NOT AS BUILT

STORM SEWER DESIGN CALCULATION TABLE (25–yr Return Frequency)

LINE NO.	LINE STA.	STRUC. NUMBERS (from)	STRUC. NUMBERS (to)	LOCAL C	LOCAL A (ac)	LOCAL C X A (ac)	TOTAL C X A (ac)	INLET TIME (min)	TOTAL Tc (min)	25-YR "K" 1.1	25-YR "C" (ave.) 203	25-YR I (in/hr) 18.8	25-YR A (Ac) 262	25-YR Q (cfs) 28.8	PIPE DIA. (in) [3]	MANN N	PIPE SLOPE (%)	MANN'S FULL CAP (cfs)	MANN'S FULL VEL (fps)	DES VEL (fps)	VEL HEAD (ft)	FLOW DEPTH (in)	PIPE LEN (ft)	FLOW TIME (min)
		-	-																					
6	10+00.00	6-1	-	0.00	0.00	0.00	15.15	0.00	10.34	1.10	0.79	6.97	19.09	116.13	48	0.013	0.00%	0.00						
6	10+81.24	6-2	6-1	0.62	0.39	0.24	15.15	7.23	10.24	1.10	0.79	6.99	19.09	116.46	48	0.013	1.20%	157.35	12.52	13.71	2.92	30.74	81.24	0.10
6	12+53.93	6-3	6-2	0.00	0.00	0.00	4.91	0.00	10.06	1.10	0.74	7.03	6.61	37.94	30	0.013	3.70%	78.90	16.07	15.92	3.93	14.66	172.69	0.18
6	14+01.37	6-4	6-3	0.62	0.35	0.22	4.91	5.88	9.91	1.10	0.74	7.07	6.61	38.16	30	0.013	4.00%	82.03	16.71	16.41	4.18	14.38	147.44	0.15
6	18+01.51	6-5	6-4	0.62	0.36	0.22	4.47	7.09	9.50	1.10	0.76	7.17	5.91	35.27	30	0.013	4.00%	82.03	16.71	16.08	4.02	13.74	400.14	0.41
6	22+00.04	6-6	6-5	0.62	0.36	0.22	3.01	7.08	8.74	1.10	0.76	7.37	3.98	24.40	30	0.013	1.00%	41.02	8.36	8.72	1.18	16.66	398.53	0.76
6	25+96.99	6-7	6-6	0.62	0.42	0.26	1.55	6.84	7.84	1.10	0.75	7.62	2.06	13.02	24	0.013	1.00%	22.62	7.20	7.45	0.86	13.06	396.95	0.89
6	26+55.49	6-8	6-7	0.62	0.44	0.27	1.29	6.84	7.71	1.10	0.79	7.66	1.64	10.89	24	0.013	1.00%	22.62	7.20	7.13	0.79	11.74	58.50	0.14
8	10+59.00	8-1	6-4	0.62	0.35	0.22	0.22	5.86	5.86	1.10	0.62	8.23	0.35	1.96	15	0.013	1.00%	6.46	5.26	4.62	0.33	5.67	59.00	0.21
9	10+00.00	EX9	-	0.00	0.00	0.00	0.40	0.00	7.55	1.10	0.62	7.70	0.64	3.36	66	0.013								
9	13+87.11	9-1	EX9	0.62	0.32	0.20	0.40	6.53	6.70	1.10	0.62	7.96	0.64	3.47	15	0.013	2.50%	10.21	8.32	7.53	0.88	6.03	387.11	0.86
9	14+45.11	9-2	9-1	0.62	0.32	0.20	0.20	6.53	6.53	1.10	0.62	8.01	0.32	1.75	15	0.013	2.00%	9.14	7.44	5.74	0.51	4.45	58.00	0.17
11	10+59.00	11-1	6-5	0.62	0.37	0.23	1.24	7.40	8.59	1.10	0.79	7.41	1.57	10.10	24	0.013	1.00%	22.62	7.20	7.00	0.76	11.24	59.00	0.14
12	10+59.00	12-1	6-6	0.62	0.36	0.22	1.23	7.70	8.59	1.10	0.79	7.41	1.56	10.05	24	0.013	1.00%	22.62	7.20	6.99	0.76	11.20	59.00	0.14

INLET DESIGN TABLE (25–yr Return Frequency)

