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Amber House Green Lane, Old Swan Liverpool, L13 7GD	Plant Hill SW Hydraulic Calcs	
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Innovyze	Network 2019.1	

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Surface Network 1

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	1	PIMP (%)	100
M5-60 (mm)	18.300	Add Flow / Climate Change (%)	0
Ratio R	0.353	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	50	Maximum Backdrop Height (m)	1.500
Maximum Time of Concentration (mins)	30	Min Design Depth for Optimisation (m)	1.200
Foul Sewage (l/s/ha)	0.000	Min Vel for Auto Design only (m/s)	1.00
Volumetric Runoff Coeff.	0.750	Min Slope for Optimisation (1:X)	500

Designed with Level Soffits

Time Area Diagram for Surface Network 1

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.079	4-8	0.026

Total Area Contributing (ha) = 0.105

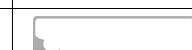
Total Pipe Volume (m³) = 2.482

Network Design Table for Surface Network 1

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	Auto Design
1.000	9.546	0.095	100.0	0.007	5.00	0.0	0.600	o	100	Pipe/Conduit	
1.001	11.825	0.118	100.0	0.007	0.00	0.0	0.600	o	100	Pipe/Conduit	
1.002	6.944	0.069	100.0	0.007	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.003	17.213	0.172	100.0	0.007	0.00	0.0	0.600	o	150	Pipe/Conduit	
2.000	4.455	0.045	99.0	0.007	5.00	0.0	0.600	o	100	Pipe/Conduit	
2.001	11.763	0.117	100.5	0.007	0.00	0.0	0.600	o	100	Pipe/Conduit	
3.000	9.090	0.162	56.1	0.007	5.00	0.0	0.600	o	100	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	46.30	5.21	80.400	0.007	0.0	0.0	0.0	0.77	6.0	0.9
1.001	45.36	5.46	80.305	0.014	0.0	0.0	0.0	0.77	6.0	1.7
1.002	44.95	5.58	80.136	0.021	0.0	0.0	0.0	1.00	17.8	2.6
1.003	43.97	5.86	80.067	0.028	0.0	0.0	0.0	1.00	17.8	3.3
2.000	46.73	5.10	79.500	0.007	0.0	0.0	0.0	0.77	6.1	0.9
2.001	45.76	5.35	79.455	0.014	0.0	0.0	0.0	0.77	6.0	1.7
3.000	46.53	5.15	79.500	0.007	0.0	0.0	0.0	1.03	8.1	0.9

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Network Design Table for Surface Network 1

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	Auto Design
2.002	10.128	0.138	73.4	0.007	0.00	0.0	0.600	o	100	Pipe/Conduit	
4.000	8.377	0.164	51.2	0.007	5.00	0.0	0.600	o	150	Pipe/Conduit	
2.003	6.675	0.225	29.7	0.007	0.00	0.0	0.600	o	225	Pipe/Conduit	
5.000	22.450	0.225	99.8	0.007	5.00	0.0	0.600	o	100	Pipe/Conduit	
1.004	11.508	0.058	198.4	0.007	0.00	0.0	0.600	o	225	Pipe/Conduit	
6.000	27.616	0.408	67.8	0.007	5.00	0.0	0.600	o	100	Pipe/Conduit	
7.000	22.994	0.850	27.1	0.007	5.00	0.0	0.600	o	100	Pipe/Conduit	
7.001	3.868	0.039	99.2	0.007	0.00	0.0	0.600	o	100	Pipe/Conduit	
1.005	2.309	0.014	168.3	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.006	5.268	0.036	147.7	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
2.002	45.09	5.54	79.338	0.028	0.0	0.0	0.0	0.90	7.1	3.4
4.000	46.71	5.10	79.314	0.007	0.0	0.0	0.0	1.41	24.9	0.9
2.003	44.92	5.59	79.075	0.042	0.0	0.0	0.0	2.41	95.9	5.1
5.000	45.28	5.49	79.200	0.007	0.0	0.0	0.0	0.77	6.0	0.9
1.004	43.29	6.07	78.850	0.084	0.0	0.0	0.0	0.92	36.8	9.8
6.000	45.26	5.49	79.250	0.007	0.0	0.0	0.0	0.94	7.4	0.9
7.000	46.11	5.26	80.550	0.007	0.0	0.0	0.0	1.49	11.7	0.9
7.001	45.80	5.34	79.700	0.014	0.0	0.0	0.0	0.77	6.1	1.7
1.005	43.13	6.12	78.792	0.105	0.0	0.0	0.0	0.77	13.6	12.3
1.006	42.79	6.23	78.779	0.105	0.0	0.0	0.0	0.82	14.6	12.3

