

**BOSQUECITO SUBDIVISION
DRAINAGE STUDY**

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I. INTRODUCTION

On January 16, 2009 we received EPC approval for the Bosquecito Subdivision. The proposed development consists of approximately 7.2 acres located at the southwest corner of Coors Boulevard and Bosque Meadows Road. The subdivision consists of 41 lots, and 9 tracts. One of the major components for the proposed development includes creating a Drainage Management Plan to identify the on-site and off-site grading and drainage requirements.

The proposed development lies within the limits of the North Coors Drainage Management Plan (NMDMP). In accordance with the NCDMP, we will provide de-sedimentation prior to discharging into the Corrales Main Canal while restricting flow rates to meet the approved allowable peak discharges. The purpose of the Bosquecito Subdivision Drainage Management Plan is to obtain preliminary plat approval from City of Albuquerque. In the process we will seek to obtain approval from AMAFCA, and MRGCD.

II. HYDROLOGY

The existing site is currently undeveloped sloping to the southwest at 3.5%. In addition, the proposed site receives off-site storm water from multiple off site basin located on the west side of Coors Boulevard.

A. Off-Site Basin 15.1W:

Basin 15.1W is identified in the NCDMP report as a 16.34 acres subdivision comprised of 5 acre tracts, platted for residential development. The storm water runoff from these tracts equates to approximately 30 cfs. These flows collect along the west side of Coors Blvd before entering the two (2) existing 24" culverts. The culverts route the storm water to the east side of Coors Blvd, and collect into an existing open space tract north of the proposed site. During large storm events, the storm water discharges into the Corrales Main Canal.

B. Off-Site Basin 15.2W:

Basin 15.2W is identified in the NCDMP report as a 40.80 acre basin comprised of 5 acre tracts also platted for residential development. Storm water generated from this site also collects along the west side of Coors Boulevard, and likewise are routed to the east side of Coors Boulevard through two existing 24" culverts. The storm water runoff from these tracts equates to approximately 75 cfs.

C. Off-Site Basin 16.1W and 16.2W:

Currently Basins 16.1W and 16.2W as identified in the NCDMP discharges into a 24" storm drain located in the Bosque Meadows Subdivision. The storm water is routed south into an existing retention pond located on an open space tract immediately north of the proposed site

III. DRAINAGE DESIGN CRITERIA

The proposed drainage plan was prepared in accordance with Section 22.2, Hydrology, of the Development Process Manual, Volume 2, Design Criteria, January 1993 edition. The existing and proposed site hydrological conditions were analyzed and modeled for the 100-year, 6-hour storm event. The developed conditions model will provide an interim condition analysis the proposed development projecting a worse case scenario of all the off-site basins. All analysis and calculations supporting this report are located in Appendix B. Existing condition peak flows and developed condition peak flows were determined using the Arid-lands Hydrologic Model (AHYMO).

IV. PROPOSED DEVELOPED CONDITIONS

As previously mention, the Bosquecito Subdivision falls with in the limits of the NCDMP. The proposed drainage management plan consists of providing de-sedimentation and restricting flow rates to match the total discharge allowances present in the NCDMP prior to entering the Corrales Main Canal.

A. Off-Site Drainage

The proposed Bosquecito Subdivision is impacted by four (4) offsite drainage basins located on the west side of Coors Boulevard. Basins 16.1W and 16.2W currently discharge into an existing retention pond located on an existing open space tract. The drainage plan will modify this existing retention pond to function as a detention pond which will discharge into the adjacent Corrales Main Canal. Basins 15.2W will be routed in a storm drain through the Bosquecito Subdivision and outfall into the existing concrete rundown. The sediment will be removed utilizing storm water quality separators located at the end of the existing 36" culverts within Coors Boulevard. Basin 15.1W will continue to discharge into the open space tract following its historical path and pond within the existing low lying areas. The storm water will discharge into proposed concrete channels and valley gutters within the Bosquecito Subdivision eventually discharging into the existing concrete rundown for the Corrales main Canal.

B. On-Site Drainage

The Bosquecito Subdivision will collect all storm water utilizing the proposed streets. The flow will be diverted into two locations and and discharged into the existing concrete rundowns for the Corrales main Canal. All proposed storm collect facilities will be sized to carry the 100-year, 6-hour storm event.

Table 1: Drainage Basins Land Treatments

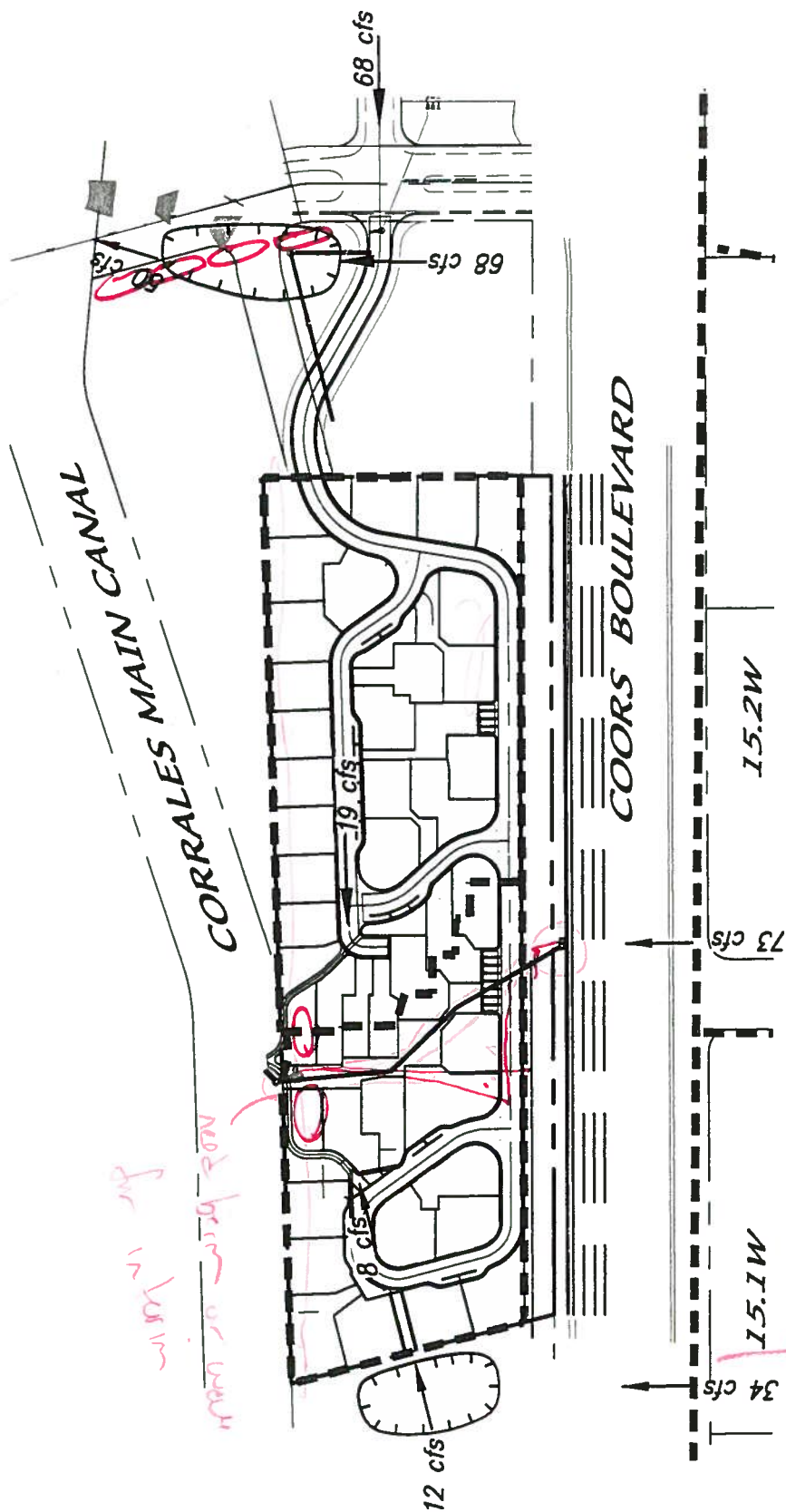
Basin	Drainage Area (sq. mi.)	Tp	Land Treatments			
			A	B	C	D
15.1W	.0256	0.1333	67%	10%	15%	8%
15.2W	.0638	0.1333	67%	10%	15%	8%
16.1W	.0333	0.1333	67%	10%	15%	8%
16.2W	.0665	0.1333	67%	10%	15%	8%
15.4 (Bosquecito)	0.01125	0.1333	0%	20%	20%	60%

V. SUMMARY

The Bosquecito Subdivision Drainage Management Plan provides solutions for the development that addresses both offsite and on-site drainage basins and meets the NCDMP requirements. The proposed improvements will provide a permanent solution to the temporary retention pond located on the open space tract. In addition, the remaining off-site flows from the west side of Coors Boulevard will have a permanent outfall in the Corrales main Canal. All proposed drainage improvements addressed herein will be constructed in accordance with the current City of Albuquerque standards.

APPENDIX A

BASIN MAPS



SCALE: 1"=200'



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TITLE:

ONSITE DRAINAGE BASIN MAP

BOSQUECITO SUBDIVISION

CITY PROJECT NO.

ZONE MAP NO.

SHEET OF

D-12-13

FIGURE 1

CORRALES MAIN

12 cfs

34 cfs

15.1W

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DRAINAGE BASIN MAP
MECITO SUBDIVISION

ZONE MAP NO.

D-12-13

FIGURE 2

APPENDIX B

***AHYMO SUMMARY
DEVELOPED CONDITIONS***



PRECIPITATION ESTIMATES FROM NOAA ATLAS 14



ALBUQUERQUE WSFO AIRPO, NEW MEXICO (29-0234) 35.0422 N 106.6064 W 5298 feet

from "Precipitation-Frequency Atlas of the United States" NOAA Atlas 14, Volume 1, Version 4

G.M. Bonnin, D. Martin, B. Lin, T. Parzybok, M. Yekta, and D. Riley

NOAA, National Weather Service, Silver Spring, Maryland, 2006

Extracted: Mon Feb 23 2009

Confidence Limits

Seasonality

Location Maps

Other Info.

