhole	1200
F1.019	14.587	6.0	F57	13.457	9.070	4.237	Open Manhole	1200
F3.000	19.393	150.3	F23	21.375	18.677	2.548	Open Manhole	1200
F3.001	50.824	149.9	F24	21.864	18.338	3.376	Open Manhole	1200
F3.002	17.028	149.4	F25	22.158	18.224	3.784	Open Manhole	1200
F3.003	13.545	150.5	F26	22.161	18.134	3.877	Open Manhole	1200
F3.004	15.424	149.7	F27	21.909	18.031	3.728	Open Manhole	1200
F3.005	86.424	150.0	F28	19.289	17.455	1.684	Open Manhole	1200
F3.006	88.954	150.0	F29	17.562	16.862	0.550	Open Manhole	1200
F3.007	12.678	14.8	F40	17.424	16.031	1.243	Open Manhole	1200
F3.008	67.877	88.0	F41	16.623	15.260	1.213	Open Manhole	1200
F3.009	11.667	15.1	F43	16.347	14.489	1.708	Open Manhole	1200
F4.000	26.677	147.4	F43	16.347	14.489	1.708	Open Manhole	1200
F3.010	41.429	143.4	F45	15.401	14.200	1.051	Open Manhole	1200
F5.000	33.075	187.9	F45	15.401	14.200	1.051	Open Manhole	1200
F3.011	9.533	149.0	F46	15.489	14.136	1.203	Open Manhole	1200

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PIPELINE SCHEDULES for Foul - Central and East

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
F3.012	o	150	F46	15.489	14.136	1.203	Open Manhole	1200
F6.000	o	150	F47	15.210	14.095	0.965	Open Manhole	1200
F3.013	o	150	F48	14.914	13.871	0.893	Open Manhole	1200
F7.000	o	150	F49	12.500	11.216	1.134	Open Manhole	1200
F3.014	o	225	F50	12.300	11.047	1.028	Open Manhole	1200
F8.000	o	150	F51	14.490	10.540	3.800	Open Manhole	1200
F3.015	o	225	F52	14.310	10.371	3.714	Open Manhole	1200
F3.016	o	225	F53	13.798	10.055	3.518	Open Manhole	1200
F9.000	o	150	F54	11.500	10.470	0.880	Open Manhole	1200
F3.017	o	225	F55	13.393	9.706	3.462	Open Manhole	1200
F3.018	o	225	F56	13.654	9.126	4.303	Open Manhole	1200
F1.020	o	300	F57	13.457	8.995	4.162	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
F3.012	39.771	150.1	F48	14.914	13.871	0.893	Open Manhole	1200
F6.000	33.595	150.0	F48	14.914	13.871	0.893	Open Manhole	1200
F3.013	64.543	23.5	F50	12.300	11.122	1.028	Open Manhole	1200
F7.000	9.985	106.2	F50	12.300	11.122	1.028	Open Manhole	1200
F3.014	152.508	225.6	F52	14.310	10.371	3.714	Open Manhole	1200
F8.000	9.362	99.6	F52	14.310	10.446	3.714	Open Manhole	1200
F3.015	71.016	224.7	F53	13.798	10.055	3.518	Open Manhole	1200
F3.016	78.505	224.9	F55	13.393	9.706	3.462	Open Manhole	1200
F9.000	103.411	150.1	F55	13.393	9.781	3.462	Open Manhole	1200
F3.017	130.552	225.1	F56	13.654	9.126	4.303	Open Manhole	1200
F3.018	12.696	226.7	F57	13.457	9.070	4.162	Open Manhole	1200
F1.020	28.026	301.4	F	12.824	8.902	3.622	Open Manhole	0

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PIPELINE SCHEDULES for Foul - Central and East

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
F10.000	o	150	F58	23.010	21.000	1.860	Open Manhole	1200
F10.001	o	150	F59	23.050	20.649	2.251	Open Manhole	1200
F10.002	o	150	F60	22.640	20.300	2.190	Open Manhole	1200
F10.003	o	150	F61	21.370	19.840	1.380	Open Manhole	1200
F10.004	o	150	F62	20.900	19.400	1.350	Open Manhole	1200
F10.005	o	150	F63	19.650	18.150	1.350	Open Manhole	1200
F10.006	o	150	F64	18.160	16.660	1.350	Open Manhole	1200
F10.007	o	150	F65	16.950	15.450	1.350	Open Manhole	1200
F10.008	o	150	F66	15.850	14.350	1.350	Open Manhole	1200
F10.009	o	150	F67	15.150	13.650	1.350	Open Manhole	1200
F10.010	o	150	F68	14.380	12.880	1.350	Open Manhole	1200
F10.011	o	150	F69	13.850	12.350	1.350	Open Manhole	1200
F11.000	o	225	F70	17.964	16.216	1.523	Open Manhole	1200
F11.001	o	225	F71	18.081	16.154	1.702	Open Manhole	1200
F11.002	o	225	F72	18.343	15.995	2.123	Open Manhole	1200
F11.003	o	225	F73	18.560	15.921	2.414	Open Manhole	1200
F11.004	o	225	F74	18.893	15.859	2.809	Open Manhole	1200
F12.000	o	225	F75	20.130	15.699	4.206	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
F10.000	52.604	149.9	F59	23.050	20.649	2.251	Open Manhole	1200
F10.001	52.385	150.0	F60	22.640	20.300	2.190	Open Manhole	1200
F10.002	69.038	150.0	F61	21.370	19.840	1.380	Open Manhole	1200
F10.003	29.098	66.1	F62	20.900	19.400	1.350	Open Manhole	1200
F10.004	51.151	40.9	F63	19.650	18.150	1.350	Open Manhole	1200
F10.005	60.371	40.5	F64	18.160	16.660	1.350	Open Manhole	1200
F10.006	53.112	46.2	F65	16.950	15.510	1.290	Open Manhole	1200
F10.007	44.932	40.8	F66	15.850	14.350	1.350	Open Manhole	1200
F10.008	31.111	44.4	F67	15.150	13.650	1.350	Open Manhole	1200
F10.009	26.067	33.9	F68	14.380	12.880	1.350	Open Manhole	1200
F10.010	26.975	50.9	F69	13.850	12.350	1.350	Open Manhole	1200
F10.011	29.280	17.8	F85	13.130	10.705	2.275	Open Manhole	1200
F11.000	10.598	170.9	F71	18.081	16.154	1.702	Open Manhole	1200
F11.001	27.107	170.5	F72	18.343	15.995	2.123	Open Manhole	1200
F11.002	12.655	171.0	F73	18.560	15.921	2.414	Open Manhole	1200
F11.003	10.572	170.5	F74	18.893	15.859	2.809	Open Manhole	1200
F11.004	27.165	169.8	F76	19.554	15.699	3.630	Open Manhole	1200
F12.000	11.500	169.1	F76	19.554	15.631	3.698	Open Manhole	1200

