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Catherine House Old Harborough Road Brixworth NN6 9BX	62954 Interchange 26, Bradford 100yr + 40 2021.08.02	
Date 02/02/2022 11:09	Designed by GF	
File 62954 Storm Network VOLUME ...	Checked by MS	
Micro Drainage		Network 2020.1.3

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Storm

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

Return Period (years)	2	PIMP (%)	100
M5-60 (mm)	19.000	Add Flow / Climate Change (%)	0
Ratio R	0.320	Minimum Backdrop Height (m)	0.200
Maximum Rainfall (mm/hr)	110	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

Network Design Table 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	Auto Design
S1.000	35.365	0.157	225.3	0.170	5.00	0.0	0.600	o	300	Pipe/Conduit	
S1.001	32.785	0.146	225.0	0.337	0.00	0.0	0.600	o	375	Pipe/Conduit	
S1.002	33.896	0.085	400.0	0.335	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.003	61.237	0.153	400.0	0.168	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.004	62.988	0.157	400.0	0.050	0.00	0.0	0.600	o	450	Pipe/Conduit	
S1.005	8.380	0.017	500.0	0.173	0.00	0.0	0.600	o	525	Pipe/Conduit	
S1.006	75.212	0.150	500.0	0.000	0.00	0.0	0.600	o	525	Pipe/Conduit	
S1.007	17.980	0.510	35.3	0.241	0.00	0.0	0.600	o	525	Pipe/Conduit	
S2.000	39.651	0.900	44.1	0.259	5.00	0.0	0.600	o	225	Pipe/Conduit	
S3.000	22.278	0.223	99.9	0.119	5.00	0.0	0.600	o	225	Pipe/Conduit	
S3.001	52.189	0.543	96.1	0.119	0.00	0.0	0.600	o	225	Pipe/Conduit	
S4.000	28.857	0.096	300.0	0.459	5.00	0.0	0.600	o	375	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)
S1.000	57.01	5.56	94.250	0.170	0.0	0.0	0.0	1.04	73.8	26.3
S1.001	55.18	6.02	94.018	0.508	0.0	0.0	0.0	1.20	133.0	75.9
S1.002	53.12	6.58	93.797	0.843	0.0	0.0	0.0	1.01	160.7	121.3
S1.003	49.82	7.59	93.713	1.012	0.0	0.0	0.0	1.01	160.7	136.5
S1.004	46.91	8.63	93.559	1.062	0.0	0.0	0.0	1.01	160.7	136.5
S1.005	46.55	8.77	93.327	1.235	0.0	0.0	0.0	0.99	215.4	155.7
S1.006	43.57	10.03	93.310	1.235	0.0	0.0	0.0	0.99	215.4	155.7
S1.007	43.40	10.11	93.160	1.476	0.0	0.0	0.0	3.78	818.6	173.5
S2.000	57.99	5.33	93.850	0.259	0.0	0.0	0.0	1.98	78.6	40.6
S3.000	58.21	5.28	93.745	0.119	0.0	0.0	0.0	1.31	52.0	18.7
S3.001	55.50	5.94	93.522	0.238	0.0	0.0	0.0	1.33	53.0	35.7
S4.000	57.44	5.46	92.925	0.459	0.0	0.0	0.0	1.04	115.0	71.5

