

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	100	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	45	Minimum Velocity (m/s)	1.00
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	20.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.400	Preferred Cover Depth (m)	1.200
CV	0.750	Include Intermediate Ground	✓
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Node Type	Manhole Type	Diameter (mm)	Easting (m)	Northing (m)	Depth (m)
S13	0.072	5.00	120.027	Manhole	Adoptable	1350	537381.032	133002.801	1.356
S13A	0.020	5.00	119.525	Manhole	Adoptable	1350	537371.566	132984.968	1.469
S14	0.004	5.00	118.810	Manhole	Adoptable	1350	537359.889	132958.035	1.450
S15A	0.028	5.00	117.627	Manhole	Adoptable	1350	537328.762	132999.324	1.500
S15	0.070	5.00	117.486	Manhole	Adoptable	1350	537321.123	133000.743	1.500
S16	0.035	5.00	117.281	Manhole	Adoptable	1350	537307.284	132974.647	1.575
S17A	0.037	5.00	117.780	Manhole	Adoptable	1350	537303.519	132922.000	1.500
S17	0.077	5.00	117.479	Manhole	Adoptable	1350	537305.100	132934.964	1.435
S18	0.050	5.00	117.650	Manhole	Adoptable	1350	537328.156	132954.390	2.105
S57	0.005	5.00	117.700	Manhole	Adoptable	1200	537310.486	132959.580	2.200
S19			116.800	Manhole	Adoptable	1350	537296.689	132965.373	1.425
S27	0.030	5.00	116.243	Manhole	Adoptable	1350	537280.409	132959.761	1.394
S28	0.115	5.00	115.024	Manhole	Adoptable	1350	537242.032	132929.479	1.672
S29	0.065	5.00	114.787	Manhole	Adoptable	1200	537244.489	132962.886	2.132
S59			114.517	Manhole	Adoptable	1200	537239.999	132967.856	2.168
S30	0.031	5.00	114.407	Manhole	Adoptable	1350	537241.219	132979.710	2.717
S69			112.900	Manhole	Adoptable	1350	537220.057	132974.326	1.400
S70			112.350	Manhole	Adoptable	1350	537210.189	132979.291	1.350
S20	0.159	5.00	115.715	Manhole	Adoptable	1350	537303.881	133044.785	1.300
S21	0.043	5.00	113.993	Manhole	Adoptable	1500	537277.012	133071.515	1.770
S23	0.067	5.00	114.213	Manhole	Adoptable	1350	537271.338	133059.748	2.055
S24B	0.020	5.00	116.379	Manhole	Adoptable	1350	537286.212	133003.134	1.425
S24A	0.061	5.00	115.797	Manhole	Adoptable	1350	537275.154	133006.593	1.425
S24	0.024	5.00	115.154	Manhole	Adoptable	1200	537263.273	133012.778	1.949
S25	0.101	5.00	114.704	Manhole	Adoptable	1350	537251.537	133017.994	2.777
S26	0.025	5.00	114.431	Manhole	Adoptable	1350	537240.171	132990.755	2.652
S58			112.700	Manhole	Adoptable	1350	537222.271	132985.047	1.400
S74	0.057	5.00	112.584	Manhole	Adoptable	1350	537190.082	132920.614	1.059
S73	0.034	5.00	116.684	Manhole	Adoptable	1350	537192.051	132942.166	5.334
S72	0.000	5.00	112.709	Manhole	Adoptable	1350	537183.505	132948.944	1.414
S71	0.000	5.00	113.075	Manhole	Adoptable	1200	537190.350	132961.574	1.852
S75	0.058	5.00	114.143	Manhole	Adoptable	1350	537225.267	132964.355	1.485
S31	0.044	5.00	113.319	Manhole	Adoptable	1200	537198.967	132966.063	2.219
S32	0.047	5.00	112.350	Manhole	Adoptable	1350	537200.522	132990.054	1.500
S33			112.400	Manhole	Adoptable	1500	537186.104	132996.874	1.700
S34			112.200	Manhole	Adoptable	1200	537182.913	133019.793	1.700
S76			108.030	Manhole	Adoptable	1350	537171.603	133019.893	0.380

Links (Input)

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	Link Type	T of C (mins)
1.000	S13	S13A	20.190	0.600	118.671	118.056	0.615	32.8	225	1 STANDARD	5.15
1.001	S13A	S14	29.355	0.600	118.056	117.435	0.621	47.3	225	1 STANDARD	5.40
1.002	S14	S18	31.941	0.600	117.360	115.945	1.415	22.6	300	1 STANDARD	5.56
2.000	S15A	S15	7.769	0.600	116.127	115.986	0.141	55.1	300	1 STANDARD	5.06
2.001	S15	S16	29.539	0.600	115.986	115.781	0.205	144.1	300	1 STANDARD	5.44
2.002	S16	S18	29.085	0.600	115.706	115.545	0.161	180.7	375	1 STANDARD	5.80
3.000	S17A	S17	13.060	0.600	116.280	116.044	0.236	55.3	300	1 STANDARD	5.10
3.001	S17	S18	30.149	0.600	116.044	115.945	0.099	304.5	300	1 STANDARD	5.66
1.003	S18	S57	18.416	0.600	115.545	115.500	0.045	409.2	300	1 STANDARD	6.20
1.004	S57	S19	14.964	0.600	115.500	115.375	0.125	119.7	300	1 STANDARD	6.37
1.005	S19	S30	57.293	0.600	115.375	111.690	3.685	15.5	300	1 STANDARD	6.61
4.000	S27	S29	36.056	0.600	114.849	112.730	2.119	17.0	225	1 STANDARD	5.19
5.000	S28	S29	33.497	0.600	113.352	112.730	0.622	53.9	225	1 STANDARD	5.31
4.001	S29	S59	6.699	0.600	112.655	112.349	0.306	21.9	300	1 STANDARD	5.35
4.002	S59	S30	11.916	0.600	112.349	111.765	0.584	20.4	300	1 STANDARD	5.40
1.006	S30	S69	21.836	0.600	111.690	111.500	0.190	114.9	375	1 STANDARD	6.82
1.007	S69	S70	11.047	0.600	111.500	111.000	0.500	22.1	375	1 STANDARD	6.87
1.008	S70	S32	14.467	0.600	111.000	110.925	0.075	192.9	375	1 STANDARD	7.06
6.000	S20	S23	35.818	0.600	114.415	112.233	2.182	16.4	300	1 STANDARD	5.15
7.000	S21	S23	13.063	0.600	112.223	112.158	0.065	201.0	375	1 STANDARD	5.17
6.001	S23	S25	46.211	0.600	112.158	111.927	0.231	200.0	375	1 STANDARD	5.77
8.000	S24B	S24A	11.586	0.600	114.954	114.372	0.582	19.9	225	1 STANDARD	5.07
8.001	S24A	S24	13.394	0.600	114.372	113.280	1.092	12.3	225	1 STANDARD	5.12
8.002	S24	S25	12.844	0.600	113.205	112.002	1.203	10.7	300	1 STANDARD	5.17
6.002	S25	S26	29.515	0.600	111.927	111.779	0.148	199.4	375	1 STANDARD	6.16
6.003	S26	S58	18.788	0.600	111.779	111.300	0.479	39.2	375	1 STANDARD	6.27
6.004	S58	S32	22.318	0.600	111.300	110.925	0.375	59.5	375	1 STANDARD	6.42
9.000	S74	S73	21.641	0.600	111.525	111.350	0.175	123.7	225	1 STANDARD	5.31
9.001	S73	S72	10.908	0.600	111.350	111.295	0.055	198.3	225	1 STANDARD	5.50
9.002	S72	S71	14.365	0.600	111.295	111.223	0.072	199.5	225	1 STANDARD	5.76
9.003	S71	S31	9.717	0.600	111.223	111.175	0.048	202.4	225	1 STANDARD	5.94
10.000	S75	S31	26.355	0.600	112.658	111.175	1.483	17.8	225	1 STANDARD	5.14
9.004	S31	S32	24.042	0.600	111.100	111.000	0.100	240.4	300	1 STANDARD	6.34
1.009	S32	S33	15.949	0.600	110.850	110.700	0.150	106.3	450	1 STANDARD	7.19
1.010	S33	S34	23.140	0.600	110.700	110.500	0.200	115.7	150	1 STANDARD	7.60
1.011	S34	S76	11.310	0.600	110.500	107.650	2.850	4.0	150	1 STANDARD	7.64

