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Blays House Wick Road Englefield Green Egham Surrey TW20 0HJ	Haverhill Great Willsey Park Area 2 FEH Results	
Date 4/7/2019 File HAVERHILL. ALL NETWORKS FOR TENDER.MDX	Designed by RMV Checked by DJ	
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STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for SW 02

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	1	Foul Sewage (l/s/ha)	0.000	Maximum Backdrop Height (m)	1.500
M5-60 (mm)	21.000	Volumetric Runoff Coeff.	0.750	Min Design Depth for Optimisation (m)	1.200
Ratio R	0.423	PIMP (%)	100	Min Vel for Auto Design only (m/s)	1.00
Maximum Rainfall (mm/hr)	50	Add Flow / Climate Change (%)	0	Min Slope for Optimisation (1:X)	500
Maximum Time of Concentration (mins)	30	Minimum Backdrop Height (m)	0.200		

Designed with Level Soffits


Network Design Table for SW 02

« - Indicates pipe capacity < flow







PN	Length	Fall	Slope	I.Area	T.E.	Base	k	n	HYD	DIA	Section	Type	Auto
	(m)	(m)	(1:X)	(ha)	(mins)	Flow (l/s)	(mm)		SECT	(mm)			Design

Network Results Table

PN	Rain	T.C.	US/IL	Σ I.Area	Σ Base	Foul	Add Flow	Vel	Cap	Flow
	(mm/hr)	(mins)	(m)	(ha)	Flow (l/s)	(l/s)	(l/s)	(m/s)	(l/s)	(l/s)


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PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
8.000	20.028	0.118	169.7	0.160	12.00	0.0	0.600		o	225	Pipe/Conduit	
8.001	83.942	2.710	31.0	0.080	0.00	0.0		0.045	-1	-1	Pipe/Conduit	
8.002	13.798	0.280	49.3	0.080	0.00	0.0		0.045	o	450	Pipe/Conduit	
9.000	7.171	0.016	448.2	0.400	4.00	0.0	0.600		o	450	Pipe/Conduit	
10.000	71.955	1.438	50.0	0.080	12.00	0.0	0.600		o	225	Pipe/Conduit	
11.000	17.331	0.058	298.8	0.320	4.00	0.0	0.600		o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	E I.Area (ha)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
8.000	37.23	12.33	95.528	0.160	0.0	0.0	0.0	1.00	39.8	16.1
8.001	36.10	13.02	95.410	0.240	0.0	0.0	0.0	2.05	4738.9	23.5
8.002	35.61	13.33	93.700	0.320	0.0	0.0	0.0	0.74	117.3	30.9
9.000	50.00	4.13	93.481	0.400	0.0	0.0	0.0	0.95	151.7	54.2
10.000	36.70	12.65	95.801	0.080	0.0	0.0	0.0	1.85	73.7	8.0
11.000	50.00	4.32	97.219	0.320	0.0	0.0	0.0	0.90	63.9	43.3


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Network Design Table for SW 02

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
12.000	29.665	0.521	56.9	0.000	4.00	0.0	0.600		o	225	Pipe/Conduit	
11.001	23.401	0.085	275.3	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
11.002	61.078	1.044	58.5	0.080	0.00	0.0	0.600		o	225	Pipe/Conduit	
11.003	12.142	0.499	24.3	0.080	0.00	0.0	0.600		o	225	Pipe/Conduit	
13.000	7.645	0.455	16.8	0.680	4.00	0.0	0.600		o	450	Pipe/Conduit	
11.004	71.277	1.170	60.9	0.080	0.00	0.0	0.600		o	450	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
12.000	50.00	4.28	97.757	0.000	0.0	0.0	0.0	1.74	69.1	0.0
11.001	50.00	4.73	97.161	0.320	0.0	0.0	0.0	0.94	66.6	43.3
11.002	50.00	5.33	97.076	0.400	0.0	0.0	0.0	1.71	68.1	54.2
11.003	50.00	5.40	96.032	0.480	0.0	0.0	0.0	2.66	105.9	65.0
13.000	50.00	4.03	95.838	0.680	0.0	0.0	0.0	4.98	791.8	92.1
11.004	50.00	5.86	95.308	1.240	0.0	0.0	0.0	2.61	414.9	167.9


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PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
10.001	32.314	0.086	375.7	0.080	0.00	0.0	0.600		o	450	Pipe/Conduit	🔒
14.000	8.249	0.136	60.7	0.480	4.00	0.0	0.600		o	225	Pipe/Conduit	🔒
10.002	80.739	0.571	141.4	0.080	0.00	0.0	0.600		o	600	Pipe/Conduit	🔒
9.001	25.752	0.034	757.4	0.080	0.00	0.0	0.600		o	750	Pipe/Conduit	🔒
9.002	11.349	0.015	756.6	0.160	0.00	0.0	0.600		o	750	Pipe/Conduit	🔒
15.000	51.162	0.136	376.2	0.255	12.00	0.0	0.600		o	450	Pipe/Conduit	🔒

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
10.001	35.86	13.16	94.138	1.400	0.0	0.0	0.0	1.04	165.9	167.9
14.000	50.00	4.08	94.413	0.480	0.0	0.0	0.0	1.68	66.9	65.0
10.002	34.86	13.82	93.902	1.960	0.0	0.0	0.0	2.05	578.5	185.1
9.001	34.25	14.25	93.181	2.440	0.0	0.0	0.0	1.01	445.8	226.3
9.002	33.99	14.43	93.147	2.600	0.0	0.0	0.0	1.01	446.0	239.3
15.000	36.42	12.82	93.604	0.255	0.0	0.0	0.0	1.04	165.8	25.1


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Network Design Table for SW 02









PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
16.000	9.579	0.026	368.4	0.300	4.00	0.0	0.600		o	450	Pipe/Conduit	
15.001	13.637	0.036	378.8	0.255	0.00	0.0	0.600		o	450	Pipe/Conduit	
8.003	17.442	0.192	90.8	0.080	0.00	0.0	0.600		oo	750	Double Pipe	
8.004	167.469	3.580	46.8	0.185	0.00	0.0		0.045	-1	-1	Pipe/Conduit	
8.005	28.119	0.062	453.5	0.080	0.00	0.0		0.045	[]	1	Pipe/Conduit	
17.000	30.363	0.288	105.4	0.080	12.00	0.0	0.600		o	225	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	E I.Area (ha)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
16.000	50.00	4.15	93.494	0.300	0.0	0.0	0.0	1.05	167.5	40.6
15.001	36.06	13.04	93.468	0.810	0.0	0.0	0.0	1.04	165.2	79.1
8.003	33.85	14.53	93.132	3.810	0.0	0.0	0.0	2.94	2595.0	349.3
8.004	31.71	16.20	93.100	3.995	0.0	0.0	0.0	1.67	3856.2	349.3
8.005	30.28	17.48	89.600	4.075	0.0	0.0	0.0	0.37	252.7	349.3
17.000	37.12	12.40	95.871	0.080	0.0	0.0	0.0	1.27	50.6	8.0


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PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
17.001	110.662	0.335	330.0	0.080	0.00	0.0	0.600		o	375	Pipe/Conduit	
17.002	40.855	0.124	330.0	0.080	0.00	0.0	0.600		o	375	Pipe/Conduit	
18.000	14.550	0.862	16.9	0.260	4.00	0.0	0.600		o	450	Pipe/Conduit	
17.003	13.503	0.033	410.0	0.000	0.00	0.0	0.600		o	450	Pipe/Conduit	
17.004	29.968	0.378	79.3	0.080	0.00	0.0	0.600		o	450	Pipe/Conduit	
17.005	26.481	0.276	95.9	0.080	0.00	0.0	0.600		o	525	Pipe/Conduit	
17.006	30.942	0.287	107.8	0.080	0.00	0.0	0.600		o	525	Pipe/Conduit	
17.007	37.297	1.150	32.4	0.080	0.00	0.0	0.600		o	525	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
17.001	34.23	14.26	95.433	0.160	0.0	0.0	0.0	0.99	109.5	14.8
17.002	33.29	14.94	95.098	0.240	0.0	0.0	0.0	0.99	109.5	21.6
18.000	50.00	4.05	95.761	0.260	0.0	0.0	0.0	4.97	790.0	35.2
17.003	33.00	15.17	94.899	0.500	0.0	0.0	0.0	1.00	158.7	44.7
17.004	32.72	15.39	94.866	0.580	0.0	0.0	0.0	2.28	363.4	51.4
17.005	32.47	15.58	94.413	0.660	0.0	0.0	0.0	2.29	495.1	58.0
17.006	32.18	15.82	94.137	0.740	0.0	0.0	0.0	2.16	466.9	64.5
17.007	31.99	15.98	93.850	0.820	0.0	0.0	0.0	3.94	853.6	71.0


