

STORMDRAIN CALCULATIONS

FROM	TO	LENGTH (ft)	Cx	INLET TIME (min)	TOTAL INTERCEPTED Cx	TIME AT UPSTREAM OF REACH (min)	DESIGN STORM FREQUENCY (yrs)	RAINFALL INTENSITY (in/hr)	INTERCEPTED FLOW (cfs)	STORMDRAIN DIAMETER (in)	VELOCITY (ft/s)	SLOPE OF FRICTION GRADIENT (ft/ft)	STRUCTURE LOSS COEFFICIENT	STRUCTURE LOSS AT UPSTREAM OF REACH	FLOW TIME IN DRAIN (min)	TIME AT DOWNSTREAM OF REACH (min)	H.G. AT UPSTREAM OF REACH (ft)	REMARKS
INLET B-1	11+99.53	71.84	0.38	10	0.38	10.0	100	9.80	3.7	18	2.1	0.0012	1.25	0.09	0.1	10.1	577.92	STREET INLET
11+99.53	11+58.77	40.76	-	-	0.38	10.1	100	9.79	3.7	24	1.2	0.0003	0.50	0.01	0.1	10.2	574.31	
INLET B-2	11+58.77	40.44	0.41	10	0.41	10.0	100	9.80	4.0	18	2.3	0.0015	1.25	0.10	0.1	10.1	576.13	FUTURE INLET
11+58.77	9+02.59	256.18	-	-	0.79	10.2	100	9.77	7.7	24	2.5	0.0012	0.50	0.09	0.7	10.9	574.07	
9+02.59	6+24.35	278.24	-	-	0.79	10.9	100	9.67	7.6	24	2.4	0.0011	0.50	0.04	0.5	11.4	572.04	
INLET E-1	0+39.61	38.87	0.55	10	0.55	10.0	100	9.80	5.4	18	3.1	0.0026	1.25	0.18	0.0	10.0	571.18	DETAINED FLOW FROM CAR PARKING
0+39.61	6+24.35	39.61	-	-	0.55	10.0	100	9.80	5.4	18	3.1	0.0026	0.50	0.07	0.0	10.0	565.84	
6+24.35	6+11.21	13.14	-	-	1.34	11.4	100	9.59	12.9	24	4.1	0.0033	0.50	0.22	0.1	11.5	563.28	OUTFLOW TO TEMP. DRAINAGE CHANNEL

DETENTION CALCULATIONS FOR PARKING LOT AT SW CORNER OF SITE

Rainfall Duration minutes	Rainfall Intensity inches/hr	Peak Inflow cfs	Inflow Volume cubic feet	Outflow Volume cubic feet	Storage Volume cubic feet
2.00					
4.00					
6.00					
8.00					
10.00	9.80	5	3,202	1,058	2,143
12.00	9.48	5	3,717	1,164	2,552
14.00	9.16	5	4,190	1,270	2,920
16.00	8.86	5	4,633	1,376	3,257
18.00	8.59	5	5,051	1,482	3,570
20.00	8.32	5	5,434	1,587	3,847
22.00	8.04	4	5,781	1,693	4,088
24.00	7.77	4	6,092	1,799	4,293
26.00	7.50	4	6,368	1,905	4,463
28.00	7.22	4	6,608	2,011	4,597
30.00	6.95	4	6,812	2,117	4,695
32.00	6.78	4	7,092	2,222	4,869
34.00	6.62	4	7,350	2,328	5,021
36.00	6.45	4	7,586	2,434	5,152
38.00	6.28	3	7,800	2,540	5,261
40.00	6.12	3	7,993	2,646	5,347
42.00	5.95	3	8,164	2,752	5,413
44.00	5.78	3	8,313	2,857	5,456
46.00	5.62	3	8,441	2,963	5,478
48.00	5.45	3	8,546	3,069	5,477
50.00	5.28	3	8,630	3,175	5,455
52.00	5.12	3	8,692	3,281	5,412
54.00	4.95	3	8,733	3,387	5,346
56.00	4.78	3	8,751	3,492	5,259
58.00	4.62	3	8,748	3,598	5,150
60.00	4.45	2	8,723	3,704	5,019
62.00	4.39	2	8,695	3,810	5,086
64.00	4.33	2	8,660	3,916	5,145
66.00	4.28	2	8,618	4,022	5,196
68.00	4.22	2	8,568	4,127	5,240
70.00	4.16	2	8,510	4,233	5,276
72.00	4.10	2	8,444	4,339	5,305

Triangular Detention Volume (Cubic Feet) = 5,478
 Triangular Detention Volume (Acre Feet) = 0.126
 Critical Duration (min) = 46.00

Duration (min)	5 min	10 min	15 min	30 min	60 min	120 min	180 min
Intensity (in/hr)	10.05	9.80	9.00	6.95	4.45	2.70	2.00

