

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	100	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	17.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.250	Preferred Cover Depth (m)	1.200
CV	1.000	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	x

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S1	0.162	5.00	96.202	1350	300087.971	515468.177	1.877
S2	0.015	5.00	95.917	1350	300065.034	515467.896	1.977
S3	0.094	5.00	95.721	1500	300050.330	515464.299	1.921
S4	0.146	5.00	96.286	1350	300030.247	515401.317	1.975
S5	0.049	5.00	95.956	1350	300025.941	515423.353	1.875
S6	0.014	5.00	95.697	1350	300026.867	515439.400	2.247
S7	0.036	5.00	95.476	1350	300022.820	515452.971	2.751
S8	0.140	5.00	94.346	1800	300033.872	515515.176	1.546
S9	0.034	5.00	94.865	1200	300023.584	515482.852	2.615
S10	0.024	5.00	95.208	1500	300012.066	515466.415	3.235
S11	0.022	5.00	94.897	1500	299992.888	515474.562	3.147
S12	0.070	5.00	94.529	1500	299969.085	515471.357	3.029
S13	0.106	5.00	94.740	1350	299992.195	515314.704	1.740
S14	0.012	5.00	95.347	1200	299987.368	515335.250	2.597
S15	0.187	5.00	95.566	1350	299978.426	515360.216	3.116
S16	0.083	5.00	95.229	1350	299976.723	515391.232	2.979
S17			95.081	1350	299971.536	515401.042	2.883
S18	0.026	5.00	94.348	1350	299963.707	515432.066	1.350
S19	0.062	5.00	94.677	1200	299972.290	515418.533	1.952
S20	0.042	5.00	94.864	1350	299962.274	515410.032	2.714
S21	0.059	5.00	94.477	1350	299948.036	515425.439	2.427
S22	0.029	5.00	94.042	1800	299939.005	515447.843	2.692
S23	0.093	5.00	93.189	1800	299902.173	515445.045	2.289
S24	0.131	5.00	92.710	1350	299878.811	515431.494	1.592
S25	0.011	5.00	92.506	1800	299888.028	515451.017	2.306
S26	0.023	5.00	91.786	1800	299876.179	515459.325	2.586
S27	0.124	5.00	90.469	1350	299835.532	515431.478	1.918
S28	0.018	5.00	90.627	1500	299853.915	515469.492	2.927
S29			88.196	1500	299837.967	515476.775	0.966
S30	0.030	5.00	93.460	1350	299960.598	515496.912	2.460
S31	0.061	5.00	92.313	1350	299964.614	515522.647	2.313
S32	0.040	5.00	91.516	1350	299957.557	515539.889	2.516
S33	0.113	5.00	91.145	1350	299950.615	515544.217	2.745
S34	0.056	5.00	90.889	1200	299925.982	515516.534	2.659
S35	0.055	5.00	89.692	1500	299898.820	515535.942	1.905
S36	0.049	5.00	89.124	1500	299849.922	515501.130	1.795
S37			88.196	1500	299839.064	515484.303	0.946
S38			88.000	2400	299782.395	515437.523	1.004
S39			88.100	2400	299778.472	515436.727	1.650
S40			87.130	1800	299766.324	515436.855	1.130

Links (Results)

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	1.522	60.5	29.4	1.652	1.677	0.162	0.0	110	1.509
1.001	1.511	106.8	32.0	1.677	1.621	0.177	0.0	112	1.325
1.002	2.893	204.5	49.1	1.621	2.376	0.272	0.0	100	2.395
2.000	1.323	52.6	26.4	1.750	1.650	0.146	0.0	113	1.325
2.001	2.602	103.5	35.2	1.650	2.022	0.195	0.0	90	2.358
2.002	2.647	105.2	37.7	2.022	2.376	0.209	0.0	93	2.431
1.003	3.605	398.2	93.4	2.376	2.785	0.517	0.0	123	2.962
3.000	1.549	61.6	25.3	1.321	2.315	0.140	0.0	101	1.477
3.001	1.248	88.2	31.4	2.315	2.785	0.174	0.0	123	1.145
1.004	1.198	190.5	129.1	2.785	2.547	0.714	0.0	272	1.283
1.005	2.484	702.5	133.1	2.547	2.429	0.737	0.0	175	1.931
1.006	1.521	430.2	145.8	2.429	2.092	0.807	0.0	240	1.381
4.000	1.189	47.3	19.2	1.515	2.297	0.106	0.0	100	1.129
4.001	1.179	83.3	21.3	2.297	2.666	0.118	0.0	103	0.992
4.002	1.629	259.0	55.2	2.666	2.529	0.305	0.0	140	1.305
4.003	1.387	220.7	70.2	2.529	2.433	0.388	0.0	174	1.237
4.004	1.235	196.4	70.2	2.433	2.264	0.388	0.0	185	1.134
5.000	1.118	19.8	4.8	1.200	1.727	0.026	0.0	50	0.922
5.001	2.142	85.2	16.0	1.727	2.264	0.088	0.0	65	1.648
4.005	1.400	222.6	93.7	2.264	1.977	0.519	0.0	203	1.342
4.006	3.074	488.9	104.4	1.977	2.092	0.578	0.0	140	2.465
1.007	2.689	760.3	255.4	2.092	1.689	1.413	0.0	239	2.435
1.008	5.214	1474.1	272.2	1.689	1.706	1.506	0.0	173	4.027
6.000	2.051	81.6	23.6	1.367	1.691	0.131	0.0	83	1.786
1.009	6.422	1815.8	297.8	1.706	1.986	1.648	0.0	163	4.799
1.010	6.047	1709.8	302.1	1.986	2.327	1.672	0.0	169	4.612
7.000	1.917	135.5	22.4	1.618	2.402	0.124	0.0	82	1.426
1.011	3.909	1105.2	327.8	2.327	0.346	1.814	0.0	223	3.428
1.012	1.832	1165.5	327.8	0.066	0.104	1.814	0.0	325	1.585
8.000	2.574	102.3	5.3	2.235	2.088	0.030	0.0	35	1.371
8.001	3.045	121.1	16.4	2.088	2.291	0.091	0.0	56	2.147
8.002	3.331	132.5	23.7	2.291	2.445	0.131	0.0	65	2.546
8.003	1.061	75.0	44.1	2.445	2.359	0.244	0.0	166	1.102
8.004	1.025	72.4	54.3	2.359	1.305	0.300	0.0	194	1.121
8.005	2.125	600.9	64.2	1.305	1.195	0.356	0.0	131	1.408
8.006	1.525	431.1	73.1	1.195	0.346	0.404	0.0	166	1.148
8.007	1.415	400.1	73.1	0.346	0.400	0.404	0.0	173	1.089
1.013	6.410	708.0	400.8	0.629	1.225	2.218	0.0	203	6.604
1.014	3.924	624.1	400.8	1.200	0.680	2.218	0.0	263	4.157

