Appendix 2-3

StormCAD Analysis Calculations

Scenario: Base
Existing 2-Year Storm
Pipe Report

Label	Upstream Node	Downstream Node	Upstream Inlet Area (acres)	Upstream Inlet Rational Coefficient	Upstream Inlet CA (acres)	Upstream Calculated System CA (acres)	System Intensity (in/hr)	Total System Flow (cfs)	Length (ft)	Constructed Slope (ft/ft)	Section Size	Mannings n	Full Capacity (cfs)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Upstream Ground Elevation (ft)	Downstream Ground Elevation (ft)	Upstream Cover (ft)	Downstream Cover (ft)	Hydraulic Grade Line In (ft)	Hydraulic Grade Line Out (ft)
P-A1	A-1	O-A	N/A	N/A	N/A	10.83	4.10	44.76	78	0.0021	48 inch	0.013	65.05	-0.81	-0.97	9.46	8.60	6.27	5.57	1.47	1.03
P-A2	A-2	A-1	0.40	0.70	0.28	10.83	4.10	44.76	48	0.0012	48 inch	0.013	50.78	-0.81	-0.87	9.77	9.46	6.58	6.33	1.63	1.47
P-A3	A-3	A-2	N/A	N/A	N/A	7.82	4.10	32.34	77	0.0030	20 inch	0.013	7.60	0.17	-0.06	14.00	9.77	12.16	8.16	5.79	1.63
P-A4	A-4	A-3	N/A	N/A	N/A	7.82	4.10	32.34	127	0.0165	20 inch	0.011	21.09	2.26	0.17	13.76	14.00	9.83	12.16	10.70	5.79
P-A5	A-5	A-4	0.80	0.60	0.48	7.82	4.10	32.34	37	0.0041	20 inch	0.011	10.47	3.24	3.09	13.49	13.76	8.58	9.00	12.13	10.70
P-A6	A-6	A-5	0.70	0.60	0.42	7.35	4.10	30.36	163	0.0009	20 inch	0.011	4.82	3.38	3.24	13.80	13.49	8.75	8.58	17.69	12.13
P-A7	A-7	A-6	1.30	0.70	0.91	6.93	4.10	28.62	196	0.0027	20 inch	0.011	8.55	4.00	3.47	13.92	13.80	8.25	8.66	19.74	13.80
P-A8	A-8	A-7	0.70	0.70	0.49	6.02	4.10	24.86	197	0.0023	20 inch	0.011	7.86	4.54	4.09	13.79	13.92	7.58	8.16	18.42	13.92
P-A9	A-9	A-8	1.60	0.60	0.96	5.52	4.10	22.83	201	0.0029	18 inch	0.011	6.73	5.21	4.62	13.54	13.79	6.83	7.67	20.59	13.79
P-A10	A-10	A-9	0.80	0.70	0.56	4.56	4.10	18.87	196	0.0018	18 inch	0.011	5.32	5.65	5.29	12.98	13.54	5.83	6.75	18.07	13.54
P-A11	A-11	A-10	1.00	0.70	0.70	4.00	4.10	16.55	200	0.0013	18 inch	0.011	4.56	6.00	5.73	12.67	12.98	5.17	5.75	16.54	12.98
P-A12	A-12	A-11	0.80	0.70	0.56	3.31	4.10	13.66	189	0.0038	15 inch	0.011	4.68	6.80	6.09	12.72	12.67	4.67	5.33	18.72	12.67
P-A13	A-13	A-12	0.30	0.70	0.21	2.75	4.10	11.34	108	0.0005	15 inch	0.011	1.64	6.94	6.89	12.61	12.72	4.42	4.58	15.11	12.72
P-A14	A-14	A-13	0.80	0.70	0.56	2.54	4.10	10.48	85	0.0015	12 inch	0.011	1.65	7.24	7.11	12.74	12.61	4.50	4.50	17.87	12.61
P-A15	A-15	A-14	0.30	0.70	0.21	1.98	4.10	8.16	127	0.0013	12 inch	0.011	1.49	7.48	7.32	12.73	12.74	4.25	4.42	17.51	12.74
P-A16	A-16	A-15	1.10	0.65	0.72	1.77	4.10	7.29	69	0.0039	12 inch	0.011	2.63	7.75	7.48	12.75	12.73	4.00	4.25	14.80	12.73
P-A17	A-17	A-16	0.90	0.70	0.63	1.05	4.10	4.34	196	0.0017	12 inch	0.011	1.75	8.17	7.83	12.92	12.75	3.75	3.92	14.83	12.75
P-A18	A-18	A-17	0.70	0.60	0.42	0.42	4.10	1.74	124	0.0040	12 inch	0.011	2.67	8.75	8.25	14.00	12.92	4.25	3.67	13.13	12.92
P-B1	B-1	A-2	0.70	0.60	0.42	2.73	4.10	11.26	115	0.0027	48 inch	0.013	74.58	-0.50	-0.81	9.58	9.77	6.08	6.58	1.63	1.63
P-B2	B-2	B-1	N/A	N/A	N/A	2.31	4.10	9.53	140	0.0064	48 inch	0.013	114.52	0.39	-0.50	12.06	9.58	7.67	6.08	1.58	1.63
P-B3	B-3	B-2	1.80	0.70	1.26	2.31	4.10	9.53	40	0.0997	21 inch	0.013	50.04	6.72	2.73	13.05	12.06	4.58	7.58	7.87	3.29
P-B4	B-4	B-3	0.90	0.55	0.50	1.05	4.10	4.32	194	0.0026	15 inch	0.011	3.88	6.97	6.47	12.47	13.05	4.25	5.33	8.49	7.87
P-B5	B-5	B-4	0.70	0.55	0.39	0.55	4.10	2.27	196	0.0041	12 inch	0.011	2.71	7.70	6.89	11.78	12.47	3.08	4.58	9.06	8.49
P-B6	B-6	B-5	0.30	0.55	0.17	0.17	4.10	0.68	186	0.0038	10 inch	0.011	1.59	8.40	7.70	12.23	11.78	3.00	3.25	9.19	9.06
P-C1	C-1	O-C	0.30	0.65	0.20	2.57	4.10	10.64	72	0.0035	18 inch	0.013	6.19	5.62	5.37	11.62	12.00	4.50	5.13	7.49	6.62