GIS data

Maps

Docs

Return to State Map

Precipitation Frequency Estimates (inches)

ARI* (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	1 day	7 day	10 day	20 day	30 day	45 day	60 day
1	0.18	0.27	0.33	0.45	0.55	0.63	0.67	0.78	0.86	0.98	1.05	1.21	1.40	1.54	1.96	2.34	2.84	3.28
2	0.23	0.35	0.43	0.58	0.72	0.81	0.85	0.98	1.08	1.23	1.31	1.51	1.73	1.92	2.43	2.91	3.52	4.07
5	0.30	0.46	0.57	0.77	0.95	1.06	1.11	1.25	1.36	1.53	1.63	1.85	2.12	2.35	2.96	3.51	4.21	4.87
10	0.36	0.55	0.68	0.92	1.14	1.27	1.31	1.47	1.59	1.77	1.88	2.13	2.42	2.69	3.36	3.96	4.70	5.43
25	0.44	0.67	0.83	1.12	1.39	1.55	1.60	1.76	1.89	2.10	2.22	2.50	2.82	3.15	3.87	4.52	5.30	6.13
50	0.50	0.77	0.95	1.28	1.58	1.77	1.82	1.99	2.11	2.35	2.48	2.79	3.12	3.50	4.25	4.93	5.73	6.60
100	0.57	0.86	1.07	1.44	1.78	2.01	2.06	2.23	2.35	2.61	2.75	3.08	3.42	3.84	4.61	5.31	6.12	7.05
200	0.63	0.97	1.20	1.61	2.00	2.25	2.31	2.47	2.59	2.87	3.02	3.37	3.72	4.19	4.96	5.68	6.47	7.45
500	0.72	1.10	1.37	1.84	2.28	2.60	2.66	2.81	2.92	3.22	3.38	3.75	4.11	4.63	5.40	6.13	6.88	7.92
1000	0.79	1.21	1.50	2.02	2.50	2.87	2.94	3.08	3.17	3.49	3.65	4.05	4.40	4.97	5.72	6.45	7.15	8.24

* These precipitation frequency estimates are based on a partial duration series. ARI is the Average Recurrence Interval.

Please refer to NOAA Atlas 14 Document for more information. NOTE: Formatting forces estimates near zero to appear as zero.

* Upper bound of the 90% confidence interval

Precipitation Frequency Estimates (inches)

ARI** (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	1 day	7 day	10 day	20 day	30 day	45 day	60 day
1	0.20	0.30	0.38	0.51	0.63	0.72	0.76	0.88	0.96	1.09	1.16	1.31	1.50	1.65	2.10	2.50	3.03	3.51
2	0.26	0.39	0.49	0.66	0.81	0.92	0.96	1.11	1.21	1.36	1.45	1.63	1.87	2.05	2.61	3.11	3.76	4.35
5	0.34	0.52	0.65	0.87	1.08	1.21	1.26	1.42	1.51	1.70	1.79	2.00	2.29	2.51	3.17	3.74	4.49	5.18
10	0.41	0.62	0.77	1.04	1.28	1.44	1.48	1.65	1.76	1.96	2.06	2.30	2.61	2.88	3.59	4.22	5.01	5.79
25	0.50	0.76	0.94	1.27	1.57	1.75	1.80	1.98	2.09	2.31	2.43	2.70	3.03	3.36	4.14	4.81	5.64	6.53
50	0.57	0.86	1.07	1.44	1.78	2.00	2.05	2.23	2.34	2.59	2.71	3.01	3.35	3.72	4.54	5.24	6.09	7.03
100	0.64	0.97	1.21	1.63	2.01	2.27	2.32	2.51	2.60	2.87	3.00	3.32	3.68	4.09	4.92	5.65	6.50	7.51
200	0.71	1.09	1.35	1.82	2.25	2.54	2.61	2.78	2.87	3.15	3.30	3.63	4.00	4.46	5.29	6.05	6.88	7.95
500	0.82	1.25	1.55	2.08	2.58	2.92	3.00	3.17	3.24	3.54	3.69	4.05	4.42	4.95	5.76	6.53	7.31	8.46
1000	0.90	1.37	1.70	2.29	2.83	3.24	3.33	3.48	3.54	3.84	4.00	4.38	4.74	5.32	6.11	6.88	7.60	8.80

* The upper bound of the confidence interval at 90% confidence level is the value which 5% of the simulated quantile values for a given frequency are greater than.

** These precipitation frequency estimates are based on a partial duration series. ARI is the Average Recurrence Interval.

Please refer to NOAA Atlas 14 Document for more information. NOTE: Formatting prevents estimates near zero to appear as zero.

* Lower bound of the 90% confidence interval

Precipitation Frequency Estimates (inches)

ARI** (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	1 day	7 day	10 day	20 day	30 day	45 day	60 day
1	0.16	0.24	0.29	0.40	0.49	0.56	0.60	0.70	0.77	0.89	0.95	1.12	1.30	1.43	1.82	2.19	2.67	3.07
2	0.20	0.31	0.38	0.51	0.63	0.72	0.75	0.87	0.98	1.12	1.20	1.40	1.61	1.78	2.27	2.71	3.31	3.81
5	0.27	0.41	0.50	0.68	0.84	0.94	0.99	1.12	1.22	1.39	1.49	1.72	1.97	2.19	2.76	3.28	3.95	4.57
10	0.32	0.48	0.60	0.81	1.00	1.11	1.16	1.31	1.42	1.61	1.71	1.98	2.25	2.51	3.13	3.69	4.41	5.10
25	0.39	0.59	0.73	0.98	1.21	1.35	1.40	1.55	1.68	1.90	2.02	2.32	2.62	2.92	3.61	4.21	4.98	5.74
50	0.43	0.66	0.82	1.11	1.37	1.54	1.59	1.74	1.87	2.11	2.25	2.58	2.90	3.24	3.94	4.58	5.38	6.18
100	0.49	0.74	0.92	1.24	1.53	1.73	1.79	1.94	2.07	2.35	2.48	2.83	3.17	3.55	4.27	4.94	5.73	6.59
200	0.54	0.82	1.02	1.38	1.70	1.92	1.99	2.15	2.27	2.56	2.71	3.09	3.44	3.85	4.58	5.27	6.06	6.97
500	0.61	0.93	1.16	1.55	1.93	2.19	2.25	2.42	2.53	2.85	3.02	3.43	3.78	4.24	4.98	5.67	6.43	7.41
1000	0.67	1.01	1.26	1.70	2.10	2.40	2.46	2.63	2.73	3.08	3.25	3.68	4.02	4.53	5.26	5.96	6.68	7.71

* The lower bound of the confidence interval at 90% confidence level is the value which 5% of the simulated quantile values for a given frequency are less than.

** These precipitation frequency estimates are based on a partial duration maxima series. ARI is the Average Recurrence Interval.

Please refer to NOAA Atlas 14 Document for more information. NOTE: Formatting prevents estimates near zero to appear as zero.

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -
INPUT FILE = BOSQUE.DAT

A.....SUM

- VERSION: 1997.02d RUN DATE (MON/DAY/YR) =02/23/2009
USER NO.= AHYMO-I-9702dGoodwinM-AH

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE =	NOTATION
---------	------------------------------	----------------	--------------	-----------------	----------------------------	-----------------------------	--------------------	----------------------------	--------------------	--------	----------

START

TIME= .00

BOSQUECITO SUBDIVISION

*S 100-YR, 24-HR STORM WITH SEDIMENT

*S FILE NAME: BOSQUE.DAT

*S BY: SCOTT MEDINA

*S REVISED BY MARK GOODWIN AND ASSOCIATES 02-20-08.

*S *****

*S THE FOLLOWING MODEL REPRESENTS THE DEVELOPED CONDITIONS FOR THE

*S BOSQUECITO SUBDIVISION AND THE OFFSITE DRAINAGE BASINS

*S *****

*S ANALYSIS ASSUMPTIONS:

*S *****

*S 1. THE PUNCH HYD COMMAND WAS ADDED TO THE END OF THIS FILE SO THE OUTFALL

*S HYDROGRAPH COULD BE USED IN THE AMOLE DEL NORTE EXISTING CONDITIONS MODEL

*S AA100D1B.DAT, WHICH WILL BE USED IN THE ANALYSIS OF THE AMOLE ARROYO SYSTE

*S

*S

*S *****

*S 100 YEAR 24 HOUR RAINFALL FROM NOAA ATLAS 14

RAINFALL TYPE= 2

*S *****

*S

*S ***** SOUTH OFF-SITE BASINS *****

*S CALCULATE THE FLOW FROM SUB-BASINS 16.2W

*S COMPUTE NM HYD 16.2W - 1

*S

*S CALCULATE THE FLOW FROM SUB-BASIN 16.1W

*S COMPUTE NM HYD 16.10 - 2

*S

*S ADD THE FLOW FROM BASIN 16.2W AND 16.1W

*S ADD HYD 16.20 2& 1 3

*S

*S ROUTE FLOW FROM BASIN 16.2W THROUGH 24" STORM DRAIN

*S ROUTE 16.20 3 4

*S

*S ROUTE TOTAL FLOW THROUGH SEDIMENTATION POND.

*S ROUTE RESERVOIR 15.30 4 5

*S

*S ***** NORTH OFF-SITE BASINS *****

*S CALCULATE THE FLOW FROM SUB-BASIN 15.1W

*S COMPUTE NM HYD 15.10 - 6

*S

*S ROUTE TOTAL FLOW THROUGH SEDIMENTATION POND.

*S ROUTE RESERVOIR 15.30 6 7

*S

*S ***** ON-SITE BASINS *****

*S CALCULATE THE FLOW FROM SUB-BASINS 15.4N (BOSQUECITO - NORTH)

*S COMPUTE NM HYD 15.40 - 8

*S

*S ADD THE FLOW FROM BASIN 15.1W AND 15.4N

*S ADD HYD 16.20 7& 8 9

Page 1

RAIN24= 2.610

1.500 1.727 PER IMP= 8.00

1.500 1.727 PER IMP= 8.00

1.500 1.727

1.550 1.639

1.650 1.204 AC-FT= .869

1.500 1.727 PER IMP= 8.00

1.750 .586 AC-FT= .451

1.500 3.756 PER IMP= 80.00

1.500 .846

*S

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE =
*S	COMPUTE NM HYD	15.20	- 10	.06650	73.57	2.338	.65916	1.500	1.729	PER IMP= 8.00
*S	COMPUTE NM HYD	15.40	- 11	.00788	18.91	.860	2.04828	1.500	3.752	PER IMP= 80.00

FINISH

(s10H

RUN DATE (MON/DAY/YR) = 02/23/2009

START TIME (HR:MIN:SEC) = 09:20:46

USER NO. = AHYMO-I-9702dGoodwinM-AH

INPUT FILE = BOSQUE.DAT

START 0.0 HOURS PC=0 PL=-1

*S

*S

BOSQUECITO SUBDIVISION

*S

*S

*S

*S

*S 100-YR, 24-HR STORM WITH SEDIMENT

*S FILE NAME: BOSQUE.DAT

*S BY: SCOTT MEDINA

*S REVISED BY MARK GOODWIN AND ASSOCIATES 02-20-08.