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	22.939	74.0	225	Circular	96.202	94.325	1.652	95.917	94.015	1.677
1.001	15.138	108.1	300	Circular	95.917	93.940	1.677	95.721	93.800	1.621
1.002	29.751	29.8	300	Circular	95.721	93.800	1.621	95.476	92.800	2.376
2.000	22.453	97.6	225	Circular	96.286	94.311	1.750	95.956	94.081	1.650
2.001	16.074	25.5	225	Circular	95.956	94.081	1.650	95.697	93.450	2.022
2.002	14.162	24.6	225	Circular	95.697	93.450	2.022	95.476	92.875	2.376

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S1	1350	Manhole	Adoptable	S2	1350	Manhole	Adoptable
1.001	S2	1350	Manhole	Adoptable	S3	1500	Manhole	Adoptable
1.002	S3	1500	Manhole	Adoptable	S7	1350	Manhole	Adoptable
2.000	S4	1350	Manhole	Adoptable	S5	1350	Manhole	Adoptable
2.001	S5	1350	Manhole	Adoptable	S6	1350	Manhole	Adoptable
2.002	S6	1350	Manhole	Adoptable	S7	1350	Manhole	Adoptable

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.003	17.216	25.4	375	Circular	95.476	92.725	2.376	95.208	92.048	2.785
3.000	33.922	71.4	225	Circular	94.346	92.800	1.321	94.865	92.325	2.315
3.001	20.071	158.0	300	Circular	94.865	92.250	2.315	95.208	92.123	2.785
1.004	20.836	285.4	450	Circular	95.208	91.973	2.785	94.897	91.900	2.547
1.005	24.018	96.1	600	Circular	94.897	91.750	2.547	94.529	91.500	2.429
1.006	38.180	254.5	600	Circular	94.529	91.500	2.429	94.042	91.350	2.092
4.000	21.105	120.6	225	Circular	94.740	93.000	1.515	95.347	92.825	2.297
4.001	26.520	176.8	300	Circular	95.347	92.750	2.297	95.566	92.600	2.666
4.002	31.062	155.3	450	Circular	95.566	92.450	2.666	95.229	92.250	2.529
4.003	11.097	213.4	450	Circular	95.229	92.250	2.529	95.081	92.198	2.433
4.004	12.908	268.9	450	Circular	95.081	92.198	2.433	94.864	92.150	2.264
5.000	16.025	80.9	150	Circular	94.348	92.998	1.200	94.677	92.800	1.727
5.001	13.138	37.5	225	Circular	94.677	92.725	1.727	94.864	92.375	2.264
4.005	20.978	209.8	450	Circular	94.864	92.150	2.264	94.477	92.050	1.977
4.006	24.156	43.9	450	Circular	94.477	92.050	1.977	94.042	91.500	2.092
1.007	36.938	82.1	600	Circular	94.042	91.350	2.092	93.189	90.900	1.689
1.008	15.355	21.9	600	Circular	93.189	90.900	1.689	92.506	90.200	1.706
6.000	21.589	40.9	225	Circular	92.710	91.118	1.367	92.506	90.590	1.691
1.009	14.471	14.5	600	Circular	92.506	90.200	1.706	91.786	89.200	1.986
1.010	24.476	16.3	600	Circular	91.786	89.200	1.986	90.627	87.700	2.327
7.000	42.226	67.5	300	Circular	90.469	88.551	1.618	90.627	87.925	2.402
1.011	17.532	39.0	600	Circular	90.627	87.700	2.327	88.196	87.250	0.346
1.012	68.036	290.8	900	Circular	88.196	87.230	0.066	88.000	86.996	0.104
8.000	26.047	26.0	225	Circular	93.460	91.000	2.235	92.313	90.000	2.088
8.001	18.630	18.6	225	Circular	92.313	90.000	2.088	91.516	89.000	2.291
8.002	8.180	15.6	225	Circular	91.516	89.000	2.291	91.145	88.475	2.445
8.003	37.056	218.0	300	Circular	91.145	88.400	2.445	90.889	88.230	2.359
8.004	33.383	233.4	300	Circular	90.889	88.230	2.359	89.692	88.087	1.305

