



Simon Beale + Associates
Chartered Engineers

Stormwater Drainage Design

for

Pinner Road,

Northwood

London,

HA6 1DD,

HEAD OFFICE

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Simon Beale + Associates is a
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Company Number: 540335
Registered Address:
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The Old School House Casement Street Ballina, Ireland	SUDS Design Pinner Road, Northwood, UK	
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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)	100	PIMP (%)	100
M5-60 (mm)	20.300	Add Flow / Climate Change (%)	40
Ratio R	0.414	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 Inverts

Time Area Diagram for Storm

Time (mins)	Area (ha)	Time (mins)	Area (ha)
0-4	0.045	4-8	0.016

Total Area Contributing (ha) = 0.061

Total Pipe Volume (m³) = 0.866

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
1.000	4.291	0.072	60.0	0.009	5.00	0.0	0.600	o	100	Pipe/Conduit	
2.000	7.775	0.130	60.0	0.011	5.00	0.0	0.600	o	100	Pipe/Conduit	
2.001	5.052	0.084	60.0	0.004	0.00	0.0	0.600	o	100	Pipe/Conduit	
3.000	1.025	0.017	60.0	0.020	5.00	0.0	0.600	o	100	Pipe/Conduit	

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	I.Area (ha)	Base Flow (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	50.00	5.07	63.900	0.009	0.0	0.0	0.5	1.00	7.8	1.7
2.000	50.00	5.13	64.042	0.011	0.0	0.0	0.6	1.00	7.8	2.1
2.001	50.00	5.21	63.912	0.015	0.0	0.0	0.8	1.00	7.8	2.8
3.000	50.00	5.02	63.900	0.020	0.0	0.0	1.1	1.00	7.8	3.8

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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
1.001	8.603	0.034	253.0	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.002	9.264	0.154	60.2	0.000	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.003	15.490	0.258	60.0	0.017	0.00	0.0	0.600	o	150	Pipe/Conduit	
1.004	7.580	0.126	60.2	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)
1.001	50.00	5.44	63.828	0.044	0.0	0.0	2.4	0.63	11.1	8.3
1.002	50.00	5.56	63.794	0.044	0.0	0.0	2.4	1.30	23.0	8.3
1.003	50.00	5.76	63.640	0.061	0.0	0.0	3.3	1.30	23.0	11.6
1.004	50.00	5.86	63.382	0.061	0.0	0.0	3.3	1.30	23.0	11.6

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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	-	-	100	0.009	0.009	0.009
2.000	-	-	100	0.011	0.011	0.011
2.001	-	-	100	0.004	0.004	0.004
3.000	-	-	100	0.020	0.020	0.020
1.001	-	-	100	0.000	0.000	0.000
1.002	-	-	100	0.000	0.000	0.000
1.003	-	-	100	0.017	0.017	0.017
1.004	-	-	100	0.000	0.000	0.000
				Total	Total	Total
				0.061	0.061	0.061

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)
1.004	Public Surface Sewer	65.080	63.256	62.770	150	0

Simulation Criteria for Storm

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

Synthetic Rainfall Details

Rainfall Model	FSR	Profile Type	Summer
Return Period (years)	100	Cv (Summer)	0.750
Region	England and Wales	Cv (Winter)	0.840
M5-60 (mm)	20.300	Storm Duration (mins)	30
Ratio R	0.414		

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Online Controls for Storm

Hydro-Brake® Optimum Manhole: 7, DS/PN: 1.004, Volume (m³): 2.4

Unit Reference	MD-SHE-0070-2000-0800-2000
Design Head (m)	0.800
Design Flow (l/s)	2.0
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	70
Invert Level (m)	63.382
Minimum Outlet Pipe Diameter (mm)	100
Suggested Manhole Diameter (mm)	1200

Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.800	2.0
Flush-Flo™	0.240	2.0
Kick-Flo®	0.504	1.6
Mean Flow over Head Range	-	1.7

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	1.8	1.200	2.4	3.000	3.7	7.000	5.5
0.200	2.0	1.400	2.6	3.500	3.9	7.500	5.6
0.300	2.0	1.600	2.7	4.000	4.2	8.000	5.8
0.400	1.9	1.800	2.9	4.500	4.4	8.500	6.0
0.500	1.6	2.000	3.0	5.000	4.7	9.000	6.2
0.600	1.8	2.200	3.2	5.500	4.9	9.500	6.3
0.800	2.0	2.400	3.3	6.000	5.1		
1.000	2.2	2.600	3.4	6.500	5.3		

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Storage Structures for Storm Cellular Storage Manhole: 5, DS/PN: 1.002 Invert Level (m) 63.828 Safety Factor 2.0 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95 Infiltration Coefficient Side (m/hr) 0.00000 <table><thead><tr><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th><th>Depth (m)</th><th>Area (m²)</th><th>Inf. Area (m²)</th></tr></thead><tbody><tr><td>0.000</td><td>33.8</td><td>0.0</td><td>0.801</td><td>0.0</td><td>0.0</td></tr><tr><td>0.800</td><td>33.8</td><td>0.0</td><td></td><td></td><td></td></tr></tbody></table>			Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)	0.000	33.8	0.0	0.801	0.0	0.0	0.800	33.8	0.0			
Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)															
0.000	33.8	0.0	0.801	0.0	0.0															
0.800	33.8	0.0																		
©1982-2020 Innovyze																				

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Summary Wizard of 30 minute 5 year Summer I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.414
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.300 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
 720, 960, 1440, 2160, 2880, 4320, 5760,
 7200, 8640, 10080
 Return Period(s) (years) 5, 30, 100
 Climate Change (%) 40, 40, 40

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

PN	US/MH Name	Storm Rank	Water		Surcharged	Flooded	Flow / Overflow (l/s)	Half Drain	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Time (mins)		Flow (l/s)		
1.000	1	40	64.005	0.005	0.000	0.36		2.4	SURCHARGED	
2.000	2	33	64.088	-0.054	0.000	0.43		3.1	OK	
2.001	3	39	64.020	0.007	0.000	0.59		4.0	SURCHARGED	
3.000	4	38	64.030	0.030	0.000	1.39		5.5	SURCHARGED	
1.001	4	39	64.003	0.025	0.000	1.23		12.0	SURCHARGED	
1.002	5	39	63.999	0.055	0.000	0.16		3.2	SURCHARGED	
1.003	6	39	63.995	0.205	0.000	0.18		3.9	SURCHARGED	
1.004	7	39	63.987	0.455	0.000	0.10		2.0	SURCHARGED	

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<u>Summary Wizard of 60 minute 5 year Summer I+40% for Storm</u>											
<u>Simulation Criteria</u>											
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000					
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000					
Hot Start Level (mm)		0		Inlet Coefficient		0.800					
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000					
Foul Sewage per hectare (l/s)		0.000									
Number of Input Hydrographs		0		Number of Storage Structures		1					
Number of Online Controls		1		Number of Time/Area Diagrams		0					
Number of Offline Controls		0		Number of Real Time Controls		0					
<u>Synthetic Rainfall Details</u>											
Rainfall Model		FSR		Ratio R		0.414					
Region England and Wales Cv (Summer)		0.750									
M5-60 (mm)		20.300		Cv (Winter)		0.840					
Margin for Flood Risk Warning (mm)						300.0					
Analysis Timestep		2.5		Second Increment (Extended)							
DTS Status						OFF					
DVD Status						ON					
Inertia Status						ON					
Profile(s)						Summer and Winter					
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080									
Return Period(s) (years)		5, 30, 100									
Climate Change (%)		40, 40, 40									

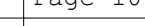
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Summary Wizard of 120 minute 5 year Summer I+40% for Storm

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

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

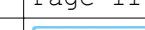
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Summary Wizard of 180 minute 5 year Summer I+40% for Storm

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		

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

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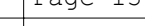
Summary Wizard of 240 minute 5 year Summer I+40% for Storm

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		

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

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<u>Summary Wizard of 360 minute 5 year Summer I+40% for Storm</u>										
<u>Simulation Criteria</u>										
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000				
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000				
Hot Start Level (mm)		0		Inlet Coefficient		0.800				
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000				
Foul Sewage per hectare (l/s)		0.000								
Number of Input Hydrographs		0		Number of Storage Structures		1				
Number of Online Controls		1		Number of Time/Area Diagrams		0				
Number of Offline Controls		0		Number of Real Time Controls		0				
<u>Synthetic Rainfall Details</u>										
Rainfall Model		FSR		Ratio R		0.414				
Region England and Wales Cv (Summer)		0.750								
M5-60 (mm)		20.300		Cv (Winter)		0.840				
Margin for Flood Risk Warning (mm)						300.0				
Analysis Timestep		2.5		Second Increment (Extended)						
DTS Status						OFF				
DVD Status						ON				
Inertia Status						ON				
Profile(s)						Summer and Winter				
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080								
Return Period(s) (years)		5, 30, 100								
Climate Change (%)		40, 40, 40								

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Summary Wizard of 480 minute 5 year Summer I+40% for Storm

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		

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

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<u>Summary Wizard of 720 minute 5 year Summer I+40% for Storm</u>										
<u>Simulation Criteria</u>										
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000				
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000				
Hot Start Level (mm)		0		Inlet Coefficient		0.800				
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000				
Foul Sewage per hectare (l/s)		0.000								
Number of Input Hydrographs		0		Number of Storage Structures		1				
Number of Online Controls		1		Number of Time/Area Diagrams		0				
Number of Offline Controls		0		Number of Real Time Controls		0				
<u>Synthetic Rainfall Details</u>										
Rainfall Model		FSR		Ratio R		0.414				
Region England and Wales Cv (Summer)		0.750								
M5-60 (mm)		20.300		Cv (Winter)		0.840				
Margin for Flood Risk Warning (mm)						300.0				
Analysis Timestep		2.5		Second Increment (Extended)						
DTS Status						OFF				
DVD Status						ON				
Inertia Status						ON				
Profile(s)						Summer and Winter				
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080								
Return Period(s) (years)		5, 30, 100								
Climate Change (%)		40, 40, 40								

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<u>Summary Wizard of 1440 minute 5 year Summer I+40% for Storm</u>																																																																																																																						
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Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000																																																																																																																
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000																																																																																																																
Hot Start Level (mm)		0		Inlet Coefficient		0.800																																																																																																																
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000																																																																																																																
Foul Sewage per hectare (l/s)		0.000																																																																																																																				
Number of Input Hydrographs		0		Number of Storage Structures		1																																																																																																																
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Return Period(s) (years)		5, 30, 100																																																																																																																				
Climate Change (%)		40, 40, 40																																																																																																																				
<table><tr><th colspan="7">Water Surcharged Flooded</th><th>Half Drain</th><th>Pipe</th><th></th></tr><tr><th>PN</th><th>US/MH Name</th><th>Storm Rank</th><th>Level (m)</th><th>Depth (m)</th><th>Volume (m³)</th><th>Flow / Cap.</th><th>Overflow (l/s)</th><th>Time (mins)</th><th>Flow (l/s)</th><th>Status</th></tr><tr><td>1.000</td><td>1</td><td>73</td><td>63.911</td><td>-0.089</td><td>0.000</td><td>0.03</td><td></td><td></td><td>0.2</td><td>OK</td></tr><tr><td>2.000</td><td>2</td><td>73</td><td>64.054</td><td>-0.088</td><td>0.000</td><td>0.03</td><td></td><td></td><td>0.2</td><td>OK</td></tr><tr><td>2.001</td><td>3</td><td>73</td><td>63.926</td><td>-0.086</td><td>0.000</td><td>0.05</td><td></td><td></td><td>0.3</td><td>OK</td></tr><tr><td>3.000</td><td>4</td><td>73</td><td>63.922</td><td>-0.078</td><td>0.000</td><td>0.11</td><td></td><td></td><td>0.4</td><td>OK</td></tr><tr><td>1.001</td><td>4</td><td>73</td><td>63.859</td><td>-0.119</td><td>0.000</td><td>0.10</td><td></td><td></td><td>0.9</td><td>OK</td></tr><tr><td>1.002</td><td>5</td><td>73</td><td>63.815</td><td>-0.129</td><td>0.000</td><td>0.05</td><td></td><td>165</td><td>0.9</td><td>OK</td></tr><tr><td>1.003</td><td>6</td><td>73</td><td>63.664</td><td>-0.126</td><td>0.000</td><td>0.06</td><td></td><td></td><td>1.3</td><td>OK</td></tr><tr><td>1.004</td><td>7</td><td>73</td><td>63.450</td><td>-0.082</td><td>0.000</td><td>0.07</td><td></td><td></td><td>1.3</td><td>OK</td></tr></table>										Water Surcharged Flooded							Half Drain	Pipe		PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status	1.000	1	73	63.911	-0.089	0.000	0.03			0.2	OK	2.000	2	73	64.054	-0.088	0.000	0.03			0.2	OK	2.001	3	73	63.926	-0.086	0.000	0.05			0.3	OK	3.000	4	73	63.922	-0.078	0.000	0.11			0.4	OK	1.001	4	73	63.859	-0.119	0.000	0.10			0.9	OK	1.002	5	73	63.815	-0.129	0.000	0.05		165	0.9	OK	1.003	6	73	63.664	-0.126	0.000	0.06			1.3	OK	1.004	7	73	63.450	-0.082	0.000	0.07			1.3	OK
Water Surcharged Flooded							Half Drain	Pipe																																																																																																														
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Innovyze Network 2020.1.3		

Summary Wizard of 2160 minute 5 year Summer I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.414
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	20.300	Cv (Winter)	0.840

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water Surcharged Flooded			Half Drain		Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	80	63.910	-0.090	0.000	0.02		0.1	OK
2.000	2	80	64.052	-0.090	0.000	0.02		0.2	OK
2.001	3	80	63.924	-0.088	0.000	0.03		0.2	OK
3.000	4	80	63.919	-0.081	0.000	0.08		0.3	OK
1.001	4	80	63.854	-0.124	0.000	0.07		0.7	OK
1.002	5	80	63.812	-0.132	0.000	0.03	183	0.7	OK
1.003	6	80	63.660	-0.130	0.000	0.05		1.0	OK
1.004	7	80	63.435	-0.097	0.000	0.05		1.0	OK

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The Old School House Casement Street Ballina, Ireland	SUDS Design Pinner Road, Northwood, UK	
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Innovyze Network 2020.1.3		

Summary Wizard of 2880 minute 5 year Summer I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.414
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	20.300	Cv (Winter)	0.840

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water Surcharged Flooded			Half Drain		Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	84	63.908	-0.092	0.000	0.02		0.1	OK
2.000	2	84	64.051	-0.091	0.000	0.02		0.1	OK
2.001	3	84	63.923	-0.089	0.000	0.03		0.2	OK
3.000	4	84	63.916	-0.084	0.000	0.06		0.3	OK
1.001	4	84	63.851	-0.127	0.000	0.06		0.6	OK
1.002	5	84	63.810	-0.134	0.000	0.03	198	0.6	OK
1.003	6	84	63.658	-0.132	0.000	0.04		0.8	OK
1.004	7	84	63.428	-0.104	0.000	0.04		0.8	OK

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Summary Wizard of 4320 minute 5 year Summer I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.414
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	20.300	Cv (Winter)	0.840

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Half Drain		Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	91	63.906	-0.094	0.000	0.01		0.1	OK
2.000	2	91	64.049	-0.093	0.000	0.01		0.1	OK
2.001	3	91	63.922	-0.090	0.000	0.02		0.1	OK
3.000	4	91	63.914	-0.086	0.000	0.05		0.2	OK
1.001	4	91	63.848	-0.130	0.000	0.04		0.4	OK
1.002	5	91	63.808	-0.136	0.000	0.02	231	0.4	OK
1.003	6	91	63.656	-0.134	0.000	0.03		0.6	OK
1.004	7	91	63.420	-0.112	0.000	0.03		0.6	OK

