Inlet Calculations

Inlet Designation	Alignment	Station	Offset	Design Freq	Runoff Coefficient	Area ID	Time of Conc (Tc) (min)	Intensity I (in/hr)	Area acre	CA	Throughfare Type	Crown Type	Inlet Type	Runoff Q_{100} (cfs)	Upstream Bypass Q_{100} (cfs)	Total Gutter Flow Q_{100} (cfs)	Long Slope S (ft/ft)	Gutter Capacity (cfs)	Roughness Coefficient n	Cross Slope S_x (ft/ft)	Ponded Width Tallow	Ponded Width Tactual (ft)	Depth of Gutter Flow Yallow	Depth of Gutter Flow Yactual	Qallow gutter	Wetted Perimeter Depressed Gutter Pw (ft)	Wetted Perimeter Beyond Depression Po (ft)	Depression Depth a (ft)	Depression Width W (ft)	Area of Depressed Gutter Aw (sf)	Area of Section Beyond Depression Ao (sf)	Flow Depth in Depressed Section (ft)	Conveyance in Depressed Gutter Kw	Conveyance Beyond Depression Ko	Ratio of Depressed flow to Total Flow (E_o)	Equivalent Cross Section (S_e) (ft/ft)	Required Inlet Length Lr (ft)	Actual Inlet Length La (ft)	Inlet Capacity (cfs)	Bypass Flow (cfs)	CxA	To Inlet	Remark
A1	Orion Drive	2+84.99	14.5	100	0.5	A1	10	9.8	0.52	0.26	local	rooftop	Sag	2.6	0	2.6	0.0246	22.1	0.0175	0.0356	n/a	6.3	n/a	0.2	2.6	2.1	7.9	0.5	2	1.13	1.10	0.40	63.88	25.06	0.45	0.2381	1.00	10	10.6	0	0.00		Sag/Lowpoint
A2	Orion Drive	2+84.65	14.5	100	0.5	A2	10	9.8	1.17	0.58	local	rooftop	Sag	5.7	2.5	8.2	0.0246	22.1	0.0175	0.0356	n/a	9.7	n/a	0.3	8.3	2.1	7.9	0.5	2	1.13	1.10	0.40	63.88	25.06	0.45	0.2381	6.52	10	10.6	0	0.00		Sag/Lowpoint
A3	Orion Drive	5+04.96	14.5	100	0.5	A3	10	9.8	1.00	0.50	local	rooftop	On-Grade	4.9	0	4.9	0.0080	12.6	0.0175	0.0356	14	9.9	0.5	0.4	4.9	2.1	7.9	0.5	2	1.13	1.10	0.40	63.88	25.06	0.72	0.2152	7.84	10	4.9	0.0	0.00		
A4	Orion Drive	5+17.56	14.5	100	0.5	A4	10	9.8	1.94	0.97	local	rooftop	On-Grade	9.5	0.8	10.3	0.0080	12.6	0.0175	0.0356	14	13.0	0.5	0.5	10.4	2.1	11.0	0.5	2	1.36	2.16	0.40	86.49	61.75	0.58	0.1815	11.85	10	8.0	2.3	0.24	A2	
A5	Draco Drive	42+82.38	14.5	100	0.5	A5	10	9.8	1.48	0.74	local	rooftop	On-Grade	7.3	0.7	8.0	0.0070	11.8	0.0175	0.0356	14	12.1	0.5	0.4	8.0	2.1	10.1	0.5	2	1.29	1.82	0.40	79.70	49.07	0.62	0.1903	9.92	10	5.6	2.3	0.24		
A6	Draco Drive	39+76.31	14.5	100	0.5	A6	10	9.8	2.71	1.36	local	rooftop	On-Grade	13.3	0	13.3	0.0159	17.7	0.0175	0.0356	14	12.6	0.5	0.4	13.3	2.1	10.6	0.5	2	1.33	2.00	0.40	83.23	55.48	0.60	0.1856	15.97	15	12.6	0.7	0.07	A5	