P-C2	C-2	C-1	0.50	0.70	0.35	2.38	4.10	9.84	167	0.0025	18 inch	0.013	5.20	6.03	5.62	12.03	11.62	4.50	4.50	8.95	7.49
P-C3	C-3	C-2	1.40	0.70	0.98	2.03	4.10	8.39	253	0.0070	15 inch	0.013	5.39	7.96	6.20	13.29	12.03	4.08	4.58	13.22	8.95
P-C4	C-4	C-3	0.70	0.70	0.49	1.05	4.10	4.34	274	0.0042	15 inch	0.013	4.20	8.95	7.79	13.62	13.29	3.42	4.25	14.46	13.22
P-C5	C-5	C-4	0.50	0.70	0.35	0.56	4.10	2.31	196	0.0031	12 inch	0.013	1.97	9.64	9.04	13.81	13.62	3.17	3.58	14.45	13.62
P-C6	C-6	C-5	0.30	0.70	0.21	0.21	4.10	0.87	196	0.0021	12 inch	0.013	1.63	10.22	9.81	13.89	13.81	2.67	3.00	13.93	13.81
P-D1	D-1	O-D	1.20	0.55	0.66	4.87	4.10	20.13	100	0.0016	18 inch	0.013	4.20	5.46	5.30	13.79	13.80	6.83	7.00	10.46	6.77
P-D2	D-2	D-1	0.70	0.55	0.39	2.32	4.10	9.59	127	0.0017	18 inch	0.013	4.27	6.25	6.04	13.58	13.79	5.83	6.25	11.52	10.46
P-D3	D-3	D-2	1.50	0.70	1.05	1.93	4.10	8.00	194	0.0039	15 inch	0.013	4.02	7.00	6.25	13.17	13.58	4.92	6.08	14.49	11.52
P-D4	D-4	D-3	0.40	0.70	0.28	0.89	4.10	3.66	199	0.0037	15 inch	0.013	3.94	7.74	7.00	13.16	13.17	4.17	4.92	13.81	13.17
P-D5	D-5	D-4	0.70	0.55	0.39	0.61	4.10	2.50	197	0.0025	15 inch	0.013	3.22	8.23	7.74	13.15	13.16	3.67	4.17	13.46	13.16
P-D6	D-6	D-5	0.40	0.55	0.22	0.22	4.10	0.91	195	0.0028	12 inch	0.013	1.87	8.86	8.32	13.19	13.15	3.33	3.83	13.28	13.15
P-E1	E-1	D-1	0.60	0.55	0.33	1.89	4.10	7.81	277	0.0008	18 inch	0.013	3.03	6.27	6.04	13.85	13.79	6.08	6.25	11.99	10.46
P-E2	E-2	E-1	0.30	0.55	0.17	1.56	4.10	6.45	198	0.0043	18 inch	0.013	6.88	7.20	6.35	13.78	13.85	5.08	6.00	12.74	11.99
P-E3	E-3	E-2	0.50	0.55	0.28	1.40	4.10	5.77	196	0.0043	18 inch	0.013	6.88	8.04	7.20	15.21	13.78	5.67	5.08	13.33	12.74
P-E4	E-4	E-3	1.30	0.70	0.91	1.12	4.10	4.63	396	0.0023	15 inch	0.013	3.13	8.89	7.96	14.06	15.21	3.92	6.00	15.36	13.33
P-E5	E-5	E-4	0.30	0.70	0.21	0.21	4.10	0.87	396	0.0034	12 inch	0.013	2.09	10.25	8.89	13.92	14.06	2.67	4.17	14.30	14.06
P-F1	F-1	O-F	N/A	N/A	N/A	1.34	4.10	5.54	100	0.0030	24 inch	0.013	12.39	7.92	7.62	13.75	10.00	3.83	0.38	8.86	8.45
P-F2	F-2	F-1	0.60	0.60	0.36	1.34	4.10	5.54	164	0.0030	18 inch	0.013	5.74	8.82	8.33	12.82	13.75	2.50	3.92	9.98	9.24
P-F3	F-3	F-2	1.40	0.70	0.98	0.98	4.10	4.05	85	0.0086	12 inch	0.013	3.30	9.63	8.90	14.30	12.82	3.67	2.92	11.08	9.98

Scenario: Base
Existing 10-Year Storm
Pipe Report

Label	Upstream Node	Downstream Node	Upstream Inlet Area (acres)	Upstream Inlet Rational Coefficient	Upstream Inlet CA (acres)	Upstream Calculated System CA (acres)	System Intensity (in/hr)	Total System Flow (cfs)	Length (ft)	Constructed Slope (ft/ft)	Section Size	Mannings n	Full Capacity (cfs)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Upstream Ground Elevation (ft)	Downstream Ground Elevation (ft)	Upstream Cover (ft)	Downstream Cover (ft)	Hydraulic Grade Line In (ft)	Hydraulic Grade Line Out (ft)
P-A1	A-1	O-A	N/A	N/A	N/A	10.83	5.40	58.95	78	0.0021	48 inch	0.013	65.05	-0.81	-0.97	9.46	8.60	6.27	5.57	1.86	1.34
P-A2	A-2	A-1	0.40	0.70	0.28	10.83	5.40	58.95	48	0.0012	48 inch	0.013	50.78	-0.81	-0.87	9.77	9.46	6.58	6.33	2.03	1.86
P-A3	A-3	A-2	N/A	N/A	N/A	7.82	5.40	42.59	77	0.0030	20 inch	0.013	7.60	0.17	-0.06	14.00	9.77	12.16	8.16	9.25	2.03
P-A4	A-4	A-3	N/A	N/A	N/A	7.82	5.40	42.59	127	0.0165	20 inch	0.011	21.09	2.26	0.17	13.76	14.00	9.83	12.16	17.77	9.25
P-A5	A-5	A-4	0.80	0.60	0.48	7.82	5.40	42.59	37	0.0041	20 inch	0.011	10.47	3.24	3.09	13.49	13.76	8.58	9.00	16.24	13.76
P-A6	A-6	A-5	0.70	0.60	0.42	7.35	5.40	39.98	163	0.0009	20 inch	0.011	4.82	3.38	3.24	13.80	13.49	8.75	8.58	23.13	13.49
P-A7	A-7	A-6	1.30	0.70	0.91	6.93	5.40	37.69	196	0.0027	20 inch	0.011	8.55	4.00	3.47	13.92	13.80	8.25	8.66	24.10	13.80
