

CFA Civils Limited		Page 1
Harrisfield Blackmoor Road Mawdesley, L40 2QF	9 Ansleigh Avenue, Crumpsall New Dwelling SW Output from RWH Tank	
Date January 2022 File Network.MDX	Designed By TMC- CFC21079 Checked By	
Micro Drainage	Network W.12.5	

Time Area Diagram for Storm <table> <tr> <th>Time (mins)</th><th>Area (ha)</th><th>Time (mins)</th><th>Area (ha)</th><th>Time (mins)</th><th>Area (ha)</th></tr> <tr> <td>0-4</td><td>0.007</td><td>4-8</td><td>0.008</td><td>8-12</td><td>0.001</td></tr> </table> Total Area Contributing (ha) = 0.015 Total Pipe Volume (m³) = 0.291						Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)	0-4	0.007	4-8	0.008	8-12	0.001
Time (mins)	Area (ha)	Time (mins)	Area (ha)	Time (mins)	Area (ha)												
0-4	0.007	4-8	0.008	8-12	0.001												
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STORM SEWER DESIGN by the Modified Rational Method

Network Design Table for Storm

PN	Length (m)	Fall (m)	Slope (1:X)	Area (ha)	T.E. (mins)	DWF (l/s)	k (mm)	HYD SECT	DIA (mm)
1.000	7.500	0.075	100.0	0.015	8.00	0.0	0.600	o	150
1.001	8.500	0.085	100.0	0.000	0.00	0.0	0.600	o	150
1.002	1.000	0.010	100.0	0.000	0.00	0.0	0.600	o	100

Network Results Table

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ Area (ha)	Σ DWF (l/s)	Foul (l/s)	Add Flow (l/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)
1.000	1.00	8.12	49.000	0.015	0.0	0.0	0.0	1.00	17.8	0.0
1.001	1.00	8.27	48.925	0.015	0.0	0.0	0.0	1.00	17.8	0.0
1.002	1.00	8.29	48.840	0.015	0.0	0.0	0.0	0.77	6.0	0.0

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PIPELINE SCHEDULES for Storm

Upstream Manhole

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH DIAM., L*W (mm)
1.000	o	150	1	50.000	49.000	0.850	1050
1.001	o	150	2	50.000	48.925	0.925	1050
1.002	o	100	3	50.000	48.840	1.060	1050

Downstream Manhole

PN	Length (m)	Slope (1:X)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH DIAM., L*W (mm)
1.000	7.500	100.0	2	50.000	48.925	0.925	1050
1.001	8.500	100.0	3	50.000	48.840	1.010	1050
1.002	1.000	100.0		50.000	48.830	1.070	0

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)
1.002		50.000	48.830	0.000	0	0

