

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Detailed
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	18.600	Drain Down Time (mins)	240
Ratio-R	0.321	Additional Storage (m³/ha)	20.0
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	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
30	0	0	0
100	40	0	0

Node OUT Surcharged Outfall

Overrides Design Area	x	Depression Storage Area (m²)	0	Evapo-transpiration (mm/day)	0
Overrides Design Additional Inflow	x	Depression Storage Depth (mm)	0		

Applies to 30yr, 100yr+40% CC 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440 minute storms

Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)	Time (mins)	Depth (m)
0	0.295	300	0.295	600	0.295	900	0.295	1200	0.295
60	0.295	360	0.295	660	0.295	960	0.295	1260	0.295
120	0.295	420	0.295	720	0.295	1020	0.295	1320	0.295
180	0.295	480	0.295	780	0.295	1080	0.295	1380	0.295
240	0.295	540	0.295	840	0.295	1140	0.295	1440	0.295

Node 127 Online Orifice Control

Flap Valve	x	Invert Level (m)	85.602	Discharge Coefficient	0.600
Replaces Downstream Link	x	Diameter (m)	0.075		

Node TANK Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	85.667
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	154

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	95.0	0.0	0.800	95.0	0.0	0.801	0.0	0.0

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
1 year 15 minute summer	94.435	26.722	1 year 120 minute summer	28.893	7.636
1 year 15 minute winter	66.271	26.722	1 year 120 minute winter	19.196	7.636
1 year 30 minute summer	63.469	17.960	1 year 180 minute summer	22.924	5.899
1 year 30 minute winter	44.540	17.960	1 year 180 minute winter	14.901	5.899
1 year 60 minute summer	44.651	11.800	1 year 240 minute summer	18.578	4.910
1 year 60 minute winter	29.665	11.800	1 year 240 minute winter	12.343	4.910

Rainfall

Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)	Event	Peak Intensity (mm/hr)	Average Intensity (mm/hr)
1 year 360 minute summer	14.608	3.759	30 year 720 minute summer	18.583	4.981
1 year 360 minute winter	9.495	3.759	30 year 720 minute winter	12.489	4.981
1 year 480 minute summer	11.745	3.104	30 year 960 minute summer	15.321	4.034
1 year 480 minute winter	7.803	3.104	30 year 960 minute winter	10.149	4.034
1 year 600 minute summer	9.782	2.676	30 year 1440 minute summer	11.170	2.994
1 year 600 minute winter	6.683	2.676	30 year 1440 minute winter	7.507	2.994
1 year 720 minute summer	8.844	2.370	100 year +40% CC 15 minute summer	417.443	118.122
1 year 720 minute winter	5.943	2.370	100 year +40% CC 15 minute winter	292.942	118.122
1 year 960 minute summer	7.437	1.958	100 year +40% CC 30 minute summer	284.873	80.609
1 year 960 minute winter	4.927	1.958	100 year +40% CC 30 minute winter	199.911	80.609
1 year 1440 minute summer	5.589	1.498	100 year +40% CC 60 minute summer	199.021	52.595
1 year 1440 minute winter	3.756	1.498	100 year +40% CC 60 minute winter	132.225	52.595
30 year 15 minute summer	230.988	65.362	100 year +40% CC 120 minute summer	125.387	33.136
30 year 15 minute winter	162.097	65.362	100 year +40% CC 120 minute winter	83.304	33.136
30 year 30 minute summer	155.995	44.141	100 year +40% CC 180 minute summer	96.731	24.892
30 year 30 minute winter	109.470	44.141	100 year +40% CC 180 minute winter	62.877	24.892
30 year 60 minute summer	108.241	28.605	100 year +40% CC 240 minute summer	76.275	20.157
30 year 60 minute winter	71.913	28.605	100 year +40% CC 240 minute winter	50.675	20.157
30 year 120 minute summer	68.118	18.002	100 year +40% CC 360 minute summer	58.047	14.938
30 year 120 minute winter	45.256	18.002	100 year +40% CC 360 minute winter	37.732	14.938
30 year 180 minute summer	52.727	13.569	100 year +40% CC 480 minute summer	45.663	12.067
30 year 180 minute winter	34.274	13.569	100 year +40% CC 480 minute winter	30.337	12.067
30 year 240 minute summer	41.781	11.041	100 year +40% CC 600 minute summer	37.353	10.217
30 year 240 minute winter	27.758	11.041	100 year +40% CC 600 minute winter	25.522	10.217
30 year 360 minute summer	32.026	8.241	100 year +40% CC 720 minute summer	33.253	8.912
30 year 360 minute winter	20.817	8.241	100 year +40% CC 720 minute winter	22.348	8.912
30 year 480 minute summer	25.321	6.692	100 year +40% CC 960 minute summer	27.253	7.176
30 year 480 minute winter	16.823	6.692	100 year +40% CC 960 minute winter	18.053	7.176
30 year 600 minute summer	20.800	5.689	100 year +40% CC 1440 minute summer	19.688	5.277
30 year 600 minute winter	14.212	5.689	100 year +40% CC 1440 minute winter	13.231	5.277

