

Existing Network Details for Storm 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
1.000	12.293	0.090	136.6	0.000	5.00	0.0	0.600	ooo	50	Pipe/Conduit
2.000	2.066	0.200	10.3	0.015	5.00	0.0	0.600	o	75	Pipe/Conduit
2.001	3.238	0.250	13.0	0.000	0.00	0.0	0.600	o	75	Pipe/Conduit
1.001	9.117	0.050	182.3	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit
3.000	2.378	0.150	15.9	0.015	5.00	0.0	0.600	o	75	Pipe/Conduit
3.001	4.705	0.350	13.4	0.000	0.00	0.0	0.600	o	75	Pipe/Conduit
1.002	9.809	0.030	327.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit
4.000	4.040	0.100	40.4	0.015	5.00	0.0	0.600	o	75	Pipe/Conduit
5.000	3.806	0.750	5.1	0.024	5.00	0.0	0.600	o	100	Pipe/Conduit
6.000	11.758	0.050	235.2	0.035	5.00	0.0	0.600	o	150	Pipe/Conduit
1.003	11.083	0.100	110.8	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)
1.000	9.800	0.000	0.0	2.24	2407.3
2.000	11.000	0.015	0.0	2.00	8.8
2.001	10.000	0.015	0.0	1.78	7.9
1.001	9.700	0.015	0.0	0.74	13.1
3.000	10.500	0.015	0.0	1.61	7.1
3.001	10.000	0.015	0.0	1.75	7.7
1.002	9.650	0.030	0.0	0.55	9.7
4.000	9.700	0.015	0.0	1.00	4.4
5.000	10.400	0.024	0.0	3.46	27.1
6.000	9.600	0.035	0.0	0.65	11.5
1.003	9.600	0.104	0.0	0.95	16.9

Manhole Schedules for Storm Network 1												
MH Name	MH CL (m)	MH Depth (m)	MH Connection	MH Diam., L*W (mm)	PN	Pipe Out Invert Level (m)	Pipe Out Diameter (mm)	PN	Pipes In Invert Level (m)	Pipes In Diameter (mm)	Barrel	Access
Ghost	10.600	0.800	Open Manhole	300	1.000	9.800	50					
UpTkSltTrpChmbr	11.500	0.500	Open Manhole	300	2.000	11.000	75					
UpTankStorge	11.000	1.000	Sealed Manhole	1200	2.001	10.000	75	2.000	10.800	75		
UpTkChmber	10.500	0.800	Open Manhole	800 x 1000	1.001	9.700	150	1.000	9.710	50		
								2.001	9.750	75		
4	11.000	0.500	Open Manhole	300	3.000	10.500	75					
MidTnkStrg	10.750	0.750	Sealed Manhole	1200	3.001	10.000	75	3.000	10.350	75		
MidTkChr	10.400	0.750	Open Manhole	800 x 1000	1.002	9.650	150	1.001	9.650	150		
								3.001	9.650	75		
Tnk4LwrRmp	10.400	0.700	Open Manhole	1200	4.000	9.700	75					
RampBaseLinDnr	10.850	0.450	Open Manhole	300 x 200	5.000	10.400	100					
ExCarParkSoak	10.020	0.420	Open Manhole	1200	6.000	9.600	150					
LwrTnkC-VS	10.300	0.750	Open Manhole	1200	1.003	9.600	150	1.002	9.620	150		
								4.000	9.600	75		
								5.000	9.650	100		
								6.000	9.550	150		
	10.000	0.500	Open Manhole	100		OUTFALL		1.003	9.500	150		

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
Ghost	471709.821	106627.989	471709.821	106627.989	Required	
UpTkSltTrpChmbr	471711.380	106638.198	471711.380	106638.198	Required	
UpTankStorge	471711.438	106640.263			No Entry	
UpTkChmber	471708.202	106640.175	471708.202	106640.175	Required	
4	471712.278	106647.038	471712.278	106647.038	Required	
MidTnkStrg	471712.299	106649.415			No Entry	
MidTkChr	471707.596	106649.272	471707.596	106649.272	Required	
Tnk4LwrRmp	471710.637	106659.196	471710.637	106659.196	Required	
RampBaseLinDnr	471708.669	106655.836			No Entry	
ExCarParkSoak	471696.990	106652.256	471696.990	106652.256	Required	