*S

*S*****

*S THE FOLLOWING MODEL REPRESENTS THE DEVELOPED CONDITIONS FOR THE

*S BOSQUECITO SUBDIVISION AND THE OFFSITE DRAINAGE BASINS

*S

*S*****

*S ANALYSIS ASSUMPTIONS:

*S*****

*S 1. THE PUNCH HYD COMMAND WAS ADDED TO THE END OF THIS FILE SO THE OUTFALL

*S HYDROGRAPH COULD BE USED IN THE AMOLE DEL NORTE EXISTING CONDITIONS MODEL

*S AA100D1B.DAT, WHICH WILL BE USED IN THE ANALYSIS OF THE AMOLE ARROYO SYSTE

*S

*S

*S*****

*S 100 YEAR 24 HOUR RAINFALL FROM NOAA ATLAS 14

RAINFALL TYPE=2 0.0 1.78 2.23 2.61 DT=0.05

COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.

DT = .050000 HOURS END TIME = 24.000000 HOURS

.0000	.0047	.0096	.0146	.0197	.0251	.0306
.0363	.0423	.0485	.0550	.0617	.0688	.0762
.0840	.0923	.1010	.1104	.1203	.1310	.1427
.1502	.1585	.1825	.2393	.3369	.4878	.7052
1.0024	1.2369	1.3428	1.4312	1.5087	1.5779	1.6407
1.6979	1.7504	1.7987	1.8433	1.8845	1.9227	1.9321
1.9410	1.9493	1.9572	1.9647	1.9718	1.9786	1.9851
1.9914	1.9974	2.0033	2.0089	2.0144	2.0197	2.0249
2.0299	2.0349	2.0396	2.0443	2.0489	2.0533	2.0577
2.0620	2.0662	2.0703	2.0744	2.0783	2.0822	2.0860
2.0898	2.0935	2.0972	2.1007	2.1043	2.1078	2.1112
2.1146	2.1179	2.1212	2.1245	2.1277	2.1308	2.1340
2.1371	2.1401	2.1431	2.1461	2.1491	2.1520	2.1549
2.1577	2.1605	2.1633	2.1661	2.1688	2.1716	2.1742
2.1769	2.1795	2.1821	2.1847	2.1873	2.1898	2.1924
2.1949	2.1973	2.1998	2.2022	2.2046	2.2070	2.2094
2.2118	2.2141	2.2164	2.2187	2.2210	2.2233	2.2255
2.2278	2.2300	2.2316	2.2333	2.2349	2.2365	2.2381
2.2397	2.2413	2.2429	2.2445	2.2461	2.2477	2.2493
2.2508	2.2524	2.2539	2.2555	2.2570	2.2586	2.2601
2.2616	2.2632	2.2647	2.2662	2.2677	2.2692	2.2707
2.2722	2.2737	2.2752	2.2767	2.2781	2.2796	2.2811
2.2825	2.2840	2.2854	2.2869	2.2883	2.2898	2.2912
2.2926	2.2940	2.2955	2.2969	2.2983	2.2997	2.3011
2.3025	2.3039	2.3053	2.3067	2.3080	2.3094	2.3108
2.3122	2.3135	2.3149	2.3162	2.3176	2.3189	2.3203
2.3216	2.3230	2.3243	2.3256	2.3269	2.3283	2.3296
2.3309	2.3322	2.3335	2.3348	2.3361	2.3374	2.3387
2.3400	2.3413	2.3425	2.3438	2.3451	2.3463	2.3476
2.3489	2.3501	2.3514	2.3526	2.3539	2.3551	2.3564
2.3576	2.3588	2.3601	2.3613	2.3625	2.3638	2.3650
2.3662	2.3674	2.3686	2.3698	2.3710	2.3722	2.3734
2.3746	2.3758	2.3770	2.3782	2.3793	2.3805	2.3817
2.3829	2.3840	2.3852	2.3864	2.3875	2.3887	2.3898
2.3910	2.3921	2.3933	2.3944	2.3956	2.3967	2.3978
2.3990	2.4001	2.4012	2.4024	2.4035	2.4046	2.4057
2.4068	2.4079	2.4090	2.4101	2.4113	2.4124	2.4134
2.4145	2.4156	2.4167	2.4178	2.4189	2.4200	2.4211
2.4221	2.4232	2.4243	2.4254	2.4264	2.4275	2.4285
2.4296	2.4307	2.4317	2.4328	2.4338	2.4349	2.4359
2.4370	2.4380	2.4390	2.4401	2.4411	2.4421	2.4432
2.4442	2.4452	2.4463	2.4473	2.4483	2.4493	2.4503
2.4513	2.4523	2.4534	2.4544	2.4554	2.4564	2.4574
2.4584	2.4594	2.4604	2.4613	2.4623	2.4633	2.4643
2.4653	2.4663	2.4672	2.4682	2.4692	2.4702	2.4711
2.4721	2.4731	2.4740	2.4750	2.4760	2.4769	2.4779
2.4788	2.4798	2.4807	2.4817	2.4826	2.4836	2.4845
2.4855	2.4864	2.4873	2.4883	2.4892	2.4902	2.4911
2.4920	2.4929	2.4939	2.4948	2.4957	2.4966	2.4976

2.4985	2.4994	2.5003	2.5012	2.5021	2.5030	2.5039
2.5048	2.5057	2.5066	2.5075	2.5084	2.5093	2.5102
2.5111	2.5120	2.5129	2.5138	2.5147	2.5156	2.5164
2.5173	2.5182	2.5191	2.5200	2.5208	2.5217	2.5226
2.5234	2.5243	2.5252	2.5260	2.5269	2.5278	2.5286
2.5295	2.5304	2.5312	2.5321	2.5329	2.5338	2.5346
2.5355	2.5363	2.5372	2.5380	2.5388	2.5397	2.5405
2.5414	2.5422	2.5430	2.5439	2.5447	2.5455	2.5464
2.5472	2.5480	2.5488	2.5497	2.5505	2.5513	2.5521
2.5530	2.5538	2.5546	2.5554	2.5562	2.5570	2.5578
2.5586	2.5595	2.5603	2.5611	2.5619	2.5627	2.5635
2.5643	2.5651	2.5659	2.5667	2.5675	2.5682	2.5690
2.5698	2.5706	2.5714	2.5722	2.5730	2.5738	2.5745
2.5753	2.5761	2.5769	2.5777	2.5784	2.5792	2.5800
2.5808	2.5815	2.5823	2.5831	2.5838	2.5846	2.5854
2.5861	2.5869	2.5877	2.5884	2.5892	2.5899	2.5907
2.5915	2.5922	2.5930	2.5937	2.5945	2.5952	2.5960
2.5967	2.5975	2.5982	2.5990	2.5997	2.6004	2.6012
2.6019	2.6027	2.6034	2.6041	2.6049	2.6056	2.6063
2.6071	2.6078	2.6085	2.6093	2.6100		

* *S 10 YEAR 24HR STORM CONDITION

* RAINFALL TYPE=2 0.0 1.08 1.41 1.78 DT=0.05

*S*****

*S

*S ***** SOUTH OFF-SITE BASINS *****

*S CALCULATE THE FLOW FROM SUB-BASINS 16.2W

COMPUTE NM HYD ID=1 HYD=16.2W AREA=0.03122 SQ MI

A=67 B=10 C=15 D=8

TP=0.1333 MASSRAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 9.8607 CFS UNIT VOLUME = .9981 B = 526.28 P60 = 1.7800
 AREA = .002498 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .152363HR TP = .133300HR K/TP RATIO = 1.143005 SHAPE CONSTANT, N = 3.098255
 UNIT PEAK = 62.430 CFS UNIT VOLUME = .9993 B = 289.74 P60 = 1.7800
 AREA = .028722 SQ MI IA = .58478 INCHES INF = 1.48739 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA 16.2W

RUNOFF VOLUME = .65916 INCHES = 1.0975 ACRE-FEET
 PEAK DISCHARGE RATE = 34.51 CFS AT 1.500 HOURS BASIN AREA = .0312 SQ. MI.

*S

*S CALCULATE THE FLOW FROM SUB-BASIN 16.1W

COMPUTE NM HYD ID=2 HYD=16.1 AREA=0.0333 SQ MI

A=67 B=10 C=15 D=8

TP=0.1333 MASSRAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 10.518 CFS UNIT VOLUME = .9981 B = 526.28 P60 = 1.7800
 AREA = .002664 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .152363HR TP = .133300HR K/TP RATIO = 1.143005 SHAPE CONSTANT, N = 3.098255
 UNIT PEAK = 66.590 CFS UNIT VOLUME = .9993 B = 289.74 P60 = 1.7800
 AREA = .030636 SQ MI IA = .58478 INCHES INF = 1.48739 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=2 CODE=1

OUTFLOW HYDROGRAPH REACH 16.10

RUNOFF VOLUME = .65916 INCHES = 1.1707 ACRE-FEET
 PEAK DISCHARGE RATE = 36.81 CFS AT 1.500 HOURS BASIN AREA = .0333 SQ. MI.

*S

*S ADD THE FLOW FROM BASIN 16.2W AND 16.1W

ADD HYD ID=3 HYD=16.2 I=2 II=1

PRINT HYD ID=3 CODE=10

OUTFLOW HYDROGRAPH REACH 16.20

HYMO.OUT

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS
.1	.000	.0	5.000	.1	10.000	.1	15.000	.1	20.000
.1	.500	.0	5.500	.1	10.500	.1	15.500	.1	20.500
.1	1.000	.4	6.000	.1	11.000	.1	16.000	.1	21.000
.1	1.500	71.3	6.500	.1	11.500	.1	16.500	.1	21.500
.1	2.000	8.5	7.000	.1	12.000	.1	17.000	.1	22.000
.1	2.500	2.2	7.500	.1	12.500	.1	17.500	.1	22.500
.1	3.000	.8	8.000	.1	13.000	.1	18.000	.1	23.000
.1	3.500	.3	8.500	.1	13.500	.1	18.500	.1	23.500
.0	4.000	.2	9.000	.1	14.000	.1	19.000	.1	24.000
.0	4.500	.2	9.500	.1	14.500	.1	19.500	.1	24.500

RUNOFF VOLUME = .65915 INCHES = 2.2682 ACRE-Feet
 PEAK DISCHARGE RATE = 71.31 CFS AT 1.500 HOURS BASIN AREA = .0645 SQ. MI.

