

MJA Consulting										Page 2																																																																																																																																																																																																																																																																																
Monarch House Barton Lane OX14 3NB					New Barn Lane, N.Bersted Surface Water Network																																																																																																																																																																																																																																																																																					
Date 12/12/2018 File SW NETWORK 040119 +10% ...					Designed by S.Smith Checked by																																																																																																																																																																																																																																																																																					
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<u>Existing Network Details for Storm</u> # - Indicates pipe length does not match coordinates <table><thead><tr><th>PN</th><th>Length (m)</th><th>Fall (m)</th><th>Slope (1:X)</th><th>I.Area (ha)</th><th>T.E. (mins)</th><th>Base Flow (l/s)</th><th>k (mm)</th><th>HYD SECT</th><th>DIA (mm)</th><th>Section Type</th></tr></thead><tbody><tr><td>S1.000</td><td>14.272</td><td>0.098</td><td>145.6</td><td>0.037</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td>Pipe/Conduit</td></tr><tr><td>S1.001</td><td>11.982</td><td>0.070</td><td>171.2</td><td>0.006</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td>Pipe/Conduit</td></tr><tr><td>S1.002</td><td>8.715</td><td>0.051</td><td>170.9</td><td>0.028</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td>Pipe/Conduit</td></tr><tr><td>S1.003</td><td>33.571</td><td>0.134</td><td>250.5</td><td>0.026</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>300</td><td>Pipe/Conduit</td></tr><tr><td>S1.004</td><td>34.121</td><td>0.136</td><td>250.9</td><td>0.097</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>300</td><td>Pipe/Conduit</td></tr><tr><td>S2.000</td><td>16.790</td><td>0.101</td><td>166.2</td><td>0.089</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td>Pipe/Conduit</td></tr><tr><td>S1.005</td><td>15.204</td><td>0.051</td><td>298.1</td><td>0.068</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>375</td><td>Pipe/Conduit</td></tr><tr><td>S1.006</td><td>24.037</td><td>0.080</td><td>300.5</td><td>0.033</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>375</td><td>Pipe/Conduit</td></tr><tr><td>S1.007</td><td>20.564</td><td>0.069</td><td>298.0</td><td>0.056</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>375</td><td>Pipe/Conduit</td></tr><tr><td>S3.000</td><td>11.124</td><td>0.160</td><td>69.5</td><td>0.049</td><td>5.00</td><td>0.0</td><td>0.600</td><td>[]</td><td>1</td><td>Pipe/Conduit</td></tr><tr><td>S1.008</td><td>39.685</td><td>0.090</td><td>440.9</td><td>0.000</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>375</td><td>Pipe/Conduit</td></tr><tr><td>S1.009</td><td>20.096</td><td>0.055</td><td>365.4</td><td>0.000</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>375</td><td>Pipe/Conduit</td></tr><tr><td>S1.010</td><td>2.455</td><td>0.025</td><td>98.2</td><td>0.000</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td>Pipe/Conduit</td></tr><tr><td>S4.000</td><td>12.033</td><td>0.070</td><td>171.9</td><td>0.055</td><td>5.00</td><td>0.0</td><td>0.600</td><td>o</td><td>225</td><td>Pipe/Conduit</td></tr><tr><td>S4.001</td><td>36.708</td><td>0.146</td><td>251.4</td><td>0.015</td><td>0.00</td><td>0.0</td><td>0.600</td><td>o</td><td>300</td><td>Pipe/Conduit</td></tr></tbody></table> <u>Network Results Table</u> <table><thead><tr><th>PN</th><th>US/IL (m)</th><th>Σ I.Area (ha)</th><th>Σ Base Flow (l/s)</th><th>Vel (m/s)</th><th>Cap (l/s)</th></tr></thead><tbody><tr><td>S1.000</td><td>3.659</td><td>0.037</td><td>0.0</td><td>1.08</td><td>43.0</td></tr><tr><td>S1.001</td><td>3.561</td><td>0.043</td><td>0.0</td><td>1.00</td><td>39.6</td></tr><tr><td>S1.002</td><td>3.491</td><td>0.071</td><td>0.0</td><td>1.00</td><td>39.7</td></tr><tr><td>S1.003</td><td>3.365</td><td>0.097</td><td>0.0</td><td>0.99</td><td>69.9</td></tr><tr><td>S1.004</td><td>3.231</td><td>0.194</td><td>0.0</td><td>0.99</td><td>69.8</td></tr><tr><td>S2.000</td><td>3.271</td><td>0.089</td><td>0.0</td><td>1.01</td><td>40.2</td></tr><tr><td>S1.005</td><td>3.020</td><td>0.351</td><td>0.0</td><td>1.04</td><td>115.3</td></tr><tr><td>S1.006</td><td>2.969</td><td>0.384</td><td>0.0</td><td>1.04</td><td>114.9</td></tr><tr><td>S1.007</td><td>2.889</td><td>0.440</td><td>0.0</td><td>1.04</td><td>115.3</td></tr><tr><td>S3.000</td><td>2.980</td><td>0.049</td><td>0.0</td><td>3.59</td><td>2470.8</td></tr><tr><td>S1.008</td><td>2.820</td><td>0.489</td><td>0.0</td><td>0.86</td><td>94.6</td></tr><tr><td>S1.009</td><td>2.730</td><td>0.489</td><td>0.0</td><td>0.94</td><td>104.0</td></tr><tr><td>S1.010</td><td>2.625</td><td>0.489</td><td>0.0</td><td>1.32</td><td>52.5</td></tr><tr><td>S4.000</td><td>4.250</td><td>0.055</td><td>0.0</td><td>0.99</td><td>39.5</td></tr><tr><td>S4.001</td><td>4.105</td><td>0.070</td><td>0.0</td><td>0.99</td><td>69.8</td></tr></tbody></table>											PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type	S1.000	14.272	0.098	145.6	0.037	5.00	0.0	0.600	o	225	Pipe/Conduit	S1.001	11.982	0.070	171.2	0.006	0.00	0.0	0.600	o	225	Pipe/Conduit	S1.002	8.715	0.051	170.9	0.028	0.00	0.0	0.600	o	225	Pipe/Conduit	S1.003	33.571	0.134	250.5	0.026	0.00	0.0	0.600	o	300	Pipe/Conduit	S1.004	34.121	0.136	250.9	0.097	0.00	0.0	0.600	o	300	Pipe/Conduit	S2.000	16.790	0.101	166.2	0.089	5.00	0.0	0.600	o	225	Pipe/Conduit	S1.005	15.204	0.051	298.1	0.068	0.00	0.0	0.600	o	375	Pipe/Conduit	S1.006	24.037	0.080	300.5	0.033	0.00	0.0	0.600	o	375	Pipe/Conduit	S1.007	20.564	0.069	298.0	0.056	0.00	0.0	0.600	o	375	Pipe/Conduit	S3.000	11.124	0.160	69.5	0.049	5.00	0.0	0.600	[]	1	Pipe/Conduit	S1.008	39.685	0.090	440.9	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	S1.009	20.096	0.055	365.4	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	S1.010	2.455	0.025	98.2	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit	S4.000	12.033	0.070	171.9	0.055	5.00	0.0	0.600	o	225	Pipe/Conduit	S4.001	36.708	0.146	251.4	0.015	0.00	0.0	0.600	o	300	Pipe/Conduit	PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)	S1.000	3.659	0.037	0.0	1.08	43.0	S1.001	3.561	0.043	0.0	1.00	39.6	S1.002	3.491	0.071	0.0	1.00	39.7	S1.003	3.365	0.097	0.0	0.99	69.9	S1.004	3.231	0.194	0.0	0.99	69.8	S2.000	3.271	0.089	0.0	1.01	40.2	S1.005	3.020	0.351	0.0	1.04	115.3	S1.006	2.969	0.384	0.0	1.04	114.9	S1.007	2.889	0.440	0.0	1.04	115.3	S3.000	2.980	0.049	0.0	3.59	2470.8	S1.008	2.820	0.489	0.0	0.86	94.6	S1.009	2.730	0.489	0.0	0.94	104.0	S1.010	2.625	0.489	0.0	1.32	52.5	S4.000	4.250	0.055	0.0	0.99	39.5	S4.001	4.105	0.070	0.0	0.99	69.8
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Innovyze	Network 2017.1.2	