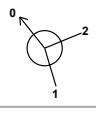
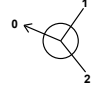
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.003	S7	1350	Manhole	Adoptable	S10	1500	Manhole	Adoptable
3.000	S8	1800	Manhole	Adoptable	S9	1200	Manhole	Adoptable
3.001	S9	1200	Manhole	Adoptable	S10	1500	Manhole	Adoptable
1.004	S10	1500	Manhole	Adoptable	S11	1500	Manhole	Adoptable
1.005	S11	1500	Manhole	Adoptable	S12	1500	Manhole	Adoptable
1.006	S12	1500	Manhole	Adoptable	S22	1800	Manhole	Adoptable
4.000	S13	1350	Manhole	Adoptable	S14	1200	Manhole	Adoptable
4.001	S14	1200	Manhole	Adoptable	S15	1350	Manhole	Adoptable
4.002	S15	1350	Manhole	Adoptable	S16	1350	Manhole	Adoptable
4.003	S16	1350	Manhole	Adoptable	S17	1350	Manhole	Adoptable
4.004	S17	1350	Manhole	Adoptable	S20	1350	Manhole	Adoptable
5.000	S18	1350	Manhole	Adoptable	S19	1200	Manhole	Adoptable
5.001	S19	1200	Manhole	Adoptable	S20	1350	Manhole	Adoptable
4.005	S20	1350	Manhole	Adoptable	S21	1350	Manhole	Adoptable
4.006	S21	1350	Manhole	Adoptable	S22	1800	Manhole	Adoptable
1.007	S22	1800	Manhole	Adoptable	S23	1800	Manhole	Adoptable
1.008	S23	1800	Manhole	Adoptable	S25	1800	Manhole	Adoptable
6.000	S24	1350	Manhole	Adoptable	S25	1800	Manhole	Adoptable
1.009	S25	1800	Manhole	Adoptable	S26	1800	Manhole	Adoptable
1.010	S26	1800	Manhole	Adoptable	S28	1500	Manhole	Adoptable
7.000	S27	1350	Manhole	Adoptable	S28	1500	Manhole	Adoptable
1.011	S28	1500	Manhole	Adoptable	S29	1500	Manhole	Adoptable
1.012	S29	1500	Manhole	Adoptable	S38	2400	Manhole	Adoptable
8.000	S30	1350	Manhole	Adoptable	S31	1350	Manhole	Adoptable
8.001	S31	1350	Manhole	Adoptable	S32	1350	Manhole	Adoptable
8.002	S32	1350	Manhole	Adoptable	S33	1350	Manhole	Adoptable
8.003	S33	1350	Manhole	Adoptable	S34	1200	Manhole	Adoptable
8.004	S34	1200	Manhole	Adoptable	S35	1500	Manhole	Adoptable

Pipeline Schedule

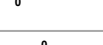
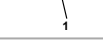
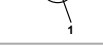
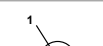
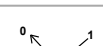
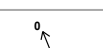
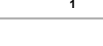
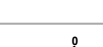
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
8.005	60.025	131.1	600	Circular	89.692	87.787	1.305	89.124	87.329	1.195
8.006	20.026	253.5	600	Circular	89.124	87.329	1.195	88.196	87.250	0.346
8.007	73.483	293.9	600	Circular	88.196	87.250	0.346	88.000	87.000	0.400
1.013	4.002	8.1	375	Circular	88.000	86.996	0.629	88.100	86.500	1.225
1.014	12.149	27.0	450	Circular	88.100	86.450	1.200	87.130	86.000	0.680

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
8.005	S35	1500	Manhole	Adoptable	S36	1500	Manhole	Adoptable
8.006	S36	1500	Manhole	Adoptable	S37	1500	Manhole	Adoptable
8.007	S37	1500	Manhole	Adoptable	S38	2400	Manhole	Adoptable
1.013	S38	2400	Manhole	Adoptable	S39	2400	Manhole	Adoptable
1.014	S39	2400	Manhole	Adoptable	S40	1800	Manhole	Adoptable

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S1	300087.971	515468.177	96.202	1.877	1350				
						0	1.000	94.325	225
S2	300065.034	515467.896	95.917	1.977	1350				
						0	1.001	93.940	300
S3	300050.330	515464.299	95.721	1.921	1500				
						0	1.002	93.800	300
S4	300030.247	515401.317	96.286	1.975	1350				
						0	2.000	94.311	225
S5	300025.941	515423.353	95.956	1.875	1350				
						0	2.001	94.081	225
S6	300026.867	515439.400	95.697	2.247	1350				
						0	2.002	93.450	225
S7	300022.820	515452.971	95.476	2.751	1350				
						1	2.002	92.875	225
						2	1.002	92.800	300
						0	1.003	92.725	375
S8	300033.872	515515.176	94.346	1.546	1800				
						0	3.000	92.800	225
S9	300023.584	515482.852	94.865	2.615	1200				
						0	3.001	92.250	300
S10	300012.066	515466.415	95.208	3.235	1500				
						1	3.001	92.123	300
						2	1.003	92.048	375
						0	1.004	91.973	450