P-A8	A-8	A-7	0.70	0.70	0.49	6.02	5.40	32.74	197	0.0023	20 inch	0.011	7.86	4.54	4.09	13.79	13.92	7.58	8.16	21.73	13.92
P-A9	A-9	A-8	1.60	0.60	0.96	5.52	5.40	30.07	201	0.0029	18 inch	0.011	6.73	5.21	4.62	13.54	13.79	6.83	7.67	25.59	13.79
P-A10	A-10	A-9	0.80	0.70	0.56	4.56	5.40	24.85	196	0.0018	18 inch	0.011	5.32	5.65	5.29	12.98	13.54	5.83	6.75	21.39	13.54
P-A11	A-11	A-10	1.00	0.70	0.70	4.00	5.40	21.80	200	0.0013	18 inch	0.011	4.56	6.00	5.73	12.67	12.98	5.17	5.75	19.15	12.98
P-A12	A-12	A-11	0.80	0.70	0.56	3.31	5.40	17.99	189	0.0038	15 inch	0.011	4.68	6.80	6.09	12.72	12.67	4.67	5.33	23.17	12.67
P-A13	A-13	A-12	0.30	0.70	0.21	2.75	5.40	14.94	108	0.0005	15 inch	0.011	1.64	6.94	6.89	12.61	12.72	4.42	4.58	16.86	12.72
P-A14	A-14	A-13	0.80	0.70	0.56	2.54	5.40	13.80	85	0.0015	12 inch	0.011	1.65	7.24	7.11	12.74	12.61	4.50	4.50	21.74	12.61
P-A15	A-15	A-14	0.30	0.70	0.21	1.98	5.40	10.75	127	0.0013	12 inch	0.011	1.49	7.48	7.32	12.73	12.74	4.25	4.42	21.02	12.74
P-A16	A-16	A-15	1.10	0.65	0.72	1.77	5.40	9.61	69	0.0039	12 inch	0.011	2.63	7.75	7.48	12.75	12.73	4.00	4.25	16.32	12.73
P-A17	A-17	A-16	0.90	0.70	0.63	1.05	5.40	5.72	196	0.0017	12 inch	0.011	1.75	8.17	7.83	12.92	12.75	3.75	3.92	16.36	12.75
P-A18	A-18	A-17	0.70	0.60	0.42	0.42	5.40	2.29	124	0.0040	12 inch	0.011	2.67	8.75	8.25	14.00	12.92	4.25	3.67	13.29	12.92
P-B1	B-1	A-2	0.70	0.60	0.42	2.73	5.40	14.83	115	0.0027	48 inch	0.013	74.58	-0.50	-0.81	9.58	9.77	6.08	6.58	2.04	2.03
P-B2	B-2	B-1	N/A	N/A	N/A	2.31	5.40	12.55	140	0.0064	48 inch	0.013	114.52	0.39	-0.50	12.06	9.58	7.67	6.08	2.01	2.04
P-B3	B-3	B-2	1.80	0.70	1.26	2.31	5.40	12.55	40	0.0997	21 inch	0.013	50.04	6.72	2.73	13.05	12.06	4.58	7.58	8.04	3.39
P-B4	B-4	B-3	0.90	0.55	0.50	1.05	5.40	5.69	194	0.0026	15 inch	0.011	3.88	6.97	6.47	12.47	13.05	4.25	5.33	9.12	8.04
P-B5	B-5	B-4	0.70	0.55	0.39	0.55	5.40	2.99	196	0.0041	12 inch	0.011	2.71	7.70	6.89	11.78	12.47	3.08	4.58	10.11	9.12
P-B6	B-6	B-5	0.30	0.55	0.17	0.17	5.40	0.90	186	0.0038	10 inch	0.011	1.59	8.40	7.70	12.23	11.78	3.00	3.25	10.33	10.11
P-C1	C-1	O-C	0.30	0.65	0.20	2.57	5.40	14.02	72	0.0035	18 inch	0.013	6.19	5.62	5.37	11.62	12.00	4.50	5.13	8.10	6.75
P-C2	C-2	C-1	0.50	0.70	0.35	2.38	5.40	12.95	167	0.0025	18 inch	0.013	5.20	6.03	5.62	12.03	11.62	4.50	4.50	10.64	8.10
P-C3	C-3	C-2	1.40	0.70	0.98	2.03	5.40	11.05	253	0.0070	15 inch	0.013	5.39	7.96	6.20	13.29	12.03	4.08	4.58	18.05	10.64
P-C4	C-4	C-3	0.70	0.70	0.49	1.05	5.40	5.72	274	0.0042	15 inch	0.013	4.20	8.95	7.79	13.62	13.29	3.42	4.25	15.44	13.29
P-C5	C-5	C-4	0.50	0.70	0.35	0.56	5.40	3.05	196	0.0031	12 inch	0.013	1.97	9.64	9.04	13.81	13.62	3.17	3.58	15.05	13.62
P-C6	C-6	C-5	0.30	0.70	0.21	0.21	5.40	1.14	196	0.0021	12 inch	0.013	1.63	10.22	9.81	13.89	13.81	2.67	3.00	14.01	13.81
P-D1	D-1	O-D	1.20	0.55	0.66	4.87	5.40	26.51	100	0.0016	18 inch	0.013	4.20	5.46	5.30	13.79	13.80	6.83	7.00	13.17	6.79
P-D2	D-2	D-1	0.70	0.55	0.39	2.32	5.40	12.63	127	0.0017	18 inch	0.013	4.27	6.25	6.04	13.58	13.79	5.83	6.25	15.00	13.17
P-D3	D-3	D-2	1.50	0.70	1.05	1.93	5.40	10.53	194	0.0039	15 inch	0.013	4.02	7.00	6.25	13.17	13.58	4.92	6.08	18.74	13.58
P-D4	D-4	D-3	0.40	0.70	0.28	0.89	5.40	4.82	199	0.0037	15 inch	0.013	3.94	7.74	7.00	13.16	13.17	4.17	4.92	14.28	13.17
P-D5	D-5	D-4	0.70	0.55	0.39	0.61	5.40	3.29	197	0.0025	15 inch	0.013	3.22	8.23	7.74	13.15	13.16	3.67	4.17	13.67	13.16
P-D6	D-6	D-5	0.40	0.55	0.22	0.22	5.40	1.20	195	0.0028	12 inch	0.013	1.87	8.86	8.32	13.19	13.15	3.33	3.83	13.37	13.15
P-E1	E-1	D-1	0.60	0.55	0.33	1.89	5.40	10.29	277	0.0008	18 inch	0.013	3.03	6.27	6.04	13.85	13.79	6.08	6.25	15.82	13.17
P-E2	E-2	E-1	0.30	0.55	0.17	1.56	5.40	8.49	198	0.0043	18 inch	0.013	6.88	7.20	6.35	13.78	13.85	5.08	6.00	15.14	13.85