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Network Design Table 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	Auto Design
S3.002	13.793	0.040	344.8	0.000	0.00	0.0	0.600	o	375	Pipe/Conduit	
S3.003	51.366	0.114	450.0	0.184	0.00	0.0	0.600	o	450	Pipe/Conduit	
S3.004	19.345	0.391	49.5	0.193	0.00	0.0	0.600	o	450	Pipe/Conduit	
S5.000	34.610	0.346	100.0	0.336	5.00	0.0	0.600	o	300	Pipe/Conduit	
S5.001	32.149	0.321	100.2	0.398	0.00	0.0	0.600	o	375	Pipe/Conduit	
S5.002	25.642	0.723	35.5	0.171	0.00	0.0	0.600	o	375	Pipe/Conduit	
S6.000	35.367	0.157	225.0	0.000	5.00	0.0	0.600	o	225	Pipe/Conduit	
S6.001	16.224	0.195	83.2	0.095	0.00	0.0	0.600	o	225	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)
S3.002	54.59	6.17	92.829	0.697	0.0	0.0	0.0	0.97	107.1	103.0
S3.003	51.44	7.07	92.714	0.881	0.0	0.0	0.0	0.95	151.4	122.7
S3.004	51.08	7.18	92.600	1.074	0.0	0.0	0.0	2.90	460.6	148.6
S5.000	57.85	5.37	93.750	0.336	0.0	0.0	0.0	1.57	111.1	52.6
S5.001	56.60	5.66	93.329	0.734	0.0	0.0	0.0	1.81	200.0	112.5
S5.002	56.03	5.80	93.008	0.905	0.0	0.0	0.0	3.05	337.0	137.4
S6.000	56.53	5.68	101.500	0.000	0.0	0.0	0.0	0.87	34.5	0.0
S6.001	55.77	5.87	101.343	0.095	0.0	0.0	0.0	1.43	57.0	14.3

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Micro Drainage	Network 2020.1.3	

Manhole Schedules for Storm

MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
S1	95.600	1.350	Open Manhole	1200	S1.000	94.250	300				
S2	95.620	1.602	Open Manhole	1350	S1.001	94.018	375	S1.000	94.093	300	
S3	95.620	1.823	Open Manhole	1350	S1.002	93.797	450	S1.001	93.872	375	
S4	95.620	1.907	Open Manhole	1350	S1.003	93.713	450	S1.002	93.713	450	
S5	95.195	1.636	Open Manhole	1350	S1.004	93.559	450	S1.003	93.559	450	
S6	95.195	1.868	Open Manhole	1500	S1.005	93.327	525	S1.004	93.402	450	
S7	95.195	1.885	Open Manhole	1500	S1.006	93.310	525	S1.005	93.310	525	
S8	95.450	2.290	Open Manhole	1500	S1.007	93.160	525	S1.006	93.160	525	
S107	95.375	2.725	Open Manhole	1800		OUTFALL		S1.007	92.650	525	
S9	95.425	1.575	Open Manhole	1200	S2.000	93.850	225				
S107	95.375	2.425	Open Manhole	1800		OUTFALL		S2.000	92.950	225	
S10	94.295	0.550	Open Manhole	1200	S3.000	93.745	225				
S11	94.540	1.018	Open Manhole	1200	S3.001	93.522	225	S3.000	93.522	225	
S12	94.350	1.425	Open Manhole	1350	S4.000	92.925	375				
S14	94.540	1.711	Open Manhole	1350	S3.002	92.829	375	S3.001	92.979	225	
								S4.000	92.829	375	
S15	94.540	1.826	Open Manhole	1350	S3.003	92.714	450	S3.002	92.789	375	
S16	94.540	1.940	Open Manhole	1350	S3.004	92.600	450	S3.003	92.600	450	
S200	94.830	2.621	Open Manhole	1500		OUTFALL		S3.004	92.209	450	
S17	95.300	1.550	Open Manhole	1200	S5.000	93.750	300				
S18	95.425	2.096	Open Manhole	1350	S5.001	93.329	375	S5.000	93.404	300	
S19	95.350	2.342	Open Manhole	1350	S5.002	93.008	375	S5.001	93.008	375	
S200	94.830	2.545	Open Manhole	1500		OUTFALL		S5.002	92.285	375	
S20	102.335	0.835	Open Manhole	1200	S6.000	101.500	225				
S21	102.245	0.902	Open Manhole	1200	S6.001	101.343	225	S6.000	101.343	225	
S100	101.675	0.527	Open Manhole	1200		OUTFALL		S6.001	101.148	225	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S1	417978.137	427509.377	417978.137	427509.377	Required	
S2	417946.242	427494.099	417946.242	427494.099	Required	
S3	417916.675	427479.932	417916.675	427479.932	Required	
S4	417886.035	427465.436	417886.035	427465.436	Required	
S5	417899.408	427405.677	417899.408	427405.677	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S6	417926.750	427348.933	417926.750	427348.933	Required	
S7	417930.374	427341.377	417930.374	427341.377	Required	
S8	417962.998	427273.609	417962.998	427273.609	Required	
S107	417968.438	427256.472			No Entry	
S9	417994.267	427286.556	417994.267	427286.556	Required	
S107	417968.438	427256.472			No Entry	
S10	418020.540	427436.625	418020.540	427436.625	Required	
S11	418040.467	427446.584	418040.467	427446.584	Required	
S12	418071.684	427427.038	418071.684	427427.038	Required	
S14	418063.011	427399.516	418063.011	427399.516	Required	
S15	418068.970	427387.076	418068.970	427387.076	Required	
S16	418091.162	427340.751	418091.162	427340.751	Required	
S200	418095.574	427321.917			No Entry	
S17	418009.742	427293.967	418009.742	427293.967	Required	
S18	418040.955	427308.920	418040.955	427308.920	Required	
S19	418069.948	427322.809	418069.948	427322.809	Required	
S200	418095.574	427321.917			No Entry	
S20	417853.090	427406.111	417853.090	427406.111	Required	
S21	417839.630	427438.817	417839.630	427438.817	Required	