A7	Draco Drive	40+21.26	14.5	100	0.5	A7	10	9.8	2.74	1.37	local	rooftop	On-Grade	13.4	0	13.4	0.0159	17.7	0.0175	0.0356	14	12.6	0.5	0.4	13.5	2.1	10.6	0.5	2	1.33	2.01	0.40	83.54	56.07	0.60	0.1852	16.05	15	12.6	0.8	0.08	A4	
A8	Pegasus Lane	14+29.30	14.5	100	0.5	A8	10	9.8	2.17	1.08	local	rooftop	On-Grade	10.6	1.3	11.9	0.0170	18.3	0.0175	0.0356	14	11.9	0.5	0.4	12.0	2.1	9.9	0.5	2	1.28	1.76	0.40	78.46	46.89	0.63	0.1921	15.26	15	11.9	0.1	0.01	A2	
A9	Pegasus Lane	13+83.36	14.5	100	0.5	A9	10	9.8	1.82	0.91	local	rooftop	On-Grade	8.9	1.0	9.9	0.0170	18.3	0.0175	0.0356	14	11.2	0.5	0.4	10.0	2.1	9.2	0.5	2	1.22	1.49	0.40	72.79	37.60	0.66	0.2004	13.78	15	9.9	0.0	0.00		
A10	Pegasus Lane	17+70.92	14.5	100	0.5	A10	10	9.8	2.78	1.39	local	rooftop	On-Grade	13.6	0	13.6	0.0160	17.8	0.0175	0.0356	14	12.7	0.5	0.5	13.7	2.1	10.7	0.5	2	1.33	2.03	0.40	83.95	56.85	0.60	0.1847	16.21	15	12.6	1.0	0.10	A9	
A11	Pegasus Lane	18+82.10	14.5	100	0.5	A11	10	9.8	2.83	1.41	local	rooftop	On-Grade	13.8	0.0	13.8	0.0160	17.8	0.0175	0.0356	14	12.8	0.5	0.5	13.9	2.1	10.8	0.5	2	1.34	2.07	0.40	84.60	58.08	0.59	0.1838	16.38	15	12.5	1.3	0.13	A8	
A12	Phoenix Lane	13+61.08	14.5	100	0.5	A12	10	9.8	1.13	0.56	local	rooftop	On-Grade	5.5	0	5.5	0.0070	11.8	0.0175	0.0356	14	10.6	0.5	0.4	5.5	2.1	8.6	0.5	2	1.18	1.31	0.40	68.66	31.48	0.69	0.2070	8.09	10	5.5	0.0	0.00		
A13	Phoenix Lane	13+65.09	14.5	100	0.5	A13	10	9.8	1.71	0.85	local	rooftop	On-Grade	8.4	0.0	8.4	0.0070	11.8	0.0175	0.0356	14	12.4	0.5	0.4	8.4	2.1	10.4	0.5	2	1.31	1.91	0.40	81.43	52.15	0.61	0.1880	10.21	10	8.3	0.1	0.01	A2	
A15	Phoenix Lane	16+96.92	14.5	100	0.5	A15	10	9.8	3.12	1.56	local	rooftop	On-Grade	15.3	0	15.3	0.0200	19.9	0.0175	0.0356	14	12.7	0.5	0.5	15.4	2.1	10.7	0.5	2	1.33	2.05	0.40	84.20	57.31	0.59	0.1843	18.24	20	15.3	0.0	0.00		
A16	Phoenix Lane	17+05.85	14.5	100	0.5	A16	10	9.8	2.91	1.46	local	rooftop	On-Grade	14.3	0.0	14.3	0.0200	19.9	0.0175	0.0356	14	12.4	0.5	0.4	14.3	2.1	10.4	0.5	2	1.31	1.92	0.40	81.74	52.74	0.61	0.1876	17.53	20	14.3	0.0	0.00		
C1	Phoenix Lane	0+84.56	14.5	100	0.5	C1	10	9.8	1.46	0.73	local	rooftop	On-Grade	7.2	0.0	7.2	0.0170	18.3	0.0175	0.0356	14	9.9	0.5	0.4	7.2	2.1	7.9	0.5	2	1.13	1.10	0.40	63.91	25.10	0.72	0.2151	11.52	15	7.2	0.0	0.00		