*S
 COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1
 SLP=0.01 D=2.0 N=0.013

RATING CURVE PIPE SECTION 1.0			
WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	MAX WIDTH FT
.00	.00	.00	.00
.10	.06	.12	.89
.21	.17	.52	1.22
.31	.31	1.20	1.45
.42	.47	2.15	1.62
.52	.65	3.36	1.76
.63	.84	4.80	1.85
.73	1.04	6.43	1.93
.83	1.24	8.22	1.97
.94	1.45	10.13	2.00
1.04	1.66	12.13	2.00
1.15	1.86	14.16	2.00
1.25	2.07	16.18	2.00
1.35	2.27	18.13	2.00
1.46	2.46	19.96	2.00
1.56	2.63	21.60	2.00
1.67	2.80	22.96	2.00
1.77	2.94	23.93	2.00
1.88	3.06	24.34	2.00
2.00	3.14	24.34	2.00

COMPUTE TRAVEL TIME ID=4 REACH NO=1 NO VS=1 L=700 FT
 SLP=0.01

TRAVEL TIME TABLE REACH= 1.0

WATER DEPTH FEET	AVERAGE AREA SQ.FT.	FLOW RATE CFS	TRAVEL TIME HRS
.104	.062	.12	.1023
.208	.174	.52	.0656
.313	.314	1.20	.0509
.417	.475	2.15	.0428
.521	.651	3.36	.0376
.625	.839	4.80	.0340
.730	1.037	6.43	.0314
.834	1.240	8.22	.0293
.938	1.447	10.13	.0278
1.042	1.655	12.13	.0265
1.146	1.863	14.16	.0256
1.251	2.067	16.18	.0248
1.355	2.265	18.13	.0243
1.459	2.456	19.96	.0239
1.563	2.635	21.60	.0237
1.668	2.799	22.96	.0237
1.772	2.943	23.93	.0239

1.876 3.061 24.34 .0245
 2.000 3.142 24.34 .0251
 *S ROUTE FLOW FROM BASIN 16.2W THROUGH EXISTING 24" STORM DRAIN
 ROUTE OUTFLOW ID=4 OUTFLOW HYD=16.2W
 INFLOW ID=3 DT=0.0

TRAVEL TIME TABLE EXCEEDED
 PRINT HYD ID=4 CODE=1

OUTFLOW HYDROGRAPH REACH 16.20

RUNOFF VOLUME = .65917 INCHES = 2.2682 ACRE-FEET
 PEAK DISCHARGE RATE = 67.68 CFS AT 1.550 HOURS BASIN AREA = .0645 SQ. MI.

*S
 *S ROUTE TOTAL FLOW THROUGH SEDIMENTATION POND.
 ROUTE RESERVOIR ID=5 HYD=15.3 INFLOW ID=4 CODE=1
 OUTFLOW STORAGE ELEV
 0 0 90
 0.01 0.11 91
 0.02 0.24 92
 0.03 0.42 93
 0.04 0.62 94
 50 0.87 95
 55 0.99 95.5

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	90.00	.000	.00
.05	.00	90.00	.000	.00
.10	.00	90.00	.000	.00
.15	.00	90.00	.000	.00
.20	.00	90.00	.000	.00
.25	.00	90.00	.000	.00
.30	.00	90.00	.000	.00
.35	.00	90.00	.000	.00
.40	.00	90.00	.000	.00
.45	.00	90.00	.000	.00
.50	.00	90.00	.000	.00
.55	.00	90.00	.000	.00
.60	.00	90.00	.000	.00
.65	.00	90.00	.000	.00
.70	.00	90.00	.000	.00
.75	.00	90.00	.000	.00
.80	.00	90.00	.000	.00
.85	.01	90.00	.000	.00
.90	.04	90.00	.000	.00
.95	.12	90.00	.000	.00
1.00	.23	90.01	.001	.00
1.05	.35	90.02	.002	.00
1.10	.43	90.04	.004	.00
1.15	.46	90.05	.006	.00
1.20	.57	90.07	.008	.00
1.25	1.06	90.10	.011	.00
1.30	2.27	90.17	.018	.00
1.35	6.56	90.33	.036	.00
1.40	18.79	90.81	.089	.01
1.45	40.95	91.79	.212	.02
1.50	61.12	93.01	.423	.03
1.55	67.68	94.19	.669	9.78
1.60	61.28	94.83	.829	41.75
1.65	49.44	94.99	.869	49.71
1.70	37.88	94.92	.851	46.18
1.75	32.88	94.80	.819	39.87
1.80	21.72	94.65	.783	32.52
1.85	15.42	94.49	.742	24.37
1.90	12.10	94.36	.711	18.17
1.95	10.12	94.28	.690	14.05
2.00	8.91	94.23	.677	11.40
2.05	7.98	94.19	.668	9.67
2.10	6.97	94.17	.662	8.39
2.15	5.84	94.14	.656	7.23
2.20	4.90	94.12	.651	6.14
2.25	4.21	94.10	.646	5.21
2.30	3.70	94.09	.642	4.48
2.35	3.29	94.08	.639	3.90
2.40	2.93	94.07	.637	3.44
2.45	2.62	94.06	.635	3.05

2.50	2.35	94.05	.633	2.72
2.55	2.11	94.05	.632	2.43
2.60	1.88	94.04	.631	2.18
2.65	1.69	94.04	.630	1.95
2.70	1.53	94.03	.629	1.75
2.75	1.38	94.03	.628	1.58

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
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2.80	1.25	94.03	.627	1.43
2.85	1.12	94.02	.626	1.29
2.90	1.01	94.02	.626	1.16
2.95	.92	94.02	.625	1.05
3.00	.84	94.02	.625	.95
3.05	.77	94.02	.624	.86
3.10	.70	94.01	.624	.79
3.15	.65	94.01	.623	.72
3.20	.59	94.01	.623	.66
3.25	.55	94.01	.623	.61
3.30	.50	94.01	.623	.56
3.35	.45	94.01	.622	.51
3.40	.42	94.01	.622	.47
3.45	.39	94.01	.622	.43
3.50	.36	94.01	.622	.40
3.55	.34	94.01	.622	.37
3.60	.32	94.01	.622	.35
3.65	.30	94.01	.621	.33
3.70	.28	94.01	.621	.31
3.75	.27	94.00	.621	.29
3.80	.26	94.00	.621	.27
3.85	.24	94.00	.621	.26
3.90	.23	94.00	.621	.25
3.95	.22	94.00	.621	.23
4.00	.21	94.00	.621	.22
4.05	.20	94.00	.621	.21
4.10	.19	94.00	.621	.20
4.15	.19	94.00	.621	.20
4.20	.18	94.00	.621	.19
4.25	.18	94.00	.621	.18
4.30	.17	94.00	.621	.18
4.35	.17	94.00	.621	.17
4.40	.16	94.00	.621	.17
4.45	.16	94.00	.621	.16
4.50	.15	94.00	.621	.16
4.55	.15	94.00	.621	.16
4.60	.15	94.00	.621	.15
4.65	.15	94.00	.621	.15
4.70	.14	94.00	.621	.15
4.75	.14	94.00	.621	.15
4.80	.14	94.00	.621	.14
4.85	.14	94.00	.621	.14
4.90	.14	94.00	.621	.14
4.95	.14	94.00	.620	.14
5.00	.13	94.00	.620	.14
5.05	.13	94.00	.620	.13
5.10	.13	94.00	.620	.13
5.15	.13	94.00	.620	.13
5.20	.13	94.00	.620	.13
5.25	.13	94.00	.620	.13
5.30	.13	94.00	.620	.13
5.35	.13	94.00	.620	.13
5.40	.13	94.00	.620	.13
5.45	.13	94.00	.620	.13
5.50	.14	94.00	.620	.13
5.55	.14	94.00	.620	.14

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
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5.60	.14	94.00	.620	.14
5.65	.14	94.00	.620	.14
5.70	.14	94.00	.620	.14
5.75	.14	94.00	.620	.14
5.80	.14	94.00	.620	.14
5.85	.14	94.00	.621	.14
5.90	.14	94.00	.621	.14
5.95	.14	94.00	.621	.14
6.00	.14	94.00	.621	.14
6.05	.15	94.00	.621	.14
6.10	.14	94.00	.621	.14
6.15	.14	94.00	.621	.14
6.20	.13	94.00	.620	.14
6.25	.12	94.00	.620	.13
6.30	.12	94.00	.620	.13

6.35	.12	94.00	.620	.12
6.40	.11	94.00	.620	.12
6.45	.11	94.00	.620	.12
6.50	.11	94.00	.620	.11
6.55	.11	94.00	.620	.11
6.60	.11	94.00	.620	.11
6.65	.11	94.00	.620	.11
6.70	.11	94.00	.620	.11
6.75	.11	94.00	.620	.11
6.80	.11	94.00	.620	.11
6.85	.11	94.00	.620	.11
6.90	.10	94.00	.620	.11
6.95	.10	94.00	.620	.10
7.00	.10	94.00	.620	.10
7.05	.10	94.00	.620	.10
7.10	.10	94.00	.620	.10
7.15	.10	94.00	.620	.10
7.20	.10	94.00	.620	.10
7.25	.10	94.00	.620	.10
7.30	.10	94.00	.620	.10
7.35	.10	94.00	.620	.10
7.40	.10	94.00	.620	.10
7.45	.10	94.00	.620	.10
7.50	.10	94.00	.620	.10
7.55	.10	94.00	.620	.10
7.60	.10	94.00	.620	.10
7.65	.10	94.00	.620	.10
7.70	.10	94.00	.620	.10
7.75	.10	94.00	.620	.10
7.80	.10	94.00	.620	.10
7.85	.10	94.00	.620	.10
7.90	.10	94.00	.620	.10
7.95	.10	94.00	.620	.10
8.00	.10	94.00	.620	.10
8.05	.10	94.00	.620	.10
8.10	.10	94.00	.620	.10
8.15	.10	94.00	.620	.10
8.20	.10	94.00	.620	.10
8.25	.10	94.00	.620	.10
8.30	.10	94.00	.620	.10
8.35	.10	94.00	.620	.10