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<u>Summary Wizard of 5760 minute 5 year Summer I+40% for Storm</u>																																																																																																																								
<u>Simulation Criteria</u>																																																																																																																								
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000																																																																																																																		
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000																																																																																																																		
Hot Start Level (mm)		0		Inlet Coefficient		0.800																																																																																																																		
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000																																																																																																																		
Foul Sewage per hectare (l/s)		0.000																																																																																																																						
Number of Input Hydrographs		0		Number of Storage Structures		1																																																																																																																		
Number of Online Controls		1		Number of Time/Area Diagrams		0																																																																																																																		
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Region England and Wales Cv (Summer)		0.750																																																																																																																						
M5-60 (mm)		20.300		Cv (Winter)		0.840																																																																																																																		
Margin for Flood Risk Warning (mm)						300.0																																																																																																																		
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Water Surcharged Flooded							Half Drain	Pipe																																																																																																																
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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)		5, 30, 100																																																																																																																				
Climate Change (%)		40, 40, 40																																																																																																																				
<table><tr><th colspan="7">Water Surcharged Flooded</th><th>Half Drain</th><th>Pipe</th><th></th></tr><tr><th>PN</th><th>US/MH Name</th><th>Storm Rank</th><th>Level (m)</th><th>Depth (m)</th><th>Volume (m³)</th><th>Flow / Cap.</th><th>Overflow (l/s)</th><th>Time (mins)</th><th>Flow (l/s)</th><th>Status</th></tr><tr><td>1.000</td><td>1</td><td>104</td><td>63.904</td><td>-0.096</td><td>0.000</td><td>0.01</td><td></td><td></td><td>0.1</td><td>OK</td></tr><tr><td>2.000</td><td>2</td><td>104</td><td>64.047</td><td>-0.095</td><td>0.000</td><td>0.01</td><td></td><td></td><td>0.1</td><td>OK</td></tr><tr><td>2.001</td><td>3</td><td>104</td><td>63.919</td><td>-0.094</td><td>0.000</td><td>0.01</td><td></td><td></td><td>0.1</td><td>OK</td></tr><tr><td>3.000</td><td>4</td><td>104</td><td>63.912</td><td>-0.088</td><td>0.000</td><td>0.03</td><td></td><td></td><td>0.1</td><td>OK</td></tr><tr><td>1.001</td><td>4</td><td>104</td><td>63.845</td><td>-0.133</td><td>0.000</td><td>0.03</td><td></td><td></td><td>0.3</td><td>OK</td></tr><tr><td>1.002</td><td>5</td><td>104</td><td>63.804</td><td>-0.140</td><td>0.000</td><td>0.01</td><td></td><td>268</td><td>0.3</td><td>OK</td></tr><tr><td>1.003</td><td>6</td><td>104</td><td>63.653</td><td>-0.137</td><td>0.000</td><td>0.02</td><td></td><td></td><td>0.4</td><td>OK</td></tr><tr><td>1.004</td><td>7</td><td>104</td><td>63.412</td><td>-0.120</td><td>0.000</td><td>0.02</td><td></td><td></td><td>0.4</td><td>OK</td></tr></table>										Water Surcharged Flooded							Half Drain	Pipe		PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status	1.000	1	104	63.904	-0.096	0.000	0.01			0.1	OK	2.000	2	104	64.047	-0.095	0.000	0.01			0.1	OK	2.001	3	104	63.919	-0.094	0.000	0.01			0.1	OK	3.000	4	104	63.912	-0.088	0.000	0.03			0.1	OK	1.001	4	104	63.845	-0.133	0.000	0.03			0.3	OK	1.002	5	104	63.804	-0.140	0.000	0.01		268	0.3	OK	1.003	6	104	63.653	-0.137	0.000	0.02			0.4	OK	1.004	7	104	63.412	-0.120	0.000	0.02			0.4	OK
Water Surcharged Flooded							Half Drain	Pipe																																																																																																														
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1.000	1	104	63.904	-0.096	0.000	0.01			0.1	OK																																																																																																												
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<u>Summary Wizard of 8640 minute 5 year Summer I+40% for Storm</u>											
Simulation Criteria											
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000					
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000					
Hot Start Level (mm)		0		Inlet Coefficient		0.800					
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000					
Foul Sewage per hectare (l/s)		0.000									
Number of Input Hydrographs		0		Number of Storage Structures		1					
Number of Online Controls		1		Number of Time/Area Diagrams		0					
Number of Offline Controls		0		Number of Real Time Controls		0					
Synthetic Rainfall Details											
Rainfall Model		FSR		Ratio R		0.414					
Region England and Wales Cv (Summer)		0.750									
M5-60 (mm)		20.300		Cv (Winter)		0.840					
Margin for Flood Risk Warning (mm)						300.0					
Analysis Timestep		2.5 Second Increment (Extended)									
DTS Status						OFF					
DVD Status						ON					
Inertia Status						ON					
Profile(s)						Summer and Winter					
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080									
Return Period(s) (years)		5, 30, 100									
Climate Change (%)		40, 40, 40									
Water Surcharged Flooded Half Drain Pipe											
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Pipe Flow (l/s)	Status	
1.000	1	107	63.903	-0.097	0.000	0.01			0.0	OK	
2.000	2	107	64.046	-0.096	0.000	0.01			0.1	OK	
2.001	3	107	63.918	-0.094	0.000	0.01			0.1	OK	
3.000	4	107	63.911	-0.089	0.000	0.03			0.1	OK	
1.001	4	107	63.844	-0.134	0.000	0.02			0.2	OK	
1.002	5	107	63.802	-0.142	0.000	0.01		323	0.2	OK	
1.003	6	107	63.651	-0.139	0.000	0.02			0.3	OK	
1.004	7	107	63.410	-0.122	0.000	0.02			0.3	OK	

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Summary Wizard of 10080 minute 5 year Summer I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

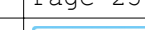
Rainfall Model	FSR	Ratio R	0.414
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	20.300	Cv (Winter)	0.840

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Half Drain		Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	110	63.903	-0.097	0.000	0.01		0.0	OK
2.000	2	110	64.046	-0.096	0.000	0.01		0.1	OK
2.001	3	110	63.917	-0.095	0.000	0.01		0.1	OK
3.000	4	110	63.910	-0.090	0.000	0.02		0.1	OK
1.001	4	110	63.843	-0.135	0.000	0.02		0.2	OK
1.002	5	110	63.801	-0.143	0.000	0.01	377	0.2	OK
1.003	6	110	63.650	-0.140	0.000	0.01		0.3	OK
1.004	7	110	63.408	-0.124	0.000	0.01		0.3	OK

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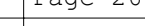
Summary Wizard of 15 minute 30 year Summer I+40% for Storm

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		

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water		Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Half Drain	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Time (mins)			Flow (l/s)		
1.000	1	26	64.113	0.113	0.000	0.56				3.8	SURCHARGED
2.000	2	16	64.208	0.066	0.000	0.64				4.6	SURCHARGED
2.001	3	20	64.154	0.142	0.000	0.88				6.1	SURCHARGED
3.000	4	17	64.184	0.184	0.000	2.24				8.8	SURCHARGED
1.001	4	27	64.098	0.120	0.000	1.89				18.4	SURCHARGED
1.002	5	30	64.073	0.129	0.000	0.17				3.4	SURCHARGED
1.003	6	30	64.067	0.277	0.000	0.24				5.2	SURCHARGED
1.004	7	30	64.060	0.528	0.000	0.10				2.0	SURCHARGED

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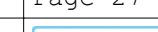
Summary Wizard of 30 minute 30 year Summer I+40% for Storm

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		

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Half Drain	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)			Time (mins)	Flow (l/s)	
1.000	1	23	64.133	0.133	0.000	0.49			3.3	SURCHARGED
2.000	2	20	64.180	0.038	0.000	0.58			4.1	SURCHARGED
2.001	3	23	64.142	0.129	0.000	0.77			5.2	SURCHARGED
3.000	4	20	64.164	0.164	0.000	1.99			7.8	SURCHARGED
1.001	4	22	64.131	0.153	0.000	1.64			16.0	SURCHARGED
1.002	5	23	64.125	0.181	0.000	0.14			2.9	SURCHARGED
1.003	6	23	64.120	0.330	0.000	0.18			3.7	SURCHARGED
1.004	7	23	64.112	0.580	0.000	0.10			2.0	SURCHARGED

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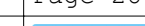
Summary Wizard of 60 minute 30 year Summer I+40% for Storm

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

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded			Half Drain	Pipe	Status
			Level	Depth	Volume	Flow /	Overflow	Time	Flow	
			(m)	(m)	(m³)	Cap.	(l/s)	(mins)	(l/s)	
1.000	1	20	64.148	0.148	0.000	0.35			2.4	SURCHARGED
2.000	2	23	64.152	0.010	0.000	0.47			3.4	SURCHARGED
2.001	3	22	64.150	0.137	0.000	0.61			4.1	SURCHARGED
3.000	4	23	64.148	0.148	0.000	1.44			5.7	SURCHARGED
1.001	4	20	64.147	0.169	0.000	1.21			11.7	SURCHARGED
1.002	5	20	64.142	0.198	0.000	0.13			2.6	SURCHARGED
1.003	6	20	64.138	0.348	0.000	0.14			3.1	SURCHARGED
1.004	7	20	64.130	0.598	0.000	0.10			2.0	SURCHARGED

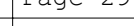
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Summary Wizard of 120 minute 30 year Summer I+40% for Storm

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

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

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Summary Wizard of 180 minute 30 year Summer I+40% for Storm

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

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

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Summary Wizard of 240 minute 30 year Summer I+40% for Storm

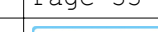
Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000
Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000
Hot Start Level (mm)	0	Inlet Coeffiecient	0.800
Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000
Foul Sewage per hectare (l/s)	0.000		

Synthetic Rainfall Details

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

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Half Drain	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)			Time (mins)	Flow (l/s)	
1.000	1	29	64.089	0.089	0.000	0.14			1.0	SURCHARGED
2.000	2	29	64.093	-0.049	0.000	0.19			1.4	OK
2.001	3	29	64.091	0.078	0.000	0.25			1.7	SURCHARGED
3.000	4	29	64.089	0.089	0.000	0.62			2.4	SURCHARGED
1.001	4	29	64.088	0.110	0.000	0.50			4.9	SURCHARGED
1.002	5	28	64.084	0.140	0.000	0.12		94	2.4	SURCHARGED
1.003	6	28	64.079	0.289	0.000	0.14			3.0	SURCHARGED
1.004	7	28	64.071	0.539	0.000	0.10			2.0	SURCHARGED

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The Old School House Casement Street Ballina, Ireland				SUDS Design Pinner Road, Northwood, UK																																																																																																																					
Date 27/07/2022 15:54 File 22-182 Pinner Road, Nor...				Designed by AK Checked by SB																																																																																																																					
Innovyze				Network 2020.1.3																																																																																																																					
<u>Summary Wizard of 480 minute 30 year Summer I+40% for Storm</u>																																																																																																																									
Simulation Criteria Areal Reduction Factor 1.000 Additional Flow - % of Total Flow 0.000 Hot Start (mins) 0 MADD Factor * 10m³/ha Storage 2.000 Hot Start Level (mm) 0 Inlet Coeffiecient 0.800 Manhole Headloss Coeff (Global) 0.500 Flow per Person per Day (l/per/day) 0.000 Foul Sewage per hectare (l/s) 0.000 Number of Input Hydrographs 0 Number of Storage Structures 1 Number of Online Controls 1 Number of Time/Area Diagrams 0 Number of Offline Controls 0 Number of Real Time Controls 0																																																																																																																									
Synthetic Rainfall Details Rainfall Model FSR Ratio R 0.414 Region England and Wales Cv (Summer) 0.750 M5-60 (mm) 20.300 Cv (Winter) 0.840 Margin for Flood Risk Warning (mm) 300.0 Analysis Timestep 2.5 Second Increment (Extended) DTS Status OFF DVD Status ON Inertia Status ON Profile(s) Summer and Winter Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080 Return Period(s) (years) 5, 30, 100 Climate Change (%) 40, 40, 40																																																																																																																									
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			Water Surcharged		Flooded		Half Drain		Pipe																																																																																																																
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1.000	1	41	64.004	0.004	0.000	0.10			0.7	SURCHARGED																																																																																																															
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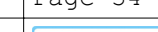
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Summary Wizard of 600 minute 30 year Summer I+40% for Storm

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

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

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Summary Wizard of 720 minute 30 year Summer I+40% for Storm

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		

Synthetic Rainfall Details

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

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Half Drain	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)			Time (mins)	Flow (l/s)	
1.000	1	52	63.933	-0.067	0.000	0.07			0.5	OK
2.000	2	50	64.061	-0.081	0.000	0.08			0.6	OK
2.001	3	53	63.936	-0.077	0.000	0.12			0.8	OK
3.000	4	53	63.935	-0.065	0.000	0.27			1.1	OK
1.001	4	52	63.932	-0.046	0.000	0.24			2.3	OK
1.002	5	52	63.928	-0.016	0.000	0.10		61	2.0	OK
1.003	6	52	63.924	0.134	0.000	0.12			2.5	SURCHARGED
1.004	7	52	63.917	0.385	0.000	0.10			2.0	SURCHARGED

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The Old School House Casement Street Ballina, Ireland				SUDS Design Pinner Road, Northwood, UK																																																																																																																			
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<u>Summary Wizard of 960 minute 30 year Summer I+40% for Storm</u>																																																																																																																							
<u>Simulation Criteria</u>																																																																																																																							
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000																																																																																																																	
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000																																																																																																																	
Hot Start Level (mm)		0		Inlet Coefficient		0.800																																																																																																																	
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000																																																																																																																	
Foul Sewage per hectare (l/s)		0.000																																																																																																																					
Number of Input Hydrographs		0		Number of Storage Structures		1																																																																																																																	
Number of Online Controls		1		Number of Time/Area Diagrams		0																																																																																																																	
Number of Offline Controls		0		Number of Real Time Controls		0																																																																																																																	
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Rainfall Model		FSR		Ratio R		0.414																																																																																																																	
Region England and Wales Cv (Summer)		0.750																																																																																																																					
M5-60 (mm)		20.300		Cv (Winter)		0.840																																																																																																																	
Margin for Flood Risk Warning (mm)						300.0																																																																																																																	
Analysis Timestep		2.5		Second Increment (Extended)																																																																																																																			
DTS Status						OFF																																																																																																																	
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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																																																																																																																					
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		Water Surcharged			Flooded		Half Drain		Pipe	Status																																																																																																													
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Summary Wizard of 1440 minute 30 year Summer I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.414
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	20.300	Cv (Winter)	0.840

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Half Drain		Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	63	63.913	-0.087	0.000	0.04		0.3	OK
2.000	2	63	64.056	-0.086	0.000	0.05		0.3	OK
2.001	3	63	63.929	-0.083	0.000	0.07		0.5	OK
3.000	4	63	63.926	-0.074	0.000	0.16		0.6	OK
1.001	4	63	63.865	-0.113	0.000	0.14		1.4	OK
1.002	5	63	63.819	-0.125	0.000	0.07		186 1.4	OK
1.003	6	63	63.670	-0.120	0.000	0.09		1.9	OK
1.004	7	63	63.511	-0.021	0.000	0.09		1.9	OK

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Summary Wizard of 2160 minute 30 year Summer I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

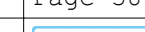
Rainfall Model FSR Ratio R 0.414
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.300 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
 720, 960, 1440, 2160, 2880, 4320, 5760,
 7200, 8640, 10080
 Return Period(s) (years) 5, 30, 100
 Climate Change (%) 40, 40, 40

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Half Drain		Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	70	63.911	-0.089	0.000	0.03		0.2	OK
2.000	2	70	64.054	-0.088	0.000	0.03		0.2	OK
2.001	3	70	63.927	-0.086	0.000	0.05		0.3	OK
3.000	4	70	63.922	-0.078	0.000	0.11		0.4	OK
1.001	4	70	63.860	-0.118	0.000	0.10		1.0	OK
1.002	5	70	63.815	-0.129	0.000	0.05	256	1.0	OK
1.003	6	70	63.665	-0.125	0.000	0.06		1.4	OK
1.004	7	70	63.453	-0.079	0.000	0.07		1.4	OK

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Summary Wizard of 2880 minute 30 year Summer I+40% for Storm

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		

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

Synthetic Rainfall Details

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Half Drain	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)			Time (mins)	Flow (l/s)	
1.000	1	76	63.910	-0.090	0.000	0.02			0.2	OK
2.000	2	76	64.053	-0.089	0.000	0.03			0.2	OK
2.001	3	76	63.925	-0.087	0.000	0.04			0.3	OK
3.000	4	76	63.920	-0.080	0.000	0.09			0.4	OK
1.001	4	76	63.856	-0.122	0.000	0.08			0.8	OK
1.002	5	76	63.813	-0.131	0.000	0.04		289	0.8	OK
1.003	6	76	63.662	-0.128	0.000	0.05			1.1	OK
1.004	7	76	63.440	-0.092	0.000	0.05			1.1	OK

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Summary Wizard of 4320 minute 30 year Summer I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.414
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	20.300	Cv (Winter)	0.840

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water Surcharged Flooded			Half Drain		Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	82	63.908	-0.092	0.000	0.02		0.1	OK
2.000	2	82	64.051	-0.091	0.000	0.02		0.1	OK
2.001	3	82	63.923	-0.089	0.000	0.03		0.2	OK
3.000	4	82	63.917	-0.083	0.000	0.07		0.3	OK
1.001	4	82	63.851	-0.127	0.000	0.06		0.6	OK
1.002	5	82	63.810	-0.134	0.000	0.03		285 0.6	OK
1.003	6	82	63.658	-0.132	0.000	0.04		0.8	OK
1.004	7	82	63.428	-0.104	0.000	0.04		0.8	OK

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Summary Wizard of 5760 minute 30 year Summer I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.414
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	20.300	Cv (Winter)	0.840

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water Surcharged Flooded			Half Drain		Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	89	63.906	-0.094	0.000	0.01		0.1	OK
2.000	2	89	64.049	-0.093	0.000	0.02		0.1	OK
2.001	3	89	63.923	-0.090	0.000	0.02		0.2	OK
3.000	4	89	63.915	-0.085	0.000	0.05		0.2	OK
1.001	4	89	63.849	-0.129	0.000	0.05		0.4	OK
1.002	5	89	63.809	-0.135	0.000	0.02	325	0.4	OK
1.003	6	89	63.657	-0.133	0.000	0.03		0.6	OK
1.004	7	89	63.422	-0.110	0.000	0.03		0.6	OK