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Network Design Table for SW 02









PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
19.000	9.004	0.393	22.9	0.000	4.00	0.0	0.600		o	225	Pipe/Conduit	
19.001	52.403	0.828	63.3	0.080	0.00	0.0	0.600		o	225	Pipe/Conduit	
17.008	35.724	1.068	33.4	0.185	0.00	0.0	0.600		o	525	Pipe/Conduit	
17.009	27.681	0.900	30.8	0.185	0.00	0.0	0.600		o	600	Pipe/Conduit	
17.010	30.516	1.355	22.5	0.185	0.00	0.0	0.600		o	750	Pipe/Conduit	
17.011	30.068	0.267	112.6	0.185	0.00	0.0	0.600		o	750	Pipe/Conduit	
17.012	24.119	0.060	402.0	0.185	0.00	0.0	0.600		o	750	Pipe/Conduit	
17.013	49.654	0.420	118.2	0.185	0.00	0.0	0.600		o	750	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	E I.Area (ha)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
19.000	50.00	4.05	94.200	0.000	0.0	0.0	0.0	2.75	109.2	0.0
19.001	50.00	4.59	93.807	0.080	0.0	0.0	0.0	1.65	65.5	10.8
17.008	31.80	16.13	93.136	1.085	0.0	0.0	0.0	3.88	840.5	93.4
17.009	31.68	16.24	91.993	1.270	0.0	0.0	0.0	4.40	1244.6	109.0
17.010	31.58	16.32	91.943	1.455	0.0	0.0	0.0	5.91	2611.8	124.4
17.011	31.36	16.51	90.588	1.640	0.0	0.0	0.0	2.64	1164.8	139.3
17.012	31.03	16.80	90.321	1.825	0.0	0.0	0.0	1.39	613.9	153.3
17.013	30.67	17.12	90.261	2.010	0.0	0.0	0.0	2.57	1136.7	166.9


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Network Design Table for SW 02







PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	n	HYD SECT	DIA (mm)	Section Type	Auto Design
17.014	58.180	0.303	192.0	0.185	0.00	0.0	0.600		o	750	Pipe/Conduit	
20.000	48.920	0.555	88.1	1.020	12.00	0.0	0.600		o	525	Pipe/Conduit	
8.006	45.564	1.538	29.6	0.000	0.00	0.0	0.600		ooo	825	Triple Pipe	
8.007	23.940	0.773	31.0	0.000	0.00	0.0		0.045	4 \=/	6000	1:4 Swale	
8.008	15.793	0.202	78.2	0.000	0.00	0.0		0.045	4 \=/	6000	1:4 Swale	
8.009	7.896	0.962	8.2	0.000	0.00	0.0	0.600		o	375	Pipe/Conduit	
8.010	7.896	0.150	52.6	0.000	0.00	0.0		0.045	4 \=/	6000	1:4 Swale	
8.011	93.201	0.348	267.8	0.000	0.00	0.0		0.045	4 \=/	6000	1:4 Swale	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	E I.Area (ha)	E Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
17.014	30.15	17.60	89.841	2.195	0.0	0.0	0.0	2.02	890.7	179.2
20.000	37.21	12.34	90.093	1.020	0.0	0.0	0.0	2.39	516.7	102.8
8.006	30.01	17.74	89.738	7.290	0.0	0.0	0.0	5.47	8766.0	592.4
8.007	29.62	18.12	88.875	7.290	0.0	0.0	0.0	1.06	1049.5	592.4
8.008	29.23	18.51	88.102	7.290	0.0	0.0	0.0	0.67	660.6	592.4
8.009	29.21	18.53	87.900	7.290	0.0	0.0	0.0	6.36	702.1	592.4
8.010	29.05	18.70	87.238	7.290	0.0	0.0	0.0	0.81	805.0	592.4
8.011	25.54	23.00	87.088	7.290	0.0	0.0	0.0	0.36	356.9	592.4


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8.012	9.453	0.500	18.9	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
8.013	73.364	0.540	135.9	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
8.014	4.303	0.100	43.0	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
8.015	5.537	0.010	553.7	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
8.016	10.003	0.573	17.5	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	
8.017	0.535	0.025	21.4	0.000	0.00	0.0	0.600		o	300	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
8.012	25.51	23.05	86.740	7.290	0.0	0.0	0.0	3.63	256.8«	592.4
8.013	24.90	23.96	86.240	7.290	0.0	0.0	0.0	1.35	95.2«	592.4
8.014	24.88	23.99	85.700	7.290	0.0	0.0	0.0	2.40	169.9«	592.4
8.015	24.79	24.13	85.600	7.290	0.0	0.0	0.0	0.66	46.7«	592.4
8.016	24.76	24.17	85.590	7.290	0.0	0.0	0.0	3.78	267.3«	592.4
8.017	24.76	24.17	85.025	7.290	0.0	0.0	0.0	3.41	241.3«	592.4


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Conduit Sections for SW 02

NOTE: Diameters less than 66 refer to section numbers of hydraulic conduits. These conduits are marked by the symbols:- [] box culvert, \ / open channel, oo dual pipe, ooo triple pipe, O egg.


Section numbers < 0 are taken from user conduit table

Section Number	Conduit Type	Major Dimn. (mm)	Minor Dimn. (mm)	Side Slope (Deg)	Corner Splay (mm)	4*Hyd Radius (m)	XSect Area (m ²)
1	[]	1200	600	90.0	125	0.833	0.689
-1	-1	6100	700			1.473	2.310

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Manhole Schedules for SW 02

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
S2.01	96.579	1.051	Open Manhole	1200	8.000	95.528	225				
S2.02	96.041	0.631	Junction		8.001	95.410	-1	8.000	95.410	225	
S2.03	94.355	1.655	Junction		8.002	93.700	450	8.001	92.700	-1	
S2.04	94.271	0.790	Junction		9.000	93.481	450				
S2.05	97.701	1.900	Open Manhole	1200	10.000	95.801	225				
S2.06	99.602	2.383	Open Manhole	1200	11.000	97.219	300				
S2.07	99.185	1.428	Open Manhole	1200	12.000	97.757	225				
S2.08	99.472	2.311	Open Manhole	1200	11.001	97.161	300	11.000	97.161	300	
								12.000	97.236	225	
S2.09	99.169	2.093	Open Manhole	1200	11.002	97.076	225	11.001	97.076	300	
S2.10	98.273	2.241	Open Manhole	1200	11.003	96.032	225	11.002	96.032	225	
S2.11	98.046	2.208	Open Manhole	1350	13.000	95.838	450				
S2.12	98.088	2.780	Open Manhole	1350	11.004	95.308	450	11.003	95.533	225	
								13.000	95.383	450	75
S2.13	97.123	2.985	Open Manhole	1350	10.001	94.138	450	10.000	94.363	225	
								11.004	94.138	450	
S2.14	96.545	2.132	Junction		14.000	94.413	225				
S2.15	96.823	2.921	Open Manhole	1500	10.002	93.902	600	10.001	94.052	450	