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Manhole Schedules for Storm Network 1

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
LwrTnkC-VS	471706.601	106659.030	471706.601	106659.030	Required	
	471706.116	106670.103			No Entry	

PIPELINE SCHEDULES for Storm 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	ooo	50	Ghost	10.600	9.800	0.125	Open Manhole	300
2.000	o	75	UpTkSltTrpChmbr	11.500	11.000	0.425	Open Manhole	300
2.001	o	75	UpTankStorge	11.000	10.000	0.925	Sealed Manhole	1200
1.001	o	150	UpTkChmber	10.500	9.700	0.650	Open Manhole	800 x 1000
3.000	o	75	4	11.000	10.500	0.425	Open Manhole	300
3.001	o	75	MidTnkStrg	10.750	10.000	0.675	Sealed Manhole	1200
1.002	o	150	MidTkChr	10.400	9.650	0.600	Open Manhole	800 x 1000
4.000	o	75	Tnk4LwrRmp	10.400	9.700	0.625	Open Manhole	1200
5.000	o	100	RampBaseLinDnr	10.850	10.400	0.350	Open Manhole	300 x 200
6.000	o	150	ExCarParkSoak	10.020	9.600	0.270	Open Manhole	1200
1.003	o	150	LwrTnkC-VS	10.300	9.600	0.550	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)
1.000	12.293	136.6	UpTkChmber	10.500	9.710	0.115	Open Manhole	800 x 1000
2.000	2.066	10.3	UpTankStorge	11.000	10.800	0.125	Sealed Manhole	1200
2.001	3.238	13.0	UpTkChmber	10.500	9.750	0.675	Open Manhole	800 x 1000
1.001	9.117	182.3	MidTkChr	10.400	9.650	0.600	Open Manhole	800 x 1000
3.000	2.378	15.9	MidTnkStrg	10.750	10.350	0.325	Sealed Manhole	1200
3.001	4.705	13.4	MidTkChr	10.400	9.650	0.675	Open Manhole	800 x 1000
1.002	9.809	327.0	LwrTnkC-VS	10.300	9.620	0.530	Open Manhole	1200
4.000	4.040	40.4	LwrTnkC-VS	10.300	9.600	0.625	Open Manhole	1200
5.000	3.806	5.1	LwrTnkC-VS	10.300	9.650	0.550	Open Manhole	1200
6.000	11.758	235.2	LwrTnkC-VS	10.300	9.550	0.600	Open Manhole	1200
1.003	11.083	110.8		10.000	9.500	0.350	Open Manhole	100

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Area Summary for Storm Network 1

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	-	-	100	0.000	0.000	0.000
2.000	-	-	100	0.015	0.015	0.015
2.001	-	-	100	0.000	0.000	0.000
1.001	-	-	100	0.000	0.000	0.000
3.000	-	-	100	0.015	0.015	0.015
3.001	-	-	100	0.000	0.000	0.000
1.002	-	-	100	0.000	0.000	0.000
4.000	-	-	100	0.015	0.015	0.015
5.000	-	-	100	0.024	0.024	0.024
6.000	-	-	100	0.035	0.035	0.035
1.003	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				0.104	0.104	0.104

Free Flowing Outfall Details for Storm 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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1.003		10.000	9.500	0.000	100	0
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Simulation Criteria for Storm Network 1

Volumetric Runoff Coeff	0.750	Additional Flow - % of Total Flow	0.000
Areal Reduction Factor	1.000	MADD Factor * 10m³/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 3 Number of Storage Structures 4 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model	FEH	Summer Storms	Yes
Return Period (years)	100	Winter Storms	No
FEH Rainfall Version	2013	Cv (Summer)	0.750
Site Location GB 471702 106641 SU 71702 06641		Cv (Winter)	0.840
Data Type		Point Storm Duration (mins)	30