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
8.40	.09	94.00	.620	.10
8.45	.09	94.00	.620	.09
8.50	.09	94.00	.620	.09
8.55	.09	94.00	.620	.09
8.60	.09	94.00	.620	.09
8.65	.09	94.00	.620	.09
8.70	.09	94.00	.620	.09
8.75	.09	94.00	.620	.09
8.80	.09	94.00	.620	.09
8.85	.09	94.00	.620	.09
8.90	.09	94.00	.620	.09
8.95	.09	94.00	.620	.09
9.00	.09	94.00	.620	.09
9.05	.09	94.00	.620	.09
9.10	.09	94.00	.620	.09
9.15	.09	94.00	.620	.09
9.20	.09	94.00	.620	.09
9.25	.09	94.00	.620	.09
9.30	.09	94.00	.620	.09
9.35	.09	94.00	.620	.09
9.40	.09	94.00	.620	.09
9.45	.09	94.00	.620	.09
9.50	.09	94.00	.620	.09
9.55	.09	94.00	.620	.09
9.60	.09	94.00	.620	.09
9.65	.09	94.00	.620	.09
9.70	.09	94.00	.620	.09
9.75	.09	94.00	.620	.09
9.80	.09	94.00	.620	.09
9.85	.09	94.00	.620	.09
9.90	.09	94.00	.620	.09
9.95	.09	94.00	.620	.09
10.00	.09	94.00	.620	.09
10.05	.09	94.00	.620	.09
10.10	.09	94.00	.620	.09
10.15	.08	94.00	.620	.09
10.20	.08	94.00	.620	.09
10.25	.08	94.00	.620	.08
10.30	.08	94.00	.620	.08
10.35	.08	94.00	.620	.08

				AHYMO.OUT
10.40	.08	94.00	.620	.08
10.45	.08	94.00	.620	.08
10.50	.08	94.00	.620	.08
10.55	.08	94.00	.620	.08
10.60	.08	94.00	.620	.08
10.65	.08	94.00	.620	.08
10.70	.08	94.00	.620	.08
10.75	.08	94.00	.620	.08
10.80	.08	94.00	.620	.08
10.85	.08	94.00	.620	.08
10.90	.08	94.00	.620	.08
10.95	.08	94.00	.620	.08
11.00	.08	94.00	.620	.08
11.05	.08	94.00	.620	.08
11.10	.08	94.00	.620	.08
11.15	.08	94.00	.620	.08

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
---------------	-----------------	----------------	-------------------	------------------

11.20	.08	94.00	.620	.08
11.25	.08	94.00	.620	.08
11.30	.08	94.00	.620	.08
11.35	.08	94.00	.620	.08
11.40	.08	94.00	.620	.08
11.45	.08	94.00	.620	.08
11.50	.08	94.00	.620	.08
11.55	.08	94.00	.620	.08
11.60	.08	94.00	.620	.08
11.65	.08	94.00	.620	.08
11.70	.08	94.00	.620	.08
11.75	.08	94.00	.620	.08
11.80	.08	94.00	.620	.08
11.85	.08	94.00	.620	.08
11.90	.08	94.00	.620	.08
11.95	.08	94.00	.620	.08
12.00	.08	94.00	.620	.08
12.05	.08	94.00	.620	.08
12.10	.08	94.00	.620	.08
12.15	.08	94.00	.620	.08
12.20	.08	94.00	.620	.08
12.25	.08	94.00	.620	.08
12.30	.08	94.00	.620	.08
12.35	.08	94.00	.620	.08
12.40	.08	94.00	.620	.08
12.45	.08	94.00	.620	.08
12.50	.08	94.00	.620	.08
12.55	.08	94.00	.620	.08
12.60	.08	94.00	.620	.08
12.65	.07	94.00	.620	.08
12.70	.07	94.00	.620	.07
12.75	.07	94.00	.620	.07
12.80	.07	94.00	.620	.07
12.85	.07	94.00	.620	.07
12.90	.07	94.00	.620	.07
12.95	.07	94.00	.620	.07
13.00	.07	94.00	.620	.07
13.05	.07	94.00	.620	.07
13.10	.07	94.00	.620	.07
13.15	.07	94.00	.620	.07
13.20	.07	94.00	.620	.07
13.25	.07	94.00	.620	.07
13.30	.07	94.00	.620	.07
13.35	.07	94.00	.620	.07
13.40	.07	94.00	.620	.07
13.45	.07	94.00	.620	.07
13.50	.07	94.00	.620	.07
13.55	.07	94.00	.620	.07
13.60	.07	94.00	.620	.07
13.65	.07	94.00	.620	.07
13.70	.07	94.00	.620	.07
13.75	.07	94.00	.620	.07
13.80	.07	94.00	.620	.07
13.85	.07	94.00	.620	.07
13.90	.07	94.00	.620	.07
13.95	.07	94.00	.620	.07

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
---------------	-----------------	----------------	-------------------	------------------

14.00	.07	94.00	.620	.07
14.05	.07	94.00	.620	.07
14.10	.07	94.00	.620	.07
14.15	.07	94.00	.620	.07
14.20	.07	94.00	.620	.07

14.25	.07	94.00	.620	.07
14.30	.07	94.00	.620	.07
14.35	.07	94.00	.620	.07
14.40	.07	94.00	.620	.07
14.45	.07	94.00	.620	.07
14.50	.07	94.00	.620	.07
14.55	.07	94.00	.620	.07
14.60	.07	94.00	.620	.07
14.65	.07	94.00	.620	.07
14.70	.07	94.00	.620	.07
14.75	.07	94.00	.620	.07
14.80	.07	94.00	.620	.07
14.85	.07	94.00	.620	.07
14.90	.07	94.00	.620	.07
14.95	.07	94.00	.620	.07
15.00	.07	94.00	.620	.07
15.05	.07	94.00	.620	.07
15.10	.07	94.00	.620	.07
15.15	.07	94.00	.620	.07
15.20	.07	94.00	.620	.07
15.25	.07	94.00	.620	.07
15.30	.07	94.00	.620	.07
15.35	.07	94.00	.620	.07
15.40	.07	94.00	.620	.07
15.45	.07	94.00	.620	.07
15.50	.07	94.00	.620	.07
15.55	.07	94.00	.620	.07
15.60	.07	94.00	.620	.07
15.65	.07	94.00	.620	.07
15.70	.07	94.00	.620	.07
15.75	.07	94.00	.620	.07
15.80	.06	94.00	.620	.07
15.85	.06	94.00	.620	.07
15.90	.06	94.00	.620	.06
15.95	.06	94.00	.620	.06
16.00	.06	94.00	.620	.06
16.05	.06	94.00	.620	.06
16.10	.06	94.00	.620	.06
16.15	.06	94.00	.620	.06
16.20	.06	94.00	.620	.06
16.25	.06	94.00	.620	.06
16.30	.06	94.00	.620	.06
16.35	.06	94.00	.620	.06
16.40	.06	94.00	.620	.06
16.45	.06	94.00	.620	.06
16.50	.06	94.00	.620	.06
16.55	.06	94.00	.620	.06
16.60	.06	94.00	.620	.06
16.65	.06	94.00	.620	.06
16.70	.06	94.00	.620	.06
16.75	.06	94.00	.620	.06

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
16.80	.06	94.00	.620	.06
16.85	.06	94.00	.620	.06
16.90	.06	94.00	.620	.06
16.95	.06	94.00	.620	.06
17.00	.06	94.00	.620	.06
17.05	.06	94.00	.620	.06
17.10	.06	94.00	.620	.06
17.15	.06	94.00	.620	.06
17.20	.06	94.00	.620	.06
17.25	.06	94.00	.620	.06
17.30	.06	94.00	.620	.06
17.35	.06	94.00	.620	.06
17.40	.06	94.00	.620	.06
17.45	.06	94.00	.620	.06
17.50	.06	94.00	.620	.06
17.55	.06	94.00	.620	.06
17.60	.06	94.00	.620	.06
17.65	.06	94.00	.620	.06
17.70	.06	94.00	.620	.06
17.75	.06	94.00	.620	.06
17.80	.06	94.00	.620	.06
17.85	.06	94.00	.620	.06
17.90	.06	94.00	.620	.06
17.95	.06	94.00	.620	.06
18.00	.06	94.00	.620	.06
18.05	.06	94.00	.620	.06
18.10	.06	94.00	.620	.06
18.15	.06	94.00	.620	.06
18.20	.06	94.00	.620	.06
18.25	.06	94.00	.620	.06

18.35	.06	94.00	.620	.06
18.40	.06	94.00	.620	.06
18.45	.06	94.00	.620	.06
18.50	.06	94.00	.620	.06
18.55	.06	94.00	.620	.06
18.60	.06	94.00	.620	.06
18.65	.06	94.00	.620	.06
18.70	.06	94.00	.620	.06
18.75	.06	94.00	.620	.06
18.80	.06	94.00	.620	.06
18.85	.06	94.00	.620	.06
18.90	.06	94.00	.620	.06
18.95	.06	94.00	.620	.06
19.00	.06	94.00	.620	.06
19.05	.06	94.00	.620	.06
19.10	.06	94.00	.620	.06
19.15	.06	94.00	.620	.06
19.20	.06	94.00	.620	.06
19.25	.06	94.00	.620	.06
19.30	.06	94.00	.620	.06
19.35	.06	94.00	.620	.06
19.40	.06	94.00	.620	.06
19.45	.06	94.00	.620	.06
19.50	.06	94.00	.620	.06
19.55	.06	94.00	.620	.06