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Manhole Schedules for SW 02

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
S2.16	94.950	1.769	Open Manhole	1800	9.001	93.181	750	14.000	94.277	225	
								9.000	93.465	450	
								10.002	93.331	600	
S2.17	94.779	1.632	Open Manhole	1800	9.002	93.147	750	9.001	93.147	750	
S2.18	96.172	2.568	Open Manhole	1350	15.000	93.604	450				
S2.19	95.078	1.584	Open Manhole	1350	16.000	93.494	450				
S2.20	95.141	1.673	Open Manhole	1350	15.001	93.468	450	15.000	93.468	450	
								16.000	93.468	450	
S2.21	94.868	1.736	Open Manhole	2400	8.003	93.132	750	8.002	93.420	450	
								9.002	93.132	750	
								15.001	93.432	450	
S2.22	93.744	0.804	Junction		8.004	93.100	-1	8.003	92.940	750	
S2.23	91.063	1.543	Junction		8.005	89.600	1	8.004	89.520	-1	
S2.24	97.296	1.425	Open Manhole	1200	17.000	95.871	225				
S2.25	97.946	2.513	Open Manhole	1350	17.001	95.433	375	17.000	95.583	225	
S2.26	98.563	3.465	Open Manhole	1350	17.002	95.098	375	17.001	95.098	375	
S2.27	97.214	1.453	Open Manhole	1350	18.000	95.761	450				
S2.28	97.368	2.469	Open Manhole	1350	17.003	94.899	450	17.002	94.974	375	

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Manhole Schedules for SW 02

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
S2.29	96.882	2.016	Open Manhole	1350	17.004	94.866	450	18.000	94.899	450	
S2.30	96.138	1.725	Open Manhole	1500	17.005	94.413	525	17.004	94.488	450	
S2.31	95.862	1.725	Open Manhole	1500	17.006	94.137	525	17.005	94.137	525	
S2.32	95.575	1.725	Open Manhole	1500	17.007	93.850	525	17.006	93.850	525	
S2.33	95.718	1.518	Open Manhole	1200	19.000	94.200	225				
S2.34	95.798	1.991	Open Manhole	1200	19.001	93.807	225	19.000	93.807	225	
S2.35	94.861	2.161	Open Manhole	1500	17.008	93.136	525	17.007	92.700	525	
								19.001	92.979	225	
S2.36	93.977	1.984	Open Manhole	1500	17.009	91.993	600	17.008	92.068	525	
S2.37	93.255	2.162	Open Manhole	1800	17.010	91.943	750	17.009	91.093	600	
S2.38	92.538	1.950	Open Manhole	1800	17.011	90.588	750	17.010	90.588	750	
S2.39	92.271	1.950	Open Manhole	1800	17.012	90.321	750	17.011	90.321	750	
S2.40	92.211	1.950	Open Manhole	1800	17.013	90.261	750	17.012	90.261	750	
S2.41	91.088	1.247	Open Manhole	1800	17.014	89.841	750	17.013	89.841	750	
S2.42	91.567	1.474	Open Manhole	1500	20.000	90.093	525				
S2.43	91.063	1.525	Open Manhole	3000	8.006	89.738	825	8.005	89.538	1	
								17.014	89.538	750	

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Manhole Schedules for SW 02

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Backdrop (mm)
								20.000	89.538	525	
S2.44	89.700	1.500	Junction		8.007	88.875	6000	8.006	88.200	825	
S2.45	89.700	1.598	Junction		8.008	88.102	6000	8.007	88.102	6000	
S2.46	89.700	1.800	Junction		8.009	87.900	375	8.008	87.900	6000	
S2.47	89.700	2.762	Junction		8.010	87.238	6000	8.009	86.938	375	
S2.48	88.500	1.412	Junction		8.011	87.088	6000	8.010	87.088	6000	
S2.49	88.500	1.760	Junction		8.012	86.740	300	8.011	86.740	6000	
S2.50	87.400	1.160	Junction		8.013	86.240	300	8.012	86.240	300	
S2.51	87.400	1.700	Junction		8.014	85.700	300	8.013	85.700	300	
S2.52	87.400	1.800	Junction		8.015	85.600	300	8.014	85.600	300	
S2.53 FC	87.400	1.810	Open Manhole	1800	8.016	85.590	300	8.015	85.590	300	
S2.54	87.400	2.383	Junction		8.017	85.025	300	8.016	85.017	300	
S2.01	85.450	0.450	Open Manhole	0		OUTFALL		8.017	85.000	300	

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PIPELINE SCHEDULES for SW 02

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)
8.000	o	225	S2.01	96.579	95.528	0.826	Open Manhole	1200
8.001	-1	-1	S2.02	96.041	95.410	-0.069	Junction	
8.002	o	450	S2.03	94.355	93.700	0.205	Junction	
9.000	o	450	S2.04	94.271	93.481	0.340	Junction	
10.000	o	225	S2.05	97.701	95.801	1.675	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)
8.000	20.028	169.7	S2.02	96.041	95.410	0.406	Junction	
8.001	83.942	31.0	S2.03	94.355	92.700	0.955	Junction	
8.002	13.798	49.3	S2.21	94.868	93.420	0.998	Open Manhole	2400
9.000	7.171	448.2	S2.16	94.950	93.465	1.035	Open Manhole	1800
10.000	71.955	50.0	S2.13	97.123	94.363	2.535	Open Manhole	1350

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PIPELINE SCHEDULES for SW 02

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)
11.000	o	300	S2.06	99.602	97.219	2.083	Open Manhole	1200
12.000	o	225	S2.07	99.185	97.757	1.203	Open Manhole	1200
11.001	o	300	S2.08	99.472	97.161	2.011	Open Manhole	1200
11.002	o	225	S2.09	99.169	97.076	1.868	Open Manhole	1200
11.003	o	225	S2.10	98.273	96.032	2.016	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)
11.000	17.331	298.8	S2.08	99.472	97.161	2.011	Open Manhole	1200
12.000	29.665	56.9	S2.08	99.472	97.236	2.011	Open Manhole	1200
11.001	23.401	275.3	S2.09	99.169	97.076	1.793	Open Manhole	1200
11.002	61.078	58.5	S2.10	98.273	96.032	2.016	Open Manhole	1200
11.003	12.142	24.3	S2.12	98.088	95.533	2.330	Open Manhole	1350

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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)
13.000	o	450	S2.11	98.046	95.838	1.758	Open Manhole	1350
11.004	o	450	S2.12	98.088	95.308	2.330	Open Manhole	1350
10.001	o	450	S2.13	97.123	94.138	2.535	Open Manhole	1350
14.000	o	225	S2.14	96.545	94.413	1.907	Junction	

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)
13.000	7.645	16.8	S2.12	98.088	95.383	2.255	Open Manhole	1350
11.004	71.277	60.9	S2.13	97.123	94.138	2.535	Open Manhole	1350
10.001	32.314	375.7	S2.15	96.823	94.052	2.321	Open Manhole	1500
14.000	8.249	60.7	S2.15	96.823	94.277	2.321	Open Manhole	1500

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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)
10.002	o	600	S2.15	96.823	93.902	2.321	Open Manhole	1500
9.001	o	750	S2.16	94.950	93.181	1.019	Open Manhole	1800
9.002	o	750	S2.17	94.779	93.147	0.882	Open Manhole	1800
15.000	o	450	S2.18	96.172	93.604	2.118	Open Manhole	1350
16.000	o	450	S2.19	95.078	93.494	1.134	Open Manhole	1350

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)
10.002	80.739	141.4	S2.16	94.950	93.331	1.019	Open Manhole	1800
9.001	25.752	757.4	S2.17	94.779	93.147	0.882	Open Manhole	1800
9.002	11.349	756.6	S2.21	94.868	93.132	0.986	Open Manhole	2400
15.000	51.162	376.2	S2.20	95.141	93.468	1.223	Open Manhole	1350
16.000	9.579	368.4	S2.20	95.141	93.468	1.223	Open Manhole	1350

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PIPELINE SCHEDULES for SW 02

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)
15.001	o	450	S2.20	95.141	93.468	1.223	Open Manhole	1350
8.003	oo	750	S2.21	94.868	93.132	0.986	Open Manhole	2400
8.004	-1	-1	S2.22	93.744	93.100	-0.056	Junction	
8.005	[]	1	S2.23	91.063	89.600	0.863	Junction	
17.000	o	225	S2.24	97.296	95.871	1.200	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)
15.001	13.637	378.8	S2.21	94.868	93.432	0.986	Open Manhole	2400
8.003	17.442	90.8	S2.22	93.744	92.940	0.054	Junction	
8.004	167.469	46.8	S2.23	91.063	89.520	0.843	Junction	
8.005	28.119	453.5	S2.43	91.063	89.538	0.925	Open Manhole	3000
17.000	30.363	105.4	S2.25	97.946	95.583	2.138	Open Manhole	1350