C2	Phoenix Lane	0+85.23	14.5	100	0.5	C2	10	9.8	2.24	1.12	local	rooftop	On-Grade	11.0	0	11.0	0.0170	18.3	0.0175	0.0356	14	11.6	0.5	0.4	11.0	2.1	9.6	0.5	2	1.25	1.63	0.40	75.80	42.42	0.64	0.1959	14.56	15	11.0	0.0	0.00		
D1	Quasar Drive	32+44.68	42	100	0.5	D1	10	9.8	3.35	1.68	local	rooftop	Sag	16.4	0	16.4	0.0070	22.1	0.0175	0.0320 *	n/a	17.0	0.5	0.5	16.5	2.1	15.0	0.5	2	1.52	3.60	0.40	105.16	117.57	0.47	0.1500	16.59	20	16.4	0.0	0.00		Sag/Lowpoint
B2	Pegasus Lane	0+81.32	29.5	100	0.5	B2	10	9.8	2.13	1.07	local	rooftop	On-Grade	10.5	0	10.5	0.0082	11.8	0.0175	0.0356	14	13.0	0.5	0.5	10.5	2.1	11.0	0.5	2	1.36	2.17	0.40	86.55	61.87	0.58	0.1814	12.01	15	10.5	0.0	0.00		
B3	Pegasus Lane	0+81.49	29.5	100	0.5	B3	10	9.8	2.61	1.31	local	rooftop	On-Grade	12.8	0	12.8	0.0118	12.7	0.0175	0.0356	14	13.1	0.5	0.5	12.9	2.1	11.1	0.5	2	1.36	2.21	0.40	87.31	63.38	0.58	0.1804	14.63	15	12.8	0.0	0.00		
B4	Pegasus Lane	6+47.50	14.5	100	0.5	B4	10	9.8	2.28	1.14	local	rooftop	On-Grade	11.2	0	11.2	0.0070	15.3	0.0175	0.0356	14	13.8	0.5	0.5	11.2	2.1	11.8	0.5	2	1.41	2.46	0.40	92.15	73.40	0.56	0.1748	12.04	15	11.2	0.0	0.00		
B5	Leo Drive	55+68.42	14.5	100	0.5	B5	10	9.8	1.43	0.71	local	rooftop	On-Grade	7.0	0	7.0	0.0186	11.8	0.0175	0.0356	14	9.6	0.5	0.3	7.0	2.1	7.6	0.5	2	1.11	1.03	0.40	62.22	23.00	0.73	0.2181	11.61	15	7.0	0.0	0.00		
B6	Draco Drive	55+67.92	14.5	100	0.5	B6	10	9.8	2.85	1.42	local	rooftop	On-Grade	14.0	0	14.0	0.0186	19.2	0.0175	0.0356	14	12.5	0.5	0.4	14.0	2.1	10.5	0.5	2	1.32	1.95	0.40	82.20	53.57	0.61	0.1870	17.02	20	14.0	0.0	0.00		
B7	Draco Drive	50+43.11	14.5	100	0.5	B7	10	9.8	2.31	1.15	local	rooftop	On-Grade	11.3	0	11.3	0.0070	19.2	0.0175	0.0356	14	13.8	0.5	0.5	11.4	2.1	11.8	0.5	2	1.41	2.49	0.40	92.67	74.51	0.55	0.1742	12.13	15	11.3	0.0	0.00		
B8	Draco Drive	48+07.17	14.5	100	0.5	B8	10	9.8	2.23	1.12	local	rooftop	On-Grade	10.9	0	10.9	0.0070	11.8	0.0175	0.0356	14	13.7	0.5	0.5	11.0	2.1	11.7	0.5	2	1.40	2.42	0.40	91.31	71.60	0.56	0.1757	11.89	15	10.9	0.0	0.00		
B1	CR 1141	n/a	n/a	100	0.5	B1	10	9.8	1.51	0.76	n/a	n/a	Drop	7.4	0	7.4	n/a			n/a								n/a	n/a			1.20			n/a	n/a	1.82	2'X2'	n/a	0			
A17	Clem Road	n/a	n/a	100	0.5	A17	10	9.8	1.56	0.78	n/a	n/a	Drop	7.6	0	7.6	n/a			n/a								n/a	n/a			1.20			n/a	n/a	1.87	2'X2'	n/a	0			