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.16%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	101	19	87.209	0.009	0.2	0.0017	0.0000	OK
15 minute winter	102	11	87.033	0.033	2.1	0.0133	0.0000	OK
15 minute winter	103	10	86.846	0.046	3.5	0.0286	0.0000	OK
15 minute winter	104	11	86.668	0.056	6.9	0.0252	0.0000	OK
15 minute winter	105	10	86.397	0.027	2.4	0.0114	0.0000	OK
15 minute winter	106	11	85.909	0.079	9.2	0.1400	0.0000	OK
15 minute winter	107	11	86.477	0.027	1.3	0.0099	0.0000	OK
15 minute winter	108	10	86.317	0.027	1.2	0.0082	0.0000	OK
15 minute winter	109	10	86.158	0.037	4.0	0.0169	0.0000	OK
15 minute winter	110	11	85.885	0.108	14.2	0.2020	0.0000	OK
15 minute winter	111	11	86.889	0.019	0.7	0.0048	0.0000	OK
15 minute winter	112	11	86.790	0.026	1.3	0.0058	0.0000	OK
15 minute winter	113	11	86.767	0.017	0.7	0.0047	0.0000	OK
15 minute winter	114	11	86.608	0.032	3.3	0.0105	0.0000	OK
15 minute winter	115	10	86.124	0.024	1.1	0.0064	0.0000	OK
15 minute winter	116	10	86.063	0.052	6.6	0.0200	0.0000	OK
15 minute winter	117	11	85.856	0.118	20.7	0.2076	0.0000	OK
15 minute winter	118	10	87.638	0.038	2.6	0.0165	0.0000	OK
15 minute winter	119	11	87.401	0.044	3.7	0.0137	0.0000	OK
15 minute winter	120	10	87.813	0.013	0.4	0.0026	0.0000	OK
15 minute winter	121	11	87.750	0.021	1.1	0.0051	0.0000	OK
15 minute winter	122	11	87.450	0.033	2.5	0.0107	0.0000	OK
15 minute winter	123	11	87.118	0.059	6.9	0.0225	0.0000	OK
15 minute winter	124	11	87.034	0.055	10.0	0.1208	0.0000	OK
15 minute summer	125	11	86.865	0.015	0.6	0.0038	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)
30 minute winter	101	1.000	102	0.2	0.156	0.007	0.0098	
15 minute winter	102	1.001	104	2.0	0.725	0.102	0.0699	
15 minute winter	103	2.000	104	3.4	0.764	0.193	0.0503	
15 minute winter	104	1.002	106	6.9	0.904	0.133	0.1886	
15 minute winter	105	3.000	106	2.4	1.146	0.065	0.0233	
15 minute winter	106	1.003	110	9.3	0.595	0.226	0.1320	
15 minute winter	107	4.000	109	1.3	0.618	0.067	0.0454	
15 minute winter	108	5.000	109	1.2	0.560	0.065	0.0195	
15 minute winter	109	4.001	110	4.0	0.458	0.058	0.2277	
15 minute winter	110	1.004	117	14.2	0.713	0.346	0.1230	
15 minute winter	111	6.000	112	0.7	0.423	0.035	0.0142	
15 minute winter	112	6.001	114	1.3	0.544	0.065	0.0359	
15 minute winter	113	7.000	114	0.7	0.383	0.027	0.0157	
15 minute winter	114	6.002	116	3.3	1.218	0.095	0.0335	
15 minute winter	115	8.000	116	1.1	0.306	0.054	0.0262	
15 minute winter	116	6.003	117	6.6	1.255	0.231	0.0409	
15 minute winter	117	1.005	TANK	20.7	1.459	0.506	0.2107	
15 minute winter	118	9.000	119	2.5	0.647	0.143	0.0955	
15 minute winter	119	9.001	123	3.6	0.850	0.182	0.0658	
15 minute winter	120	10.000	121	0.4	0.344	0.015	0.0039	
15 minute winter	121	10.001	122	1.1	0.496	0.042	0.0335	
15 minute winter	122	10.002	123	2.5	0.900	0.099	0.0393	
15 minute winter	123	9.002	124	7.0	0.880	0.134	0.0634	
15 minute winter	124	9.003	126	10.1	1.371	0.122	0.0873	
15 minute summer	125	11.000	126	0.6	0.666	0.020	0.0050	