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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)
17.001	o	375	S2.25	97.946	95.433	2.138	Open Manhole	1350
17.002	o	375	S2.26	98.563	95.098	3.090	Open Manhole	1350
18.000	o	450	S2.27	97.214	95.761	1.003	Open Manhole	1350
17.003	o	450	S2.28	97.368	94.899	2.019	Open Manhole	1350
17.004	o	450	S2.29	96.882	94.866	1.566	Open Manhole	1350
17.005	o	525	S2.30	96.138	94.413	1.200	Open Manhole	1500

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)
17.001	110.662	330.0	S2.26	98.563	95.098	3.090	Open Manhole	1350
17.002	40.855	330.0	S2.28	97.368	94.974	2.019	Open Manhole	1350
18.000	14.550	16.9	S2.28	97.368	94.899	2.019	Open Manhole	1350
17.003	13.503	410.0	S2.29	96.882	94.866	1.566	Open Manhole	1350
17.004	29.968	79.3	S2.30	96.138	94.488	1.200	Open Manhole	1500
17.005	26.481	95.9	S2.31	95.862	94.137	1.200	Open Manhole	1500

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PIPELINE SCHEDULES for SW 02

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)
17.006	o	525	S2.31	95.862	94.137	1.200	Open Manhole	1500
17.007	o	525	S2.32	95.575	93.850	1.200	Open Manhole	1500
19.000	o	225	S2.33	95.718	94.200	1.293	Open Manhole	1200
19.001	o	225	S2.34	95.798	93.807	1.766	Open Manhole	1200
17.008	o	525	S2.35	94.861	93.136	1.200	Open Manhole	1500
17.009	o	600	S2.36	93.977	91.993	1.384	Open Manhole	1500

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)
17.006	30.942	107.8	S2.32	95.575	93.850	1.200	Open Manhole	1500
17.007	37.297	32.4	S2.35	94.861	92.700	1.636	Open Manhole	1500
19.000	9.004	22.9	S2.34	95.798	93.807	1.766	Open Manhole	1200
19.001	52.403	63.3	S2.35	94.861	92.979	1.657	Open Manhole	1500
17.008	35.724	33.4	S2.36	93.977	92.068	1.384	Open Manhole	1500
17.009	27.681	30.8	S2.37	93.255	91.093	1.562	Open Manhole	1800

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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)
17.010	o	750	S2.37	93.255	91.943	0.562	Open Manhole	1800
17.011	o	750	S2.38	92.538	90.588	1.200	Open Manhole	1800
17.012	o	750	S2.39	92.271	90.321	1.200	Open Manhole	1800
17.013	o	750	S2.40	92.211	90.261	1.200	Open Manhole	1800
17.014	o	750	S2.41	91.088	89.841	0.497	Open Manhole	1800
20.000	o	525	S2.42	91.567	90.093	0.949	Open Manhole	1500

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)
17.010	30.516	22.5	S2.38	92.538	90.588	1.200	Open Manhole	1800
17.011	30.068	112.6	S2.39	92.271	90.321	1.200	Open Manhole	1800
17.012	24.119	402.0	S2.40	92.211	90.261	1.200	Open Manhole	1800
17.013	49.654	118.2	S2.41	91.088	89.841	0.497	Open Manhole	1800
17.014	58.180	192.0	S2.43	91.063	89.538	0.775	Open Manhole	3000
20.000	48.920	88.1	S2.43	91.063	89.538	1.000	Open Manhole	3000

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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)
8.006	ooo	825	S2.43	91.063	89.738	0.500	Open Manhole	3000
8.007	4 \=/	6000	S2.44	89.700	88.875	0.675	Junction	
8.008	4 \=/	6000	S2.45	89.700	88.102	1.448	Junction	
8.009	o	375	S2.46	89.700	87.900	1.425	Junction	
8.010	4 \=/	6000	S2.47	89.700	87.238	2.312	Junction	
8.011	4 \=/	6000	S2.48	88.500	87.088	1.262	Junction	
8.012	o	300	S2.49	88.500	86.740	1.460	Junction	
8.013	o	300	S2.50	87.400	86.240	0.860	Junction	

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)
8.006	45.564	29.6	S2.44	89.700	88.200	0.675	Junction	
8.007	23.940	31.0	S2.45	89.700	88.102	1.448	Junction	
8.008	15.793	78.2	S2.46	89.700	87.900	1.650	Junction	
8.009	7.896	8.2	S2.47	89.700	86.938	2.387	Junction	
8.010	7.896	52.6	S2.48	88.500	87.088	1.262	Junction	
8.011	93.201	267.8	S2.49	88.500	86.740	1.610	Junction	
8.012	9.453	18.9	S2.50	87.400	86.240	0.860	Junction	
8.013	73.364	135.9	S2.51	87.400	85.700	1.400	Junction	

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PIPELINE SCHEDULES for SW 02

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)
8.014	o	300	S2.51	87.400	85.700	1.400	Junction	
8.015	o	300	S2.52	87.400	85.600	1.500	Junction	
8.016	o	300	S2.53 FC	87.400	85.590	1.510	Open Manhole	1800
8.017	o	300	S2.54	87.400	85.025	2.075	Junction	


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)
8.014	4.303	43.0	S2.52	87.400	85.600	1.500	Junction	
8.015	5.537	553.7	S2.53 FC	87.400	85.590	1.510	Open Manhole	1800
8.016	10.003	17.5	S2.54	87.400	85.017	2.083	Junction	
8.017	0.535	21.4	S2.01	85.450	85.000	0.150	Open Manhole	0

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Area Summary for SW 02

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
8.000	-	-	100	0.160	0.160	0.160
8.001	-	-	100	0.080	0.080	0.080
8.002	-	-	100	0.080	0.080	0.080
9.000	-	-	100	0.400	0.400	0.400
10.000	-	-	100	0.080	0.080	0.080
11.000	-	-	100	0.320	0.320	0.320
12.000	-	-	100	0.000	0.000	0.000
11.001	-	-	100	0.000	0.000	0.000
11.002	-	-	100	0.080	0.080	0.080
11.003	-	-	100	0.080	0.080	0.080
13.000	-	-	100	0.680	0.680	0.680
11.004	-	-	100	0.080	0.080	0.080
10.001	-	-	100	0.080	0.080	0.080
14.000	-	-	100	0.480	0.480	0.480
10.002	-	-	100	0.080	0.080	0.080
9.001	-	-	100	0.080	0.080	0.080
9.002	-	-	100	0.160	0.160	0.160
15.000	-	-	100	0.255	0.255	0.255
16.000	-	-	100	0.300	0.300	0.300
15.001	-	-	100	0.255	0.255	0.255
8.003	-	-	100	0.080	0.080	0.080
8.004	-	-	100	0.185	0.185	0.185
8.005	-	-	100	0.080	0.080	0.080
17.000	-	-	100	0.080	0.080	0.080
17.001	-	-	100	0.080	0.080	0.080
17.002	-	-	100	0.080	0.080	0.080

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Area Summary for SW 02

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
18.000	-	-	100	0.260	0.260	0.260
17.003	-	-	100	0.000	0.000	0.000
17.004	-	-	100	0.080	0.080	0.080
17.005	-	-	100	0.080	0.080	0.080
17.006	-	-	100	0.080	0.080	0.080
17.007	-	-	100	0.080	0.080	0.080
19.000	-	-	100	0.000	0.000	0.000
19.001	-	-	100	0.080	0.080	0.080
17.008	-	-	100	0.185	0.185	0.185
17.009	-	-	100	0.185	0.185	0.185
17.010	-	-	100	0.185	0.185	0.185
17.011	-	-	100	0.185	0.185	0.185
17.012	-	-	100	0.185	0.185	0.185
17.013	-	-	100	0.185	0.185	0.185
17.014	-	-	100	0.185	0.185	0.185
20.000	-	-	100	1.020	1.020	1.020
8.006	-	-	100	0.000	0.000	0.000
8.007	-	-	100	0.000	0.000	0.000
8.008	-	-	100	0.000	0.000	0.000
8.009	-	-	100	0.000	0.000	0.000
8.010	-	-	100	0.000	0.000	0.000
8.011	-	-	100	0.000	0.000	0.000
8.012	-	-	100	0.000	0.000	0.000
8.013	-	-	100	0.000	0.000	0.000
8.014	-	-	100	0.000	0.000	0.000
8.015	-	-	100	0.000	0.000	0.000