* THE STEEPEST SLOPE WITHIN THE KNUCKLE AREA WAS USED FOR THIS CALCULATION

STORM LINE 1-B

*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 (ft)	Pipe Size (in)	Type	Pipe Area (ft^2)	Wetted Perimeter Pw	Hydraulic Radius	Manning's n	Flowline Elevation Up Stream	Flowline Elevation Down Stream	Basin Area Name	Basin Area (Ac)	Runoff Coeff C	Incremental C*A	Accumulated C*A	U/S Tc (min)	Design Storm Freq (yr)	Intensity I	Basin Runoff Q_{10} (cfs)	*Runoff Captured Q_{10} (cfs)	**Accumulated Runoff Q_{10} (cfs)	Velocity V (fps)	Pipe Slope (ft/ft)	Pipe Capacity Q (cfs)	Partial Flow (yes/no)	Time in Conduit (min)	Friction Slope S_f	Friction Headloss (ft)	HGL U/S	D/S	Headloss $V_1^2/2g$	Calculations $V_2^2/2g$	Jct Type	Coeff K_j	Headloss H_L	Design HGL	Top of Curb Elev.	HGL Depth Below T/C (ft)	Remark
549	467	82.21	24.00	RCP	3.14	6.28	0.50	0.013	538.06	536.58	B1	1.51	0.50	0.76	0.76	10.00	100	9.80	7.4	7.4	7.4	2.36	0.0180	30.4	yes	0.58	0.0011	0.09	541.36	541.01		0.09	Inlet B1	1.25	0.11	541.47	545.00	3.53	
467	300	167.00	24.00	RCP	3.14	6.28	0.50	0.013	536.58	535.25			0.50	0.00	0.76	10.58	100	9.68	0.0	0.0	7.4	2.36	0.0080	20.3	yes	1.18	0.0011	0.18	540.95	540.77	0.09	0.09	45 Deg Bend	0.37	0.05	541.01	544.14	3.13	
300	250	49.68	24.00	RCP	3.14	6.28	0.50	0.013	535.25	534.85	B2	2.13	0.50	1.07	1.82	11.76	100	9.45	10.5	10.5	17.5	5.58	0.0080	20.3	no	0.15	0.0060	0.30	540.33	540.04	0.09	0.48	45Deg Wye	0.50	0.44	540.77	544.14	3.37	
250	237	13.22	48.00	RCP	12.57	12.57	1.00	0.013	534.85	534.80	B8,7,6,5,4	11.10	0.50	5.55	7.37	11.91	100	9.42	54.4	54.4	69.8	5.55	0.0040	91.1	no	0.04	0.0023	0.03	539.82	539.79	0.48	0.48	Manhole	0.55	0.21	540.04	542.61	2.57	
237	74	162.67	48.00	RCP	12.57	12.57	1.00	0.013	535.45	534.80	B3	2.61	0.50	1.31	8.68	11.95	100	9.41	12.8	12.8	82.1	6.53	0.0040	91.1	no	0.42	0.0032	0.53	539.37	538.84	0.48	0.66	45DegWye	0.50	0.42	539.79	-	-	
74	0	74.45	48.00	RCP	12.57	12.57	1.00	0.013	534.80	534.50			0.50	0.00	8.68	12.37	100	9.41			82.1	6.53	0.0040	91.1	no	0.19	0.0032	0.24	538.74	538.50	0.66	0.66	45 Bend	0.37	0.10	539.79	-	-	

STORM LAT B4

*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 (ft)	Pipe Size (in)	Type	Pipe Area (ft^2)	Wetted Perimeter Pw	Hydraulic Radius	Manning's n	Flowline Elevation Up Stream	Flowline Elevation Down Stream	Basin Area Name	Basin Area (Ac)	Runoff Coeff C	Incremental C*A	Accumulated C*A	U/S Tc (min)	Design Storm Freq (yr)	Intensity I	Basin Runoff Q_{10} (cfs)	*Runoff Captured Q_{10} (cfs)	**Accumulated Runoff Q_{10} (cfs)	Velocity V (fps)	Pipe Slope (ft/ft)	Pipe Capacity Q (cfs)	Partial Flow (yes/no)	Time in Conduit (min)	Friction Slope S_f	Friction Headloss (ft)	HGL U/S	D/S	Headloss $V_1^2/2g$	Calculations $V_2^2/2g$	Jct Type	Coeff K_j	Headloss H_L	Design HGL	Top of Curb Elev.	HGL Depth Below T/C (ft)	Remark
597	577	20.05	21.00	RCP	2.41	5.50	0.44	0.013	541.87	541.67	B4	2.28	0.50	1.14	1.14	10.00	100	9.80	11.2	11.2	11.2	4.66	0.0100	15.9	no	0.07	0.0050	0.10	544.66	544.56		0.34	Inlet B4	1.25	0.42	545.08	547.74	2.66	
577	360	217.61	21.00	RCP	2.41	5.50	0.44	0.013	541.67	539.50	-	0.00	0.50	0.00	1.14	10.07	100	9.79	0.0	0.0	11.2	4.66	0.0100	15.9	no	0.78	0.0050	1.08	544.44	543.36	0.00	0.34	45 Deg Bend	0.37	0.12	544.56	547.00	2.44	
360	37	322.75	36.00	RCP	7.07	9.42	0.75	0.013	539.50	536.27	B5-8	8.82	0.50	4.41	5.55	10.85	100	9.63	43.2	43.2	53.7	7.59	0.0100	66.9	no	0.71	0.0064	2.08	543.03	540.95	0.34	0.89	45 Deg Bend	0.37	0.33	543.36	547.00	3.64	
37	0	37.00	36.00	RCP	7.07	9.42	0.75	0.013	536.27	535.90		0.00	0.50	0.00	5.55	11.56	100	9.49	0.0	0.0	53.7	7.59	0.0100	66.9	no	0.08	0.0064	0.24	540.28	540.04	0.89	0.89	Manhole/Junction at 90 Deg	0.25	0.67	540.95	545.99	5.04	