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Manhole Schedules for Storm

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S100	417854.094	427446.167			No Entry	



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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)
S1.000	o	300	S1	95.600	94.250	1.050	Open Manhole	1200
S1.001	o	375	S2	95.620	94.018	1.227	Open Manhole	1350
S1.002	o	450	S3	95.620	93.797	1.373	Open Manhole	1350
S1.003	o	450	S4	95.620	93.713	1.457	Open Manhole	1350
S1.004	o	450	S5	95.195	93.559	1.186	Open Manhole	1350
S1.005	o	525	S6	95.195	93.327	1.343	Open Manhole	1500
S1.006	o	525	S7	95.195	93.310	1.360	Open Manhole	1500
S1.007	o	525	S8	95.450	93.160	1.765	Open Manhole	1500
S2.000	o	225	S9	95.425	93.850	1.350	Open Manhole	1200
S3.000	o	225	S10	94.295	93.745	0.325	Open Manhole	1200
S3.001	o	225	S11	94.540	93.522	0.793	Open Manhole	1200
S4.000	o	375	S12	94.350	92.925	1.050	Open Manhole	1350
S3.002	o	375	S14	94.540	92.829	1.336	Open Manhole	1350
S3.003	o	450	S15	94.540	92.714	1.376	Open Manhole	1350
S3.004	o	450	S16	94.540	92.600	1.490	Open Manhole	1350
S5.000	o	300	S17	95.300	93.750	1.250	Open Manhole	1200
S5.001	o	375	S18	95.425	93.329	1.721	Open Manhole	1350
S5.002	o	375	S19	95.350	93.008	1.967	Open Manhole	1350
S6.000	o	225	S20	102.335	101.500	0.610	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	35.365	225.3	S2	95.620	94.093	1.227	Open Manhole	1350
S1.001	32.785	225.0	S3	95.620	93.872	1.373	Open Manhole	1350
S1.002	33.896	400.0	S4	95.620	93.713	1.457	Open Manhole	1350
S1.003	61.237	400.0	S5	95.195	93.559	1.186	Open Manhole	1350
S1.004	62.988	400.0	S6	95.195	93.402	1.343	Open Manhole	1500
S1.005	8.380	500.0	S7	95.195	93.310	1.360	Open Manhole	1500
S1.006	75.212	500.0	S8	95.450	93.160	1.765	Open Manhole	1500
S1.007	17.980	35.3	S107	95.375	92.650	2.200	Open Manhole	1800
S2.000	39.651	44.1	S107	95.375	92.950	2.200	Open Manhole	1800
S3.000	22.278	99.9	S11	94.540	93.522	0.793	Open Manhole	1200
S3.001	52.189	96.1	S14	94.540	92.979	1.336	Open Manhole	1350
S4.000	28.857	300.0	S14	94.540	92.829	1.336	Open Manhole	1350
S3.002	13.793	344.8	S15	94.540	92.789	1.376	Open Manhole	1350
S3.003	51.366	450.0	S16	94.540	92.600	1.490	Open Manhole	1350
S3.004	19.345	49.5	S200	94.830	92.209	2.171	Open Manhole	1500
S5.000	34.610	100.0	S18	95.425	93.404	1.721	Open Manhole	1350
S5.001	32.149	100.2	S19	95.350	93.008	1.967	Open Manhole	1350
S5.002	25.642	35.5	S200	94.830	92.285	2.170	Open Manhole	1500
S6.000	35.367	225.0	S21	102.245	101.343	0.677	Open Manhole	1200

