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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	

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

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 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	30	+0%	100/15 Summer	100/15 Winter			14.484	-0.341
1.001	QMAX	15 Winter	30	+0%	100/15 Summer	100/15 Winter			14.483	-0.324
1.002	QMAX	15 Winter	30	+0%	100/15 Summer	100/15 Winter			14.480	-0.318
1.003	QMAX	15 Winter	30	+0%	100/15 Summer	100/15 Winter			14.476	-0.304
1.004	QMAX	15 Winter	30	+0%	100/15 Summer	100/15 Winter			14.470	-0.301
1.005	QMAX	15 Winter	30	+0%	30/15 Summer	100/15 Winter			14.463	0.538
1.006	S38	15 Winter	30	+0%	100/15 Summer				13.855	-0.040
1.007	PI	30 Winter	30	+0%					13.696	-0.209
1.008	S39	30 Winter	30	+0%					13.673	-0.162
1.009	S40	30 Winter	30	+0%					13.305	-0.245
2.000	QMAX	15 Winter	30	+0%					14.422	-0.478
2.001	QMAX	15 Winter	30	+0%					14.409	-0.491
2.002	QMAX	15 Winter	30	+0%					14.335	-0.565

Flooded		Pipe		Level	
US/MH	Volume	Flow / Overflow	Flow	Status	Exceeded
PN	Name	(m ³)	Cap. (l/s)	(l/s)	
1.000	QMAX	0.000	0.12	18.8	OK 2
1.001	QMAX	0.000	0.16	41.2	OK 2
1.002	QMAX	0.000	0.23	63.2	OK 2
1.003	QMAX	0.000	0.28	73.1	OK 2

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PN	US/MH Name	Flooded		Pipe	Status	Level Exceeded
		Volume (m³)	Flow / Cap.	Overflow (l/s)		
1.004	QMAX	0.000	0.31		OK	1
1.005	QMAX	0.000	1.85	77.5	SURCHARGED	1
1.006	S38	0.000	1.00	81.5	OK	
1.007	PI	0.000	0.48	81.0	OK	
1.008	S39	0.000	0.74	76.3	OK	
1.009	S40	0.000	0.43	76.3	OK	
2.000	QMAX	0.000	0.05	18.0	OK	
2.001	QMAX	0.000	0.11	38.5	OK	
2.002	QMAX	0.000	0.10	73.8	OK	

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

Simulation Criteria

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

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 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
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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	100	+20%	100/15 Summer	100/15 Winter			15.129	0.304
1.001	QMAX 15	Winter	100	+20%	100/15 Summer	100/15 Winter			15.130	0.323
1.002	QMAX 15	Winter	100	+20%	100/15 Summer	100/15 Winter			15.130	0.332
1.003	QMAX 15	Winter	100	+20%	100/15 Summer	100/15 Winter			15.128	0.348
1.004	QMAX 15	Winter	100	+20%	100/15 Summer	100/15 Winter			15.127	0.356
1.005	QMAX 15	Winter	100	+20%	30/15 Summer	100/15 Winter			15.125	1.200
1.006	S38 15	Winter	100	+20%	100/15 Summer				13.956	0.061
1.007	PI 30	Winter	100	+20%					13.781	-0.124
1.008	S39 30	Winter	100	+20%					13.752	-0.083
1.009	S40 30	Winter	100	+20%					13.352	-0.198
2.000	QMAX 15	Winter	100	+20%					14.508	-0.392
2.001	QMAX 15	Winter	100	+20%					14.491	-0.409
2.002	QMAX 15	Winter	100	+20%					14.411	-0.489

Flooded		Pipe		Level	
PN	US/MH Name	Volume (m ³)	Flow / Overflow Cap. (l/s)	Flow (l/s)	Status
1.000	QMAX	4.288	0.27	43.4	FLOOD
1.001	QMAX	5.177	0.32	81.2	FLOOD
1.002	QMAX	4.956	0.33	90.0	FLOOD
1.003	QMAX	3.623	0.38	97.4	FLOOD

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PN	US/MH Name	Flooded		Pipe	Status	Level	
		Volume (m³)	Flow / Cap.	Overflow (l/s)		Flow (l/s)	Exceeded
1.004	QMAX	2.357	0.40		101.9	FLOOD	1
1.005	QMAX	0.335	2.54		106.3	FLOOD	1
1.006	S38	0.000	1.43		116.2	SURCHARGED	
1.007	PI	0.000	0.68		115.4	OK	
1.008	S39	0.000	1.04		107.3	OK	
1.009	S40	0.000	0.60		107.3	OK	
2.000	QMAX	0.000	0.10		33.9	OK	
2.001	QMAX	0.000	0.22		76.3	OK	
2.002	QMAX	0.000	0.20		149.8	OK	

Appendix I – Responses from the Pre-application Submission