Existing Network Details for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
S4.002	35.335	0.142	248.8	0.100	0.00	0.0	0.600	o	300	Pipe/Conduit
S4.003	19.513	0.078	250.2	0.058	0.00	0.0	0.600	o	300	Pipe/Conduit
S5.000	26.630	0.156	170.7	0.019	5.00	0.0	0.600	o	225	Pipe/Conduit
S4.004	4.522	0.017	266.0	0.060	0.00	0.0	0.600	o	300	Pipe/Conduit
S4.005	3.972	0.015	264.8	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
S4.006	50.847	0.160	317.8	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
S4.007	7.908	0.060	131.8	0.080	0.00	0.0	0.600	o	300	Pipe/Conduit
S4.008	6.493	0.111	58.5	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
S6.000	9.436	0.104	90.7	0.033	5.00	0.0	0.600	[]	1	Pipe/Conduit
S4.009	45.057	0.226	199.4	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
S4.010	18.888	0.180	104.9	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
S7.000	17.925	0.105	170.7	0.050	5.00	0.0	0.600	o	225	Pipe/Conduit
S7.001	51.183	0.204	250.9	0.090	0.00	0.0	0.600	o	300	Pipe/Conduit
S7.002	30.537	0.118	258.8	0.077	0.00	0.0	0.600	o	300	Pipe/Conduit
S8.000	42.349	0.250	169.4	0.090	5.00	0.0	0.600	o	225	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
S4.002	3.959	0.170	0.0	0.99	70.1
S4.003	3.817	0.228	0.0	0.99	69.9
S5.000	3.970	0.019	0.0	1.00	39.7
S4.004	3.739	0.307	0.0	0.96	67.8
S4.005	3.722	0.307	0.0	0.96	68.0
S4.006	3.707	0.307	0.0	0.88	62.0
S4.007	3.547	0.387	0.0	1.37	96.7
S4.008	3.487	0.387	0.0	2.06	145.6
S6.000	3.480	0.033	0.0	3.14	2161.7
S4.009	3.376	0.420	0.0	1.11	78.5
S4.010	3.150	0.420	0.0	1.53	108.5
S7.000	4.018	0.050	0.0	1.00	39.7
S7.001	3.838	0.140	0.0	0.99	69.8
S7.002	3.634	0.217	0.0	0.97	68.8
S8.000	3.841	0.090	0.0	1.00	39.8