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Summary Wizard of 7200 minute 30 year Summer I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.414
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.300 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
 720, 960, 1440, 2160, 2880, 4320, 5760,
 7200, 8640, 10080
 Return Period(s) (years) 5, 30, 100
 Climate Change (%) 40, 40, 40

PN	US/MH Name	Storm Rank	Water Surcharged			Flooded		Half Drain Time (mins)	Pipe Flow (l/s)	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)			
1.000	1	95	63.905	-0.095	0.000	0.01			0.1	OK
2.000	2	95	64.048	-0.094	0.000	0.01			0.1	OK
2.001	3	95	63.921	-0.091	0.000	0.02			0.1	OK
3.000	4	95	63.913	-0.087	0.000	0.04			0.2	OK
1.001	4	95	63.847	-0.131	0.000	0.04			0.4	OK
1.002	5	95	63.807	-0.137	0.000	0.02		340	0.4	OK
1.003	6	95	63.656	-0.134	0.000	0.02			0.5	OK
1.004	7	95	63.418	-0.114	0.000	0.03			0.5	OK

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Summary Wizard of 8640 minute 30 year Summer I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.414
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	20.300	Cv (Winter)	0.840

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Half Drain		Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	100	63.905	-0.095	0.000	0.01		0.1	OK
2.000	2	100	64.047	-0.095	0.000	0.01		0.1	OK
2.001	3	100	63.920	-0.092	0.000	0.02		0.1	OK
3.000	4	100	63.912	-0.088	0.000	0.04		0.1	OK
1.001	4	100	63.846	-0.132	0.000	0.03		0.3	OK
1.002	5	100	63.805	-0.139	0.000	0.02	409	0.3	OK
1.003	6	100	63.655	-0.135	0.000	0.02		0.4	OK
1.004	7	100	63.415	-0.117	0.000	0.02		0.4	OK

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The Old School House Casement Street Ballina, Ireland				SUDS Design Pinner Road, Northwood, UK																																																																																																											
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<u>Summary Wizard of 10080 minute 30 year Summer I+40% for Storm</u>																																																																																																															
<u>Simulation Criteria</u>																																																																																																															
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000																																																																																																									
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000																																																																																																									
Hot Start Level (mm)		0		Inlet Coefficient		0.800																																																																																																									
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000																																																																																																									
Foul Sewage per hectare (l/s)		0.000																																																																																																													
Number of Input Hydrographs		0		Number of Storage Structures		1																																																																																																									
Number of Online Controls		1		Number of Time/Area Diagrams		0																																																																																																									
Number of Offline Controls		0		Number of Real Time Controls		0																																																																																																									
<u>Synthetic Rainfall Details</u>																																																																																																															
Rainfall Model		FSR		Ratio R		0.414																																																																																																									
Region England and Wales Cv (Summer)		0.750																																																																																																													
M5-60 (mm)		20.300		Cv (Winter)		0.840																																																																																																									
Margin for Flood Risk Warning (mm)						300.0																																																																																																									
Analysis Timestep		2.5		Second Increment (Extended)																																																																																																											
DTS Status						OFF																																																																																																									
DVD Status						ON																																																																																																									
Inertia Status						ON																																																																																																									
Profile(s)						Summer and Winter																																																																																																									
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080																																																																																																													
Return Period(s) (years)		5, 30, 100																																																																																																													
Climate Change (%)		40, 40, 40																																																																																																													
<table><tr><th colspan="7">Water Surcharged Flooded</th><th>Half Drain</th><th>Pipe</th><th></th></tr><tr><th>PN</th><th>US/MH Name</th><th>Storm Rank</th><th>Level (m)</th><th>Depth (m)</th><th>Volume (m³)</th><th>Flow / Overflow Cap.</th><th>Time (mins)</th><th>Flow (l/s)</th><th>Status</th></tr><tr><td>1.000</td><td>1</td><td>103</td><td>63.904</td><td>-0.096</td><td>0.000</td><td>0.01</td><td></td><td>0.1</td><td>OK</td></tr><tr><td>2.000</td><td>2</td><td>103</td><td>64.047</td><td>-0.095</td><td>0.000</td><td>0.01</td><td></td><td>0.1</td><td>OK</td></tr><tr><td>2.001</td><td>3</td><td>103</td><td>63.919</td><td>-0.093</td><td>0.000</td><td>0.01</td><td></td><td>0.1</td><td>OK</td></tr><tr><td>3.000</td><td>4</td><td>103</td><td>63.912</td><td>-0.088</td><td>0.000</td><td>0.03</td><td></td><td>0.1</td><td>OK</td></tr><tr><td>1.001</td><td>4</td><td>103</td><td>63.845</td><td>-0.133</td><td>0.000</td><td>0.03</td><td></td><td>0.3</td><td>OK</td></tr><tr><td>1.002</td><td>5</td><td>103</td><td>63.804</td><td>-0.140</td><td>0.000</td><td>0.01</td><td>480</td><td>0.3</td><td>OK</td></tr><tr><td>1.003</td><td>6</td><td>103</td><td>63.653</td><td>-0.137</td><td>0.000</td><td>0.02</td><td></td><td>0.4</td><td>OK</td></tr><tr><td>1.004</td><td>7</td><td>103</td><td>63.413</td><td>-0.119</td><td>0.000</td><td>0.02</td><td></td><td>0.4</td><td>OK</td></tr></table>												Water Surcharged Flooded							Half Drain	Pipe		PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap.	Time (mins)	Flow (l/s)	Status	1.000	1	103	63.904	-0.096	0.000	0.01		0.1	OK	2.000	2	103	64.047	-0.095	0.000	0.01		0.1	OK	2.001	3	103	63.919	-0.093	0.000	0.01		0.1	OK	3.000	4	103	63.912	-0.088	0.000	0.03		0.1	OK	1.001	4	103	63.845	-0.133	0.000	0.03		0.3	OK	1.002	5	103	63.804	-0.140	0.000	0.01	480	0.3	OK	1.003	6	103	63.653	-0.137	0.000	0.02		0.4	OK	1.004	7	103	63.413	-0.119	0.000	0.02		0.4	OK
Water Surcharged Flooded							Half Drain	Pipe																																																																																																							
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap.	Time (mins)	Flow (l/s)	Status																																																																																																						
1.000	1	103	63.904	-0.096	0.000	0.01		0.1	OK																																																																																																						
2.000	2	103	64.047	-0.095	0.000	0.01		0.1	OK																																																																																																						
2.001	3	103	63.919	-0.093	0.000	0.01		0.1	OK																																																																																																						
3.000	4	103	63.912	-0.088	0.000	0.03		0.1	OK																																																																																																						
1.001	4	103	63.845	-0.133	0.000	0.03		0.3	OK																																																																																																						
1.002	5	103	63.804	-0.140	0.000	0.01	480	0.3	OK																																																																																																						
1.003	6	103	63.653	-0.137	0.000	0.02		0.4	OK																																																																																																						
1.004	7	103	63.413	-0.119	0.000	0.02		0.4	OK																																																																																																						
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Summary Wizard of 15 minute 100 year Summer I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.414
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.300 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
 720, 960, 1440, 2160, 2880, 4320, 5760,
 7200, 8640, 10080
 Return Period(s) (years) 5, 30, 100
 Climate Change (%) 40, 40, 40

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

PN	US/MH Name	Storm Rank	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	1	11	64.242	0.242	0.000	0.68		4.6	SURCHARGED
2.000	2	3	64.369	0.227	0.000	0.78		5.5	SURCHARGED
2.001	3	8	64.292	0.280	0.000	1.03		7.1	SURCHARGED
3.000	4	4	64.349	0.349	0.000	2.78		10.9	SURCHARGED
1.001	4	13	64.216	0.238	0.000	2.24		21.8	SURCHARGED
1.002	5	17	64.162	0.218	0.000	0.16		3.3	SURCHARGED
1.003	6	17	64.156	0.366	0.000	0.26		5.5	SURCHARGED
1.004	7	17	64.148	0.616	0.000	0.10		2.0	SURCHARGED

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Summary Wizard of 30 minute 100 year Summer I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.414
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.300 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
 720, 960, 1440, 2160, 2880, 4320, 5760,
 7200, 8640, 10080
 Return Period(s) (years) 5, 30, 100
 Climate Change (%) 40, 40, 40

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

PN	US/MH Name	Storm Rank	Water Surcharged Flooded				Half Drain Pipe		Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	10	64.253	0.253	0.000	0.59		4.0	SURCHARGED
2.000	2	6	64.352	0.210	0.000	0.69		4.9	SURCHARGED
2.001	3	9	64.291	0.279	0.000	0.91		6.2	SURCHARGED
3.000	4	6	64.334	0.334	0.000	2.48		9.8	SURCHARGED
1.001	4	10	64.251	0.273	0.000	1.99		19.3	SURCHARGED
1.002	5	9	64.245	0.301	0.000	0.16		3.2	SURCHARGED
1.003	6	9	64.239	0.449	0.000	0.19		4.1	SURCHARGED
1.004	7	9	64.230	0.698	0.000	0.10		2.1	SURCHARGED

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Summary Wizard of 60 minute 100 year Summer I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.414
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.300 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
 720, 960, 1440, 2160, 2880, 4320, 5760,
 7200, 8640, 10080
 Return Period(s) (years) 5, 30, 100
 Climate Change (%) 40, 40, 40

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

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Half Drain	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)			Time (mins)	Flow (l/s)	
1.000	1	5	64.296	0.296	0.000	0.45			3.0	SURCHARGED
2.000	2	8	64.301	0.159	0.000	0.53			3.8	SURCHARGED
2.001	3	6	64.298	0.285	0.000	0.70			4.8	SURCHARGED
3.000	4	8	64.296	0.296	0.000	1.87			7.3	SURCHARGED
1.001	4	5	64.294	0.316	0.000	1.51			14.7	SURCHARGED
1.002	5	5	64.289	0.345	0.000	0.12			2.4	SURCHARGED
1.003	6	5	64.284	0.494	0.000	0.14			3.0	SURCHARGED
1.004	7	5	64.275	0.743	0.000	0.11			2.1	SURCHARGE

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<u>Summary Wizard of 120 minute 100 year Summer I+40% for Storm</u>										
<u>Simulation Criteria</u>										
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000				
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000				
Hot Start Level (mm)		0		Inlet Coefficient		0.800				
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000				
Foul Sewage per hectare (l/s)		0.000								
Number of Input Hydrographs		0		Number of Storage Structures		1				
Number of Online Controls		1		Number of Time/Area Diagrams		0				
Number of Offline Controls		0		Number of Real Time Controls		0				
<u>Synthetic Rainfall Details</u>										
Rainfall Model		FSR		Ratio R		0.414				
Region England and Wales Cv (Summer)		0.750								
M5-60 (mm)		20.300		Cv (Winter)		0.840				
Margin for Flood Risk Warning (mm)						300.0				
Analysis Timestep		2.5 Second Increment (Extended)								
DTS Status						OFF				
DVD Status						ON				
Inertia Status						ON				
Profile(s)						Summer and Winter				
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080								
Return Period(s) (years)		5, 30, 100								
Climate Change (%)		40, 40, 40								

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Summary Wizard of 180 minute 100 year Summer I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.414
Region England and Wales Cv (Summer)			0.750
M5-60 (mm)	20.300	Cv (Winter)	0.840

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water Surcharged Flooded				Half Drain Pipe		Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	9	64.254	0.254	0.000	0.23		1.6	SURCHARGED
2.000	2	11	64.259	0.117	0.000	0.30		2.1	SURCHARGED
2.001	3	11	64.256	0.243	0.000	0.39		2.6	SURCHARGED
3.000	4	11	64.254	0.254	0.000	0.94		3.7	SURCHARGED
1.001	4	9	64.253	0.275	0.000	0.78		7.6	SURCHARGED
1.002	5	8	64.248	0.304	0.000	0.12	112	2.4	SURCHARGED
1.003	6	8	64.243	0.453	0.000	0.14		3.0	SURCHARGED
1.004	7	8	64.234	0.702	0.000	0.10		2.1	SURCHARGED

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The Old School House Casement Street Ballina, Ireland				SUDS Design Pinner Road, Northwood, UK																																																																																																																				
Date 27/07/2022 15:54				Designed by AK																																																																																																																				
File 22-182 Pinner Road, Nor...				Checked by SB																																																																																																																				
Innovyze				Network 2020.1.3																																																																																																																				
<u>Summary Wizard of 240 minute 100 year Summer I+40% for Storm</u>																																																																																																																								
<u>Simulation Criteria</u>																																																																																																																								
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000																																																																																																																		
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000																																																																																																																		
Hot Start Level (mm)		0		Inlet Coefficient		0.800																																																																																																																		
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000																																																																																																																		
Foul Sewage per hectare (l/s)		0.000																																																																																																																						
Number of Input Hydrographs		0		Number of Storage Structures		1																																																																																																																		
Number of Online Controls		1		Number of Time/Area Diagrams		0																																																																																																																		
Number of Offline Controls		0		Number of Real Time Controls		0																																																																																																																		
<u>Synthetic Rainfall Details</u>																																																																																																																								
Rainfall Model		FSR		Ratio R		0.414																																																																																																																		
Region England and Wales Cv (Summer)		0.750																																																																																																																						
M5-60 (mm)		20.300		Cv (Winter)		0.840																																																																																																																		
Margin for Flood Risk Warning (mm)						300.0																																																																																																																		
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DTS Status						OFF																																																																																																																		
DVD Status						ON																																																																																																																		
Inertia Status						ON																																																																																																																		
Profile(s)						Summer and Winter																																																																																																																		
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080																																																																																																																						
Return Period(s) (years)		5, 30, 100																																																																																																																						
Climate Change (%)		40, 40, 40																																																																																																																						
<table><tr><th colspan="2"></th><th colspan="3">Water Surcharged</th><th colspan="2">Flooded</th><th colspan="2">Half Drain</th><th>Pipe</th><th rowspan="2">Status</th></tr><tr><th>PN</th><th>US/MH Name</th><th>Storm Rank</th><th>Level (m)</th><th>Depth (m)</th><th>Volume (m³)</th><th>Flow / Cap.</th><th>Overflow (l/s)</th><th>Time (mins)</th><th>Flow (l/s)</th></tr><tr><td>1.000</td><td>1</td><td>12</td><td>64.229</td><td>0.229</td><td>0.000</td><td>0.19</td><td></td><td></td><td>1.3</td><td>SURCHARGED</td></tr><tr><td>2.000</td><td>2</td><td>13</td><td>64.233</td><td>0.091</td><td>0.000</td><td>0.25</td><td></td><td></td><td>1.8</td><td>SURCHARGED</td></tr><tr><td>2.001</td><td>3</td><td>12</td><td>64.230</td><td>0.218</td><td>0.000</td><td>0.32</td><td></td><td></td><td>2.2</td><td>SURCHARGED</td></tr><tr><td>3.000</td><td>4</td><td>12</td><td>64.228</td><td>0.228</td><td>0.000</td><td>0.76</td><td></td><td></td><td>3.0</td><td>SURCHARGED</td></tr><tr><td>1.001</td><td>4</td><td>11</td><td>64.227</td><td>0.249</td><td>0.000</td><td>0.64</td><td></td><td></td><td>6.3</td><td>SURCHARGED</td></tr><tr><td>1.002</td><td>5</td><td>10</td><td>64.222</td><td>0.278</td><td>0.000</td><td>0.12</td><td></td><td>118</td><td>2.4</td><td>SURCHARGED</td></tr><tr><td>1.003</td><td>6</td><td>10</td><td>64.217</td><td>0.427</td><td>0.000</td><td>0.14</td><td></td><td></td><td>2.9</td><td>SURCHARGED</td></tr><tr><td>1.004</td><td>7</td><td>10</td><td>64.209</td><td>0.677</td><td>0.000</td><td>0.10</td><td></td><td></td><td>2.0</td><td>SURCHARGED</td></tr></table>														Water Surcharged			Flooded		Half Drain		Pipe	Status	PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	1.000	1	12	64.229	0.229	0.000	0.19			1.3	SURCHARGED	2.000	2	13	64.233	0.091	0.000	0.25			1.8	SURCHARGED	2.001	3	12	64.230	0.218	0.000	0.32			2.2	SURCHARGED	3.000	4	12	64.228	0.228	0.000	0.76			3.0	SURCHARGED	1.001	4	11	64.227	0.249	0.000	0.64			6.3	SURCHARGED	1.002	5	10	64.222	0.278	0.000	0.12		118	2.4	SURCHARGED	1.003	6	10	64.217	0.427	0.000	0.14			2.9	SURCHARGED	1.004	7	10	64.209	0.677	0.000	0.10			2.0	SURCHARGED
		Water Surcharged			Flooded		Half Drain		Pipe	Status																																																																																																														
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)																																																																																																															
1.000	1	12	64.229	0.229	0.000	0.19			1.3	SURCHARGED																																																																																																														
2.000	2	13	64.233	0.091	0.000	0.25			1.8	SURCHARGED																																																																																																														
2.001	3	12	64.230	0.218	0.000	0.32			2.2	SURCHARGED																																																																																																														
3.000	4	12	64.228	0.228	0.000	0.76			3.0	SURCHARGED																																																																																																														
1.001	4	11	64.227	0.249	0.000	0.64			6.3	SURCHARGED																																																																																																														
1.002	5	10	64.222	0.278	0.000	0.12		118	2.4	SURCHARGED																																																																																																														
1.003	6	10	64.217	0.427	0.000	0.14			2.9	SURCHARGED																																																																																																														
1.004	7	10	64.209	0.677	0.000	0.10			2.0	SURCHARGED																																																																																																														
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Summary Wizard of 360 minute 100 year Summer I+40% for Storm