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	20.190	32.8	225	1 STANDARD	120.027	118.671	1.131	119.525	118.056	1.244
1.001	29.355	47.3	225	1 STANDARD	119.525	118.056	1.244	118.810	117.435	1.150
1.002	31.941	22.6	300	1 STANDARD	118.810	117.360	1.150	117.650	115.945	1.405
2.000	7.769	55.1	300	1 STANDARD	117.627	116.127	1.200	117.486	115.986	1.200

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S13	1350	Manhole	Adoptable	S13A	1350	Manhole	Adoptable
1.001	S13A	1350	Manhole	Adoptable	S14	1350	Manhole	Adoptable
1.002	S14	1350	Manhole	Adoptable	S18	1350	Manhole	Adoptable
2.000	S15A	1350	Manhole	Adoptable	S15	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)
2.001	29.539	144.1	300	1 STANDARD	117.486	115.986	1.200	117.281	115.781	1.200
2.002	29.085	180.7	375	1 STANDARD	117.281	115.706	1.200	117.650	115.545	1.730
3.000	13.060	55.3	300	1 STANDARD	117.780	116.280	1.200	117.479	116.044	1.135
3.001	30.149	304.5	300	1 STANDARD	117.479	116.044	1.135	117.650	115.945	1.405
1.003	18.416	409.2	300	1 STANDARD	117.650	115.545	1.805	117.700	115.500	1.900
1.004	14.964	119.7	300	1 STANDARD	117.700	115.500	1.900	116.800	115.375	1.125
1.005	57.293	15.5	300	1 STANDARD	116.800	115.375	1.125	114.407	111.690	2.417
4.000	36.056	17.0	225	1 STANDARD	116.243	114.849	1.169	114.787	112.730	1.832
5.000	33.497	53.9	225	1 STANDARD	115.024	113.352	1.447	114.787	112.730	1.832
4.001	6.699	21.9	300	1 STANDARD	114.787	112.655	1.832	114.517	112.349	1.868
4.002	11.916	20.4	300	1 STANDARD	114.517	112.349	1.868	114.407	111.765	2.342
1.006	21.836	114.9	375	1 STANDARD	114.407	111.690	2.342	112.900	111.500	1.025
1.007	11.047	22.1	375	1 STANDARD	112.900	111.500	1.025	112.350	111.000	0.975
1.008	14.467	192.9	375	1 STANDARD	112.350	111.000	0.975	112.350	110.925	1.050
6.000	35.818	16.4	300	1 STANDARD	115.715	114.415	1.000	114.213	112.233	1.680
7.000	13.063	201.0	375	1 STANDARD	113.993	112.223	1.395	114.213	112.158	1.680
6.001	46.211	200.0	375	1 STANDARD	114.213	112.158	1.680	114.704	111.927	2.402
8.000	11.586	19.9	225	1 STANDARD	116.379	114.954	1.200	115.797	114.372	1.200
8.001	13.394	12.3	225	1 STANDARD	115.797	114.372	1.200	115.154	113.280	1.649
8.002	12.844	10.7	300	1 STANDARD	115.154	113.205	1.649	114.704	112.002	2.402
6.002	29.515	199.4	375	1 STANDARD	114.704	111.927	2.402	114.431	111.779	2.277
6.003	18.788	39.2	375	1 STANDARD	114.431	111.779	2.277	112.700	111.300	1.025
6.004	22.318	59.5	375	1 STANDARD	112.700	111.300	1.025	112.350	110.925	1.050
9.000	21.641	123.7	225	1 STANDARD	112.584	111.525	0.834	116.684	111.350	5.109
9.001	10.908	198.3	225	1 STANDARD	116.684	111.350	5.109	112.709	111.295	1.189

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
2.001	S15	1350	Manhole	Adoptable	S16	1350	Manhole	Adoptable
2.002	S16	1350	Manhole	Adoptable	S18	1350	Manhole	Adoptable
3.000	S17A	1350	Manhole	Adoptable	S17	1350	Manhole	Adoptable
3.001	S17	1350	Manhole	Adoptable	S18	1350	Manhole	Adoptable
1.003	S18	1350	Manhole	Adoptable	S57	1200	Manhole	Adoptable
1.004	S57	1200	Manhole	Adoptable	S19	1350	Manhole	Adoptable
1.005	S19	1350	Manhole	Adoptable	S30	1350	Manhole	Adoptable
4.000	S27	1350	Manhole	Adoptable	S29	1200	Manhole	Adoptable
5.000	S28	1350	Manhole	Adoptable	S29	1200	Manhole	Adoptable
4.001	S29	1200	Manhole	Adoptable	S59	1200	Manhole	Adoptable
4.002	S59	1200	Manhole	Adoptable	S30	1350	Manhole	Adoptable
1.006	S30	1350	Manhole	Adoptable	S69	1350	Manhole	Adoptable
1.007	S69	1350	Manhole	Adoptable	S70	1350	Manhole	Adoptable
1.008	S70	1350	Manhole	Adoptable	S32	1350	Manhole	Adoptable
6.000	S20	1350	Manhole	Adoptable	S23	1350	Manhole	Adoptable
7.000	S21	1500	Manhole	Adoptable	S23	1350	Manhole	Adoptable
6.001	S23	1350	Manhole	Adoptable	S25	1350	Manhole	Adoptable
8.000	S24B	1350	Manhole	Adoptable	S24A	1350	Manhole	Adoptable
8.001	S24A	1350	Manhole	Adoptable	S24	1200	Manhole	Adoptable
8.002	S24	1200	Manhole	Adoptable	S25	1350	Manhole	Adoptable
6.002	S25	1350	Manhole	Adoptable	S26	1350	Manhole	Adoptable
6.003	S26	1350	Manhole	Adoptable	S58	1350	Manhole	Adoptable
6.004	S58	1350	Manhole	Adoptable	S32	1350	Manhole	Adoptable
9.000	S74	1350	Manhole	Adoptable	S73	1350	Manhole	Adoptable
9.001	S73	1350	Manhole	Adoptable	S72	1350	Manhole	Adoptable

Pipeline Schedule

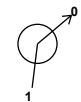
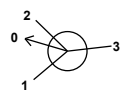
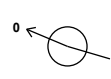
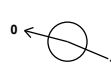
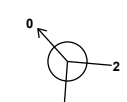
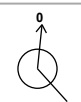
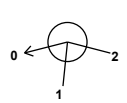
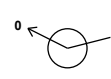
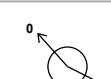
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
9.002	14.365	199.5	225	1 STANDARD	112.709	111.295	1.189	113.075	111.223	1.627
9.003	9.717	202.4	225	1 STANDARD	113.075	111.223	1.627	113.319	111.175	1.919
10.000	26.355	17.8	225	1 STANDARD	114.143	112.658	1.260	113.319	111.175	1.919
9.004	24.042	240.4	300	1 STANDARD	113.319	111.100	1.919	112.350	111.000	1.050
1.009	15.949	106.3	450	1 STANDARD	112.350	110.850	1.050	112.400	110.700	1.250
1.010	23.140	115.7	150	1 STANDARD	112.400	110.700	1.550	112.200	110.500	1.550
1.011	11.310	4.0	150	1 STANDARD	112.200	110.500	1.550	108.030	107.650	0.230

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
9.002	S72	1350	Manhole	Adoptable	S71	1200	Manhole	Adoptable
9.003	S71	1200	Manhole	Adoptable	S31	1200	Manhole	Adoptable
10.000	S75	1350	Manhole	Adoptable	S31	1200	Manhole	Adoptable
9.004	S31	1200	Manhole	Adoptable	S32	1350	Manhole	Adoptable
1.009	S32	1350	Manhole	Adoptable	S33	1500	Manhole	Adoptable
1.010	S33	1500	Manhole	Adoptable	S34	1200	Manhole	Adoptable
1.011	S34	1200	Manhole	Adoptable	S76	1350	Manhole	Adoptable

