

Design Settings

Frequency of use (kDU)	1.00	Additional Flow (%)	0	Preferred Cover Depth (m)	1.200
Flow per dwelling per day (l/day)	4000	Minimum Velocity (m/s)	0.75	Include Intermediate Ground	✓
Domestic Flow (l/s/ha)	4000.0	Connection Type	Level Soffits		
Industrial Flow (l/s/ha)	1.0	Minimum Backdrop Height (m)	0.200		

Nodes

Name	Area (ha)	Cover Level (m)	Manhole Type	Width (mm)	Depth (m)
1.01	0.000	15.132	Adoptable		0.732
1.12	0.000	15.132	Adoptable		0.732
1.02	0.000	15.033	Adoptable		0.883
1.13	0.000	15.130	Adoptable		0.810
1.03	0.000	15.032	Adoptable		1.052
1.14	0.000	15.193	Adoptable		0.893
NODE-1	0.000	15.032	Adoptable		1.123
1.15	0.000	15.113	Adoptable		1.133
NODE-2	0.000	15.032	Adoptable		1.172
1.16	0.000	15.147	Adoptable		0.837
NODE-3	0.000	15.033	Adoptable		1.217
1.17	0.000	15.147	Adoptable		0.787
NODE-4	0.000	15.033	Adoptable		1.262
1.18	0.000	15.145	Adoptable		0.795
1.03a	0.000	15.033	Adoptable	450	1.358
1.19	0.000	15.096	Adoptable		0.746
1.04	0.000	15.033	Adoptable	450	1.463
1.05	0.000	15.042	Adoptable		1.672
1.20	0.000	15.146	Adoptable		0.606
1.21	0.000	15.131	Adoptable		0.691
1.22	0.000	15.131	Adoptable		0.791
1.23	0.000	15.072	Adoptable		0.672
1.07a	0.000	15.026	Adoptable		1.756
1.06	0.000	14.917	Adoptable		2.027
1.24	0.000	15.200	Adoptable		0.780
1.25	0.000	15.197	Adoptable		0.877
1.26	0.000	14.995	Adoptable		0.895
1.27	0.000	15.033	Adoptable		1.033
1.32	0.000	15.146	Adoptable		0.696
1.33	0.000	15.119	Adoptable		0.769
1.35	0.000	15.147	Adoptable		0.747
1.36	0.000	15.123	Adoptable		0.893
1.36a	0.000	15.100	Adoptable		1.020
1.34	0.000	14.951	Adoptable		1.431
1.28	0.000	14.976	Adoptable		1.626
1.37	0.000	15.082	Adoptable		0.682
1.29	0.000	15.014	Adoptable		2.014
1.38	0.000	15.164	Adoptable		1.264
1.40	0.000	15.118	Adoptable		1.218
1.41	0.000	15.161	Adoptable		1.261
1.39	0.000	14.915	Adoptable		1.915
NODE-6		14.778	Adoptable		1.906
1.45		15.182	Adoptable		0.782
1.42		15.185	Adoptable		0.785
1.43		15.164	Adoptable		0.934
1.44		14.991	Adoptable		1.821
NODE-7		14.737	Adoptable		1.962
1.30	0.000	14.893	Adoptable		2.293
1.46	0.000	15.176	Adoptable		0.706
1.49	0.000	15.127	Adoptable		0.657
1.47	0.000	15.137	Adoptable		0.837
1.48	0.000	15.039	Adoptable		0.909
NODE-8	0.000	14.899	Adoptable		2.436
1.31	0.000	14.887	Adoptable		2.457
1.07	0.000	14.553	Adoptable		2.223
1.50	0.000	14.186	Adoptable		1.436
1.08	0.000	13.815	Adoptable		1.665
1.09	0.000	13.400	Adoptable		1.680
1.10	0.000	13.020	Adoptable		1.600
1.11	0.000	13.020	Adoptable		1.760
4905		13.107	Adoptable		2.307