Simulation Criteria

Areal Reduction Factor 1.000

Additional Flow - % of Total Flow 0.000

Hot Start (mins) 0

MADD Factor * 10m³/ha Storage 2.000

Hot Start Level (mm) 0

Inlet Coefficient 0.800

Manhole Headloss Coeff (Global) 0.500

Flow per Person per Day (l/per/day) 0.000

Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0

Number of Storage Structures 1

Number of Online Controls 1

Number of Time/Area Diagrams 0

Number of Offline Controls 0

Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR

Ratio R 0.414

Region England and Wales Cv (Summer) 0.750

M5-60 (mm) 20.300

Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0

Analysis Timestep 2.5 Second Increment (Extended)

DTS Status OFF

DVD Status ON

Inertia Status ON

Profile(s) Summer and Winter

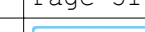
Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080

Return Period(s) (years) 5, 30, 100

Climate Change (%) 40, 40, 40

PN	US/MH Name	Storm Rank	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap. (l/s)	Overflow (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
1.000	1	17	64.179	0.179	0.000	0.14			0.9	SURCHARGED
2.000	2	19	64.183	0.041	0.000	0.18			1.3	SURCHARGED
2.001	3	17	64.181	0.168	0.000	0.24			1.6	SURCHARGED
3.000	4	19	64.179	0.179	0.000	0.56			2.2	SURCHARGED
1.001	4	17	64.178	0.200	0.000	0.47			4.6	SURCHARGED
1.002	5	16	64.173	0.229	0.000	0.12		126	2.4	SURCHARGED
1.003	6	16	64.168	0.378	0.000	0.13			2.8	SURCHARGED
1.004	7	16	64.160	0.628	0.000	0.10			2.0	SURCHARGED

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Summary Wizard of 480 minute 100 year Summer I+40% for Storm

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		

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

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Summary Wizard of 600 minute 100 year Summer I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

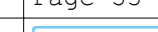
Rainfall Model	FSR	Ratio R	0.414
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	20.300	Cv (Winter)	0.840

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water			Surcharged		Flooded		Half Drain Time (mins)	Pipe Flow (l/s)	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)					
1.000	1	28	64.090	0.090	0.000	0.09			0.6		SURCHARGED	
2.000	2	28	64.094	-0.048	0.000	0.12			0.9		OK	
2.001	3	28	64.091	0.079	0.000	0.16			1.1		SURCHARGED	
3.000	4	28	64.090	0.090	0.000	0.39			1.5		SURCHARGED	
1.001	4	28	64.089	0.111	0.000	0.33			3.2		SURCHARGED	
1.002	5	27	64.084	0.140	0.000	0.10			106		SURCHARGED	
1.003	6	27	64.080	0.290	0.000	0.12			2.5		SURCHARGED	
1.004	7	27	64.072	0.540	0.000	0.10			2.0		SURCHARGED	

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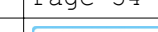
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Summary Wizard of 720 minute 100 year Summer I+40% for Storm

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		

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

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Innovyze	Network 2020.1.3	

Summary Wizard of 960 minute 100 year Summer I+40% for Storm

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		

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

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Innovyze							Network 2020.1.3																																																																																																																	
<u>Summary Wizard of 1440 minute 100 year Summer I+40% for Storm</u>																																																																																																																								
<u>Simulation Criteria</u>																																																																																																																								
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000																																																																																																																		
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000																																																																																																																		
Hot Start Level (mm)		0		Inlet Coefficient		0.800																																																																																																																		
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000																																																																																																																		
Foul Sewage per hectare (l/s)		0.000																																																																																																																						
Number of Input Hydrographs		0		Number of Storage Structures		1																																																																																																																		
Number of Online Controls		1		Number of Time/Area Diagrams		0																																																																																																																		
Number of Offline Controls		0		Number of Real Time Controls		0																																																																																																																		
<u>Synthetic Rainfall Details</u>																																																																																																																								
Rainfall Model		FSR		Ratio R		0.414																																																																																																																		
Region England and Wales Cv (Summer)		0.750																																																																																																																						
M5-60 (mm)		20.300		Cv (Winter)		0.840																																																																																																																		
Margin for Flood Risk Warning (mm)						300.0																																																																																																																		
Analysis Timestep		2.5		Second Increment (Extended)																																																																																																																				
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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)		5, 30, 100																																																																																																																						
Climate Change (%)		40, 40, 40																																																																																																																						
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PN	US/MH Name	Storm Rank	Water Surcharged Flooded			Half Drain		Pipe	Status																																																																																																		
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Date 27/07/2022 15:54				Designed by AK							
File 22-182 Pinner Road, Nor...				Checked by SB							
Innovyze				Network 2020.1.3							
<u>Summary Wizard of 4320 minute 100 year Summer I+40% for Storm</u>											
Simulation Criteria											
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000					
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000					
Hot Start Level (mm)		0		Inlet Coefficient		0.800					
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000					
Foul Sewage per hectare (l/s)		0.000									
Number of Input Hydrographs		0		Number of Storage Structures		1					
Number of Online Controls		1		Number of Time/Area Diagrams		0					
Number of Offline Controls		0		Number of Real Time Controls		0					
Synthetic Rainfall Details											
Rainfall Model		FSR		Ratio R		0.414					
Region England and Wales Cv (Summer)		0.750									
M5-60 (mm)		20.300		Cv (Winter)		0.840					
Margin for Flood Risk Warning (mm)						300.0					
Analysis Timestep		2.5		Second Increment (Extended)							
DTS Status						OFF					
DVD Status						ON					
Inertia Status						ON					
Profile(s)						Summer and Winter					
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600,				720, 960, 1440, 2160, 2880, 4320, 5760,					
						7200, 8640, 10080					
Return Period(s) (years)						5, 30, 100					
Climate Change (%)						40, 40, 40					
Water Surcharged Flooded Half Drain Pipe											
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Pipe Flow (l/s)	Status	
1.000	1	79	63.910	-0.090	0.000	0.02			0.1	OK	
2.000	2	79	64.053	-0.089	0.000	0.02			0.2	OK	
2.001	3	79	63.924	-0.088	0.000	0.03			0.2	OK	
3.000	4	79	63.919	-0.081	0.000	0.08			0.3	OK	
1.001	4	79	63.854	-0.124	0.000	0.07			0.7	OK	
1.002	5	79	63.812	-0.132	0.000	0.03		413	0.7	OK	
1.003	6	79	63.660	-0.130	0.000	0.05			1.0	OK	
1.004	7	79	63.435	-0.097	0.000	0.05			1.0	OK	
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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																																																																																																																		
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Water Surcharged Flooded							Half Drain	Pipe																																																																																																																
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Areal Reduction Factor			1.000		Additional Flow - % of Total Flow			0.000																																																																																																																
Hot Start (mins)			0		MADD Factor * 10m³/ha Storage			2.000																																																																																																																
Hot Start Level (mm)			0		Inlet Coefficient			0.800																																																																																																																
Manhole Headloss Coeff (Global)			0.500		Flow per Person per Day (l/per/day)			0.000																																																																																																																
Foul Sewage per hectare (l/s)			0.000																																																																																																																					
Number of Input Hydrographs			0		Number of Storage Structures			1																																																																																																																
Number of Online Controls			1		Number of Time/Area Diagrams			0																																																																																																																
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<u>Synthetic Rainfall Details</u>																																																																																																																								
Rainfall Model			FSR		Ratio R			0.414																																																																																																																
Region England and Wales Cv (Summer)			0.750																																																																																																																					
M5-60 (mm)			20.300		Cv (Winter)			0.840																																																																																																																
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Water Surcharged Flooded							Half Drain	Pipe																																																																																																																
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Water Surcharged Flooded							Half Drain	Pipe																																																																																																							
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Simon Beale Associates		Page 64
The Old School House Casement Street Ballina, Ireland	SUDS Design Pinner Road, Northwood, UK	
Date 27/07/2022 15:54 File 22-182 Pinner Road, Nor...	Designed by AK Checked by SB	
Innovyze	Network 2020.1.3	

Summary Wizard of 30 minute 5 year Winter I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.414
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.300 Cv (Winter) 0.840

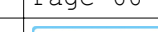
Margin for Flood Risk Warning (mm) 300.0
 Analysis Timestep 2.5 Second Increment (Extended)
 DTS Status OFF
 DVD Status ON
 Inertia Status ON

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
 720, 960, 1440, 2160, 2880, 4320, 5760,
 7200, 8640, 10080
 Return Period(s) (years) 5, 30, 100
 Climate Change (%) 40, 40, 40

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

PN	US/MH Name	Storm Rank	Water		Surcharged	Flooded	Flow / Overflow (l/s)	Half Drain	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Time (mins)		Flow (l/s)		
1.000	1	35	64.038	0.038	0.000	0.33		2.2	SURCHARGED	
2.000	2	34	64.085	-0.057	0.000	0.39		2.8	OK	
2.001	3	35	64.040	0.027	0.000	0.54		3.7	SURCHARGED	
3.000	4	37	64.038	0.038	0.000	1.28		5.0	SURCHARGED	
1.001	4	35	64.037	0.059	0.000	1.12		10.9	SURCHARGED	
1.002	5	35	64.032	0.088	0.000	0.16		3.3	SURCHARGED	
1.003	6	35	64.027	0.237	0.000	0.18		3.9	SURCHARGED	
1.004	7	35	64.020	0.488	0.000	0.10		2.0	SURCHARGED	

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		Water Surcharged			Flooded		Half Drain		Pipe	Status																																																																																																														
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1.000	1	34	64.038	0.038	0.000	0.21			1.4	SURCHARGED																																																																																																														
2.000	2	36	64.076	-0.066	0.000	0.26			1.8	OK																																																																																																														
2.001	3	36	64.040	0.027	0.000	0.36			2.4	SURCHARGED																																																																																																														
3.000	4	36	64.038	0.038	0.000	0.85			3.3	SURCHARGED																																																																																																														
1.001	4	34	64.037	0.059	0.000	0.72			7.0	SURCHARGED																																																																																																														
1.002	5	34	64.033	0.089	0.000	0.15		47	3.1	SURCHARGED																																																																																																														
1.003	6	34	64.029	0.239	0.000	0.17			3.6	SURCHARGED																																																																																																														
1.004	7	34	64.021	0.489	0.000	0.10			2.0	SURCHARGED																																																																																																														
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The Old School House Casement Street Ballina, Ireland	SUDS Design Pinner Road, Northwood, UK	
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Innovyze	Network 2020.1.3	

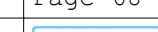
Summary Wizard of 120 minute 5 year Winter I+40% for Storm

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		

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

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Date 27/07/2022 15:54 File 22-182 Pinner Road, Nor...				Designed by AK Checked by SB																																																																																																																					
Innovyze				Network 2020.1.3																																																																																																																					
<u>Summary Wizard of 180 minute 5 year Winter I+40% for Storm</u>																																																																																																																									
<u>Simulation Criteria</u>																																																																																																																									
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																																																																																																																					
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Foul Sewage per hectare (l/s) 0.000																																																																																																																									
Number of Input Hydrographs 0				Number of Storage Structures 1																																																																																																																					
Number of Online Controls 1				Number of Time/Area Diagrams 0																																																																																																																					
Number of Offline Controls 0				Number of Real Time Controls 0																																																																																																																					
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Rainfall Model				FSR		Ratio R 0.414																																																																																																																			
Region England and Wales Cv (Summer)				0.750																																																																																																																					
M5-60 (mm)				20.300		Cv (Winter) 0.840																																																																																																																			
Margin for Flood Risk Warning (mm)				300.0																																																																																																																					
Analysis Timestep				2.5 Second Increment (Extended)																																																																																																																					
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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)				5, 30, 100																																																																																																																					
Climate Change (%)				40, 40, 40																																																																																																																					
<table><tr><th colspan="2"></th><th colspan="3">Water Surcharged</th><th colspan="2">Flooded</th><th colspan="2">Half Drain</th><th>Pipe</th><th></th></tr><tr><th>PN</th><th>US/MH Name</th><th>Storm Rank</th><th>Level (m)</th><th>Depth (m)</th><th>Volume (m³)</th><th>Flow / Cap.</th><th>Overflow (l/s)</th><th>Time (mins)</th><th>Flow (l/s)</th><th>Status</th></tr><tr><td>1.000</td><td>1</td><td>45</td><td>63.984</td><td>-0.016</td><td>0.000</td><td>0.10</td><td></td><td></td><td>0.7</td><td>OK</td></tr><tr><td>2.000</td><td>2</td><td>42</td><td>64.065</td><td>-0.077</td><td>0.000</td><td>0.12</td><td></td><td></td><td>0.8</td><td>OK</td></tr><tr><td>2.001</td><td>3</td><td>45</td><td>63.985</td><td>-0.027</td><td>0.000</td><td>0.17</td><td></td><td></td><td>1.1</td><td>OK</td></tr><tr><td>3.000</td><td>4</td><td>45</td><td>63.984</td><td>-0.016</td><td>0.000</td><td>0.39</td><td></td><td></td><td>1.5</td><td>OK</td></tr><tr><td>1.001</td><td>4</td><td>45</td><td>63.983</td><td>0.005</td><td>0.000</td><td>0.34</td><td></td><td></td><td>3.3</td><td>SURCHARGED</td></tr><tr><td>1.002</td><td>5</td><td>44</td><td>63.979</td><td>0.035</td><td>0.000</td><td>0.12</td><td></td><td>60</td><td>2.4</td><td>SURCHARGED</td></tr><tr><td>1.003</td><td>6</td><td>44</td><td>63.974</td><td>0.184</td><td>0.000</td><td>0.14</td><td></td><td></td><td>2.9</td><td>SURCHARGED</td></tr><tr><td>1.004</td><td>7</td><td>44</td><td>63.967</td><td>0.435</td><td>0.000</td><td>0.10</td><td></td><td></td><td>2.0</td><td>SURCHARGED</td></tr></table>														Water Surcharged			Flooded		Half Drain		Pipe		PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status	1.000	1	45	63.984	-0.016	0.000	0.10			0.7	OK	2.000	2	42	64.065	-0.077	0.000	0.12			0.8	OK	2.001	3	45	63.985	-0.027	0.000	0.17			1.1	OK	3.000	4	45	63.984	-0.016	0.000	0.39			1.5	OK	1.001	4	45	63.983	0.005	0.000	0.34			3.3	SURCHARGED	1.002	5	44	63.979	0.035	0.000	0.12		60	2.4	SURCHARGED	1.003	6	44	63.974	0.184	0.000	0.14			2.9	SURCHARGED	1.004	7	44	63.967	0.435	0.000	0.10			2.0	SURCHARGED
		Water Surcharged			Flooded		Half Drain		Pipe																																																																																																																
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2.000	2	42	64.065	-0.077	0.000	0.12			0.8	OK																																																																																																															
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1.004	7	44	63.967	0.435	0.000	0.10			2.0	SURCHARGED																																																																																																															
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Innovyze	Network 2020.1.3	

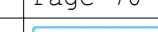
Summary Wizard of 240 minute 5 year Winter I+40% for Storm

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		

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

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<u>Simulation Criteria</u>																																																																																																																							
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000																																																																																																																	
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000																																																																																																																	
Hot Start Level (mm)		0		Inlet Coefficient		0.800																																																																																																																	
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000																																																																																																																	
Foul Sewage per hectare (l/s)		0.000																																																																																																																					
Number of Input Hydrographs		0		Number of Storage Structures		1																																																																																																																	
Number of Online Controls		1		Number of Time/Area Diagrams		0																																																																																																																	
Number of Offline Controls		0		Number of Real Time Controls		0																																																																																																																	
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M5-60 (mm)		20.300		Cv (Winter)		0.840																																																																																																																	
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Summary Wizard of 480 minute 5 year Winter I+40% for Storm