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Existing Network Details for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Base Flow (l/s)	k (mm)	HYD SECT	DIA (mm)	Section Type
S7.003	40.263	0.161	250.1	0.139	0.00	0.0	0.600	o	300	Pipe/Conduit
S7.004	4.642	0.027	171.9	0.132	0.00	0.0	0.600	o	300	Pipe/Conduit
S9.000	8.367	0.052	160.9	0.009	5.00	0.0	0.600	o	225	Pipe/Conduit
S9.001	19.737	0.103	191.6	0.027	0.00	0.0	0.600	o	225	Pipe/Conduit
S7.005	11.934#	0.264	45.2	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
S4.011	13.545	0.092	147.2	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
S4.012	15.360	0.082	187.3	0.000	0.00	0.0	0.600	o	300	Pipe/Conduit
S4.013	29.931	0.256	116.9	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit
S4.014	71.169	0.180	395.4	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit
S4.015	4.107	0.010	410.7	0.000	0.00	0.0	0.600	o	450	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
S7.003	3.516	0.446	0.0	0.99	70.0
S7.004	3.355	0.578	0.0	1.20	84.5
S9.000	3.558	0.009	0.0	1.03	40.9
S9.001	3.506	0.036	0.0	0.94	37.4
S7.005	3.328	0.614	0.0	2.34	165.7
S4.011	2.970	1.034	0.0	1.29	91.4
S4.012	2.878	1.034	0.0	1.15	81.0
S4.013	2.796	1.034	0.0	1.88	298.9
S4.014	2.540	1.034	0.0	1.02	161.6
S4.015	2.360	1.034	0.0	1.00	158.6

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Monarch House Barton Lane OX14 3NB	New Barn Lane, N.Bersted Surface Water Network	
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PIPELINE SCHEDULES for Storm

Upstream Manhole

- Indicates pipe length does not match coordinates

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	o	225	S24	5.205	3.659	1.321	Open Manhole	1200
S1.001	o	225	S23	5.056	3.561	1.270	Open Manhole	1200
S1.002	o	225	S22	4.989	3.491	1.273	Open Manhole	1200
S1.003	o	300	S21	4.864	3.365	1.199	Open Manhole	1200
S1.004	o	300	S20	4.722	3.231	1.191	Open Manhole	1200
S2.000	o	225	S25	4.641	3.271	1.145	Open Manhole	1200
S1.005	o	375	S19	4.489	3.020	1.094	Open Manhole	1200
S1.006	o	375	S18	4.389	2.969	1.045	Open Manhole	1200
S1.007	o	375	S17	4.382	2.889	1.118	Open Manhole	1200
S3.000	[]	1	Sx	4.500	2.980	0.920	Open Manhole	1200
S1.008	o	375	S16	4.600	2.820	1.405	Open Manhole	1200
S1.009	o	375	S11	4.600	2.730	1.495	Open Manhole	1200
S1.010	o	225	SCPM3	4.600	2.625	1.750	Open Manhole	1200
S4.000	o	225	S14	5.393	4.250	0.918	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S1.000	14.272	145.6	S23	5.056	3.561	1.270	Open Manhole	1200
S1.001	11.982	171.2	S22	4.989	3.491	1.273	Open Manhole	1200
S1.002	8.715	170.9	S21	4.864	3.440	1.199	Open Manhole	1200
S1.003	33.571	250.5	S20	4.722	3.231	1.191	Open Manhole	1200
S1.004	34.121	250.9	S19	4.489	3.095	1.094	Open Manhole	1200
S2.000	16.790	166.2	S19	4.489	3.170	1.094	Open Manhole	1200
S1.005	15.204	298.1	S18	4.389	2.969	1.045	Open Manhole	1200
S1.006	24.037	300.5	S17	4.382	2.889	1.118	Open Manhole	1200
S1.007	20.564	298.0	S16	4.600	2.820	1.405	Open Manhole	1200
S3.000	11.124	69.5	S16	4.600	2.820	1.180	Open Manhole	1200
S1.008	39.685	440.9	S11	4.600	2.730	1.495	Open Manhole	1200
S1.009	20.096	365.4	SCPM3	4.600	2.675	1.550	Open Manhole	1200
S1.010	2.455	98.2	SOUT1	4.000	2.600	1.175	Open Manhole	600
S4.000	12.033	171.9	S13	5.410	4.180	1.005	Open Manhole	1200

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S4.001	o	300	S13	5.410	4.105	1.005	Open Manhole	1200
S4.002	o	300	S12	5.160	3.959	0.901	Open Manhole	1200
S4.003	o	300	S11	5.323	3.817	1.206	Open Manhole	1200
S5.000	o	225	S15	4.950	3.970	0.755	Open Manhole	1200
S4.004	o	300	S10	5.216	3.739	1.177	Open Manhole	1200
S4.005	o	300	S19	5.108	3.722	1.086	Open Manhole	1200
S4.006	o	300	SHW1	5.000	3.707	0.993	Open Manhole	600
S4.007	o	300	SHW2	5.600	3.547	1.753	Open Manhole	600
S4.008	o	300	SCPM2	5.150	3.487	1.363	Open Manhole	1500
S6.000	[]	1	S24	5.200	3.480	1.120	Open Manhole	1200
S4.009	o	300	S31	5.150	3.376	1.474	Open Manhole	1250
S4.010	o	300	S9	5.050	3.150	1.600	Open Manhole	1200
S7.000	o	225	S7	5.150	4.018	0.907	Open Manhole	1200
S7.001	o	300	S6	5.039	3.838	0.901	Open Manhole	1200
S7.002	o	300	S5	4.883	3.634	0.949	Open Manhole	1200