P-E3	E-3	E-2	0.50	0.55	0.28	1.40	5.40	7.59	196	0.0043	18 inch	0.013	6.88	8.04	7.20	15.21	13.78	5.67	5.08	14.80	13.78
P-E4	E-4	E-3	1.30	0.70	0.91	1.12	5.40	6.10	396	0.0023	15 inch	0.013	3.13	8.89	7.96	14.06	15.21	3.92	6.00	18.33	14.80
P-E5	E-5	E-4	0.30	0.70	0.21	0.21	5.40	1.14	396	0.0034	12 inch	0.013	2.09	10.25	8.89	13.92	14.06	2.67	4.17	14.47	14.06
P-F1	F-1	O-F	N/A	N/A	N/A	1.34	5.40	7.29	100	0.0030	24 inch	0.013	12.39	7.92	7.62	13.75	10.00	3.83	0.38	9.02	8.58
P-F2	F-2	F-1	0.60	0.60	0.36	1.34	5.40	7.29	164	0.0030	18 inch	0.013	5.74	8.82	8.33	12.82	13.75	2.50	3.92	10.34	9.38
P-F3	F-3	F-2	1.40	0.70	0.98	0.98	5.40	5.33	85	0.0086	12 inch	0.013	3.30	9.63	8.90	14.30	12.82	3.67	2.92	12.25	10.34

Scenario: Alternative 1 - Resize Drainage Lines
10-Year Storm
Pipe Report

Label	Upstream Node	Downstream Node	Upstream Inlet Area (acres)	Upstream Inlet Rational Coefficient	Upstream Inlet CA (acres)	Upstream Calculated System CA (acres)	System Intensity (in/hr)	Total System Flow (cfs)	Length (ft)	Constructed Slope (ft/ft)	Section Size	Mannings n	Full Capacity (cfs)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Upstream Ground Elevation (ft)	Downstream Ground Elevation (ft)	Upstream Cover (ft)	Downstream Cover (ft)	Hydraulic Grade Line In (ft)	Hydraulic Grade Line Out (ft)
P-A1	A-1	O-A	N/A	N/A	N/A	10.83	5.40	58.95	78	0.0021	48 inch	0.013	65.05	-0.81	-0.97	9.46	8.60	6.27	5.57	1.86	1.34
P-A2	A-2	A-1	0.40	0.70	0.28	10.83	5.40	58.95	48	0.0012	48 inch	0.013	50.78	-0.81	-0.87	9.77	9.46	6.58	6.33	2.03	1.86
P-A3	A-3	A-2	N/A	N/A	N/A	7.82	5.40	42.59	77	0.0030	36 inch	0.013	36.45	0.17	-0.06	14.00	9.77	10.83	6.83	2.68	2.07
P-A4	A-4	A-3	N/A	N/A	N/A	7.82	5.40	42.59	127	0.0165	36 inch	0.013	85.56	2.26	0.17	13.76	14.00	8.50	10.83	4.39	2.68
P-A5	A-5	A-4	0.80	0.60	0.48	7.82	5.40	42.59	37	0.0041	36 inch	0.013	42.47	3.24	3.09	13.49	13.76	7.25	7.67	5.56	5.22
P-A6	A-6	A-5	0.70	0.60	0.42	7.35	5.40	39.98	163	0.0009	36 inch	0.013	19.55	3.38	3.24	13.80	13.49	7.42	7.25	6.32	5.56
P-A7	A-7	A-6	1.30	0.70	0.91	6.93	5.40	37.69	196	0.0027	36 inch	0.013	34.68	4.00	3.47	13.92	13.80	6.92	7.33	6.86	6.32
P-A8	A-8	A-7	0.70	0.70	0.49	6.02	5.40	32.74	197	0.0023	36 inch	0.013	31.88	4.54	4.09	13.79	13.92	6.25	6.83	7.27	6.86
P-A9	A-9	A-8	1.60	0.60	0.96	5.52	5.40	30.07	201	0.0029	36 inch	0.013	36.13	5.21	4.62	13.54	13.79	5.33	6.17	7.60	7.27
P-A10	A-10	A-9	0.80	0.70	0.56	4.56	5.40	24.85	196	0.0018	30 inch	0.013	17.58	5.65	5.29	12.98	13.54	4.83	5.75	8.30	7.60
P-A11	A-11	A-10	1.00	0.70	0.70	4.00	5.40	21.80	200	0.0013	30 inch	0.013	15.07	6.00	5.73	12.67	12.98	4.17	4.75	8.87	8.30
P-A12	A-12	A-11	0.80	0.70	0.56	3.31	5.40	17.99	189	0.0038	30 inch	0.013	25.14	6.80	6.09	12.72	12.67	3.42	4.08	9.23	8.87
P-A13	A-13	A-12	0.30	0.70	0.21	2.75	5.40	14.94	108	0.0005	24 inch	0.013	4.87	6.94	6.89	12.61	12.72	3.67	3.83	9.70	9.23
P-A14	A-14	A-13	0.80	0.70	0.56	2.54	5.40	13.80	85	0.0015	24 inch	0.013	8.85	7.24	7.11	12.74	12.61	3.50	3.50	10.01	9.70
P-A15	A-15	A-14	0.30	0.70	0.21	1.98	5.40	10.75	127	0.0013	24 inch	0.013	8.03	7.48	7.32	12.73	12.74	3.25	3.42	10.30	10.01
P-A16	A-16	A-15	1.10	0.65	0.72	1.77	5.40	9.61	69	0.0039	24 inch	0.013	14.15	7.75	7.48	12.75	12.73	3.00	3.25	10.42	10.30
P-A17	A-17	A-16	0.90	0.70	0.63	1.05	5.40	5.72	196	0.0017	24 inch	0.013	9.42	8.17	7.83	12.92	12.75	2.75	2.92	10.55	10.42
P-A18	A-18	A-17	0.70	0.60	0.42	0.42	5.40	2.29	124	0.0040	12 inch	0.011	2.67	8.75	8.25	14.00	12.92	4.25	3.67	10.91	10.55
P-B1	B-1	A-2	0.70	0.60	0.42	2.73	5.40	14.83	115	0.0027	48 inch	0.013	74.58	-0.50	-0.81	9.58	9.77	6.08	6.58	2.04	2.03