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd	Diam	MH	C.Level	I.Level	D.Depth	MH	MH DIAM., L*W
Sect	(mm)	Name	(m)	(m)	(m)	Connection	(mm)	
S6.001	o	225	S21	102.245	101.343	0.677	Open Manhole	1200

Downstream Manhole

PN	Length	Slope	MH	C.Level	I.Level	D.Depth	MH	MH DIAM., L*W
(m)	(1:X)	Name	(m)	(m)	(m)	Connection	(mm)	
S6.001	16.224	83.2	S100	101.675	101.148	0.302	Open Manhole	1200

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Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	User	-	100	0.170	0.170	0.170
1.001	User	-	100	0.337	0.337	0.337
1.002	User	-	100	0.335	0.335	0.335
1.003	User	-	100	0.168	0.168	0.168
1.004	User	-	100	0.050	0.050	0.050
1.005	User	-	100	0.173	0.173	0.173
1.006	-	-	100	0.000	0.000	0.000
1.007	User	-	100	0.241	0.241	0.241
2.000	User	-	100	0.168	0.168	0.168
	User	-	100	0.091	0.091	0.259
3.000	User	-	100	0.119	0.119	0.119
3.001	User	-	100	0.119	0.119	0.119
4.000	User	-	100	0.353	0.353	0.353
	User	-	100	0.106	0.106	0.459
3.002	-	-	100	0.000	0.000	0.000
3.003	User	-	100	0.184	0.184	0.184
3.004	User	-	100	0.115	0.115	0.115
	User	-	100	0.078	0.078	0.193
5.000	User	-	100	0.336	0.336	0.336
5.001	User	-	100	0.339	0.339	0.339
	User	-	100	0.027	0.027	0.365
	User	-	100	0.033	0.033	0.398
5.002	User	-	100	0.171	0.171	0.171
6.000	-	-	100	0.000	0.000	0.000
6.001	User	-	100	0.068	0.068	0.068
	User	-	100	0.027	0.027	0.095
				Total	Total	Total
				3.809	3.809	3.809

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
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S1.007	S107	95.375	92.650	92.500	1800	0
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Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
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S2.000	S107	95.375	92.950	92.500	1800	0
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Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
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S3.004	S200	94.830	92.209	91.984	1500	0
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Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
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S5.002	S200	94.830	92.285	0.000	1500	0
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Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
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S6.001	S100	101.675	101.148	100.923	1200	0
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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 Offline Controls	0	Number of Time/Area Diagrams	12
Number of Online Controls	0	Number of Storage Structures	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	0.320		

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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 Offline Controls 0 Number of Time/Area Diagrams 12
 Number of Online Controls 0 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.000 Cv (Summer) 0.750
 Region England and Wales Ratio R 0.320 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 25.0 DVD Status OFF
 Analysis Timestep Fine 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) 1, 30, 100
 Climate Change (%) 0, 0, 40