Results for 1 year Critical Storm Duration. Lowest mass balance: 99.16%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	126	11	85.969	0.102	14.1	0.1460	0.0000	OK
120 minute winter	TANK	88	85.854	0.187	13.1	17.1841	0.0000	OK
120 minute winter	127	88	85.853	0.251	5.3	0.4428	0.0000	SURCHARGED
120 minute winter	C101	88	85.110	0.046	5.3	0.0815	0.0000	OK
120 minute winter	OUT	88	85.009	0.044	5.3	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 winter	126	9.004	TANK	14.1	0.874	0.344	0.0404	
120 minute winter	TANK	1.006	127	5.3	0.318	0.129	0.3919	
120 minute winter	127	1.007	C101	5.3	1.114	0.210	0.0921	
120 minute winter	C101	1.008	OUT	5.3	0.797	0.048	0.0654	37.5

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.16%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	101	11	87.215	0.015	0.6	0.0029	0.0000	OK
15 minute winter	102	10	87.054	0.054	5.4	0.0217	0.0000	OK
15 minute winter	103	10	86.877	0.077	8.6	0.0477	0.0000	OK
15 minute winter	104	10	86.704	0.092	17.3	0.0411	0.0000	OK
15 minute winter	105	10	86.411	0.041	5.9	0.0175	0.0000	OK
120 minute winter	106	92	86.193	0.363	8.3	0.6414	0.0000	SURCHARGED
15 minute winter	107	10	86.492	0.042	3.3	0.0157	0.0000	OK
15 minute winter	108	10	86.333	0.043	3.0	0.0133	0.0000	OK
120 minute winter	109	92	86.193	0.072	3.6	0.0332	0.0000	OK
120 minute winter	110	92	86.193	0.416	12.0	0.7778	0.0000	SURCHARGED
15 minute winter	111	10	86.900	0.030	1.8	0.0076	0.0000	OK
15 minute winter	112	10	86.805	0.041	3.3	0.0091	0.0000	OK
15 minute winter	113	10	86.777	0.027	1.8	0.0073	0.0000	OK
15 minute winter	114	10	86.628	0.052	8.3	0.0169	0.0000	OK
120 minute winter	115	92	86.193	0.093	0.9	0.0249	0.0000	OK
120 minute winter	116	92	86.193	0.182	5.8	0.0696	0.0000	SURCHARGED
120 minute winter	117	92	86.192	0.454	17.1	0.8026	0.0000	SURCHARGED
15 minute winter	118	10	87.661	0.061	6.2	0.0262	0.0000	OK
15 minute winter	119	10	87.430	0.074	9.1	0.0227	0.0000	OK
15 minute winter	120	10	87.819	0.019	0.9	0.0039	0.0000	OK
15 minute winter	121	10	87.762	0.033	2.7	0.0081	0.0000	OK
15 minute winter	122	10	87.469	0.052	6.2	0.0172	0.0000	OK
15 minute winter	123	11	87.156	0.097	17.1	0.0371	0.0000	OK
15 minute winter	124	11	87.070	0.091	24.6	0.1978	0.0000	OK
15 minute winter	125	10	86.873	0.023	1.5	0.0059	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 winter	101	1.000	102	0.6	0.205	0.020	0.0222	
15 minute winter	102	1.001	104	5.2	0.943	0.262	0.1384	
15 minute winter	103	2.000	104	8.5	0.963	0.475	0.0985	
15 minute winter	104	1.002	106	17.1	1.156	0.329	0.3661	
15 minute winter	105	3.000	106	5.9	1.358	0.161	0.1175	
120 minute winter	106	1.003	110	7.5	0.552	0.184	0.3356	
15 minute winter	107	4.000	109	3.2	0.800	0.166	0.0868	
15 minute winter	108	5.000	109	2.9	0.727	0.166	0.0381	
120 minute winter	109	4.001	110	3.6	0.359	0.052	0.5013	
120 minute winter	110	1.004	117	11.3	0.619	0.277	0.2459	
15 minute winter	111	6.000	112	1.8	0.559	0.089	0.0270	
15 minute winter	112	6.001	114	3.2	0.697	0.162	0.0695	
15 minute winter	113	7.000	114	1.8	0.487	0.069	0.0307	
15 minute winter	114	6.002	116	8.2	1.559	0.236	0.0647	
120 minute winter	115	8.000	116	0.9	0.307	0.046	0.1052	
120 minute winter	116	6.003	117	5.8	1.126	0.204	0.1377	
120 minute winter	117	1.005	TANK	16.6	0.968	0.405	0.4501	
15 minute winter	118	9.000	119	6.1	0.802	0.345	0.1864	
15 minute winter	119	9.001	123	8.9	1.074	0.448	0.1279	
15 minute winter	120	10.000	121	0.9	0.433	0.035	0.0073	
15 minute winter	121	10.001	122	2.6	0.643	0.104	0.0646	
15 minute winter	122	10.002	123	6.1	1.150	0.242	0.0753	
15 minute winter	123	9.002	124	17.1	1.088	0.329	0.1257	
15 minute winter	124	9.003	126	24.6	1.730	0.298	0.1692	
15 minute winter	125	11.000	126	1.5	0.865	0.049	0.0094	