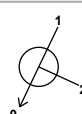
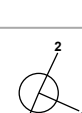
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	Link Type	
S13	537381.032	133002.801	120.027	1.356	1350	Manhole		0	1.000	118.671	225	1 STANDARD
S13A	537371.566	132984.968	119.525	1.469	1350	Manhole		1	1.000	118.056	225	1 STANDARD
S14	537359.889	132958.035	118.810	1.450	1350	Manhole		1	1.001	118.056	225	1 STANDARD
S14	537359.889	132958.035	118.810	1.450	1350	Manhole		0	1.002	117.360	300	1 STANDARD
S15A	537328.762	132999.324	117.627	1.500	1350	Manhole		0	2.000	116.127	300	1 STANDARD
S15	537321.123	133000.743	117.486	1.500	1350	Manhole		1	2.000	115.986	300	1 STANDARD
S16	537307.284	132974.647	117.281	1.575	1350	Manhole		0	2.001	115.986	300	1 STANDARD
S16	537307.284	132974.647	117.281	1.575	1350	Manhole		1	2.001	115.781	300	1 STANDARD
S17A	537303.519	132922.000	117.780	1.500	1350	Manhole		0	3.000	116.280	300	1 STANDARD

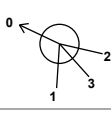
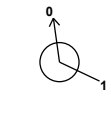
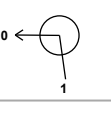
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	Link Type	
S17	537305.100	132934.964	117.479	1.435	1350	Manhole		1	3.000	116.044	300	1 STANDARD
S18	537328.156	132954.390	117.650	2.105	1350	Manhole		1	3.001	116.044	300	1 STANDARD
								2	2.002	115.545	375	1 STANDARD
								3	1.002	115.945	300	1 STANDARD
								0	1.003	115.545	300	1 STANDARD
S57	537310.486	132959.580	117.700	2.200	1200	Manhole		1	1.003	115.500	300	1 STANDARD
S19	537296.689	132965.373	116.800	1.425	1350	Manhole		0	1.004	115.500	300	1 STANDARD
								1	1.004	115.375	300	1 STANDARD
S27	537280.409	132959.761	116.243	1.394	1350	Manhole		0	4.000	114.849	225	1 STANDARD
								0	5.000	113.352	225	1 STANDARD
S29	537244.489	132962.886	114.787	2.132	1200	Manhole		1	5.000	112.730	225	1 STANDARD
								2	4.000	112.730	225	1 STANDARD
S59	537239.999	132967.856	114.517	2.168	1200	Manhole		0	4.001	112.655	300	1 STANDARD
								1	4.001	112.349	300	1 STANDARD
S30	537241.219	132979.710	114.407	2.717	1350	Manhole		0	4.002	112.349	300	1 STANDARD
								1	4.002	111.765	300	1 STANDARD
S69	537220.057	132974.326	112.900	1.400	1350	Manhole		2	1.005	111.690	300	1 STANDARD
								0	1.006	111.690	375	1 STANDARD
S70	537210.189	132979.291	112.350	1.350	1350	Manhole		1	1.006	111.500	375	1 STANDARD
								0	1.007	111.500	375	1 STANDARD
S20	537303.881	133044.785	115.715	1.300	1350	Manhole		1	1.007	111.000	375	1 STANDARD
								0	1.008	111.000	375	1 STANDARD
S21	537277.012	133071.515	113.993	1.770	1500	Manhole		0	6.000	114.415	300	1 STANDARD
								0	7.000	112.223	375	1 STANDARD

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	Link Type
S23	537271.338	133059.748	114.213	2.055	1350	Manhole		1 7.000 112.158 375 1 STANDARD			
							2 6.000 112.233 300 1 STANDARD				
							0 6.001 112.158 375 1 STANDARD				
S24B	537286.212	133003.134	116.379	1.425	1350	Manhole		0 8.000 114.954 225 1 STANDARD			
S24A	537275.154	133006.593	115.797	1.425	1350	Manhole		1 8.000 114.372 225 1 STANDARD			
S24	537263.273	133012.778	115.154	1.949	1200	Manhole		0 8.001 114.372 225 1 STANDARD			
							1 8.001 113.280 225 1 STANDARD				
S25	537251.537	133017.994	114.704	2.777	1350	Manhole		0 8.002 113.205 300 1 STANDARD			
							1 8.002 112.002 300 1 STANDARD				
							2 6.001 111.927 375 1 STANDARD				
S26	537240.171	132990.755	114.431	2.652	1350	Manhole		0 6.002 111.927 375 1 STANDARD			
							1 6.002 111.779 375 1 STANDARD				
S58	537222.271	132985.047	112.700	1.400	1350	Manhole		0 6.003 111.779 375 1 STANDARD			
							1 6.003 111.300 375 1 STANDARD				
S74	537190.082	132920.614	112.584	1.059	1350	Manhole		0 6.004 111.300 375 1 STANDARD			
							0 9.000 111.525 225 1 STANDARD				
S73	537192.051	132942.166	116.684	5.334	1350	Manhole		1 9.000 111.350 225 1 STANDARD			
							0 9.001 111.350 225 1 STANDARD				
S72	537183.505	132948.944	112.709	1.414	1350	Manhole		0 9.001 111.295 225 1 STANDARD			
							1 9.001 111.295 225 1 STANDARD				
S71	537190.350	132961.574	113.075	1.852	1200	Manhole		0 9.002 111.295 225 1 STANDARD			
							1 9.002 111.223 225 1 STANDARD				
S75	537225.267	132964.355	114.143	1.485	1350	Manhole		0 9.003 111.223 225 1 STANDARD			
							0 10.000 112.658 225 1 STANDARD				
S31	537198.967	132966.063	113.319	2.219	1200	Manhole		1 10.000 111.175 225 1 STANDARD			
							2 9.003 111.175 225 1 STANDARD				
							0 9.004 111.100 300 1 STANDARD				

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	Link Type	
S32	537200.522	132990.054	112.350	1.500	1350	Manhole		1 2 3 0	9.004 6.004 1.008 1.009	111.000 110.925 110.925 110.850	300 375 375 450	1 STANDARD 1 STANDARD 1 STANDARD 1 STANDARD
S33	537186.104	132996.874	112.400	1.700	1500	Manhole		1 0	1.009 1.010	110.700 110.700	450 150	1 STANDARD 1 STANDARD
S34	537182.913	133019.793	112.200	1.700	1200	Manhole		1 0	1.010 1.011	110.500 110.500	150 150	1 STANDARD 1 STANDARD
S76	537171.603	133019.893	108.030	0.380	1350	Manhole		1	1.011	107.650	150	1 STANDARD

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Normal
Rainfall Events	Singular	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	1440
M5-60 (mm)	20.000	Additional Storage (m³/ha)	0.0
Ratio-R	0.400	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

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
5	0	0	0
30	0	0	0
30	35	0	0
100	0	0	0
100	45	0	0

Node S57 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	115.500	Product Number	CTL-SHE-0079-3500-1700-3500
Design Depth (m)	1.700	Min Outlet Diameter (m)	0.100
Design Flow (l/s)	3.5	Min Node Diameter (mm)	1200

Node S33 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	110.700	Product Number	CTL-SHE-0127-8400-1500-8400
Design Depth (m)	1.500	Min Outlet Diameter (m)	0.150
Design Flow (l/s)	8.4	Min Node Diameter (mm)	1500

Node S18 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	116.650
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	160

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	250.7	0.0	0.300	315.1	0.0	0.600	385.1	0.0	0.900	460.1	0.0
0.100	271.3	0.0	0.400	337.9	0.0	0.700	409.5	0.0	1.000	486.2	0.0
0.200	292.9	0.0	0.500	361.2	0.0	0.800	434.5	0.0			

Node S32 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	110.850
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

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	361.9	0.0	0.400	461.1	0.0	0.800	569.8	0.0	1.200	687.5	0.0
0.100	385.5	0.0	0.500	487.4	0.0	0.900	598.4	0.0	1.300	718.4	0.0
0.200	410.1	0.0	0.600	514.3	0.0	1.000	627.5	0.0	1.400	749.8	0.0
0.300	435.3	0.0	0.700	541.8	0.0	1.100	657.2	0.0	1.500	781.8	0.0