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S11	299992.888	515474.562	94.897	3.147	1500		1	1.004	91.900	450
S12	299969.085	515471.357	94.529	3.029	1500		0	1.005	91.750	600
							1	1.005	91.500	600
S13	299992.195	515314.704	94.740	1.740	1350		0	1.006	91.500	600
							0	4.000	93.000	225
S14	299987.368	515335.250	95.347	2.597	1200		1	4.000	92.825	225
S15	299978.426	515360.216	95.566	3.116	1350		0	4.001	92.750	300
							1	4.001	92.600	300
S16	299976.723	515391.232	95.229	2.979	1350		0	4.002	92.450	450
							1	4.002	92.250	450
S17	299971.536	515401.042	95.081	2.883	1350		0	4.003	92.250	450
							1	4.003	92.198	450
S18	299963.707	515432.066	94.348	1.350	1350		0	4.004	92.198	450
							0	5.000	92.998	150
S19	299972.290	515418.533	94.677	1.952	1200		1	5.000	92.800	150
S20	299962.274	515410.032	94.864	2.714	1350		0	5.001	92.725	225
							1	5.001	92.375	225
S21	299948.036	515425.439	94.477	2.427	1350		2	4.004	92.150	450
							0	4.005	92.150	450
S22	299939.005	515447.843	94.042	2.692	1800		1	4.005	92.050	450
							0	4.006	92.050	450
S23	299902.173	515445.045	93.189	2.289	1800		1	4.006	91.500	450
							2	1.006	91.350	600
S24	299878.811	515431.494	92.710	1.592	1350		0	1.007	91.350	600
							1	1.007	90.900	600
S25	299888.028	515451.017	92.506	2.306	1800		0	1.008	90.900	600
							0	6.000	91.118	225
S25	299888.028	515451.017	92.506	2.306	1800		1	6.000	90.590	225
							2	1.008	90.200	600
							0	1.009	90.200	600

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S26	299876.179	515459.325	91.786	2.586	1800		1	1.009	89.200	600
							0	1.010	89.200	600
S27	299835.532	515431.478	90.469	1.918	1350		0	7.000	88.551	300
S28	299853.915	515469.492	90.627	2.927	1500		1	7.000	87.925	300
							2	1.010	87.700	600
							0	1.011	87.700	600
S29	299837.967	515476.775	88.196	0.966	1500		1	1.011	87.250	600
							0	1.012	87.230	900
S30	299960.598	515496.912	93.460	2.460	1350		0	8.000	91.000	225
S31	299964.614	515522.647	92.313	2.313	1350		1	8.000	90.000	225
							0	8.001	90.000	225
S32	299957.557	515539.889	91.516	2.516	1350		1	8.001	89.000	225
							0	8.002	89.000	225
S33	299950.615	515544.217	91.145	2.745	1350		1	8.002	88.475	225
							0	8.003	88.400	300
S34	299925.982	515516.534	90.889	2.659	1200		1	8.003	88.230	300
							0	8.004	88.230	300
S35	299898.820	515535.942	89.692	1.905	1500		1	8.004	88.087	300
							0	8.005	87.787	600
S36	299849.922	515501.130	89.124	1.795	1500		1	8.005	87.329	600
							0	8.006	87.329	600
S37	299839.064	515484.303	88.196	0.946	1500		1	8.006	87.250	600
							0	8.007	87.250	600
S38	299782.395	515437.523	88.000	1.004	2400		1	8.007	87.000	600
							2	1.012	86.996	900
							0	1.013	86.996	375
S39	299778.472	515436.727	88.100	1.650	2400		1	1.013	86.500	375
							0	1.014	86.450	450
S40	299766.324	515436.855	87.130	1.130	1800		1	1.014	86.000	450

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
Rainfall Events	Singular	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	360
M5-60 (mm)	17.000	Additional Storage (m³/ha)	0.0
Ratio-R	0.250	Starting Level (m)	
Summer CV	1.000	Check Discharge Rate(s)	x
Winter CV	1.000	Check Discharge Volume	x

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)	Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0	100	50	10	0
30	45	10	0				

Node S39 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	86.450	Product Number	CTL-SHE-0299-5420-1500-5420
Design Depth (m)	1.500	Min Outlet Diameter (m)	0.375
Design Flow (l/s)	54.2	Min Node Diameter (mm)	2400

Node S38 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	86.996
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	312

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	1.0	0.0	0.400	1679.4	0.0	0.800	1918.6	0.0	1.200	2166.8	0.0
0.100	845.1	0.0	0.500	1738.4	0.0	0.900	1979.8	0.0			
0.200	1433.9	0.0	0.600	1797.9	0.0	1.000	2041.5	0.0			
0.300	1621.1	0.0	0.700	1857.9	0.0	1.100	2103.9	0.0			

