

****Takes into account travel time**

Stations U/S	D/S	Length	Pipe Size	Type	Pipe Area	Wetted Perimeter	Hydraulic Radius	Manning's n	Flowline Elevation Up Stream	Down Stream	Basin Area Name	Basin Area	Runoff Coeff	Incremental C*A	Accumulated C*A	U/S Tc	Design Storm Freq	Intensity I	Basin Runoff Q ₁₀	*Runoff Captured Q ₁₀	**Accumulated Runoff Q ₁₀	Velocity V	Pipe Slope	Pipe Capacity Q	Partial Flow	Time in Conduit	Friction Slope S _f	Friction Headloss	HGL U/S	D/S	Headloss V ₁ ² /2g	Calculations V ₂ ² /2g	Jct Type	Coeff K _f	Headloss H _f	Design HGL	Top of Curb Elev.	HGL Depth Below T/C	Remark
760	739	21.00	27.00	RCP	3.98	7.07	0.56	0.013	551.69	550.89	A16	2.91	0.50	1.46	1.46	10.00	100	9.80	14.3	14.3	14.3	3.60	0.0380	60.5	yes	0.10	0.0021	0.04	557.10	557.05	0.20	0.20	Inlet A16	1.25	0.25	557.35	560.21	2.86	
739	734	5.00	27.00	RCP	3.98	7.07	0.56	0.013	550.89	550.84	-	-	0.50	0.00	1.46	10.10	100	9.78	-	-	14.3	3.60	0.0100	31.1	no	0.02	0.0021	0.01	556.98	556.97	0.20	0.20	45 Deg Bend	0.37	0.07	557.05			
734	730	4.00	33.00	RCP	5.94	8.64	0.69	0.013	550.84	550.80	-	-	0.50	0.00	1.46	10.12	100	9.78	-	-	14.3	2.41	0.0100	53.0	no	0.03	0.0007	0.00	556.90	556.90	0.20	0.09	Pipe Size Change	-	0.07	556.97			
730	624	106.00	33.00	RCP	5.94	8.64	0.69	0.013	550.80	549.74	A15	3.12	0.50	1.56	3.02	10.15	100	9.77	15.3	15.3	29.6	4.98	0.0100	53.0	no	0.36	0.0031	0.33	556.56	556.23	0.09	0.38	45 Deg Wye	0.50	0.34	556.90			
624	618	6.00	48.00	RCP	12.57	12.57	1.00	0.013	549.74	549.71	-	-	0.50	0.00	3.02	10.50	100	9.70	-	-	29.6	2.35	0.0050	101.8	no	0.04	0.0004	0.00	556.02	556.02	0.38	0.09	Pipe Size Change	-	0.20	556.23			
618	414	204.00	48.00	RCP	12.57	12.57	1.00	0.013	549.71	548.69	A14, A18, X3, X12	22.76	0.50	11.38	14.40	10.55	100	9.69	87.0	87.0	115.6	9.20	0.0050	101.8	no	0.37	0.0064	1.31	554.75	553.44	0.09	1.31	45 Deg Wye	0.50	1.27	556.02			
414	408	6.00	48.00	RCP	12.57	12.57	1.00	0.013	548.69	548.66	A13	1.71	0.50	0.86	15.25	10.92	100	9.62	8.4	8.4	123.8	9.85	0.0050	101.8	no	0.01	0.0074	0.04	552.59	552.54	1.31	1.51	45 Deg Wye	0.50	0.85	553.44			
408	366	42.00	48.00	RCP	12.57	12.57	1.00	0.013	548.66	548.45	A12	1.13	0.50	0.57	15.82	10.93	100	9.61	5.5	5.5	129.2	10.28	0.0050	101.8	no	0.07	0.0081	0.34	551.65	551.32	1.51	1.64	45 Deg Wye	0.50	0.89	552.54			
366	132	234.00	48.00	RCP	12.57	12.57	1.00	0.013	548.45	544.01	-	-	0.50	0.00	15.82	10.99	100	9.60	-	-	129.2	10.28	0.0190	198.5	no	0.38	0.0081	1.88	550.41	548.53	1.64	1.64	Manhole/90deg Turn	0.55	0.90	551.32	556.90	5.58	
132	125	7.00	48.00	RCP	12.57	12.57	1.00	0.013	544.01	543.88	-	-	0.50	0.00	15.82	11.37	100	9.53	-	-	129.2	10.28	0.0190	198.5	no	0.01	0.0081	0.06	547.92	547.86	1.64	1.64	45 Deg Bend	0.37	0.61	548.53			
125	0	125.00	48.00	RCP	12.57	12.57	1.00	0.013	543.88	541.50	-	-	0.50	0.00	15.82	11.38	100	9.52	-	-	129.2	10.28	0.0190	198.5	no	0.20	0.0081	1.01	547.26	546.25	1.64	1.64	45 Deg Bend	0.37	0.61	547.86			