STORM LAT B8

*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 (ft)	Pipe Size (in)	Type	Pipe Area (ft^2)	Wetted Perimeter Pw	Hydraulic Radius	Manning's n	Flowline Elevation Up Stream	Flowline Elevation Down Stream	Basin Area Name	Basin Area (Ac)	Runoff Coeff C	Incremental C*A	Accumulated C*A	U/S Tc (min)	Design Storm Freq (yr)	Intensity I	Basin Runoff Q_{10} (cfs)	*Runoff Captured Q_{10} (cfs)	**Accumulated Runoff Q_{10} (cfs)	Velocity V (fps)	Pipe Slope (ft/ft)	Pipe Capacity Q (cfs)	Partial Flow (yes/no)	Time in Conduit (min)	Friction Slope S_f	Friction Headloss (ft)	HGL U/S	D/S	Headloss $V_1^2/2g$	Calculations $V_2^2/2g$	Jct Type	Coeff K_j	Headloss H_L	Design HGL	Top of Curb Elev.	HGL Depth Below T/C (ft)	Remark
844	823	20.47	21.00	RCP	2.41	5.50	0.44	0.013	551.29	550.17	B8	2.23	0.50	1.12	1.12	10.00	100	9.80	10.9	10.9	10.9	4.53	0.0550	37.3	yes	0.08	0.0047	0.10	553.39	553.30		0.32	Inlet B8	1.25	0.40	553.79	556.55	2.76	
823	597	226.11	21.00	RCP	2.41	5.50	0.44	0.013	550.17	549.04	-	0.00	0.50	0.00	1.12	10.08	100	9.78			10.9	4.53	0.0050	11.2	yes	0.83	0.0047	1.06	553.18	552.12	0.32	0.32	45 Deg Bend	0.37	0.12	553.30	556.55	3.25	
597	593	4.00	24.00	RCP	3.14	6.28	0.50	0.013	549.04	549.00	-	0.00	0.50	0.00	1.12	10.91	100	9.62			10.9	3.47	0.0095	22.1	yes	0.02	0.0023	0.01	552.04	552.03	0.32	0.19	Pipe Size Change	-	0.07	552.12	554.90	2.78	
593	370	222.97	24.00	RCP	3.14	6.28	0.50	0.013	549.00	546.21	B7	2.31	0.50	1.16	2.27	10.93	100	9.61	11.3	11.3	22.0	7.00	0.0125	25.4	yes	0.53	0.0094	2.10	551.43	548.80	0.32	0.76	45 Deg Wye	0.50	0.60	552.03	554.90	2.87	
370	51	319.75	24.00	RCP	3.14	6.28	0.50	0.013	546.21	540.17	-	0.00	0.50	0.00	2.27	11.46	100	9.51			22.0	7.00	0.0189	31.2	yes	0.76	0.0094	3.01	548.46	544.33	0.76	0.76	Manhole/90deg Turn	0.55	0.34	548.80	552.30	3.50	
51	47	4.00	30.00	RCP	4.91	7.85	0.63	0.013	540.17	540.11	-	0.00	0.50	0.00	2.27	12.22	100	9.36			22.0	4.48	0.0140	48.7	no	0.01	0.0029	0.01	544.06	544.05	0.76	0.31	Pipe Size Change	-	0.27	544.33	547.00	2.67	
47	41	6.03	36.00	RCP	7.07	9.42	0.75	0.013	540.11	540.03	B5	1.43	0.50	0.72	2.99	12.23	100	9.35	7.0	7.0	28.7	4.06	0.0140	79.1	no	0.02	0.0018	0.01	543.95	543.94	0.31	0.26	45 Deg Wye	0.50	0.10	544.05	547.00	2.95	
41	0	40.60	36.00	RCP	7.07	9.42	0.75	0.013	540.03	539.46	B6	2.85	0.50	1.43	4.41	12.26	100	9.35	14.0	14.0	42.0	5.94	0.0140	79.1	no	0.11	0.0039	0.16	543.52	543.36	0.26	0.55	45 Deg Wye	0.50	0.42	543.94	547.00	3.06	

