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Bessemer Road Welwyn Garden City Hertfordshire AL7 1HE	Havant Catchment E	
Date 06/08/2021 File SW NETWORK 3 (UPDATED).MDX	Designed by Sudeep Chongbang Checked by	
XP Solutions	Network 2017.1.2	

Area Summary for Storm

Pipe Number	PIMP Type	PIMP Name	PIMP (%)	Gross Area (ha)	Imp. Area (ha)	Pipe Total (ha)
1.000	User	-	100	0.064	0.064	0.064
1.001	User	-	100	0.113	0.113	0.113
1.002	User	-	100	0.136	0.136	0.136
1.003	User	-	100	0.116	0.116	0.116
1.004	User	-	100	0.105	0.105	0.105
1.005	User	-	100	0.063	0.063	0.063
1.006	User	-	100	0.038	0.038	0.038
1.007	-	-	100	0.000	0.000	0.000
1.008	-	-	100	0.000	0.000	0.000
1.009	-	-	100	0.000	0.000	0.000
2.000	User	-	100	0.063	0.063	0.063
2.001	User	-	100	0.088	0.088	0.088
2.002	User	-	100	0.146	0.146	0.146
				Total	Total	Total
				0.933	0.933	0.933

Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
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1.009		14.860	13.000	0.000	1350	0
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Free Flowing Outfall Details for Storm

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
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2.002	S45	15.264	13.520	0.000	1200	0
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Simulation Criteria for Storm

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

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

Synthetic Rainfall Details

Rainfall Model	FEH	D2 (1km)	0.295
Return Period (years)	2	D3 (1km)	0.387
FEH Rainfall Version	1999	E (1km)	0.310
Site Location GB 472400 107400 SU 72400 07400		F (1km)	2.252
C (1km)	-0.029	Summer Storms	Yes
D1 (1km)	0.457	Winter Storms	Yes

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Synthetic Rainfall Details

Cv (Summer) 0.750 Storm Duration (mins) 30
Cv (Winter) 0.840

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Storage Structures for Storm

Cellular Storage Manhole: S39, DS/PN: 1.008

Invert Level (m) 13.385 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)	Depth (m)	Area (m ²)	Inf. Area (m ²)
0.000	80.0	80.0	1.000	80.0	116.0	1.001	0.0	116.0

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

Simulation Criteria

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

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

Synthetic Rainfall Details

Rainfall Model FEH D3 (1km) 0.387
 FEH Rainfall Version 1999 E (1km) 0.310
 Site Location GB 472400 107400 SU 72400 07400 F (1km) 2.252
 C (1km) -0.029 Cv (Summer) 0.750
 D1 (1km) 0.457 Cv (Winter) 0.840
 D2 (1km) 0.295

Margin for Flood Risk Warning (mm) 300.0 DVD Status OFF
 Analysis Timestep Fine Inertia Status OFF
 DTS Status ON

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
 Return Period(s) (years) 1, 30, 100
 Climate Change (%) 0, 0, 20

US/MH		Storm	Return Period	Climate Change	First (X) Surge	First (Y) Flood	First (Z) Overflow	Overflow Act.	Water Level	Surcharged Depth
PN	Name								(m)	(m)
1.000	QMAX	15 Winter	1	+0%	100/15 Summer	100/15 Winter			14.126	-0.699
1.001	QMAX	15 Winter	1	+0%	100/15 Summer	100/15 Winter			14.125	-0.682
1.002	QMAX	15 Winter	1	+0%	100/15 Summer	100/15 Winter			14.118	-0.680
1.003	QMAX	15 Winter	1	+0%	100/15 Summer	100/15 Winter			14.096	-0.684
1.004	QMAX	15 Winter	1	+0%	100/15 Summer	100/15 Winter			14.058	-0.713
1.005	QMAX	15 Winter	1	+0%	30/15 Summer	100/15 Winter			13.860	-0.065
1.006	S38	30 Winter	1	+0%	100/15 Summer				13.698	-0.197
1.007	PI	15 Winter	1	+0%					13.598	-0.307
1.008	S39	30 Winter	1	+0%					13.551	-0.284
1.009	S40	30 Winter	1	+0%					13.222	-0.328
2.000	QMAX	60 Summer	1	+0%					14.301	-0.599
2.001	QMAX	60 Summer	1	+0%					14.295	-0.605
2.002	QMAX	60 Summer	1	+0%					14.256	-0.644

Flooded		Pipe		Level	
PN	US/MH Name	Volume (m ³)	Flow / Overflow Cap. (l/s)	Flow (l/s)	Status Exceeded
1.000	QMAX	0.000	0.04	5.6	OK 2
1.001	QMAX	0.000	0.05	11.9	OK 2
1.002	QMAX	0.000	0.07	19.6	OK 2
1.003	QMAX	0.000	0.10	26.1	OK 2

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

PN	US/MH Name	Flooded		Pipe	Status	Level Exceeded
		Volume (m³)	Flow / Overflow Cap. (l/s)	Flow (l/s)		
1.004	QMAX	0.000	0.13	32.1	OK	1
1.005	QMAX	0.000	0.85	35.4	OK	1
1.006	S38	0.000	0.46	37.3	OK	
1.007	PI	0.000	0.22	37.2	OK	
1.008	S39	0.000	0.28	29.3	OK	
1.009	S40	0.000	0.16	29.4	OK	
2.000	QMAX	0.000	0.01	3.9	OK	
2.001	QMAX	0.000	0.02	7.3	OK	
2.002	QMAX	0.000	0.02	14.5	OK	