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)
1.000	1.01	1.02	6.793	1.500	14.400	14.220	0.180	37.7	150
2.000	1.12	1.02	2.629	1.500	14.400	14.220	0.180	14.6	150
1.001	1.02	1.03	6.779	1.500	14.150	13.980	0.170	39.9	150
3.000	1.13	1.03	3.927	1.500	14.320	14.050	0.270	14.5	150
1.002	1.03	NODE-1	9.051	1.500	13.980	13.909	0.071	127.0	150
4.000	1.14	NODE-1	4.735	1.500	14.300	13.909	0.391	12.1	150
1.003	NODE-1	NODE-2	6.244	1.500	13.909	13.860	0.049	127.0	150
5.000	1.15	NODE-2	2.758	1.500	13.980	13.860	0.120	23.0	150
1.004	NODE-2	NODE-3	5.584	1.500	13.860	13.816	0.044	127.0	150
6.000	1.16	NODE-3	4.936	1.500	14.310	13.816	0.494	10.0	150
1.005	NODE-3	NODE-4	5.683	1.500	13.816	13.771	0.045	127.0	150
7.000	1.17	NODE-4	3.662	1.500	14.360	13.771	0.589	6.2	150
1.006	NODE-4	1.03a	11.783	1.500	13.771	13.675	0.096	122.7	150
8.000	1.18	1.03a	4.775	1.500	14.350	14.250	0.100	47.7	150
1.007	1.03a	1.04	7.225	1.500	13.675	13.570	0.105	68.8	150
9.000	1.19	1.04	2.320	1.500	14.350	14.250	0.100	23.2	150
1.008	1.04	1.05	24.717	1.500	13.570	13.370	0.200	123.6	150
1.009	1.05	1.07a	10.555	1.500	13.370	13.270	0.100	105.6	150
10.000	1.20	1.21	4.112	1.500	14.540	14.440	0.100	41.1	150
10.001	1.21	1.22	3.584	1.500	14.440	14.340	0.100	35.8	150
10.002	1.22	1.07a	14.701	1.500	14.340	14.000	0.340	43.2	150
11.000	1.23	1.07a	4.143	1.500	14.400	14.200	0.200	20.7	100
1.010	1.07a	1.06	10.517	1.500	13.270	12.890	0.380	27.7	150
1.011	1.06	1.07	29.173	1.500	12.890	12.330	0.560	52.1	150
12.000	1.24	1.25	3.934	1.500	14.420	14.320	0.100	39.3	150
12.001	1.25	1.26	8.096	1.500	14.320	14.100	0.220	36.8	150
12.002	1.26	1.27	8.790	1.500	14.100	14.000	0.100	87.9	150
12.003	1.27	1.28	19.720	1.500	14.000	13.350	0.650	30.3	150
13.000	1.32	1.33	3.246	1.500	14.450	14.350	0.100	32.5	150
13.001	1.33	1.34	11.316	1.500	14.350	13.520	0.830	13.6	150
14.000	1.35	1.36	4.511	1.500	14.400	14.300	0.100	45.1	150
14.001	1.36	1.36a	6.736	1.500	14.230	14.150	0.080	84.2	150
14.002	1.36a	1.34	7.545	1.500	14.080	13.590	0.490	15.4	150