Amber House
Green Lane, Old Swan
Liverpool, L13 7GD

Plant Hill
SW Hydraulic Calcs

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Manhole Schedules for Surface Network 1

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S6	385205.373	403457.088	385205.373	403457.088	Required	
S7	385191.181	403461.513	385191.181	403461.513	Required	
S8	385194.347	403452.992	385194.347	403452.992	Required	
S9	385181.994	403457.350	385181.994	403457.350	Required	
S10	385184.849	403449.475	385184.849	403449.475	Required	
S11	385207.194	403450.859	385207.194	403450.859	Required	
S12	385186.188	403442.936	385186.188	403442.936	Required	
S13	385216.098	403441.698	385216.098	403441.698	Required	
S14	385165.010	403422.781	385165.010	403422.781	Required	
S15	385186.562	403430.796	385186.562	403430.796	Required	
S16	385190.187	403432.145	385190.187	403432.145	Required	
S17	385192.478	403431.861	385192.478	403431.861	Required	
S18	385197.425	403433.670			No Entry	

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PIPELINE SCHEDULES for Surface Network 1

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)
1.000	o	100	S1	81.000	80.400	0.500	Open Manhole	300
1.001	o	100	S2	81.000	80.305	0.595	Open Manhole	450
1.002	o	150	S3	81.000	80.136	0.714	Open Manhole	450
1.003	o	150	S4	81.150	80.067	0.933	Open Manhole	450
2.000	o	100	S5	80.100	79.500	0.500	Open Manhole	300
2.001	o	100	S6	80.100	79.455	0.545	Open Manhole	450
3.000	o	100	S7	80.100	79.500	0.500	Open Manhole	450
2.002	o	100	S8	80.100	79.338	0.662	Open Manhole	450
4.000	o	150	S9	80.363	79.314	0.900	Open Manhole	450
2.003	o	225	S10	80.678	79.075	1.378	Open Manhole	600
5.000	o	100	S11	79.850	79.200	0.550	Open Manhole	300
1.004	o	225	S12	80.872	78.850	1.797	Open Manhole	600
6.000	o	100	S13	79.850	79.250	0.500	Open Manhole	300
7.000	o	100	S14	81.150	80.550	0.500	Open Manhole	300
7.001	o	100	S15	81.000	79.700	1.200	Open Manhole	450

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)
1.000	9.546	100.0	S2	81.000	80.305	0.595	Open Manhole	450
1.001	11.825	100.0	S3	81.000	80.186	0.714	Open Manhole	450
1.002	6.944	100.0	S4	81.150	80.067	0.933	Open Manhole	450
1.003	17.213	100.0	S12	80.872	79.895	0.827	Open Manhole	600
2.000	4.455	99.0	S6	80.100	79.455	0.545	Open Manhole	450
2.001	11.763	100.5	S8	80.100	79.338	0.662	Open Manhole	450
3.000	9.090	56.1	S8	80.100	79.338	0.662	Open Manhole	450
2.002	10.128	73.4	S10	80.678	79.200	1.378	Open Manhole	600
4.000	8.377	51.2	S10	80.678	79.150	1.378	Open Manhole	600
2.003	6.675	29.7	S12	80.872	78.850	1.797	Open Manhole	600
5.000	22.450	99.8	S12	80.872	78.975	1.797	Open Manhole	600
1.004	11.508	198.4	S16	80.557	78.792	1.540	Open Manhole	1200
6.000	27.616	67.8	S16	80.557	78.843	1.614	Open Manhole	1200
7.000	22.994	27.1	S15	81.000	79.700	1.200	Open Manhole	450
7.001	3.868	99.2	S16	80.557	79.661	0.796	Open Manhole	1200

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PIPELINE SCHEDULES for Surface Network 1

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)
1.005	o	150	S16	80.557	78.792	1.614	Open Manhole	1200
1.006	o	150	S17	80.450	78.779	1.521	Open Manhole	450