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PIPELINE SCHEDULES for Foul - Central and East

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
F11.005	o	225	F76	19.554	15.631	3.698	Open Manhole	1200
F11.006	o	225	F77	19.109	15.578	3.306	Open Manhole	1200
F11.007	o	225	F78	18.419	15.500	2.694	Open Manhole	1200
F11.008	o	225	F79	16.764	15.304	1.235	Open Manhole	1200
F11.009	o	225	F80	15.713	12.148	3.340	Open Manhole	1200
F13.000	o	150	F81	13.615	12.200	1.265	Open Manhole	1200
F13.001	o	150	F82	13.810	11.830	1.830	Open Manhole	1200
F13.002	o	150	F83	14.550	11.245	3.155	Open Manhole	1200
F11.010	o	225	F84	14.850	10.775	3.850	Open Manhole	1200
F10.012	o	225	F85	13.130	10.630	2.275	Open Manhole	1200
F10.013	o	225	F86	11.850	10.290	1.335	Open Manhole	1200
F10.014	o	225	F87	11.060	9.560	1.275	Open Manhole	1200
F10.015	o	225	F88	10.610	9.110	1.275	Open Manhole	1200
F10.016	o	225	F89	10.700	9.031	1.444	Open Manhole	1200
F10.017	o	225	F90	10.290	8.790	1.275	Open Manhole	1200
F10.018	o	225	F91	10.270	8.717	1.328	Open Manhole	1200
F10.019	o	225	F92	10.330	8.544	1.561	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
F11.005	9.030	170.4	F77	19.109	15.578	3.306	Open Manhole	1200
F11.006	13.269	170.1	F78	18.419	15.500	2.694	Open Manhole	1200
F11.007	33.395	170.0	F79	16.764	15.304	1.235	Open Manhole	1200
F11.008	32.604	10.3	F80	15.713	12.148	3.340	Open Manhole	1200
F11.009	13.732	10.0	F84	14.850	10.775	3.850	Open Manhole	1200
F13.000	55.479	149.9	F82	13.810	11.830	1.830	Open Manhole	1200
F13.001	87.783	150.1	F83	14.550	11.245	3.155	Open Manhole	1200
F13.002	46.295	117.2	F84	14.850	10.850	3.850	Open Manhole	1200
F11.010	24.591	169.6	F85	13.130	10.630	2.275	Open Manhole	1200
F10.012	50.532	149.9	F86	11.850	10.293	1.332	Open Manhole	1200
F10.013	28.223	38.7	F87	11.060	9.560	1.275	Open Manhole	1200
F10.014	22.395	49.8	F88	10.610	9.110	1.275	Open Manhole	1200
F10.015	11.817	149.6	F89	10.700	9.031	1.444	Open Manhole	1200
F10.016	17.801	73.9	F90	10.290	8.790	1.275	Open Manhole	1200
F10.017	10.925	149.7	F91	10.270	8.717	1.328	Open Manhole	1200
F10.018	25.989	150.2	F92	10.330	8.544	1.561	Open Manhole	1200
F10.019	46.674	135.7	F93	9.700	8.200	1.275	Open Manhole	1200

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PIPELINE SCHEDULES for Foul - Central and East

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
F10.020	o	225	F93	9.700	8.200	1.275	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
F10.020	90.127	150.0	F	9.600	7.599	1.776	Open Manhole	0

Simulation Criteria for Foul - Central and East

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m ³ /ha Storage	2.000
Hot Start (mins)	0	Inlet Coefficient	0.800
Hot Start Level (mm)	0	Flow per Person per Day (l/per/day)	0.000
Manhole Headloss Coeff (Global)	0.500	Run Time (mins)	60
Foul Sewage per hectare (l/s)	0.000	Output Interval (mins)	1
Number of Input Hydrographs	0	Number of Storage Structures	0
Number of Online Controls	0	Number of Time/Area Diagrams	0
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	0	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	0.000	Storm Duration (mins)	30
Ratio R	0.000		