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
S4.001	36.708	251.4	S12	5.160	3.959	0.901	Open Manhole	1200
S4.002	35.335	248.8	S11	5.323	3.817	1.206	Open Manhole	1200
S4.003	19.513	250.2	S10	5.216	3.739	1.177	Open Manhole	1200
S5.000	26.630	170.7	S10	5.216	3.814	1.177	Open Manhole	1200
S4.004	4.522	266.0	S19	5.108	3.722	1.086	Open Manhole	1200
S4.005	3.972	264.8	SHW1	5.000	3.707	0.993	Open Manhole	600
S4.006	50.847	317.8	SHW2	5.600	3.547	1.753	Open Manhole	600
S4.007	7.908	131.8	SCPM2	5.150	3.487	1.363	Open Manhole	1500
S4.008	6.493	58.5	S31	5.150	3.376	1.474	Open Manhole	1250
S6.000	9.436	90.7	S31	5.150	3.376	1.174	Open Manhole	1250
S4.009	45.057	199.4	S9	5.050	3.150	1.600	Open Manhole	1200
S4.010	18.888	104.9	S25	4.900	2.970	1.630	Open Manhole	1200
S7.000	17.925	170.7	S6	5.039	3.913	0.901	Open Manhole	1200
S7.001	51.183	250.9	S5	4.883	3.634	0.949	Open Manhole	1200
S7.002	30.537	258.8	S4	4.781	3.516	0.965	Open Manhole	1200

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Innovyze	Network 2017.1.2	

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall C. Level Name (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
S4.015	SSWMH	3.730	2.350	0.000 1200	0

Simulation Criteria for Storm

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

Number of Input Hydrographs	0	Number of Storage Structures	6
Number of Online Controls	3	Number of Time/Area Diagrams	7
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	2	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	19.000	Storm Duration (mins)	30
Ratio R	0.350		

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Online Controls for Storm

Hydro-Brake® Optimum Manhole: SCPM3, DS/PN: S1.010, Volume (m³): 4.3

Unit Reference	MD-SHE-0082-3000-1000-3000
Design Head (m)	1.000
Design Flow (l/s)	3.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	82
Invert Level (m)	2.625
Minimum Outlet Pipe Diameter (mm)	100
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.000	3.0
Flush-Flo™	0.297	3.0
Kick-Flo®	0.623	2.4
Mean Flow over Head Range	-	2.6

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.4	1.200	3.3	3.000	5.0	7.000	7.4
0.200	2.9	1.400	3.5	3.500	5.4	7.500	7.7
0.300	3.0	1.600	3.7	4.000	5.7	8.000	7.9
0.400	2.9	1.800	3.9	4.500	6.0	8.500	8.2
0.500	2.8	2.000	4.1	5.000	6.3	9.000	8.4
0.600	2.5	2.200	4.3	5.500	6.6	9.500	8.6
0.800	2.7	2.400	4.5	6.000	6.9		
1.000	3.0	2.600	4.7	6.500	7.2		

Hydro-Brake® Optimum Manhole: SCPM2, DS/PN: S4.008, Volume (m³): 3.4

Unit Reference	MD-SHE-0077-2000-0300-2000
Design Head (m)	0.300
Design Flow (l/s)	2.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	77
Invert Level (m)	3.487
Minimum Outlet Pipe Diameter (mm)	100
Suggested Manhole Diameter (mm)	1200

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Hydro-Brake® Optimum Manhole: SCPM2, DS/PN: S4.008, Volume (m³): 3.4

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.300	2.0
Flush-Flo™	0.113	2.0
Kick-Flo®	0.228	1.8
Mean Flow over Head Range	-	1.6

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	2.0	1.200	3.8	3.000	5.8	7.000	8.8
0.200	1.9	1.400	4.1	3.500	6.2	7.500	9.1
0.300	2.0	1.600	4.3	4.000	6.7	8.000	9.4
0.400	2.3	1.800	4.6	4.500	7.1	8.500	9.7
0.500	2.5	2.000	4.8	5.000	7.4	9.000	10.0
0.600	2.7	2.200	5.0	5.500	7.8	9.500	10.3
0.800	3.1	2.400	5.2	6.000	8.2		
1.000	3.5	2.600	5.4	6.500	8.5		

Hydro-Brake® Optimum Manhole: SCPM1, DS/PN: S4.012, Volume (m³): 3.0

Unit Reference	MD-SHE-0149-1000-0800-1000
Design Head (m)	0.800
Design Flow (l/s)	10.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	149
Invert Level (m)	2.878
Minimum Outlet Pipe Diameter (mm)	225
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.800	10.0
Flush-Flo™	0.262	10.0
Kick-Flo®	0.569	8.5
Mean Flow over Head Range	-	8.4

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	5.3	0.300	9.9	0.500	9.3	0.800	10.0
0.200	9.8	0.400	9.7	0.600	8.7	1.000	11.1