Storage Structures for Storm Network 1

Tank or Pond Manhole: UpTankStorge, DS/PN: 2.001

Invert Level (m) 10.000

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	10.0	0.100	10.0	0.800	10.0	0.801	0.0	1.000	0.0

Tank or Pond Manhole: MidTnkStrg, DS/PN: 3.001

Invert Level (m) 10.000

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	10.0	0.600	10.0	0.601	0.0	0.700	0.0

Porous Car Park Manhole: Tnk4LwrRmp, DS/PN: 4.000

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	3.0
Membrane Percolation (mm/hr)	100	Length (m)	10.0
Max Percolation (l/s)	0.8	Slope (1:X)	250.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.95	Evaporation (mm/day)	3
Invert Level (m)	9.600	Cap Volume Depth (m)	0.300

Lined Soakaway Manhole: ExCarParkSoak, DS/PN: 6.000

Infiltration Coefficient Base (m/hr)	0.00000	Ring Diameter (m)	1.20
Infiltration Coefficient Side (m/hr)	0.04000	Pit Multiplier	1.5
Safety Factor	2.0	Number Required	1
Porosity	0.30	Cap Volume Depth (m)	1.800
Invert Level (m)	8.000	Cap Infiltration Depth (m)	1.500

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm 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 3 Number of Storage Structures 4 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.100 Cv (Summer) 0.750
 Region England and Wales Ratio R 0.350 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 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
 Return Period(s) (years) 1, 2, 30, 31, 100, 101
 Climate Change (%) 0, 0, 0, 40, 0, 45

WARNING: Half Drain Time has not been calculated as the structure is too full.

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	Ghost	15 Summer	1	+0%					9.800
2.000	UpTkSltTrpChmbr	15 Winter	1	+0%	101/15 Summer				11.027
2.001	UpTankStorge	30 Winter	1	+0%	30/15 Summer				10.058
1.001	UpTkChmber	30 Winter	1	+0%	30/30 Winter				9.727
3.000	4	15 Winter	1	+0%	31/15 Summer				10.529
3.001	MidTnkStrg	30 Winter	1	+0%	30/15 Summer				10.058
1.002	MidTkChr	30 Winter	1	+0%	30/15 Winter				9.698
4.000	Tnk4LwrRmp	1440 Winter	1	+0%	30/60 Summer				9.708
5.000	RampBaseLinDnr	15 Winter	1	+0%					10.424
6.000	ExCarParkSoak	240 Winter	1	+0%	30/15 Winter	31/15 Winter			9.676
1.003	LwrTnkC-VS	15 Winter	1	+0%	30/15 Summer	31/720 Summer			9.681

		Surcharged	Flooded			Half Drain	Pipe		
	US/MH	Depth	Volume	Flow /	Overflow	Time	Flow	Level	
PN	Name	(m)	(m³)	Cap.	(l/s)	(mins)	(l/s)	Status	Exceeded
1.000	Ghost	-0.675	0.000	0.00			0.0	OK	
2.000	UpTkSltTrpChmbr	-0.048	0.000	0.27			1.9	OK	
2.001	UpTankStorge	-0.017	0.000	0.12			0.8	OK	
1.001	UpTkChmber	-0.123	0.000	0.07			0.8	OK	
3.000	4	-0.046	0.000	0.32			1.9	OK	
3.001	MidTnkStrg	-0.017	0.000	0.12			0.8	OK	
1.002	MidTkChr	-0.102	0.000	0.19			1.7	OK	
4.000	Tnk4LwrRmp	-0.067	0.000	0.02			0.1	OK	
5.000	RampBaseLinDnr	-0.076	0.000	0.13			3.0	OK	
6.000	ExCarParkSoak	-0.074	0.000	0.06			0.6	OK	16
1.003	LwrTnkC-VS	-0.069	0.000	0.14			2.1	OK	

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2 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm 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 3 Number of Storage Structures 4 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.100 Cv (Summer) 0.750
 Region England and Wales Ratio R 0.350 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 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
 Return Period(s) (years) 1, 2, 30, 31, 100, 101
 Climate Change (%) 0, 0, 0, 40, 0, 45

WARNING: Half Drain Time has not been calculated as the structure is too full.