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	94.436	0.111	27.3	0.1583	0.0000	OK
15 minute summer	S2	10	94.055	0.115	29.4	0.1643	0.0000	OK
15 minute summer	S3	10	93.899	0.099	45.1	0.1744	0.0000	OK
15 minute summer	S4	10	94.425	0.114	24.5	0.1634	0.0000	OK
15 minute summer	S5	10	94.171	0.090	32.6	0.1293	0.0000	OK
15 minute summer	S6	10	93.545	0.095	34.6	0.1363	0.0000	OK
15 minute summer	S7	10	92.843	0.118	85.1	0.1685	0.0000	OK
15 minute summer	S8	10	92.898	0.098	23.6	0.2506	0.0000	OK
15 minute summer	S9	10	92.374	0.124	28.7	0.1403	0.0000	OK
15 minute summer	S10	11	92.246	0.273	117.3	0.4832	0.0000	OK
15 minute summer	S11	11	91.935	0.185	122.2	0.3277	0.0000	OK
15 minute summer	S12	11	91.744	0.244	133.8	0.4320	0.0000	OK
15 minute summer	S13	10	93.099	0.099	17.9	0.1423	0.0000	OK
15 minute summer	S14	11	92.852	0.102	19.5	0.1148	0.0000	OK
15 minute summer	S15	10	92.585	0.135	50.5	0.1933	0.0000	OK
15 minute summer	S16	11	92.446	0.196	64.0	0.2810	0.0000	OK
15 minute summer	S17	11	92.400	0.202	63.9	0.2892	0.0000	OK
15 minute summer	S18	10	93.047	0.049	4.4	0.0703	0.0000	OK
15 minute summer	S19	10	92.791	0.066	14.7	0.0750	0.0000	OK
15 minute summer	S20	11	92.349	0.199	85.1	0.2842	0.0000	OK
15 minute summer	S21	11	92.193	0.143	94.9	0.2046	0.0000	OK
15 minute summer	S22	11	91.597	0.247	233.1	0.6278	0.0000	OK
15 minute summer	S23	11	91.087	0.187	246.5	0.4754	0.0000	OK
15 minute summer	S24	10	91.201	0.083	22.0	0.1183	0.0000	OK
15 minute summer	S25	11	90.376	0.176	268.3	0.4487	0.0000	OK
15 minute summer	S26	11	89.362	0.162	271.3	0.4111	0.0000	OK
15 minute summer	S27	10	88.631	0.080	20.8	0.1143	0.0000	OK
15 minute summer	S28	11	87.941	0.241	293.5	0.4262	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	1.000	S2	26.9	1.439	0.445	0.4292	
15 minute summer	S2	1.001	S3	29.2	1.303	0.274	0.3403	
15 minute summer	S3	1.002	S7	44.6	2.284	0.218	0.5821	
15 minute summer	S4	2.000	S5	24.3	1.384	0.461	0.3941	
15 minute summer	S5	2.001	S6	32.3	2.096	0.313	0.2481	
15 minute summer	S6	2.002	S7	34.4	2.269	0.327	0.2150	
15 minute summer	S7	1.003	S10	85.0	2.080	0.213	0.7616	
15 minute summer	S8	3.000	S9	23.1	1.421	0.375	0.5522	
15 minute summer	S9	3.001	S10	28.6	1.068	0.324	0.5488	
15 minute summer	S10	1.004	S11	118.6	1.268	0.623	1.9483	
15 minute summer	S11	1.005	S12	122.6	1.352	0.175	2.1836	
15 minute summer	S12	1.006	S22	133.6	1.233	0.311	4.1415	
15 minute summer	S13	4.000	S14	17.6	1.079	0.373	0.3449	
15 minute summer	S14	4.001	S15	19.5	0.955	0.234	0.5415	
15 minute summer	S15	4.002	S16	50.0	0.956	0.193	1.6400	
15 minute summer	S16	4.003	S17	63.9	0.944	0.289	0.7513	
15 minute summer	S17	4.004	S20	64.2	0.941	0.327	0.8802	
15 minute summer	S18	5.000	S19	4.3	0.881	0.218	0.0785	
15 minute summer	S19	5.001	S20	14.6	1.554	0.171	0.1234	
15 minute summer	S20	4.005	S21	85.4	1.549	0.384	1.1606	
15 minute summer	S21	4.006	S22	94.8	2.312	0.194	0.9912	
15 minute summer	S22	1.007	S23	231.6	2.539	0.305	3.3958	
15 minute summer	S23	1.008	S25	245.2	3.432	0.166	1.1034	
15 minute summer	S24	6.000	S25	21.8	1.699	0.267	0.2766	
15 minute summer	S25	1.009	S26	267.5	4.120	0.147	0.9407	
15 minute summer	S26	1.010	S28	270.4	3.281	0.158	2.0428	
15 minute summer	S27	7.000	S28	20.3	1.379	0.150	0.6230	
15 minute summer	S28	1.011	S29	291.8	2.345	0.264	2.2258	

