

Network Details

Manhole Schedule

Manhole	Catchment Area (ha)	Size (mm)	Type	CL (m)	IL (m)	Depth To Soffit (m)	Easting (m)	Northing (m)
PS22-RE	0.004	180	Type E	17.536	17.237	0.199	494877.237	106257.498
PS43-ACO	0.001	180	Type E	17.708	17.558	0.050	494869.919	106241.809
PS44-ACO	0.000	180	Type E	17.725	17.518	0.107	494871.366	106244.670
PS23	0.005	450	Type D	17.654	17.101	0.453	494872.336	106247.805
PS30-RE	0.006	180	Type E	17.475	17.109	0.266	494858.977	106265.592
PS45-ACO	0.004	180	Type E	17.509	17.359	0.050	494864.975	106261.641
PS46-ACO	0.000	180	Type E	17.548	17.319	0.129	494867.768	106260.189
PS31	0.004	450	Type D	17.500	16.957	0.393	494866.333	106261.964
PS24	0.000	450	Type D	17.602	16.831	0.621	494861.775	106252.874
PS25-DIF	0.012	300x300	Type E	17.663	16.767	0.746	494860.522	106249.944
PS27-RE	0.006	180	Type E	17.475	17.201	0.174	494850.392	106269.391
PS28	0.002	450	Type D	17.450	17.007	0.293	494845.242	106259.072
PS53	0.000	450	Type D	17.507	16.695	0.662	494852.797	106255.310
PS29-DIF	0.000	300x300	Type E	17.546	16.651	0.894	494854.427	106252.948
PP3-Dummy Outfall	0.000	100	Unknown	17.588	16.600	0.987	494846.427	106252.965

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	PS22-RE	17.237	PS23	17.101	Circ	100	10.862	80	0.600	0.199	0.453
2.000	PS43-ACO	17.558	PS44-ACO	17.518	Circ	100	3.206	79	0.600	0.050	0.107
2.001	PS44-ACO	17.518	PS23	17.101	Circ	100	3.282	8	0.600	0.107	0.453
1.001	PS23	17.101	PS24	16.881	Circ	100	11.715	53	0.600	0.453	0.621
3.000	PS30-RE	17.109	PS31	17.007	Circ	100	8.202	80	0.600	0.266	0.393
4.000	PS45-ACO	17.359	PS46-ACO	17.319	Circ	100	3.149	79	0.600	0.050	0.129
4.001	PS46-ACO	17.319	PS31	17.007	Circ	100	2.283	7	0.600	0.129	0.393
3.001	PS31	16.957	PS24	16.831	Circ	150	10.168	81	0.600	0.393	0.621
1.002	PS24	16.831	PS25-DIF	16.767	Circ	150	3.187	50	0.600	0.621	0.746
1.003	PS25-DIF	16.767	PS29-DIF	16.651	Circ	150	6.795	59	0.600	0.746	0.745
5.000	PS27-RE	17.201	PS28	17.057	Circ	100	11.533	80	0.600	0.174	0.293
5.001	PS28	17.007	PS53	16.695	Circ	150	8.441	27	0.600	0.293	0.662
5.002	PS53	16.695	PS29-DIF	16.651	Circ	150	2.869	65	0.600	0.662	0.745
1.004	PS29-DIF	16.651	PP3-Dummy Outfall	16.600	Circ	1	8.000	157	0.600	0.894	0.987

Permeable Paving Schedule

Permeable Paving	Assigned Manhole	Effective Storage Volume (m3)	CL (m)	IL (m)	Storage Infil Rate (m/hr)	Safety Factor	Easting (m)	Northing (m)
Permeable Paving 3	PS25-DIF	23.325	17.663	16.818	0.07812000	2.00	494856.394	106251.214

