

29-31 Castle Street
High Wycombe
Buckinghamshire, HP13 6RU

North Farm Road,
Tunbridge Wells



Date 04/10/2023 09:45

Designed by AR

File 23-018 Network.MDX

Checked by IL

Innovyze

Network 2020.1.3

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.208	4-8	0.133

Total Area Contributing (ha) = 0.341

Total Pipe Volume (m³) = 11.438

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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
1.000	15.090	0.101	149.4	0.049	5.00	0.0	0.600	o	225	Pipe/Conduit
2.000	2.920	0.161	18.1	0.013	5.00	0.0	0.600	o	150	Pipe/Conduit
1.001	56.389	0.944	59.7	0.022	0.00	0.0	0.600	o	225	Pipe/Conduit
3.000	1.230	0.008	153.8	0.002	5.00	0.0	0.600	o	150	Pipe/Conduit
1.002	54.182	0.361	150.1	0.129	0.00	0.0	0.600	o	300	Pipe/Conduit
1.003	16.298	0.109	149.5	0.004	0.00	0.0	0.600	o	375	Pipe/Conduit
4.000	19.680	0.128	153.8	0.035	5.00	0.0	0.600	o	150	Pipe/Conduit
4.001	28.470	0.190	149.8	0.010	0.00	0.0	0.600	o	225	Pipe/Conduit
1.004	3.242	0.025	129.7	0.002	0.00	0.0	0.600	o	375	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
1.000	80.120	0.049	0.0	1.07	42.4
2.000	80.180	0.013	0.0	2.38	42.0
1.001	80.019	0.084	0.0	1.70	67.4
3.000	79.158	0.002	0.0	0.81	14.3
1.002	79.000	0.215	0.0	1.28	90.6
1.003	78.564	0.219	0.0	1.48	163.4
4.000	82.468	0.035	0.0	0.81	14.3
4.001	82.265	0.045	0.0	1.07	42.4
1.004	78.455	0.266	0.0	1.59	175.6

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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
5.000	5.370	0.380	14.1	0.030	5.00	0.0	0.600	o	150	Pipe/Conduit
5.001	8.870	0.059	150.3	0.004	0.00	0.0	0.600	o	150	Pipe/Conduit
6.000	3.730	3.080	1.2	0.041	5.00	0.0	0.600	o	150	Pipe/Conduit
5.002	1.500	0.010	150.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit
5.003	1.500	0.010	150.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit
5.004	1.500	0.075	20.0	0.000	0.00	0.0	0.600	o	225	Pipe/Conduit
1.005	2.000	0.013	153.8	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit
1.006	6.000	-3.390	-1.8	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit
1.007	13.110	0.087	150.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit

Network Results Table

PN	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Vel (m/s)	Cap (l/s)
5.000	82.680	0.030	0.0	2.69	47.6
5.001	82.300	0.034	0.0	0.82	14.4
6.000	82.700	0.041	0.0	9.23	163.2
5.002	79.545	0.075	0.0	1.07	42.4
5.003	79.435	0.075	0.0	1.07	42.4
5.004	79.425	0.075	0.0	2.94	116.9
1.005	78.430	0.341	0.0	1.46	161.1
1.006	78.417	0.341	0.0	0.00	0.0
1.007	81.807	0.341	0.0	0.82	14.5