P-B2	B-2	B-1	N/A	N/A	N/A	2.31	5.40	12.55	140	0.0064	48 inch	0.013	114.52	0.39	-0.50	12.06	9.58	7.67	6.08	2.01	2.04
P-B3	B-3	B-2	1.80	0.70	1.26	2.31	5.40	12.55	40	0.0997	21 inch	0.013	50.04	6.72	2.73	13.05	12.06	4.58	7.58	8.04	3.39
P-B4	B-4	B-3	0.90	0.55	0.50	1.05	5.40	5.69	194	0.0026	15 inch	0.011	3.88	6.97	6.47	12.47	13.05	4.25	5.33	9.12	8.04
P-B5	B-5	B-4	0.70	0.55	0.39	0.55	5.40	2.99	196	0.0041	12 inch	0.011	2.71	7.70	6.89	11.78	12.47	3.08	4.58	10.11	9.12
P-B6	B-6	B-5	0.30	0.55	0.17	0.17	5.40	0.90	186	0.0038	10 inch	0.011	1.59	8.40	7.70	12.23	11.78	3.00	3.25	10.33	10.11
P-C1	C-1	O-C	0.30	0.65	0.20	2.57	5.40	14.02	72	0.0035	24 inch	0.013	13.33	5.62	5.37	11.62	12.00	4.00	4.63	7.22	6.72
P-C2	C-2	C-1	0.50	0.70	0.35	2.38	5.40	12.95	167	0.0025	24 inch	0.013	11.21	6.03	5.62	12.03	11.62	4.00	4.00	7.80	7.22
P-C3	C-3	C-2	1.40	0.70	0.98	2.03	5.40	11.05	253	0.0070	21 inch	0.013	13.21	7.96	6.20	13.29	12.03	3.58	4.08	9.20	7.80
P-C4	C-4	C-3	0.70	0.70	0.49	1.05	5.40	5.72	274	0.0042	18 inch	0.013	6.83	8.95	7.79	13.62	13.29	3.17	4.00	10.00	9.20
P-C5	C-5	C-4	0.50	0.70	0.35	0.56	5.40	3.05	196	0.0031	12 inch	0.013	1.97	9.64	9.04	13.81	13.62	3.17	3.58	11.43	10.00
P-C6	C-6	C-5	0.30	0.70	0.21	0.21	5.40	1.14	196	0.0021	12 inch	0.013	1.63	10.22	9.81	13.89	13.81	2.67	3.00	11.64	11.43
P-D1	D-1	O-D	1.20	0.55	0.66	4.87	5.40	26.51	100	0.0016	30 inch	0.013	16.41	5.46	5.30	13.79	13.80	5.83	6.00	7.78	7.06
P-D2	D-2	D-1	0.70	0.55	0.39	2.32	5.40	12.63	127	0.0017	24 inch	0.013	9.20	6.25	6.04	13.58	13.79	5.33	5.75	8.16	7.78
P-D3	D-3	D-2	1.50	0.70	1.05	1.93	5.40	10.53	194	0.0039	21 inch	0.013	9.85	7.00	6.25	13.17	13.58	4.42	5.58	9.02	8.16
P-D4	D-4	D-3	0.40	0.70	0.28	0.89	5.40	4.82	199	0.0037	18 inch	0.013	6.41	7.74	7.00	13.16	13.17	3.92	4.67	9.44	9.02
P-D5	D-5	D-4	0.70	0.55	0.39	0.61	5.40	3.29	197	0.0025	15 inch	0.013	3.22	8.23	7.74	13.15	13.16	3.67	4.17	9.95	9.44
P-D6	D-6	D-5	0.40	0.55	0.22	0.22	5.40	1.20	195	0.0028	12 inch	0.013	1.87	8.86	8.32	13.19	13.15	3.33	3.83	10.17	9.95
P-E1	E-1	D-1	0.60	0.55	0.33	1.89	5.40	10.29	277	0.0008	24 inch	0.013	6.52	6.27	6.04	13.85	13.79	5.58	5.75	8.33	7.78
P-E2	E-2	E-1	0.30	0.55	0.17	1.56	5.40	8.49	198	0.0043	18 inch	0.013	6.88	7.20	6.35	13.78	13.85	5.08	6.00	9.63	8.33
P-E3	E-3	E-2	0.50	0.55	0.28	1.40	5.40	7.59	196	0.0043	18 inch	0.013	6.88	8.04	7.20	15.21	13.78	5.67	5.08	10.65	9.63
P-E4	E-4	E-3	1.30	0.70	0.91	1.12	5.40	6.10	396	0.0023	18 inch	0.013	5.09	8.89	7.96	14.06	15.21	3.67	5.75	11.98	10.65
P-E5	E-5	E-4	0.30	0.70	0.21	0.21	5.40	1.14	396	0.0034	12 inch	0.013	2.09	10.25	8.89	13.92	14.06	2.67	4.17	12.39	11.98
P-F1	F-1	O-F	N/A	N/A	N/A	1.34	5.40	7.29	100	0.0030	24 inch	0.013	12.39	7.92	7.62	13.75	10.00	3.83	0.38	9.02	8.58
P-F2	F-2	F-1	0.60	0.60	0.36	1.34	5.40	7.29	164	0.0030	18 inch	0.013	5.74	8.82	8.33	12.82	13.75	2.50	3.92	10.34	9.38
P-F3	F-3	F-2	1.40	0.70	0.98	0.98	5.40	5.33	85	0.0086	12 inch	0.013	3.30	9.63	8.90	14.30	12.82	3.67	2.92	12.25	10.34

Scenario: Alternative 2 - Parking Area Infiltration
10-Year Storm
Pipe Report

Label	Upstream Node	Downstream Node	Upstream Inlet Area (acres)	Upstream Inlet Rational Coefficient	Upstream Inlet CA (acres)	Upstream Calculated System CA (acres)	System Intensity (in/hr)	Total System Flow (cfs)	Length (ft)	Constructed Slope (ft/ft)	Section Size	Mannings n	Full Capacity (cfs)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Upstream Ground Elevation (ft)	Downstream Ground Elevation (ft)	Upstream Cover (ft)	Downstream Cover (ft)	Hydraulic Grade Line In (ft)	Hydraulic Grade Line Out (ft)
P-A1	A-1	O-A	N/A	N/A	N/A	7.50	5.40	40.80	78	0.0021	48 inch	0.013	65.05	-0.81	-0.97	9.46	8.60	6.27	5.57	1.36	0.94