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Area Summary for SW 02

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
8.016	-	-	100	0.000	0.000	0.000
8.017	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				7.290	7.290	7.290


Free Flowing Outfall Details for SW 02

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
8.017	S2.01	85.450	85.000	0.000	0	0

Simulation Criteria for SW 02


Volumetric Runoff Coeff	0.840	Manhole Headloss Coeff (Global)	0.500	Inlet Coefficient	0.800
Areal Reduction Factor	1.000	Foul Sewage per hectare (l/s)	0.000	Flow per Person per Day (l/per/day)	0.000
Hot Start (mins)	0	Additional Flow - % of Total Flow	0.000	Run Time (mins)	60
Hot Start Level (mm)	0	MADD Factor * 10m ³ /ha Storage	4.000	Output Interval (mins)	1
Number of Input Hydrographs	0	Number of Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	1	Number of Storage Structures	3	Number of Real Time Controls	0

Synthetic Rainfall Details

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Synthetic Rainfall Details

Rainfall Model	FSR	M5-60 (mm)	21.000	Cv (Summer)	0.750
Return Period (years)	1	Ratio R	0.423	Cv (Winter)	0.840
Region		England and Wales	Profile Type	Winter Storm Duration (mins)	15

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Online Controls for SW 02


Complex Manhole: S2.53 FC, DS/PN: 8.016, Volume (m³): 4.9

Orifice

Diameter (m) 0.080 Discharge Coefficient 0.600 Invert Level (m) 85.590

Orifice

Diameter (m) 0.180 Discharge Coefficient 0.600 Invert Level (m) 86.790

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Storage Structures for SW 02

Tank or Pond Manhole: S2.46, DS/PN: 8.009

Invert Level (m) 87.900

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	6.4	0.500	686.0	1.000	1490.0	1.500	3000.7
0.250	272.3	0.750	1066.0	1.250	2154.0		

Tank or Pond Manhole: S2.49, DS/PN: 8.012


Invert Level (m) 86.740

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	1.8	0.500	388.5	1.000	1002.9	1.500	3547.0
0.250	233.9	0.750	612.6	1.250	2256.3		

Tank or Pond Manhole: S2.53 FC, DS/PN: 8.016

Invert Level (m) 85.590

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	201.0	0.500	1301.0	1.000	2764.0	1.500	4050.0
0.250	779.6	0.750	2127.0	1.250	3314.0		

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 4.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 3 Number of Real Time Controls 0


Synthetic Rainfall Details

Rainfall Model FEH Data Type Catchment
FEH Rainfall Version 2013 Cv (Summer) 0.750
Site Location GB 568800 245850 TL 68800 45850 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
Analysis Timestep 2.5 Second Increment (Extended) Inertia Status OFF
DTS Status OFF


Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years) 2, 30, 100
Climate Change (%) 0, 0, 30

US/MH	Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Water	Surcharged	Flooded	Pipe	Level			
PN Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	(m)	(m)	Volume	Flow /	Overflow	Flow	Level
										(m ³)	Cap.	(l/s)	(l/s)	Status Exceeded

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water	Surcharged	Flooded	Pipe Flow	
									Level (m)	Depth (m)	Volume (m ³)		Flow / Cap.
8.000	S2.01	15 Winter	2	+0%	100/15 Summer				95.629	-0.124	0.000	0.41	14.9
8.001	S2.02	15 Winter	2	+0%					95.465	-0.645	0.000	0.00	23.1
8.002	S2.03	240 Winter	2	+0%					93.769	-0.381	0.000	0.06	6.7
9.000	S2.04	15 Winter	2	+0%					93.879	-0.052	0.000	0.32	49.5
10.000	S2.05	15 Winter	2	+0%	100/15 Summer				95.849	-0.177	0.000	0.10	7.4
11.000	S2.06	15 Winter	2	+0%	30/15 Summer	100/15 Summer			97.451	-0.068	0.000	0.94	51.6
12.000	S2.07	60 Winter	2	+0%	30/15 Summer	100/15 Summer			97.757	-0.225	0.000	0.00	0.0
11.001	S2.08	15 Winter	2	+0%	30/15 Summer				97.378	-0.083	0.000	0.86	50.9
11.002	S2.09	15 Winter	2	+0%	30/15 Summer	100/15 Summer			97.246	-0.055	0.000	0.90	59.5
11.003	S2.10	15 Winter	2	+0%	30/15 Summer				96.181	-0.076	0.000	0.76	69.0
13.000	S2.11	15 Summer	2	+0%	100/15 Summer				96.004	-0.284	0.000	0.29	111.7
11.004	S2.12	15 Winter	2	+0%	30/15 Summer				95.526	-0.232	0.000	0.46	179.2
10.001	S2.13	15 Winter	2	+0%	2/15 Summer				94.637	0.049	0.000	1.33	191.4
14.000	S2.14	15 Winter	2	+0%					94.638	0.000	0.000	1.41	73.3
10.002	S2.15	15 Winter	2	+0%	30/15 Summer				94.206	-0.296	0.000	0.50	263.1
9.001	S2.16	15 Winter	2	+0%	30/15 Summer				93.862	-0.069	0.000	0.99	272.8
9.002	S2.17	15 Winter	2	+0%	30/15 Summer				93.781	-0.116	0.000	1.26	283.3
15.000	S2.18	15 Winter	2	+0%	30/15 Summer				93.797	-0.257	0.000	0.16	24.8
16.000	S2.19	15 Winter	2	+0%	30/15 Summer				93.783	-0.161	0.000	0.43	44.7
15.001	S2.20	15 Winter	2	+0%	30/15 Summer				93.772	-0.146	0.000	0.79	87.0
8.003	S2.21	15 Winter	2	+0%					93.390	-0.492	0.000	0.27	370.7
8.004	S2.22	15 Winter	2	+0%					93.358	-0.442	0.000	0.10	368.5
8.005	S2.23	15 Winter	2	+0%	2/15 Summer	100/15 Summer			90.234	0.034	0.000	1.40	354.9
17.000	S2.24	15 Winter	2	+0%					95.930	-0.166	0.000	0.16	7.5

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

PN	US/MH Name	Status	Level Exceeded
8.000	S2.01	OK	
8.001	S2.02	OK	
8.002	S2.03	OK*	
9.000	S2.04	OK*	
10.000	S2.05	OK	
11.000	S2.06	OK	4
12.000	S2.07	OK	5
11.001	S2.08	OK	
11.002	S2.09	OK	4
11.003	S2.10	OK	
13.000	S2.11	OK	
11.004	S2.12	OK	
10.001	S2.13	SURCHARGED	
14.000	S2.14	SURCHARGED*	
10.002	S2.15	OK	
9.001	S2.16	OK	
9.002	S2.17	OK	
15.000	S2.18	OK	
16.000	S2.19	OK	
15.001	S2.20	OK	
8.003	S2.21	OK	
8.004	S2.22	OK	
8.005	S2.23	SURCHARGED*	5