Node S18 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	116.345
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	1072

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	125.0	0.0	0.300	125.0	0.0	0.301	0.0	0.0

Node S18 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	115.545
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	1584

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	165.0	0.0	0.800	165.0	0.0	0.801	0.0	0.0

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S13	10	118.728	0.057	12.9	0.0813	0.0000	OK
15 minute summer	S13A	10	118.126	0.070	16.4	0.1005	0.0000	OK
15 minute summer	S14	11	117.414	0.054	16.8	0.0774	0.0000	OK
15 minute summer	S15A	10	116.164	0.037	5.0	0.0533	0.0000	OK
15 minute summer	S15	10	116.073	0.087	17.5	0.1242	0.0000	OK
240 minute summer	S16	180	115.844	0.138	6.7	0.1972	0.0000	OK
15 minute summer	S17A	10	116.323	0.043	6.6	0.0609	0.0000	OK
15 minute summer	S17	10	116.158	0.114	20.3	0.1626	0.0000	OK
240 minute summer	S18	184	115.843	0.298	20.0	47.1001	0.0000	OK
240 minute summer	S57	184	115.843	0.343	3.1	0.3875	0.0000	SURCHARGED
240 minute summer	S19	184	115.397	0.022	2.9	0.0308	0.0000	OK
15 minute summer	S27	10	114.880	0.031	5.4	0.0449	0.0000	OK
15 minute summer	S28	10	113.434	0.082	20.6	0.1174	0.0000	OK
15 minute summer	S29	10	112.735	0.080	37.2	0.0902	0.0000	OK
15 minute summer	S59	10	112.427	0.078	37.1	0.0882	0.0000	OK
15 minute summer	S30	11	111.814	0.124	43.6	0.1776	0.0000	OK
15 minute summer	S69	11	111.581	0.080	44.0	0.1152	0.0000	OK
240 minute winter	S70	224	111.169	0.168	10.9	0.2411	0.0000	OK
15 minute summer	S20	10	114.480	0.064	28.4	0.0923	0.0000	OK
15 minute summer	S21	11	112.302	0.079	7.7	0.1398	0.0000	OK
15 minute summer	S23	11	112.304	0.146	47.3	0.2094	0.0000	OK
15 minute summer	S24B	10	114.981	0.027	3.6	0.0386	0.0000	OK
15 minute summer	S24A	10	114.419	0.047	14.5	0.0674	0.0000	OK
15 minute summer	S24	10	113.252	0.047	18.7	0.0535	0.0000	OK
15 minute summer	S25	11	112.129	0.202	83.0	0.2885	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	S13	1.000	S13A	12.8	1.396	0.141	0.1859	
15 minute summer	S13A	1.001	S14	16.1	1.531	0.212	0.3094	
15 minute summer	S14	1.002	S18	16.9	1.957	0.072	0.2755	
15 minute summer	S15A	2.000	S15	5.0	0.476	0.033	0.0850	
15 minute summer	S15	2.001	S16	17.1	1.020	0.185	0.4972	
240 minute summer	S16	2.002	S18	6.7	0.613	0.045	1.8972	
15 minute summer	S17A	3.000	S17	6.6	0.457	0.044	0.1993	
15 minute summer	S17	3.001	S18	20.0	0.849	0.315	0.7090	
240 minute summer	S18	1.003	S57	2.9	0.157	0.053	1.2961	
240 minute summer	S57	1.004	S19	2.9	0.835	0.029	0.0531	
240 minute summer	S19	1.005	S30	2.9	0.888	0.010	0.4420	
15 minute summer	S27	4.000	S29	5.3	1.586	0.042	0.1203	
15 minute summer	S28	5.000	S29	20.3	1.555	0.286	0.4371	
15 minute summer	S29	4.001	S59	37.1	2.515	0.156	0.0989	
15 minute summer	S59	4.002	S30	36.9	2.547	0.150	0.1729	
15 minute summer	S30	1.006	S69	44.0	1.812	0.236	0.5361	
15 minute summer	S69	1.007	S70	44.1	1.629	0.103	0.3036	
240 minute winter	S70	1.008	S32	10.9	0.761	0.076	0.8951	
15 minute summer	S20	6.000	S23	28.3	2.485	0.103	0.4239	
15 minute summer	S21	7.000	S23	8.1	0.300	0.058	0.3702	
15 minute summer	S23	6.001	S25	46.8	0.942	0.332	2.3140	
15 minute summer	S24B	8.000	S24A	3.6	0.840	0.031	0.0504	
15 minute summer	S24A	8.001	S24	14.4	2.395	0.096	0.0804	
15 minute summer	S24	8.002	S25	18.6	1.786	0.054	0.2260	
15 minute summer	S25	6.002	S26	82.3	1.741	0.582	1.3986	

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S26	11	111.911	0.131	86.6	0.1881	0.0000	OK
15 minute summer	S58	11	111.447	0.147	86.6	0.2105	0.0000	OK
15 minute summer	S74	10	111.596	0.071	10.2	0.1010	0.0000	OK
15 minute summer	S73	10	111.453	0.103	16.2	0.1470	0.0000	OK
15 minute summer	S72	11	111.398	0.103	15.9	0.1470	0.0000	OK
15 minute summer	S71	11	111.327	0.104	16.0	0.1171	0.0000	OK
15 minute summer	S75	10	112.702	0.044	10.4	0.0627	0.0000	OK
15 minute summer	S31	11	111.243	0.143	33.5	0.1615	0.0000	OK
240 minute winter	S32	228	111.169	0.319	66.9	128.0623	0.0000	OK
240 minute winter	S33	200	111.217	0.517	55.5	0.9133	0.0000	SURCHARGED
240 minute winter	S34	212	110.531	0.031	8.4	0.0351	0.0000	OK
240 minute winter	S76	220	107.681	0.031	8.4	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	S26	6.003	S58	86.6	2.326	0.270	0.6996	
15 minute summer	S58	6.004	S32	86.6	2.163	0.333	0.8939	
15 minute summer	S74	9.000	S73	10.1	0.717	0.216	0.3058	
15 minute summer	S73	9.001	S72	15.9	0.906	0.433	0.1917	
15 minute summer	S72	9.002	S71	16.0	0.900	0.436	0.2548	
15 minute summer	S71	9.003	S31	16.1	0.901	0.441	0.1732	
15 minute summer	S75	10.000	S31	10.3	1.714	0.083	0.2021	
15 minute summer	S31	9.004	S32	33.8	1.029	0.473	0.7892	
240 minute winter	S32	1.009	S33	55.5	0.669	0.177	2.2194	
240 minute winter	S33	1.010	S34	8.4	1.389	0.507	0.1434	
240 minute winter	S34	1.011	S76	8.4	3.205	0.093	0.0295	269.1