PN	US/MH Name	Event	US/CL (m)	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Discharge Vol (m³)
S1.000	S1	30 minute 1 year Winter I+0%	95.600	94.331	-0.219	0.000	0.16		13.109
S1.001	S2	30 minute 1 year Winter I+0%	95.620	94.152	-0.241	0.000	0.28		39.107
S1.002	S3	30 minute 1 year Winter I+0%	95.620	94.002	-0.246	0.000	0.39		64.963
S1.003	S4	30 minute 1 year Winter I+0%	95.620	93.921	-0.241	0.000	0.44		77.938
S1.004	S5	30 minute 1 year Winter I+0%	95.195	93.770	-0.239	0.000	0.45		81.829
S1.005	S6	30 minute 1 year Winter I+0%	95.195	93.624	-0.228	0.000	0.61		95.137
S1.006	S7	30 minute 1 year Winter I+0%	95.195	93.535	-0.300	0.000	0.38		95.124
S1.007	S8	30 minute 1 year Winter I+0%	95.450	93.300	-0.384	0.000	0.16		113.674
S2.000	S9	30 minute 1 year Winter I+0%	95.425	93.922	-0.153	0.000	0.23		19.976
S3.000	S10	15 minute 1 year Winter I+0%	94.295	93.830	-0.140	0.000	0.30		6.807
S3.001	S11	15 minute 1 year Winter I+0%	94.540	93.638	-0.109	0.000	0.51		13.609
S4.000	S12	30 minute 1 year Winter I+0%	94.350	93.087	-0.213	0.000	0.30		35.406
S3.002	S14	30 minute 1 year Winter I+0%	94.540	93.043	-0.161	0.000	0.62		53.764
S3.003	S15	30 minute 1 year Winter I+0%	94.540	92.922	-0.241	0.000	0.44		67.987
S3.004	S16	30 minute 1 year Winter I+0%	94.540	92.738	-0.312	0.000	0.21		82.906
S5.000	S17	30 minute 1 year Winter I+0%	95.300	93.844	-0.206	0.000	0.21		25.914
S5.001	S18	30 minute 1 year Winter I+0%	95.425	93.461	-0.243	0.000	0.27		56.623
S5.002	S19	30 minute 1 year Winter I+0%	95.350	93.123	-0.260	0.000	0.20		69.877
S6.000	S20	15 minute 1 year Summer I+0%	102.335	101.500	-0.225	0.000	0.00		0.000
S6.001	S21	15 minute 1 year Winter I+0%	102.245	101.410	-0.157	0.000	0.19		5.431

Pipe			
PN	US/MH Name	Flow (l/s)	Status
S1.000	S1	11.1	OK
S1.001	S2	33.0	OK
S1.002	S3	54.7	OK
S1.003	S4	65.1	OK
S1.004	S5	66.2	OK

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

PN	Name	Pipe		Status
		US/MH	Flow (l/s)	
S1.005	S6	76.3	OK	
S1.006	S7	75.6	OK	
S1.007	S8	88.6	OK	
S2.000	S9	16.9	OK	
S3.000	S10	14.3	OK	
S3.001	S11	26.2	OK	
S4.000	S12	30.4	OK	
S3.002	S14	48.9	OK	
S3.003	S15	60.2	OK	
S3.004	S16	72.8	OK	
S5.000	S17	22.0	OK	
S5.001	S18	48.0	OK	
S5.002	S19	59.3	OK	
S6.000	S20	0.0	OK	
S6.001	S21	9.8	OK	

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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 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 12
 Number of Online Controls 0 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.000 Cv (Summer) 0.750
 Region England and Wales Ratio R 0.320 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 25.0 DVD Status OFF
 Analysis Timestep Fine 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) 1, 30, 100
 Climate Change (%) 0, 0, 40

