

ARAPAHO ROAD  
RUNOFF CALCULATIONS - SEPTEMBER 9, 1997

AREA NO.	Tc (MIN.)	RUNOFF COEFF. "C"	INTENSITY "1-25" (IN./HR)	INTENSITY "1-100" (IN./HR)	AREA "A" (ACRES)	STORM RUNOFF "Q-25"	STORM RUNOFF "Q-100"
A-1	10.00	0.90	7.29	8.74	0.46	3.02	3.62
A-2	10.00	0.90	7.29	8.74	0.28	1.84	2.20
A-3	10.00	0.90	7.29	8.74	0.50	3.28	3.93
A-4	10.00	0.90	7.29	8.74	0.33	2.17	2.60
A-5	10.00	0.90	7.29	8.74	0.42	2.76	3.30
A-6	10.00	0.90	7.29	8.74	0.57	3.74	4.48
A-7	10.00	0.90	7.29	8.74	0.27	1.77	2.12
A-8	10.00	0.90	7.29	8.74	0.21	1.38	1.65
A-9	10.00	0.90	7.29	8.74	0.16	1.05	1.26
A-10	10.00	0.90	7.29	8.74	0.20	1.31	1.57
A-11	10.00	0.90	7.29	8.74	3.10	20.34	24.38
A-12	10.00	0.90	7.29	8.74	2.60	17.06	20.45
A-13	10.00	0.90	7.29	8.74	5.57	36.54	43.81
A-14	10.00	0.90	7.29	8.74	5.57	36.54	43.81
B-0	10.00	0.90	7.29	8.74	2.42	15.88	19.04
B-1	10.00	0.90	7.29	8.74	1.03	6.76	8.10
B-2	10.00	0.90	7.29	8.74	1.40	9.19	11.01
B-3	10.00	0.90	7.29	8.74	1.17	7.68	9.20
B-5	10.00	0.90	7.29	8.74	0.93	6.10	7.32
B-6	10.00	0.90	7.29	8.74	0.88	5.77	6.92
B-7	10.00	0.90	7.29	8.74	0.88	5.77	6.92
B-8	10.00	0.90	7.29	8.74	1.97	12.93	15.50
B-9	10.00	0.90	7.29	8.74	0.41	2.69	3.23
B-10	10.00	0.90	7.29	8.74	0.52	3.41	4.09
B-11	10.00	0.90	7.29	8.74	0.31	2.03	2.44
B-12	10.00	0.90	7.29	8.74	0.76	4.99	5.98
B-13	10.00	0.90	7.29	8.74	5.11	33.53	40.20
B-14	10.00	0.90	7.29	8.74	0.31	2.03	2.44
B-15	10.00	0.90	7.29	8.74	1.81	11.88	14.24
B-16	10.00	0.90	7.29	8.74	0.30	1.97	2.36
B-17	10.00	0.90	7.29	8.74	0.30	1.97	2.36
B-18	10.00	0.90	7.29	8.74	0.38	2.49	2.99
B-19	10.00	0.90	7.29	8.74	2.45	16.07	19.27
B-20	10.00	0.90	7.29	8.74	0.56	3.67	4.40
B-21	10.00	0.90	7.29	8.74	0.61	4.00	4.80
B-22	10.00	0.90	7.29	8.74	1.63	10.69	12.82
B-23	10.00	0.90	7.29	8.74	0.32	2.10	2.52
B-24	10.00	0.90	7.29	8.74	0.17	1.12	1.34
B-25	10.00	0.90	7.29	8.74	1.14	7.48	8.97
B-26	16.13	0.90	6.10	7.40	27.10	148.78	180.49
C-1	10.00	0.90	7.29	8.74	3.34	21.91	26.27
C-2	10.00	0.90	7.29	8.74	0.73	4.79	5.74
C-3	10.00	0.90	7.29	8.74	2.66	17.45	20.92
C-4	10.00	0.90	7.29	8.74	2.88	18.90	22.65
C-5	10.00	0.90	7.29	8.74	2.61	17.12	20.53
C-6	10.00	0.90	7.29	8.74	0.72	4.72	5.66
C-7	10.00	0.90	7.29	8.74	0.24	1.57	1.89
C-8	10.00	0.90	7.29	8.74	0.38	2.49	2.99
C-9	10.00	0.90	7.29	8.74	0.43	2.82	3.38
C-10	10.00	0.90	7.29	8.74	0.37	2.43	2.91
C-11	10.00	0.90	7.29	8.74	0.77	5.05	6.06
C-12	10.00	0.90	7.29	8.74	0.47	3.08	3.70
C-13	10.00	0.90	7.29	8.74	1.27	8.33	9.99
C-14	10.00	0.90	7.29	8.74	0.64	4.20	5.03
C-15	10.00	0.90	7.29	8.74	0.54	3.54	4.25
C-16	10.00	0.90	7.29	8.74	0.47	3.08	3.70
C-17	10.00	0.90	7.29	8.74	1.51	9.91	11.88