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)
1.005	2.309	168.3	S17	80.450	78.779	1.521	Open Manhole	450
1.006	5.268	147.7	S18	80.420	78.743	1.527	Open Manhole	600

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Network Classifications for Surface Network 1

PN	USMH Name	Pipe Dia (mm)	Min Cover Depth (m)	Max Cover Depth (m)	Pipe Type	MH Dia (mm)	MH Width (mm)	MH Ring Depth (m)	MH Type
1.000	S1	100	0.500	0.595	Unclassified	300	0	0.500	Unclassified
1.001	S2	100	0.595	0.714	Unclassified	450	0	0.595	Unclassified
1.002	S3	150	0.714	0.933	Unclassified	450	0	0.714	Unclassified
1.003	S4	150	0.827	0.933	Unclassified	450	0	0.933	Unclassified
2.000	S5	100	0.500	0.545	Unclassified	300	0	0.500	Unclassified
2.001	S6	100	0.545	0.662	Unclassified	450	0	0.545	Unclassified
3.000	S7	100	0.500	0.662	Unclassified	450	0	0.500	Unclassified
2.002	S8	100	0.662	1.378	Unclassified	450	0	0.662	Unclassified
4.000	S9	150	0.900	1.378	Unclassified	450	0	0.900	Unclassified
2.003	S10	225	1.378	1.797	Unclassified	600	0	1.378	Unclassified
5.000	S11	100	0.550	1.797	Unclassified	300	0	0.550	Unclassified
1.004	S12	225	1.540	1.797	Unclassified	600	0	1.797	Unclassified
6.000	S13	100	0.500	1.614	Unclassified	300	0	0.500	Unclassified
7.000	S14	100	0.500	1.200	Unclassified	300	0	0.500	Unclassified
7.001	S15	100	0.796	1.200	Unclassified	450	0	1.200	Unclassified
1.005	S16	150	1.521	1.614	Unclassified	1200	0	1.614	Unclassified
1.006	S17	150	1.521	1.527	Unclassified	450	0	1.521	Unclassified

Free Flowing Outfall Details for Surface Network 1

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
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1.006	S18	80.420	78.743	0.000	600	0
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Simulation Criteria for Surface Network 1

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

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	1	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	18.300	Storm Duration (mins)	30
Ratio R	0.353		

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Online Controls for Surface Network 1

Hydro-Brake® Optimum Manhole: S16, DS/PN: 1.005, Volume (m³): 2.7

Unit Reference	MD-SHE-0099-5000-1450-5000
Design Head (m)	1.450
Design Flow (l/s)	5.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	99
Invert Level (m)	78.792
Minimum Outlet Pipe Diameter (mm)	150
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)	Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	1.450	5.0	Kick-Flo®	0.882	4.0
Flush-Flo™	0.432	5.0	Mean Flow over Head Range	-	4.4

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	3.2	1.200	4.6	3.000	7.0	7.000	10.5
0.200	4.5	1.400	4.9	3.500	7.5	7.500	10.8
0.300	4.9	1.600	5.2	4.000	8.0	8.000	11.2
0.400	5.0	1.800	5.5	4.500	8.5	8.500	11.5
0.500	5.0	2.000	5.8	5.000	8.9	9.000	11.8
0.600	4.9	2.200	6.1	5.500	9.3	9.500	12.1
0.800	4.4	2.400	6.3	6.000	9.7		
1.000	4.2	2.600	6.6	6.500	10.1		

Storage Structures for Surface Network 1

Cellular Storage Manhole: S12, DS/PN: 1.004

Invert Level (m) 78.900 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	36.8	36.8	0.900	0.0	59.2
0.800	36.8	59.2			

Manhole Headloss for Surface Network 1

PN	US/MH Name	US/MH Headloss
1.000	S1	0.500
1.001	S2	0.500
1.002	S3	0.500
1.003	S4	0.500
2.000	S5	0.500
2.001	S6	0.500
3.000	S7	0.500
2.002	S8	0.500
4.000	S9	0.500
2.003	S10	0.500
5.000	S11	0.500
1.004	S12	0.500
6.000	S13	0.500
7.000	S14	0.500
7.001	S15	0.500
1.005	S16	0.500
1.006	S17	0.500