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Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	Pipe Out PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	Pipes In		Backdrop (mm)
								PN	Invert Level (m)	
S101	80.923	0.803	Open Manhole	1200	1.000	80.120	225			
S3	81.021	0.841	Open Manhole	450	2.000	80.180	150			
S102	80.917	0.898	Open Manhole	1200	1.001	80.019	225	1.000	80.019	225
								2.000	80.019	150
OB1	79.872	0.714	Open Manhole	600 x 600	3.000	79.158	150			
S103	79.826	0.826	Open Manhole	1200	1.002	79.000	300	1.001	79.075	225
								3.000	79.150	150
S104	83.717	5.153	Open Manhole	1350	1.003	78.564	375	1.002	78.639	300
S105	83.668	1.200	Open Manhole	1200	4.000	82.468	150			
S106	83.668	1.403	Open Manhole	1200	4.001	82.265	225	4.000	82.340	150
S107	83.699	5.244	Open Manhole	1350	1.004	78.455	375	1.003	78.455	375
								4.001	82.075	225
										3470
OB2	83.431	0.751	Open Manhole	600 x 600	5.000	82.680	150			
S108	83.516	1.216	Open Manhole	1200	5.001	82.300	150	5.000	82.300	150
OB3	83.454	0.754	Open Manhole	600 x 600	6.000	82.700	150			
S109	83.516	3.971	Open Manhole	1200	5.002	79.545	225	5.001	82.241	150
								6.000	79.620	150
										2621
PI	83.516	4.081	Junction		5.003	79.435	225	5.002	79.535	225
S110	83.516	4.091	Open Manhole	1200	5.004	79.425	225	5.003	79.425	225
TANK	83.490	5.060	Junction		1.005	78.430	375	1.004	78.430	375
								5.004	79.350	225
										770
PUMP	83.474	5.057	Open Manhole	1800	1.006	78.417	150	1.005	78.417	375
S111	83.456	1.649	Open Manhole	1200	1.007	81.807	150	1.006	81.807	150
	82.920	1.200	Open Manhole	0		OUTFALL		1.007	81.720	150

No coordinates have been specified, layout information cannot be produced.

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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)
1.000	o	225	S101	80.923	80.120	0.578	Open Manhole	1200
2.000	o	150	S3	81.021	80.180	0.691	Open Manhole	450
1.001	o	225	S102	80.917	80.019	0.673	Open Manhole	1200
3.000	o	150	OB1	79.872	79.158	0.564	Open Manhole	600 x 600
1.002	o	300	S103	79.826	79.000	0.526	Open Manhole	1200
1.003	o	375	S104	83.717	78.564	4.778	Open Manhole	1350
4.000	o	150	S105	83.668	82.468	1.050	Open Manhole	1200
4.001	o	225	S106	83.668	82.265	1.178	Open Manhole	1200
1.004	o	375	S107	83.699	78.455	4.869	Open Manhole	1350

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	15.090	149.4	S102	80.917	80.019	0.673	Open Manhole	1200
2.000	2.920	18.1	S102	80.917	80.019	0.748	Open Manhole	1200
1.001	56.389	59.7	S103	79.826	79.075	0.526	Open Manhole	1200
3.000	1.230	153.8	S103	79.826	79.150	0.526	Open Manhole	1200
1.002	54.182	150.1	S104	83.717	78.639	4.778	Open Manhole	1350
1.003	16.298	149.5	S107	83.699	78.455	4.869	Open Manhole	1350
4.000	19.680	153.8	S106	83.668	82.340	1.178	Open Manhole	1200
4.001	28.470	149.8	S107	83.699	82.075	1.399	Open Manhole	1350
1.004	3.242	129.7	TANK	83.490	78.430	4.685	Junction	

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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)
5.000	o	150	OB2	83.431	82.680	0.601	Open Manhole	600 x 600
5.001	o	150	S108	83.516	82.300	1.066	Open Manhole	1200
6.000	o	150	OB3	83.454	82.700	0.604	Open Manhole	600 x 600
5.002	o	225	S109	83.516	79.545	3.746	Open Manhole	1200
5.003	o	225	PI	83.516	79.435	3.856	Junction	
5.004	o	225	S110	83.516	79.425	3.866	Open Manhole	1200
1.005	o	375	TANK	83.490	78.430	4.685	Junction	
1.006	o	150	PUMP	83.474	78.417	4.907	Open Manhole	1800
1.007	o	150	S111	83.456	81.807	1.499	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)
5.000	5.370	14.1	S108	83.516	82.300	1.066	Open Manhole	1200
5.001	8.870	150.3	S109	83.516	82.241	1.125	Open Manhole	1200
6.000	3.730	1.2	S109	83.516	79.620	3.746	Open Manhole	1200
5.002	1.500	150.0	PI	83.516	79.535	3.756	Junction	
5.003	1.500	150.0	S110	83.516	79.425	3.866	Open Manhole	1200
5.004	1.500	20.0	TANK	83.490	79.350	3.915	Junction	
1.005	2.000	153.8	PUMP	83.474	78.417	4.682	Open Manhole	1800
1.006	6.000	-1.8	S111	83.456	81.807	1.499	Open Manhole	1200
1.007	13.110	150.0		82.920	81.720	1.050	Open Manhole	0