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	Ghost	15 Summer	2	+0%					9.800
2.000	UpTkSltTrpChmbr	15 Winter	2	+0%	101/15 Summer				11.031
2.001	UpTankStorge	30 Winter	2	+0%	30/15 Summer				10.071
1.001	UpTkChmber	30 Winter	2	+0%	30/30 Winter				9.734
3.000	4	15 Winter	2	+0%	31/15 Summer				10.534
3.001	MidTnkStrg	30 Winter	2	+0%	30/15 Summer				10.071
1.002	MidTkChr	30 Winter	2	+0%	30/15 Winter				9.713
4.000	Tnk4LwrRmp	720 Winter	2	+0%	30/60 Summer				9.709
5.000	RampBaseLinDnr	15 Winter	2	+0%					10.428
6.000	ExCarParkSoak	120 Winter	2	+0%	30/15 Winter	31/15 Winter			9.713
1.003	LwrTnkC-VS	120 Winter	2	+0%	30/15 Summer	31/720 Summer			9.709

		Surcharged	Flooded			Half Drain	Pipe		
PN	US/MH Name	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status	Level Exceeded
1.000	Ghost	-0.675	0.000	0.00			0.0	OK	
2.000	UpTkSltTrpChmbr	-0.044	0.000	0.35			2.5	OK	
2.001	UpTankStorge	-0.004	0.000	0.16			1.1	OK	
1.001	UpTkChmber	-0.116	0.000	0.10			1.1	OK	
3.000	4	-0.041	0.000	0.42			2.5	OK	
3.001	MidTnkStrg	-0.004	0.000	0.16			1.1	OK	
1.002	MidTkChr	-0.087	0.000	0.27			2.3	OK	
4.000	Tnk4LwrRmp	-0.066	0.000	0.04			0.2	OK	
5.000	RampBaseLinDnr	-0.072	0.000	0.17			3.9	OK	
6.000	ExCarParkSoak	-0.037	0.000	0.10			1.1	OK	16
1.003	LwrTnkC-VS	-0.041	0.000	0.21			3.1	OK	

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm 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 3 Number of Storage Structures 4 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.100 Cv (Summer) 0.750
 Region England and Wales Ratio R 0.350 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 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
 Return Period(s) (years) 1, 2, 30, 31, 100, 101
 Climate Change (%) 0, 0, 0, 40, 0, 45

WARNING: Half Drain Time has not been calculated as the structure is too full.

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	Ghost	60 Winter	30	+0%					9.865
2.000	UpTkSltTrpChmbr	15 Winter	30	+0%	101/15 Summer				11.045
2.001	UpTankStorge	30 Winter	30	+0%	30/15 Summer				10.136
1.001	UpTkChmber	60 Winter	30	+0%	30/30 Winter				9.865
3.000	4	15 Winter	30	+0%	31/15 Summer				10.551
3.001	MidTnkStrg	30 Winter	30	+0%	30/15 Summer				10.136
1.002	MidTkChr	60 Winter	30	+0%	30/15 Winter				9.861
4.000	Tnk4LwrRmp	120 Winter	30	+0%	30/60 Summer				9.825
5.000	RampBaseLinDnr	15 Winter	30	+0%					10.439
6.000	ExCarParkSoak	30 Winter	30	+0%	30/15 Winter	31/15 Winter			9.888
1.003	LwrTnkC-VS	30 Winter	30	+0%	30/15 Summer	31/720 Summer			9.865

