

Drainage Summary

Drainage Summary

Project AUTOZONE Alameda & Coors
 Project Number: 20615
 Date: ~~10/14/05~~ 12.12.05
 By: ASCG

Site Location

Precipitation Zone

1 Per Table A-1 COA DPM Section 22.2

Existing summary

Basin Name		BASIN 1 ONSITE	BASIN 2 ONSITE		BASIN 1 OFFSITE	BASIN 2 OFFSITE	TOTAL
Soil Treatment (acres)							
Area "A"		0.00	0.00	0.00	0.00	0.00	0.00
Area "B"		0.00	0.00	0.00	0.00	0.00	0.00
Area "C"		0.90	0.05	0.00	0.00	0.00	0.95
Area "D"		0.00	0.20	0.00	0.08	0.09	0.37
	TOTAL	0.90	0.25	0.00	0.08	0.09	1.32
Excess Runoff (acre-feet)							
100yr. 6hr.		0.07	0.04	#DIV/0!	0.01	0.01	0.11
10yr. 6hr.		0.03	0.02	#DIV/0!	0.01	0.01	0.06
2yr. 6hr.		0.01	0.01	#DIV/0!	0.00	0.01	0.02
100yr. 24hr.		0.07	0.04	#DIV/0!	0.02	0.02	0.12
	TOTAL	0.19	0.12	#DIV/0!	0.04	0.05	0.31
Peak Discharge (cfs)							
100 yr.		2.58	1.02	0.00	0.35	0.39	4.34
10yr.		1.34	0.65	0.00	0.23	0.26	2.48
2yr.		0.42	0.36	0.00	0.14	0.15	1.07
	TOTAL	4.35	2.03	0.00	0.72	0.81	7.90

Proposed summary

Basin Name		BASIN 1 ONSITE	BASIN 2 ONSITE	BASIN 3 ONSITE	BASIN 1 OFFSITE	BASIN 2 OFFSITE	TOTAL
Soil Treatment (acres)							
Area "A"		0.00	0.00	0.00	0.00	0.00	0.00
Area "B"		0.05	0.05	0.08	0.00	0.00	0.18
Area "C"		0.00	0.00	0.00	0.00	0.00	0.00
Area "D"		0.44	0.20	0.32	0.08	0.09	1.13
	TOTAL	0.49	0.25	0.40	0.08	0.09	1.31
Excess Runoff (acre-feet)							
100yr. 6hr.		0.08	0.04	0.06	0.01	0.01	0.11
10yr. 6hr.		0.05	0.02	0.03	0.01	0.01	0.07
2yr. 6hr.		0.03	0.01	0.02	0.00	0.01	0.04
100yr. 24hr.		0.09	0.04	0.07	0.02	0.02	0.14
	TOTAL	0.24	0.11	0.18	0.04	0.05	0.35
Peak Discharge (cfs)							
100 yr.		2.02	0.98	1.56	0.35	0.39	5.30
10yr.		1.31	0.62	0.99	0.23	0.26	3.40
2yr.		0.75	0.34	0.54	0.14	0.15	1.92
	TOTAL	4.08	1.93	3.09	0.72	0.81	10.62

Existing hyd.

BPLW

Architects and Engineers

PROJECT AUTOZONE Alameda & Coors
PROJECT NO. 20615.00
DATE ~~10/14/05~~ 12/12/05
BY ASCG

DPM Section 22.2 - Hydrology

Part A-Watersheds less than 40 acres.
January, 1993

INSTRUCTIONS

- * Spread sheet requires three input areas (dark cells):
 - Location
 - >A. 1 Precipitation Zone
 - >A. 3 Land Treatments
- * Values from the tables are automatically placed using "if" statements.
- * Table values should be checked for correctness for each use.