Results for 2 year Critical Storm Duration. Lowest mass balance: 99.97%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S29	11	87.562	0.332	291.8	0.5866	0.0000	OK
15 minute summer	S30	10	91.034	0.034	5.0	0.0480	0.0000	OK
15 minute summer	S31	10	90.054	0.054	15.2	0.0766	0.0000	OK
15 minute summer	S32	10	89.063	0.063	21.9	0.0899	0.0000	OK
15 minute summer	S33	10	88.562	0.162	40.7	0.2317	0.0000	OK
15 minute summer	S34	11	88.420	0.190	49.7	0.2152	0.0000	OK
15 minute summer	S35	11	87.910	0.123	58.1	0.2177	0.0000	OK
15 minute summer	S36	12	87.494	0.165	65.7	0.2914	0.0000	OK
15 minute summer	S37	12	87.410	0.160	63.5	0.2823	0.0000	OK
120 minute summer	S38	84	87.198	0.202	200.1	159.9315	0.0000	OK
60 minute summer	S39	58	87.252	0.802	109.8	3.6290	0.0000	SURCHARGED
60 minute summer	S40	79	86.088	0.088	54.3	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S29	1.012	S38	299.7	2.557	0.257	8.5482	
15 minute summer	S30	8.000	S31	4.9	0.919	0.048	0.1419	
15 minute summer	S31	8.001	S32	15.1	1.858	0.125	0.1514	
15 minute summer	S32	8.002	S33	21.8	2.048	0.164	0.0948	
15 minute summer	S33	8.003	S34	40.3	0.959	0.538	1.5770	
15 minute summer	S34	8.004	S35	49.3	1.109	0.681	1.4849	
15 minute summer	S35	8.005	S36	57.9	1.125	0.096	3.1069	
15 minute summer	S36	8.006	S37	63.5	1.110	0.147	1.2308	
15 minute summer	S37	8.007	S38	61.6	1.047	0.154	4.3237	
120 minute summer	S38	1.013	S39	110.5	1.679	0.156	0.3417	
60 minute summer	S39	1.014	S40	54.3	2.310	0.087	0.2857	302.4

Results for 30 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 99.89%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S1	10	94.877	0.552	81.4	0.7900	0.0000	SURCHARGED
15 minute summer	S2	10	94.168	0.228	87.3	0.3262	0.0000	OK
15 minute summer	S3	10	93.985	0.185	134.0	0.3269	0.0000	OK
15 minute summer	S4	11	94.877	0.566	73.0	0.8102	0.0000	SURCHARGED
15 minute summer	S5	11	94.390	0.309	96.3	0.4426	0.0000	SURCHARGED
15 minute summer	S6	11	93.740	0.290	101.6	0.4149	0.0000	SURCHARGED
15 minute summer	S7	11	93.022	0.297	246.3	0.4244	0.0000	OK
15 minute summer	S8	11	93.442	0.642	70.2	1.6330	0.0000	SURCHARGED
15 minute summer	S9	11	92.802	0.552	81.8	0.6238	0.0000	SURCHARGED
15 minute summer	S10	11	92.653	0.680	340.0	1.2012	0.0000	SURCHARGED
15 minute summer	S11	11	92.126	0.376	351.0	0.6636	0.0000	OK
15 minute summer	S12	11	92.015	0.515	384.4	0.9105	0.0000	OK
15 minute summer	S13	10	93.264	0.264	53.3	0.3781	0.0000	SURCHARGED
15 minute summer	S14	11	92.945	0.195	57.7	0.2208	0.0000	OK
15 minute summer	S15	11	92.753	0.303	149.7	0.4335	0.0000	OK
15 minute summer	S16	11	92.698	0.448	188.0	0.6405	0.0000	OK
15 minute summer	S17	11	92.627	0.429	188.4	0.6146	0.0000	OK
15 minute summer	S18	10	93.092	0.094	13.2	0.1350	0.0000	OK
15 minute summer	S19	10	92.849	0.124	44.1	0.1398	0.0000	OK
15 minute summer	S20	11	92.543	0.393	251.4	0.5621	0.0000	OK
15 minute summer	S21	11	92.326	0.276	280.1	0.3949	0.0000	OK
15 minute summer	S22	11	91.851	0.501	676.0	1.2763	0.0000	OK
15 minute summer	S23	11	91.273	0.373	719.1	0.9482	0.0000	OK
15 minute summer	S24	10	91.285	0.167	65.5	0.2385	0.0000	OK
15 minute summer	S25	11	90.549	0.349	786.5	0.8870	0.0000	OK
15 minute summer	S26	11	89.515	0.315	797.0	0.8016	0.0000	OK
15 minute summer	S27	10	88.691	0.140	62.0	0.2010	0.0000	OK
15 minute summer	S28	11	88.277	0.577	864.6	1.0193	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1	1.000	S2	79.8	2.007	1.319	0.9031	
15 minute summer	S2	1.001	S3	86.8	1.697	0.812	0.7798	
15 minute summer	S3	1.002	S7	133.3	2.818	0.652	1.4984	
15 minute summer	S4	2.000	S5	71.7	1.805	1.363	0.8930	
15 minute summer	S5	2.001	S6	94.8	2.480	0.916	0.6393	
15 minute summer	S6	2.002	S7	96.2	2.759	0.914	0.5061	
15 minute summer	S7	1.003	S10	246.7	2.285	0.620	1.7542	
15 minute summer	S8	3.000	S9	65.7	1.652	1.067	1.3491	
15 minute summer	S9	3.001	S10	81.8	1.161	0.927	1.4134	
15 minute summer	S10	1.004	S11	340.2	2.149	1.785	3.2019	
15 minute summer	S11	1.005	S12	351.0	1.583	0.500	5.3214	
15 minute summer	S12	1.006	S22	381.7	1.516	0.887	9.7201	
15 minute summer	S13	4.000	S14	51.9	1.316	1.097	0.7957	
15 minute summer	S14	4.001	S15	58.1	1.247	0.697	1.2356	
15 minute summer	S15	4.002	S16	148.3	1.108	0.572	4.2207	
15 minute summer	S16	4.003	S17	188.4	1.197	0.854	1.7432	
15 minute summer	S17	4.004	S20	188.6	1.242	0.960	1.9536	
15 minute summer	S18	5.000	S19	13.0	1.156	0.658	0.1801	
15 minute summer	S19	5.001	S20	43.9	1.895	0.516	0.3506	
15 minute summer	S20	4.005	S21	251.8	1.998	1.131	2.6086	
15 minute summer	S21	4.006	S22	280.4	2.542	0.574	2.8353	
15 minute summer	S22	1.007	S23	674.7	3.091	0.887	8.0428	
15 minute summer	S23	1.008	S25	717.9	4.082	0.487	2.7148	
15 minute summer	S24	6.000	S25	64.9	2.172	0.796	0.6446	
15 minute summer	S25	1.009	S26	785.8	4.929	0.433	2.3122	
15 minute summer	S26	1.010	S28	796.2	3.683	0.466	5.2376	
15 minute summer	S27	7.000	S28	61.6	1.637	0.455	2.1597	
15 minute summer	S28	1.011	S29	858.8	3.153	0.777	4.8312	