Results for 5 year Critical Storm Duration. Lowest mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S13	10	118.745	0.074	21.6	0.1060	0.0000	OK
15 minute summer	S13A	10	118.149	0.093	27.5	0.1325	0.0000	OK
15 minute summer	S14	11	117.430	0.070	28.3	0.0996	0.0000	OK
15 minute summer	S15A	10	116.175	0.048	8.4	0.0684	0.0000	OK
15 minute summer	S15	10	116.100	0.114	29.4	0.1635	0.0000	OK
240 minute winter	S16	232	116.050	0.344	6.9	0.4917	0.0000	OK
15 minute summer	S17A	10	116.335	0.055	11.1	0.0784	0.0000	OK
15 minute summer	S17	10	116.196	0.152	34.1	0.2170	0.0000	OK
240 minute winter	S18	232	116.050	0.504	19.6	79.7956	0.0000	SURCHARGED
240 minute winter	S57	232	116.049	0.549	3.1	0.6213	0.0000	SURCHARGED
30 minute summer	S19	29	115.397	0.022	2.9	0.0308	0.0000	OK
15 minute summer	S27	10	114.889	0.040	9.0	0.0577	0.0000	OK
15 minute summer	S28	10	113.461	0.109	34.4	0.1563	0.0000	OK
15 minute summer	S29	10	112.759	0.104	62.4	0.1178	0.0000	OK
15 minute summer	S59	10	112.451	0.102	62.3	0.1152	0.0000	OK
15 minute summer	S30	10	111.851	0.161	73.5	0.2298	0.0000	OK
15 minute summer	S69	11	111.604	0.104	73.0	0.1486	0.0000	OK
240 minute winter	S70	240	111.359	0.359	15.4	0.5142	0.0000	OK
15 minute summer	S20	10	114.499	0.084	47.6	0.1196	0.0000	OK
15 minute summer	S21	11	112.352	0.129	12.9	0.2278	0.0000	OK
15 minute summer	S23	11	112.354	0.196	79.1	0.2803	0.0000	OK
15 minute summer	S24B	10	114.989	0.034	6.0	0.0493	0.0000	OK
15 minute summer	S24A	10	114.433	0.061	24.3	0.0874	0.0000	OK
15 minute summer	S24	10	113.266	0.061	31.3	0.0689	0.0000	OK
15 minute summer	S25	11	112.208	0.281	139.1	0.4015	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	S13	1.000	S13A	21.5	1.610	0.236	0.2700	
15 minute summer	S13A	1.001	S14	27.1	1.764	0.357	0.4507	
15 minute summer	S14	1.002	S18	28.2	2.276	0.120	0.3953	
15 minute summer	S15A	2.000	S15	8.4	0.545	0.056	0.1236	
15 minute summer	S15	2.001	S16	28.8	1.179	0.312	0.7252	
240 minute winter	S16	2.002	S18	6.4	0.626	0.043	3.1430	
15 minute summer	S17A	3.000	S17	11.0	0.519	0.074	0.2905	
15 minute summer	S17	3.001	S18	33.5	0.989	0.529	1.0240	
240 minute winter	S18	1.003	S57	2.9	0.201	0.054	1.2968	
240 minute winter	S57	1.004	S19	2.9	0.836	0.029	0.0532	
30 minute summer	S19	1.005	S30	2.9	0.891	0.010	1.0913	
15 minute summer	S27	4.000	S29	8.9	1.850	0.070	0.1732	
15 minute summer	S28	5.000	S29	34.0	1.784	0.479	0.6384	
15 minute summer	S29	4.001	S59	62.3	2.912	0.261	0.1433	
15 minute summer	S59	4.002	S30	62.1	2.950	0.251	0.2508	
15 minute summer	S30	1.006	S69	73.0	2.109	0.392	0.7619	
15 minute summer	S69	1.007	S70	73.2	1.859	0.171	0.4397	
240 minute winter	S70	1.008	S32	15.2	0.775	0.106	1.5840	
15 minute summer	S20	6.000	S23	47.4	2.664	0.172	0.7579	
15 minute summer	S21	7.000	S23	12.2	0.302	0.087	0.5991	
15 minute summer	S23	6.001	S25	78.4	1.065	0.556	3.3893	
15 minute summer	S24B	8.000	S24A	6.0	0.972	0.051	0.0725	
15 minute summer	S24A	8.001	S24	24.1	2.782	0.162	0.1162	
15 minute summer	S24	8.002	S25	31.3	1.866	0.091	0.3945	
15 minute summer	S25	6.002	S26	140.7	2.010	0.996	2.0481	

Results for 5 year Critical Storm Duration. Lowest mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S26	11	111.954	0.175	147.8	0.2501	0.0000	OK
15 minute summer	S58	11	111.498	0.198	145.4	0.2833	0.0000	OK
15 minute summer	S74	10	111.618	0.093	17.1	0.1331	0.0000	OK
15 minute summer	S73	10	111.491	0.141	27.1	0.2013	0.0000	OK
15 minute summer	S72	11	111.435	0.140	26.7	0.2005	0.0000	OK
15 minute summer	S71	11	111.363	0.140	26.7	0.1582	0.0000	OK
15 minute summer	S75	10	112.715	0.057	17.4	0.0810	0.0000	OK
240 minute winter	S31	232	111.359	0.259	10.0	0.2933	0.0000	OK
360 minute winter	S32	344	111.359	0.509	61.9	216.8931	0.0000	SURCHARGED
240 minute winter	S33	240	111.379	0.679	56.3	1.2000	0.0000	SURCHARGED
60 minute winter	S34	149	110.531	0.031	8.4	0.0352	0.0000	OK
60 minute winter	S76	149	107.681	0.031	8.4	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	S26	6.003	S58	145.4	2.661	0.454	1.0268	
15 minute summer	S58	6.004	S32	146.2	2.478	0.563	1.3168	
15 minute summer	S74	9.000	S73	16.9	0.814	0.363	0.4499	
15 minute summer	S73	9.001	S72	26.7	1.028	0.727	0.2834	
15 minute summer	S72	9.002	S71	26.7	1.030	0.729	0.3728	
15 minute summer	S71	9.003	S31	26.9	1.051	0.740	0.2489	
15 minute summer	S75	10.000	S31	17.3	1.733	0.140	0.3829	
240 minute winter	S31	9.004	S32	10.0	0.703	0.140	1.6246	
360 minute winter	S32	1.009	S33	50.8	0.681	0.162	2.5270	
240 minute winter	S33	1.010	S34	8.4	1.389	0.509	0.1436	
60 minute winter	S34	1.011	S76	8.4	3.208	0.093	0.0296	283.4