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

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 Offline Controls 0

Number of Time/Area Diagrams 0

Number of Online Controls 1

Number of Storage Structures 1

Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model

FSR M5-60 (mm) 18.300 Cv (Summer) 0.750

Region England and Wales

Ratio R 0.353 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm)

300.0

Analysis Timestep 2.5 Second Increment (Extended)

DTS Status ON

DVD Status OFF

Inertia Status OFF

Profile(s)

Summer and Winter

Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440

Return Period(s) (years) 1, 30, 100

Climate Change (%) 0, 0, 45

										Water	Surcharged
PN	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow		Level	Depth
	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.		(m)	(m)
1.000	S1 15	Winter	1	+0%	100/15 Summer					80.426	-0.074
1.001	S2 15	Winter	1	+0%	100/15 Summer					80.341	-0.064
1.002	S3 15	Winter	1	+0%						80.175	-0.111
1.003	S4 15	Winter	1	+0%						80.110	-0.107
2.000	S5 15	Winter	1	+0%	100/15 Summer					79.527	-0.073
2.001	S6 15	Winter	1	+0%	30/15 Winter					79.491	-0.064
3.000	S7 15	Winter	1	+0%	100/15 Summer					79.522	-0.078
2.002	S8 15	Winter	1	+0%	30/15 Summer					79.387	-0.051
4.000	S9 15	Winter	1	+0%	100/15 Winter					79.333	-0.131
2.003	S10 15	Winter	1	+0%	100/15 Summer					79.114	-0.186
5.000	S11 15	Winter	1	+0%	100/15 Summer					79.225	-0.075
1.004	S12 30	Winter	1	+0%	30/15 Summer					78.982	-0.093
6.000	S13 15	Winter	1	+0%	100/15 Summer					79.273	-0.077
7.000	S14 15	Winter	1	+0%						80.568	-0.082
7.001	S15 15	Winter	1	+0%	100/15 Summer					79.738	-0.062
1.005	S16 30	Winter	1	+0%	1/15 Summer					78.978	0.035
1.006	S17 30	Winter	1	+0%						78.837	-0.092

		Flooded		Pipe				Level	
PN	US/MH	Volume	Flow /	Overflow	Flow			Status	Exceeded
	Name	(m³)	Cap.	(l/s)	(l/s)				
1.000	S1	0.000	0.15		0.9			OK	
1.001	S2	0.000	0.27		1.6			OK	
1.002	S3	0.000	0.15		2.3			OK	
1.003	S4	0.000	0.18		3.0			OK	

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

PN	US/MH Name	Flooded		Pipe		Status	Level Exceeded
		Volume (m³)	Flow / Overflow Cap.	Flow (l/s)	Flow (l/s)		
2.000	S5	0.000	0.16		0.8	OK	
2.001	S6	0.000	0.28		1.6	OK	
3.000	S7	0.000	0.11		0.9	OK	
2.002	S8	0.000	0.48		3.1	OK	
4.000	S9	0.000	0.04		0.9	OK	
2.003	S10	0.000	0.07		4.7	OK	
5.000	S11	0.000	0.14		0.8	OK	
1.004	S12	0.000	0.10		3.2	OK	
6.000	S13	0.000	0.12		0.8	OK	
7.000	S14	0.000	0.08		0.9	OK	
7.001	S15	0.000	0.30		1.6	OK	
1.005	S16	0.000	0.35		3.8	SURCHARGED	
1.006	S17	0.000	0.32		3.8	OK	

Amber House

Plant Hill

Green Lane, Old Swan

SW Hydraulic Calcs

Liverpool, L13 7GD

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

Simulation Criteria

Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m ³ /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		

Hot Start (mins)	0	MADD Factor * 10m ³ /ha Storage	2.000
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Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
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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 Offline Controls	0	Number of Time/Area Diagrams	0
Number of Online Controls	1	Number of Storage Structures	1	Number of Real Time Controls	0

Synthetic Rainfall Details

Rainfall Model	FSR M5-60 (mm)	18.300	Cv (Summer)	0.750
Region	England and Wales	Ratio R	0.353	Cv (Winter)

Margin for Flood Risk Warning (mm)	300.0
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Analysis Timestep 2.5 Second Increment (Extended)