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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)
1.007	82.920	81.720	0.000	0	0

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Online Controls for Storm

Pump Manhole: PUMP, DS/PN: 1.006, Volume (m³): 13.0

Invert Level (m) 78.417

Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.001	2.1000	0.350	2.1000	0.800	2.1000	1.200	7.8700	2.100	0.0000	2.600	0.0000
0.010	2.1000	0.400	2.1000	0.900	2.1000	1.300	7.8700	2.200	0.0000	2.700	0.0000
0.100	2.1000	0.500	2.1000	0.950	7.8700	1.400	0.0000	2.300	0.0000	2.800	0.0000
0.200	2.1000	0.600	2.1000	1.000	7.8700	1.900	0.0000	2.400	0.0000	2.900	0.0000
0.300	2.1000	0.700	2.1000	1.100	7.8700	2.000	0.0000	2.500	0.0000	3.000	0.0000

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Storage Structures for Storm

Cellular Storage Manhole: TANK, DS/PN: 1.005

Invert Level (m) 78.430 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	193.5	0.0	1.200	193.5	0.0	1.201	0.0	0.0

Time Area Diagram at Pipe Number 2.000 for Storm

Total Area (ha) 0.018

Time (mins) Area			Time (mins) Area		
From:	To:	(ha)	From:	To:	(ha)
0	4	0.009	4	8	0.009

Time Area Diagram at Pipe Number 4.001 for Storm

Total Area (ha) 0.024

Time (mins) Area			Time (mins) Area		
From:	To:	(ha)	From:	To:	(ha)
0	4	0.012	4	8	0.012

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

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 2
 Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH Data Type Point
 FEH Rainfall Version 2013 Cv (Summer) 0.750
 Site Location GB 559439 141595 TQ 59439 41595 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320,
 5760, 7200, 8640, 10080
 Return Period(s) (years) 2, 30, 100
 Climate Change (%) 0, 35, 45

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water	Surcharged	Flooded	Flow / Overflow Cap.	Half Drain Time (mins)	Pipe	Status
									Level (m)	Depth (m)	Volume (m³)			Flow (l/s)	
1.000	S101 15	Winter	2	+0%	100/15	Summer		80.193	-0.152	0.000	0.22		8.4	OK	
2.000	S3 15	Winter	2	+0%	100/15	Summer		80.211	-0.119	0.000	0.10		2.4	OK	
1.001	S102 15	Winter	2	+0%	100/15	Summer		80.090	-0.154	0.000	0.21		13.8	OK	
3.000	OB1 15	Winter	2	+0%	30/15	Summer		79.175	-0.133	0.000	0.03		0.3	OK	
1.002	S103 15	Winter	2	+0%	30/15	Summer		79.128	-0.172	0.000	0.37		31.8	OK	
1.003	S104 15	Winter	2	+0%	30/15	Summer		78.692	-0.247	0.000	0.25		32.6	OK	
4.000	S105 15	Winter	2	+0%	30/15	Summer		82.539	-0.079	0.000	0.44		6.0	OK	
4.001	S106 15	Winter	2	+0%				82.338	-0.152	0.000	0.23		9.2	OK	
1.004	S107 15	Winter	2	+0%	30/15	Summer		78.633	-0.197	0.000	0.46		42.1	OK	
5.000	OB2 15	Winter	2	+0%				82.716	-0.114	0.000	0.13		5.2	OK	
5.001	S108 15	Winter	2	+0%	30/15	Summer		82.371	-0.079	0.000	0.45		5.7	OK	
6.000	OB3 15	Winter	2	+0%				82.725	-0.125	0.000	0.06		7.1	OK	
5.002	S109 15	Winter	2	+0%	30/15	Summer		79.649	-0.121	0.000	0.42		12.7	OK	

