

STORM SEWER CALCULATIONS

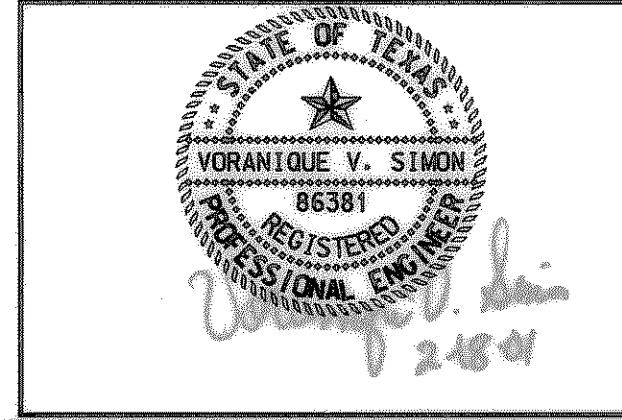
RUNOFF COLLECTION POINT (INLET OR MANHOLE)		DISTANCE BETWEEN COLLECTION POINTS	INCREMENTAL DRAINAGE AREA				ACCUMULATED "CA"	TIME AT UPSTREAM STATION (MINUTES)	DESIGN STORM FREQUENCY (YRS.)	INTENSITY "I" (INCHES/HR.)	STORM WATER RUNOFF "Q" (C.F.S.)	SLOPE OF HYDRALIC GRADIENT "S" (FT./FT.)	SELECTED STORM SEWER SIZE	VELOCITY IN SEWER BETWEEN COLLECTION POINTS "V" (F.P.S.)	HEAD LOSS COEFF. K _j	VELOCITY HEAD LOSS AT UPSTREAM STATION K _j (V ² /2g) (FEET)	FLOW TIME IN SEWER DISTANCE V x 60 (MINUTES)	TIME AT DOWNSTREAM STATION (MINUTES)	REMARKS
UPSTREAM STATION	DOWNSTREAM STATION		AREA NO.	DRAINAGE AREA "A" (ACRES)	RUNOFF COEFF. "C"	INCREMENT OF "CA"													
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
			A-1	0.27	0.90	0.24		10.00	100	9.81	77.68								
			A-2	1.70	0.90	1.53		12.63	100	9.50	14.54								
			A-3	2.31	0.90	2.08		15.75	100	9.00	18.71								
			A-4	1.95	0.90	1.76		10.80	100	9.80	17.20								
0+81.82	1+28.46	60							100		29.00	0.0479	36"	16.10			0.062		
			B-2	0.42	0.90	0.38		10.00	100	9.81	3.71								
			B-3	0.25	0.90	0.23		10.00	100	9.81	2.21								
			B-4	0.61	0.90	0.55		10.00	100	9.81	5.39								
5+68.02	5+68.02	13							100		11.31	0.0023	24"	3.60			0.060		
5+68.02	5+68.02	54							100		11.31	0.0028	24"	3.60	0.60	0.12	0.250		
			B-1	0.47	0.90	0.42		10.00	100	9.81	4.15								
			B-6	0.09	0.90	0.08		10.00	100	9.81	0.79								
			B-7	0.17	0.90	0.15		10.00	100	9.81	1.50								
			B-8	0.23	0.90	0.21		10.00	100	9.81	2.03								
7+06.25	7+06.25	12							100		8.47	0.0001	18"	4.79			0.042		
7+06.25	7+06.25	36							100		8.47	0.0001	18"	4.79	0.60	0.21	0.125		
7+29.93	7+43.12	13							100		176.91	0.0000	72"	6.26			0.035		
7+43.12	7+60.02	34							100		176.91	0.0000	72"	6.26	0.60	0.37	0.091		
15+26.00	15+10.04	18	C-1	2.06	0.90	1.85		10.42	100	9.80	18.17	0.0639	24"	5.78			0.052	10.431	
15+10.04	15+06.11	7							100		18.17	0.0057	24"	5.78	0.45	0.23	0.020		
13+31.46	13+31.46	17	C-2	1.87	0.90	1.68		11.11	100	9.70	15.00	0.0206	18"	8.49			0.033	11.121	
13+31.46	13+27.75	8							100		15.00	0.0200	18"	8.49	0.45	0.50	0.016		
15+06.11	13+27.75	178							100		18.17	0.0064	24"	5.78	0.60	0.31	0.513		
12+50.00	12+39.05	17	C-3	1.32	0.90	1.19		11.56	100	9.70	10.00	0.0676	18"	5.66			0.050	11.572	
12+39.05	12+35.25	8							100		10.00	0.0088	18"	5.66	0.45	0.22	0.024		
13+27.75	12+35.25	93							100		33.17	0.0066	30"	6.76	0.60	0.43	0.229		