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S13	10	118.762	0.091	31.6	0.1299	0.0000	OK
15 minute summer	S13A	10	118.171	0.115	40.3	0.1648	0.0000	OK
15 minute summer	S14	10	117.445	0.085	41.5	0.1210	0.0000	OK
360 minute winter	S15A	352	116.414	0.287	1.6	0.4102	0.0000	OK
360 minute winter	S15	352	116.414	0.428	5.6	0.6120	0.0000	SURCHARGED
360 minute winter	S16	352	116.414	0.708	7.5	1.0126	0.0000	SURCHARGED
360 minute winter	S17A	352	116.414	0.134	2.1	0.1912	0.0000	OK
360 minute winter	S17	352	116.414	0.370	6.4	0.5290	0.0000	SURCHARGED
360 minute winter	S18	352	116.414	0.869	20.9	129.3124	0.0000	SURCHARGED
360 minute winter	S57	352	116.414	0.913	3.1	1.0332	0.0000	SURCHARGED
15 minute summer	S19	97	115.397	0.022	2.9	0.0308	0.0000	OK
15 minute summer	S27	10	114.898	0.049	13.2	0.0697	0.0000	OK
15 minute summer	S28	10	113.490	0.138	50.5	0.1979	0.0000	OK
15 minute summer	S29	10	112.783	0.128	91.5	0.1447	0.0000	OK
15 minute summer	S59	10	112.474	0.125	91.2	0.1415	0.0000	OK
15 minute summer	S30	11	111.889	0.199	107.0	0.2847	0.0000	OK
360 minute winter	S69	352	111.644	0.144	16.4	0.2061	0.0000	OK
360 minute winter	S70	352	111.634	0.634	22.4	0.9073	0.0000	SURCHARGED
15 minute summer	S20	10	114.517	0.102	69.8	0.1459	0.0000	OK
15 minute summer	S21	11	112.411	0.188	18.9	0.3327	0.0000	OK
15 minute summer	S23	11	112.411	0.253	116.3	0.3614	0.0000	OK
15 minute summer	S24B	10	114.996	0.042	8.8	0.0595	0.0000	OK
15 minute summer	S24A	10	114.446	0.074	35.5	0.1065	0.0000	OK
15 minute summer	S24	10	113.279	0.074	45.9	0.0833	0.0000	OK
15 minute summer	S25	11	112.320	0.393	204.7	0.5620	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)
15 minute summer	S13	1.000	S13A	31.5	1.779	0.345	0.3574	
15 minute summer	S13A	1.001	S14	39.7	1.948	0.524	0.5986	
15 minute summer	S14	1.002	S18	41.3	2.541	0.176	0.5186	
360 minute winter	S15A	2.000	S15	2.9	0.342	0.019	0.5429	
360 minute winter	S15	2.001	S16	5.5	0.688	0.059	2.0801	
360 minute winter	S16	2.002	S18	6.4	0.641	0.043	3.2080	
360 minute winter	S17A	3.000	S17	2.1	0.324	0.014	0.6578	
360 minute winter	S17	3.001	S18	6.4	0.612	0.101	2.1231	
360 minute winter	S18	1.003	S57	2.9	0.171	0.053	1.2968	
360 minute winter	S57	1.004	S19	2.9	0.836	0.029	0.0532	
15 minute summer	S19	1.005	S30	2.9	0.891	0.010	1.4824	
15 minute summer	S27	4.000	S29	13.1	2.007	0.103	0.2420	
15 minute summer	S28	5.000	S29	49.9	1.953	0.702	0.8556	
15 minute summer	S29	4.001	S59	91.2	3.231	0.382	0.1891	
15 minute summer	S59	4.002	S30	90.9	3.275	0.368	0.3308	
15 minute summer	S30	1.006	S69	106.1	2.320	0.569	1.0023	
360 minute winter	S69	1.007	S70	22.4	1.120	0.052	0.8244	
360 minute winter	S70	1.008	S32	25.1	0.722	0.175	1.5957	
15 minute summer	S20	6.000	S23	69.5	2.596	0.252	1.1520	
15 minute summer	S21	7.000	S23	18.6	0.301	0.132	0.8772	
15 minute summer	S23	6.001	S25	114.6	1.196	0.813	4.3721	
15 minute summer	S24B	8.000	S24A	8.8	1.085	0.075	0.0954	
15 minute summer	S24A	8.001	S24	35.4	3.099	0.237	0.1530	
15 minute summer	S24	8.002	S25	45.8	1.912	0.134	0.5360	
15 minute summer	S25	6.002	S26	198.1	2.255	1.402	2.5968	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S26	10	111.995	0.216	209.1	0.3097	0.0000	OK
480 minute winter	S58	464	111.623	0.323	28.6	0.4621	0.0000	OK
15 minute summer	S74	10	111.641	0.116	25.0	0.1654	0.0000	OK
480 minute winter	S73	464	111.623	0.272	4.1	0.3899	0.0000	SURCHARGED
480 minute winter	S72	464	111.623	0.328	4.1	0.4688	0.0000	SURCHARGED
480 minute winter	S71	464	111.623	0.400	4.1	0.4520	0.0000	SURCHARGED
15 minute summer	S75	10	112.727	0.069	25.5	0.0985	0.0000	OK
480 minute winter	S31	464	111.623	0.523	8.7	0.5912	0.0000	SURCHARGED
480 minute winter	S32	464	111.623	0.773	61.8	355.7339	0.0000	SURCHARGED
480 minute winter	S33	456	111.647	0.947	59.0	1.6733	0.0000	SURCHARGED
30 minute summer	S34	266	110.531	0.031	8.4	0.0352	0.0000	OK
30 minute summer	S76	266	107.681	0.031	8.4	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	S26	6.003	S58	207.7	2.895	0.648	1.3473	
480 minute winter	S58	6.004	S32	29.7	1.122	0.114	2.3576	
15 minute summer	S74	9.000	S73	24.8	0.879	0.531	0.6081	
480 minute winter	S73	9.001	S72	4.1	0.619	0.112	0.4338	
480 minute winter	S72	9.002	S71	4.1	0.617	0.112	0.5713	
480 minute winter	S71	9.003	S31	4.1	0.599	0.112	0.3865	
15 minute summer	S75	10.000	S31	25.4	1.701	0.205	0.5856	
480 minute winter	S31	9.004	S32	8.0	0.607	0.112	1.6930	
480 minute winter	S32	1.009	S33	59.0	0.689	0.188	2.5270	
480 minute winter	S33	1.010	S34	8.4	1.389	0.509	0.1436	
30 minute summer	S34	1.011	S76	8.4	3.208	0.093	0.0296	340.1

Results for 30 year +35% CC Critical Storm Duration. Lowest mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S13	10	118.779	0.107	42.7	0.1538	0.0000	OK
15 minute summer	S13A	10	118.195	0.139	54.3	0.1988	0.0000	OK
15 minute summer	S14	10	117.459	0.099	56.0	0.1414	0.0000	OK
360 minute winter	S15A	352	116.828	0.701	2.1	1.0035	0.0000	SURCHARGED
360 minute winter	S15	352	116.828	0.842	7.3	1.2053	0.0000	SURCHARGED
360 minute winter	S16	352	116.828	1.122	9.4	1.6060	0.0000	SURCHARGED
360 minute winter	S17A	352	116.828	0.548	2.8	0.7846	0.0000	SURCHARGED
360 minute winter	S17	352	116.828	0.784	8.7	1.1223	0.0000	SURCHARGED
360 minute winter	S18	352	116.828	1.283	27.8	186.7316	0.0000	SURCHARGED
360 minute winter	S57	352	116.828	1.328	3.4	1.5021	0.0000	SURCHARGED
360 minute winter	S19	352	115.397	0.022	3.1	0.0317	0.0000	OK
15 minute summer	S27	10	114.906	0.057	17.8	0.0810	0.0000	OK
15 minute summer	S28	10	113.525	0.173	68.1	0.2476	0.0000	OK
15 minute summer	S29	10	112.807	0.152	123.4	0.1717	0.0000	OK
15 minute summer	S59	10	112.497	0.148	123.1	0.1675	0.0000	OK
15 minute summer	S30	11	111.930	0.240	144.0	0.3436	0.0000	OK
480 minute winter	S69	456	111.933	0.433	34.5	0.6194	0.0000	SURCHARGED
720 minute winter	S70	705	111.926	0.926	26.8	1.3248	0.0000	SURCHARGED
15 minute summer	S20	10	114.535	0.120	94.2	0.1713	0.0000	OK
15 minute summer	S21	11	112.897	0.674	25.5	1.1912	0.0000	SURCHARGED
15 minute summer	S23	11	112.893	0.735	160.9	1.0514	0.0000	SURCHARGED
15 minute summer	S24B	10	115.002	0.048	11.8	0.0687	0.0000	OK
15 minute summer	S24A	10	114.459	0.087	47.8	0.1247	0.0000	OK
15 minute summer	S24	10	113.291	0.086	61.9	0.0969	0.0000	OK
15 minute summer	S25	11	112.620	0.693	269.1	0.9914	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)
15 minute summer	S13	1.000	S13A	42.5	1.912	0.467	0.4486	
15 minute summer	S13A	1.001	S14	53.6	2.090	0.707	0.7539	
15 minute summer	S14	1.002	S18	55.6	2.764	0.237	0.7037	
360 minute winter	S15A	2.000	S15	2.1	0.365	0.014	0.5471	
360 minute winter	S15	2.001	S16	6.9	0.685	0.074	2.0801	
360 minute winter	S16	2.002	S18	9.1	0.671	0.061	3.2080	
360 minute winter	S17A	3.000	S17	2.8	0.347	0.019	0.9197	
360 minute winter	S17	3.001	S18	8.4	0.635	0.132	2.1231	
360 minute winter	S18	1.003	S57	3.1	0.137	0.057	1.2968	
360 minute winter	S57	1.004	S19	3.1	0.852	0.030	0.0554	
360 minute winter	S19	1.005	S30	3.1	0.934	0.011	1.5493	
15 minute summer	S27	4.000	S29	17.7	1.962	0.140	0.3565	
15 minute summer	S28	5.000	S29	67.2	2.061	0.946	1.0954	
15 minute summer	S29	4.001	S59	123.1	3.496	0.516	0.2359	
15 minute summer	S59	4.002	S30	122.8	3.378	0.497	0.4423	
15 minute summer	S30	1.006	S69	142.2	2.479	0.762	1.2514	
480 minute winter	S69	1.007	S70	28.9	1.062	0.068	1.2185	
720 minute winter	S70	1.008	S32	31.0	0.649	0.215	1.5957	
15 minute summer	S20	6.000	S23	93.9	2.547	0.341	1.7306	
15 minute summer	S21	7.000	S23	29.3	0.307	0.208	1.4408	
15 minute summer	S23	6.001	S25	152.3	1.381	1.080	5.0969	
15 minute summer	S24B	8.000	S24A	11.8	1.175	0.100	0.1180	
15 minute summer	S24A	8.001	S24	47.7	3.366	0.319	0.1897	
15 minute summer	S24	8.002	S25	61.8	1.858	0.181	0.5587	
15 minute summer	S25	6.002	S26	268.2	2.541	1.899	2.8908	