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

	US/MH	Level
PN	Name	Exceeded
1.000	S101	
2.000	S3	
1.001	S102	
3.000	OB1	
1.002	S103	
1.003	S104	
4.000	S105	
4.001	S106	
1.004	S107	
5.000	OB2	
5.001	S108	
6.000	OB3	
5.002	S109	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water	Surcharged	Flooded	Flow / Overflow Cap.	Half Drain Time (mins)	Pipe	Status
									Level (m)	Depth (m)	Volume (m ³)			Flow (l/s)	
5.003	PI	15 Winter	2	+0%	30/15 Summer			79.538	-0.122	0.000	0.43		235	12.8	OK*
5.004	S110	15 Winter	2	+0%	100/15 Summer			79.514	-0.136	0.000	0.33			12.8	OK
1.005	TANK	240 Winter	2	+0%	30/15 Summer			78.721	-0.084	0.000	0.05			5.6	OK*
1.006	PUMP	480 Winter	2	+0%	2/15 Winter			78.740	0.173	0.000	0.25			2.1	SURCHARGED
1.007	S111	15 Summer	2	+0%				81.847	-0.110	0.000	0.16			2.1	OK

PN	US/MH Name	Level Exceeded
5.003	PI	
5.004	S110	
1.005	TANK	
1.006	PUMP	
1.007	S111	

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

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 2
Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH Data Type Point
FEH Rainfall Version 2013 Cv (Summer) 0.750
Site Location GB 559439 141595 TQ 59439 41595 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320,
5760, 7200, 8640, 10080
Return Period(s) (years) 2, 30, 100
Climate Change (%) 0, 35, 45

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Water Surcharged Flooded				Half Drain Time (mins)	Pipe Flow (l/s)	Status
								Level (m)	Depth (m)	Volume (m ³)	Flow / Overflow Cap. (l/s)			
1.000	S101	15 Winter	30	+35%	100/15 Summer			80.262	-0.083	0.000	0.71		26.5	OK
2.000	S3	15 Winter	30	+35%	100/15 Summer			80.237	-0.093	0.000	0.31		7.7	OK
1.001	S102	15 Winter	30	+35%	100/15 Summer			80.162	-0.082	0.000	0.70		45.6	OK
3.000	OB1	15 Summer	30	+35%	30/15 Summer			79.514	0.206	0.000	0.17		1.9	SURCHARGED
1.002	S103	15 Winter	30	+35%	30/15 Summer			79.551	0.251	0.000	1.24		106.3	FLOOD RISK
1.003	S104	15 Winter	30	+35%	30/15 Summer			78.980	0.041	0.000	0.83		106.7	SURCHARGED
4.000	S105	15 Winter	30	+35%	30/15 Summer			82.730	0.112	0.000	1.37		18.4	SURCHARGED
4.001	S106	15 Winter	30	+35%				82.408	-0.082	0.000	0.73		28.6	OK
1.004	S107	15 Winter	30	+35%	30/15 Summer			78.907	0.077	0.000	1.47		135.5	SURCHARGED
5.000	OB2	15 Winter	30	+35%				82.748	-0.082	0.000	0.42		16.3	OK
5.001	S108	15 Winter	30	+35%	30/15 Summer			82.513	0.063	0.000	1.44		18.3	SURCHARGED
6.000	OB3	15 Winter	30	+35%				82.746	-0.104	0.000	0.20		22.3	OK
5.002	S109	15 Winter	30	+35%	30/15 Summer			79.835	0.065	0.000	1.35		40.2	SURCHARGED