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
19.60	.06	94.00	.620	.06
19.65	.06	94.00	.620	.06
19.70	.06	94.00	.620	.06
19.75	.06	94.00	.620	.06
19.80	.06	94.00	.620	.06
19.85	.06	94.00	.620	.06
19.90	.06	94.00	.620	.06
19.95	.06	94.00	.620	.06
20.00	.06	94.00	.620	.06
20.05	.06	94.00	.620	.06
20.10	.06	94.00	.620	.06
20.15	.06	94.00	.620	.06
20.20	.06	94.00	.620	.06
20.25	.06	94.00	.620	.06
20.30	.05	94.00	.620	.06
20.35	.05	94.00	.620	.05
20.40	.06	94.00	.620	.05
20.45	.06	94.00	.620	.06
20.50	.05	94.00	.620	.05
20.55	.05	94.00	.620	.05
20.60	.05	94.00	.620	.05
20.65	.05	94.00	.620	.05
20.70	.05	94.00	.620	.05
20.75	.05	94.00	.620	.05
20.80	.05	94.00	.620	.05
20.85	.05	94.00	.620	.05
20.90	.05	94.00	.620	.05
20.95	.05	94.00	.620	.05
21.00	.05	94.00	.620	.05
21.05	.05	94.00	.620	.05
21.10	.05	94.00	.620	.05
21.15	.05	94.00	.620	.05
21.20	.05	94.00	.620	.05
21.25	.05	94.00	.620	.05
21.30	.05	94.00	.620	.05
21.35	.05	94.00	.620	.05
21.40	.05	94.00	.620	.05
21.45	.05	94.00	.620	.05
21.50	.05	94.00	.620	.05
21.55	.05	94.00	.620	.05
21.60	.05	94.00	.620	.05
21.65	.05	94.00	.620	.05
21.70	.05	94.00	.620	.05
21.75	.05	94.00	.620	.05
21.80	.05	94.00	.620	.05
21.85	.05	94.00	.620	.05
21.90	.05	94.00	.620	.05
21.95	.05	94.00	.620	.05
22.00	.05	94.00	.620	.05
22.05	.05	94.00	.620	.05
22.10	.05	94.00	.620	.05
22.15	.05	94.00	.620	.05
22.20	.05	94.00	.620	.05
22.25	.05	94.00	.620	.05
22.30	.05	94.00	.620	.05

22.35	.05	94.00	.620	.05
TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
22.40	.05	94.00	.620	.05
22.45	.05	94.00	.620	.05
22.50	.05	94.00	.620	.05
22.55	.05	94.00	.620	.05
22.60	.05	94.00	.620	.05
22.65	.05	94.00	.620	.05
22.70	.05	94.00	.620	.05
22.75	.05	94.00	.620	.05
22.80	.05	94.00	.620	.05
22.85	.05	94.00	.620	.05
22.90	.05	94.00	.620	.05
22.95	.05	94.00	.620	.05
23.00	.05	94.00	.620	.05
23.05	.05	94.00	.620	.05
23.10	.05	94.00	.620	.05
23.15	.05	94.00	.620	.05
23.20	.05	94.00	.620	.05
23.25	.05	94.00	.620	.05
23.30	.05	94.00	.620	.05
23.35	.05	94.00	.620	.05
23.40	.05	94.00	.620	.05
23.45	.05	94.00	.620	.05
23.50	.05	94.00	.620	.05
23.55	.05	94.00	.620	.05
23.60	.05	94.00	.620	.05
23.65	.05	94.00	.620	.05
23.70	.05	94.00	.620	.05
23.75	.05	94.00	.620	.05
23.80	.05	94.00	.620	.05
23.85	.05	94.00	.620	.05
23.90	.05	94.00	.620	.05
23.95	.05	94.00	.620	.05
24.00	.05	94.00	.620	.05
24.05	.05	94.00	.620	.05
24.10	.05	94.00	.620	.05
24.15	.04	94.00	.620	.04
24.20	.03	94.00	.620	.04
24.25	.02	94.00	.620	.04
24.30	.02	94.00	.620	.04
24.35	.01	94.00	.620	.04
24.40	.01	94.00	.620	.04
24.45	.01	94.00	.619	.04
24.50	.01	94.00	.619	.04
24.55	.00	94.00	.619	.04
24.60	.00	94.00	.619	.04
24.65	.00	93.99	.619	.04
24.70	.00	93.99	.619	.04
24.75	.00	93.99	.619	.04
24.80	.00	93.99	.618	.04
24.85	.00	93.99	.618	.04
24.90	.00	93.99	.618	.04
24.95	.00	93.99	.618	.04
25.00	.00	93.99	.618	.04
25.05	.00	93.99	.618	.04
25.10	.00	93.99	.617	.04
25.15	.00	93.99	.617	.04

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
25.20	.00	93.99	.617	.04
25.25	.00	93.98	.617	.04
25.30	.00	93.98	.617	.04
25.35	.00	93.98	.617	.04
25.40	.00	93.98	.616	.04
25.45	.00	93.98	.616	.04
25.50	.00	93.98	.616	.04
25.55	.00	93.98	.616	.04
25.60	.00	93.98	.616	.04
25.65	.00	93.98	.616	.04
25.70	.00	93.98	.615	.04
25.75	.00	93.98	.615	.04
25.80	.00	93.98	.615	.04
25.85	.00	93.97	.615	.04
25.90	.00	93.97	.615	.04
25.95	.00	93.97	.615	.04
26.00	.00	93.97	.615	.04
26.05	.00	93.97	.614	.04
26.10	.00	93.97	.614	.04
26.15	.00	93.97	.614	.04

26.25	.00	93.97	.614	.04
26.30	.00	93.97	.614	.04
26.35	.00	93.97	.613	.04
26.40	.00	93.97	.613	.04
26.45	.00	93.97	.613	.04
26.50	.00	93.96	.613	.04
26.55	.00	93.96	.613	.04
26.60	.00	93.96	.613	.04
26.65	.00	93.96	.612	.04
26.70	.00	93.96	.612	.04
26.75	.00	93.96	.612	.04
26.80	.00	93.96	.612	.04
26.85	.00	93.96	.612	.04
26.90	.00	93.96	.612	.04
26.95	.00	93.96	.611	.04
27.00	.00	93.96	.611	.04
27.05	.00	93.96	.611	.04
27.10	.00	93.95	.611	.04
27.15	.00	93.95	.611	.04
27.20	.00	93.95	.611	.04
27.25	.00	93.95	.610	.04
27.30	.00	93.95	.610	.04
27.35	.00	93.95	.610	.04
27.40	.00	93.95	.610	.04
27.45	.00	93.95	.610	.04
27.50	.00	93.95	.610	.04
27.55	.00	93.95	.609	.04
27.60	.00	93.95	.609	.04
27.65	.00	93.95	.609	.04
27.70	.00	93.94	.609	.04
27.75	.00	93.94	.609	.04
27.80	.00	93.94	.609	.04
27.85	.00	93.94	.608	.04
27.90	.00	93.94	.608	.04
27.95	.00	93.94	.608	.04

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
28.00	.00	93.94	.608	.04
28.05	.00	93.94	.608	.04
28.10	.00	93.94	.608	.04
28.15	.00	93.94	.607	.04
28.20	.00	93.94	.607	.04
28.25	.00	93.94	.607	.04
28.30	.00	93.93	.607	.04
28.35	.00	93.93	.607	.04
28.40	.00	93.93	.607	.04
28.45	.00	93.93	.607	.04
28.50	.00	93.93	.606	.04
28.55	.00	93.93	.606	.04
28.60	.00	93.93	.606	.04
28.65	.00	93.93	.606	.04
28.70	.00	93.93	.606	.04
28.75	.00	93.93	.606	.04
28.80	.00	93.93	.605	.04
28.85	.00	93.93	.605	.04
28.90	.00	93.93	.605	.04
28.95	.00	93.92	.605	.04
29.00	.00	93.92	.605	.04
29.05	.00	93.92	.605	.04
29.10	.00	93.92	.604	.04
29.15	.00	93.92	.604	.04
29.20	.00	93.92	.604	.04
29.25	.00	93.92	.604	.04
29.30	.00	93.92	.604	.04
29.35	.00	93.92	.604	.04
29.40	.00	93.92	.603	.04
29.45	.00	93.92	.603	.04
29.50	.00	93.92	.603	.04
29.55	.00	93.91	.603	.04
29.60	.00	93.91	.603	.04
29.65	.00	93.91	.603	.04
29.70	.00	93.91	.602	.04
29.75	.00	93.91	.602	.04
29.80	.00	93.91	.602	.04
29.85	.00	93.91	.602	.04
29.90	.00	93.91	.602	.04
29.95	.00	93.91	.602	.04

PEAK DISCHARGE = 49.708 CFS - PEAK OCCURS AT HOUR 1.65
 MAXIMUM WATER SURFACE ELEVATION = 94.994
 MAXIMUM STORAGE = .8685 AC-FT INCREMENTAL TIME= .050000HRS

*

OUTFLOW HYDROGRAPH REACH 15.30

RUNOFF VOLUME = .48434 INCHES = 1.6666 ACRE-FEET
 PEAK DISCHARGE RATE = 49.71 CFS AT 1.650 HOURS BASIN AREA = .0645 SQ. MI.

*S

*S ***** NORTH OFF-SITE BASINS *****

*S CALCULATE THE FLOW FROM SUB-BASIN 15.1W

COMPUTE NM HYD ID=6 HYD=15.1 AREA=0.0333 SQ MI

A=67 B=10 C=15 D=8

TP=0.1333 MASSRAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
 UNIT PEAK = 10.518 CFS UNIT VOLUME = .9981 B = 526.28 P60 = 1.7800
 AREA = .002664 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .152363HR TP = .133300HR K/TP RATIO = 1.143005 SHAPE CONSTANT, N = 3.098255
 UNIT PEAK = 66.590 CFS UNIT VOLUME = .9993 B = 289.74 P60 = 1.7800
 AREA = .030636 SQ MI IA = .58478 INCHES INF = 1.48739 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD

ID=6 CODE=1

OUTFLOW HYDROGRAPH REACH 15.10

RUNOFF VOLUME = .65916 INCHES = 1.1707 ACRE-FEET
 PEAK DISCHARGE RATE = 36.81 CFS AT 1.500 HOURS BASIN AREA = .0333 SQ. MI.

*S

*S ROUTE TOTAL FLOW THROUGH SEDIMENTATION POND.