Results for 30 year +35% CC Critical Storm Duration. Lowest mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S26	11	112.051	0.272	282.3	0.3891	0.0000	OK
720 minute winter	S58	705	111.916	0.616	22.2	0.8810	0.0000	SURCHARGED
720 minute winter	S74	705	111.916	0.391	2.5	0.5589	0.0000	SURCHARGED
720 minute winter	S73	705	111.916	0.565	4.0	0.8092	0.0000	SURCHARGED
720 minute winter	S72	705	111.916	0.620	3.8	0.8879	0.0000	SURCHARGED
720 minute winter	S71	705	111.916	0.693	3.7	0.7833	0.0000	SURCHARGED
15 minute summer	S75	10	112.739	0.081	34.4	0.1152	0.0000	OK
720 minute winter	S31	705	111.916	0.816	7.8	0.9224	0.0000	SURCHARGED
720 minute winter	S32	705	111.915	1.065	59.2	533.0558	0.0000	SURCHARGED
600 minute winter	S33	585	111.930	1.230	54.3	2.1730	0.0000	SURCHARGED
180 minute winter	S34	1348	110.531	0.031	8.4	0.0352	0.0000	OK
180 minute winter	S76	1348	107.681	0.031	8.4	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	S26	6.003	S58	281.9	3.003	0.880	1.7917	
720 minute winter	S58	6.004	S32	26.6	0.979	0.102	2.4616	
720 minute winter	S74	9.000	S73	2.5	0.478	0.054	0.8607	
720 minute winter	S73	9.001	S72	3.8	0.601	0.103	0.4338	
720 minute winter	S72	9.002	S71	3.7	0.578	0.100	0.5713	
720 minute winter	S71	9.003	S31	3.5	0.559	0.096	0.3865	
15 minute summer	S75	10.000	S31	34.3	1.697	0.276	0.6920	
720 minute winter	S31	9.004	S32	7.6	0.552	0.107	1.6930	
720 minute winter	S32	1.009	S33	58.8	0.659	0.188	2.5270	
600 minute winter	S33	1.010	S34	8.4	1.389	0.509	0.1436	
180 minute winter	S34	1.011	S76	8.4	3.208	0.093	0.0296	729.7

Results for 100 year Critical Storm Duration. Lowest mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S13	10	118.776	0.105	41.0	0.1502	0.0000	OK
15 minute summer	S13A	10	118.191	0.135	52.2	0.1937	0.0000	OK
15 minute summer	S14	10	117.457	0.097	53.8	0.1385	0.0000	OK
360 minute winter	S15A	352	116.793	0.666	2.0	0.9532	0.0000	SURCHARGED
360 minute winter	S15	352	116.793	0.807	7.1	1.1550	0.0000	SURCHARGED
360 minute winter	S16	352	116.793	1.087	9.2	1.5557	0.0000	SURCHARGED
360 minute winter	S17A	352	116.793	0.513	2.7	0.7342	0.0000	SURCHARGED
360 minute winter	S17	352	116.793	0.749	8.3	1.0720	0.0000	SURCHARGED
360 minute winter	S18	352	116.793	1.248	26.8	176.6797	0.0000	SURCHARGED
360 minute winter	S57	352	116.793	1.293	3.8	1.4624	0.0000	SURCHARGED
360 minute winter	S19	352	115.397	0.022	3.0	0.0315	0.0000	OK
15 minute summer	S27	10	114.905	0.055	17.1	0.0794	0.0000	OK
15 minute summer	S28	10	113.519	0.167	65.5	0.2394	0.0000	OK
15 minute summer	S29	10	112.803	0.148	118.6	0.1679	0.0000	OK
15 minute summer	S59	10	112.494	0.145	118.4	0.1638	0.0000	OK
15 minute summer	S30	11	111.924	0.234	138.5	0.3347	0.0000	OK
600 minute winter	S69	540	111.900	0.400	29.3	0.5724	0.0000	SURCHARGED
600 minute winter	S70	570	111.888	0.888	39.5	1.2707	0.0000	SURCHARGED
15 minute summer	S20	10	114.532	0.117	90.6	0.1677	0.0000	OK
15 minute summer	S21	11	112.825	0.602	24.5	1.0642	0.0000	SURCHARGED
15 minute summer	S23	11	112.824	0.666	152.0	0.9526	0.0000	SURCHARGED
15 minute summer	S24B	10	115.001	0.047	11.4	0.0675	0.0000	OK
15 minute summer	S24A	10	114.457	0.085	46.0	0.1221	0.0000	OK
15 minute summer	S24	10	113.289	0.084	59.6	0.0951	0.0000	OK
15 minute summer	S25	11	112.570	0.643	257.5	0.9195	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)
15 minute summer	S13	1.000	S13A	40.8	1.894	0.448	0.4350	
15 minute summer	S13A	1.001	S14	51.5	2.072	0.680	0.7310	
15 minute summer	S14	1.002	S18	53.5	2.734	0.228	0.6260	
360 minute winter	S15A	2.000	S15	2.0	0.358	0.013	0.5471	
360 minute winter	S15	2.001	S16	6.6	0.704	0.072	2.0801	
360 minute winter	S16	2.002	S18	9.4	0.675	0.063	3.2080	
360 minute winter	S17A	3.000	S17	2.7	0.343	0.018	0.9197	
360 minute winter	S17	3.001	S18	8.1	0.642	0.128	2.1231	
360 minute winter	S18	1.003	S57	3.6	0.133	0.066	1.2968	
360 minute winter	S57	1.004	S19	3.0	0.849	0.030	0.0549	
360 minute winter	S19	1.005	S30	3.0	0.931	0.011	1.2008	
15 minute summer	S27	4.000	S29	17.0	1.992	0.134	0.3393	
15 minute summer	S28	5.000	S29	64.7	2.050	0.911	1.0585	
15 minute summer	S29	4.001	S59	118.4	3.462	0.496	0.2291	
15 minute summer	S59	4.002	S30	118.1	3.376	0.478	0.4253	
15 minute summer	S30	1.006	S69	136.8	2.460	0.733	1.2145	
600 minute winter	S69	1.007	S70	39.5	1.006	0.093	1.2185	
600 minute winter	S70	1.008	S32	43.6	0.657	0.303	1.5957	
15 minute summer	S20	6.000	S23	90.3	2.555	0.328	1.7175	
15 minute summer	S21	7.000	S23	28.9	0.304	0.205	1.4408	
15 minute summer	S23	6.001	S25	145.3	1.317	1.030	5.0969	
15 minute summer	S24B	8.000	S24A	11.4	1.166	0.097	0.1148	
15 minute summer	S24A	8.001	S24	45.9	3.331	0.307	0.1844	
15 minute summer	S24	8.002	S25	59.5	1.843	0.174	0.5558	
15 minute summer	S25	6.002	S26	257.4	2.464	1.822	2.8384	