Results for 30 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 99.89%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S29	11	87.807	0.577	858.8	1.0204	0.0000	OK
15 minute summer	S30	10	91.057	0.057	14.8	0.0822	0.0000	OK
15 minute summer	S31	11	90.103	0.103	45.4	0.1468	0.0000	OK
15 minute summer	S32	11	89.637	0.637	64.6	0.9112	0.0000	SURCHARGED
15 minute summer	S33	11	89.462	1.062	114.3	1.5194	0.0000	SURCHARGED
15 minute summer	S34	11	88.992	0.762	140.0	0.8621	0.0000	SURCHARGED
15 minute summer	S35	11	88.007	0.220	165.8	0.3892	0.0000	OK
30 minute summer	S36	19	87.638	0.309	185.3	0.5455	0.0000	OK
180 minute winter	S37	176	87.613	0.363	59.3	0.6422	0.0000	OK
180 minute winter	S38	176	87.614	0.618	326.2	856.2394	0.0000	SURCHARGED
180 minute winter	S39	176	87.607	1.157	109.1	5.2330	0.0000	SURCHARGED
30 minute summer	S40	190	86.088	0.088	54.3	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S29	1.012	S38	866.6	3.310	0.744	18.6301	
15 minute summer	S30	8.000	S31	14.7	1.242	0.144	0.3307	
15 minute summer	S31	8.001	S32	44.4	2.242	0.367	0.5346	
15 minute summer	S32	8.002	S33	62.3	2.030	0.470	0.3253	
15 minute summer	S33	8.003	S34	113.1	1.607	1.509	2.6095	
15 minute summer	S34	8.004	S35	139.4	1.980	1.925	2.3106	
15 minute summer	S35	8.005	S36	165.9	1.406	0.276	7.1589	
30 minute summer	S36	8.006	S37	185.0	1.345	0.429	2.8202	
180 minute winter	S37	8.007	S38	59.3	0.689	0.148	16.9082	
180 minute winter	S38	1.013	S39	109.1	1.440	0.154	0.4414	
180 minute winter	S39	1.014	S40	54.2	2.310	0.087	0.2857	1413.3