PN	US/MH Name	Event	US/CL (m)	Water			Flow / Cap.	Overflow (l/s)	Discharge Vol (m³)
				Level (m)	Depth (m)	Volume (m³)			
S1.000	S1	30 minute 30 year Winter I+0%	95.600	94.382	-0.168	0.000	0.40		32.215
S1.001	S2	30 minute 30 year Winter I+0%	95.620	94.311	-0.082	0.000	0.67		96.075
S1.002	S3	30 minute 30 year Winter I+0%	95.620	94.247	0.000	0.000	0.91		159.562
S1.003	S4	30 minute 30 year Winter I+0%	95.620	94.178	0.015	0.000	1.02		191.398
S1.004	S5	30 minute 30 year Winter I+0%	95.195	94.019	0.009	0.000	1.02		200.955
S1.005	S6	60 minute 30 year Summer I+0%	95.195	93.852	0.000	0.000	1.25		270.475
S1.006	S7	30 minute 30 year Winter I+0%	95.195	93.693	-0.142	0.000	0.87		233.704
S1.007	S8	30 minute 30 year Winter I+0%	95.450	93.382	-0.302	0.000	0.38		279.356
S2.000	S9	30 minute 30 year Winter I+0%	95.425	93.970	-0.105	0.000	0.56		49.078
S3.000	S10	15 minute 30 year Winter I+0%	94.295	94.046	0.076	0.000	0.66		16.653
S3.001	S11	15 minute 30 year Winter I+0%	94.540	93.959	0.212	0.000	1.15		33.307
S4.000	S12	30 minute 30 year Winter I+0%	94.350	93.308	0.008	0.000	0.76		86.985
S3.002	S14	30 minute 30 year Winter I+0%	94.540	93.258	0.054	0.000	1.52		132.007
S3.003	S15	30 minute 30 year Winter I+0%	94.540	93.164	0.000	0.000	1.07		166.877
S3.004	S16	30 minute 30 year Winter I+0%	94.540	92.826	-0.224	0.000	0.50		203.449
S5.000	S17	30 minute 30 year Winter I+0%	95.300	93.905	-0.145	0.000	0.53		63.669
S5.001	S18	30 minute 30 year Winter I+0%	95.425	93.552	-0.152	0.000	0.66		139.087
S5.002	S19	30 minute 30 year Winter I+0%	95.350	93.194	-0.188	0.000	0.49		171.578
S6.000	S20	15 minute 30 year Summer I+0%	102.335	101.500	-0.225	0.000	0.00		0.000
S6.001	S21	15 minute 30 year Winter I+0%	102.245	101.469	-0.099	0.000	0.60		13.283

Pipe

PN	US/MH Name	Flow (l/s)	Status
S1.000	S1	27.3	OK
S1.001	S2	79.0	OK
S1.002	S3	127.7	OK
S1.003	S4	150.9	SURCHARGED
S1.004	S5	152.2	SURCHARGED

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

PN	Pipe		Status
	US/MH Name	Flow (l/s)	
S1.005	S6	156.7	OK
S1.006	S7	174.0	OK
S1.007	S8	205.8	OK
S2.000	S9	41.7	OK
S3.000	S10	31.3	SURCHARGED
S3.001	S11	58.5	SURCHARGED
S4.000	S12	76.4	SURCHARGED
S3.002	S14	120.1	SURCHARGED
S3.003	S15	147.1	OK
S3.004	S16	177.6	OK
S5.000	S17	54.0	OK
S5.001	S18	117.9	OK
S5.002	S19	142.1	OK
S6.000	S20	0.0	OK
S6.001	S21	30.3	OK

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100 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 Offline Controls 0 Number of Time/Area Diagrams 12
 Number of Online Controls 0 Number of Storage Structures 0 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.000 Cv (Summer) 0.750
 Region England and Wales Ratio R 0.320 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 25.0 DVD Status OFF
 Analysis Timestep Fine 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) 1, 30, 100
 Climate Change (%) 0, 0, 40