OUTFALL VELOCITY CONTROLLED BY DISSIPATORS

STORM LAT A12

Stations U/S	D/S	Length	Pipe Size	Type	Pipe Area	Wetted Perimeter	Hydraulic Radius	Manning's n	Flowline Elevation Up Stream	Down Stream	Basin Area Name	Basin Area	Runoff Coeff	Incremental C*A	Accumulated C*A	U/S Tc	Design Storm Freq	Intensity I	Basin Runoff Q ₁₀	*Runoff Captured Q ₁₀	**Accumulated Runoff Q ₁₀	Velocity V	Pipe Slope	Pipe Capacity Q	Partial Flow	Time in Conduit	Friction Slope S _f	Friction Headloss	HGL U/S	D/S	Headloss V ₁ ² /2g	Calculations V ₂ ² /2g	Jct Type	Coeff K _f	Headloss H _f	Design HGL	Top of Curb Elev.	HGL Depth Below T/C	Remark
17	0	17.00	21.00	RCP	2.41	5.50	0.44	0.013	553.11	550.22	A12	1.13	0.50	0.57	0.57	10.00	100	9.80	5.5	5.5	5.5	2.29	0.1700	65.5	yes	0.12	0.0012	0.02	552.56	552.54	0.08	0.08	Inlet A12	1.25	0.10	552.66	557.22	4.56	

STORM LAT A13

Stations U/S	D/S	Length	Pipe Size	Type	Pipe Area	Wetted Perimeter	Hydraulic Radius	Manning's n	Flowline Elevation Up Stream	Down Stream	Basin Area Name	Basin Area	Runoff Coeff	Incremental C*A	Accumulated C*A	U/S Tc	Design Storm Freq	Intensity I	Basin Runoff Q ₁₀	*Runoff Captured Q ₁₀	**Accumulated Runoff Q ₁₀	Velocity V	Pipe Slope	Pipe Capacity Q	Partial Flow	Time in Conduit	Friction Slope S _f	Friction Headloss	HGL U/S	D/S	Headloss V ₁ ² /2g	Calculations V ₂ ² /2g	Jct Type	Coeff K _f	Headloss H _f	Design HGL	Top of Curb Elev.	HGL Depth Below T/C	Remark
17	0	17.00	21.00	RCP	2.41	5.50	0.44	0.013	553.09	550.34	A13	1.71	0.50	0.86	0.86	10.00	100	9.80	8.4	8.4	8.4	3.49	0.1620	64.0	no	0.08	0.0028	0.05	553.48	553.44	0.19	0.19	Inlet A13	1.25	0.24	553.72	557.26	3.54	

STORM LAT A15

****Takes into account travel time**

Stations U/S	D/S	Length	Pipe Size	Type	Pipe Area	Wetted Perimeter	Hydraulic Radius	Manning's n	Flowline Elevation Up Stream	Down Stream	Basin Area Name	Basin Area	Runoff Coeff	Incremental C*A	Accumulated C*A	U/S Tc	Design Storm Freq	Intensity I	Basin Runoff Q ₁₀	*Runoff Captured Q ₁₀	**Accumulated Runoff Q ₁₀	Velocity V	Pipe Slope	Pipe Capacity Q	Partial Flow	Time in Conduit	Friction Slope S _f	Friction Headloss	HGL U/S	D/S	Headloss V ₁ ² /2g	Calculations V ₂ ² /2g	Jct Type	Coeff K _f	Headloss H _f	Design HGL	Top of Curb Elev.	HGL Depth Below T/C	Remark
21	0	21.00	24.00	RCP	3.14	6.28	0.50	0.013	553.22	551.54	A15	3.12	0.50	1.56	1.56	10.00	100	9.80	15.3	15.3	15.3	4.87	0.0800	64.2	no	0.07	0.0046	0.10	556.99	556.90	0.37	0.37	Inlet A15	1.25	0.46	557.45	560.03	2.58	

STORM LAT A14

****Takes into account travel time**

Stations U/S	D/S	Length	Pipe Size	Type	Pipe Area	Wetted Perimeter	Hydraulic Radius	Manning's n	Flowline Elevation Up Stream	Down Stream	Basin Area Name	Basin Area	Runoff Coeff	Incremental C*A	Accumulated C*A	U/S Tc	Design Storm Freq	Intensity I	Basin Runoff Q ₁₀	*Runoff Captured Q ₁₀	**Accumulated Runoff Q ₁₀	Velocity V	Pipe Slope	Pipe Capacity Q	Partial Flow	Time in Conduit	Friction Slope S _f	Friction Headloss	HGL U/S	D/S	Headloss V ₁ ² /2g	Calculations V ₂ ² /2g	Jct Type	Coeff K _f	Headloss H _f	Design HGL	Top of Curb Elev.	HGL Depth Below T/C	Remark
75	0	75.00	42.00	RCP	9.62	11.00	0.88	0.013	554.50	553.01	A14, A18, X3, X12	22.76	0.50	11.38	11.38	10.00	100	9.80	87.0	87.0	87.0	9.04	0.0199	142.3	no	0.14	0.0074	0.56	556.58	556.02	1.27	1.27	Headwall	0.70	0.89	557.47	n/a		