PN	US/MH Name	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	Ghost	-0.610	0.000	0.00			0.0	OK	
2.000	UpTkSltTrpChmbr	-0.030	0.000	0.67			4.7	OK	
2.001	UpTankStorge	0.061	0.000	0.25			1.7	SURCHARGED*	
1.001	UpTkChmber	0.015	0.000	0.19			2.2	SURCHARGED	
3.000	4	-0.024	0.000	0.79			4.7	OK	
3.001	MidTnkStrg	0.061	0.000	0.25			1.7	SURCHARGED*	
1.002	MidTkChr	0.061	0.000	0.44			3.8	SURCHARGED	
4.000	Tnk4LwrRmp	0.050	0.000	0.46		44	1.8	SURCHARGED	
5.000	RampBaseLinDnr	-0.061	0.000	0.33			7.5	OK	
6.000	ExCarParkSoak	0.138	0.000	0.54			5.6	FLOOD RISK	16
1.003	LwrTnkC-VS	0.115	0.000	0.36			5.5	SURCHARGED	

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Innovyze	Network 2020.1.3	

31 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm 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 3 Number of Storage Structures 4 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.100 Cv (Summer) 0.750
 Region England and Wales Ratio R 0.350 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 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
 Return Period(s) (years) 1, 2, 30, 31, 100, 101
 Climate Change (%) 0, 0, 0, 40, 0, 45

WARNING: Half Drain Time has not been calculated as the structure is too full.

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	Ghost	120 Winter	31	+40%					9.984
2.000	UpTkSltTrpChmbr	15 Winter	31	+40%	101/15 Summer				11.058
2.001	UpTankStorge	30 Winter	31	+40%	30/15 Summer				10.200
1.001	UpTkChmber	120 Winter	31	+40%	30/30 Winter				9.984
3.000	4	15 Winter	31	+40%	31/15 Summer				10.605
3.001	MidTnkStrg	30 Winter	31	+40%	30/15 Summer				10.200
1.002	MidTkChr	120 Winter	31	+40%	30/15 Winter				9.982
4.000	Tnk4LwrRmp	120 Winter	31	+40%	30/60 Summer				9.983
5.000	RampBaseLinDnr	15 Winter	31	+40%					10.448
6.000	ExCarParkSoak	30 Summer	31	+40%	30/15 Winter	31/15 Winter			10.020
1.003	LwrTnC-VS	30 Winter	31	+40%	30/15 Summer	31/720 Summer			9.977

PN	US/MH Name	Depth (m)	Surcharged Volume (m³)	Flooded Flow / Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	Ghost	-0.491	0.000	0.00		0.0	OK	
2.000	UpTkSltTrpChmbr	-0.017	0.000	0.94		6.6	OK	
2.001	UpTankStorge	0.125	0.000	0.32		2.2	SURCHARGED*	
1.001	UpTkChmber	0.134	0.000	0.23		2.7	SURCHARGED	
3.000	4	0.030	0.000	1.09		6.5	SURCHARGED	
3.001	MidTnkStrg	0.125	0.000	0.31		2.2	SURCHARGED*	
1.002	MidTkChr	0.182	0.000	0.44		3.8	SURCHARGED	
4.000	Tnk4LwrRmp	0.208	0.000	0.69	60	2.7	SURCHARGED	
5.000	RampBaseLinDnr	-0.052	0.000	0.46		10.5	OK	
6.000	ExCarParkSoak	0.270	0.030	1.05		11.0	FLOOD	16
1.003	LwrTnC-VS	0.227	0.000	0.45		6.8	SURCHARGED	

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm 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 (1/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 3 Number of Storage Structures 4 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.100 Cv (Summer) 0.750
Region England and Wales Ratio R 0.350 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 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
Return Period(s) (years) 1, 2, 30, 31, 100, 101
Climate Change (%) 0, 0, 0, 40, 0, 45

WARNING: Half Drain Time has not been calculated as the structure is too full.