Outfall Details

Outfall Manhole PP3-Dummy Outfall : Free Discharge

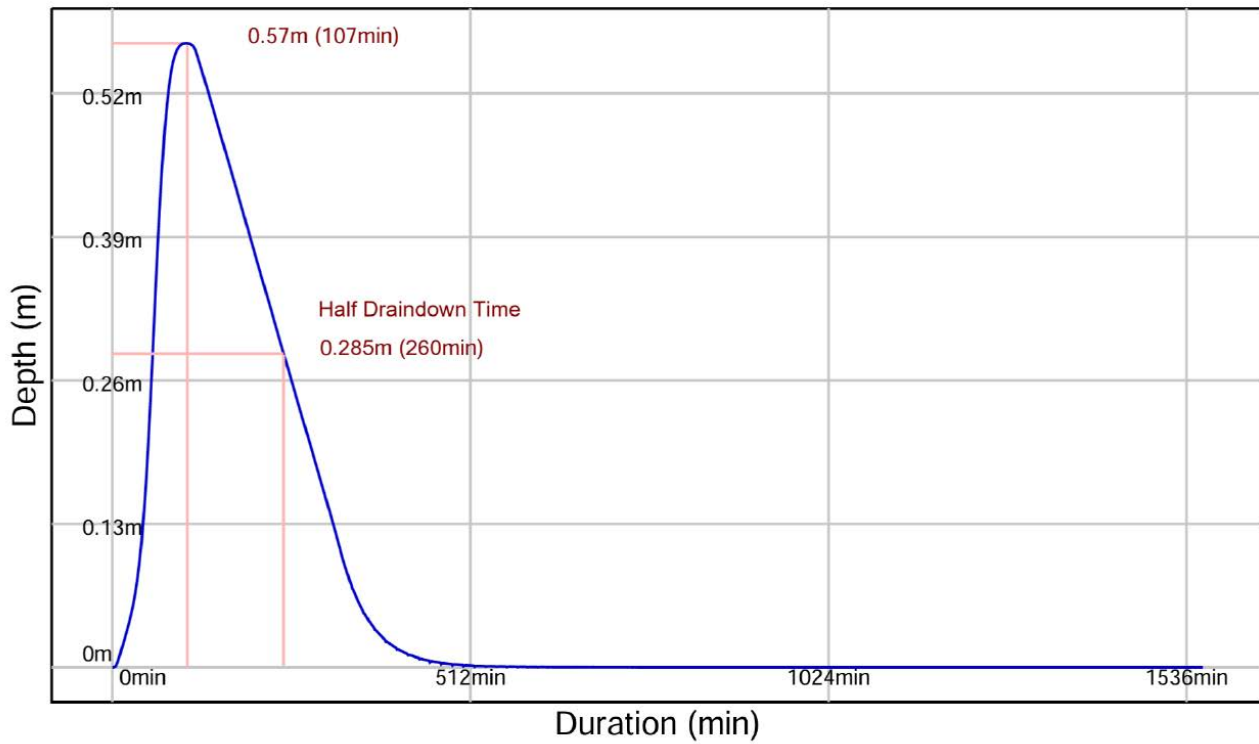
Flow Control Details

Controls within Manhole PP3-Dummy Outfall

Orifice Control

Invert Offset (m)	Orifice Diameter (m)	Discharge Coeff
0.000	0.001	0.600

Permeable Paving 3 at PS25-DIF (100Yr+45% 120Min Winter)



