DRAINAGE AREA MAP RATIONAL METHOD

Drainage Area Calculations- City of Rockwall					
Drainage Area Name	"C"	Intensity (in/hr)	Area (ac)	Q 100 (cfs)	Notes
EX-1	0.9	9.8	1.68	14.82	To exist. 2-2x4' RCB under 205 bypass
EX-2	0.5	9.8	3.31	16.22	To exist. 3'x3' "Y" inlet
EX-3	0.9	9.8	0.51	4.50	To exist. 10' curb inlet
EX-4	0.5	9.8	2.38	11.66	To exist. 10' curb inlet
EX-5	0.9	9.8	4.67	41.19	Exist. area inlet connected to 21" RCP
EX-6	0.5	9.8	4.00	19.60	Exist. 36" RCP
EX-7	0.5	9.8	61.88	303.21	To Exist. 8'x4' RCB
EX-10	0.9	9.8	3.37	29.72	To exist. 10' curb inlet
EX-11	0.9	9.8	2.11	18.61	To exist. 10' curb inlet
EX-12	0.5	9.8	2.20	10.78	To exist. 10' curb inlet
EX-13	0.5	9.8	1.81	8.87	To exist. 10' curb inlet
EX-14	0.5	9.8	2.45	12.01	To Culvert A Outfall
A-0	0.9	9.8	3.24	28.58	To 3'x3' area inlet and 27" stubbed RCP
A-1	0.9	9.8	3.41	30.08	Proposed inlets
A-2	0.9	9.8	1.63	14.38	Proposed 20' curb inlet
A-3	0.9	9.8	2.09	18.43	Proposed 20' curb inlet
A-4	0.9	9.8	0.80	7.06	Proposed 15' curb inlet
A-5	0.9	9.8	1.63	14.38	Proposed 15' curb inlet
A-6	0.9	9.8	0.72	6.35	Proposed 15' curb inlet
A-7	0.9	9.8	0.64	5.64	Proposed 10' curb inlet
A-8	0.9	9.8	1.84	16.23	Proposed 20' curb inlet
B-1	0.9	9.8	1.66	14.64	Proposed 20' curb inlet
B-2	0.9	9.8	1.00	8.82	Proposed 15' curb inlet
B-3	0.9	9.8	1.50	13.23	Proposed 20' curb inlet
C-1	0.9	9.8	1.40	12.35	Proposed 24" Culvert to Culvert B
OS-1	0.5	9.8	69.63	341.19	Offsite area going to proposed Culvert A
OS-2	0.5	9.8	30.52	149.55	Offsite area going to proposed Culvert A
OS-3	0.5	9.8	83.00	406.70	Offsite area going to proposed Culvert A
OS-4	0.5	9.8	70.03	343.15	Offsite area going to proposed Culvert B
OS-5	0.5	9.8	5.72	28.03	Offsite area going to proposed Culvert B