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<u>Hydro-Brake® Optimum Manhole: SCPM1, DS/PN: S4.012, Volume (m³): 3.0</u>							
Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
1.200	12.1	2.400	16.8	5.000	23.9	8.000	30.0
1.400	13.0	2.600	17.5	5.500	25.0	8.500	30.8
1.600	13.9	3.000	18.7	6.000	26.1	9.000	31.7
1.800	14.7	3.500	20.1	6.500	27.1	9.500	32.6
2.000	15.4	4.000	21.5	7.000	28.1		
2.200	16.1	4.500	22.7	7.500	29.1		

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Storage Structures for Storm

Cellular Storage Manhole: S25, DS/PN: S2.000

Invert Level (m) 3.271 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	282.0	282.0	0.801	0.0	343.1
0.800	282.0	343.1			

Cellular Storage Manhole: S11, DS/PN: S1.009

Invert Level (m) 2.730 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	64.0	64.0	0.801	0.0	90.2
0.800	64.0	90.2			

Cellular Storage Manhole: SCPM3, DS/PN: S1.010

Invert Level (m) 2.675 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	60.0	60.0	0.801	0.0	85.6
0.800	60.0	85.6			

Tank or Pond Manhole: SHW2, DS/PN: S4.007

Invert Level (m) 3.547

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	16.0	0.500	424.0	1.000	674.0	1.500	938.0
0.100	18.0	0.600	473.0	1.100	726.0	1.600	992.0
0.200	20.0	0.700	523.0	1.200	778.0	1.700	1048.0
0.300	22.0	0.800	572.0	1.300	830.0	1.800	1103.0
0.400	376.0	0.900	623.0	1.400	884.0	1.900	1159.0

Cellular Storage Manhole: S24, DS/PN: S6.000

Invert Level (m) 0.000 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

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Cellular Storage Manhole: S24, DS/PN: S6.000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	140.0	140.0	0.801	0.0	183.2
0.800	140.0	183.2			

Cellular Storage Manhole: S25, DS/PN: S4.011

Invert Level (m) 2.970 Safety Factor 2.0

Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95

Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	360.0	360.0	0.801	0.0	420.8
0.800	360.0	420.8			

Time Area Diagram at Pipe Number S2.000 for Storm

Total Area (ha) 0.089

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
From:	To:	From:	To:	From:	To:
0	4 0.020	8	12 0.020	16	20 0.016
4	8 0.015	12	16 0.010	20	24 0.008

Time Area Diagram at Pipe Number S4.002 for Storm

Total Area (ha) 0.100

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
From:	To:	From:	To:	From:	To:
0	4 0.020	8	12 0.020	16	20 0.021
4	8 0.015	12	16 0.015	20	24 0.009

Time Area Diagram at Pipe Number S7.001 for Storm

Total Area (ha) 0.090

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
From:	To:	From:	To:	From:	To:
0	4 0.020	8	12 0.020	16	20 0.006
4	8 0.020	12	16 0.015	20	24 0.009

Time Area Diagram at Pipe Number S8.000 for Storm

Total Area (ha) 0.090

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Time Area Diagram at Pipe Number S8.000 for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
From:	To:	From:	To:	From:	To:
0	4 0.020	8	12 0.020	16	20 0.022
4	8 0.010	12	16 0.010	20	24 0.008

Time Area Diagram at Pipe Number S7.003 for Storm

Total Area (ha) 0.139

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
From:	To:	From:	To:	From:	To:
0	4 0.025	8	12 0.025	16	20 0.016
4	8 0.030	12	16 0.030	20	24 0.013

Time Area Diagram at Pipe Number S7.004 for Storm

Total Area (ha) 0.132

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
From:	To:	From:	To:	From:	To:
0	4 0.025	8	12 0.025	16	20 0.020
4	8 0.025	12	16 0.025	20	24 0.012

Time Area Diagram at Pipe Number S9.001 for Storm

Total Area (ha) 0.027

Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)
From:	To:	From:	To:	From:	To:	From:	To:
0	4 0.008	4	8 0.008	8	12 0.008	12	16 0.003

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Innovyze	Network 2017.1.2	

1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coefficient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Number of Input Hydrographs	0	Number of Storage Structures	6
Number of Online Controls	3	Number of Time/Area Diagrams	7
Number of Offline Controls	0	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.350
Region England and Wales	Cv (Summer)		0.750
M5-60 (mm)	19.000	Cv (Winter)	0.840

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880
Return Period(s) (years)	1, 30, 100
Climate Change (%)	0, 0, 40

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
S1.000	S24	15 Winter	1	+0%	100/15 Summer				3.712
S1.001	S23	15 Winter	1	+0%	100/15 Summer				3.621
S1.002	S22	15 Winter	1	+0%	100/15 Summer				3.569
S1.003	S21	15 Winter	1	+0%	100/15 Summer				3.448
S1.004	S20	15 Winter	1	+0%	100/15 Summer				3.348
S2.000	S25	180 Winter	1	+0%	100/60 Summer				3.299
S1.005	S19	15 Winter	1	+0%	30/15 Winter				3.162
S1.006	S18	15 Winter	1	+0%	30/15 Winter				3.116
S1.007	S17	15 Winter	1	+0%	30/15 Winter				3.050
S3.000	Sx	240 Winter	1	+0%	100/60 Winter				3.003
S1.008	S16	240 Winter	1	+0%	30/30 Winter				3.003
S1.009	S11	240 Winter	1	+0%	30/30 Summer				3.001
S1.010	SCPM3	240 Winter	1	+0%	1/15 Winter				2.999
S4.000	S14	15 Winter	1	+0%	100/15 Summer				4.319
S4.001	S13	15 Winter	1	+0%	100/15 Summer				4.178
S4.002	S12	15 Winter	1	+0%	30/15 Winter				4.047
S4.003	S11	180 Winter	1	+0%	30/15 Summer				3.970
S5.000	S15	15 Winter	1	+0%	30/30 Winter				4.008