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	Ghost	60 Winter	100	+0%					9.948
2.000	UpTkSltTrpChmbr	15 Winter	100	+0%	101/15 Summer				11.054
2.001	UpTankStorge	30 Winter	100	+0%	30/15 Summer				10.184
1.001	UpTkChmber	60 Winter	100	+0%	30/30 Winter				9.948
3.000	4	15 Winter	100	+0%	31/15 Summer				10.574
3.001	MidTnkStrg	30 Winter	100	+0%	30/15 Summer				10.184
1.002	MidTkChr	60 Winter	100	+0%	30/15 Winter				9.943
4.000	Tnk4LwrRmp	120 Winter	100	+0%	30/60 Summer				9.924
5.000	RampBaseLinDnr	15 Winter	100	+0%					10.446
6.000	ExCarParkSoak	30 Winter	100	+0%	30/15 Winter	31/15 Winter			9.991
1.003	LwrTnkC-VS	30 Summer	100	+0%	30/15 Summer	31/720 Summer			9.943

PN	US/MH Name	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	Ghost	-0.527	0.000	0.00			0.0	OK	
2.000	UpTkSltTrpChmbr	-0.021	0.000	0.86			6.0	OK	
2.001	UpTankStorge	0.109	0.000	0.30			2.1	SURCHARGED*	
1.001	UpTkChmber	0.098	0.000	0.23			2.6	SURCHARGED	
3.000	4	-0.001	0.000	1.00			5.9	OK	
3.001	MidTnkStrg	0.109	0.000	0.30			2.1	SURCHARGED*	
1.002	MidTkChr	0.143	0.000	0.50			4.3	SURCHARGED	
4.000	Tnk4LwrRmp	0.149	0.000	0.67		52	2.6	SURCHARGED	
5.000	RampBaseLinDnr	-0.054	0.000	0.42			9.7	OK	
6.000	ExCarParkSoak	0.241	0.000	0.95			9.9	FLOOD RISK	16
1.003	LwrTnkC-VS	0.193	0.000	0.42			6.3	SURCHARGED	

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101 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Storm 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 (1/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 3 Number of Storage Structures 4 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 19.100 Cv (Summer) 0.750
 Region England and Wales Ratio R 0.350 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0 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
 Return Period(s) (years) 1, 2, 30, 31, 100, 101
 Climate Change (%) 0, 0, 0, 40, 0, 45

PN	US/MH Name	Storm	Return Period	Climate Change	First (X) Surchage	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level (m)
1.000	Ghost	120 Winter	101	+45%					10.057
2.000	UpTkSltTrpChmbr	15 Winter	101	+45%	101/15 Summer				11.173
2.001	UpTankStorge	30 Winter	101	+45%	30/15 Summer				10.282
1.001	UpTkChmber	120 Winter	101	+45%	30/30 Winter				10.057
3.000	4	15 Winter	101	+45%	31/15 Summer				10.736
3.001	MidTnkStrg	30 Winter	101	+45%	30/15 Summer				10.283
1.002	MidTkChr	180 Winter	101	+45%	30/15 Winter				10.148
4.000	Tnk4LwrRmp	180 Winter	101	+45%	30/60 Summer				10.090
5.000	RampBaseLinDnr	15 Winter	101	+45%					10.457
6.000	ExCarParkSoak	120 Winter	101	+45%	30/15 Winter	31/15 Winter			10.027
1.003	LwrTnkC-VS	180 Winter	101	+45%	30/15 Summer	31/720 Summer			10.142

PN	US/MH Name	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	Ghost	-0.418	0.000	0.00			0.0	OK	
2.000	UpTkSltTrpChmbr	0.098	0.000	1.22			8.5	SURCHARGED	
2.001	UpTankStorge	0.207	0.000	0.38			2.6	SURCHARGED*	
1.001	UpTkChmber	0.207	0.000	0.36			4.2	SURCHARGED	
3.000	4	0.161	0.000	1.44			8.5	FLOOD RISK	
3.001	MidTnkStrg	0.208	0.000	0.36			2.5	SURCHARGED*	
1.002	MidTkChr	0.348	0.000	0.48			4.1	FLOOD RISK	
4.000	Tnk4LwrRmp	0.315	0.000	0.72		93	2.9	SURCHARGED	
5.000	RampBaseLinDnr	-0.043	0.000	0.61			14.0	OK	
6.000	ExCarParkSoak	0.277	6.905	0.62		44	6.5	FLOOD	16
1.003	LwrTnkC-VS	0.392	0.000	0.49			7.4	FLOOD RISK	