Name	US Node	DS Node	Pro Vel @ 1/3 Q (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	1.01	1.02	0.000	1.429	25.2	0.0	0.582	0.663	0.000	0	0.000
2.000	1.12	1.02	0.000	2.300	40.6	0.0	0.582	0.663	0.000	0	0.000
1.001	1.02	1.03	0.000	1.390	24.6	0.0	0.733	0.902	0.000	0	0.000
3.000	1.13	1.03	0.000	2.305	40.7	0.0	0.660	0.832	0.000	0	0.000
1.002	1.03	NODE-1	0.000	0.776	13.7	0.0	0.902	0.973	0.000	0	0.000
4.000	1.14	NODE-1	0.000	2.526	44.6	0.0	0.743	0.973	0.000	0	0.000
1.003	NODE-1	NODE-2	0.000	0.776	13.7	0.0	0.973	1.022	0.000	0	0.000
5.000	1.15	NODE-2	0.000	1.832	32.4	0.0	0.983	1.022	0.000	0	0.000
1.004	NODE-2	NODE-3	0.000	0.776	13.7	0.0	1.022	1.067	0.000	0	0.000
6.000	1.16	NODE-3	0.000	2.782	49.2	0.0	0.687	1.067	0.000	0	0.000
1.005	NODE-3	NODE-4	0.000	0.776	13.7	0.0	1.067	1.112	0.000	0	0.000
7.000	1.17	NODE-4	0.000	3.528	62.3	0.0	0.637	1.112	0.000	0	0.000
1.006	NODE-4	1.03a	0.000	0.790	14.0	0.0	1.112	1.208	0.000	0	0.000
8.000	1.18	1.03a	0.000	1.270	22.4	0.0	0.645	0.633	0.000	0	0.000
1.007	1.03a	1.04	0.000	1.057	18.7	0.0	1.208	1.313	0.000	0	0.000
9.000	1.19	1.04	0.000	1.824	32.2	0.0	0.596	0.633	0.000	0	0.000
1.008	1.04	1.05	0.000	0.787	13.9	0.0	1.313	1.522	0.000	0	0.000
1.009	1.05	1.07a	0.000	0.852	15.1	0.0	1.522	1.606	0.000	0	0.000
10.000	1.20	1.21	0.000	1.369	24.2	0.0	0.456	0.541	0.000	0	0.000
10.001	1.21	1.22	0.000	1.466	25.9	0.0	0.541	0.641	0.000	0	0.000
10.002	1.22	1.07a	0.000	1.334	23.6	0.0	0.641	0.876	0.000	0	0.000
11.000	1.23	1.07a	0.000	1.467	11.5	0.0	0.572	0.726	0.000	0	0.000
1.010	1.07a	1.06	0.000	1.669	29.5	0.0	1.606	1.877	0.000	0	0.000
1.011	1.06	1.07	0.000	1.215	21.5	0.0	1.877	2.073	0.000	0	0.000
12.000	1.24	1.25	0.000	1.399	24.7	0.0	0.630	0.727	0.000	0	0.000
12.001	1.25	1.26	0.000	1.447	25.6	0.0	0.727	0.745	0.000	0	0.000
12.002	1.26	1.27	0.000	0.934	16.5	0.0	0.745	0.883	0.000	0	0.000
12.003	1.27	1.28	0.000	1.594	28.2	0.0	0.883	1.476	0.000	0	0.000
13.000	1.32	1.33	0.000	1.541	27.2	0.0	0.546	0.619	0.000	0	0.000
13.001	1.33	1.34	0.000	2.381	42.1	0.0	0.619	1.281	0.000	0	0.000
14.000	1.35	1.36	0.000	1.306	23.1	0.0	0.597	0.673	0.000	0	0.000
14.001	1.36	1.36a	0.000	0.955	16.9	0.0	0.743	0.800	0.000	0	0.000
14.002	1.36a	1.34	0.000	2.240	39.6	0.0	0.870	1.211	0.000	0	0.000