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

PN	US/MH Name	Surcharged		Flooded		Pipe Flow (l/s)	Status	Level Exceeded
		Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)			
S1.000	S24	-0.172	0.000	0.12		4.7	OK	
S1.001	S23	-0.165	0.000	0.16		5.3	OK	
S1.002	S22	-0.147	0.000	0.26		8.3	OK	
S1.003	S21	-0.217	0.000	0.17		10.8	OK	
S1.004	S20	-0.183	0.000	0.32		20.5	OK	
S2.000	S25	-0.197	0.000	0.04		1.4	OK	
S1.005	S19	-0.233	0.000	0.29		26.9	OK	
S1.006	S18	-0.228	0.000	0.30		29.6	OK	
S1.007	S17	-0.214	0.000	0.35		34.1	OK	
S3.000	Sx	-0.577	0.000	0.00		1.4	OK	
S1.008	S16	-0.192	0.000	0.14		11.8	OK	
S1.009	S11	-0.104	0.000	0.09		7.5	OK	
S1.010	SCPM3	0.149	0.000	0.10		3.0	SURCHARGED	
S4.000	S14	-0.156	0.000	0.20		6.9	OK	
S4.001	S13	-0.227	0.000	0.13		8.4	OK	
S4.002	S12	-0.212	0.000	0.19		12.1	OK	
S4.003	S11	-0.147	0.000	0.12		7.1	OK	
S5.000	S15	-0.187	0.000	0.06		2.4	OK	

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Innovyze	Network 2017.1.2	

1 year Return Period Summary of Critical Results by Maximum Level (Rank 1)
for Storm

PN	US/MH Name	Water	Surcharged	Flooded	Pipe		Status	Level Exceeded
		Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)		
S4.014	S27	2.615	-0.375	0.000	0.07	9.9	OK	
S4.015	S28	2.447	-0.363	0.000	0.08	9.9	OK	