INLET CAPACITY CALCULATIONS

GUTTER FLOW / INLET COMPUTATIONS

INLET ID	INLET LOCATION	INLET TYPE	D.A. No.	D.A. Area	C	Time to Inlet	Intensity	Q	CO	Q_T	n	S_L	S_X	a	W	S'_W	S_W	E_o	Se	y	T	L_R	L	E	Qi	Qa-Qi	Bypass Target:	Remarks
				acres		min	in/hr	cfs	cfs	cfs	constant	ft/ft	ft/ft	ft	ft	ft/ft	ft/ft		ft/ft	ft	ft	ft	ft		cfs	cfs		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
A0	Sta10+40.29 205 Bypass (RT)	On Grade	A0	3.24	0.50	10	9.80	15.88	0.00	15.88	0.0175	0.0015	n/a	n/a	n/a	n/a	n/a	n/a	n/a	**n/a**	n/a	3.00	3	1.00	15.88	0.00		3'x3' "Y" inlet
A1a	Sta 14+73.50 205 Bypass (RT)	On Grade	A1	0.72	0.90	10	9.80	6.35	0.00	6.35	0.0175	0.0055	0.021	0.5	2.00	0.25	0.27	0.30	0.09	0.34	16.27	12.76	10	0.78	4.98	1.37	A1N	
A1N	Sta 15+21.50 205 Bypass (RT)	Sag	A1	1.00	0.90	10	9.80	8.82	1.37	10.19	0.0175	0.0030	0.021	0.5	2.00	0.25	0.27	0.23	0.08	0.45	21.78	14.63	20	1.00	10.19	0.00		
A1S	Sta 15+21.50 205 Bypass (RT)	Sag	A1	1.00	0.90	10	9.80	8.82	1.70	10.52	0.0175	0.0030	0.021	0.5	2.00	0.25	0.27	0.22	0.08	0.46	22.04	14.90	20	1.00	10.52	0.00		
A1b	Sta15+67.88 205 Bypass (RT)	On Grade	A1	0.69	0.90	10	9.80	6.09	0.00	6.09	0.0175	0.0090	0.021	0.5	2.00	0.25	0.27	0.33	0.10	0.30	14.60	13.89	10	0.72	4.38	1.70	A1S	
A2	Sta 40+63.09 205 Bypass (LT)	On Grade	A2	1.90	0.90	10	9.80	16.76	0.00	16.76	0.0175	0.0080	0.021	0.5	2.00	0.25	0.27	0.23	0.08	0.45	21.83	24.23	20	0.83	13.84	2.92	A3	
A3	Sta 51+92.57 205 Bypass (LT)	On Grade	A3	2.09	0.90	10	9.80	18.43	2.92	21.36	0.0175	0.0200	0.021	0.5	2.00	0.25	0.27	0.24	0.08	0.42	20.13	33.93	20	0.59	12.59	8.77	A4	
A4	Sta 54+26.66 205 Bypass (LT)	On Grade	A4	0.80	0.90	10	9.80	7.06	8.77	15.82	0.0175	0.0100	0.021	0.5	2.00	0.25	0.27	0.24	0.08	0.43	20.49	23.48	15	0.64	10.11	5.72	A6N	
A6N	Sta 55+22.50 205 Bypass (LT)	Sag	A6	0.36	0.90	10	9.80	3.18	5.72	8.89	0.0175	0.0030	0.021	0.5	2.00	0.25	0.27	0.24	0.08	0.43	20.69	11.40	15	1.00	8.89	0.00		
A6S	Sta 55+22.50 205 Bypass (LT)	Sag	A6	0.36	0.90	10	9.80	3.18	4.11	7.29	0.0175	0.0030	0.021	0.5	2.00	0.25	0.27	0.25	0.08	0.40	19.20	10.15	15	1.00	7.29	0.00		
A5N	Sta 55+22.50 205 Bypass (RT)	Sag	A5	1.03	0.90	10	9.80	9.08	0.00	9.08	0.0175	0.0030	0.021	0.5	2.00	0.25	0.27	0.24	0.08	0.43	20.85	11.54	15	1.00	9.08	0.00		
A5S	Sta 55+22.50 205 Bypass (RT)	Sag	A5	0.60	0.90	10	9.80	5.29	0.00	5.29	0.0175	0.0030	0.021	0.5	2.00	0.25	0.27	0.28	0.09	0.35	17.03	8.35	15	1.00	5.29	0.00		
A7	Sta 56+17.35 205 Bypass (LT)	On Grade	A7	0.64	0.90	10	9.80	5.64	4.25	9.89	0.0175	0.0080	0.021	0.5	2.00	0.25	0.27	0.27	0.09	0.37	17.91	17.11	10	0.58	5.78	4.11	A6S	
A8	Sta 58+00 205 Bypass (LT)	On Grade	A8	1.84	0.90	10	9.80	16.23	0.00	16.23	0.0175	0.0150	0.021	0.5	2.00	0.25	0.27	0.25	0.08	0.40	19.17	27.09	20	0.74	11.98	4.25	A7	
B1N	Sta 69+22.50 205 Bypass (LT)	Sag	B1	0.88	0.90	10	9.80	7.76	3.37	11.13	0.0175	0.0030	0.021	0.5	2.00	0.25	0.27	0.22	0.08	0.47	22.50	12.95	20	1.00	11.13	0.00		
B1S	Sta 69+22.50 205 Bypass (LT)	Sag	B1	0.78	0.90	10	9.80	6.88	0.00	6.88	0.0175	0.0030	0.021	0.5	2.00	0.25	0.27	0.26	0.09	0.39	18.79	9.81	20	1.00	6.88	0.00		
B2N	Sta 69+22.50 205 Bypass (RT)	Sag	B2	0.74	0.90	10	9.80	6.53	0.00	6.53	0.0175	0.0030	0.021	0.5	2.00	0.25	0.27	0.26	0.09	0.38	18.42	9.50	15	1.00	6.53	0.00		
B2S	Sta 69+22.50 205 Bypass (RT)	Sag	B2	0.26	0.90	10	9.80	2.29	0.00	2.29	0.0175	0.0030	0.021	0.5	2.00	0.25	0.27	0.37	0.11	0.26	12.44	4.69	15	1.00	2.29	0.00		
B3	Sta 67+00 Bypass (LT)	On Grade	B3	1.50	0.90	10	9.80	13.23	0.00	13.23	0.0175	0.0200	0.021	0.5	2.00	0.25	0.27	0.29	0.09	0.35	16.82	26.83	20	0.75	9.86	3.37	B1N	

LEGEND:
- Q - Discharge Calculated for D.A.
- CO - Carryover from upstream inlet
- Q_T - Actual Discharge = Q+CO
- n - Manning's roughness coefficient
- S_L - Longitudinal slope of roadway
- Sx or Sw - Cross-slope or Gutter Slope
- y - Gutter depth of flow
- W - Width of gutter conveying flow
- a - depth of depression
- Lr - Required inlet for 100% interception
- L - Actual inlet length
- Q - Actual inlet interception
- T- Top width of spread
- E- Efficiency

This Record Drawing is a combination of the sealed engineering contract drawings for this project, modified by information furnished by the contractor reflecting changes in the Project made during construction. The original sealed drawings are on file at the offices of
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RECORD DRAWINGS PREPARED ON: 3/16/2009

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CITY OF ROCKWALL, TEXAS
205 BYPASS CONSTRUCTION
CIVIL
STORM SEWER CALCULATIONS

RECORD DRAWINGS
VERIFY SCALE: Bar is one inch on original drawing. If not one inch on this sheet, adjust scale.

SHEET DA-4