STORM LAT B2

**Takes into account travel time

Stations U/S	D/S	Length (ft)	Pipe Size (in)	Type	Pipe Area (ft^2)	Wetted Perimeter Pw	Hydraulic Radius	Manning's n	Flowline Elevation Up Stream	Flowline Elevation Down Stream	Basin Area Name	Basin Area (Ac)	Runoff Coeff C	Incremental C*A	Accumulated C*A	U/S Tc (min)	Design Storm Freq (yr)	Intensity I	Basin Runoff Q_{10} (cfs)	*Runoff Captured Q_{10} (cfs)	**Accumulated Runoff Q_{10} (cfs)	Velocity V (fps)	Pipe Slope (ft/ft)	Pipe Capacity Q (cfs)	Partial Flow (yes/no)	Time in Conduit (min)	Friction Slope S_f	Friction Headloss (ft)	HGL U/S	D/S	Headloss $V_1^2/2g$	Calculations $V_2^2/2g$	Jct Type	Coeff K_j	Headloss H_L	Design HGL	Top of Curb Elev.	HGL Depth Below T/C (ft)	Remark
9	0	9.00	21.00	RCP	2.41	5.50	0.44	0.013	539.24	538.00	B2	2.13	0.50	1.07	1.07	10.00	100	9.80	10.5	10.5	10.5	4.37	0.1378	59.0	no	0.03	0.0044	0.04	539.83	539.79		0.30	Inlet B2	1.25	0.37	540.20	543.72	3.52	

STORM LAT B3

**Takes into account travel time

Stations U/S	D/S	Length (ft)	Pipe Size (in)	Type	Pipe Area (ft^2)	Wetted Perimeter Pw	Hydraulic Radius	Manning's n	Flowline Elevation Up Stream	Flowline Elevation Down Stream	Basin Area Name	Basin Area (Ac)	Runoff Coeff C	Incremental C*A	Accumulated C*A	U/S Tc (min)	Design Storm Freq (yr)	Intensity I	Basin Runoff Q_{10} (cfs)	*Runoff Captured Q_{10} (cfs)	**Accumulated Runoff Q_{10} (cfs)	Velocity V (fps)	Pipe Slope (ft/ft)	Pipe Capacity Q (cfs)	Partial Flow (yes/no)	Time in Conduit (min)	Friction Slope S_f	Friction Headloss (ft)	HGL U/S	D/S	Headloss $V_1^2/2g$	Calculations $V_2^2/2g$	Jct Type	Coeff K_j	Headloss H_L	Design HGL	Top of Curb Elev.	HGL Depth Below T/C (ft)	Remark
10	0	10.28	24.00	RCP	3.14	6.28	0.50	0.013	539.18	536.82	B3	2.61	0.50	1.31	1.31	10.00	100	9.80	12.8	12.8	12.8	4.07	0.2292	108.6	no	0.04	0.0032	0.03	539.83	539.79		0.26	Inlet B3	1.25	0.32	540.15	543.09	2.94	

STORM LAT B5

**Takes into account travel time

Stations U/S	D/S	Length (ft)	Pipe Size (in)	Type	Pipe Area (ft^2)	Wetted Perimeter Pw	Hydraulic Radius	Manning's n	Flowline Elevation Up Stream	Flowline Elevation Down Stream	Basin Area Name	Basin Area (Ac)	Runoff Coeff C	Incremental C*A	Accumulated C*A	U/S Tc (min)	Design Storm Freq (yr)	Intensity I	Basin Runoff Q_{10} (cfs)	*Runoff Captured Q_{10} (cfs)	**Accumulated Runoff Q_{10} (cfs)	Velocity V (fps)	Pipe Slope (ft/ft)	Pipe Capacity Q (cfs)	Partial Flow (yes/no)	Time in Conduit (min)	Friction Slope S_f	Friction Headloss (ft)	HGL U/S	D/S	Headloss $V_1^2/2g$	Calculations $V_2^2/2g$	Jct Type	Coeff K_j	Headloss H_L	Design HGL	Top of Curb Elev.	HGL Depth Below T/C (ft)	Remark
17	0	17.00	21.00	RCP	2.41	5.50	0.44	0.013	543.03	541.06	B5	1.43	0.50	0.72	0.72	10.00	100	9.80	7.0	7.0	7.0	2.91	0.1156	54.0	no	0.10	0.0019	0.03	544.08	544.05		0.13	Inlet B5	1.25	0.16	544.25	547.00	2.75	

STORM LAT B6

**Takes into account travel time

Stations U/S	D/S	Length (ft)	Pipe Size (in)	Type	Pipe Area (ft^2)	Wetted Perimeter Pw	Hydraulic Radius	Manning's n	Flowline Elevation Up Stream	Flowline Elevation Down Stream	Basin Area Name	Basin Area (Ac)	Runoff Coeff C	Incremental C*A	Accumulated C*A	U/S Tc (min)	Design Storm Freq (yr)	Intensity I	Basin Runoff Q_{10} (cfs)	*Runoff Captured Q_{10} (cfs)	**Accumulated Runoff Q_{10} (cfs)	Velocity V (fps)	Pipe Slope (ft/ft)	Pipe Capacity Q (cfs)	Partial Flow (yes/no)	Time in Conduit (min)	Friction Slope S_f	Friction Headloss (ft)	HGL U/S	D/S	Headloss $V_1^2/2g$	Calculations $V_2^2/2g$	Jct Type	Coeff K_j	Headloss H_L	Design HGL	Top of Curb Elev.	HGL Depth Below T/C (ft)	Remark
21	0	21.00	21.00	RCP	2.41	5.50	0.44	0.013	543.90	541.04	B6	2.85	0.50	1.43	1.43	10.00	100	9.80	14.0	14.0	14.0	5.82	0.1364	58.7	no	0.06	0.0078	0.16	544.31	544.15		0.53	Inlet B6	1.25	0.66	544.97	547.00	2.03	