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		

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

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Areal Reduction Factor			1.000		Additional Flow - % of Total Flow			0.000																																																																																																																
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Water Surcharged Flooded							Half Drain	Pipe																																																																																																																
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status																																																																																																														
1.000	1	65	63.913	-0.087	0.000	0.04			0.3	OK																																																																																																														
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The Old School House Casement Street Ballina, Ireland				SUDS Design Pinner Road, Northwood, UK																																																																																																																				
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<u>Summary Wizard of 720 minute 5 year Winter I+40% for Storm</u>																																																																																																																								
<u>Simulation Criteria</u>																																																																																																																								
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000																																																																																																																		
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000																																																																																																																		
Hot Start Level (mm)		0		Inlet Coefficient		0.800																																																																																																																		
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000																																																																																																																		
Foul Sewage per hectare (l/s)		0.000																																																																																																																						
Number of Input Hydrographs		0		Number of Storage Structures		1																																																																																																																		
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M5-60 (mm)		20.300		Cv (Winter)		0.840																																																																																																																		
Margin for Flood Risk Warning (mm)						300.0																																																																																																																		
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DTS Status						OFF																																																																																																																		
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Return Period(s) (years)		5, 30, 100																																																																																																																						
Climate Change (%)		40, 40, 40																																																																																																																						
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Water Surcharged Flooded							Half Drain	Pipe																																																																																																																
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status																																																																																																														
1.000	1	69	63.912	-0.088	0.000	0.04			0.2	OK																																																																																																														
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The Old School House Casement Street Ballina, Ireland	SUDS Design Pinner Road, Northwood, UK	
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Summary Wizard of 960 minute 5 year Winter I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.414
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.300 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
 720, 960, 1440, 2160, 2880, 4320, 5760,
 7200, 8640, 10080
 Return Period(s) (years) 5, 30, 100
 Climate Change (%) 40, 40, 40

PN	US/MH Name	Storm Rank	Water			Surcharged		Flooded		Half Drain Time (mins)	Pipe Flow (l/s)	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)					
1.000	1	74	63.911	-0.089	0.000	0.03					0.2	OK
2.000	2	74	64.054	-0.088	0.000	0.03					0.2	OK
2.001	3	74	63.926	-0.086	0.000	0.05					0.3	OK
3.000	4	74	63.922	-0.078	0.000	0.11					0.4	OK
1.001	4	74	63.859	-0.119	0.000	0.10					0.9	OK
1.002	5	74	63.815	-0.129	0.000	0.05			188		0.9	OK
1.003	6	74	63.664	-0.126	0.000	0.06					1.3	OK
1.004	7	74	63.450	-0.082	0.000	0.07					1.3	OK

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The Old School House Casement Street Ballina, Ireland	SUDS Design Pinner Road, Northwood, UK	
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Summary Wizard of 1440 minute 5 year Winter I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.414
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.300 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
 720, 960, 1440, 2160, 2880, 4320, 5760,
 7200, 8640, 10080
 Return Period(s) (years) 5, 30, 100
 Climate Change (%) 40, 40, 40

			Water	Surcharged	Flooded				Half Drain	Pipe	
	US/MH	Storm	Level	Depth	Volume	Flow /	Overflow		Time	Flow	
PN	Name	Rank	(m)	(m)	(m³)	Cap.	(l/s)		(mins)	(l/s)	Status
1.000	1	81	63.910	-0.090	0.000	0.02				0.1	OK
2.000	2	81	64.052	-0.090	0.000	0.02				0.2	OK
2.001	3	81	63.924	-0.088	0.000	0.03				0.2	OK
3.000	4	81	63.919	-0.081	0.000	0.08				0.3	OK
1.001	4	81	63.854	-0.124	0.000	0.07				0.7	OK
1.002	5	81	63.812	-0.132	0.000	0.03		234		0.7	OK
1.003	6	81	63.660	-0.130	0.000	0.04				0.9	OK
1.004	7	81	63.435	-0.097	0.000	0.05				0.9	OK

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Summary Wizard of 2160 minute 5 year Winter I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.414
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.300 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
 720, 960, 1440, 2160, 2880, 4320, 5760,
 7200, 8640, 10080
 Return Period(s) (years) 5, 30, 100
 Climate Change (%) 40, 40, 40

PN	US/MH Name	Storm Rank	Water			Surcharged		Flow / Overflow	Half Drain		Pipe	Status
			Level	Depth	Volume	Flow	Cap.		Time	Flow		
			(m)	(m)	(m ³)	(l/s)			(mins)	(l/s)		
1.000	1	87	63.907	-0.093	0.000	0.02				0.1	OK	
2.000	2	87	64.050	-0.092	0.000	0.02				0.1	OK	
2.001	3	87	63.923	-0.089	0.000	0.02				0.2	OK	
3.000	4	87	63.915	-0.085	0.000	0.06				0.2	OK	
1.001	4	87	63.850	-0.128	0.000	0.05				0.5	OK	
1.002	5	87	63.810	-0.134	0.000	0.02			273	0.5	OK	
1.003	6	87	63.658	-0.132	0.000	0.03				0.7	OK	
1.004	7	87	63.425	-0.107	0.000	0.04				0.7	OK	

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<u>Summary Wizard of 4320 minute 5 year Winter I+40% for Storm</u>										
Simulation Criteria										
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000				
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000				
Hot Start Level (mm)		0		Inlet Coefficient		0.800				
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000				
Foul Sewage per hectare (l/s)		0.000								
Number of Input Hydrographs		0		Number of Storage Structures		1				
Number of Online Controls		1		Number of Time/Area Diagrams		0				
Number of Offline Controls		0		Number of Real Time Controls		0				
Synthetic Rainfall Details										
Rainfall Model		FSR		Ratio R		0.414				
Region England and Wales Cv (Summer)		0.750								
M5-60 (mm)		20.300		Cv (Winter)		0.840				
Margin for Flood Risk Warning (mm)						300.0				
Analysis Timestep		2.5 Second Increment (Extended)								
DTS Status						OFF				
DVD Status						ON				
Inertia Status						ON				
Profile(s)						Summer and Winter				
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080								
Return Period(s) (years)		5, 30, 100								
Climate Change (%)		40, 40, 40								
Water Surcharged Flooded Half Drain Pipe										
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Pipe Flow (l/s)	Status
1.000	1	101	63.904	-0.096	0.000	0.01			0.1	OK
2.000	2	101	64.047	-0.095	0.000	0.01			0.1	OK
2.001	3	101	63.919	-0.093	0.000	0.01			0.1	OK
3.000	4	101	63.912	-0.088	0.000	0.03			0.1	OK
1.001	4	101	63.845	-0.133	0.000	0.03			0.3	OK
1.002	5	101	63.804	-0.140	0.000	0.01		409	0.3	OK
1.003	6	101	63.654	-0.136	0.000	0.02			0.4	OK
1.004	7	101	63.414	-0.118	0.000	0.02			0.4	OK

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Summary Wizard of 5760 minute 5 year Winter I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.414
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	20.300	Cv (Winter)	0.840

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Half Drain		Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	108	63.903	-0.097	0.000	0.01		0.0	OK
2.000	2	108	64.046	-0.096	0.000	0.01		0.1	OK
2.001	3	108	63.918	-0.094	0.000	0.01		0.1	OK
3.000	4	108	63.911	-0.089	0.000	0.03		0.1	OK
1.001	4	108	63.844	-0.134	0.000	0.02		0.2	OK
1.002	5	108	63.802	-0.142	0.000	0.01	494	0.2	OK
1.003	6	108	63.651	-0.139	0.000	0.02		0.3	OK
1.004	7	108	63.410	-0.122	0.000	0.02		0.3	OK

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Summary Wizard of 7200 minute 5 year Winter I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.414
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	20.300	Cv (Winter)	0.840

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Half Drain		Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	112	63.903	-0.097	0.000	0.01		0.0	OK
2.000	2	112	64.045	-0.097	0.000	0.01		0.0	OK
2.001	3	112	63.917	-0.095	0.000	0.01		0.1	OK
3.000	4	112	63.910	-0.090	0.000	0.02		0.1	OK
1.001	4	112	63.842	-0.136	0.000	0.02		0.2	OK
1.002	5	112	63.801	-0.143	0.000	0.01	471	0.2	OK
1.003	6	112	63.649	-0.141	0.000	0.01		0.3	OK
1.004	7	112	63.407	-0.125	0.000	0.01		0.3	OK

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The Old School House Casement Street Ballina, Ireland				SUDS Design Pinner Road, Northwood, UK																																																																																																																				
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File 22-182 Pinner Road, Nor...				Checked by SB																																																																																																																				
Innovyze							Network 2020.1.3																																																																																																																	
<u>Summary Wizard of 8640 minute 5 year Winter I+40% for Storm</u>																																																																																																																								
<u>Simulation Criteria</u>																																																																																																																								
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000																																																																																																																		
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000																																																																																																																		
Hot Start Level (mm)		0		Inlet Coefficient		0.800																																																																																																																		
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000																																																																																																																		
Foul Sewage per hectare (l/s)		0.000																																																																																																																						
Number of Input Hydrographs		0		Number of Storage Structures		1																																																																																																																		
Number of Online Controls		1		Number of Time/Area Diagrams		0																																																																																																																		
Number of Offline Controls		0		Number of Real Time Controls		0																																																																																																																		
<u>Synthetic Rainfall Details</u>																																																																																																																								
Rainfall Model		FSR		Ratio R		0.414																																																																																																																		
Region England and Wales Cv (Summer)		0.750																																																																																																																						
M5-60 (mm)		20.300		Cv (Winter)		0.840																																																																																																																		
Margin for Flood Risk Warning (mm)						300.0																																																																																																																		
Analysis Timestep		2.5		Second Increment (Extended)																																																																																																																				
DTS Status						OFF																																																																																																																		
DVD Status						ON																																																																																																																		
Inertia Status						ON																																																																																																																		
Profile(s)						Summer and Winter																																																																																																																		
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600,				720, 960, 1440, 2160, 2880, 4320, 5760,																																																																																																																		
						7200, 8640, 10080																																																																																																																		
Return Period(s) (years)						5, 30, 100																																																																																																																		
Climate Change (%)						40, 40, 40																																																																																																																		
<table><tr><th colspan="7">Water Surcharged Flooded</th><th>Half Drain</th><th>Pipe</th><th></th></tr><tr><th>PN</th><th>US/MH Name</th><th>Storm Rank</th><th>Level (m)</th><th>Depth (m)</th><th>Volume (m³)</th><th>Flow / Cap.</th><th>Overflow (l/s)</th><th>Time (mins)</th><th>Flow (l/s)</th><th>Status</th></tr><tr><td>1.000</td><td>1</td><td>113</td><td>63.902</td><td>-0.098</td><td>0.000</td><td>0.01</td><td></td><td></td><td>0.0</td><td>OK</td></tr><tr><td>2.000</td><td>2</td><td>113</td><td>64.045</td><td>-0.097</td><td>0.000</td><td>0.01</td><td></td><td></td><td>0.0</td><td>OK</td></tr><tr><td>2.001</td><td>3</td><td>113</td><td>63.916</td><td>-0.096</td><td>0.000</td><td>0.01</td><td></td><td></td><td>0.1</td><td>OK</td></tr><tr><td>3.000</td><td>4</td><td>113</td><td>63.909</td><td>-0.091</td><td>0.000</td><td>0.02</td><td></td><td></td><td>0.1</td><td>OK</td></tr><tr><td>1.001</td><td>4</td><td>113</td><td>63.841</td><td>-0.137</td><td>0.000</td><td>0.02</td><td></td><td></td><td>0.2</td><td>OK</td></tr><tr><td>1.002</td><td>5</td><td>113</td><td>63.800</td><td>-0.144</td><td>0.000</td><td>0.01</td><td></td><td>457</td><td>0.2</td><td>OK</td></tr><tr><td>1.003</td><td>6</td><td>113</td><td>63.648</td><td>-0.142</td><td>0.000</td><td>0.01</td><td></td><td></td><td>0.2</td><td>OK</td></tr><tr><td>1.004</td><td>7</td><td>113</td><td>63.406</td><td>-0.126</td><td>0.000</td><td>0.01</td><td></td><td></td><td>0.2</td><td>OK</td></tr></table>												Water Surcharged Flooded							Half Drain	Pipe		PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status	1.000	1	113	63.902	-0.098	0.000	0.01			0.0	OK	2.000	2	113	64.045	-0.097	0.000	0.01			0.0	OK	2.001	3	113	63.916	-0.096	0.000	0.01			0.1	OK	3.000	4	113	63.909	-0.091	0.000	0.02			0.1	OK	1.001	4	113	63.841	-0.137	0.000	0.02			0.2	OK	1.002	5	113	63.800	-0.144	0.000	0.01		457	0.2	OK	1.003	6	113	63.648	-0.142	0.000	0.01			0.2	OK	1.004	7	113	63.406	-0.126	0.000	0.01			0.2	OK
Water Surcharged Flooded							Half Drain	Pipe																																																																																																																
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status																																																																																																														
1.000	1	113	63.902	-0.098	0.000	0.01			0.0	OK																																																																																																														
2.000	2	113	64.045	-0.097	0.000	0.01			0.0	OK																																																																																																														
2.001	3	113	63.916	-0.096	0.000	0.01			0.1	OK																																																																																																														
3.000	4	113	63.909	-0.091	0.000	0.02			0.1	OK																																																																																																														
1.001	4	113	63.841	-0.137	0.000	0.02			0.2	OK																																																																																																														
1.002	5	113	63.800	-0.144	0.000	0.01		457	0.2	OK																																																																																																														
1.003	6	113	63.648	-0.142	0.000	0.01			0.2	OK																																																																																																														
1.004	7	113	63.406	-0.126	0.000	0.01			0.2	OK																																																																																																														
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Summary Wizard of 10080 minute 5 year Winter I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.414
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	20.300	Cv (Winter)	0.840

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Half Drain		Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	114	63.902	-0.098	0.000	0.00		0.0	OK
2.000	2	114	64.045	-0.097	0.000	0.01		0.0	OK
2.001	3	114	63.916	-0.096	0.000	0.01		0.1	OK
3.000	4	114	63.908	-0.092	0.000	0.02		0.1	OK
1.001	4	114	63.839	-0.139	0.000	0.02		0.2	OK
1.002	5	114	63.799	-0.145	0.000	0.01	366	0.2	OK
1.003	6	114	63.647	-0.143	0.000	0.01		0.2	OK
1.004	7	114	63.404	-0.128	0.000	0.01		0.2	OK

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Summary Wizard of 30 minute 30 year Winter I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

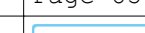
Rainfall Model FSR Ratio R 0.414
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.300 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
 720, 960, 1440, 2160, 2880, 4320, 5760,
 7200, 8640, 10080
 Return Period(s) (years) 5, 30, 100
 Climate Change (%) 40, 40, 40

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

PN	US/MH Name	Storm Rank	Water		Surcharged	Flooded	Flow / Overflow (l/s)	Half Drain	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Time (mins)		Flow (l/s)		
1.000	1	16	64.182	0.182	0.000	0.43		2.9	SURCHARGED	
2.000	2	18	64.189	0.047	0.000	0.53		3.8	SURCHARGED	
2.001	3	16	64.184	0.172	0.000	0.71		4.8	SURCHARGED	
3.000	4	18	64.182	0.182	0.000	1.77		7.0	SURCHARGED	
1.001	4	16	64.180	0.202	0.000	1.45		14.1	SURCHARGED	
1.002	5	15	64.174	0.230	0.000	0.15		3.1	SURCHARGED	
1.003	6	15	64.169	0.379	0.000	0.19		4.0	SURCHARGED	
1.004	7	15	64.160	0.628	0.000	0.10		2.0	SURCHARGED	

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Summary Wizard of 120 minute 30 year Winter I+40% for Storm

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

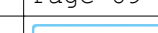
Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