SUMMARY

Location	0	BASIN 1 ONSITE	BASIN 2 ONSITE	BASIN 1 OFFSITE	BASIN 2 OFFSITE	TOTALS	
Precipitation Zone		1	1	1	1	1	acres
Land Area		0.90	0.25	0.08	0.09	1.32	
Excess Precipitation Volume							
>>> 100-year 6-hour (design)		0.07	0.04	0.01	0.01	0.14	acre-ft.
10-year 6-hour		0.03	0.02	0.01	0.01	0.07	acre-ft.
2-year 6-hour		0.01	0.01	0.00	0.01	0.03	acre-ft.
100-year 24-hour		0.07	0.04	0.02	0.02	0.15	acre-ft.
Peak Discharge Rates (DPM)							cfs
>>> Q100 (design)		2.58	1.02	0.35	0.39	4.34	
Q10		1.34	0.65	0.23	0.26	2.48	cfs
Q2		0.42	0.36	0.14	0.15	1.07	cfs

CALCULATIONS FOLLOW

Existing hyd.

INPUT AND CALCULATIONS

LOCATION		BASIN 1	BASIN 2	BASIN 1	BASIN 2
>A.1 PRECIPITATION ZONE (from Table A-1)		ONSITE	ONSITE	OFFSITE	OFFSITE
1		1	1	1	1
>A.2 DEPTHS					
(from Table A-2)					
100-YEAR STORM (P60)		1.87	1.87	1.87	1.87
100-YEAR STORM (P360)		2.20	2.20	2.20	2.20
100-YEAR STORM (P1440)		2.66	2.66	2.66	2.66
10-YEAR (P360) (Calculated: P360*RPF10)		1.47	1.47	1.47	1.47
2-YEAR (P360) (Calculated: P360*RPF2)		0.95	0.95	0.95	0.95
>A.3 LAND TREATMENTS (A1)					
Treatment A		0.00	0.00	0.00	0.00
Treatment B		0.00	0.00	0.00	0.00
Treatment C		0.90	0.05	0.00	0.00
Treatment D		0.00	0.20	0.08	0.09
Total Area		0.90	0.25	0.08	0.09
					1.32
>A.4 ABSTRACTIONS					
CALCULATIONS FOLLOW		See A.5	See A.5	See A.5	See A.5

Existing hyd.

INPUT AND CALCULATIONS (CONT)

>A.5 EXCESS PRECIPITATION 6 HOUR AND 24 HOUR (EI)

from Table A-8

100-year 6-hour									
									TOTALS
Treatment A	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	inches
Treatment B	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	inches
Treatment C	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	inches
Treatment D	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	inches
WEIGHTED E (Sum EI*AI/A)	0.99	1.77	1.97	1.97	1.97	1.97	1.26		inches
VOLUME V100:6h (E*A)	0.07	0.04	0.01	0.01	0.01	0.01	0.14		acre-ft.
	3,234.33	1,609.91	572.09	643.60	6,059.92				ft^3
=====									
10-year 6-hour									
Treatment A	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	inches
Treatment B	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	inches
Treatment C	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	inches
Treatment D	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	inches
WEIGHTED E (Sum EI*AI/A)	0.44	1.08	1.24	1.24	1.24	1.24	0.66		inches
VOLUME V10:6h (E*A)	0.03	0.02	0.01	0.01	0.01	0.01	0.07		acre-ft.
	1,437.48	980.10	360.10	405.11	3,182.78				ft^3
=====									
2-year 6-hour									
Treatment A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
Treatment B	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	inches
Treatment C	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	inches
Treatment D	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	inches
WEIGHTED E (Sum EI*AI/A)	0.12	0.60	0.72	0.72	0.72	0.72	0.29		inches
VOLUME V2:6h (E*A)	0.01	0.01	0.00	0.01	0.01	0.01	0.03		acre-ft.
	392.04	544.50	209.09	235.22	1,380.85				ft^3
=====									
100-year 24-hour									
VOLUME V100:24h (V100-6h+Ad*P1440-P360)/12)	0.07	0.04	0.02	0.02	0.02	0.15			acre-ft.
	3,234.33	1,943.87	705.67	793.88	6,677.75				ft^3
=====									

CALCULATIONS FOLLOW

Existing hyd.