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.16%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	126	92	86.191	0.324	12.4	0.4618	0.0000	SURCHARGED
120 minute winter	TANK	94	86.191	0.524	28.6	48.1770	0.0000	SURCHARGED
120 minute winter	127	94	86.186	0.584	8.5	1.0328	0.0000	SURCHARGED
15 minute summer	C101	12	85.269	0.205	6.6	0.3624	0.0000	OK
15 minute summer	OUT	1	85.260	0.295	9.6	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)
120 minute winter	126	9.004	TANK	12.1	0.827	0.295	0.0994	
120 minute winter	TANK	1.006	127	8.5	0.364	0.208	0.4156	
120 minute winter	127	1.007	C101	8.5	1.263	0.337	0.1304	
15 minute summer	C101	1.008	OUT	9.6	0.157	0.087	0.5985	35.2

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.16%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	101	92	87.349	0.149	0.6	0.0296	0.0000	OK
120 minute winter	102	92	87.349	0.349	3.5	0.1415	0.0000	SURCHARGED
120 minute winter	103	92	87.350	0.550	5.6	0.3386	0.0000	SURCHARGED
120 minute winter	104	92	87.349	0.737	11.4	0.3300	0.0000	SURCHARGED
120 minute winter	105	92	87.348	0.978	3.9	0.4196	0.0000	SURCHARGED
120 minute winter	106	92	87.348	1.518	15.3	2.6820	0.0000	FLOOD RISK
120 minute winter	107	92	87.348	0.898	2.7	0.3331	0.0000	FLOOD RISK
120 minute winter	108	92	87.347	1.057	2.6	0.3268	0.0000	FLOOD RISK
120 minute winter	109	92	87.347	1.226	6.5	0.5678	0.0000	FLOOD RISK
120 minute winter	110	92	87.347	1.570	20.9	2.9377	0.0000	FLOOD RISK
120 minute winter	111	92	87.350	0.480	2.0	0.1200	0.0000	SURCHARGED
120 minute winter	112	92	87.349	0.585	2.2	0.1311	0.0000	SURCHARGED
120 minute winter	113	92	87.350	0.600	1.4	0.1649	0.0000	SURCHARGED
120 minute winter	114	92	87.349	0.773	5.5	0.2529	0.0000	SURCHARGED
120 minute winter	115	92	87.349	1.249	1.7	0.3334	0.0000	SURCHARGED
120 minute winter	116	92	87.348	1.337	10.4	0.5109	0.0000	SURCHARGED
120 minute winter	117	92	87.346	1.608	29.7	2.8408	0.0000	SURCHARGED
15 minute winter	118	10	87.688	0.088	11.3	0.0379	0.0000	OK
15 minute winter	119	11	87.466	0.110	16.6	0.0339	0.0000	OK
15 minute winter	120	10	87.826	0.026	1.6	0.0053	0.0000	OK
15 minute winter	121	10	87.773	0.044	4.8	0.0108	0.0000	OK
15 minute winter	122	10	87.490	0.073	11.1	0.0241	0.0000	OK
120 minute winter	123	92	87.344	0.285	11.3	0.1084	0.0000	SURCHARGED