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	10.35	PS29-DIF 0.18m3, PS53 0.13m3, PS25-DIF 0.06m3
1Yr 15Min Summer	15.628	0.00	10.18	PS29-DIF 0.16m3, PS53 0.16m3, PS25-DIF 0.04m3
1Yr 30Min Winter	10.316	0.00	7.56	PS29-DIF 0.17m3, PS53 0.13m3, PS25-DIF 0.06m3
1Yr 30Min Summer	10.316	0.00	7.58	PS29-DIF 0.17m3, PS53 0.12m3, PS25-DIF 0.06m3
1Yr 60Min Winter	6.595	0.00	5.64	PS29-DIF 0.18m3, PS53 0.12m3, PS25-DIF 0.07m3
1Yr 60Min Summer	6.595	0.00	5.63	PS29-DIF 0.18m3, PS53 0.13m3, PS25-DIF 0.06m3
1Yr 120Min Summer	5.323	0.00	3.27	
1Yr 120Min Winter	5.323	0.00	3.29	
1Yr 180Min Winter	4.511	0.00	2.54	
1Yr 180Min Summer	4.511	0.00	2.53	
1Yr 240Min Winter	3.753	0.00	2.27	
1Yr 240Min Summer	3.753	0.00	2.27	
1Yr 360Min Winter	2.919	0.00	1.93	
1Yr 360Min Summer	2.919	0.00	1.92	
1Yr 480Min Summer	2.427	0.00	1.73	
1Yr 480Min Winter	2.427	0.00	1.73	
1Yr 600Min Winter	2.074	0.00	1.62	
1Yr 600Min Summer	2.074	0.00	1.61	
1Yr 720Min Summer	1.811	0.00	1.53	
1Yr 720Min Winter	1.811	0.00	1.54	
1Yr 960Min Summer	1.465	0.00	1.42	
1Yr 960Min Winter	1.465	0.00	1.42	
1Yr 1440Min Winter	1.102	0.00	1.25	
1Yr 1440Min Summer	1.102	0.00	1.25	
30Yr+40% 15Min Winter	115.253	0.00	1.12	
30Yr+40% 15Min Summer	115.253	0.00	1.10	
30Yr+40% 30Min Summer	76.731	0.00	0.84	
30Yr+40% 30Min Winter	76.731	0.00	0.84	
30Yr+40% 60Min Summer	48.847	0.00	0.66	
30Yr+40% 60Min Winter	48.847	0.00	0.66	
30Yr+40% 120Min Summer	29.859	0.00	0.54	
30Yr+40% 120Min Winter	29.859	0.00	0.54	
30Yr+40% 180Min Winter	22.126	0.00	0.49	
30Yr+40% 180Min Summer	22.126	0.00	0.49	
30Yr+40% 240Min Summer	17.757	0.00	0.46	
30Yr+40% 240Min Winter	17.757	0.00	0.46	
30Yr+40% 360Min Summer	12.891	0.00	0.42	
30Yr+40% 360Min Winter	12.891	0.00	0.42	
30Yr+40% 480Min Summer	10.228	0.00	0.40	
30Yr+40% 480Min Winter	10.228	0.00	0.40	
30Yr+40% 600Min Summer	8.522	0.00	0.38	
30Yr+40% 600Min Winter	8.522	0.00	0.38	
30Yr+40% 720Min Summer	7.326	0.00	0.37	
30Yr+40% 720Min Winter	7.326	0.00	0.37	
30Yr+40% 960Min Summer	5.766	0.00	0.35	
30Yr+40% 960Min Winter	5.766	0.00	0.35	
30Yr+40% 1440Min Summer	4.126	0.00	0.33	
30Yr+40% 1440Min Winter	4.126	0.00	0.33	
100Yr+45% 15Min Summer	149.272	0.00	0.85	
100Yr+45% 15Min Winter	149.272	0.00	0.86	
100Yr+45% 30Min Summer	100.198	0.00	0.64	
100Yr+45% 30Min Winter	100.198	0.00	0.64	
100Yr+45% 60Min Summer	64.450	0.00	0.49	
100Yr+45% 60Min Winter	64.450	0.00	0.50	

Simulated Rainfall Events

Storm	Average Intensity (mm/hr)	Runoff Continuity %	Flow Continuity %	Item Volume Continuity Errors
100Yr+45% 120Min Summer	38.652	0.00	0.41	
100Yr+45% 120Min Winter	38.652	0.00	0.42	
100Yr+45% 180Min Summer	28.339	0.00	0.38	
100Yr+45% 180Min Winter	28.339	0.00	0.38	
100Yr+45% 240Min Summer	22.782	0.00	0.35	
100Yr+45% 240Min Winter	22.782	0.00	0.35	
100Yr+45% 360Min Summer	16.530	0.00	0.33	
100Yr+45% 360Min Winter	16.530	0.00	0.33	
100Yr+45% 480Min Summer	13.117	0.00	0.31	
100Yr+45% 480Min Winter	13.117	0.00	0.31	
100Yr+45% 600Min Summer	10.952	0.00	0.30	
100Yr+45% 600Min Winter	10.952	0.00	0.30	
100Yr+45% 720Min Summer	9.434	0.00	0.29	
100Yr+45% 720Min Winter	9.434	0.00	0.29	
100Yr+45% 960Min Summer	7.431	0.00	0.27	
100Yr+45% 960Min Winter	7.431	0.00	0.27	
100Yr+45% 1440Min Winter	5.311	0.00	0.25	
100Yr+45% 1440Min Summer	5.311	0.00	0.25	