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

	US/MH	Level
PN	Name	Exceeded
1.000	S101	
2.000	S3	
1.001	S102	
3.000	OB1	
1.002	S103	
1.003	S104	
4.000	S105	
4.001	S106	
1.004	S107	
5.000	OB2	
5.001	S108	
6.000	OB3	
5.002	S109	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water	Surcharged	Flooded	Flow / Overflow Cap.	Half Drain Time (mins)	Pipe	Status
									Level (m)	Depth (m)	Volume (m³)			Flow (l/s)	
5.003	PI	15 Winter	30	+35%	30/15 Summer			79.735	0.075	0.000	1.36		40.6	SURCHARGED*	
5.004	S110	15 Winter	30	+35%	100/15 Summer			79.650	0.000	0.000	1.05		40.6	OK	
1.005	TANK	240 Winter	30	+35%	30/15 Summer			79.342	0.537	0.000	0.08	697	9.1	SURCHARGED*	
1.006	PUMP	240 Winter	30	+35%	2/15 Winter			79.382	0.815	0.000	0.57		4.9	SURCHARGED	
1.007	S111	240 Winter	30	+35%				81.872	-0.085	0.000	0.36		4.8	OK	

PN	US/MH Name	Level Exceeded
5.003	PI	
5.004	S110	
1.005	TANK	
1.006	PUMP	
1.007	S111	

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

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 2
 Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH Data Type Point
 FEH Rainfall Version 2013 Cv (Summer) 0.750
 Site Location GB 559439 141595 TQ 59439 41595 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320,
 5760, 7200, 8640, 10080
 Return Period(s) (years) 2, 30, 100
 Climate Change (%) 0, 35, 45

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Water				Half Drain Time (mins)	Pipe Flow (l/s)	Status
								Level (m)	Depth (m)	Volume (m ³)	Flow / Overflow Cap. (l/s)			
1.000	S101	15 Winter	100	+45%	100/15 Summer			80.579	0.234	0.000	0.85	31.6	SURCHARGED	
2.000	S3	15 Winter	100	+45%	100/15 Summer			80.521	0.191	0.000	0.46	11.5	SURCHARGED	
1.001	S102	15 Winter	100	+45%	100/15 Summer			80.504	0.260	0.000	0.83	54.0	SURCHARGED	
3.000	OB1	15 Summer	100	+45%	30/15 Summer			79.824	0.516	0.000	0.21	2.3	FLOOD RISK	
1.002	S103	15 Summer	100	+45%	30/15 Summer			79.823	0.523	0.000	1.46	125.2	FLOOD RISK	
1.003	S104	15 Winter	100	+45%	30/15 Summer			79.115	0.176	0.000	0.97	125.7	SURCHARGED	
4.000	S105	15 Winter	100	+45%	30/15 Summer			82.927	0.309	0.000	1.84	24.7	SURCHARGED	
4.001	S106	15 Winter	100	+45%				82.443	-0.047	0.000	0.99	38.9	OK	
1.004	S107	15 Winter	100	+45%	30/15 Summer			79.052	0.222	0.000	1.79	165.3	SURCHARGED	
5.000	OB2	15 Winter	100	+45%				82.763	-0.067	0.000	0.58	22.3	OK	
5.001	S108	15 Winter	100	+45%	30/15 Summer			82.625	0.175	0.000	1.98	25.1	SURCHARGED	
6.000	OB3	15 Winter	100	+45%				82.754	-0.096	0.000	0.28	30.6	OK	
5.002	S109	15 Winter	100	+45%	30/15 Summer			80.019	0.249	0.000	1.84	54.9	SURCHARGED	