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<u>Online Controls for Storm</u> <u>Orifice Manhole: 3, DS/PN: 1.002, Volume (m³): 1.1</u> Diameter (m) 0.072 Discharge Coefficient 0.600 Invert Level (m) 48.840		
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<u>Simulation Criteria for Storm</u>		
Volumetric Runoff Coeff 0.840 Hot Start Level (mm) 0 MADD Factor * 10m³/ha Storage 2.000		
PIMP (% impervious) 100 Manhole Headloss Coeff (Global) 0.500 Run Time (mins) 60		
Areal Reduction Factor 1.000 Foul Sewage per hectare (l/s) 0.000 Output Interval (mins) 1		
Hot Start (mins) 0 Additional Flow - % of Total Flow 40.000		
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 0		
<u>Synthetic Rainfall Details</u>		
Rainfall Model FSR M5-60 (mm) 18.000 Cv (Summer) 0.750		
Return Period (years) 100 Ratio R 0.350 Cv (Winter) 0.840		
Region England and Wales Profile Type Winter Storm Duration (mins) 15		
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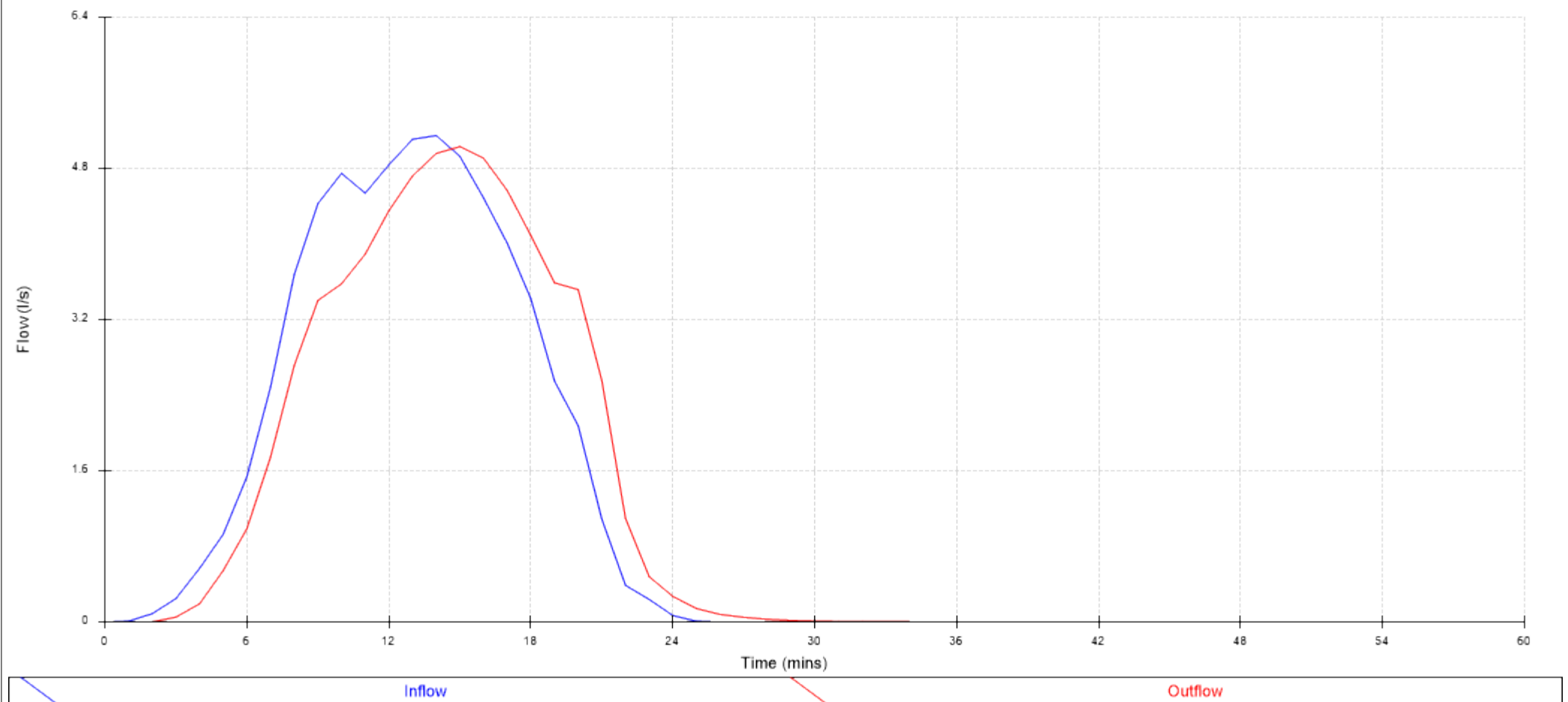
Summary of Results for 15 minute 100 year Winter (Storm)

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

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Cap.	Overflow (l/s)	Pipe Flow (l/s)	Status
1.000	1	49.173	0.023	0.000	0.38	0.0	5.8	SURCHARGED
1.001	2	49.158	0.083	0.000	0.33	0.0	5.1	SURCHARGED
1.002	3	49.142	0.202	0.000	1.28	0.0	5.0	SURCHARGED