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

US/MH		Level	
PN	Name	Status	Exceeded
17.000	S2.24	OK	

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Surcharged Flooded			Pipe Flow (l/s)	
									Level (m)	Depth (m)	Volume (m ³)		Flow / Cap. (l/s)
17.001	S2.25	15 Winter	2	+0%					95.533	-0.275	0.000	0.15	15.4
17.002	S2.26	15 Winter	2	+0%	100/15 Summer				95.223	-0.250	0.000	0.24	23.9
18.000	S2.27	15 Summer	2	+0%					95.847	-0.364	0.000	0.08	42.7
17.003	S2.28	15 Winter	2	+0%	100/15 Summer				95.144	-0.205	0.000	0.58	58.7
17.004	S2.29	15 Winter	2	+0%					95.009	-0.307	0.000	0.22	68.4
17.005	S2.30	15 Winter	2	+0%					94.571	-0.367	0.000	0.19	77.9
17.006	S2.31	15 Winter	2	+0%					94.306	-0.356	0.000	0.22	88.1
17.007	S2.32	15 Winter	2	+0%					93.977	-0.398	0.000	0.13	97.9
19.000	S2.33	60 Winter	2	+0%					94.200	-0.225	0.000	0.00	0.0
19.001	S2.34	15 Winter	2	+0%					93.868	-0.164	0.000	0.16	10.3
17.008	S2.35	15 Winter	2	+0%					93.287	-0.374	0.000	0.18	130.1
17.009	S2.36	15 Winter	2	+0%	100/15 Summer				92.168	-0.425	0.000	0.16	152.1
17.010	S2.37	15 Winter	2	+0%					92.099	-0.594	0.000	0.10	174.2
17.011	S2.38	15 Winter	2	+0%	100/15 Summer				90.839	-0.499	0.000	0.24	196.3
17.012	S2.39	15 Winter	2	+0%	100/15 Summer				90.686	-0.385	0.000	0.47	214.5
17.013	S2.40	15 Winter	2	+0%	100/15 Summer				90.513	-0.498	0.000	0.24	234.6
17.014	S2.41	15 Winter	2	+0%	100/15 Summer				90.136	-0.455	0.000	0.33	249.8
20.000	S2.42	15 Winter	2	+0%					90.254	-0.364	0.000	0.21	94.9
8.006	S2.43	15 Winter	2	+0%					89.892	-0.671	0.000	0.09	641.7
8.007	S2.44	15 Winter	2	+0%					88.987	-0.713	0.000	0.03	643.5
8.008	S2.45	30 Winter	2	+0%					88.353	-1.347	0.000	0.01	593.3
8.009	S2.46	30 Winter	2	+0%	2/15 Summer				88.344	0.069	0.000	1.02	393.0
8.010	S2.47	120 Winter	2	+0%					87.413	-2.287	0.000	0.00	362.9
8.011	S2.48	120 Winter	2	+0%					87.410	-1.090	0.000	0.02	359.8

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

PN	US/MH Name	Status	Level Exceeded
17.001	S2.25	OK	
17.002	S2.26	OK	
18.000	S2.27	OK	
17.003	S2.28	OK	
17.004	S2.29	OK	
17.005	S2.30	OK	
17.006	S2.31	OK	
17.007	S2.32	OK	
19.000	S2.33	OK	
19.001	S2.34	OK	
17.008	S2.35	OK	
17.009	S2.36	OK	
17.010	S2.37	OK	
17.011	S2.38	OK	
17.012	S2.39	OK	
17.013	S2.40	OK	
17.014	S2.41	OK	
20.000	S2.42	OK	
8.006	S2.43	OK	
8.007	S2.44	OK	
8.008	S2.45	OK	
8.009	S2.46	SURCHARGED*	
8.010	S2.47	OK	

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02


US/MH		Level	
PN	Name	Status	Exceeded
8.011	S2.48	OK	

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water	Surcharged	Flooded	Flow / Cap.	Overflow	Pipe
									Level (m)	Depth (m)	Volume (m ³)		Flow (l/s)	Flow (l/s)
8.012	S2.49	120	Winter	2	+0%	2/15	Summer		87.392	0.352	0.000	0.63		111.5
8.013	S2.50	60	Winter	2	+0%				86.540	0.000	0.000	1.20		114.4
8.014	S2.51	60	Winter	2	+0%				86.000	0.000	0.000	1.43		113.5
8.015	S2.52	60	Winter	2	+0%				85.900	0.000	0.000	1.85		113.4
8.016	S2.53	FC 960	Winter	2	+0%	2/15	Summer		86.614	0.724	0.000	0.07		13.2
8.017	S2.54	960	Winter	2	+0%				85.119	-0.206	0.000	0.22		13.2

PN	US/MH Name	Status	Level Exceeded
8.012	S2.49	SURCHARGED*	
8.013	S2.50	SURCHARGED*	
8.014	S2.51	SURCHARGED*	
8.015	S2.52	SURCHARGED*	
8.016	S2.53 FC	SURCHARGED	
8.017	S2.54	OK*	

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Innovyze	Network 2018.1.1	

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 4.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 3 Number of Real Time Controls 0


Synthetic Rainfall Details

Rainfall Model FEH Data Type Catchment
FEH Rainfall Version 2013 Cv (Summer) 0.750
Site Location GB 568800 245850 TL 68800 45850 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
Analysis Timestep 2.5 Second Increment (Extended) Inertia Status OFF
DTS Status OFF


Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years) 2, 30, 100
Climate Change (%) 0, 0, 30

US/MH	Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Water	Surcharged	Flooded	Pipe	Level			
PN Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	(m)	(m)	Volume	Flow /	Overflow	Flow	Level
										(m ³)	Cap.	(l/s)	(l/s)	Status Exceeded

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m ³)	Flow / Cap. (l/s)	Overflow (l/s)	Pipe Flow (l/s)
8.000	S2.01	15	Winter	30	+0%	100/15	Summer		95.698	-0.055	0.000	0.92		33.3
8.001	S2.02	15	Winter	30	+0%				95.499	-0.611	0.000	0.01		54.3
8.002	S2.03	60	Winter	30	+0%				93.859	-0.291	0.000	0.27		32.1
9.000	S2.04	60	Winter	30	+0%				93.931	0.000	0.000	0.44		68.0
10.000	S2.05	15	Winter	30	+0%	100/15	Summer		95.874	-0.152	0.000	0.23		16.7
11.000	S2.06	15	Winter	30	+0%	30/15	Summer	100/15	98.546	1.027	0.000	1.54		84.5
12.000	S2.07	15	Winter	30	+0%	30/15	Summer	100/15	98.451	0.469	0.000	0.07		4.7
11.001	S2.08	15	Winter	30	+0%	30/15	Summer		98.454	0.993	0.000	1.16		68.6
11.002	S2.09	15	Winter	30	+0%	30/15	Summer	100/15	98.343	1.042	0.000	1.29		85.0
11.003	S2.10	15	Winter	30	+0%	30/15	Summer		96.629	0.372	0.000	1.20		108.5
13.000	S2.11	15	Winter	30	+0%	100/15	Summer		96.164	-0.124	0.000	0.63		238.0
11.004	S2.12	15	Winter	30	+0%	30/15	Summer		96.022	0.264	0.000	0.88		341.0
10.001	S2.13	15	Winter	30	+0%	2/15	Summer		95.174	0.586	0.000	2.50		359.7
14.000	S2.14	15	Winter	30	+0%				94.638	0.000	0.000	2.78		144.4
10.002	S2.15	15	Winter	30	+0%	30/15	Summer		94.645	0.143	0.000	0.96		511.3
9.001	S2.16	15	Winter	30	+0%	30/15	Summer		94.116	0.185	0.000	2.16		594.9
9.002	S2.17	15	Winter	30	+0%	30/15	Summer		94.005	0.108	0.000	2.76		621.1
15.000	S2.18	15	Winter	30	+0%	30/15	Summer		94.084	0.030	0.000	0.38		57.0
16.000	S2.19	15	Winter	30	+0%	30/15	Summer		94.060	0.116	0.000	0.99		102.9
15.001	S2.20	15	Winter	30	+0%	30/15	Summer		94.033	0.115	0.000	2.07		228.1
8.003	S2.21	15	Winter	30	+0%				93.528	-0.354	0.000	0.61		842.1
8.004	S2.22	15	Winter	30	+0%				93.480	-0.320	0.000	0.21		814.2
8.005	S2.23	15	Winter	30	+0%	2/15	Summer	100/15	90.656	0.456	0.000	2.96		747.9
17.000	S2.24	15	Winter	30	+0%				95.963	-0.133	0.000	0.35		16.7