C-18	10.00	0.90	7.29	8.74	0.87	5.71	6.84
C-19	10.00	0.90	7.29	8.74	0.48	3.15	3.78
C-20	10.00	0.90	7.29	8.74	0.22	1.44	1.73
C-21	10.00	0.90	7.29	8.74	0.73	4.79	5.74
C-22	10.00	0.90	7.29	8.74	0.19	1.25	1.49
C-23	10.00	0.90	7.29	8.74	0.80	5.25	6.29
C-24	10.00	0.90	7.29	8.74	3.84	25.19	30.21
C-25	10.00	0.90	7.29	8.74	5.00	32.81	39.33
C-26	10.00	0.90	7.29	8.74	0.71	4.66	5.58
C-27	10.00	0.90	7.29	8.74	3.05	20.01	23.99
C-28	10.00	0.90	7.29	8.74	1.64	10.76	12.90
C-29	10.00	0.90	7.29	8.74	9.25	60.69	72.76
D-1	10.00	0.90	7.29	8.74	1.67	10.96	13.14
E-1	10.00	0.90	7.29	8.74	7.81	51.24	61.43
B-27	10.00	0.90	7.29	8.74	2.00	13.12	15.73
B-28	10.00	0.90	7.29	8.74	1.76	11.55	13.84
B-29	10.00	0.90	7.29	8.74	0.98	6.43	7.71
B-30	10.00	0.90	7.29	8.74	1.04	6.82	8.18
B-31	10.00	0.90	7.29	8.74	1.94	12.73	15.26
B-32	10.00	0.90	7.29	8.74	1.23	8.07	9.68
B-33	10.00	0.90	7.29	8.74	1.66	10.89	13.06
B-34	10.00	0.90	7.29	8.74	0.11	0.72	0.87
B-35	10.00	0.90	7.29	8.74	0.21	1.38	1.65
B-36	10.00	0.90	7.29	8.74	2.74	17.98	21.55
B-37	10.00	0.90	7.29	8.74	0.66	4.33	5.19
B-38	10.00	0.90	7.29	8.74	2.86	18.76	22.50
B-39	10.00	0.90	7.29	8.74	0.40	2.62	3.15
B-40	10.00	0.90	7.29	8.74	1.16	7.61	9.12
B-41	10.00	0.90	7.29	8.74	4.53	29.72	35.63
B-42	10.00	0.90	7.29	8.74	3.82	25.06	30.05

ARAPAHO ROAD  
INLET CALCULATIONS - SEPTEMBER 9, 1997

LINE	INLET NO.	INLET LOCATION	DESIGN STORM FREQUENCY (YRS)	TIME OF CONC. "Tc" (MIN.)	AREA RUNOFF INTENSITY "1-100" (INCHES/HOUR)	AREA RUNOFF COEFF. "C"	AREA NO.	AREA "A" (ACRES)	"Q-100" FOR AREA (CFS)	CARRY-OVER FROM UPSTREAM (CFS)	TOTAL GUTTER FLOW (CFS)	GUTTER CAPACITY ONE DRY LANE (CFS)	DEPTH OF FLOW ONE DRY LANE (FT)	GUTTER SLOPE (FT/FT)	STREET CROSS SLOPE (FT/FT)	ACTUAL DEPTH OF FLOW (FT.)	CAPACITY PER FOOT OF INLET (CFS)	REQUIRED LENGTH OF INLET (FT.)	SELECTED LENGTH OF INLET (FT.)	TYPE OF INLET	GUTTER FLOW PICKED UP (CFS)	CARRY-OVER TO DOWNSTREAM (CFS)
LINE "A" - PROPOSED ARAPAHO ROAD AT ADDISON ROAD																						
A-0	DART		100	10.00	8.74	0.90	A-0	0.79	6.21	0.00	6.21	NA	NA	NA	NA	NA	NA	NA	8	STD-SAG	6.21	0.00
A-1	43+60 LT. A		100	10.00	8.74	0.90	A-1	0.46	3.62	0.00	3.62	4.00	0.27	0.0050	0.0182	0.26	0.55	6.53	10	REC-GR	3.62	0.00
A-2	41+31.48 LT. A		100	10.00	8.74	0.90	A-2	0.28	2.20	0.00	2.20	9.21	0.45	0.0050	0.0300	0.26	1.37	1.61	6	STD-SAG	2.20	0.00
A-3	41+54 LT. A		100	10.00	8.74	0.90	A-3	0.83	6.53	0.00	6.53	38.39	0.64	0.0050	0.0182	0.33	1.60	4.08	14	REC-SAG	6.53	0.00
A-5	43+10 RT. A		100	10.00	8.74	0.90	A-5	0.42	3.30	0.00	3.30	5.00	0.31	0.0050	0.0208	0.27	0.56	5.92	10	REC-GR	3.30	0.00