STORM LAT B7

**Takes into account travel time

Stations U/S	D/S	Length (ft)	Pipe Size (in)	Type	Pipe Area (ft^2)	Wetted Perimeter Pw	Hydraulic Radius	Manning's n	Flowline Elevation Up Stream	Flowline Elevation Down Stream	Basin Area Name	Basin Area (Ac)	Runoff Coeff C	Incremental C*A	Accumulated C*A	U/S Tc (min)	Design Storm Freq (yr)	Intensity I	Basin Runoff Q_{10} (cfs)	*Runoff Captured Q_{10} (cfs)	**Accumulated Runoff Q_{10} (cfs)	Velocity V (fps)	Pipe Slope (ft/ft)	Pipe Capacity Q (cfs)	Partial Flow (yes/no)	Time in Conduit (min)	Friction Slope S_f	Friction Headloss (ft)	HGL U/S	D/S	Headloss $V_1^2/2g$	Calculations $V_2^2/2g$	Jct Type	Coeff K_j	Headloss H_L	Design HGL	Top of Curb Elev.	HGL Depth Below T/C (ft)	Remark
17	0	17.00	21.00	RCP	2.41	5.50	0.44	0.013	550.92	550.12	B7	2.31	0.50	1.16	1.16	10.00	100	9.80	11.3	11.3	11.3	4.70	0.0469	34.4	no	0.06	0.0051	0.09	552.12	552.03		0.34	Inlet B7	1.25	0.43	552.55	554.90	2.35	

STORM LINE 1-C

**Takes into account travel time

Stations U/S	D/S	Length (ft)	Pipe Size (in)	Type	Pipe Area (ft^2)	Wetted Perimeter Pw	Hydraulic Radius	Manning's n	Flowline Elevation Up Stream	Flowline Elevation Down Stream	Basin Area Name	Basin Area (Ac)	Runoff Coeff C	Incremental C*A	Accumulated C*A	U/S Tc (min)	Design Storm Freq (yr)	Intensity I	Basin Runoff Q_{10} (cfs)	*Runoff Captured Q_{10} (cfs)	**Accumulated Runoff Q_{10} (cfs)	Velocity V (fps)	Pipe Slope (ft/ft)	Pipe Capacity Q (cfs)	Partial Flow (yes/no)	Time in Conduit (min)	Friction Slope S_f	Friction Headloss (ft)	HGL U/S	D/S	Headloss $V_1^2/2g$	Calculations $V_2^2/2g$	Jct Type	Coeff K_j	Headloss H_L	Design HGL	Top of Curb Elev.	HGL Depth Below T/C (ft)	Remark
83	46	36.55	24.00	RCP	3.14	6.28	0.50	0.013	538.93	538.85	C2	2.24	0.50	1.12	1.12	10.00	100	9.80	11.0	10.9	10.9	3.47	0.0020	10.1	no	0.18	0.0023	0.08	541.28	541.20		0.19	Inlet C2	1.25	0.23	541.52	543.80	2.28	
46	38	8.06	27.00	RCP	3.98	7.07	0.56	0.013	538.85	538.84	-	0.00	0.50	0.00	1.12	10.18	100	9.76			10.9	2.74	0.0020	13.9	no	0.05	0.0012	0.01	541.16	541.15	0.19	0.12	Pipe Size Change	-	0.04	541.20	543.80	2.60	
38	0	37.91	27.00	RCP	3.98	7.07	0.56	0.013	538.84	538.76	C1	1.46	0.50	0.73	1.85	10.22	100	9.76	7.2	7.2	18.1	4.54	0.0020	13.9	no	0.14	0.0034	0.13	540.89	540.76	0.12	0.32	45 Deg Wye	0.50	0.26	541.15	543.80	2.65	