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Monarch House Barton Lane OX14 3NB		New Barn Lane, N.Bersted Surface Water Network																																																																																																																																																																																																																																																		
Date 12/12/2018 File SW NETWORK 040119 +10% ...		Designed by S.Smith Checked by																																																																																																																																																																																																																																																		
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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm Simulation Criteria Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000 Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000 Hot Start Level (mm) 0 Inlet Coeffiecient 0.800 Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000 Foul Sewage per hectare (l/s) 0.000 Number of Input Hydrographs 0 Number of Storage Structures 6 Number of Online Controls 3 Number of Time/Area Diagrams 7 Number of Offline Controls 0 Number of Real Time Controls 0 Synthetic Rainfall Details Rainfall Model FSR Ratio R 0.350 Region England and Wales Cv (Summer) 0.750 M5-60 (mm) 19.000 Cv (Winter) 0.840 Margin for Flood Risk Warning (mm) 300.0 Analysis Timestep 2.5 Second Increment (Extended) DTS Status ON DVD Status ON Inertia Status ON Profile(s) Summer and Winter Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880 Return Period(s) (years) 1, 30, 100 Climate Change (%) 0, 0, 40 <table><tr><th colspan="2">US/MH</th><th colspan="2">Return Climate</th><th colspan="2">First (X)</th><th colspan="2">First (Y)</th><th colspan="2">First (Z)</th><th colspan="2">Overflow</th><th>Water</th></tr><tr><th>PN</th><th>Name</th><th>Storm</th><th>Period</th><th>Change</th><th>Surcharge</th><th>Flood</th><th>Overflow</th><th>Overflow</th><th>Act.</th><th></th><th>Level</th></tr><tr><td>S1.000</td><td>S24</td><td>15 Winter</td><td>30</td><td>+0%</td><td>100/15 Summer</td><td></td><td></td><td></td><td></td><td></td><td>3.744</td></tr><tr><td>S1.001</td><td>S23</td><td>15 Winter</td><td>30</td><td>+0%</td><td>100/15 Summer</td><td></td><td></td><td></td><td></td><td></td><td>3.665</td></tr><tr><td>S1.002</td><td>S22</td><td>15 Winter</td><td>30</td><td>+0%</td><td>100/15 Summer</td><td></td><td></td><td></td><td></td><td></td><td>3.632</td></tr><tr><td>S1.003</td><td>S21</td><td>15 Winter</td><td>30</td><td>+0%</td><td>100/15 Summer</td><td></td><td></td><td></td><td></td><td></td><td>3.517</td></tr><tr><td>S1.004</td><td>S20</td><td>15 Winter</td><td>30</td><td>+0%</td><td>100/15 Summer</td><td></td><td></td><td></td><td></td><td></td><td>3.460</td></tr><tr><td>S2.000</td><td>S25</td><td>360 Winter</td><td>30</td><td>+0%</td><td>100/60 Summer</td><td></td><td></td><td></td><td></td><td></td><td>3.412</td></tr><tr><td>S1.005</td><td>S19</td><td>360 Winter</td><td>30</td><td>+0%</td><td>30/15 Winter</td><td></td><td></td><td></td><td></td><td></td><td>3.415</td></tr><tr><td>S1.006</td><td>S18</td><td>360 Winter</td><td>30</td><td>+0%</td><td>30/15 Winter</td><td></td><td></td><td></td><td></td><td></td><td>3.414</td></tr><tr><td>S1.007</td><td>S17</td><td>360 Winter</td><td>30</td><td>+0%</td><td>30/15 Winter</td><td></td><td></td><td></td><td></td><td></td><td>3.413</td></tr><tr><td>S3.000</td><td>Sx</td><td>360 Winter</td><td>30</td><td>+0%</td><td>100/60 Winter</td><td></td><td></td><td></td><td></td><td></td><td>3.412</td></tr><tr><td>S1.008</td><td>S16</td><td>360 Winter</td><td>30</td><td>+0%</td><td>30/30 Winter</td><td></td><td></td><td></td><td></td><td></td><td>3.412</td></tr><tr><td>S1.009</td><td>S11</td><td>360 Winter</td><td>30</td><td>+0%</td><td>30/30 Summer</td><td></td><td></td><td></td><td></td><td></td><td>3.410</td></tr><tr><td>S1.010</td><td>SCPM3</td><td>360 Winter</td><td>30</td><td>+0%</td><td>1/15 Winter</td><td></td><td></td><td></td><td></td><td></td><td>3.408</td></tr><tr><td>S4.000</td><td>S14</td><td>15 Winter</td><td>30</td><td>+0%</td><td>100/15 Summer</td><td></td><td></td><td></td><td></td><td></td><td>4.364</td></tr><tr><td>S4.001</td><td>S13</td><td>30 Winter</td><td>30</td><td>+0%</td><td>100/15 Summer</td><td></td><td></td><td></td><td></td><td></td><td>4.333</td></tr><tr><td>S4.002</td><td>S12</td><td>30 Winter</td><td>30</td><td>+0%</td><td>30/15 Winter</td><td></td><td></td><td></td><td></td><td></td><td>4.320</td></tr><tr><td>S4.003</td><td>S11</td><td>60 Winter</td><td>30</td><td>+0%</td><td>30/15 Summer</td><td></td><td></td><td></td><td></td><td></td><td>4.283</td></tr><tr><td>S5.000</td><td>S15</td><td>60 Winter</td><td>30</td><td>+0%</td><td>30/30 Winter</td><td></td><td></td><td></td><td></td><td></td><td>4.224</td></tr></table> ©1982-2017 XP Solutions				US/MH		Return Climate		First (X)		First (Y)		First (Z)		Overflow		Water	PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Overflow	Act.		Level	S1.000	S24	15 Winter	30	+0%	100/15 Summer						3.744	S1.001	S23	15 Winter	30	+0%	100/15 Summer						3.665	S1.002	S22	15 Winter	30	+0%	100/15 Summer						3.632	S1.003	S21	15 Winter	30	+0%	100/15 Summer						3.517	S1.004	S20	15 Winter	30	+0%	100/15 Summer						3.460	S2.000	S25	360 Winter	30	+0%	100/60 Summer						3.412	S1.005	S19	360 Winter	30	+0%	30/15 Winter						3.415	S1.006	S18	360 Winter	30	+0%	30/15 Winter						3.414	S1.007	S17	360 Winter	30	+0%	30/15 Winter						3.413	S3.000	Sx	360 Winter	30	+0%	100/60 Winter						3.412	S1.008	S16	360 Winter	30	+0%	30/30 Winter						3.412	S1.009	S11	360 Winter	30	+0%	30/30 Summer						3.410	S1.010	SCPM3	360 Winter	30	+0%	1/15 Winter						3.408	S4.000	S14	15 Winter	30	+0%	100/15 Summer						4.364	S4.001	S13	30 Winter	30	+0%	100/15 Summer						4.333	S4.002	S12	30 Winter	30	+0%	30/15 Winter						4.320	S4.003	S11	60 Winter	30	+0%	30/15 Summer						4.283	S5.000	S15	60 Winter	30	+0%	30/30 Winter						4.224
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S1.004	S20	15 Winter	30	+0%	100/15 Summer						3.460																																																																																																																																																																																																																																									
S2.000	S25	360 Winter	30	+0%	100/60 Summer						3.412																																																																																																																																																																																																																																									
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S4.000	S14	15 Winter	30	+0%	100/15 Summer						4.364																																																																																																																																																																																																																																									
S4.001	S13	30 Winter	30	+0%	100/15 Summer						4.333																																																																																																																																																																																																																																									
S4.002	S12	30 Winter	30	+0%	30/15 Winter						4.320																																																																																																																																																																																																																																									
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Monarch House Barton Lane OX14 3NB	New Barn Lane, N.Bersted Surface Water Network	
Date 12/12/2018 File SW NETWORK 040119 +10% ...	Designed by S.Smith Checked by	
Innovyze	Network 2017.1.2	