LINE NO.	LINE STA.	STRUC. NO.	OVERLAND LEN (ft)	OVERLAND S (%)	FLOW "C"	OVERLAND TIME (min)	GUTTER LEN (ft)	GUTTER S (%)	FLOW VEL (fps)	GUTTER TIME (min)	INLET TIME (min)	25-YR "K" 1.10	25-YR "C" 203.00	25-YR I (in/hr) 18.80	25-YR A (Ac) 262.00	25-YR Q (cfs) 28.80	US BY-PASS (cfs)	TOTAL FLOW (cfs)	STREET SLOPE (%)	STREET XSLOPE (%)	12 CG-1 CAP (cfs)	INLET LEN (ft)	0.83 INLET CAP. (cfs) 0.83	80% CAP. (cfs)	BY-PASS DS (cfs)
		-																							
6	10+00.00	6-1																	1.60%	2.08%	5.40	5			
6	10+81.24	6-2	18	2.0%	0.30	4.85	526	1.7%	3.68	2.38	7.23	1.10	0.62	7.80	0.39	2.07		2.07	1.60%	2.08%	5.40	5	7.73	6.19	
6	12+53.93	6-3																	1.60%	2.08%	5.40	5			
6	14+01.37	6-4	18	2.0%	0.30	4.85	331	3.6%	5.33	1.04	5.88	1.10	0.62	8.22	0.35	1.96		1.96	1.60%	2.08%	5.40	5	7.73	6.19	
6	18+01.51	6-5	18	2.0%	0.30	4.85	430	1.3%	3.20	2.24	7.09	1.10	0.62	7.84	0.36	1.92		1.92	1.60%	2.08%	5.40	5	7.73	6.19	
6	22+00.04	6-6	18	2.0%	0.30	4.85	376	1.0%	2.81	2.23	7.08	1.10	0.62	7.84	0.36	1.92		1.92	1.60%	2.08%	5.40	5	7.73	6.19	
6	25+96.99	6-7	18	2.0%	0.30	4.85	335	1.0%	2.81	1.99	6.84	1.10	0.62	7.92	0.42	2.27		2.27	1.60%	2.08%	5.40	5	7.73	6.19	
6	26+55.49	6-8	18	2.0%	0.30	4.85	335	1.0%	2.81	1.99	6.84	1.10	0.62	7.92	0.44	2.38		2.38	1.60%	2.08%	5.40	5	7.73	6.19	
8	10+59.00	8-1	18	2.0%	0.30	4.85	322	3.6%	5.33	1.01	5.86	1.10	0.62	8.23	0.35	1.96		1.96	5.85%	2.08%	10.33	5	5.60	4.48	
9	10+00.00	EX9																							
9	13+87.11	9-1	18	2.0%	0.30	4.85	400	2.0%	3.97	1.68	6.53	1.10	0.62	8.01	0.32	1.75		1.75	2.00%	2.08%	6.04	5	7.61	6.09	
9	14+45.11	9-2	18	2.0%	0.30	4.85	400	2.0%	3.97	1.68	6.53	1.10	0.62	8.01	0.32	1.75		1.75	2.00%	2.08%	6.04	5	7.61	6.09	
11	10+59.00	11-1	18	2.0%	0.30	4.85	430	1.0%	2.81	2.55	7.40	1.10	0.62	7.75	0.37	1.96		1.96		2.08%	SUMP	5	15.46	12.37	
12	10+59.00	12-1	18	2.0%	0.30	4.85	480	1.0%	2.81	2.85	7.70	1.10	0.62	7.66	0.36	1.88		1.88		2.08%	SUMP	5	15.46	12.37	

BASED ON TRAVEL TIME CALCULATION APWA SECTION 5602.5 B.
GUTTER CAPACITIES BASED ON MAXIMUM ALLOWABLE SPREAD.

DATE	P.E. SIGNATURE	DESCRIPTION
09-07-07	R.J.S.	Prepared for Review.
01-25-08	R.J.S.	⚠Revised drainage table values

DRAINAGE TABLES

CENTERPOINT-KCS
INTERMODAL CENTER

STATE OF MISSOURI
ROBERT J. SUNTA
E-25751
REGISTERED PROFESSIONAL ENGINEER

Reviewed By:	S.E.C.
Designed By:	R.J.S.
Drafted By:	J.W.W.
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