ROUTE RESERVOIR	ID=7 HYD=15.3	INFLOW ID=6 CODE=1
	OUTFLOW	STORAGE ELEV
	0	0 95
	10.40	0.07 95.5
	11.05	0.11 96
	11.87	0.21 96.5
	12.33	0.44 97
	20	1.00 97.5

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	95.00	.000	.00
.05	.00	95.00	.000	.00
.10	.00	95.00	.000	.00
.15	.00	95.00	.000	.00
.20	.00	95.00	.000	.00
.25	.00	95.00	.000	.00
.30	.00	95.00	.000	.00
.35	.00	95.00	.000	.00
.40	.00	95.00	.000	.00
.45	.00	95.00	.000	.00
.50	.00	95.00	.000	.00
.55	.00	95.00	.000	.00
.60	.00	95.00	.000	.00
.65	.00	95.00	.000	.00
.70	.00	95.00	.000	.00
.75	.00	95.00	.000	.00
.80	.00	95.00	.000	.00
.85	.02	95.00	.000	.00
.90	.08	95.00	.000	.02
.95	.16	95.00	.000	.07
1.00	.21	95.01	.001	.12
1.05	.25	95.01	.001	.17
1.10	.24	95.01	.001	.20
1.15	.24	95.01	.001	.22
1.20	.40	95.01	.002	.27
1.25	.88	95.02	.003	.44
1.30	1.71	95.04	.006	.84
1.35	5.40	95.10	.014	2.12
1.40	16.37	95.30	.042	6.23
1.45	30.19	95.91	.103	10.93

1.50	30.01	96.42	.194	11.74
1.55	34.33	96.68	.292	12.03
1.60	27.69	96.85	.370	12.19
1.65	21.05	96.96	.420	12.29
1.70	15.81	97.00	.445	12.41
1.75	11.93	97.01	.451	12.49
1.80	9.11	97.00	.443	12.38
1.85	7.07	96.97	.426	12.30
1.90	5.73	96.92	.402	12.25
1.95	4.93	96.85	.373	12.20
2.00	4.39	96.79	.342	12.13
2.05	3.92	96.72	.309	12.07
2.10	3.33	96.64	.275	12.00
2.15	2.75	96.56	.238	11.93
2.20	2.33	96.45	.199	11.78
2.25	2.03	96.25	.160	11.46
2.30	1.79	96.06	.121	11.14
2.35	1.59	95.67	.083	10.62
2.40	1.42	95.37	.052	7.69
2.45	1.27	95.23	.032	4.71
2.50	1.13	95.15	.021	3.06
2.55	1.01	95.10	.014	2.13
2.60	.91	95.08	.011	1.58
2.65	.82	95.06	.008	1.24
2.70	.73	95.05	.007	1.02
2.75	.66	95.04	.006	.87

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
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2.80	.60	95.04	.005	.76
2.85	.54	95.03	.004	.67
2.90	.49	95.03	.004	.60
2.95	.44	95.03	.004	.53
3.00	.40	95.02	.003	.48
3.05	.37	95.02	.003	.44
3.10	.33	95.02	.003	.40
3.15	.31	95.02	.002	.36
3.20	.28	95.02	.002	.33
3.25	.26	95.01	.002	.30
3.30	.24	95.01	.002	.28
3.35	.22	95.01	.002	.25
3.40	.20	95.01	.002	.23
3.45	.19	95.01	.001	.22
3.50	.18	95.01	.001	.20
3.55	.16	95.01	.001	.19
3.60	.15	95.01	.001	.17
3.65	.15	95.01	.001	.16
3.70	.14	95.01	.001	.15
3.75	.13	95.01	.001	.14
3.80	.12	95.01	.001	.14
3.85	.12	95.01	.001	.13
3.90	.11	95.01	.001	.12
3.95	.11	95.01	.001	.12
4.00	.10	95.01	.001	.11
4.05	.10	95.01	.001	.11
4.10	.09	95.00	.001	.10
4.15	.09	95.00	.001	.10
4.20	.09	95.00	.001	.09
4.25	.09	95.00	.001	.09
4.30	.08	95.00	.001	.09
4.35	.08	95.00	.001	.09
4.40	.08	95.00	.001	.08
4.45	.08	95.00	.001	.08
4.50	.08	95.00	.001	.08
4.55	.08	95.00	.001	.08
4.60	.07	95.00	.001	.08
4.65	.07	95.00	.001	.08
4.70	.07	95.00	.001	.07
4.75	.07	95.00	.000	.07
4.80	.07	95.00	.000	.07
4.85	.07	95.00	.000	.07
4.90	.07	95.00	.000	.07
4.95	.07	95.00	.000	.07
5.00	.07	95.00	.000	.07
5.05	.07	95.00	.000	.07
5.10	.07	95.00	.000	.07
5.15	.07	95.00	.000	.07
5.20	.07	95.00	.000	.07
5.25	.07	95.00	.000	.07
5.30	.07	95.00	.000	.07
5.35	.07	95.00	.000	.07
5.40	.07	95.00	.000	.07
5.45	.07	95.00	.000	.07
5.50	.07	95.00	.000	.07

5.55	.07	95.00	.000	AHYMO.OUT .07
TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
5.60	.07	95.00	.000	.07
5.65	.07	95.00	.000	.07
5.70	.07	95.00	.000	.07
5.75	.07	95.00	.000	.07
5.80	.07	95.00	.000	.07
5.85	.07	95.00	.000	.07
5.90	.07	95.00	.000	.07
5.95	.08	95.00	.001	.07
6.00	.08	95.00	.001	.07
6.05	.08	95.00	.001	.08
6.10	.07	95.00	.000	.07
6.15	.06	95.00	.000	.07
6.20	.06	95.00	.000	.07
6.25	.06	95.00	.000	.06
6.30	.06	95.00	.000	.06
6.35	.06	95.00	.000	.06
6.40	.06	95.00	.000	.06
6.45	.06	95.00	.000	.06
6.50	.06	95.00	.000	.06
6.55	.06	95.00	.000	.06
6.60	.06	95.00	.000	.06
6.65	.06	95.00	.000	.06
6.70	.05	95.00	.000	.06
6.75	.05	95.00	.000	.05
6.80	.05	95.00	.000	.05
6.85	.05	95.00	.000	.05
6.90	.05	95.00	.000	.05
6.95	.05	95.00	.000	.05
7.00	.05	95.00	.000	.05
7.05	.05	95.00	.000	.05
7.10	.05	95.00	.000	.05
7.15	.05	95.00	.000	.05
7.20	.05	95.00	.000	.05
7.25	.05	95.00	.000	.05
7.30	.05	95.00	.000	.05
7.35	.05	95.00	.000	.05
7.40	.05	95.00	.000	.05
7.45	.05	95.00	.000	.05
7.50	.05	95.00	.000	.05
7.55	.05	95.00	.000	.05
7.60	.05	95.00	.000	.05
7.65	.05	95.00	.000	.05
7.70	.05	95.00	.000	.05
7.75	.05	95.00	.000	.05
7.80	.05	95.00	.000	.05
7.85	.05	95.00	.000	.05
7.90	.05	95.00	.000	.05
7.95	.05	95.00	.000	.05
8.00	.05	95.00	.000	.05
8.05	.05	95.00	.000	.05
8.10	.05	95.00	.000	.05
8.15	.05	95.00	.000	.05
8.20	.05	95.00	.000	.05
8.25	.05	95.00	.000	.05
8.30	.05	95.00	.000	.05
8.35	.05	95.00	.000	.05

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
8.40	.05	95.00	.000	.05
8.45	.05	95.00	.000	.05
8.50	.05	95.00	.000	.05
8.55	.05	95.00	.000	.05
8.60	.05	95.00	.000	.05
8.65	.05	95.00	.000	.05
8.70	.05	95.00	.000	.05
8.75	.05	95.00	.000	.05
8.80	.05	95.00	.000	.05
8.85	.05	95.00	.000	.05
8.90	.05	95.00	.000	.05
8.95	.05	95.00	.000	.05
9.00	.05	95.00	.000	.05
9.05	.05	95.00	.000	.05
9.10	.05	95.00	.000	.05
9.15	.05	95.00	.000	.05
9.20	.05	95.00	.000	.05
9.25	.05	95.00	.000	.05
9.30	.05	95.00	.000	.05
9.35	.05	95.00	.000	.05

9.40	.05	95.00	.000	.05
9.45	.05	95.00	.000	.05
9.50	.05	95.00	.000	.05
9.55	.05	95.00	.000	.05
9.60	.04	95.00	.000	.05
9.65	.04	95.00	.000	.05
9.70	.04	95.00	.000	.04
9.75	.04	95.00	.000	.04
9.80	.04	95.00	.000	.04
9.85	.04	95.00	.000	.04
9.90	.04	95.00	.000	.04
9.95	.04	95.00	.000	.04
10.00	.04	95.00	.000	.04
10.05	.04	95.00	.000	.04
10.10	.04	95.00	.000	.04
10.15	.04	95.00	.000	.04
10.20	.04	95.00	.000	.04
10.25	.04	95.00	.000	.04
10.30	.04	95.00	.000	.04
10.35	.04	95.00	.000	.04
10.40	.04	95.00	.000	.04
10.45	.04	95.00	.000	.04
10.50	.04	95.00	.000	.04
10.55	.04	95.00	.000	.04
10.60	.04	95.00	.000	.04
10.65	.04	95.00	.000	.04
10.70	.04	95.00	.000	.04
10.75	.04	95.00	.000	.04
10.80	.04	95.00	.000	.04
10.85	.04	95.00	.000	.04
10.90	.04	95.00	.000	.04
10.95	.04	95.00	.000	.04
11.00	.04	95.00	.000	.04
11.05	.04	95.00	.000	.04
11.10	.04	95.00	.000	.04
11.15	.04	95.00	.000	.04

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
11.20	.04	95.00	.000	.04
11.25	.04	95.00	.000	.04
11.30	.04	95.00	.000	.04
11.35	.04	95.00	.000	.04
11.40	.04	95.00	.000	.04
11.45	.04	95.00	.000	.04
11.50	.04	95.00	.000	.04
11.55	.04	95.00	.000	.04
11.60	.04	95.00	.000	.04
11.65	.04	95.00	.000	.04
11.70	.04	95.00	.000	.04
11.75	.04	95.00	.000	.04
11.80	.04	95.00	.000	.04
11.85	.04	95.00	.000	.04
11.90	.04	95.00	.000	.04
11.95	.04	95.00	.000	.04
12.00	.04	95.00	.000	.04
12.05	.04	95.00	.000	.04
12.10	.04	95.00	.000	.04
12.15	.04	95.00	.000	.04
12.20	.04	95.00	.000	.04
12.25	.04	95.00	.000	.04
12.30	.04	95.00	.000	.04
12.35	.04	95.00	.000	.04
12.40	.04	95.00	.000	.04
12.45	.04	95.00	.000	.04
12.50	.04	95.00	.000	.04
12.55	.04	95.00	.000	.04
12.60	.04	95.00	.000	.04
12.65	.04	95.00	.000	.04
12.70	.04	95.00	.000	.04
12.75	.04	95.00	.000	.04
12.80	.04	95.00	.000	.04
12.85	.04	95.00	.000	.04
12.90	.04	95.00	.000	.04
12.95	.04	95.00	.000	.04
13.00	.04	95.00	.000	.04
13.05	.04	95.00	.000	.04
13.10	.04	95.00	.000	.04
13.15	.04	95.00	.000	.04
13.20	.04	95.00	.000	.04
13.25	.04	95.00	.000	.04
13.30	.04	95.00	.000	.04
13.35	.04	95.00	.000	.04
13.40	.04	95.00	.000	.04