P-A2	A-2	A-1	0.40	0.70	0.28	7.50	5.40	40.80	48	0.0012	48 inch	0.013	50.78	-0.81	-0.87	9.77	9.46	6.58	6.33	1.51	1.36
P-A3	A-3	A-2	N/A	N/A	N/A	5.11	5.40	27.81	77	0.0030	30 inch	0.013	22.42	0.17	-0.06	14.00	9.77	11.33	7.33	2.36	1.74
P-A4	A-4	A-3	N/A	N/A	N/A	5.11	5.40	27.81	127	0.0165	30 inch	0.013	52.62	2.26	0.17	13.76	14.00	9.00	11.33	4.06	2.36
P-A5	A-5	A-4	0.80	0.60	0.48	5.11	5.40	27.81	37	0.0041	30 inch	0.013	26.11	3.24	3.09	13.49	13.76	7.75	8.17	5.25	4.89
P-A6	A-6	A-5	0.70	0.60	0.42	4.63	5.40	25.20	163	0.0009	30 inch	0.013	12.02	3.38	3.24	13.80	13.49	7.92	7.75	5.96	5.25
P-A7	A-7	A-6	0.60	0.80	0.48	4.21	5.40	22.92	196	0.0027	30 inch	0.013	21.33	4.00	3.47	13.92	13.80	7.42	7.83	6.57	5.96
P-A8	A-8	A-7	0.70	0.70	0.49	3.73	5.40	20.30	197	0.0023	30 inch	0.013	19.60	4.54	4.09	13.79	13.92	6.75	7.33	7.02	6.57
P-A9	A-9	A-8	0.60	0.80	0.48	3.24	5.40	17.64	201	0.0029	30 inch	0.013	22.22	5.21	4.62	13.54	13.79	5.83	6.67	7.31	7.02
P-A10	A-10	A-9	0.40	0.80	0.32	2.76	5.40	15.02	196	0.0018	30 inch	0.013	17.58	5.65	5.29	12.98	13.54	4.83	5.75	7.58	7.31
P-A11	A-11	A-10	0.40	0.80	0.32	2.44	5.40	13.28	200	0.0013	24 inch	0.013	8.31	6.00	5.73	12.67	12.98	4.67	5.25	8.26	7.58
P-A12	A-12	A-11	0.40	0.80	0.32	2.12	5.40	11.54	189	0.0038	24 inch	0.013	13.86	6.80	6.09	12.72	12.67	3.92	4.58	8.74	8.26
P-A13	A-13	A-12	0.30	0.70	0.21	1.80	5.40	9.80	108	0.0005	24 inch	0.013	4.87	6.94	6.89	12.61	12.72	3.67	3.83	8.93	8.74
P-A14	A-14	A-13	0.30	0.80	0.24	1.59	5.40	8.65	85	0.0015	21 inch	0.013	6.20	7.24	7.11	12.74	12.61	3.75	3.75	9.18	8.93
P-A15	A-15	A-14	0.30	0.70	0.21	1.35	5.40	7.35	127	0.0013	18 inch	0.013	3.73	7.48	7.32	12.73	12.74	3.75	3.92	9.80	9.18
P-A16	A-16	A-15	0.60	0.80	0.48	1.14	5.40	6.21	69	0.0039	18 inch	0.013	6.57	7.75	7.48	12.75	12.73	3.50	3.75	10.04	9.80
P-A17	A-17	A-16	0.30	0.80	0.24	0.66	5.40	3.59	196	0.0017	18 inch	0.013	4.37	8.17	7.83	12.92	12.75	3.25	3.42	10.27	10.04
P-A18	A-18	A-17	0.70	0.60	0.42	0.42	5.40	2.29	124	0.0040	12 inch	0.011	2.67	8.75	8.25	14.00	12.92	4.25	3.67	10.64	10.27
P-B1	B-1	A-2	0.70	0.60	0.42	2.11	5.40	11.46	115	0.0027	48 inch	0.013	74.58	-0.50	-0.81	9.58	9.77	6.08	6.58	1.51	1.51
P-B2	B-2	B-1	N/A	N/A	N/A	1.69	5.40	9.17	140	0.0064	48 inch	0.013	114.52	0.39	-0.50	12.06	9.58	7.67	6.08	1.44	1.51
P-B3	B-3	B-2	0.80	0.80	0.64	1.69	5.40	9.17	40	0.0997	21 inch	0.013	50.04	6.72	2.73	13.05	12.06	4.58	7.58	7.85	3.28
P-B4	B-4	B-3	0.90	0.55	0.50	1.05	5.40	5.69	194	0.0026	15 inch	0.011	3.88	6.97	6.47	12.47	13.05	4.25	5.33	8.92	7.85
P-B5	B-5	B-4	0.70	0.55	0.39	0.55	5.40	2.99	196	0.0041	12 inch	0.011	2.71	7.70	6.89	11.78	12.47	3.08	4.58	9.91	8.92
P-B6	B-6	B-5	0.30	0.55	0.17	0.17	5.40	0.90	186	0.0038	10 inch	0.011	1.59	8.40	7.70	12.23	11.78	3.00	3.25	10.14	9.91
P-C1	C-1	O-C	0.30	0.65	0.20	2.57	5.40	14.02	72	0.0035	18 inch	0.013	6.19	5.62	5.37	11.62	12.00	4.50	5.13	8.10	6.75
P-C2	C-2	C-1	0.50	0.70	0.35	2.38	5.40	12.95	167	0.0025	18 inch	0.013	5.20	6.03	5.62	12.03	11.62	4.50	4.50	10.64	8.10
P-C3	C-3	C-2	1.40	0.70	0.98	2.03	5.40	11.05	253	0.0070	15 inch	0.013	5.39	7.96	6.20	13.29	12.03	4.08	4.58	18.05	10.64
P-C4	C-4	C-3	0.70	0.70	0.49	1.05	5.40	5.72	274	0.0042	15 inch	0.013	4.20	8.95	7.79	13.62	13.29	3.42	4.25	15.44	13.29
P-C5	C-5	C-4	0.50	0.70	0.35	0.56	5.40	3.05	196	0.0031	12 inch	0.013	1.97	9.64	9.04	13.81	13.62	3.17	3.58	15.05	13.62
P-C6	C-6	C-5	0.30	0.70	0.21	0.21	5.40	1.14	196	0.0021	12 inch	0.013	1.63	10.22	9.81	13.89	13.81	2.67	3.00	14.01	13.81
P-D1	D-1	O-D	1.20	0.55	0.66	4.87	5.40	26.51	100	0.0016	18 inch	0.013	4.20	5.46	5.30	13.79	13.80	6.83	7.00	13.17	6.79
P-D2	D-2	D-1	0.70	0.55	0.39	2.32	5.40	12.63	127	0.0017	18 inch	0.013	4.27	6.25	6.04	13.58	13.79	5.83	6.25	15.00	13.17