11+55.00	11+44.13	17	C-4	1.23	0.90	1.11		12.63	100	9.50	10.00	0.0088	18"	5.66			0.050	12.641	
11+44.13	11+40.40	8							100		10.00	0.0100	18"	5.66	0.45	0.22	0.024		
12+35.25	11+40.40	95							100		43.17	0.0111	30"	8.79	0.60	0.72	0.180		
10+51.29	10+47.42	8	C-5	0.61	0.90	0.55		10.16	100	9.80	5.38	0.0025	18"	3.04			0.044	10.174	
10+47.42	10+36.69	23							100		5.38	0.0026	18"	3.04	0.45	0.06	0.126		
10+36.69	10+33.30	9							100		5.38	0.0022	18"	3.04	0.45	0.06	0.049		
11+40.40	10+33.30	107							100		53.17	0.0063	36"	7.52	0.60	0.53	0.237		
10+33.30	8+49.90	183							100		58.55	0.0009	54"	3.68	0.60	0.13	0.829		
8+49.90	8+12.52	73							100		58.55	0.0008	54"	3.68	0.60	0.13	0.331		
20+95.00	21+12.68	25	D-1	1.84	0.90	1.66		11.87	100	9.50	15.00	0.1932	24"	9.81			0.043	11.888	
24+14.23	24+34.67	17	D-2	1.59	0.90	1.43		15.06	100	9.00	17.23	0.0506	18"	9.75			0.029	15.069	
24+34.67	24+33.40	6							100		17.23	0.0267	18"	9.75	0.45	0.66	0.010		
21+12.68	24+33.40	321							100		15.00	0.0054	24"	4.77	0.60	0.21	1.122		
24+33.40	24+57.00	24							100		32.23	0.0063	30"	6.57	0.50	0.34	0.061		
24+57.00	25+09.22	81							100		32.23	0.0062	30"	6.57	0.60	0.40	0.206		
27+39.05	27+17.09	47	E-1	1.04	0.90	0.94		10.00	100	9.81	24.28	0.0194	30"	8.91			0.088	10.088	
26+52.14	26+31.25	43	E-2	0.47	0.90	0.42		10.00	100	9.81	4.15	0.0016	18"	2.35			0.305	10.071	
27+17.09	26+31.25	86							100		24.28	0.0075	30"	4.93	0.60	0.23	0.291		
26+31.25	26+24.73	7							100		28.43	0.0061	30"	5.77	0.50	0.26	0.020		
26+24.73	25+77.72	79							100		28.43	0.0048	30"	5.77	0.60	0.31	0.228		

P:\Rockwall\Townsend Drive\Drawings\Storm\Townsend Storm Calc.Dwg

RECORD DRAWINGS

These record drawings have been prepared using information provided by the Construction Contractor and/or Owner. The seal and signature below only signifies that the plans have been revised in accordance with the information provided and does not guarantee that these plans accurately show every detail of the constructed project.

Voranique V. Simon 4-2-01
Signature Date



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NO.	DATE	REVISION	APPROV.
CITY OF ROCKWALL "THE NEW HORIZON"			
TOWNSEND DRIVE			
STORM SEWER CALCULATIONS			
Turner Collie & Braden Inc. ENGINEERS • PLANNERS • PROJECT MANAGERS			
Unit	A123	Scale	1"=20'
Designed	VVS	Checked	TBS
Drawn	GBA	Approved	RCR
Date	FEBRUARY, 2001	Job No.	15-00925-200
Sheet	18	of	72