120 minute winter	124	92	87.343	0.364	16.3	0.7930	0.0000	SURCHARGED
120 minute winter	125	92	87.342	0.492	1.4	0.1230	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)
120 minute winter	101	1.000	102	0.4	0.185	0.013	0.1193	
120 minute winter	102	1.001	104	3.5	0.844	0.176	0.4380	
120 minute winter	103	2.000	104	5.6	0.871	0.314	0.1969	
120 minute winter	104	1.002	106	11.4	1.036	0.219	0.9827	
120 minute winter	105	3.000	106	3.9	1.117	0.107	0.1978	
120 minute winter	106	1.003	110	14.4	0.544	0.352	0.3356	
120 minute winter	107	4.000	109	2.1	0.699	0.109	0.3819	
120 minute winter	108	5.000	109	1.9	0.634	0.107	0.1656	
120 minute winter	109	4.001	110	5.7	0.398	0.083	0.7874	
120 minute winter	110	1.004	117	20.0	0.609	0.487	0.2459	
120 minute winter	111	6.000	112	-1.2	0.496	-0.061	0.1488	
120 minute winter	112	6.001	114	2.2	0.651	0.111	0.2642	
120 minute winter	113	7.000	114	1.2	0.453	0.046	0.1440	
120 minute winter	114	6.002	116	5.5	1.325	0.159	0.2177	
120 minute winter	115	8.000	116	1.4	0.338	0.070	0.1273	
120 minute winter	116	6.003	117	9.7	1.106	0.342	0.1377	
120 minute winter	117	1.005	TANK	28.8	1.092	0.703	0.4501	
15 minute winter	118	9.000	119	11.2	0.906	0.629	0.2994	
15 minute winter	119	9.001	123	16.2	1.218	0.813	0.2047	
15 minute winter	120	10.000	121	1.6	0.506	0.063	0.0112	
15 minute winter	121	10.001	122	4.7	0.743	0.187	0.0999	
15 minute winter	122	10.002	123	10.9	1.333	0.434	0.1164	
120 minute winter	123	9.002	124	11.3	0.988	0.217	0.3180	
120 minute winter	124	9.003	126	16.3	1.558	0.198	0.4730	
120 minute winter	125	11.000	126	1.0	0.773	0.033	0.0968	

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.16%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	126	92	87.342	1.475	23.1	2.1033	0.0000	SURCHARGED
120 minute winter	TANK	92	87.341	1.674	51.3	75.2030	0.0000	SURCHARGED
120 minute winter	127	92	87.328	1.726	15.9	3.0500	0.0000	SURCHARGED
15 minute winter	C101	11	85.269	0.205	9.3	0.3622	0.0000	OK
15 minute summer	OUT	1	85.260	0.295	10.4	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)
120 minute winter	126	9.004	TANK	22.5	0.875	0.548	0.0994	
120 minute winter	TANK	1.006	127	15.9	0.419	0.387	0.4156	
120 minute winter	127	1.007	C101	15.0	1.450	0.597	0.2012	
15 minute winter	C101	1.008	OUT	10.6	0.172	0.095	0.5984	71.9