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

PN	US/MH Name	Surcharged Flooded		Pipe		Status	Level Exceeded
		Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)		
S1.000	S24	-0.140	0.000	0.30	11.4	OK	
S1.001	S23	-0.121	0.000	0.39	13.2	OK	
S1.002	S22	-0.084	0.000	0.69	22.0	OK	
S1.003	S21	-0.148	0.000	0.47	29.9	OK	
S1.004	S20	-0.071	0.000	0.91	58.1	OK	
S2.000	S25	-0.084	0.000	0.08	2.7	OK	
S1.005	S19	0.020	0.000	0.15	14.3	SURCHARGED	
S1.006	S18	0.070	0.000	0.15	15.0	SURCHARGED	
S1.007	S17	0.149	0.000	0.18	17.0	SURCHARGED	
S3.000	Sx	-0.168	0.000	0.00	2.3	OK	
S1.008	S16	0.217	0.000	0.22	18.8	SURCHARGED	
S1.009	S11	0.305	0.000	0.16	14.4	SURCHARGED	
S1.010	SCPM3	0.558	0.000	0.10	3.0	SURCHARGED	
S4.000	S14	-0.111	0.000	0.50	16.9	OK	
S4.001	S13	-0.072	0.000	0.26	16.7	OK	
S4.002	S12	0.061	0.000	0.35	22.4	SURCHARGED	
S4.003	S11	0.166	0.000	0.44	26.9	SURCHARGED	
S5.000	S15	0.029	0.000	0.08	2.9	SURCHARGED	

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Monarch House Barton Lane OX14 3NB	New Barn Lane, N.Bersted Surface Water Network	
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Innovyze	Network 2017.1.2	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.
S4.004	S10	60 Winter	30	+0%	30/15 Summer			
S4.005	S19	60 Winter	30	+0%	30/15 Summer			
S4.006	SHW1	240 Winter	30	+0%	30/15 Summer			
S4.007	SHW2	240 Winter	30	+0%	1/15 Summer			
S4.008	SCPM2	960 Winter	30	+0%	1/15 Summer			
S6.000	S24	2880 Winter	30	+0%				
S4.009	S31	180 Winter	30	+0%				
S4.010	S9	180 Winter	30	+0%	100/30 Summer			
S7.000	S7	15 Winter	30	+0%	100/15 Summer			
S7.001	S6	15 Winter	30	+0%	100/15 Summer			
S7.002	S5	30 Winter	30	+0%	100/15 Summer			
S8.000	S8	30 Winter	30	+0%	100/15 Summer			
S7.003	S4	30 Winter	30	+0%	30/15 Winter			
S7.004	S3	30 Winter	30	+0%	30/15 Summer			
S9.000	S2A	15 Winter	30	+0%	100/120 Winter			
S9.001	S2	15 Winter	30	+0%	100/60 Winter			
S7.005	S1	30 Winter	30	+0%	100/15 Winter			
S4.011	S25	180 Winter	30	+0%	30/60 Summer			
S4.012	SCPM1	180 Winter	30	+0%	30/15 Winter			
S4.013	S26	1440 Summer	30	+0%				
S4.014	S27	1440 Summer	30	+0%				
S4.015	S28	1440 Summer	30	+0%				

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status	Level Exceeded
S4.004	S10	4.221	0.182	0.000	0.77		36.6	SURCHARGED	
S4.005	S19	4.164	0.142	0.000	0.75		36.5	SURCHARGED	
S4.006	SHW1	4.125	0.118	0.000	0.32		18.9	SURCHARGED	
S4.007	SHW2	4.121	0.274	0.000	0.06		3.9	SURCHARGED	
S4.008	SCPM2	4.136	0.349	0.000	0.03		2.7	SURCHARGED	
S6.000	S24	0.168	-3.912	0.000	0.00		0.0	OK	
S4.009	S31	3.429	-0.247	0.000	0.04		2.8	OK	
S4.010	S9	3.409	-0.041	0.000	0.03		3.0	OK	
S7.000	S7	4.122	-0.121	0.000	0.43		15.2	OK	
S7.001	S6	3.967	-0.171	0.000	0.38		25.1	OK	
S7.002	S5	3.896	-0.038	0.000	0.61		38.4	OK	
S8.000	S8	3.925	-0.141	0.000	0.30		11.4	OK	
S7.003	S4	3.839	0.023	0.000	0.91		59.0	SURCHARGED	
S7.004	S3	3.707	0.052	0.000	1.40		76.7	SURCHARGED	
S9.000	S2A	3.603	-0.180	0.000	0.09		2.8	OK	
S9.001	S2	3.575	-0.156	0.000	0.20		6.9	OK	
S7.005	S1	3.503	-0.125	0.000	0.64		82.5	OK	
S4.011	S25	3.406	0.136	0.000	0.14		10.5	SURCHARGED	
S4.012	SCPM1	3.415	0.237	0.000	0.15		9.9	SURCHARGED	
S4.013	S26	2.853	-0.393	0.000	0.04		9.9	OK	

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Monarch House Barton Lane OX14 3NB	New Barn Lane, N.Bersted Surface Water Network	
Date 12/12/2018 File SW NETWORK 040119 +10% ...	Designed by S.Smith Checked by	
Innovyze	Network 2017.1.2	

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

PN	US/MH Name	Water	Surcharged	Flooded			Pipe	Status	Level
		Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Flow (l/s)		Exceeded
S4.014	S27	2.615	-0.375	0.000	0.07		9.9	OK	
S4.015	S28	2.447	-0.363	0.000	0.08		9.9	OK	

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Innovyze			Network 2017.1.2				
<u>100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm</u>							

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