Results for 100 year Critical Storm Duration. Lowest mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S26	11	112.041	0.261	270.9	0.3741	0.0000	OK
480 minute winter	S58	472	111.872	0.572	29.0	0.8186	0.0000	SURCHARGED
480 minute winter	S74	472	111.869	0.344	3.3	0.4918	0.0000	SURCHARGED
480 minute winter	S73	472	111.869	0.519	5.3	0.7421	0.0000	SURCHARGED
480 minute winter	S72	472	111.868	0.573	5.3	0.8206	0.0000	SURCHARGED
480 minute winter	S71	472	111.868	0.645	5.1	0.7297	0.0000	SURCHARGED
15 minute summer	S75	10	112.737	0.079	33.0	0.1127	0.0000	OK
600 minute winter	S31	585	111.868	0.768	8.6	0.8688	0.0000	SURCHARGED
600 minute winter	S32	585	111.868	1.018	71.3	502.8917	0.0000	SURCHARGED
480 minute summer	S33	464	111.871	1.171	59.1	2.0688	0.0000	SURCHARGED
720 minute summer	S34	1935	110.531	0.031	8.4	0.0352	0.0000	OK
720 minute summer	S76	1935	107.681	0.031	8.4	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	S26	6.003	S58	270.0	2.969	0.843	1.7185	
480 minute winter	S58	6.004	S32	28.0	1.062	0.108	2.4616	
480 minute winter	S74	9.000	S73	3.3	0.522	0.071	0.8607	
480 minute winter	S73	9.001	S72	5.3	0.659	0.144	0.4338	
480 minute winter	S72	9.002	S71	5.1	0.637	0.138	0.5713	
480 minute winter	S71	9.003	S31	4.6	0.621	0.127	0.3865	
15 minute summer	S75	10.000	S31	32.9	1.685	0.265	0.6871	
600 minute winter	S31	9.004	S32	8.4	0.578	0.117	1.6930	
600 minute winter	S32	1.009	S33	54.4	0.558	0.173	2.5270	
480 minute summer	S33	1.010	S34	8.4	1.389	0.509	0.1436	
720 minute summer	S34	1.011	S76	8.4	3.208	0.093	0.0296	942.7

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S13	10	118.802	0.131	59.5	0.1879	0.0000	OK
15 minute summer	S13A	10	118.235	0.179	75.8	0.2562	0.0000	OK
15 minute summer	S14	10	117.478	0.118	78.5	0.1691	0.0000	OK
480 minute winter	S15A	464	117.125	0.998	2.4	1.4282	0.0000	SURCHARGED
480 minute winter	S15	464	117.125	1.139	8.6	1.6300	0.0000	SURCHARGED
480 minute winter	S16	472	117.125	1.419	11.6	2.0306	0.0000	FLOOD RISK
480 minute winter	S17A	472	117.125	0.845	3.1	1.2092	0.0000	SURCHARGED
480 minute winter	S17	472	117.125	1.081	9.7	1.5470	0.0000	SURCHARGED
480 minute winter	S18	472	117.125	1.580	33.1	282.5364	0.0000	SURCHARGED
480 minute winter	S57	472	117.125	1.625	3.7	1.8377	0.0000	SURCHARGED
480 minute winter	S19	472	115.398	0.023	3.4	0.0331	0.0000	OK
15 minute summer	S27	10	114.916	0.067	24.8	0.0959	0.0000	OK
15 minute summer	S28	10	113.990	0.638	95.0	0.9130	0.0000	SURCHARGED
15 minute summer	S29	10	112.841	0.186	170.1	0.2098	0.0000	OK
15 minute summer	S59	10	112.529	0.180	169.6	0.2040	0.0000	OK
720 minute winter	S30	705	112.276	0.586	17.6	0.8383	0.0000	SURCHARGED
720 minute winter	S69	705	112.276	0.776	39.6	1.1100	0.0000	SURCHARGED
720 minute winter	S70	705	112.276	1.276	44.8	1.8254	0.0000	FLOOD RISK
15 minute summer	S20	11	114.598	0.183	131.3	0.2613	0.0000	OK
15 minute summer	S21	11	113.966	1.743	35.5	3.0807	0.0000	FLOOD RISK
15 minute summer	S23	11	113.972	1.814	204.6	2.5952	0.0000	FLOOD RISK
15 minute summer	S24B	10	115.011	0.057	16.5	0.0813	0.0000	OK
15 minute summer	S24A	10	114.477	0.105	66.8	0.1501	0.0000	OK
15 minute summer	S24	11	113.601	0.396	86.4	0.4481	0.0000	SURCHARGED
15 minute summer	S25	11	113.538	1.611	351.1	2.3053	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)
15 minute summer	S13	1.000	S13A	59.3	2.039	0.651	0.5849	
15 minute summer	S13A	1.001	S14	75.2	2.185	0.992	1.0672	
15 minute summer	S14	1.002	S18	77.7	3.032	0.331	1.3348	
480 minute winter	S15A	2.000	S15	3.0	0.347	0.020	0.5471	
480 minute winter	S15	2.001	S16	8.7	0.642	0.094	2.0801	
480 minute winter	S16	2.002	S18	11.3	0.661	0.076	3.2080	
480 minute winter	S17A	3.000	S17	3.2	0.347	0.021	0.9197	
480 minute winter	S17	3.001	S18	9.5	0.618	0.150	2.1231	
480 minute winter	S18	1.003	S57	3.4	0.133	0.062	1.2968	
480 minute winter	S57	1.004	S19	3.4	0.879	0.033	0.0591	
480 minute winter	S19	1.005	S30	3.4	0.936	0.012	2.0881	
15 minute summer	S27	4.000	S29	24.7	1.949	0.195	0.5280	
15 minute summer	S28	5.000	S29	92.3	2.321	1.300	1.3187	
15 minute summer	S29	4.001	S59	169.6	3.771	0.711	0.3014	
15 minute summer	S59	4.002	S30	169.2	3.451	0.685	0.6229	
720 minute winter	S30	1.006	S69	39.6	1.319	0.213	2.4084	
720 minute winter	S69	1.007	S70	44.8	0.971	0.105	1.2185	
720 minute winter	S70	1.008	S32	45.5	0.631	0.316	1.5957	
15 minute summer	S20	6.000	S23	127.3	2.515	0.462	2.0650	
15 minute summer	S21	7.000	S23	39.2	0.374	0.279	1.4408	
15 minute summer	S23	6.001	S25	195.7	1.775	1.388	5.0969	
15 minute summer	S24B	8.000	S24A	16.4	1.283	0.140	0.1505	
15 minute summer	S24A	8.001	S24	66.6	3.678	0.446	0.3841	
15 minute summer	S24	8.002	S25	82.6	1.964	0.242	0.9045	
15 minute summer	S25	6.002	S26	345.2	3.130	2.443	3.2554	

Results for 100 year +45% CC Critical Storm Duration. Lowest mass balance: 99.39%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute summer	S26	12	112.633	0.854	364.9	1.2224	0.0000	SURCHARGED
720 minute winter	S58	705	112.276	0.976	30.4	1.3960	0.0000	SURCHARGED
15 minute summer	S74	11	112.455	0.930	47.1	1.3303	0.0000	FLOOD RISK
15 minute summer	S73	11	112.300	0.949	69.7	1.3587	0.0000	SURCHARGED
720 minute winter	S72	705	112.276	0.981	5.3	1.4032	0.0000	SURCHARGED
720 minute winter	S71	705	112.276	1.053	5.2	1.1904	0.0000	SURCHARGED
15 minute summer	S75	10	112.754	0.096	47.9	0.1379	0.0000	OK
720 minute winter	S31	705	112.276	1.176	11.3	1.3295	0.0000	SURCHARGED
720 minute winter	S32	705	112.276	1.426	88.4	786.3041	0.0000	FLOOD RISK
600 minute winter	S33	600	112.286	1.586	54.4	2.8020	0.0000	FLOOD RISK
720 minute winter	S34	705	110.531	0.031	8.4	0.0352	0.0000	OK
720 minute winter	S76	705	107.681	0.031	8.4	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	S26	6.003	S58	360.0	3.264	1.124	2.0723	
720 minute winter	S58	6.004	S32	36.4	0.965	0.140	2.4616	
15 minute summer	S74	9.000	S73	42.9	1.078	0.918	0.8607	
15 minute summer	S73	9.001	S72	67.8	1.704	1.843	0.4338	
720 minute winter	S72	9.002	S71	5.2	0.597	0.142	0.5713	
720 minute winter	S71	9.003	S31	5.1	0.571	0.140	0.3865	
15 minute summer	S75	10.000	S31	47.7	1.688	0.385	0.7379	
720 minute winter	S31	9.004	S32	11.0	0.548	0.154	1.6930	
720 minute winter	S32	1.009	S33	52.9	0.661	0.169	2.5270	
600 minute winter	S33	1.010	S34	8.4	1.389	0.508	0.1435	
720 minute winter	S34	1.011	S76	8.4	3.208	0.093	0.0296	967.7