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
PS22-RE	15 min Summer	8	17.253	0.016	0.376		OK
PS43-ACO	15 min Summer	9	17.567	0.009	0.095		OK
PS44-ACO	15 min Summer	9	17.523	0.005	0.096		OK
PS23	15 min Summer	9	17.123	0.022	0.889		OK
PS30-RE	15 min Summer	8	17.128	0.019	0.555		OK
PS45-ACO	15 min Summer	8	17.376	0.017	0.396		OK
PS46-ACO	15 min Summer	9	17.328	0.009	0.385		OK
PS31	15 min Summer	9	16.983	0.026	1.307		OK
PS24	180 min Summer	95	16.885	0.054	1.052		OK
PS25-DIF	15 min Summer	10	16.883	0.116	2.832		OK
PS27-RE	15 min Summer	8	17.221	0.020	0.601		OK
PS28	15 min Summer	8	17.022	0.016	0.804		OK
PS53	120 min Summer	65	16.886	0.191	0.401		Surcharged
PS29-DIF	30 min Summer	18	16.883	0.232	0.298		Surcharged
PP3-Dummy Outfall	15 min Winter	0	16.600	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	PS22-RE	PS23	0.019	0.360	0.367	0.054	OK
2.000	15 min Summer	9	PS43-ACO	PS44-ACO	0.007	0.420	0.096	0.014	OK
2.001	15 min Summer	9	PS44-ACO	PS23	0.013	0.163	0.093	0.004	OK
1.001	15 min Summer	9	PS23	PS24	0.022	0.698	0.894	0.108	OK
3.000	15 min Summer	8	PS30-RE	PS31	0.019	0.522	0.545	0.081	OK
4.000	15 min Summer	8	PS45-ACO	PS46-ACO	0.013	0.647	0.387	0.057	OK
4.001	15 min Summer	9	PS46-ACO	PS31	0.009	1.127	0.388	0.017	OK
3.001	180 min Summer	95	PS31	PS24	0.036	0.406	0.695	0.035	OK
1.002	180 min Summer	95	PS24	PS25-DIF	0.085	0.396	2.931	0.116	OK
1.003	15 min Summer	10	PS25-DIF	PS29-DIF	0.133	0.487	1.978	0.085	OK
5.000	15 min Summer	8	PS27-RE	PS28	0.020	0.533	0.591	0.088	OK
5.001	15 min Summer	9	PS28	PS53	0.083	0.555	0.796	0.023	OK
5.002	120 min Summer	66	PS53	PS29-DIF	0.150	0.181	1.708	0.078	Surcharged
1.004	15 min Winter	4	PS29-DIF	PP3-Dummy Outfall	0.001	0.000	0.000	0.000	OK

Permeable Paving Storage

Permeable Paving	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Surface Runoff (m3)	Status
Permeable Paving 3	180 min Summer	111	16.882	0.064	0.847			OK

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

30yr+40%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
PS22-RE	15 min Summer	11	17.364	0.127	1.308		Flood Risk
PS43-ACO	15 min Summer	8	17.581	0.023	0.734		OK
PS44-ACO	15 min Summer	8	17.530	0.012	0.724		OK
PS23	15 min Summer	11	17.355	0.254	3.711		Flood Risk
PS30-RE	15 min Summer	11	17.322	0.213	1.932		Flood Risk
PS45-ACO	15 min Summer	8	17.405	0.046	2.919		OK
PS46-ACO	15 min Summer	8	17.342	0.023	2.898		OK
PS31	30 min Summer	19	17.313	0.356	4.992		Flood Risk
PS24	30 min Summer	19	17.305	0.474	8.670		Flood Risk
PS25-DIF	30 min Summer	19	17.295	0.528	11.226		Surcharged
PS27-RE	30 min Summer	19	17.314	0.113	2.109		Flood Risk
PS28	30 min Summer	19	17.300	0.293	2.893		Flood Risk
PS53	30 min Summer	19	17.298	0.603	2.808		Flood Risk
PS29-DIF	30 min Summer	19	17.297	0.646	2.704		Flood Risk
PP3-Dummy Outfall	15 min Winter	0	16.600	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	30 min Summer	18	PS22-RE	PS23	0.100	0.554	2.415	0.358	Surcharged
2.000	15 min Summer	8	PS43-ACO	PS44-ACO	0.018	0.780	0.724	0.107	OK
2.001	15 min Summer	8	PS44-ACO	PS23	0.056	0.206	0.718	0.033	OK
1.001	15 min Summer	8	PS23	PS24	0.100	0.893	5.354	0.645	Surcharged
3.000	15 min Summer	9	PS30-RE	PS31	0.100	0.825	3.762	0.557	Surcharged
4.000	15 min Summer	8	PS45-ACO	PS46-ACO	0.035	1.197	2.898	0.427	OK
4.001	15 min Summer	8	PS46-ACO	PS31	0.062	1.803	2.889	0.128	OK
3.001	15 min Summer	9	PS31	PS24	0.150	0.724	7.331	0.371	Surcharged
1.002	15 min Summer	7	PS24	PS25-DIF	0.150	0.929	11.245	0.446	Surcharged
1.003	15 min Summer	5	PS25-DIF	PS29-DIF	0.150	0.529	2.750	0.118	Surcharged
5.000	30 min Summer	18	PS27-RE	PS28	0.100	0.859	3.900	0.578	Surcharged
5.001	15 min Summer	8	PS28	PS53	0.150	0.760	4.629	0.135	Surcharged
5.002	15 min Summer	8	PS53	PS29-DIF	0.150	0.609	3.303	0.150	Surcharged
1.004	15 min Winter	2	PS29-DIF	PP3-Dummy Outfall	0.001	0.000	0.000	0.000	OK