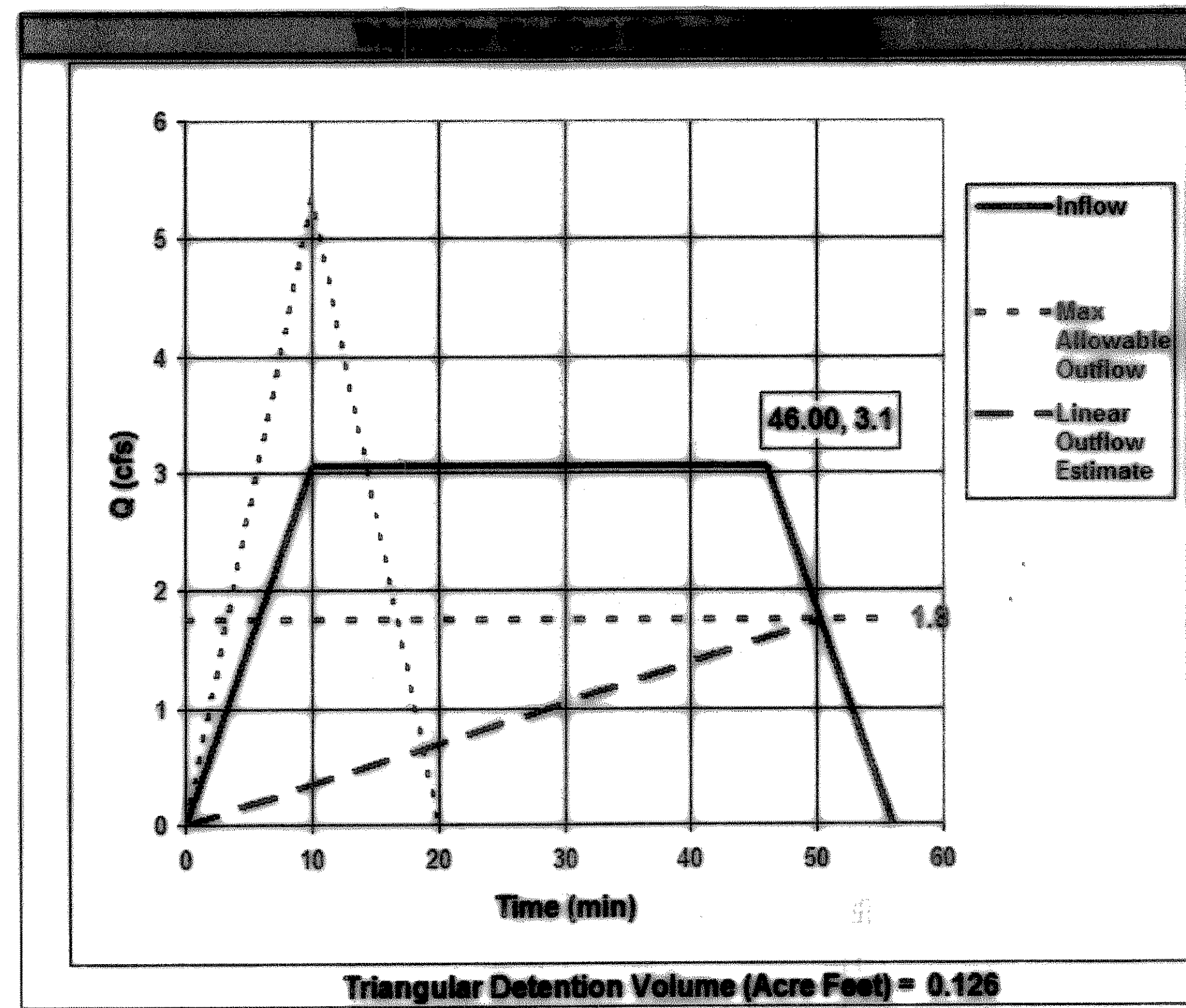
Design Information Existing Conditions

Existing Basin Runoff Coefficient C = 0.35 -
 Existing Basin Time of Concentration Tc = 10 min
 Existing Basin Area A = 0.51 acres

Maximum Allowable Runoff Q (allow) = 1.8 cfs

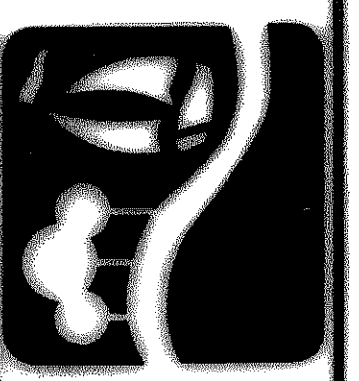
Design Information Proposed Conditions

Proposed Basin Runoff Coefficient C = 0.90 -
 Proposed Basin Time of Concentration Tc = 10 min
 Proposed Basin Area A = 0.60 acres



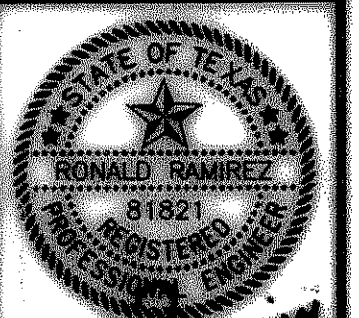
**RECORD
DRAWING
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**CITY OF
ROCKWALL
WHITMORE'S
EXPANSION**

**STORM DRAIN
CALCULATIONS**



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