DTS Status ON

DVD Status OFF

Inertia Status OFF

Profile(s) Summer and Winter

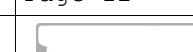
Duration(s) (mins) 15, 30, 60, 120, 240, 360, 480, 960, 1440

Return Period(s) (years) 1, 30, 100

Climate Change (%) 0, 0, 45

									Water	Surcharged
	US/MH		Return	Climate	First (X)	First (Y)	First (Z)	Overflow	Level	Depth
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act.	(m)	(m)
1.000	S1	15 Winter	30	+0%	100/15 Summer				80.442	-0.058
1.001	S2	15 Winter	30	+0%	100/15 Summer				80.370	-0.034
1.002	S3	15 Winter	30	+0%					80.205	-0.081
1.003	S4	15 Winter	30	+0%					80.145	-0.072
2.000	S5	15 Winter	30	+0%	100/15 Summer				79.568	-0.032
2.001	S6	15 Winter	30	+0%	30/15 Winter				79.559	0.004
3.000	S7	15 Winter	30	+0%	100/15 Summer				79.536	-0.064
2.002	S8	15 Winter	30	+0%	30/15 Summer				79.500	0.062
4.000	S9	15 Winter	30	+0%	100/15 Winter				79.345	-0.119
2.003	S10	60 Winter	30	+0%	100/15 Summer				79.223	-0.077
5.000	S11	15 Winter	30	+0%	100/15 Summer				79.241	-0.059
1.004	S12	60 Winter	30	+0%	30/15 Summer				79.221	0.146
6.000	S13	15 Winter	30	+0%	100/15 Summer				79.287	-0.063
7.000	S14	15 Winter	30	+0%					80.579	-0.071
7.001	S15	15 Winter	30	+0%	100/15 Summer				79.771	-0.029
1.005	S16	60 Winter	30	+0%	1/15 Summer				79.218	0.275
1.006	S17	60 Winter	30	+0%					78.846	-0.083

PN	US/MH Name	Flooded		Pipe	Status	Level Exceeded
		Volume (m³)	Flow / Cap.	Overflow (l/s)		
1.000	S1	0.000	0.37			OK
1.001	S2	0.000	0.76		4.3	OK
1.002	S3	0.000	0.43		6.5	OK
1.003	S4	0.000	0.52		8.7	OK

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

PN	US/MH Name	Flooded	Pipe		Status	Level Exceeded
		Volume (m³)	Flow / Cap.	Overflow (l/s)		
2.000	S5	0.000	0.38	2.0	OK	
2.001	S6	0.000	0.70	4.0	SURCHARGED	
3.000	S7	0.000	0.28	2.1	OK	
2.002	S8	0.000	1.21	8.0	SURCHARGED	
4.000	S9	0.000	0.10	2.1	OK	
2.003	S10	0.000	0.10	6.8	OK	
5.000	S11	0.000	0.35	2.0	OK	
1.004	S12	0.000	0.15	4.6	SURCHARGED	
6.000	S13	0.000	0.29	2.0	OK	
7.000	S14	0.000	0.18	2.1	OK	
7.001	S15	0.000	0.84	4.3	OK	
1.005	S16	0.000	0.46	4.9	SURCHARGED	
1.006	S17	0.000	0.42	4.9	OK	

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

PN	US/MH Name	Flooded		Pipe		Status	Level Exceeded
		Volume (m³)	Flow / Overflow Cap.	Flow (l/s)	Flow (l/s)		
2.000	S5	0.000	0.68		3.5	FLOOD RISK	
2.001	S6	0.000	1.18		6.7	FLOOD RISK	
3.000	S7	0.000	0.47		3.5	FLOOD RISK	
2.002	S8	0.000	2.04		13.4	FLOOD RISK	
4.000	S9	0.000	0.10		2.1	SURCHARGED	
2.003	S10	0.000	0.17		11.3	SURCHARGED	
5.000	S11	0.000	0.33		1.9	FLOOD RISK	
1.004	S12	0.000	0.15		4.8	SURCHARGED	
6.000	S13	0.000	0.28		2.0	FLOOD RISK	
7.000	S14	0.000	0.35		3.9	OK	
7.001	S15	0.000	1.57		8.0	SURCHARGED	
1.005	S16	0.000	0.46		5.0	SURCHARGED	
1.006	S17	0.000	0.42		5.0	OK	