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

	US/MH	Level
PN	Name	Exceeded
1.000	S101	
2.000	S3	
1.001	S102	
3.000	OB1	
1.002	S103	
1.003	S104	
4.000	S105	
4.001	S106	
1.004	S107	
5.000	OB2	
5.001	S108	
6.000	OB3	
5.002	S109	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water	Surcharged	Flooded	Flow / Overflow Cap.	Half Drain Time (mins)	Pipe	Status
									Level (m)	Depth (m)	Volume (m³)			Flow (l/s)	
5.003	PI	15 Winter	100	+45%	30/15 Summer			79.760	0.100	0.000	1.84		832	54.9	SURCHARGED*
5.004	S110	15 Winter	100	+45%	100/15 Summer			79.715	0.065	0.000	1.41			54.6	SURCHARGED
1.005	TANK	960 Winter	100	+45%	30/15 Summer			79.498	0.693	0.000	0.12			13.3	SURCHARGED*
1.006	PUMP	180 Winter	100	+45%	2/15 Winter			79.640	1.073	0.000	0.93			7.9	SURCHARGED
1.007	S111	180 Summer	100	+45%				81.890	-0.067	0.000	0.60			7.9	OK

US/MH Level Exceeded

- 5.003 PI
- 5.004 S110
- 1.005 TANK
- 1.006 PUMP
- 1.007 S111

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2 year Return Period Summary of Critical Results by Maximum Flood Volume (Rank 1) for Storm

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 2
 Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH Data Type Point
 FEH Rainfall Version 2013 Cv (Summer) 0.750
 Site Location GB 559439 141595 TQ 59439 41595 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320,
 5760, 7200, 8640, 10080
 Return Period(s) (years) 2, 30, 100
 Climate Change (%) 0, 35, 45

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water	Surcharged	Flooded	Flow / Overflow Cap. (l/s)	Half Drain	Pipe	Status
									Level (m)	Depth (m)	Volume (m³)		Time (mins)	Flow (l/s)	
1.000	S101 15	Summer	2	+0%	100/15	Summer		80.191	-0.154	0.000	0.21		8.0	OK	
2.000	S3 15	Summer	2	+0%	100/15	Summer		80.210	-0.120	0.000	0.09		2.2	OK	
1.001	S102 15	Summer	2	+0%	100/15	Summer		80.088	-0.156	0.000	0.20		13.1	OK	
3.000	OB1 15	Summer	2	+0%	30/15	Summer		79.175	-0.133	0.000	0.03		0.3	OK	
1.002	S103 15	Summer	2	+0%	30/15	Summer		79.125	-0.175	0.000	0.35		30.1	OK	
1.003	S104 15	Summer	2	+0%	30/15	Summer		78.688	-0.251	0.000	0.24		30.4	OK	
4.000	S105 15	Summer	2	+0%	30/15	Summer		82.537	-0.081	0.000	0.42		5.7	OK	
4.001	S106 15	Summer	2	+0%				82.336	-0.154	0.000	0.22		8.6	OK	
1.004	S107 15	Summer	2	+0%	30/15	Summer		78.627	-0.203	0.000	0.43		39.5	OK	
5.000	OB2 15	Summer	2	+0%				82.716	-0.114	0.000	0.13		4.9	OK	
5.001	S108 15	Summer	2	+0%	30/15	Summer		82.369	-0.081	0.000	0.43		5.4	OK	
6.000	OB3 15	Summer	2	+0%				82.724	-0.126	0.000	0.06		6.7	OK	
5.002	S109 15	Summer	2	+0%	30/15	Summer		79.646	-0.124	0.000	0.40		12.1	OK	

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2 year Return Period Summary of Critical Results by Maximum Flood Volume (Rank 1) for Storm

	US/MH	Level
PN	Name	Exceeded
1.000	S101	
2.000	S3	
1.001	S102	
3.000	OB1	
1.002	S103	
1.003	S104	
4.000	S105	
4.001	S106	
1.004	S107	
5.000	OB2	
5.001	S108	
6.000	OB3	
5.002	S109	

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2 year Return Period Summary of Critical Results by Maximum Flood Volume (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water	Surcharged	Flooded	Flow / Overflow Cap.	Half Drain Time (mins)	Pipe	Status
									Level (m)	Depth (m)	Volume (m ³)			Flow (l/s)	
5.003	PI	15 Summer	2	+0%	30/15 Summer				79.535	-0.125	0.000	0.41		12.2	OK*
5.004	S110	15 Summer	2	+0%	100/15 Summer				79.512	-0.138	0.000	0.32		12.2	OK
1.005	TANK	15 Summer	2	+0%	30/15 Summer				78.556	-0.249	0.000	0.04	98	4.2	OK*
1.006	PUMP	15 Summer	2	+0%	2/15 Winter				78.560	-0.007	0.000	0.25		2.1	OK
1.007	S111	15 Summer	2	+0%					81.847	-0.110	0.000	0.16		2.1	OK

