

Network Details

Manhole Schedule

Manhole	Catchment Area (ha)	Size (mm)	Type	CL (m)	IL (m)	Depth To Soffit (m)	Easting (m)	Northing (m)
PS20-RE	0.002	180	Type E	17.565	17.215	0.250	494868.163	106236.526
PS18-RE	0.000	180	Type E	17.611	17.260	0.250	494855.264	106235.096
PS19	0.006	450	Type D	17.603	17.043	0.460	494855.898	106242.621
PS13-DIF	0.009	300x300	Type E	17.619	17.000	0.519	494852.458	106243.140
PP4-Dummy Outfall	0.000	150	Unknown	17.728	16.957	0.671	494846.034	106242.263

Pipe Schedule

Pipe Number	US Manhole	US IL (m)	DS Manhole	DS IL (m)	Shape	Dimension (mm)	Length (m)	Gradient (1:x)	Roughness (mm)	US Depth To Soffit (m)	DS Depth To Soffit (m)
1.000	PS20-RE	17.215	PS19	17.043	Circ	100	13.696	80	0.600	0.250	0.460
2.000	PS18-RE	17.260	PS19	17.043	Circ	100	7.552	35	0.600	0.250	0.460
1.001	PS19	17.043	PS13-DIF	17.000	Circ	100	3.479	80	0.600	0.459	0.519
1.002	PS13-DIF	17.000	PP4-Dummy Outfall	16.957	Circ	100	6.484	150	0.600	0.519	0.671

Outfall Details

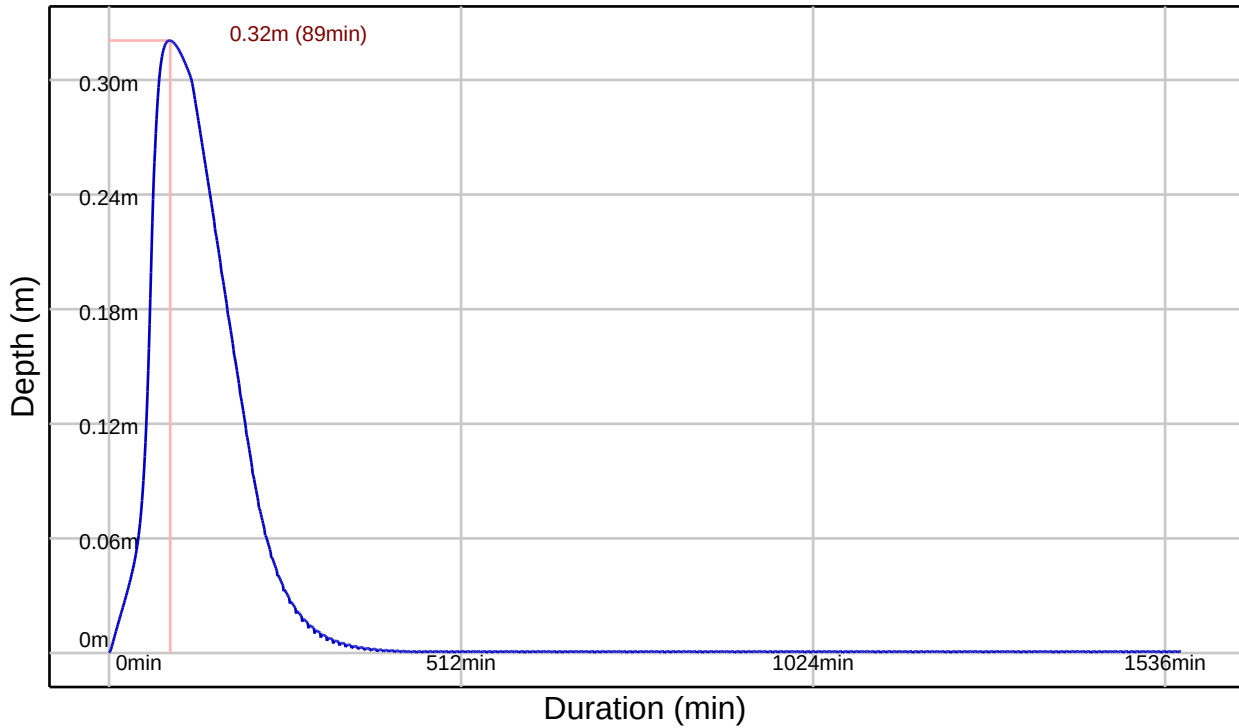
Outfall Manhole PP4-Dummy Outfall : Free Discharge