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)
13.002	1.34	1.28	2.818	1.500	13.520	13.420	0.100	28.2	150
12.004	1.28	1.29	19.912	1.500	13.350	13.000	0.350	56.9	150
15.000	1.37	1.29	2.813	1.500	14.400	14.300	0.100	28.1	150
12.005	1.29	NODE-6	14.402	1.500	13.000	12.872	0.128	112.4	150
16.000	1.38	1.39	7.914	1.500	13.900	13.000	0.900	8.8	150
17.000	1.40	1.39	7.021	1.500	13.900	13.000	0.900	7.8	150
18.000	1.41	1.39	6.887	1.500	13.900	13.000	0.900	7.7	150
16.001	1.39	NODE-6	7.302	1.500	13.000	12.872	0.128	57.0	150
12.006	NODE-6	NODE-7	10.879	1.500	12.872	12.775	0.097	112.4	150
19.000	1.45	1.43	2.221	1.500	14.400	14.300	0.100	22.2	150
20.000	1.42	1.43	3.305	1.500	14.400	14.300	0.100	33.1	150
19.001	1.43	1.44	7.639	1.500	14.230	13.170	1.060	7.2	150
19.002	1.44	NODE-7	6.839	1.500	13.170	12.775	0.395	17.3	150
12.007	NODE-7	1.30	19.761	1.500	12.775	12.600	0.175	112.9	150
12.008	1.30	NODE-8	19.404	1.500	12.600	12.463	0.137	141.3	150
21.000	1.46	1.47	3.782	1.500	14.470	14.370	0.100	37.8	150
22.000	1.49	1.47	2.698	1.500	14.470	14.370	0.100	27.0	150
21.001	1.47	1.48	2.922	1.500	14.300	14.200	0.100	29.2	150
21.002	1.48	NODE-8	14.709	1.500	14.130	12.563	1.567	9.4	150
12.009	NODE-8	1.31	4.635	1.500	12.463	12.430	0.033	141.0	150
12.010	1.31	1.07	13.648	1.500	12.430	12.330	0.100	136.5	150
1.012	1.07	1.08	24.929	1.500	12.330	12.150	0.180	138.5	150
23.000	1.50	1.08	6.004	1.500	12.750	12.150	0.600	10.0	150
1.013	1.08	1.09	8.139	1.500	12.150	11.720	0.430	18.9	150
1.014	1.09	1.10	9.708	1.500	11.720	11.420	0.300	32.4	150
1.015	1.10	1.11	23.659	1.500	11.420	11.260	0.160	147.9	150
1.016	1.11	4905	9.083	1.500	11.260	10.800	0.460	19.7	150

Name	US Node	DS Node	Pro Vel @ 1/3 Q (m/s)	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Pro Depth (mm)	Pro Velocity (m/s)
13.002	1.34	1.28	0.000	1.654	29.2	0.0	1.281	1.406	0.000	0	0.000
12.004	1.28	1.29	0.000	1.163	20.5	0.0	1.476	1.864	0.000	0	0.000
15.000	1.37	1.29	0.000	1.656	29.3	0.0	0.532	0.564	0.000	0	0.000
12.005	1.29	NODE-6	0.000	0.826	14.6	0.0	1.864	1.756	0.000	0	0.000
16.000	1.38	1.39	0.000	2.966	52.4	0.0	1.114	1.765	0.000	0	0.000
17.000	1.40	1.39	0.000	3.149	55.6	0.0	1.068	1.765	0.000	0	0.000
18.000	1.41	1.39	0.000	3.179	56.2	0.0	1.111	1.765	0.000	0	0.000
16.001	1.39	NODE-6	0.000	1.161	20.5	0.0	1.765	1.756	0.000	0	0.000
12.006	NODE-6	NODE-7	0.000	0.826	14.6	0.0	1.756	1.812	0.000	0	0.000
19.000	1.45	1.43	0.000	1.864	32.9	0.0	0.632	0.714	0.000	0	0.000
20.000	1.42	1.43	0.000	1.527	27.0	0.0	0.635	0.714	0.000	0	0.000
19.001	1.43	1.44	0.000	3.277	57.9	0.0	0.784	1.671	0.000	0	0.000
19.002	1.44	NODE-7	0.000	2.112	37.3	0.0	1.671	1.812	0.000	0	0.000
12.007	NODE-7	1.30	0.000	0.824	14.6	0.0	1.812	2.143	0.000	0	0.000
12.008	1.30	NODE-8	0.000	0.736	13.0	0.0	2.143	2.286	0.000	0	0.000
21.000	1.46	1.47	0.000	1.427	25.2	0.0	0.556	0.617	0.000	0	0.000
22.000	1.49	1.47	0.000	1.691	29.9	0.0	0.507	0.617	0.000	0	0.000
21.001	1.47	1.48	0.000	1.624	28.7	0.0	0.687	0.689	0.000	0	0.000
21.002	1.48	NODE-8	0.000	2.870	50.7	0.0	0.759	2.186	0.000	0	0.000
12.009	NODE-8	1.31	0.000	0.737	13.0	0.0	2.286	2.307	0.000	0	0.000
12.010	1.31	1.07	0.000	0.749	13.2	0.0	2.307	2.073	0.000	0	0.000
1.012	1.07	1.08	0.528	0.743	13.1	5.8	2.073	1.515	0.000	70	0.721
23.000	1.50	1.08	0.000	2.780	49.1	0.0	1.286	1.515	0.000	0	0.000
1.013	1.08	1.09	1.058	2.020	35.7	5.8	1.515	1.530	0.000	41	1.475
1.014	1.09	1.10	0.883	1.543	27.3	5.8	1.530	1.450	0.000	47	1.225
1.015	1.10	1.11	0.516	0.719	12.7	5.8	1.450	1.610	0.000	71	0.703
1.016	1.11	4905	1.052	1.977	34.9	5.8	1.610	2.157	0.000	41	1.456