STORM LAT C1

**Takes into account travel time

Stations U/S	D/S	Length (ft)	Pipe Size (in)	Type	Pipe Area (ft^2)	Wetted Perimeter Pw	Hydraulic Radius	Manning's n	Flowline Elevation Up Stream	Flowline Elevation Down Stream	Basin Area Name	Basin Area (Ac)	Runoff Coeff C	Incremental C*A	Accumulated C*A	U/S Tc (min)	Design Storm Freq (yr)	Intensity I	Basin Runoff Q_{10} (cfs)	*Runoff Captured Q_{10} (cfs)	**Accumulated Runoff Q_{10} (cfs)	Velocity V (fps)	Pipe Slope (ft/ft)	Pipe Capacity Q (cfs)	Partial Flow (yes/no)	Time in Conduit (min)	Friction Slope S_f	Friction Headloss (ft)	HGL U/S	D/S	Headloss $V_1^2/2g$	Calculations $V_2^2/2g$	Jct Type	Coeff K_j	Headloss H_L	Design HGL	Top of Curb Elev.	HGL Depth Below T/C (ft)	Remark
15	0	14.93	21.00	RCP	2.41	5.50	0.44	0.013	540.15	538.96	C1	1.46	0.50	0.73	0.73	10.00	100	9.80	7.2	7.2	7.2	2.99	0.0800	44.9	yes	0.08	0.0021	0.03	541.18	541.15		0.14	Inlet B6	1.25	0.17	541.36	543.80	2.44	

STORM LINE D

**Takes into account travel time

Stations U/S	D/S	Length (ft)	Pipe Size (in)	Type	Pipe Area (ft^2)	Wetted Perimeter Pw	Hydraulic Radius	Manning's n	Flowline Elevation Up Stream	Flowline Elevation Down Stream	Basin Area Name	Basin Area (Ac)	Runoff Coeff C	Incremental C*A	Accumulated C*A	U/S Tc (min)	Design Storm Freq (yr)	Intensity I	Basin Runoff Q_{10} (cfs)	*Runoff Captured Q_{10} (cfs)	**Accumulated Runoff Q_{10} (cfs)	Velocity V (fps)	Pipe Slope (ft/ft)	Pipe Capacity Q (cfs)	Partial Flow (yes/no)	Time in Conduit (min)	Friction Slope S_f	Friction Headloss (ft)	HGL U/S	D/S	Headloss $V_1^2/2g$	Calculations $V_2^2/2g$	Jct Type	Coeff K_j	Headloss H_L	Design HGL	Top of Curb Elev.	HGL Depth Below T/C (ft)	Remark
43	0	43.00	27.00	RCP	3.98	7.07	0.56	0.013	563.48	563.00	D1	3.35	0.50	1.68	1.68	10.00	100	9.80	16.4	16.4	16.4	4.12	0.0111	32.7	yes	0.17	0.0028	0.12	565.92	565.80		0.26	Inlet D1	1.25	0.33	566.25	568.55	2.30	

GUTTER CAPACITY CHART

STREET SLOPE (%)	CAPACITY (cfs)
0.70	11.8
1.00	14.1
1.50	17.2
2.00	19.9
2.50	22.2

STATE OF TEXAS
DAYTON C. MACATEE
65028
REGISTERED
PROFESSIONAL ENGINEER
05/27/2022
DAYTON MACATEE ENGINEERING, LLC
TX. REG. NO. F-456

RECORD DRAWINGS

The information contained hereon was provided by the contractor based on their field installation. The undersigned registered professional engineer did not provide inspection on this project, and therefore makes no warrants concerning the accuracy or completeness of the information provided.

NOVEMBER 29, 2023

Dayton C. Macatee, P.E. – Macatee Engineering, L.L.C. (Tx. Reg. No. F-456) Date
12655 N. Central Expy Suite 420, Dallas, Texas 75243 ~ Tel: 214-373-1180

CITY OF ROCKWALL MONUMENT "COR-2"
ALUMINUM DISK STAMPED "CITY OF ROCKWALL SURVEY MONUMENT" +/-866' EAST OF INTERSECTION OF WILLIAMS STREET AND CARUTH LANE, AND 50' SOUTH OF CL OF WILLIAMS STREET. N: 7029731.124, E: 2598589.314, ELEV=529.10

CITY OF ROCKWALL MONUMENT "COR-4"
ALUMINUM DISK STAMPED "CITY OF ROCKWALL SURVEY MONUMENT" ON NORTH SIDE OF DALTON ROAD +/-210' WEST OF INTERSECTION OF SH 205 AND DALTON ROAD, AND 10' NORTH OF CURB LINE. N: 7040336.992, E: 2592422.633, ELEV=541.67

DRAINAGE CALCULATIONS

WINDING CREEK

CITY OF ROCKWALL, ROCKWALL COUNTY, TEXAS

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DESIGNED	CHECKED	DATE	DWG FILE	PROJECT #	SHEET NO.
BCP	SDA	11/29/2023	WC_DAM	SKO_WC	29 OF 53