STORM LINE 3-A

***Captured runoff includes bypass and crown crossover from upstream and excludes bypass at this inlet**

****Takes into account travel time**

Stations U/S	D/S	Length	Pipe Size	Type	Pipe Area	Wetted Perimeter	Hydraulic Radius	Manning's n	Flowline Elevation Up Stream	Down Stream	Basin Area Name	Basin Area	Runoff Coeff	Incremental C*A	Accumulated C*A	U/S Tc	Design Storm Freq	Intensity I	Basin Runoff Q ₁₀	*Runoff Captured Q ₁₀	**Accumulated Runoff Q ₁₀	Velocity V	Pipe Slope	Pipe Capacity Q	Partial Flow	Time in Conduit	Friction Slope S _f	Friction Headloss	HGL U/S	D/S	Headloss V ₁ ² /2g	Calculations V ₂ ² /2g	Jct Type	Coeff K _f	Headloss H _f	Design HGL	Top of Curb Elev.	HGL Depth Below T/C	Remark
564	543	20.50	21.00	RCP	2.41	5.50	0.44	0.013	557.88	557.47	A11	2.83	0.50	1.42	1.42	10.00	100	9.80	13.8	12.5	12.5	5.20	0.0200	22.5	yes	0.07	0.0062	0.13	557.87	557.75	0.42	0.42	Inlet A11	1.25	0.52	558.40	563.24	4.84	
543	436	107.18	21.00	RCP	2.41	5.50	0.44	0.013	557.47	555.33	-	-	0.00	0.50	0.00	1.42	10.07	100	9.79	-	12.5	5.20	0.0200	22.5	yes	0.34	0.0062	0.66	557.59	556.93	0.42	0.42	45 Deg Bend	0.37	0.16	557.75	563.00	5.25	
436	432	4.00	24.00	RCP	3.14	6.28	0.50	0.013	555.33	555.25	-	-	0.00	0.50	0.00	1.42	10.41	100	9.72	-	12.5	3.98	0.0200	32.1	yes	0.02	0.0030	0.01	556.83	556.82	0.42	0.25	Pipe Size Change	-	0.10	556.93	561.50	4.57	
432	99	333.43	24.00	RCP	3.14	6.28	0.50	0.013	555.25	547.75	A10	2.78	0.50	1.39	2.81	10.43	100	9.71	13.6	12.6	25.0	7.95	0.0225	34.0	yes	0.70	0.0121	4.05	555.96	551.91	0.25	0.98	45 Deg Wye	0.50	0.86	556.82	561.45	4.63	
99	91	7.83	36.00	RCP	7.07	9.42	0.75	0.013	547.75	547.57	-	-	0.00	0.50	0.00	2.81	11.12	100	9.58	-	25.0	3.54	0.0225	100.3	no	0.04	0.0014	0.01	551.36	551.35	0.98	0.19	Pipe Size Change	-	0.55	551.91	554.20	2.29	
91	45	46.40	36.00	RCP	7.07	9.42	0.75	0.013	547.57	546.64	A8	2.17	0.50	1.09	3.89	11.16	100	9.57	11.9	11.8	36.5	5.17	0.0200	94.6	no	0.15	0.0030	0.14	551.04	550.90	0.19	0.41	45 Deg Wye	0.50	0.32	551.35	554.17	2.82	
45	0	44.65	36.00	RCP	7.07	9.42	0.75	0.013	546.64	545.75	A9	1.82	0.50	0.91	4.80	11.31	100	9.54	9.9	9.9	46.1	6.53	0.0200	94.6	no	0.11	0.0048	0.21	550.44	550.23	0.41	0.66	45 Deg Wye	0.50	0.45	550.90	553.30	2.40	

STORM LAT A8

****Takes into account travel time**

Stations U/S	D/S	Length	Pipe Size	Type	Pipe Area	Wetted Perimeter	Hydraulic Radius	Manning's n	Flowline Elevation Up Stream	Down Stream	Basin Area Name	Basin Area	Runoff Coeff	Incremental C*A	Accumulated C*A	U/S Tc	Design Storm Freq	Intensity I	Basin Runoff Q ₁₀	*Runoff Captured Q ₁₀	**Accumulated Runoff Q ₁₀	Velocity V	Pipe Slope	Pipe Capacity Q
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