PN	US/MH Name	Level Exceeded
5.003	PI	
5.004	S110	
1.005	TANK	
1.006	PUMP	
1.007	S111	

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

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 2
Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH Data Type Point
FEH Rainfall Version 2013 Cv (Summer) 0.750
Site Location GB 559439 141595 TQ 59439 41595 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320,
5760, 7200, 8640, 10080
Return Period(s) (years) 2, 30, 100
Climate Change (%) 0, 35, 45

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Water Surcharged Flooded				Half Drain Time (mins)	Pipe Flow (l/s)	Status
								Level (m)	Depth (m)	Volume (m ³)	Flow / Overflow Cap. (l/s)			
1.000	S101	15 Summer	30	+35%	100/15 Summer			80.257	-0.088	0.000	0.68		25.3	OK
2.000	S3	15 Summer	30	+35%	100/15 Summer			80.233	-0.097	0.000	0.28		6.9	OK
1.001	S102	15 Summer	30	+35%	100/15 Summer			80.158	-0.086	0.000	0.67		43.7	OK
3.000	OB1	15 Summer	30	+35%	30/15 Summer			79.514	0.206	0.000	0.17		1.9	SURCHARGED
1.002	S103	15 Summer	30	+35%	30/15 Summer			79.513	0.213	0.000	1.22		104.4	SURCHARGED
1.003	S104	15 Summer	30	+35%	30/15 Summer			78.965	0.026	0.000	0.81		104.2	SURCHARGED
4.000	S105	15 Summer	30	+35%	30/15 Summer			82.709	0.091	0.000	1.31		17.6	SURCHARGED
4.001	S106	15 Summer	30	+35%				82.402	-0.088	0.000	0.68		26.8	OK
1.004	S107	15 Summer	30	+35%	30/15 Summer			78.898	0.068	0.000	1.42		131.1	SURCHARGED
5.000	OB2	15 Summer	30	+35%				82.746	-0.084	0.000	0.40		15.5	OK
5.001	S108	15 Summer	30	+35%	30/15 Summer			82.503	0.053	0.000	1.38		17.6	SURCHARGED
6.000	OB3	15 Summer	30	+35%				82.745	-0.105	0.000	0.19		21.3	OK
5.002	S109	15 Summer	30	+35%	30/15 Summer			79.827	0.057	0.000	1.29		38.6	SURCHARGED

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

	US/MH	Level
PN	Name	Exceeded
1.000	S101	
2.000	S3	
1.001	S102	
3.000	OB1	
1.002	S103	
1.003	S104	
4.000	S105	
4.001	S106	
1.004	S107	
5.000	OB2	
5.001	S108	
6.000	OB3	
5.002	S109	

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

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m ³)	Flow / Overflow Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
5.003	PI	15 Summer	30	+35%	30/15 Summer				79.717	0.057	0.000	1.30		38.8	SURCHARGED*
5.004	S110	15 Summer	30	+35%	100/15 Summer				79.632	-0.018	0.000	1.00		38.5	OK
1.005	TANK	15 Summer	30	+35%	30/15 Summer				78.835	0.030	0.000	0.07	322	7.3	SURCHARGED*
1.006	PUMP	15 Summer	30	+35%	2/15 Winter				78.880	0.313	0.000	0.25		2.1	SURCHARGED
1.007	S111	15 Summer	30	+35%					81.847	-0.110	0.000	0.16		2.1	OK

PN	US/MH Name	Level Exceeded
5.003	PI	
5.004	S110	
1.005	TANK	
1.006	PUMP	
1.007	S111	