Permeable Paving Storage

Permeable Paving	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Surface Runoff (m3)	Status
Permeable Paving 3	120 min Winter	104	17.266	0.449	1.477			OK

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

100yr+45%

Manholes

Manhole	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Status
PS22-RE	15 min Summer	11	17.524	0.287	1.699		Flood Risk
PS43-ACO	15 min Summer	8	17.585	0.026	0.951		OK
PS44-ACO	15 min Summer	8	17.532	0.014	0.940		OK
PS23	30 min Summer	19	17.512	0.411	4.492		Flood Risk
PS30-RE	30 min Summer	19	17.469	0.359	2.557		Flood Risk
PS45-ACO	30 min Summer	20	17.460	0.101	1.339		Flood Risk
PS46-ACO	30 min Summer	20	17.458	0.139	1.461		Flood Risk
PS31	30 min Summer	20	17.456	0.499	4.983		Flood Risk
PS24	30 min Summer	20	17.447	0.616	9.121		Flood Risk
PS25-DIF	30 min Summer	20	17.436	0.669	12.248		Flood Risk
PS27-RE	30 min Summer	19	17.461	0.259	2.771		Flood Risk
PS28	30 min Summer	20	17.442	0.435	2.941		Flood Risk
PS53	30 min Summer	20	17.440	0.745	2.990		Flood Risk
PS29-DIF	30 min Summer	20	17.439	0.788	3.022		Flood Risk
PP3-Dummy Outfall	15 min Summer	0	16.600	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 Winter	8	PS22-RE	PS23	0.100	0.564	2.964	0.439	Surcharged
2.000	15 min Summer	8	PS43-ACO	PS44-ACO	0.020	0.845	0.940	0.138	OK
2.001	15 min Summer	8	PS44-ACO	PS23	0.057	0.202	0.933	0.043	OK
1.001	15 min Winter	7	PS23	PS24	0.100	0.940	5.227	0.630	Surcharged
3.000	15 min Winter	8	PS30-RE	PS31	0.100	0.802	3.790	0.561	Surcharged
4.000	30 min Summer	19	PS45-ACO	PS46-ACO	0.100	1.246	3.374	0.498	Surcharged
4.001	15 min Winter	12	PS46-ACO	PS31	0.100	1.750	3.381	0.150	Surcharged
3.001	15 min Winter	9	PS31	PS24	0.150	0.695	8.671	0.439	Surcharged
1.002	15 min Winter	9	PS24	PS25-DIF	0.150	0.909	12.545	0.497	Surcharged
1.003	15 min Winter	5	PS25-DIF	PS29-DIF	0.150	0.497	2.144	0.092	Surcharged
5.000	15 min Winter	9	PS27-RE	PS28	0.100	0.887	4.924	0.729	Surcharged
5.001	15 min Winter	7	PS28	PS53	0.150	0.794	5.031	0.147	Surcharged
5.002	30 min Summer	18	PS53	PS29-DIF	0.150	0.525	3.486	0.158	Surcharged
1.004	15 min Summer	1	PS29-DIF	PP3-Dummy Outfall	0.001	0.000	0.000	0.000	OK

Permeable Paving Storage

Permeable Paving	Critical Storm	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Flood (m3)	Surface Runoff (m3)	Status
Permeable Paving 3	120 min Winter	112	17.416	0.599	1.573			OK