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<u>Summary Wizard of 180 minute 30 year Winter I+40% for Storm</u>											
Simulation Criteria											
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000					
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000					
Hot Start Level (mm)		0		Inlet Coeffiecient		0.800					
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000					
Foul Sewage per hectare (l/s)		0.000									
Number of Input Hydrographs		0		Number of Storage Structures		1					
Number of Online Controls		1		Number of Time/Area Diagrams		0					
Number of Offline Controls		0		Number of Real Time Controls		0					
Synthetic Rainfall Details											
Rainfall Model		FSR		Ratio R		0.414					
Region England and Wales Cv (Summer)		0.750									
M5-60 (mm)		20.300		Cv (Winter)		0.840					
Margin for Flood Risk Warning (mm)						300.0					
Analysis Timestep		2.5		Second Increment (Extended)							
DTS Status						OFF					
DVD Status						ON					
Inertia Status						ON					
Profile(s)						Summer and Winter					
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080									
Return Period(s) (years)		5, 30, 100									
Climate Change (%)		40, 40, 40									
Water Surcharged Flooded Half Drain Pipe											
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status	
1.000	1	18	64.158	0.158	0.000	0.13			0.9	SURCHARGED	
2.000	2	21	64.162	0.020	0.000	0.17			1.2	SURCHARGED	
2.001	3	19	64.160	0.147	0.000	0.23			1.6	SURCHARGED	
3.000	4	21	64.158	0.158	0.000	0.54			2.1	SURCHARGED	
1.001	4	18	64.157	0.179	0.000	0.45			4.4	SURCHARGED	
1.002	5	18	64.152	0.208	0.000	0.12		91	2.4	SURCHARGED	
1.003	6	18	64.147	0.357	0.000	0.14			3.0	SURCHARGED	
1.004	7	18	64.139	0.607	0.000	0.10			2.0	SURCHARGED	
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Innovyze							Network 2020.1.3																																																																																																																	
<u>Summary Wizard of 240 minute 30 year Winter I+40% for Storm</u>																																																																																																																								
<u>Simulation Criteria</u>																																																																																																																								
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000																																																																																																																		
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000																																																																																																																		
Hot Start Level (mm)		0		Inlet Coefficient		0.800																																																																																																																		
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000																																																																																																																		
Foul Sewage per hectare (l/s)		0.000																																																																																																																						
Number of Input Hydrographs		0		Number of Storage Structures		1																																																																																																																		
Number of Online Controls		1		Number of Time/Area Diagrams		0																																																																																																																		
Number of Offline Controls		0		Number of Real Time Controls		0																																																																																																																		
<u>Synthetic Rainfall Details</u>																																																																																																																								
Rainfall Model		FSR		Ratio R		0.414																																																																																																																		
Region England and Wales Cv (Summer)		0.750																																																																																																																						
M5-60 (mm)		20.300		Cv (Winter)		0.840																																																																																																																		
Margin for Flood Risk Warning (mm)						300.0																																																																																																																		
Analysis Timestep		2.5		Second Increment (Extended)																																																																																																																				
DTS Status						OFF																																																																																																																		
DVD Status						ON																																																																																																																		
Inertia Status						ON																																																																																																																		
Profile(s)						Summer and Winter																																																																																																																		
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080																																																																																																																						
Return Period(s) (years)		5, 30, 100																																																																																																																						
Climate Change (%)		40, 40, 40																																																																																																																						
<table><tr><th colspan="2"></th><th colspan="3">Water Surcharged</th><th colspan="2">Flooded</th><th colspan="2">Half Drain</th><th>Pipe</th><th rowspan="2">Status</th></tr><tr><th>PN</th><th>US/MH Name</th><th>Storm Rank</th><th>Level (m)</th><th>Depth (m)</th><th>Volume (m³)</th><th>Flow / Cap.</th><th>Overflow (l/s)</th><th>Time (mins)</th><th>Flow (l/s)</th></tr><tr><td>1.000</td><td>1</td><td>25</td><td>64.124</td><td>0.124</td><td>0.000</td><td>0.11</td><td></td><td></td><td>0.7</td><td>SURCHARGED</td></tr><tr><td>2.000</td><td>2</td><td>26</td><td>64.128</td><td>-0.014</td><td>0.000</td><td>0.14</td><td></td><td></td><td>1.0</td><td>OK</td></tr><tr><td>2.001</td><td>3</td><td>26</td><td>64.126</td><td>0.113</td><td>0.000</td><td>0.18</td><td></td><td></td><td>1.3</td><td>SURCHARGED</td></tr><tr><td>3.000</td><td>4</td><td>26</td><td>64.124</td><td>0.124</td><td>0.000</td><td>0.44</td><td></td><td></td><td>1.7</td><td>SURCHARGED</td></tr><tr><td>1.001</td><td>4</td><td>25</td><td>64.123</td><td>0.145</td><td>0.000</td><td>0.37</td><td></td><td></td><td>3.6</td><td>SURCHARGED</td></tr><tr><td>1.002</td><td>5</td><td>24</td><td>64.118</td><td>0.174</td><td>0.000</td><td>0.12</td><td></td><td>94</td><td>2.4</td><td>SURCHARGED</td></tr><tr><td>1.003</td><td>6</td><td>24</td><td>64.114</td><td>0.324</td><td>0.000</td><td>0.13</td><td></td><td></td><td>2.8</td><td>SURCHARGED</td></tr><tr><td>1.004</td><td>7</td><td>24</td><td>64.106</td><td>0.574</td><td>0.000</td><td>0.10</td><td></td><td></td><td>2.0</td><td>SURCHARGED</td></tr></table>														Water Surcharged			Flooded		Half Drain		Pipe	Status	PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	1.000	1	25	64.124	0.124	0.000	0.11			0.7	SURCHARGED	2.000	2	26	64.128	-0.014	0.000	0.14			1.0	OK	2.001	3	26	64.126	0.113	0.000	0.18			1.3	SURCHARGED	3.000	4	26	64.124	0.124	0.000	0.44			1.7	SURCHARGED	1.001	4	25	64.123	0.145	0.000	0.37			3.6	SURCHARGED	1.002	5	24	64.118	0.174	0.000	0.12		94	2.4	SURCHARGED	1.003	6	24	64.114	0.324	0.000	0.13			2.8	SURCHARGED	1.004	7	24	64.106	0.574	0.000	0.10			2.0	SURCHARGED
		Water Surcharged			Flooded		Half Drain		Pipe	Status																																																																																																														
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The Old School House Casement Street Ballina, Ireland				SUDS Design Pinner Road, Northwood, UK							
Date 27/07/2022 15:54				Designed by AK							
File 22-182 Pinner Road, Nor...				Checked by SB							
Innovyze				Network 2020.1.3							
<u>Summary Wizard of 360 minute 30 year Winter I+40% for Storm</u>											
Simulation Criteria											
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000					
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000					
Hot Start Level (mm)		0		Inlet Coeffiecient		0.800					
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000					
Foul Sewage per hectare (l/s)		0.000									
Number of Input Hydrographs		0		Number of Storage Structures		1					
Number of Online Controls		1		Number of Time/Area Diagrams		0					
Number of Offline Controls		0		Number of Real Time Controls		0					
Synthetic Rainfall Details											
Rainfall Model		FSR		Ratio R		0.414					
Region England and Wales Cv (Summer)		0.750									
M5-60 (mm)		20.300		Cv (Winter)		0.840					
Margin for Flood Risk Warning (mm)						300.0					
Analysis Timestep		2.5		Second Increment (Extended)							
DTS Status						OFF					
DVD Status						ON					
Inertia Status						ON					
Profile(s)						Summer and Winter					
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600,				720, 960, 1440, 2160, 2880, 4320, 5760,					
						7200, 8640, 10080					
Return Period(s) (years)						5, 30, 100					
Climate Change (%)						40, 40, 40					
Water Surcharged Flooded Half Drain Pipe											
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	Status	
1.000	1	31	64.058	0.058	0.000	0.09			0.6	SURCHARGED	
2.000	2	45	64.063	-0.079	0.000	0.10			0.7	OK	
2.001	3	31	64.059	0.046	0.000	0.14			1.0	SURCHARGED	
3.000	4	32	64.057	0.057	0.000	0.34			1.3	SURCHARGED	
1.001	4	31	64.056	0.078	0.000	0.28			2.8	SURCHARGED	
1.002	5	31	64.052	0.108	0.000	0.10		94	2.1	SURCHARGED	
1.003	6	31	64.048	0.258	0.000	0.12			2.6	SURCHARGED	
1.004	7	31	64.040	0.508	0.000	0.10			2.0	SURCHARGED	
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The Old School House Casement Street Ballina, Ireland	SUDS Design Pinner Road, Northwood, UK	
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Innovyze	Network 2020.1.3	

Summary Wizard of 480 minute 30 year Winter I+40% for Storm

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

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

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The Old School House Casement Street Ballina, Ireland				SUDS Design Pinner Road, Northwood, UK																																																																																																																				
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Innovyze				Network 2020.1.3																																																																																																																				
<u>Summary Wizard of 720 minute 30 year Winter I+40% for Storm</u>																																																																																																																								
<u>Simulation Criteria</u>																																																																																																																								
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000																																																																																																																		
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000																																																																																																																		
Hot Start Level (mm)		0		Inlet Coefficient		0.800																																																																																																																		
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000																																																																																																																		
Foul Sewage per hectare (l/s)		0.000																																																																																																																						
Number of Input Hydrographs		0		Number of Storage Structures		1																																																																																																																		
Number of Online Controls		1		Number of Time/Area Diagrams		0																																																																																																																		
Number of Offline Controls		0		Number of Real Time Controls		0																																																																																																																		
<u>Synthetic Rainfall Details</u>																																																																																																																								
Rainfall Model		FSR		Ratio R		0.414																																																																																																																		
Region England and Wales Cv (Summer)		0.750																																																																																																																						
M5-60 (mm)		20.300		Cv (Winter)		0.840																																																																																																																		
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Analysis Timestep		2.5		Second Increment (Extended)																																																																																																																				
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Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080																																																																																																																						
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		Water Surcharged			Flooded		Half Drain		Pipe	Status																																																																																																														
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The Old School House Casement Street Ballina, Ireland	SUDS Design Pinner Road, Northwood, UK	
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Innovyze	Network 2020.1.3	

Summary Wizard of 960 minute 30 year Winter I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.414
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.300 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
 720, 960, 1440, 2160, 2880, 4320, 5760,
 7200, 8640, 10080
 Return Period(s) (years) 5, 30, 100
 Climate Change (%) 40, 40, 40

PN	US/MH Name	Storm Rank	Water		Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Half Drain	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow			Time (mins)	Flow (l/s)	
1.000	1	64	63.913	-0.087	0.000	0.04				0.3	OK
2.000	2	64	64.056	-0.086	0.000	0.05				0.3	OK
2.001	3	64	63.929	-0.083	0.000	0.07				0.5	OK
3.000	4	64	63.926	-0.074	0.000	0.16				0.6	OK
1.001	4	64	63.865	-0.113	0.000	0.14				1.3	OK
1.002	5	64	63.819	-0.125	0.000	0.07			216	1.3	OK
1.003	6	64	63.670	-0.120	0.000	0.09				1.9	OK
1.004	7	64	63.510	-0.022	0.000	0.09				1.9	OK

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The Old School House Casement Street Ballina, Ireland				SUDS Design Pinner Road, Northwood, UK																																																																																																																	
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Simulation Criteria <table><tr><td>Areal Reduction Factor</td><td>1.000</td><td>Additional Flow - % of Total Flow</td><td>0.000</td></tr><tr><td>Hot Start (mins)</td><td>0</td><td>MADD Factor * 10m³/ha Storage</td><td>2.000</td></tr><tr><td>Hot Start Level (mm)</td><td>0</td><td>Inlet Coefficient</td><td>0.800</td></tr><tr><td>Manhole Headloss Coeff (Global)</td><td>0.500</td><td>Flow per Person per Day (l/per/day)</td><td>0.000</td></tr><tr><td>Foul Sewage per hectare (l/s)</td><td>0.000</td><td></td><td></td></tr></table> Number of Input Hydrographs 0 Number of Storage Structures 1 Number of Online Controls 1 Number of Time/Area Diagrams 0 Number of Offline Controls 0 Number of Real Time Controls 0												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																																																																																								
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Synthetic Rainfall Details <table><tr><td>Rainfall Model</td><td>FSR</td><td>Ratio R</td><td>0.414</td></tr><tr><td>Region England and Wales Cv (Summer)</td><td>0.750</td><td></td><td></td></tr><tr><td>M5-60 (mm)</td><td>20.300</td><td>Cv (Winter)</td><td>0.840</td></tr></table> Margin for Flood Risk Warning (mm) 300.0 Analysis Timestep 2.5 Second Increment (Extended) DTS Status OFF DVD Status ON Inertia Status ON Profile(s) Summer and Winter Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080 Return Period(s) (years) 5, 30, 100 Climate Change (%) 40, 40, 40												Rainfall Model	FSR	Ratio R	0.414	Region England and Wales Cv (Summer)	0.750			M5-60 (mm)	20.300	Cv (Winter)	0.840																																																																																														
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Region England and Wales Cv (Summer)	0.750																																																																																																																				
M5-60 (mm)	20.300	Cv (Winter)	0.840																																																																																																																		
<table><tr><th rowspan="2">PN</th><th rowspan="2">US/MH Name</th><th rowspan="2">Storm Rank</th><th colspan="3">Water Surcharged Flooded</th><th colspan="2">Flow / Overflow</th><th>Half Drain Time</th><th>Pipe Flow</th><th rowspan="2">Status</th></tr><tr><th>Level (m)</th><th>Depth (m)</th><th>Volume (m³)</th><th>Cap.</th><th>(l/s)</th><th>(mins)</th><th>(l/s)</th></tr><tr><td>1.000</td><td>1</td><td>72</td><td>63.911</td><td>-0.089</td><td>0.000</td><td>0.03</td><td></td><td></td><td>0.2</td><td>OK</td></tr><tr><td>2.000</td><td>2</td><td>72</td><td>64.054</td><td>-0.088</td><td>0.000</td><td>0.03</td><td></td><td></td><td>0.2</td><td>OK</td></tr><tr><td>2.001</td><td>3</td><td>72</td><td>63.927</td><td>-0.086</td><td>0.000</td><td>0.05</td><td></td><td></td><td>0.3</td><td>OK</td></tr><tr><td>3.000</td><td>4</td><td>72</td><td>63.922</td><td>-0.078</td><td>0.000</td><td>0.11</td><td></td><td></td><td>0.4</td><td>OK</td></tr><tr><td>1.001</td><td>4</td><td>72</td><td>63.860</td><td>-0.118</td><td>0.000</td><td>0.10</td><td></td><td></td><td>1.0</td><td>OK</td></tr><tr><td>1.002</td><td>5</td><td>72</td><td>63.815</td><td>-0.129</td><td>0.000</td><td>0.05</td><td></td><td>289</td><td>1.0</td><td>OK</td></tr><tr><td>1.003</td><td>6</td><td>72</td><td>63.665</td><td>-0.125</td><td>0.000</td><td>0.06</td><td></td><td></td><td>1.4</td><td>OK</td></tr><tr><td>1.004</td><td>7</td><td>72</td><td>63.453</td><td>-0.079</td><td>0.000</td><td>0.07</td><td></td><td></td><td>1.4</td><td>OK</td></tr></table>												PN	US/MH Name	Storm Rank	Water Surcharged Flooded			Flow / Overflow		Half Drain Time	Pipe Flow	Status	Level (m)	Depth (m)	Volume (m³)	Cap.	(l/s)	(mins)	(l/s)	1.000	1	72	63.911	-0.089	0.000	0.03			0.2	OK	2.000	2	72	64.054	-0.088	0.000	0.03			0.2	OK	2.001	3	72	63.927	-0.086	0.000	0.05			0.3	OK	3.000	4	72	63.922	-0.078	0.000	0.11			0.4	OK	1.001	4	72	63.860	-0.118	0.000	0.10			1.0	OK	1.002	5	72	63.815	-0.129	0.000	0.05		289	1.0	OK	1.003	6	72	63.665	-0.125	0.000	0.06			1.4	OK	1.004	7	72	63.453	-0.079	0.000	0.07			1.4	OK
PN	US/MH Name	Storm Rank	Water Surcharged Flooded			Flow / Overflow		Half Drain Time	Pipe Flow	Status																																																																																																											
			Level (m)	Depth (m)	Volume (m³)	Cap.	(l/s)	(mins)	(l/s)																																																																																																												
1.000	1	72	63.911	-0.089	0.000	0.03			0.2	OK																																																																																																											
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Summary Wizard of 2160 minute 30 year Winter I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.414
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.300 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
 720, 960, 1440, 2160, 2880, 4320, 5760,
 7200, 8640, 10080
 Return Period(s) (years) 5, 30, 100
 Climate Change (%) 40, 40, 40

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Half Drain		Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	77	63.910	-0.090	0.000	0.02		0.1	OK
2.000	2	77	64.053	-0.089	0.000	0.02		0.2	OK
2.001	3	77	63.925	-0.088	0.000	0.04		0.2	OK
3.000	4	77	63.919	-0.081	0.000	0.08		0.3	OK
1.001	4	77	63.855	-0.123	0.000	0.07		0.7	OK
1.002	5	77	63.812	-0.132	0.000	0.03		367 0.7	OK
1.003	6	77	63.661	-0.129	0.000	0.05		1.0	OK
1.004	7	77	63.436	-0.096	0.000	0.05		1.0	OK

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Summary Wizard of 2880 minute 30 year Winter I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.414
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	20.300	Cv (Winter)	0.840

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Half Drain		Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	83	63.908	-0.092	0.000	0.02		0.1	OK
2.000	2	83	64.051	-0.091	0.000	0.02		0.1	OK
2.001	3	83	63.923	-0.089	0.000	0.03		0.2	OK
3.000	4	83	63.917	-0.083	0.000	0.07		0.3	OK
1.001	4	83	63.851	-0.127	0.000	0.06		0.6	OK
1.002	5	83	63.810	-0.134	0.000	0.03	426	0.6	OK
1.003	6	83	63.658	-0.132	0.000	0.04		0.8	OK
1.004	7	83	63.428	-0.104	0.000	0.04		0.8	OK

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Summary Wizard of 4320 minute 30 year Winter I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.414
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	20.300	Cv (Winter)	0.840

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Half Drain		Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	90	63.906	-0.094	0.000	0.01		0.1	OK
2.000	2	90	64.049	-0.093	0.000	0.01		0.1	OK
2.001	3	90	63.922	-0.090	0.000	0.02		0.1	OK
3.000	4	90	63.914	-0.086	0.000	0.05		0.2	OK
1.001	4	90	63.848	-0.130	0.000	0.04		0.4	OK
1.002	5	90	63.808	-0.136	0.000	0.02	457	0.4	OK
1.003	6	90	63.656	-0.134	0.000	0.03		0.6	OK
1.004	7	90	63.420	-0.112	0.000	0.03		0.6	OK

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Summary Wizard of 5760 minute 30 year Winter I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.414
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.300 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
 720, 960, 1440, 2160, 2880, 4320, 5760,
 7200, 8640, 10080
 Return Period(s) (years) 5, 30, 100
 Climate Change (%) 40, 40, 40