Results for 100 year +50% CC +10% A Critical Storm Duration. Lowest mass balance: 99.89%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute summer	S1	19	95.545	1.220	105.8	1.7464	0.0000	SURCHARGED
30 minute summer	S2	19	94.561	0.621	110.8	0.8892	0.0000	SURCHARGED
30 minute summer	S3	19	94.366	0.566	167.6	0.9996	0.0000	SURCHARGED
30 minute summer	S4	19	96.243	1.932	95.0	2.7652	0.0000	FLOOD RISK
30 minute summer	S5	19	95.510	1.429	117.1	2.0446	0.0000	SURCHARGED
15 minute summer	S6	12	94.564	1.114	118.3	1.5936	0.0000	SURCHARGED
30 minute summer	S7	19	93.602	0.877	295.9	1.2548	0.0000	SURCHARGED
30 minute summer	S8	19	94.253	1.453	91.3	3.6978	0.0000	FLOOD RISK
30 minute summer	S9	19	93.263	1.013	103.1	1.1453	0.0000	SURCHARGED
30 minute summer	S10	19	93.037	1.064	409.7	1.8797	0.0000	SURCHARGED
30 minute summer	S11	19	92.527	0.777	421.9	1.3736	0.0000	SURCHARGED
30 minute summer	S12	19	92.379	0.879	463.0	1.5527	0.0000	SURCHARGED
15 minute summer	S13	11	93.788	0.788	70.7	1.1270	0.0000	SURCHARGED
30 minute summer	S14	19	93.345	0.595	73.6	0.6734	0.0000	SURCHARGED
30 minute summer	S15	19	93.200	0.750	194.2	1.0736	0.0000	SURCHARGED
30 minute summer	S16	19	93.068	0.818	246.5	1.1705	0.0000	SURCHARGED
30 minute summer	S17	19	92.955	0.757	245.1	1.0828	0.0000	SURCHARGED
30 minute summer	S18	19	93.120	0.122	17.1	0.1741	0.0000	OK
30 minute summer	S19	19	93.011	0.286	57.4	0.3238	0.0000	SURCHARGED
30 minute summer	S20	19	92.830	0.680	326.4	0.9730	0.0000	SURCHARGED
30 minute summer	S21	19	92.536	0.486	363.5	0.6959	0.0000	SURCHARGED
30 minute summer	S22	19	92.138	0.788	825.9	2.0043	0.0000	SURCHARGED
30 minute summer	S23	19	91.337	0.437	879.7	1.1131	0.0000	OK
30 minute summer	S24	18	91.507	0.389	85.2	0.5571	0.0000	SURCHARGED
15 minute summer	S25	11	90.603	0.403	965.6	1.0259	0.0000	OK
30 minute summer	S26	19	89.621	0.421	980.9	1.0704	0.0000	OK
15 minute summer	S27	12	88.781	0.230	82.1	0.3298	0.0000	OK
30 minute summer	S28	19	88.629	0.929	1061.5	1.6418	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	S1	1.000	S2	101.1	2.543	1.671	0.9123	
30 minute summer	S2	1.001	S3	106.2	1.673	0.994	1.0660	
30 minute summer	S3	1.002	S7	162.3	2.823	0.794	2.0950	
30 minute summer	S4	2.000	S5	85.1	2.141	1.618	0.8930	
30 minute summer	S5	2.001	S6	110.4	2.777	1.067	0.6393	
15 minute summer	S6	2.002	S7	117.1	2.946	1.113	0.5632	
30 minute summer	S7	1.003	S10	294.5	2.671	0.740	1.8989	
30 minute summer	S8	3.000	S9	81.9	2.060	1.330	1.3491	
30 minute summer	S9	3.001	S10	101.0	1.434	1.145	1.4134	
30 minute summer	S10	1.004	S11	408.6	2.579	2.144	3.3013	
30 minute summer	S11	1.005	S12	421.7	1.587	0.600	6.7653	
30 minute summer	S12	1.006	S22	462.7	1.643	1.076	10.7544	
15 minute summer	S13	4.000	S14	67.6	1.699	1.429	0.8394	
30 minute summer	S14	4.001	S15	72.2	1.228	0.866	1.8675	
30 minute summer	S15	4.002	S16	192.4	1.215	0.743	4.9216	
30 minute summer	S16	4.003	S17	245.1	1.547	1.111	1.7582	
30 minute summer	S17	4.004	S20	243.9	1.539	1.242	2.0452	
30 minute summer	S18	5.000	S19	17.0	1.205	0.863	0.2637	
30 minute summer	S19	5.001	S20	55.2	1.966	0.648	0.5225	
30 minute summer	S20	4.005	S21	325.1	2.069	1.460	3.3238	
30 minute summer	S21	4.006	S22	349.8	2.560	0.716	3.8274	
30 minute summer	S22	1.007	S23	824.6	3.166	1.085	9.2672	
30 minute summer	S23	1.008	S25	879.5	4.192	0.597	3.2336	
30 minute summer	S24	6.000	S25	84.5	2.259	1.035	0.8586	
15 minute summer	S25	1.009	S26	965.6	4.974	0.532	2.9748	
30 minute summer	S26	1.010	S28	979.5	3.665	0.573	6.0300	
15 minute summer	S27	7.000	S28	77.0	1.702	0.569	2.7131	
30 minute summer	S28	1.011	S29	1059.7	3.763	0.959	4.9384	

Results for 100 year +50% CC +10% A Critical Storm Duration. Lowest mass balance: 99.89%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	S29	236	87.896	0.666	298.9	1.1764	0.0000	OK
15 minute summer	S30	10	91.066	0.066	19.6	0.0948	0.0000	OK
30 minute summer	S31	19	90.616	0.616	59.2	0.8811	0.0000	SURCHARGED
30 minute summer	S32	19	90.377	1.377	75.7	1.9698	0.0000	SURCHARGED
30 minute summer	S33	19	90.105	1.705	142.2	2.4398	0.0000	SURCHARGED
30 minute summer	S34	19	89.365	1.135	175.7	1.2833	0.0000	SURCHARGED
15 minute summer	S35	11	88.037	0.250	209.9	0.4413	0.0000	OK
240 minute winter	S36	232	87.866	0.537	66.7	0.9484	0.0000	OK
240 minute winter	S37	232	87.866	0.616	65.3	1.0880	0.0000	SURCHARGED
240 minute winter	S38	232	87.866	0.870	358.2	1332.5840	0.0000	FLOOD RISK
240 minute winter	S39	232	87.858	1.408	106.1	6.3685	0.0000	FLOOD RISK
30 minute winter	S40	269	86.088	0.088	54.3	0.0000	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	S29	1.012	S38	297.7	1.355	0.255	38.4551	
15 minute summer	S30	8.000	S31	19.5	1.244	0.190	0.6448	
30 minute summer	S31	8.001	S32	55.7	2.212	0.460	0.7409	
30 minute summer	S32	8.002	S33	79.1	2.090	0.597	0.3253	
30 minute summer	S33	8.003	S34	142.4	2.022	1.899	2.6095	
30 minute summer	S34	8.004	S35	176.0	2.500	2.430	2.3270	
15 minute summer	S35	8.005	S36	210.1	1.465	0.350	8.6449	
240 minute winter	S36	8.006	S37	65.3	1.025	0.152	5.4833	
240 minute winter	S37	8.007	S38	60.6	0.659	0.151	20.6985	
240 minute winter	S38	1.013	S39	106.1	1.316	0.150	0.4414	
240 minute winter	S39	1.014	S40	54.2	2.310	0.087	0.2855	1749.9