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

PN	US/MH Name	Status	Level Exceeded
8.000	S2.01	OK	
8.001	S2.02	OK	
8.002	S2.03	OK*	
9.000	S2.04	SURCHARGED*	
10.000	S2.05	OK	
11.000	S2.06	SURCHARGED	4
12.000	S2.07	SURCHARGED	5
11.001	S2.08	SURCHARGED	
11.002	S2.09	SURCHARGED	4
11.003	S2.10	SURCHARGED	
13.000	S2.11	OK	
11.004	S2.12	SURCHARGED	
10.001	S2.13	SURCHARGED	
14.000	S2.14	SURCHARGED*	
10.002	S2.15	SURCHARGED	
9.001	S2.16	SURCHARGED	
9.002	S2.17	SURCHARGED	
15.000	S2.18	SURCHARGED	
16.000	S2.19	SURCHARGED	
15.001	S2.20	SURCHARGED	
8.003	S2.21	OK	
8.004	S2.22	FLOOD RISK*	
8.005	S2.23	SURCHARGED*	5

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

US/MH		Level	
PN	Name	Status	Exceeded
17.000	S2.24	OK	

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Innovyze	Network 2018.1.1	


30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m ³)	Flow / Cap. (l/s)	Overflow (l/s)	Pipe Flow (l/s)
17.001	S2.25	15 Winter	30	+0%					95.601	-0.207	0.000	0.35		37.1
17.002	S2.26	15 Winter	30	+0%	100/15 Summer				95.407	-0.066	0.000	0.57		56.9
18.000	S2.27	15 Winter	30	+0%					95.890	-0.321	0.000	0.18		95.5
17.003	S2.28	15 Summer	30	+0%	100/15 Summer				95.349	0.000	0.000	1.20		122.1
17.004	S2.29	15 Winter	30	+0%					95.090	-0.226	0.000	0.49		154.3
17.005	S2.30	15 Winter	30	+0%					94.659	-0.279	0.000	0.44		177.9
17.006	S2.31	15 Winter	30	+0%					94.407	-0.255	0.000	0.51		199.6
17.007	S2.32	15 Winter	30	+0%					94.051	-0.324	0.000	0.30		222.7
19.000	S2.33	60 Winter	30	+0%					94.200	-0.225	0.000	0.00		0.0
19.001	S2.34	15 Winter	30	+0%					93.915	-0.117	0.000	0.46		29.0
17.008	S2.35	15 Winter	30	+0%					93.379	-0.282	0.000	0.43		309.7
17.009	S2.36	15 Winter	30	+0%	100/15 Summer				92.339	-0.254	0.000	0.39		372.8
17.010	S2.37	15 Winter	30	+0%					92.194	-0.499	0.000	0.24		434.6
17.011	S2.38	15 Winter	30	+0%	100/15 Summer				91.157	-0.181	0.000	0.61		494.3
17.012	S2.39	15 Summer	30	+0%	100/15 Summer				91.071	0.000	0.000	1.09		495.7
17.013	S2.40	15 Winter	30	+0%	100/15 Summer				90.694	-0.317	0.000	0.61		583.9
17.014	S2.41	15 Winter	30	+0%	100/15 Summer				90.354	-0.237	0.000	0.79		606.7
20.000	S2.42	15 Winter	30	+0%					90.344	-0.274	0.000	0.46		212.8
8.006	S2.43	15 Winter	30	+0%					89.976	-0.587	0.000	0.20		1432.6
8.007	S2.44	15 Winter	30	+0%					89.054	-0.646	0.000	0.07		1433.3
8.008	S2.45	30 Winter	30	+0%					88.824	-0.876	0.000	0.03		1301.4
8.009	S2.46	30 Winter	30	+0%	2/15 Summer				88.811	0.536	0.000	1.23		472.2
8.010	S2.47	240 Winter	30	+0%					87.898	-1.802	0.000	0.00		366.9
8.011	S2.48	240 Winter	30	+0%					87.893	-0.607	0.000	0.02		358.5

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

	US/MH		Level
PN	Name	Status	Exceeded
17.001	S2.25	OK	
17.002	S2.26	OK	
18.000	S2.27	OK	
17.003	S2.28	OK	
17.004	S2.29	OK	
17.005	S2.30	OK	
17.006	S2.31	OK	
17.007	S2.32	OK	
19.000	S2.33	OK	
19.001	S2.34	OK	
17.008	S2.35	OK	
17.009	S2.36	OK	
17.010	S2.37	OK	
17.011	S2.38	OK	
17.012	S2.39	OK	
17.013	S2.40	OK	
17.014	S2.41	OK	
20.000	S2.42	OK	
8.006	S2.43	OK	
8.007	S2.44	OK	
8.008	S2.45	OK	
8.009	S2.46	SURCHARGED*	
8.010	S2.47	OK	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02


US/MH		Level	
PN	Name	Status	Exceeded
8.011	S2.48	OK	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Surcharged Flooded			Pipe Flow / Overflow Flow
									Level (m)	Depth (m)	Volume (m ³)	
8.012	S2.49	240	Winter	30	+0%	2/15	Summer	87.855	0.815	0.000	0.66	116.7
8.013	S2.50	60	Winter	30	+0%			86.540	0.000	0.000	1.26	120.4
8.014	S2.51	60	Winter	30	+0%			86.000	0.000	0.000	1.52	120.2
8.015	S2.52	60	Winter	30	+0%			85.900	0.000	0.000	1.96	120.1
8.016	S2.53	FC 960	Winter	30	+0%	2/15	Summer	86.944	1.054	0.000	0.15	28.0
8.017	S2.54	960	Winter	30	+0%			85.167	-0.158	0.000	0.46	28.0

PN	US/MH Name	Status	Level Exceeded
8.012	S2.49	SURCHARGED*	
8.013	S2.50	SURCHARGED*	
8.014	S2.51	SURCHARGED*	
8.015	S2.52	SURCHARGED*	
8.016	S2.53 FC	SURCHARGED	
8.017	S2.54	OK*	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

Simulation Criteria

Areal Reduction Factor 1.000 Manhole Headloss Coeff (Global) 0.500 MADD Factor * 10m³/ha Storage 4.000
Hot Start (mins) 0 Foul Sewage per hectare (l/s) 0.000 Inlet Coeffiecient 0.800
Hot Start Level (mm) 0 Additional Flow - % of Total Flow 0.000 Flow per Person per Day (l/per/day) 0.000

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
Number of Online Controls 1 Number of Storage Structures 3 Number of Real Time Controls 0


Synthetic Rainfall Details

Rainfall Model FEH Data Type Catchment
FEH Rainfall Version 2013 Cv (Summer) 0.750
Site Location GB 568800 245850 TL 68800 45850 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 DVD Status ON
Analysis Timestep 2.5 Second Increment (Extended) Inertia Status OFF
DTS Status OFF


Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440
Return Period(s) (years) 2, 30, 100
Climate Change (%) 0, 0, 30

US/MH	Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Water	Surcharged	Flooded	Pipe	Level			
PN Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	(m)	(m)	Volume	Flow /	Overflow	Flow	Level
										(m ³)	Cap.	(l/s)	(l/s)	Status Exceeded