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100 year Return Period Summary of Critical Results by Maximum Flood Volume (Rank 1) for Storm

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 2
Number of Online Controls 1 Number of Storage Structures 1 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FEH Data Type Point
FEH Rainfall Version 2013 Cv (Summer) 0.750
Site Location GB 559439 141595 TQ 59439 41595 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320,
5760, 7200, 8640, 10080
Return Period(s) (years) 2, 30, 100
Climate Change (%) 0, 35, 45

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Water Surcharged Flooded				Half Drain Time (mins)	Pipe Flow (l/s)	Status
								Level (m)	Depth (m)	Volume (m ³)	Flow / Overflow Cap. (l/s)			
1.000	S101	15 Summer	100	+45%	100/15 Summer			80.515	0.170	0.000	0.84	31.3	SURCHARGED	
2.000	S3	15 Summer	100	+45%	100/15 Summer			80.459	0.129	0.000	0.44	11.0	SURCHARGED	
1.001	S102	15 Summer	100	+45%	100/15 Summer			80.445	0.201	0.000	0.79	51.5	SURCHARGED	
3.000	OB1	15 Summer	100	+45%	30/15 Summer			79.824	0.516	0.000	0.21	2.3	FLOOD RISK	
1.002	S103	15 Summer	100	+45%	30/15 Summer			79.823	0.523	0.000	1.46	125.2	FLOOD RISK	
1.003	S104	15 Summer	100	+45%	30/15 Summer			79.064	0.125	0.000	0.97	125.4	SURCHARGED	
4.000	S105	15 Summer	100	+45%	30/15 Summer			82.890	0.272	0.000	1.77	23.7	SURCHARGED	
4.001	S106	15 Summer	100	+45%				82.435	-0.055	0.000	0.92	36.5	OK	
1.004	S107	15 Summer	100	+45%	30/15 Summer			78.986	0.156	0.000	1.76	162.1	SURCHARGED	
5.000	OB2	15 Summer	100	+45%				82.760	-0.070	0.000	0.55	21.3	OK	
5.001	S108	15 Summer	100	+45%	30/15 Summer			82.606	0.156	0.000	1.90	24.1	SURCHARGED	
6.000	OB3	15 Summer	100	+45%				82.752	-0.098	0.000	0.27	29.2	OK	
5.002	S109	15 Summer	100	+45%	30/15 Summer			79.984	0.214	0.000	1.76	52.7	SURCHARGED	

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100 year Return Period Summary of Critical Results by Maximum Flood Volume (Rank 1) for Storm

	US/MH	Level
PN	Name	Exceeded
1.000	S101	
2.000	S3	
1.001	S102	
3.000	OB1	
1.002	S103	
1.003	S104	
4.000	S105	
4.001	S106	
1.004	S107	
5.000	OB2	
5.001	S108	
6.000	OB3	
5.002	S109	

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North Farm Road,
 Tunbridge Wells



Date 04/10/2023 09:46

Designed by AR

File 23-018 Network.MDX

Checked by IL

Innovyze

Network 2020.1.3

100 year Return Period Summary of Critical Results by Maximum Flood Volume (Rank 1) for Storm

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m ³)	Flow / Overflow Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
5.003	PI 15	Summer	100	+45%	30/15 Summer				79.760	0.100	0.000	1.76		52.7	SURCHARGED*
5.004	S110 15	Summer	100	+45%	100/15 Summer				79.703	0.053	0.000	1.36		52.4	SURCHARGED
1.005	TANK 15	Summer	100	+45%	30/15 Summer				78.986	0.181	0.000	0.08	444	8.7	SURCHARGED*
1.006	PUMP 15	Summer	100	+45%	2/15 Winter				79.029	0.462	0.000	0.25		2.1	SURCHARGED
1.007	S111 15	Summer	100	+45%					81.847	-0.110	0.000	0.16		2.1	OK

PN	US/MH Name	Level Exceeded
5.003	PI	
5.004	S110	
1.005	TANK	
1.006	PUMP	
1.007	S111	