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
1.01	15.132	0.732	450		Manhole				
						0	1.000	14.400	150
1.12	15.132	0.732	450		Manhole				
						0	2.000	14.400	150

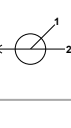
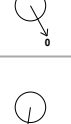
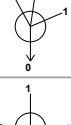
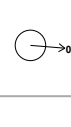
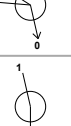
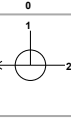
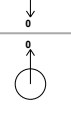
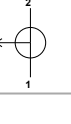
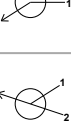
Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
1.02	15.033	0.883	450		Manhole		1 2.000	14.220	150
						2 1.000	14.220	150	
						0 1.001	14.150	150	
1.13	15.130	0.810	450		Manhole		0 3.000	14.320	150
						1 3.000	14.050	150	
1.03	15.032	1.052	450		Manhole		2 1.001	13.980	150
						0 1.002	13.980	150	
						0 4.000	14.300	150	
1.14	15.193	0.893	450		Manhole		0 4.000	14.300	150
						1 4.000	13.909	150	
NODE-1	15.032	1.123	300		Manhole		2 1.002	13.909	150
						0 1.003	13.909	150	
						0 5.000	13.980	150	
1.15	15.113	1.133	450		Manhole		0 5.000	13.980	150
						1 5.000	13.860	150	
NODE-2	15.032	1.172	300		Manhole		2 1.003	13.860	150
						0 1.004	13.860	150	
						0 6.000	14.310	150	
1.16	15.147	0.837	450		Manhole		0 6.000	14.310	150
						1 6.000	13.816	150	
NODE-3	15.033	1.217	300		Manhole		2 1.004	13.816	150
						0 1.005	13.816	150	
						0 7.000	14.360	150	
1.17	15.147	0.787	450		Manhole		0 7.000	14.360	150
						1 7.000	13.771	150	
NODE-4	15.033	1.262	300		Manhole		2 1.005	13.771	150
						0 1.006	13.771	150	
						0 8.000	14.350	150	
1.18	15.145	0.795	450		Manhole		0 8.000	14.350	150
						1 8.000	14.250	150	
1.03a	15.033	1.358	600	450	Manhole		2 1.006	13.675	150
						0 1.007	13.675	150	
						0 9.000	14.350	150	
1.19	15.096	0.746	450		Manhole		0 9.000	14.350	150
						1 9.000	14.250	150	
1.04	15.033	1.463	600	450	Manhole		2 1.007	13.570	150
						0 1.008	13.570	150	
						0 1.008	13.370	150	
1.05	15.042	1.672	450		Manhole		1 1.008	13.370	150
						0 1.009	13.370	150	
1.20	15.146	0.606	450		Manhole		0 10.000	14.540	150
						0 10.000	14.540	150	