Flow Control Details

Tank Structure at Manhole PS13-DIF

Tank Invert (m)	Tank Height (m)	Porosity Ratio (%)	Area (m2)	Effective Area (m2) Area x Porosity Ratio	Max Storage (m3) Effective Area x Height	Infil Base (m/hr)	Infil Side (m/hr)	Safety Factor
16.770	0.675	30.00	90.007	27.002	18.226	0.07812000	0.07812000	2.00

Permeable Paving 4 at PS13-DIF (100Yr+45% 120Min Summer)



Controls within Manhole PP4-Dummy Outfall

Orifice Control

Invert Offset (m)	Orifice Diameter (m)	Discharge Coeff
0.000	0.000	0.600

Simulation Settings

FEH2022 (point): Filename=FEH_Point_Descriptors_494812_106233_v5_1_0.xml

Summer (Cv: 1.00), Winter (Cv: 1.00)

Global Time of Entry: 5.0 mins

Durations (mins): 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440

Return Periods (yrs) + Climate Change: (1, +0%), (30, +40%), (100, +45%)

Manhole Flood Risk Freeboard: 0.300m

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Item Volume Continuity Errors
1Yr 15Min Winter	15.628	0.00	0.00	
1Yr 15Min Summer	15.628	0.00	0.00	
1Yr 30Min Winter	10.316	0.00	0.00	
1Yr 30Min Summer	10.316	0.00	0.00	
1Yr 60Min Winter	6.595	0.00	0.00	
1Yr 60Min Summer	6.595	0.00	0.00	
1Yr 120Min Summer	5.323	0.00	0.00	
1Yr 120Min Winter	5.323	0.00	0.00	
1Yr 180Min Winter	4.511	0.00	0.00	
1Yr 180Min Summer	4.511	0.00	0.00	
1Yr 240Min Winter	3.753	0.00	0.00	
1Yr 240Min Summer	3.753	0.00	0.00	
1Yr 360Min Winter	2.919	0.00	0.00	
1Yr 360Min Summer	2.919	0.00	0.00	
1Yr 480Min Summer	2.427	0.00	0.00	
1Yr 480Min Winter	2.427	0.00	0.00	
1Yr 600Min Winter	2.074	0.00	0.00	
1Yr 600Min Summer	2.074	0.00	0.00	
1Yr 720Min Summer	1.811	0.00	0.00	
1Yr 720Min Winter	1.811	0.00	0.00	
1Yr 960Min Summer	1.465	0.00	0.00	
1Yr 960Min Winter	1.465	0.00	0.00	
1Yr 1440Min Winter	1.102	0.00	0.00	
1Yr 1440Min Summer	1.102	0.00	0.00	
30Yr+40% 15Min Winter	115.253	0.00	0.00	
30Yr+40% 15Min Summer	115.253	0.00	0.00	
30Yr+40% 30Min Summer	76.731	0.00	0.00	
30Yr+40% 30Min Winter	76.731	0.00	0.00	
30Yr+40% 60Min Summer	48.847	0.00	0.00	
30Yr+40% 60Min Winter	48.847	0.00	0.00	
30Yr+40% 120Min Summer	29.859	0.00	0.31	
30Yr+40% 120Min Winter	29.859	0.00	0.00	
30Yr+40% 180Min Winter	22.126	0.00	0.00	
30Yr+40% 180Min Summer	22.126	0.00	0.00	
30Yr+40% 240Min Summer	17.757	0.00	0.00	
30Yr+40% 240Min Winter	17.757	0.00	0.00	
30Yr+40% 360Min Summer	12.891	0.00	0.00	
30Yr+40% 360Min Winter	12.891	0.00	0.00	
30Yr+40% 480Min Summer	10.228	0.00	0.00	
30Yr+40% 480Min Winter	10.228	0.00	0.00	
30Yr+40% 600Min Summer	8.522	0.00	0.00	
30Yr+40% 600Min Winter	8.522	0.00	0.00	
30Yr+40% 720Min Summer	7.326	0.00	0.00	
30Yr+40% 720Min Winter	7.326	0.00	0.00	
30Yr+40% 960Min Summer	5.766	0.00	0.00	
30Yr+40% 960Min Winter	5.766	0.00	0.00	
30Yr+40% 1440Min Summer	4.126	0.00	0.00	
30Yr+40% 1440Min Winter	4.126	0.00	0.00	
100Yr+45% 15Min Summer	149.272	0.00	0.00	
100Yr+45% 15Min Winter	149.272	0.00	0.00	
100Yr+45% 30Min Summer	100.198	0.00	-5.30	PS13-DIF -0.49m3
100Yr+45% 30Min Winter	100.198	0.00	-5.30	PS13-DIF -0.49m3
100Yr+45% 60Min Summer	64.450	0.00	-4.06	
100Yr+45% 60Min Winter	64.450	0.00	-4.08	