P-D3	D-3	D-2	1.50	0.70	1.05	1.93	5.40	10.53	194	0.0039	15 inch	0.013	4.02	7.00	6.25	13.17	13.58	4.92	6.08	18.74	13.58
P-D4	D-4	D-3	0.40	0.70	0.28	0.89	5.40	4.82	199	0.0037	15 inch	0.013	3.94	7.74	7.00	13.16	13.17	4.17	4.92	14.28	13.17
P-D5	D-5	D-4	0.70	0.55	0.39	0.61	5.40	3.29	197	0.0025	15 inch	0.013	3.22	8.23	7.74	13.15	13.16	3.67	4.17	13.67	13.16
P-D6	D-6	D-5	0.40	0.55	0.22	0.22	5.40	1.20	195	0.0028	12 inch	0.013	1.87	8.86	8.32	13.19	13.15	3.33	3.83	13.37	13.15
P-E1	E-1	D-1	0.60	0.55	0.33	1.89	5.40	10.29	277	0.0008	18 inch	0.013	3.03	6.27	6.04	13.85	13.79	6.08	6.25	15.82	13.17
P-E2	E-2	E-1	0.30	0.55	0.17	1.56	5.40	8.49	198	0.0043	18 inch	0.013	6.88	7.20	6.35	13.78	13.85	5.08	6.00	15.14	13.85
P-E3	E-3	E-2	0.50	0.55	0.28	1.40	5.40	7.59	196	0.0043	18 inch	0.013	6.88	8.04	7.20	15.21	13.78	5.67	5.08	14.80	13.78
P-E4	E-4	E-3	1.30	0.70	0.91	1.12	5.40	6.10	396	0.0023	15 inch	0.013	3.13	8.89	7.96	14.06	15.21	3.92	6.00	18.33	14.80
P-E5	E-5	E-4	0.30	0.70	0.21	0.21	5.40	1.14	396	0.0034	12 inch	0.013	2.09	10.25	8.89	13.92	14.06	2.67	4.17	14.47	14.06
P-F1	F-1	O-F	N/A	N/A	N/A	1.34	5.40	7.29	100	0.0030	24 inch	0.013	12.39	7.92	7.62	13.75	10.00	3.83	0.38	9.02	8.58
P-F2	F-2	F-1	0.60	0.60	0.36	1.34	5.40	7.29	164	0.0030	18 inch	0.013	5.74	8.82	8.33	12.82	13.75	2.50	3.92	10.34	9.38
P-F3	F-3	F-2	1.40	0.70	0.98	0.98	5.40	5.33	85	0.0086	12 inch	0.013	3.30	9.63	8.90	14.30	12.82	3.67	2.92	12.25	10.34

Scenario: Alternative 3 - Connect Manhole A-5 to Manhole B-2
10-Year Storm
Pipe Report

Label	Upstream Node	Downstream Node	Upstream Inlet Area (acres)	Upstream Inlet Rational Coefficient	Upstream Inlet CA (acres)	Upstream Calculated System CA (acres)	System Intensity (in/hr)	Total System Flow (cfs)	Length (ft)	Constructed Slope (ft/ft)	Section Size	Mannings n	Full Capacity (cfs)	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Upstream Ground Elevation (ft)	Downstream Ground Elevation (ft)	Upstream Cover (ft)	Downstream Cover (ft)	Hydraulic Grade Line In (ft)	Hydraulic Grade Line Out (ft)
P-A1	A-1	O-A	N/A	N/A	N/A	10.83	5.40	58.95	78	0.0021	48 inch	0.013	65.05	-0.81	-0.97	9.46	8.60	6.27	5.57	1.86	1.34
P-A2	A-2	A-1	0.40	0.70	0.28	10.83	5.40	58.95	48	0.0012	48 inch	0.013	50.78	-0.81	-0.87	9.77	9.46	6.58	6.33	2.03	1.86
P-A6	A-6	A-5	0.70	0.60	0.42	7.35	5.40	39.98	163	0.0009	36 inch	0.013	19.55	3.38	3.24	13.80	13.49	7.42	7.25	6.28	5.37
P-A7	A-7	A-6	1.30	0.70	0.91	6.93	5.40	37.69	196	0.0027	36 inch	0.013	34.68	4.00	3.47	13.92	13.80	6.92	7.33	6.83	6.28
P-A8	A-8	A-7	0.70	0.70	0.49	6.02	5.40	32.74	197	0.0023	36 inch	0.013	31.88	4.54	4.09	13.79	13.92	6.25	6.83	7.23	6.83
P-A9	A-9	A-8	1.60	0.60	0.96	5.52	5.40	30.07	201	0.0029	36 inch	0.013	36.13	5.21	4.62	13.54	13.79	5.33	6.17	7.57	7.23
P-A10	A-10	A-9	0.80	0.70	0.56	4.56	5.40	24.85	196	0.0018	30 inch	0.013	17.58	5.65	5.29	12.98	13.54	4.83	5.75	8.28	7.57
P-A11	A-11	A-10	1.00	0.70	0.70	4.00	5.40	21.80	200	0.0013	30 inch	0.013	15.07	6.00	5.73	12.67	12.98	4.17	4.75	8.84	8.28
P-A12	A-12	A-11	0.80	0.70	0.56	3.31	5.40	17.99	189	0.0038	30 inch	0.013	25.14	6.80	6.09	12.72	12.67	3.42	4.08	9.19	8.84
P-A13	A-13	A-12	0.30	0.70	0.21	2.75	5.40	14.94	108	0.0005	24 inch	0.013	4.87	6.94	6.89	12.61	12.72	3.67	3.83	9.66	9.19
P-A14	A-14	A-13	0.80	0.70	0.56	2.54	5.40	13.80	85	0.0015	24 inch	0.013	8.85	7.24	7.11	12.74	12.61	3.50	3.50	9.98	9.66
P-A15	A-15	A-14	0.30	0.70	0.21	1.98	5.40	10.75	127	0.0013	24 inch	0.013	8.03	7.48	7.32	12.73	12.74	3.25	3.42	10.26	9.98
P-A16	A-16	A-15	1.10	0.65	0.72	1.77	5.40	9.61	69	0.0039	24 inch	0.013	14.15	7.75	7.48	12.75	12.73	3.00	3.25	10.39	10.26