INPUT AND CALCULATIONS (CONT)

>A.6 PEAK DISCHARGE RATE FOR SMALL WATERSHEDS (qi)

from Table A-9

		100-year				TOTALS	
Treatment A	1.29	1.29	1.29	1.29	1.29	cfs/acre	
Treatment B	2.03	2.03	2.03	2.03	2.03	cfs/acre	
Treatment C	2.87	2.87	2.87	2.87	2.87	cfs/acre	
Treatment D	4.37	4.37	4.37	4.37	4.37	cfs/acre	
Q100 (Sum Qi*Ai)		2.58	1.02	0.35	0.39	4.34	cfs
		=====					
		10-year					
Treatment A	0.24	0.24	0.24	0.24	0.24	cfs/acre	
Treatment B	0.76	0.76	0.76	0.76	0.76	cfs/acre	
Treatment C	1.49	1.49	1.49	1.49	1.49	cfs/acre	
Treatment D	2.89	2.89	2.89	2.89	2.89	cfs/acre	
Q10 (Sum Qi*Ai)		1.34	0.65	0.23	0.26	2.48	cfs
		=====					
		2-year					
Treatment A	0.00	0.00	0.00	0.00	0.00	cfs/acre	
Treatment B	0.03	0.03	0.03	0.03	0.03	cfs/acre	
Treatment C	0.47	0.47	0.47	0.47	0.47	cfs/acre	
Treatment D	1.69	1.69	1.69	1.69	1.69	cfs/acre	
Q2 (Sum Qi*Ai)		0.42	0.36	0.14	0.15	1.07	cfs
		=====					

CALCULATIONS FOLLOW

BPLW

Architects and Engineers

PROJECT **AUTOZONE Alameda & Coors**
 PROJECT NO. 20615
 DATE ~~10/11/05~~ 12/12/05
 BY ASCG

DPM Section 22.2 - Hydrology

Part A-Watersheds less than 40 acres,
 January, 1993

INSTRUCTIONS

- * Spread sheet requires three input areas (dark cells):
 Location
 > A.1 Precipitation Zone
 > A.3 Land Treatments
- * Values from the tables are automatically placed using "if" statements.
- * Table values should be checked for correctness for each use.

SUMMARY

Location	BASIN 1 ONSITE	BASIN 2 ONSITE	BASIN 3 ONSITE	BASIN 1 OFFSITE	BASIN 2 OFFSITE	TOTALS	
Precipitation Zone	1	1	1	1	1	1	
Land Area	0.49	0.25	0.40	0.08	0.09	1.31	acres
Excess Precipitation Volume							
>>> 100-year 6-hour (design)	0.08	0.04	0.06	0.01	0.01	0.20	acre-ft.
10-year 6-hour	0.05	0.02	0.03	0.01	0.01	0.12	acre-ft.
2-year 6-hour	0.03	0.01	0.02	0.00	0.01	0.07	acre-ft.
100-year 24-hour	0.09	0.04	0.07	0.02	0.02	0.24	acre-ft.
Peak Discharge Rates (DPM)							cfs
>>> Q100 (design)	2.02	0.98	1.56	0.35	0.39	5.30	cfs
Q10	1.31	0.62	0.99	0.23	0.26	3.40	cfs
Q2	0.75	0.34	0.54	0.14	0.15	1.92	cfs
CALCULATIONS FOLLOW							