PN	US/MH Name	Storm Rank	Water		Surcharged	Flooded	Flow / Cap.	Overflow (l/s)	Half Drain	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Time (mins)			Flow (l/s)		
1.000	1	99	63.905	-0.095	0.000	0.01				0.1	OK
2.000	2	99	64.047	-0.095	0.000	0.01				0.1	OK
2.001	3	99	63.920	-0.092	0.000	0.02				0.1	OK
3.000	4	99	63.912	-0.088	0.000	0.04				0.1	OK
1.001	4	99	63.846	-0.132	0.000	0.03				0.3	OK
1.002	5	99	63.805	-0.139	0.000	0.02			611	0.3	OK
1.003	6	99	63.655	-0.135	0.000	0.02				0.4	OK
1.004	7	99	63.415	-0.117	0.000	0.02				0.4	OK

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Summary Wizard of 7200 minute 30 year Winter I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model	FSR	Ratio R	0.414
Region England and Wales Cv (Summer)	0.750		
M5-60 (mm)	20.300	Cv (Winter)	0.840

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

Profile(s)	Summer and Winter
Duration(s) (mins)	15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080
Return Period(s) (years)	5, 30, 100
Climate Change (%)	40, 40, 40

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Half Drain		Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)	Time (mins)	Flow (l/s)	
1.000	1	105	63.904	-0.096	0.000	0.01		0.1	OK
2.000	2	105	64.046	-0.096	0.000	0.01		0.1	OK
2.001	3	105	63.919	-0.094	0.000	0.01		0.1	OK
3.000	4	105	63.911	-0.089	0.000	0.03		0.1	OK
1.001	4	105	63.844	-0.134	0.000	0.03		0.3	OK
1.002	5	105	63.803	-0.141	0.000	0.01	629	0.3	OK
1.003	6	105	63.653	-0.137	0.000	0.02		0.4	OK
1.004	7	105	63.412	-0.120	0.000	0.02		0.4	OK

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Summary Wizard of 8640 minute 30 year Winter I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.414
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.300 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
 720, 960, 1440, 2160, 2880, 4320, 5760,
 7200, 8640, 10080
 Return Period(s) (years) 5, 30, 100
 Climate Change (%) 40, 40, 40

PN	US/MH Name	Storm Rank	Water		Surcharged	Flooded		Half Drain Time (mins)	Pipe	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)		Flow (l/s)	
1.000	1	109	63.903	-0.097	0.000	0.01			0.0	OK
2.000	2	109	64.046	-0.096	0.000	0.01			0.1	OK
2.001	3	109	63.918	-0.095	0.000	0.01			0.1	OK
3.000	4	109	63.911	-0.089	0.000	0.03			0.1	OK
1.001	4	109	63.844	-0.134	0.000	0.02			0.2	OK
1.002	5	109	63.802	-0.142	0.000	0.01		733	0.2	OK
1.003	6	109	63.651	-0.139	0.000	0.02			0.3	OK
1.004	7	109	63.410	-0.122	0.000	0.02			0.3	OK

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<u>Summary Wizard of 10080 minute 30 year Winter I+40% for Storm</u>																																																																																																															
<u>Simulation Criteria</u>																																																																																																															
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000																																																																																																									
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000																																																																																																									
Hot Start Level (mm)		0		Inlet Coefficient		0.800																																																																																																									
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000																																																																																																									
Foul Sewage per hectare (l/s)		0.000																																																																																																													
Number of Input Hydrographs		0		Number of Storage Structures		1																																																																																																									
Number of Online Controls		1		Number of Time/Area Diagrams		0																																																																																																									
Number of Offline Controls		0		Number of Real Time Controls		0																																																																																																									
<u>Synthetic Rainfall Details</u>																																																																																																															
Rainfall Model		FSR		Ratio R		0.414																																																																																																									
Region England and Wales Cv (Summer)		0.750																																																																																																													
M5-60 (mm)		20.300		Cv (Winter)		0.840																																																																																																									
Margin for Flood Risk Warning (mm)						300.0																																																																																																									
Analysis Timestep		2.5 Second Increment (Extended)																																																																																																													
DTS Status						OFF																																																																																																									
DVD Status						ON																																																																																																									
Inertia Status						ON																																																																																																									
Profile(s)						Summer and Winter																																																																																																									
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080																																																																																																													
Return Period(s) (years)		5, 30, 100																																																																																																													
Climate Change (%)		40, 40, 40																																																																																																													
<table><tr><th colspan="7">Water Surcharged Flooded</th><th>Half Drain</th><th>Pipe</th><th></th></tr><tr><th>PN</th><th>US/MH Name</th><th>Storm Rank</th><th>Level (m)</th><th>Depth (m)</th><th>Volume (m³)</th><th>Flow / Overflow Cap.</th><th>Time (mins)</th><th>Flow (l/s)</th><th>Status</th></tr><tr><td>1.000</td><td>1</td><td>111</td><td>63.903</td><td>-0.097</td><td>0.000</td><td>0.01</td><td></td><td>0.0</td><td>OK</td></tr><tr><td>2.000</td><td>2</td><td>111</td><td>64.045</td><td>-0.097</td><td>0.000</td><td>0.01</td><td></td><td>0.1</td><td>OK</td></tr><tr><td>2.001</td><td>3</td><td>111</td><td>63.917</td><td>-0.095</td><td>0.000</td><td>0.01</td><td></td><td>0.1</td><td>OK</td></tr><tr><td>3.000</td><td>4</td><td>111</td><td>63.910</td><td>-0.090</td><td>0.000</td><td>0.02</td><td></td><td>0.1</td><td>OK</td></tr><tr><td>1.001</td><td>4</td><td>111</td><td>63.843</td><td>-0.135</td><td>0.000</td><td>0.02</td><td></td><td>0.2</td><td>OK</td></tr><tr><td>1.002</td><td>5</td><td>111</td><td>63.801</td><td>-0.143</td><td>0.000</td><td>0.01</td><td>784</td><td>0.2</td><td>OK</td></tr><tr><td>1.003</td><td>6</td><td>111</td><td>63.650</td><td>-0.140</td><td>0.000</td><td>0.01</td><td></td><td>0.3</td><td>OK</td></tr><tr><td>1.004</td><td>7</td><td>111</td><td>63.408</td><td>-0.124</td><td>0.000</td><td>0.01</td><td></td><td>0.3</td><td>OK</td></tr></table>												Water Surcharged Flooded							Half Drain	Pipe		PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap.	Time (mins)	Flow (l/s)	Status	1.000	1	111	63.903	-0.097	0.000	0.01		0.0	OK	2.000	2	111	64.045	-0.097	0.000	0.01		0.1	OK	2.001	3	111	63.917	-0.095	0.000	0.01		0.1	OK	3.000	4	111	63.910	-0.090	0.000	0.02		0.1	OK	1.001	4	111	63.843	-0.135	0.000	0.02		0.2	OK	1.002	5	111	63.801	-0.143	0.000	0.01	784	0.2	OK	1.003	6	111	63.650	-0.140	0.000	0.01		0.3	OK	1.004	7	111	63.408	-0.124	0.000	0.01		0.3	OK
Water Surcharged Flooded							Half Drain	Pipe																																																																																																							
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1.001	4	111	63.843	-0.135	0.000	0.02		0.2	OK																																																																																																						
1.002	5	111	63.801	-0.143	0.000	0.01	784	0.2	OK																																																																																																						
1.003	6	111	63.650	-0.140	0.000	0.01		0.3	OK																																																																																																						
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The Old School House Casement Street Ballina, Ireland	SUDS Design Pinner Road, Northwood, UK	
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Summary Wizard of 15 minute 100 year Winter I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.414
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.300 Cv (Winter) 0.840

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

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
 720, 960, 1440, 2160, 2880, 4320, 5760,
 7200, 8640, 10080
 Return Period(s) (years) 5, 30, 100
 Climate Change (%) 40, 40, 40

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

PN	US/MH Name	Storm Rank	Water Surcharged Flooded				Half Drain		Pipe Flow (l/s)	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Cap. (l/s)	Time (mins)			
1.000	1	7	64.283	0.283	0.000	0.68			4.6	SURCHARGED
2.000	2	1	64.414	0.272	0.000	0.79			5.7	SURCHARGED
2.001	3	3	64.340	0.328	0.000	1.04			7.1	SURCHARGED
3.000	4	1	64.394	0.394	0.000	2.87			11.3	SURCHARGED
1.001	4	8	64.255	0.277	0.000	2.29			22.2	SURCHARGED
1.002	5	12	64.210	0.266	0.000	0.18			3.7	SURCHARGED
1.003	6	12	64.204	0.414	0.000	0.27			5.8	SURCHARGED
1.004	7	12	64.195	0.663	0.000	0.10			2.0	SURCHARGED

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The Old School House Casement Street Ballina, Ireland	SUDS Design Pinner Road, Northwood, UK	
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Innovyze	Network 2020.1.3	

Summary Wizard of 60 minute 100 year Winter I+40% for Storm

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FSR Ratio R 0.414
 Region England and Wales Cv (Summer) 0.750
 M5-60 (mm) 20.300 Cv (Winter) 0.840

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

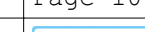
Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600,
 720, 960, 1440, 2160, 2880, 4320, 5760,
 7200, 8640, 10080
 Return Period(s) (years) 5, 30, 100
 Climate Change (%) 40, 40, 40

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

PN	US/MH Name	Storm Rank	Water Surcharged Flooded				Half Drain Time (mins)	Pipe Flow (l/s)	Status
			Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap. (l/s)			
1.000	1	1	64.378	0.378	0.000	0.37	2.5		SURCHARGED
2.000	2	2	64.383	0.241	0.000	0.43	3.1		SURCHARGED
2.001	3	1	64.379	0.367	0.000	0.58	4.0		SURCHARGED
3.000	4	2	64.377	0.377	0.000	1.53	6.0		SURCHARGED
1.001	4	1	64.376	0.398	0.000	1.24	12.1		SURCHARGED
1.002	5	1	64.370	0.426	0.000	0.13	2.6		SURCHARGED
1.003	6	1	64.364	0.574	0.000	0.16	3.4		SURCHARGED
1.004	7	1	64.355	0.823	0.000	0.11	2.2		SURCHARGED

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Innovyze				Network 2020.1.3							
<u>Summary Wizard of 120 minute 100 year Winter I+40% for Storm</u>											
<u>Simulation Criteria</u>											
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000					
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000					
Hot Start Level (mm)		0		Inlet Coefficient		0.800					
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000					
Foul Sewage per hectare (l/s)		0.000									
Number of Input Hydrographs		0		Number of Storage Structures		1					
Number of Online Controls		1		Number of Time/Area Diagrams		0					
Number of Offline Controls		0		Number of Real Time Controls		0					
<u>Synthetic Rainfall Details</u>											
Rainfall Model		FSR		Ratio R		0.414					
Region England and Wales Cv (Summer)		0.750									
M5-60 (mm)		20.300		Cv (Winter)		0.840					
Margin for Flood Risk Warning (mm)						300.0					
Analysis Timestep		2.5		Second Increment (Extended)							
DTS Status						OFF					
DVD Status						ON					
Inertia Status						ON					
Profile(s)						Summer and Winter					
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080									
Return Period(s) (years)		5, 30, 100									
Climate Change (%)		40, 40, 40									

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The Old School House Casement Street Ballina, Ireland				SUDS Design Pinner Road, Northwood, UK																																																																																																																		
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Innovyze				Network 2020.1.3																																																																																																																		
<u>Summary Wizard of 180 minute 100 year Winter I+40% for Storm</u>																																																																																																																						
Simulation Criteria <table><tr><td>Areal Reduction Factor</td><td>1.000</td><td>Additional Flow - % of Total Flow</td><td>0.000</td></tr><tr><td>Hot Start (mins)</td><td>0</td><td>MADD Factor * 10m³/ha Storage</td><td>2.000</td></tr><tr><td>Hot Start Level (mm)</td><td>0</td><td>Inlet Coeffiecient</td><td>0.800</td></tr><tr><td>Manhole Headloss Coeff (Global)</td><td>0.500</td><td>Flow per Person per Day (l/per/day)</td><td>0.000</td></tr><tr><td>Foul Sewage per hectare (l/s)</td><td>0.000</td><td></td><td></td></tr></table> Number of Input Hydrographs 0 Number of Storage Structures 1 Number of Online Controls 1 Number of Time/Area Diagrams 0 Number of Offline Controls 0 Number of Real Time Controls 0										Areal Reduction Factor	1.000	Additional Flow - % of Total Flow	0.000	Hot Start (mins)	0	MADD Factor * 10m³/ha Storage	2.000	Hot Start Level (mm)	0	Inlet Coeffiecient	0.800	Manhole Headloss Coeff (Global)	0.500	Flow per Person per Day (l/per/day)	0.000	Foul Sewage per hectare (l/s)	0.000																																																																																											
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Synthetic Rainfall Details <table><tr><td>Rainfall Model</td><td>FSR</td><td>Ratio R</td><td>0.414</td></tr><tr><td>Region England and Wales Cv (Summer)</td><td>0.750</td><td></td><td></td></tr><tr><td>M5-60 (mm)</td><td>20.300</td><td>Cv (Winter)</td><td>0.840</td></tr></table> Margin for Flood Risk Warning (mm) 300.0 Analysis Timestep 2.5 Second Increment (Extended) DTS Status OFF DVD Status ON Inertia Status ON Profile(s) Summer and Winter Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080 Return Period(s) (years) 5, 30, 100 Climate Change (%) 40, 40, 40										Rainfall Model	FSR	Ratio R	0.414	Region England and Wales Cv (Summer)	0.750			M5-60 (mm)	20.300	Cv (Winter)	0.840																																																																																																	
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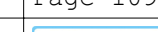
Summary Wizard of 240 minute 100 year Winter I+40% for Storm

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		

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

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<u>Summary Wizard of 360 minute 100 year Winter I+40% for Storm</u>										
<u>Simulation Criteria</u>										
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000				
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000				
Hot Start Level (mm)		0		Inlet Coefficient		0.800				
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000				
Foul Sewage per hectare (l/s)		0.000								
Number of Input Hydrographs		0		Number of Storage Structures		1				
Number of Online Controls		1		Number of Time/Area Diagrams		0				
Number of Offline Controls		0		Number of Real Time Controls		0				
<u>Synthetic Rainfall Details</u>										
Rainfall Model		FSR		Ratio R		0.414				
Region England and Wales Cv (Summer)		0.750								
M5-60 (mm)		20.300		Cv (Winter)		0.840				
Margin for Flood Risk Warning (mm)						300.0				
Analysis Timestep		2.5 Second Increment (Extended)								
DTS Status						OFF				
DVD Status						ON				
Inertia Status						ON				
Profile(s)						Summer and Winter				
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080								
Return Period(s) (years)		5, 30, 100								
Climate Change (%)		40, 40, 40								

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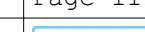
Summary Wizard of 600 minute 100 year Winter I+40% for Storm

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

Synthetic Rainfall Details

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)	5, 30, 100
Climate Change (%)	40, 40, 40

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The Old School House Casement Street Ballina, Ireland				SUDS Design Pinner Road, Northwood, UK																																																																																																																				
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Climate Change (%)								40, 40, 40																																																																																																																
<table><tr><th colspan="2"></th><th colspan="3">Water Surcharged</th><th colspan="2">Flooded</th><th colspan="2">Half Drain</th><th>Pipe</th><th rowspan="2">Status</th></tr><tr><th>PN</th><th>US/MH Name</th><th>Storm Rank</th><th>Level (m)</th><th>Depth (m)</th><th>Volume (m³)</th><th>Flow / Cap.</th><th>Overflow (l/s)</th><th>Time (mins)</th><th>Flow (l/s)</th></tr><tr><td>1.000</td><td>1</td><td>36</td><td>64.028</td><td>0.028</td><td>0.000</td><td>0.07</td><td></td><td></td><td>0.4</td><td>SURCHARGED</td></tr><tr><td>2.000</td><td>2</td><td>53</td><td>64.060</td><td>-0.082</td><td>0.000</td><td>0.08</td><td></td><td></td><td>0.5</td><td>OK</td></tr><tr><td>2.001</td><td>3</td><td>38</td><td>64.029</td><td>0.016</td><td>0.000</td><td>0.11</td><td></td><td></td><td>0.7</td><td>SURCHARGED</td></tr><tr><td>3.000</td><td>4</td><td>39</td><td>64.027</td><td>0.027</td><td>0.000</td><td>0.25</td><td></td><td></td><td>1.0</td><td>SURCHARGED</td></tr><tr><td>1.001</td><td>4</td><td>36</td><td>64.026</td><td>0.048</td><td>0.000</td><td>0.22</td><td></td><td></td><td>2.1</td><td>SURCHARGED</td></tr><tr><td>1.002</td><td>5</td><td>36</td><td>64.022</td><td>0.078</td><td>0.000</td><td>0.09</td><td></td><td>106</td><td>1.8</td><td>SURCHARGED</td></tr><tr><td>1.003</td><td>6</td><td>36</td><td>64.018</td><td>0.228</td><td>0.000</td><td>0.11</td><td></td><td></td><td>2.3</td><td>SURCHARGED</td></tr><tr><td>1.004</td><td>7</td><td>36</td><td>64.010</td><td>0.478</td><td>0.000</td><td>0.10</td><td></td><td></td><td>2.0</td><td>SURCHARGED</td></tr></table>														Water Surcharged			Flooded		Half Drain		Pipe	Status	PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	1.000	1	36	64.028	0.028	0.000	0.07			0.4	SURCHARGED	2.000	2	53	64.060	-0.082	0.000	0.08			0.5	OK	2.001	3	38	64.029	0.016	0.000	0.11			0.7	SURCHARGED	3.000	4	39	64.027	0.027	0.000	0.25			1.0	SURCHARGED	1.001	4	36	64.026	0.048	0.000	0.22			2.1	SURCHARGED	1.002	5	36	64.022	0.078	0.000	0.09		106	1.8	SURCHARGED	1.003	6	36	64.018	0.228	0.000	0.11			2.3	SURCHARGED	1.004	7	36	64.010	0.478	0.000	0.10			2.0	SURCHARGED
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Simon Beale Associates		Page 111
The Old School House Casement Street Ballina, Ireland	SUDS Design Pinner Road, Northwood, UK	
Date 27/07/2022 15:54 File 22-182 Pinner Road, Nor...	Designed by AK Checked by SB	
Innovyze	Network 2020.1.3	