P-A17	A-17	A-16	0.90	0.70	0.63	1.05	5.40	5.72	196	0.0017	24 inch	0.013	9.42	8.17	7.83	12.92	12.75	2.75	2.92	10.51	10.39
P-A18	A-18	A-17	0.70	0.60	0.42	0.42	5.40	2.29	124	0.0040	12 inch	0.011	2.67	8.75	8.25	14.00	12.92	4.25	3.67	10.88	10.51
P-AB	A-5	B-2	0.80	0.60	0.48	7.82	5.40	42.59	135	0.0129	36 inch	0.013	75.72	3.24	1.50	13.49	12.06	7.25	7.56	5.37	3.14
P-B1	B-1	A-2	0.70	0.60	0.42	10.55	5.40	57.43	115	0.0027	48 inch	0.013	74.58	-0.50	-0.81	9.58	9.77	6.08	6.58	2.25	2.03
P-B2	B-2	B-1	N/A	N/A	N/A	10.13	5.40	55.14	140	0.0064	48 inch	0.013	114.52	0.39	-0.50	12.06	9.58	7.67	6.08	2.62	2.25
P-B3	B-3	B-2	1.80	0.70	1.26	2.31	5.40	12.55	40	0.0997	21 inch	0.013	50.04	6.72	2.73	13.05	12.06	4.58	7.58	8.04	3.39
P-B4	B-4	B-3	0.90	0.55	0.50	1.05	5.40	5.69	194	0.0026	15 inch	0.011	3.88	6.97	6.47	12.47	13.05	4.25	5.33	9.12	8.04
P-B5	B-5	B-4	0.70	0.55	0.39	0.55	5.40	2.99	196	0.0041	12 inch	0.011	2.71	7.70	6.89	11.78	12.47	3.08	4.58	10.11	9.12
P-B6	B-6	B-5	0.30	0.55	0.17	0.17	5.40	0.90	186	0.0038	10 inch	0.011	1.59	8.40	7.70	12.23	11.78	3.00	3.25	10.33	10.11
P-C1	C-1	O-C	0.30	0.65	0.20	2.57	5.40	14.02	72	0.0035	18 inch	0.013	6.19	5.62	5.37	11.62	12.00	4.50	5.13	8.10	6.75
P-C2	C-2	C-1	0.50	0.70	0.35	2.38	5.40	12.95	167	0.0025	18 inch	0.013	5.20	6.03	5.62	12.03	11.62	4.50	4.50	10.64	8.10
P-C3	C-3	C-2	1.40	0.70	0.98	2.03	5.40	11.05	253	0.0070	15 inch	0.013	5.39	7.96	6.20	13.29	12.03	4.08	4.58	18.05	10.64
P-C4	C-4	C-3	0.70	0.70	0.49	1.05	5.40	5.72	274	0.0042	15 inch	0.013	4.20	8.95	7.79	13.62	13.29	3.42	4.25	15.44	13.29
P-C5	C-5	C-4	0.50	0.70	0.35	0.56	5.40	3.05	196	0.0031	12 inch	0.013	1.97	9.64	9.04	13.81	13.62	3.17	3.58	15.05	13.62
P-C6	C-6	C-5	0.30	0.70	0.21	0.21	5.40	1.14	196	0.0021	12 inch	0.013	1.63	10.22	9.81	13.89	13.81	2.67	3.00	14.01	13.81
P-D1	D-1	O-D	1.20	0.55	0.66	4.87	5.40	26.51	100	0.0016	18 inch	0.013	4.20	5.46	5.30	13.79	13.80	6.83	7.00	13.17	6.79
P-D2	D-2	D-1	0.70	0.55	0.39	2.32	5.40	12.63	127	0.0017	18 inch	0.013	4.27	6.25	6.04	13.58	13.79	5.83	6.25	15.00	13.17
P-D3	D-3	D-2	1.50	0.70	1.05	1.93	5.40	10.53	194	0.0039	15 inch	0.013	4.02	7.00	6.25	13.17	13.58	4.92	6.08	18.74	13.58
P-D4	D-4	D-3	0.40	0.70	0.28	0.89	5.40	4.82	199	0.0037	15 inch	0.013	3.94	7.74	7.00	13.16	13.17	4.17	4.92	14.28	13.17
P-D5	D-5	D-4	0.70	0.55	0.39	0.61	5.40	3.29	197	0.0025	15 inch	0.013	3.22	8.23	7.74	13.15	13.16	3.67	4.17	13.67	13.16
P-D6	D-6	D-5	0.40	0.55	0.22	0.22	5.40	1.20	195	0.0028	12 inch	0.013	1.87	8.86	8.32	13.19	13.15	3.33	3.83	13.37	13.15
P-E1	E-1	D-1	0.60	0.55	0.33	1.89	5.40	10.29	277	0.0008	18 inch	0.013	3.03	6.27	6.04	13.85	13.79	6.08	6.25	15.82	13.17
P-E2	E-2	E-1	0.30	0.55	0.17	1.56	5.40	8.49	198	0.0043	18 inch	0.013	6.88	7.20	6.35	13.78	13.85	5.08	6.00	15.14	13.85
P-E3	E-3	E-2	0.50	0.55	0.28	1.40	5.40	7.59	196	0.0043	18 inch	0.013	6.88	8.04	7.20	15.21	13.78	5.67	5.08	14.80	13.78
P-E4	E-4	E-3	1.30	0.70	0.91	1.12	5.40	6.10	396	0.0023	15 inch	0.013	3.13	8.89	7.96	14.06	15.21	3.92	6.00	18.33	14.80
P-E5	E-5	E-4	0.30	0.70	0.21	0.21	5.40	1.14	396	0.0034	12 inch	0.013	2.09	10.25	8.89	13.92	14.06	2.67	4.17	14.47	14.06
P-F1	F-1	O-F	N/A	N/A	N/A	1.34	5.40	7.29	100	0.0030	24 inch	0.013	12.39	7.92	7.62	13.75	10.00	3.83	0.38	9.02	8.58
P-F2	F-2	F-1	0.60	0.60	0.36	1.34	5.40	7.29	164	0.0030	18 inch	0.013	5.74	8.82	8.33	12.82	13.75	2.50	3.92	10.34	9.38
P-F3	F-3	F-2	1.40	0.70	0.98	0.98	5.40	5.33	85	0.0086	12 inch	0.013	3.30	9.63	8.90	14.30	12.82	3.67	2.92	12.25	10.34
P-F2	F-2	F-1	0.60	0.60	0.36	1.34	5.40	7.29	164	0.0030	18 inch	0.013	5.74	8.82	8.33	12.82	13.75	2.50	3.92	10.34	9.38
P-F3	F-3	F-2	1.40	0.70	0.98	0.98	5.40	5.33	85	0.0086	12 inch	0.013	3.30	9.63	8.90	14.30	12.82	3.67	2.92	12.25	10.34