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water	Surcharged	Flooded	Flow / Overflow Cap. (l/s)	Pipe
									Level (m)	Depth (m)	Volume (m ³)		Flow (l/s)
8.000	S2.01	15 Winter	100	+30%	100/15 Summer				95.902	0.149	0.000	1.53	55.3
8.001	S2.02	15 Winter	100	+30%					95.520	-0.590	0.000	0.02	87.4
8.002	S2.03	30 Winter	100	+30%					93.968	-0.182	0.000	0.66	77.6
9.000	S2.04	240 Winter	100	+30%					93.931	0.000	0.000	0.29	45.5
10.000	S2.05	15 Winter	100	+30%	100/15 Summer				96.450	0.424	0.000	0.52	37.5
11.000	S2.06	15 Winter	100	+30%	30/15 Summer	100/15 Summer			99.608	2.089	6.186	2.13	116.7
12.000	S2.07	15 Winter	100	+30%	30/15 Summer	100/15 Summer			99.196	1.214	11.638	1.08	69.7
11.001	S2.08	15 Winter	100	+30%	30/15 Summer				99.346	1.885	0.000	1.73	102.5
11.002	S2.09	15 Winter	100	+30%	30/15 Summer	100/15 Summer			99.180	1.879	11.363	1.56	102.5
11.003	S2.10	15 Winter	100	+30%	30/15 Summer				98.211	1.954	0.000	1.33	120.3
13.000	S2.11	15 Winter	100	+30%	100/15 Summer				97.844	1.556	0.000	0.74	281.7
11.004	S2.12	15 Winter	100	+30%	30/15 Summer				97.592	1.834	0.000	1.06	409.4
10.001	S2.13	15 Winter	100	+30%	2/15 Summer				96.286	1.698	0.000	3.14	452.5
14.000	S2.14	240 Winter	100	+30%					94.638	0.000	0.000	1.08	56.2
10.002	S2.15	15 Winter	100	+30%	30/15 Summer				95.421	0.919	0.000	1.27	675.0
9.001	S2.16	15 Winter	100	+30%	30/15 Summer				94.478	0.547	0.000	3.04	837.6
9.002	S2.17	15 Winter	100	+30%	30/15 Summer				94.181	0.284	0.000	3.98	895.9
15.000	S2.18	15 Winter	100	+30%	30/15 Summer				94.387	0.333	0.000	0.65	97.4
16.000	S2.19	15 Winter	100	+30%	30/15 Summer				94.423	0.479	0.000	1.63	170.1
15.001	S2.20	15 Winter	100	+30%	30/15 Summer				94.329	0.411	0.000	3.45	379.9
8.003	S2.21	15 Winter	100	+30%					93.723	-0.159	0.000	0.94	1286.7
8.004	S2.22	15 Winter	100	+30%					93.551	-0.249	0.000	0.32	1252.7
8.005	S2.23	30 Winter	100	+30%	2/15 Summer	100/15 Summer			91.115	0.915	52.346	4.03	1018.0
17.000	S2.24	30 Winter	100	+30%					95.996	-0.100	0.000	0.59	27.9

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

	US/MH		Level
PN	Name	Status	Exceeded
8.000	S2.01	SURCHARGED	
8.001	S2.02	OK	
8.002	S2.03	OK*	
9.000	S2.04	SURCHARGED*	
10.000	S2.05	SURCHARGED	
11.000	S2.06	FLOOD	4
12.000	S2.07	FLOOD	5
11.001	S2.08	FLOOD RISK	
11.002	S2.09	FLOOD	4
11.003	S2.10	FLOOD RISK	
13.000	S2.11	FLOOD RISK	
11.004	S2.12	SURCHARGED	
10.001	S2.13	SURCHARGED	
14.000	S2.14	SURCHARGED*	
10.002	S2.15	SURCHARGED	
9.001	S2.16	SURCHARGED	
9.002	S2.17	SURCHARGED	
15.000	S2.18	SURCHARGED	
16.000	S2.19	SURCHARGED	
15.001	S2.20	SURCHARGED	
8.003	S2.21	OK	
8.004	S2.22	FLOOD RISK*	
8.005	S2.23	FLOOD	5

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

US/MH		Level	
PN	Name	Status	Exceeded
17.000	S2.24	OK	

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Innovyze	Network 2018.1.1	


100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m ³)	Flow / Cap. (l/s)	Overflow (l/s)	Pipe Flow (l/s)
17.001	S2.25	15 Winter	100	+30%					95.692	-0.116	0.000	0.59		61.9
17.002	S2.26	15 Winter	100	+30%	100/15 Summer				95.558	0.085	0.000	0.98		98.0
18.000	S2.27	15 Winter	100	+30%					95.931	-0.280	0.000	0.31		160.1
17.003	S2.28	15 Winter	100	+30%	100/15 Summer				95.452	0.103	0.000	2.16		219.9
17.004	S2.29	15 Winter	100	+30%					95.187	-0.129	0.000	0.84		263.6
17.005	S2.30	15 Winter	100	+30%					94.760	-0.178	0.000	0.76		306.9
17.006	S2.31	15 Winter	100	+30%					94.524	-0.138	0.000	0.89		349.3
17.007	S2.32	15 Winter	100	+30%					94.123	-0.252	0.000	0.53		390.6
19.000	S2.33	60 Winter	100	+30%					94.200	-0.225	0.000	0.00		0.0
19.001	S2.34	15 Winter	100	+30%					93.970	-0.062	0.000	0.77		48.2
17.008	S2.35	15 Winter	100	+30%					93.479	-0.182	0.000	0.74		536.3
17.009	S2.36	15 Winter	100	+30%	100/15 Summer				92.686	0.093	0.000	0.67		636.8
17.010	S2.37	15 Winter	100	+30%					92.276	-0.417	0.000	0.40		734.8
17.011	S2.38	15 Winter	100	+30%	100/15 Summer				91.734	0.396	0.000	0.98		792.0
17.012	S2.39	15 Winter	100	+30%	100/15 Summer				91.475	0.404	0.000	1.92		869.3
17.013	S2.40	15 Winter	100	+30%	100/15 Summer				91.165	0.154	0.000	0.98		937.4
17.014	S2.41	15 Winter	100	+30%	100/15 Summer				90.771	0.180	0.000	1.29		991.5
20.000	S2.42	15 Winter	100	+30%					90.442	-0.176	0.000	0.78		356.8
8.006	S2.43	15 Winter	100	+30%					90.048	-0.515	0.000	0.32		2266.3
8.007	S2.44	60 Winter	100	+30%					89.297	-0.403	0.000	0.08		1788.3
8.008	S2.45	60 Winter	100	+30%					89.250	-0.450	0.000	0.03		1632.8
8.009	S2.46	60 Winter	100	+30%	2/15 Summer				89.223	0.948	0.000	1.33		508.7
8.010	S2.47	360 Winter	100	+30%					88.221	-1.479	0.000	0.00		380.3
8.011	S2.48	360 Winter	100	+30%					88.215	-0.285	0.000	0.02		371.5

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Blays House Wick Road Englefield Green Egham Surrey TW20 0HJ	Haverhill Great Willsey Park Area 2 FEH Results	
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Innovyze	Network 2018.1.1	


100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

	US/MH		Level
PN	Name	Status	Exceeded
17.001	S2.25		OK
17.002	S2.26	SURCHARGED	
18.000	S2.27		OK
17.003	S2.28	SURCHARGED	
17.004	S2.29		OK
17.005	S2.30		OK
17.006	S2.31		OK
17.007	S2.32		OK
19.000	S2.33		OK
19.001	S2.34		OK
17.008	S2.35		OK
17.009	S2.36	SURCHARGED	
17.010	S2.37		OK
17.011	S2.38	SURCHARGED	
17.012	S2.39	SURCHARGED	
17.013	S2.40	SURCHARGED	
17.014	S2.41	SURCHARGED	
20.000	S2.42		OK
8.006	S2.43		OK
8.007	S2.44		OK
8.008	S2.45		OK
8.009	S2.46	SURCHARGED*	
8.010	S2.47		OK

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Date 4/7/2019 File HAVERHILL. ALL NETWORKS FOR TENDER.MDX	Designed by RMV Checked by DJ	
Innovyze	Network 2018.1.1	

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

	US/MH		Level
PN	Name	Status	Exceeded
8.011	S2.48	FLOOD RISK*	

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Innovyze	Network 2018.1.1	

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for SW 02

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Overflow Cap. (l/s)	Pipe Flow (l/s)
8.012	S2.49	360 Winter	100	+30%	2/15 Summer				88.145	1.105	0.000	0.67	119.4
8.013	S2.50	60 Winter	100	+30%					86.540	0.000	0.000	1.30	123.8
8.014	S2.51	60 Winter	100	+30%					86.000	0.000	0.000	1.56	123.7
8.015	S2.52	60 Winter	100	+30%					85.900	0.000	0.000	2.01	123.6
8.016	S2.53 FC	1440 Winter	100	+30%	2/15 Summer				87.162	1.272	0.000	0.28	52.5
8.017	S2.54	1440 Winter	100	+30%					85.239	-0.086	0.000	0.86	52.5

PN	US/MH Name	Status	Level Exceeded
8.012	S2.49	SURCHARGED*	
8.013	S2.50	SURCHARGED*	
8.014	S2.51	SURCHARGED*	
8.015	S2.52	SURCHARGED*	
8.016	S2.53 FC	FLOOD RISK	
8.017	S2.54	OK*	