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
1.21	15.131	0.691	450		Manhole	 1	10.000	14.440	150
						0	10.001	14.440	150
1.22	15.131	0.791	450		Manhole	 1	10.001	14.340	150
						0	10.002	14.340	150
1.23	15.072	0.672	450		Manhole	 1			
						0	11.000	14.400	100
1.07a	15.026	1.756	1200		Manhole	 1	11.000	14.200	100
						2	10.002	14.000	150
						3	1.009	13.270	150
						0	1.010	13.270	150
1.06	14.917	2.027	450		Manhole	 1	1.010	12.890	150
						0	1.011	12.890	150
1.24	15.200	0.780	450		Manhole	 1			
						0	12.000	14.420	150
1.25	15.197	0.877	450		Manhole	 1	12.000	14.320	150
						0	12.001	14.320	150
1.26	14.995	0.895	450		Manhole	 1	12.001	14.100	150
						0	12.002	14.100	150
1.27	15.033	1.033	450		Manhole	 1	12.002	14.000	150
						0	12.003	14.000	150
1.32	15.146	0.696	450		Manhole	 1			
						0	13.000	14.450	150
1.33	15.119	0.769	450		Manhole	 1	13.000	14.350	150
						0	13.001	14.350	150
1.35	15.147	0.747	450		Manhole	 1			
						0	14.000	14.400	150
1.36	15.123	0.893	450		Manhole	 1	14.000	14.300	150
						0	14.001	14.230	150
1.36a	15.100	1.020	450		Manhole	 1	14.001	14.150	150
						0	14.002	14.080	150
1.34	14.951	1.431	450		Manhole	 1	14.002	13.590	150
						2	13.001	13.520	150
						0	13.002	13.520	150
1.28	14.976	1.626	450		Manhole	 1	13.002	13.420	150
						2	12.003	13.350	150
						0	12.004	13.350	150
1.37	15.082	0.682	450		Manhole	 1			
						0	15.000	14.400	150

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)	
1.29	15.014	2.014	1200		Manhole		1 2 0	15.000 12.004 12.005	14.300 13.000 13.000	150 150 150
1.38	15.164	1.264	450		Manhole		0	16.000	13.900	150
1.40	15.118	1.218	450		Manhole		0	17.000	13.900	150
1.41	15.161	1.261	450		Manhole		0	18.000	13.900	150
1.39	14.915	1.915	1200		Manhole		1 2 3 0	18.000 17.000 16.000 16.001	13.000 13.000 13.000 13.000	150 150 150 150
NODE-6	14.778	1.906	300		Manhole		1 2 0	16.001 12.005 12.006	12.872 12.872 12.872	150 150 150
1.45	15.182	0.782	450		Manhole		0	19.000	14.400	150
1.42	15.185	0.785	450		Manhole		0	20.000	14.400	150
1.43	15.164	0.934	450		Manhole		1 2 0	20.000 20.000 19.000 19.001	14.300 14.300 14.300 14.230	150 150 150 150
1.44	14.991	1.821	450		Manhole		1 0	19.001 19.002	13.170 13.170	150 150
NODE-7	14.737	1.962	300		Manhole		1 2 0	19.002 12.006 12.007	12.775 12.775 12.775	150 150 150
1.30	14.893	2.293	1200		Manhole		1 0	12.007 12.008	12.600 12.600	150 150
1.46	15.176	0.706	450		Manhole		0	21.000	14.470	150
1.49	15.127	0.657	450		Manhole		0	22.000	14.470	150
1.47	15.137	0.837	450		Manhole		1 2 0	22.000 21.000 21.001	14.370 14.370 14.300	150 150 150
1.48	15.039	0.909	1200		Manhole		1 0	21.001 21.002	14.200 14.130	150 150
NODE-8	14.899	2.436	300		Manhole		1 2 0	21.002 12.008 12.009	12.563 12.463 12.463	150 150 150

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Node Type	Connections	Link	IL (m)	Dia (mm)
1.31	14.887	2.457	450		Manhole		1	12.009	12.430 150
							0	12.010	12.430 150
1.07	14.553	2.223	450		Manhole		1	12.010	12.330 150
							2	1.011	12.330 150
							0	1.012	12.330 150
1.50	14.186	1.436	300		Manhole		0	23.000	12.750 150
1.08	13.815	1.665	450		Manhole		1	23.000	12.150 150
							2	1.012	12.150 150
							0	1.013	12.150 150
1.09	13.400	1.680	1200		Manhole		1	1.013	11.720 150
							0	1.014	11.720 150
1.10	13.020	1.600	1200		Manhole		1	1.014	11.420 150
							0	1.015	11.420 150
1.11	13.020	1.760	1200		Manhole		1	1.015	11.260 150
							0	1.016	11.260 150
4905	13.107	2.307	1200		Manhole		1	1.016	10.800 150