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Item Volume Continuity Errors
100Yr+45% 120Min Summer	38.652	0.00	-3.38	
100Yr+45% 120Min Winter	38.652	0.00	-3.41	
100Yr+45% 180Min Summer	28.339	0.00	-3.16	
100Yr+45% 180Min Winter	28.339	0.00	-3.16	
100Yr+45% 240Min Summer	22.782	0.00	-3.01	
100Yr+45% 240Min Winter	22.782	0.00	-3.00	
100Yr+45% 360Min Summer	16.530	0.00	-2.88	
100Yr+45% 360Min Winter	16.530	0.00	0.00	
100Yr+45% 480Min Summer	13.117	0.00	0.00	
100Yr+45% 480Min Winter	13.117	0.00	0.00	
100Yr+45% 600Min Summer	10.952	0.00	0.00	
100Yr+45% 600Min Winter	10.952	0.00	0.00	
100Yr+45% 720Min Summer	9.434	0.00	0.00	
100Yr+45% 720Min Winter	9.434	0.00	0.00	
100Yr+45% 960Min Summer	7.431	0.00	0.00	
100Yr+45% 960Min Winter	7.431	0.00	0.00	
100Yr+45% 1440Min Winter	5.311	0.00	0.00	
100Yr+45% 1440Min Summer	5.311	0.00	0.00	

Simulation Results

Return Period (yrs) + Climate Change (%):

1yr+0%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
PS20-RE	15 min Summer	9	17.226	0.012	0.204		OK
PS18-RE	15 min Summer	9	17.264	0.004	0.029		OK
PS19	15 min Summer	9	17.068	0.025	0.810		OK
PS13-DIF	180 min Summer	108	16.809	0.039	0.389		OK
PP4-Dummy Outfall	15 min Winter	0	16.957	0.000	0.000		OK

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Summer	9	PS20-RE	PS19	0.018	0.212	0.207	0.031	OK
2.000	15 min Summer	9	PS18-RE	PS19	0.014	0.045	0.027	0.003	OK
1.001	15 min Summer	9	PS19	PS13-DIF	0.023	0.584	0.817	0.121	OK
1.002	15 min Winter	0	PS13-DIF	PP4-Dummy Outfall	0.000	0.000	0.000	0.000	OK

Return Period (yrs) + Climate Change (%):

30yr+40%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
PS20-RE	15 min Summer	8	17.247	0.032	1.568		OK
PS18-RE	15 min Summer	8	17.270	0.010	0.225		OK
PS19	15 min Summer	8	17.127	0.084	6.202		OK
PS13-DIF	120 min Summer	82	17.008	0.238	1.166		OK
PP4-Dummy Outfall	120 min Summer	97	16.992	0.035	0.000		OK

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Summer	8	PS20-RE	PS19	0.058	0.329	1.553	0.230	OK
2.000	15 min Summer	8	PS18-RE	PS19	0.047	0.064	0.219	0.021	OK
1.001	15 min Summer	8	PS19	PS13-DIF	0.077	0.942	6.123	0.908	OK
1.002	120 min Summer	92	PS13-DIF	PP4-Dummy Outfall	0.019	0.264	0.064	0.013	OK

Return Period (yrs) + Climate Change (%):

100yr+45%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
PS20-RE	15 min Summer	8	17.252	0.037	2.032		OK
PS18-RE	15 min Summer	8	17.272	0.011	0.292		OK
PS19	15 min Summer	9	17.169	0.126	7.744		Surcharged
PS13-DIF	120 min Summer	88	17.091	0.321	1.147		OK
PP4-Dummy Outfall	120 min Summer	87	17.091	0.134	0.060		OK

Conduits

Pipe No.	Critical Storm	Peak (mins)	US Manhole	DS Manhole	Flow Depth (m)	Max Velocity (m/s)	Max Flow (l/s)	Flow / Capacity	Status
1.000	15 min Summer	8	PS20-RE	PS19	0.069	0.351	2.014	0.298	OK
2.000	15 min Summer	8	PS18-RE	PS19	0.056	0.065	0.286	0.028	OK
1.001	15 min Summer	9	PS19	PS13-DIF	0.094	1.024	7.856	1.165	OK
1.002	120 min Summer	344	PS13-DIF	PP4-Dummy Outfall	0.095	0.498	2.043	0.417	OK