INPUT AND CALCULATIONS

LOCATION		BASIN 1 ONSITE	BASIN 2 ONSITE	BASIN 3 ONSITE	BASIN 1 OFFSITE	BASIN 2 OFFSITE	TOTALS
>A.1 PRECIPITATION ZONE (from Table A-1)		1	1	1	1	1	1
>A.2 DEPTHS							
(from Table A-2)							
100-YEAR STORM (P60)		1.87	1.87	1.87	1.87	1.87	1.87
100-YEAR STORM (P360)		2.20	2.20	2.20	2.20	2.20	2.20
100-YEAR STORM (P1440)		2.66	2.66	2.66	2.66	2.66	2.66
10-YEAR (P360) (Calculated: P360*RPF10)		1.47	1.47	1.47	1.47	1.47	1.47
2-YEAR (P360) (Calculated: P360*RPF2)		0.95	0.95	0.95	0.95	0.95	0.95
>A.3 LAND TREATMENTS (AI)							
Treatment A		0.00	0.00	0.00	0.00	0.00	0.00
Treatment B		0.05	0.05	0.08	0.00	0.00	0.18
Treatment C		0.00	0.00	0.00	0.00	0.00	0.00
Treatment D		0.44	0.20	0.32	0.08	0.09	1.13
Total Area		0.49	0.25	0.40	0.08	0.09	1.31
>A.4 ABSTRACTIONS							
CALCULATIONS FOLLOW		See A.5	See A.5	See A.5	See A.5	See A.5	See A.5

INPUT AND CALCULATIONS (CONT)

>A.5 EXCESS PRECIPITATION 6 HOUR AND 24 HOUR (EI)

from Table A-8

TOTALS

100-year 6-hour											
Treatment A	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	inches
Treatment B	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	0.67	inches
Treatment C	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	inches
Treatment D	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	1.97	inches
WEIGHTED E (Sum EI*AI/A)	1.84	1.71	1.71	1.71	1.97	1.97	1.97	1.79			inches
VOLUME V100:6h (E*A)	0.08	0.04	0.06	0.01	0.01	0.01	0.20				acre-ft.
	3,268.09	1,551.83	2,482.92	572.09	643.60	8,518.52					ft ³
=====											
10-year 6-hour											
Treatment A	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	inches
Treatment B	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	inches
Treatment C	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	0.44	inches
Treatment D	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	1.24	inches
WEIGHTED E (Sum EI*AI/A)	1.14	1.04	1.04	1.24	1.24	1.24	1.10				inches
VOLUME V10:6h (E*A)	0.05	0.02	0.03	0.01	0.01	0.01	0.12				acre-ft.
	2,020.46	940.17	1,504.27	360.10	405.11	5,230.10					ft ³
=====											
2-year 6-hour											
Treatment A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	inches
Treatment B	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	inches
Treatment C	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	0.12	inches
Treatment D	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	0.72	inches
WEIGHTED E (Sum EI*AI/A)	0.65	0.58	0.58	0.72	0.72	0.72	0.62				inches
VOLUME V2:6h (E*A)	0.03	0.01	0.02	0.00	0.01	0.01	0.07				acre-ft.
	1,151.80	524.54	839.26	209.09	235.22	2,959.90					ft ³
=====											
100-year 24-hour											
VOLUME V100:24h	0.09	0.04	0.07	0.02	0.02	0.24					acre-ft.
(V100-6h+Ad*P1440-P360)/12)	4,002.80	1,885.79	3,017.26	705.67	793.88	10,405.40					ft ³
=====											

CALCULATIONS FOLLOW

INPUT AND CALCULATIONS (CONT)

>A.6 PEAK DISCHARGE RATE FOR SMALL WATERSHEDS (QI)

from Table A-9

										TOTALS
100-year										
Treatment A	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	1.29	cfs/acre
Treatment B	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	2.03	cfs/acre
Treatment C	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87	2.87	cfs/acre
Treatment D	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	4.37	cfs/acre
Q100 (Sum QI*AI)	2.02	0.98	1.56	0.35	0.39	5.30				cfs
10-year										
Treatment A	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	0.24	cfs/acre
Treatment B	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	0.76	cfs/acre
Treatment C	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	1.49	cfs/acre
Treatment D	2.89	2.89	2.89	2.89	2.89	2.89	2.89	2.89	2.89	cfs/acre
Q10 (Sum QI*AI)	1.31	0.62	0.99	0.23	0.26	3.40				cfs
2-year										
Treatment A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	cfs/acre
Treatment B	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	cfs/acre
Treatment C	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	0.47	cfs/acre
Treatment D	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	1.69	cfs/acre
Q2 (Sum QI*AI)	0.75	0.34	0.54	0.14	0.15	1.92				cfs

CALCULATIONS FOLLOW