A-6	42+69.87 RT. A		100	10.00	8.74	0.90	A-6	0.59	4.64	0.00	4.64	7.74	0.31	0.0120	0.0208	0.26	0.55	8.46	10	REC-GR	4.64	0.00
A-7	QUORUM CENTER		100	10.00	8.74	0.90	A-7	0.27	2.12	0.00	2.12	NA	NA	NA	NA	NA	NA	NA	SUMP	EX SAG	2.12	0.00
A-8	41+50 RT. A		100	10.00	8.74	0.90	A-8	0.37	2.91	0.00	2.91	5.00	0.31	0.0050	0.0208	0.25	1.34	2.17	14	REC-SAG	2.91	0.00
LINE "A" - EXISTING ADDISON ROAD SOUTH OF PROPOSED ARAPAHO ROAD																						
A-10	QUORUM CENTER		100	10.00	8.74	0.90	A-10	0.20	1.57	0.00	1.57	NA	NA	NA	NA	NA	NA	NA	5	EX STD-SAG	1.57	0.00
LINE "B" - EXISTING QUORUM DRIVE SOUTH OF EXISTING ARAPAHO																						
B-0	9+40 LT. Q		100	10.00	8.74	0.90	B-0	2.42	19.04	0.00	19.04	6.47	0.27	0.0180	0.0208	0.40	0.69	27.51	10&10	REC-GR/SAG	19.04	0.00
B-1	9+40 RT. Q		100	10.00	8.74	0.90	B-1	1.03	8.10	0.00	8.10	6.47	0.27	0.0180	0.0208	0.29	0.58	13.89	10&10	REC-GR/SAG	8.10	0.00
B-2	7+40 RT. Q		100	10.00	8.74	0.90	B-2	1.40	11.01	0.00	11.01	NA	NA	NA	NA	NA	NA	NA	10	EX STD-SAG	11.01	0.00
B-3	5+82.50 RT. Q		100	10.00	8.74	0.90	B-3	1.17	9.20	0.00	9.20	6.47	0.27	0.0180	0.0208	0.31	0.60	15.42	10&10	REC-GR/SAG	9.20	0.00
B-4	5+50 LT. Q		100	10.00	8.74	0.90	B-4	1.26	9.91	0.00	9.91	6.47	0.27	0.0180	0.0208	0.32	0.61	16.38	10	EX REC-GR	6.10	3.81
B-5	2+13 LT. Q		100	10.00	8.74	0.90	B-5	0.93	7.32	3.81	11.13	3.41	0.27	0.0050	0.0208	0.42	1.95	5.70	10	EX REC-SAG	11.13	0.00
B-6	2+11 RT. Q		100	10.00	8.74	0.90	B-6	0.88	6.92	0.00	6.92	3.41	0.27	0.0050	0.0208	0.35	1.69	4.10	10	EX REC-SAG	6.92	0.00
B-7	0+50 LT. Q		100	10.00	8.74	0.90	B-7	0.88	6.92	0.00	6.92	NA	NA	NA	NA	NA	NA	NA	12	EX DROP-SAG	6.92	0.00
B-8	0+50 RT. Q		100	10.00	8.74	0.90	B-8	1.97	15.50	0.00	15.50	NA	NA	NA	NA	NA	NA	NA	12	EX DROP-SAG	15.50	0.00
LINE "B" - EXISTING ARAPAHO ROAD AT PROPOSED ARAPAHO ROAD																						
B-9	4+21 RT. EA		100	10.00	8.74	0.90	B-9	0.41	3.23	0.00	3.23	3.92	0.38	0.0068	PARABOLIC	0.35	0.64	5.05	6	REC-GR	3.23	0.00
B-10	44+98 RT. A		100	10.00	8.74	0.90	B-10	0.52	4.09	0.00	4.09	5.00	0.31	0.0050	0.0208	0.29	0.58	7.07	8	REC-GR	4.09	0.00
B-11	4+27 LT. EA		100	10.00	8.74	0.90	B-11	0.31	2.44	0.00	2.44	3.59	0.38	0.0057	PARABOLIC	0.34	0.63	3.88	6	REC-GR	2.44	0.00
LINE "B" - EXISTING ARAPAHO ROAD WEST OF QUORUM DRIVE																						
B-12	SUMMERFIELD		100	10.00	8.74	0.90	B-12	0.76	5.98	0.00	5.98	NA	NA	NA	NA	NA	NA	NA	5	EX STD-SAG	5.98	0.00
B-13	7+20 RT. EA		100	10.00	8.74	0.90	B-13	5.11	40.20	0.00	40.20	NA	NA	NA	NA	NA	NA	NA	12	EX DROP-SAG	40.20	0.00
B-14	9+58 LT. EA		100	10.00	8.74	0.90	B-14	0.31	2.44	0.00	2.44	3.36	0.38	0.0050	PARABOLIC	0.34	1.63	1.50	10	EX REC-SAG	2.44	