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Graphs for Pipe 1.002 US/MH 3 (Storm)
15 minute 100 year Winter
Status: SURCHARGED



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Flows and Levels for Pipe 1.002 US/MH 3 (Storm)
15 minute 100 year Winter
Average Rainfall Intensity 83.892 mm/hr

Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Pipe Flow (l/s)	Time (mins)	Upstream Level (m)	Downstream Level (m)	Surcharged Depth (m)	Total O/F (l/s)	Pipe Flow (l/s)
1	48.841	48.840	-0.099	0.0	0.0	30	48.845	48.840	-0.095	0.0	0.0
2	48.847	48.840	-0.093	0.0	0.0	31	48.844	48.840	-0.096	0.0	0.0
3	48.858	48.840	-0.082	0.0	0.1	32	48.844	48.840	-0.096	0.0	0.0
4	48.873	48.840	-0.067	0.0	0.2	33	48.843	48.840	-0.097	0.0	0.0
5	48.887	48.840	-0.053	0.0	0.5	34	48.843	48.840	-0.097	0.0	0.0
6	48.908	48.840	-0.032	0.0	1.0	35	48.843	48.840	-0.097	0.0	0.0
7	48.935	48.840	-0.005	0.0	1.7	36	48.842	48.840	-0.098	0.0	0.0
8	48.967	48.840	0.027	0.0	2.7	37	48.842	48.840	-0.098	0.0	0.0
9	49.001	48.840	0.061	0.0	3.4	38	48.842	48.840	-0.098	0.0	0.0
10	49.044	48.840	0.104	0.0	3.6	39	48.842	48.840	-0.098	0.0	0.0
11	49.079	48.840	0.139	0.0	3.9	40	48.842	48.840	-0.098	0.0	0.0
12	49.108	48.840	0.168	0.0	4.4	41	48.842	48.840	-0.098	0.0	0.0
13	49.131	48.840	0.191	0.0	4.7	42	48.841	48.840	-0.099	0.0	0.0
14	49.142	48.840	0.202	0.0	5.0	43	48.841	48.840	-0.099	0.0	0.0
15	49.136	48.840	0.196	0.0	5.0	44	48.841	48.840	-0.099	0.0	0.0
16	49.110	48.840	0.170	0.0	4.9	45	48.841	48.840	-0.099	0.0	0.0
17	49.078	48.840	0.138	0.0	4.6	46	48.841	48.840	-0.099	0.0	0.0
18	49.042	48.840	0.102	0.0	4.1	47	48.841	48.840	-0.099	0.0	0.0
19	49.007	48.840	0.067	0.0	3.6	48	48.841	48.840	-0.099	0.0	0.0
20	48.956	48.840	0.016	0.0	3.5	49	48.841	48.840	-0.099	0.0	0.0
21	48.903	48.840	-0.037	0.0	2.6	50	48.841	48.840	-0.099	0.0	0.0
22	48.877	48.840	-0.063	0.0	1.1	51	48.841	48.840	-0.099	0.0	0.0
23	48.868	48.840	-0.072	0.0	0.5	52	48.841	48.840	-0.099	0.0	0.0
24	48.860	48.840	-0.080	0.0	0.3	53	48.841	48.840	-0.099	0.0	0.0
25	48.855	48.840	-0.085	0.0	0.1	54	48.841	48.840	-0.099	0.0	0.0
26	48.852	48.840	-0.088	0.0	0.1	55	48.841	48.840	-0.099	0.0	0.0
27	48.849	48.840	-0.091	0.0	0.1	56	48.841	48.840	-0.099	0.0	0.0
28	48.847	48.840	-0.093	0.0	0.0	57	48.841	48.840	-0.099	0.0	0.0
29	48.845	48.840	-0.095	0.0	0.0	58	48.840	48.840	-0.100	0.0	0.0

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59	48.840	48.840	-0.100	0.0	0.0	60	48.840	48.840	-0.100	0.0	0.0