Summary Wizard of 960 minute 100 year Winter I+40% for Storm

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

Synthetic Rainfall Details

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

PN	US/MH Name	Storm Rank	Water	Surcharged	Flooded	Flow / Cap.	Half Drain	Pipe	Status	
			Level	Depth	Volume		Overflow	Time		Flow
			(m)	(m)	(m³)		(l/s)	(mins)	(l/s)	
1.000	1	53	63.921	-0.079	0.000	0.05			0.4	OK
2.000	2	58	64.058	-0.084	0.000	0.06			0.4	OK
2.001	3	58	63.932	-0.080	0.000	0.09			0.6	OK
3.000	4	58	63.930	-0.070	0.000	0.20			0.8	OK
1.001	4	53	63.919	-0.059	0.000	0.18			1.7	OK
1.002	5	53	63.915	-0.029	0.000	0.08		77	1.7	OK
1.003	6	53	63.911	0.121	0.000	0.10			2.2	SURCHARGED
1.004	7	53	63.904	0.372	0.000	0.10			2.0	SURCHARGED

Simon Beale Associates							Page 112																																																																																																																	
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2.001	3	75	63.926	-0.087	0.000	0.04		0.3	OK																																																																																																						
3.000	4	75	63.921	-0.079	0.000	0.10		0.4	OK																																																																																																						
1.001	4	75	63.858	-0.120	0.000	0.09		0.9	OK																																																																																																						
1.002	5	75	63.814	-0.130	0.000	0.04	429	0.9	OK																																																																																																						
1.003	6	75	63.663	-0.127	0.000	0.06		1.2	OK																																																																																																						
1.004	7	75	63.447	-0.085	0.000	0.06		1.2	OK																																																																																																						
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Innovyze							Network 2020.1.3																																																																																																																								
<u>Summary Wizard of 2880 minute 100 year Winter I+40% for Storm</u>																																																																																																																															
<u>Simulation Criteria</u>																																																																																																																															
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000																																																																																																																									
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000																																																																																																																									
Hot Start Level (mm)		0		Inlet Coefficient		0.800																																																																																																																									
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000																																																																																																																									
Foul Sewage per hectare (l/s)		0.000																																																																																																																													
Number of Input Hydrographs		0		Number of Storage Structures		1																																																																																																																									
Number of Online Controls		1		Number of Time/Area Diagrams		0																																																																																																																									
Number of Offline Controls		0		Number of Real Time Controls		0																																																																																																																									
<u>Synthetic Rainfall Details</u>																																																																																																																															
Rainfall Model		FSR		Ratio R		0.414																																																																																																																									
Region England and Wales Cv (Summer)		0.750																																																																																																																													
M5-60 (mm)		20.300		Cv (Winter)		0.840																																																																																																																									
Margin for Flood Risk Warning (mm)						300.0																																																																																																																									
Analysis Timestep		2.5 Second Increment (Extended)																																																																																																																													
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Profile(s)						Summer and Winter																																																																																																																									
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600,				720, 960, 1440, 2160, 2880, 4320, 5760,																																																																																																																									
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Return Period(s) (years)						5, 30, 100																																																																																																																									
Climate Change (%)						40, 40, 40																																																																																																																									
<table><tr><th rowspan="2">PN</th><th rowspan="2">US/MH Name</th><th rowspan="2">Storm Rank</th><th colspan="2">Water</th><th colspan="2">Surcharged</th><th colspan="2">Flooded</th><th colspan="2">Half Drain</th><th>Pipe</th><th rowspan="2">Status</th></tr><tr><th>Level (m)</th><th>Depth (m)</th><th>Volume (m³)</th><th>Flow / Cap.</th><th>Overflow (l/s)</th><th>Time (mins)</th><th>Flow (l/s)</th></tr><tr><td>1.000</td><td>1</td><td>78</td><td>63.910</td><td>-0.090</td><td>0.000</td><td>0.02</td><td></td><td></td><td></td><td>0.1</td><td>OK</td></tr><tr><td>2.000</td><td>2</td><td>78</td><td>64.053</td><td>-0.089</td><td>0.000</td><td>0.02</td><td></td><td></td><td></td><td>0.2</td><td>OK</td></tr><tr><td>2.001</td><td>3</td><td>78</td><td>63.925</td><td>-0.088</td><td>0.000</td><td>0.04</td><td></td><td></td><td></td><td>0.2</td><td>OK</td></tr><tr><td>3.000</td><td>4</td><td>78</td><td>63.919</td><td>-0.081</td><td>0.000</td><td>0.08</td><td></td><td></td><td></td><td>0.3</td><td>OK</td></tr><tr><td>1.001</td><td>4</td><td>78</td><td>63.855</td><td>-0.123</td><td>0.000</td><td>0.07</td><td></td><td></td><td></td><td>0.7</td><td>OK</td></tr><tr><td>1.002</td><td>5</td><td>78</td><td>63.812</td><td>-0.132</td><td>0.000</td><td>0.03</td><td></td><td></td><td>474</td><td>0.7</td><td>OK</td></tr><tr><td>1.003</td><td>6</td><td>78</td><td>63.661</td><td>-0.129</td><td>0.000</td><td>0.05</td><td></td><td></td><td></td><td>1.0</td><td>OK</td></tr><tr><td>1.004</td><td>7</td><td>78</td><td>63.436</td><td>-0.096</td><td>0.000</td><td>0.05</td><td></td><td></td><td></td><td>1.0</td><td>OK</td></tr></table>												PN	US/MH Name	Storm Rank	Water		Surcharged		Flooded		Half Drain		Pipe	Status	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)	1.000	1	78	63.910	-0.090	0.000	0.02				0.1	OK	2.000	2	78	64.053	-0.089	0.000	0.02				0.2	OK	2.001	3	78	63.925	-0.088	0.000	0.04				0.2	OK	3.000	4	78	63.919	-0.081	0.000	0.08				0.3	OK	1.001	4	78	63.855	-0.123	0.000	0.07				0.7	OK	1.002	5	78	63.812	-0.132	0.000	0.03			474	0.7	OK	1.003	6	78	63.661	-0.129	0.000	0.05				1.0	OK	1.004	7	78	63.436	-0.096	0.000	0.05				1.0	OK
PN	US/MH Name	Storm Rank	Water		Surcharged		Flooded		Half Drain		Pipe				Status																																																																																																																
			Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Flow (l/s)																																																																																																																						
1.000	1	78	63.910	-0.090	0.000	0.02				0.1	OK																																																																																																																				
2.000	2	78	64.053	-0.089	0.000	0.02				0.2	OK																																																																																																																				
2.001	3	78	63.925	-0.088	0.000	0.04				0.2	OK																																																																																																																				
3.000	4	78	63.919	-0.081	0.000	0.08				0.3	OK																																																																																																																				
1.001	4	78	63.855	-0.123	0.000	0.07				0.7	OK																																																																																																																				
1.002	5	78	63.812	-0.132	0.000	0.03			474	0.7	OK																																																																																																																				
1.003	6	78	63.661	-0.129	0.000	0.05				1.0	OK																																																																																																																				
1.004	7	78	63.436	-0.096	0.000	0.05				1.0	OK																																																																																																																				
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Simon Beale Associates							Page 115																																																																																																																	
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Innovyze							Network 2020.1.3																																																																																																																	
<u>Summary Wizard of 4320 minute 100 year Winter I+40% for Storm</u>																																																																																																																								
<u>Simulation Criteria</u>																																																																																																																								
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000																																																																																																																		
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000																																																																																																																		
Hot Start Level (mm)		0		Inlet Coefficient		0.800																																																																																																																		
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000																																																																																																																		
Foul Sewage per hectare (l/s)		0.000																																																																																																																						
Number of Input Hydrographs		0		Number of Storage Structures		1																																																																																																																		
Number of Online Controls		1		Number of Time/Area Diagrams		0																																																																																																																		
Number of Offline Controls		0		Number of Real Time Controls		0																																																																																																																		
<u>Synthetic Rainfall Details</u>																																																																																																																								
Rainfall Model		FSR		Ratio R		0.414																																																																																																																		
Region England and Wales Cv (Summer)		0.750																																																																																																																						
M5-60 (mm)		20.300		Cv (Winter)		0.840																																																																																																																		
Margin for Flood Risk Warning (mm)						300.0																																																																																																																		
Analysis Timestep		2.5 Second Increment (Extended)																																																																																																																						
DTS Status						OFF																																																																																																																		
DVD Status						ON																																																																																																																		
Inertia Status						ON																																																																																																																		
Profile(s)						Summer and Winter																																																																																																																		
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080																																																																																																																						
Return Period(s) (years)		5, 30, 100																																																																																																																						
Climate Change (%)		40, 40, 40																																																																																																																						
<table><tr><th colspan="7">Water Surcharged Flooded</th><th>Half Drain</th><th>Pipe</th><th></th></tr><tr><th>PN</th><th>US/MH Name</th><th>Storm Rank</th><th>Level (m)</th><th>Depth (m)</th><th>Volume (m³)</th><th>Flow / Overflow Cap.</th><th>Time (mins)</th><th>Flow (l/s)</th><th>Status</th><th></th></tr><tr><td>1.000</td><td>1</td><td>86</td><td>63.907</td><td>-0.093</td><td>0.000</td><td>0.02</td><td></td><td>0.1</td><td>OK</td><td></td></tr><tr><td>2.000</td><td>2</td><td>86</td><td>64.050</td><td>-0.092</td><td>0.000</td><td>0.02</td><td></td><td>0.1</td><td>OK</td><td></td></tr><tr><td>2.001</td><td>3</td><td>86</td><td>63.923</td><td>-0.089</td><td>0.000</td><td>0.03</td><td></td><td>0.2</td><td>OK</td><td></td></tr><tr><td>3.000</td><td>4</td><td>86</td><td>63.916</td><td>-0.084</td><td>0.000</td><td>0.06</td><td></td><td>0.2</td><td>OK</td><td></td></tr><tr><td>1.001</td><td>4</td><td>86</td><td>63.850</td><td>-0.128</td><td>0.000</td><td>0.05</td><td></td><td>0.5</td><td>OK</td><td></td></tr><tr><td>1.002</td><td>5</td><td>86</td><td>63.810</td><td>-0.134</td><td>0.000</td><td>0.03</td><td>559</td><td>0.5</td><td>OK</td><td></td></tr><tr><td>1.003</td><td>6</td><td>86</td><td>63.658</td><td>-0.132</td><td>0.000</td><td>0.03</td><td></td><td>0.7</td><td>OK</td><td></td></tr><tr><td>1.004</td><td>7</td><td>86</td><td>63.425</td><td>-0.107</td><td>0.000</td><td>0.04</td><td></td><td>0.7</td><td>OK</td><td></td></tr></table>												Water Surcharged Flooded							Half Drain	Pipe		PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap.	Time (mins)	Flow (l/s)	Status		1.000	1	86	63.907	-0.093	0.000	0.02		0.1	OK		2.000	2	86	64.050	-0.092	0.000	0.02		0.1	OK		2.001	3	86	63.923	-0.089	0.000	0.03		0.2	OK		3.000	4	86	63.916	-0.084	0.000	0.06		0.2	OK		1.001	4	86	63.850	-0.128	0.000	0.05		0.5	OK		1.002	5	86	63.810	-0.134	0.000	0.03	559	0.5	OK		1.003	6	86	63.658	-0.132	0.000	0.03		0.7	OK		1.004	7	86	63.425	-0.107	0.000	0.04		0.7	OK	
Water Surcharged Flooded							Half Drain	Pipe																																																																																																																
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Overflow Cap.	Time (mins)	Flow (l/s)	Status																																																																																																															
1.000	1	86	63.907	-0.093	0.000	0.02		0.1	OK																																																																																																															
2.000	2	86	64.050	-0.092	0.000	0.02		0.1	OK																																																																																																															
2.001	3	86	63.923	-0.089	0.000	0.03		0.2	OK																																																																																																															
3.000	4	86	63.916	-0.084	0.000	0.06		0.2	OK																																																																																																															
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1.002	5	86	63.810	-0.134	0.000	0.03	559	0.5	OK																																																																																																															
1.003	6	86	63.658	-0.132	0.000	0.03		0.7	OK																																																																																																															
1.004	7	86	63.425	-0.107	0.000	0.04		0.7	OK																																																																																																															
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The Old School House Casement Street Ballina, Ireland				SUDS Design Pinner Road, Northwood, UK							
Date 27/07/2022 15:54				Designed by AK							
File 22-182 Pinner Road, Nor...				Checked by SB							
Innovyze				Network 2020.1.3							
<u>Summary Wizard of 5760 minute 100 year Winter I+40% for Storm</u>											
Simulation Criteria											
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000					
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000					
Hot Start Level (mm)		0		Inlet Coefficient		0.800					
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000					
Foul Sewage per hectare (l/s)		0.000									
Number of Input Hydrographs		0		Number of Storage Structures		1					
Number of Online Controls		1		Number of Time/Area Diagrams		0					
Number of Offline Controls		0		Number of Real Time Controls		0					
Synthetic Rainfall Details											
Rainfall Model		FSR		Ratio R		0.414					
Region England and Wales Cv (Summer)		0.750									
M5-60 (mm)		20.300		Cv (Winter)		0.840					
Margin for Flood Risk Warning (mm)						300.0					
Analysis Timestep		2.5 Second Increment (Extended)									
DTS Status						OFF					
DVD Status						ON					
Inertia Status						ON					
Profile(s)						Summer and Winter					
Duration(s) (mins)		15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880, 4320, 5760, 7200, 8640, 10080									
Return Period(s) (years)		5, 30, 100									
Climate Change (%)		40, 40, 40									
Water Surcharged Flooded Half Drain Pipe											
PN	US/MH Name	Storm Rank	Level (m)	Depth (m)	Volume (m³)	Flow / Cap.	Overflow (l/s)	Time (mins)	Pipe Flow (l/s)	Status	
1.000	1	93	63.906	-0.094	0.000	0.01			0.1	OK	
2.000	2	93	64.049	-0.093	0.000	0.01			0.1	OK	
2.001	3	93	63.922	-0.091	0.000	0.02			0.1	OK	
3.000	4	93	63.914	-0.086	0.000	0.05			0.2	OK	
1.001	4	93	63.847	-0.131	0.000	0.04			0.4	OK	
1.002	5	93	63.808	-0.136	0.000	0.02		669	0.4	OK	
1.003	6	93	63.656	-0.134	0.000	0.03			0.6	OK	
1.004	7	93	63.420	-0.112	0.000	0.03			0.6	OK	
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The Old School House Casement Street Ballina, Ireland				SUDS Design Pinner Road, Northwood, UK																																																																																																																				
Date 27/07/2022 15:54				Designed by AK																																																																																																																				
File 22-182 Pinner Road, Nor...				Checked by SB																																																																																																																				
Innovyze							Network 2020.1.3																																																																																																																	
<u>Summary Wizard of 8640 minute 100 year Winter I+40% for Storm</u>																																																																																																																								
<u>Simulation Criteria</u>																																																																																																																								
Areal Reduction Factor		1.000		Additional Flow - % of Total Flow		0.000																																																																																																																		
Hot Start (mins)		0		MADD Factor * 10m³/ha Storage		2.000																																																																																																																		
Hot Start Level (mm)		0		Inlet Coefficient		0.800																																																																																																																		
Manhole Headloss Coeff (Global)		0.500		Flow per Person per Day (l/per/day)		0.000																																																																																																																		
Foul Sewage per hectare (l/s)		0.000																																																																																																																						
Number of Input Hydrographs		0		Number of Storage Structures		1																																																																																																																		
Number of Online Controls		1		Number of Time/Area Diagrams		0																																																																																																																		
Number of Offline Controls		0		Number of Real Time Controls		0																																																																																																																		
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