PN	US/MH Name	Event	US/CL (m)	Water			Volume (m ³)	Flow / Cap.	Overflow (l/s)	Discharge Vol (m ³)
				Level (m)	Depth (m)	Surcharged				
S1.000	S1	30 minute 100 year Winter I+40%	95.600	95.601	1.051		1.315	0.80		58.866
S1.001	S2	30 minute 100 year Winter I+40%	95.620	95.561	1.168		0.000	1.11		175.565
S1.002	S3	30 minute 100 year Winter I+40%	95.620	95.391	1.144		0.000	1.58		291.563
S1.003	S4	30 minute 100 year Winter I+40%	95.620	95.186	1.024		0.000	1.78		349.738
S1.004	S5	30 minute 100 year Winter I+40%	95.195	94.698	0.689		0.000	1.79		367.199
S1.005	S6	30 minute 100 year Winter I+40%	95.195	94.189	0.337		0.000	2.48		427.094
S1.006	S7	30 minute 100 year Winter I+40%	95.195	94.025	0.189		0.000	1.54		427.057
S1.007	S8	30 minute 100 year Winter I+40%	95.450	93.475	-0.210		0.000	0.67		510.475
S2.000	S9	30 minute 100 year Winter I+40%	95.425	94.080	0.005		0.000	1.01		89.687
S3.000	S10	15 minute 100 year Winter I+40%	94.295	94.307	0.337		12.069	1.05		30.117
S3.001	S11	15 minute 100 year Summer I+40%	94.540	94.326	0.579		0.000	1.34		53.785
S4.000	S12	30 minute 100 year Winter I+40%	94.350	93.772	0.472		0.000	1.32		158.944
S3.002	S14	30 minute 100 year Winter I+40%	94.540	93.603	0.399		0.000	2.37		241.188
S3.003	S15	30 minute 100 year Winter I+40%	94.540	93.375	0.211		0.000	1.74		304.910
S3.004	S16	30 minute 100 year Winter I+40%	94.540	92.916	-0.134		0.000	0.84		371.743
S5.000	S17	30 minute 100 year Winter I+40%	95.300	94.139	0.089		0.000	0.95		116.351
S5.001	S18	30 minute 100 year Winter I+40%	95.425	93.824	0.120		0.000	1.20		254.166
S5.002	S19	30 minute 100 year Summer I+40%	95.350	93.281	-0.102		0.000	0.85		279.954
S6.000	S20	15 minute 100 year Winter I+40%	102.335	101.557	-0.168		0.000	0.01		0.000
S6.001	S21	15 minute 100 year Winter I+40%	102.245	101.571	0.003		0.000	1.01		24.023

Pipe

PN	US/MH Name	Flow (l/s)	Status
S1.000	S1	54.3	FLOOD
S1.001	S2	132.2	SURCHARGED
S1.002	S3	221.3	SURCHARGED
S1.003	S4	263.8	SURCHARGED

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Micro Drainage	Network 2020.1.3	

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

PN	Pipe		Status
	US/MH Name	Flow (l/s)	
S1.004	S5	266.7	SURCHARGED
S1.005	S6	310.0	SURCHARGED
S1.006	S7	307.4	SURCHARGED
S1.007	S8	365.8	OK
S2.000	S9	75.2	SURCHARGED
S3.000	S10	49.9	FLOOD
S3.001	S11	68.4	SURCHARGED
S4.000	S12	133.8	SURCHARGED
S3.002	S14	186.8	SURCHARGED
S3.003	S15	239.7	SURCHARGED
S3.004	S16	295.3	OK
S5.000	S17	97.4	SURCHARGED
S5.001	S18	212.8	SURCHARGED
S5.002	S19	248.3	OK
S6.000	S20	0.4	OK
S6.001	S21	50.9	SURCHARGED