13.45	.04	95.00	.000	.04
13.50	.04	95.00	.000	.04
13.55	.04	95.00	.000	.04
13.60	.04	95.00	.000	.04
13.65	.04	95.00	.000	.04
13.70	.04	95.00	.000	.04
13.75	.04	95.00	.000	.04
13.80	.04	95.00	.000	.04
13.85	.04	95.00	.000	.04
13.90	.04	95.00	.000	.04
13.95	.04	95.00	.000	.04

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
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14.00	.04	95.00	.000	.04
14.05	.04	95.00	.000	.04
14.10	.04	95.00	.000	.04
14.15	.04	95.00	.000	.04
14.20	.04	95.00	.000	.04
14.25	.04	95.00	.000	.04
14.30	.04	95.00	.000	.04
14.35	.04	95.00	.000	.04
14.40	.04	95.00	.000	.04
14.45	.04	95.00	.000	.04
14.50	.04	95.00	.000	.04
14.55	.04	95.00	.000	.04
14.60	.04	95.00	.000	.04
14.65	.03	95.00	.000	.04
14.70	.03	95.00	.000	.03
14.75	.03	95.00	.000	.03
14.80	.03	95.00	.000	.03
14.85	.04	95.00	.000	.03
14.90	.04	95.00	.000	.04
14.95	.04	95.00	.000	.04
15.00	.03	95.00	.000	.04
15.05	.03	95.00	.000	.03
15.10	.03	95.00	.000	.03
15.15	.03	95.00	.000	.03
15.20	.03	95.00	.000	.03
15.25	.03	95.00	.000	.03
15.30	.03	95.00	.000	.03
15.35	.03	95.00	.000	.03
15.40	.03	95.00	.000	.03
15.45	.03	95.00	.000	.03
15.50	.03	95.00	.000	.03
15.55	.03	95.00	.000	.03
15.60	.03	95.00	.000	.03
15.65	.03	95.00	.000	.03
15.70	.03	95.00	.000	.03
15.75	.03	95.00	.000	.03
15.80	.03	95.00	.000	.03
15.85	.03	95.00	.000	.03
15.90	.03	95.00	.000	.03
15.95	.03	95.00	.000	.03
16.00	.03	95.00	.000	.03
16.05	.03	95.00	.000	.03
16.10	.03	95.00	.000	.03
16.15	.03	95.00	.000	.03
16.20	.03	95.00	.000	.03
16.25	.03	95.00	.000	.03
16.30	.03	95.00	.000	.03
16.35	.03	95.00	.000	.03
16.40	.03	95.00	.000	.03
16.45	.03	95.00	.000	.03
16.50	.03	95.00	.000	.03
16.55	.03	95.00	.000	.03
16.60	.03	95.00	.000	.03
16.65	.03	95.00	.000	.03
16.70	.03	95.00	.000	.03
16.75	.03	95.00	.000	.03

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
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16.80	.03	95.00	.000	.03
16.85	.03	95.00	.000	.03
16.90	.03	95.00	.000	.03
16.95	.03	95.00	.000	.03
17.00	.03	95.00	.000	.03
17.05	.03	95.00	.000	.03
17.10	.03	95.00	.000	.03
17.15	.03	95.00	.000	.03
17.20	.03	95.00	.000	.03
17.25	.03	95.00	.000	.03

17.30	.03	95.00	.000	.03
17.35	.03	95.00	.000	.03
17.40	.03	95.00	.000	.03
17.45	.03	95.00	.000	.03
17.50	.03	95.00	.000	.03
17.55	.03	95.00	.000	.03
17.60	.03	95.00	.000	.03
17.65	.03	95.00	.000	.03
17.70	.03	95.00	.000	.03
17.75	.03	95.00	.000	.03
17.80	.03	95.00	.000	.03
17.85	.03	95.00	.000	.03
17.90	.03	95.00	.000	.03
17.95	.03	95.00	.000	.03
18.00	.03	95.00	.000	.03
18.05	.03	95.00	.000	.03
18.10	.03	95.00	.000	.03
18.15	.03	95.00	.000	.03
18.20	.03	95.00	.000	.03
18.25	.03	95.00	.000	.03
18.30	.03	95.00	.000	.03
18.35	.03	95.00	.000	.03
18.40	.03	95.00	.000	.03
18.45	.03	95.00	.000	.03
18.50	.03	95.00	.000	.03
18.55	.03	95.00	.000	.03
18.60	.03	95.00	.000	.03
18.65	.03	95.00	.000	.03
18.70	.03	95.00	.000	.03
18.75	.03	95.00	.000	.03
18.80	.03	95.00	.000	.03
18.85	.03	95.00	.000	.03
18.90	.03	95.00	.000	.03
18.95	.03	95.00	.000	.03
19.00	.03	95.00	.000	.03
19.05	.03	95.00	.000	.03
19.10	.03	95.00	.000	.03
19.15	.03	95.00	.000	.03
19.20	.03	95.00	.000	.03
19.25	.03	95.00	.000	.03
19.30	.03	95.00	.000	.03
19.35	.03	95.00	.000	.03
19.40	.03	95.00	.000	.03
19.45	.03	95.00	.000	.03
19.50	.03	95.00	.000	.03
19.55	.03	95.00	.000	.03

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
19.60	.03	95.00	.000	.03
19.65	.03	95.00	.000	.03
19.70	.03	95.00	.000	.03
19.75	.03	95.00	.000	.03
19.80	.03	95.00	.000	.03
19.85	.03	95.00	.000	.03
19.90	.03	95.00	.000	.03
19.95	.03	95.00	.000	.03
20.00	.03	95.00	.000	.03
20.05	.03	95.00	.000	.03
20.10	.03	95.00	.000	.03
20.15	.03	95.00	.000	.03
20.20	.03	95.00	.000	.03
20.25	.03	95.00	.000	.03
20.30	.03	95.00	.000	.03
20.35	.03	95.00	.000	.03
20.40	.03	95.00	.000	.03
20.45	.03	95.00	.000	.03
20.50	.03	95.00	.000	.03
20.55	.03	95.00	.000	.03
20.60	.03	95.00	.000	.03
20.65	.03	95.00	.000	.03
20.70	.03	95.00	.000	.03
20.75	.03	95.00	.000	.03
20.80	.03	95.00	.000	.03
20.85	.03	95.00	.000	.03
20.90	.03	95.00	.000	.03
20.95	.03	95.00	.000	.03
21.00	.03	95.00	.000	.03
21.05	.03	95.00	.000	.03
21.10	.03	95.00	.000	.03
21.15	.03	95.00	.000	.03
21.20	.03	95.00	.000	.03
21.25	.03	95.00	.000	.03
21.30	.03	95.00	.000	.03

21.40	.03	95.00	.000	.03
21.45	.03	95.00	.000	.03
21.50	.03	95.00	.000	.03
21.55	.03	95.00	.000	.03
21.60	.03	95.00	.000	.03
21.65	.03	95.00	.000	.03
21.70	.03	95.00	.000	.03
21.75	.03	95.00	.000	.03
21.80	.03	95.00	.000	.03
21.85	.03	95.00	.000	.03
21.90	.03	95.00	.000	.03
21.95	.03	95.00	.000	.03
22.00	.03	95.00	.000	.03
22.05	.03	95.00	.000	.03
22.10	.03	95.00	.000	.03
22.15	.03	95.00	.000	.03
22.20	.03	95.00	.000	.03
22.25	.03	95.00	.000	.03
22.30	.03	95.00	.000	.03
22.35	.03	95.00	.000	.03

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
22.40	.03	95.00	.000	.03
22.45	.03	95.00	.000	.03
22.50	.03	95.00	.000	.03
22.55	.03	95.00	.000	.03
22.60	.03	95.00	.000	.03
22.65	.03	95.00	.000	.03
22.70	.03	95.00	.000	.03
22.75	.03	95.00	.000	.03
22.80	.03	95.00	.000	.03
22.85	.03	95.00	.000	.03
22.90	.03	95.00	.000	.03
22.95	.03	95.00	.000	.03
23.00	.03	95.00	.000	.03
23.05	.03	95.00	.000	.03
23.10	.03	95.00	.000	.03
23.15	.03	95.00	.000	.03
23.20	.03	95.00	.000	.03
23.25	.03	95.00	.000	.03
23.30	.03	95.00	.000	.03
23.35	.03	95.00	.000	.03
23.40	.03	95.00	.000	.03
23.45	.03	95.00	.000	.03
23.50	.03	95.00	.000	.03
23.55	.03	95.00	.000	.03
23.60	.03	95.00	.000	.03
23.65	.03	95.00	.000	.03
23.70	.03	95.00	.000	.03
23.75	.03	95.00	.000	.03
23.80	.02	95.00	.000	.03
23.85	.03	95.00	.000	.03
23.90	.03	95.00	.000	.03
23.95	.02	95.00	.000	.03
24.00	.03	95.00	.000	.03
24.05	.02	95.00	.000	.03
24.10	.02	95.00	.000	.02
24.15	.01	95.00	.000	.02
24.20	.01	95.00	.000	.01
24.25	.00	95.00	.000	.01
24.30	.00	95.00	.000	.01
24.35	.00	95.00	.000	.01
24.40	.00	95.00	.000	.00

PEAK DISCHARGE = 12.486 CFS - PEAK OCCURS AT HOUR 1.75
 MAXIMUM WATER SURFACE ELEVATION = 97.010
 MAXIMUM STORAGE = .4514 AC-FT INCREMENTAL TIME= .050000HRS

*
 PRINT HYD ID=7 CODE=1

OUTFLOW HYDROGRAPH REACH 15.30

RUNOFF VOLUME = .65915 INCHES = 1.1706 ACRE-FEET
 PEAK DISCHARGE RATE = 12.49 CFS AT 1.750 HOURS BASIN AREA = .0333 SQ. MI.

*S
 *S ***** ON-SITE BASINS *****
 *S CALCULATE THE FLOW FROM SUB-BASINS 15.4N (BOSQUECITO - NORTH)
 COMPUTE NM HYD ID=8 HYD=15.4 AREA=0.003375 SQ MI

A=0 B=10 C=10 D=80
TP=0.1333 MASSRAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 10.660 CFS UNIT VOLUME = .9981 B = 526.28 P60 = 1.7800
AREA = .002700 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118714HR TP = .133300HR K/TP RATIO = .890574 SHAPE CONSTANT, N = 3.982263
UNIT PEAK = 1.7925 CFS UNIT VOLUME = .9945 B = 353.99 P60 = 1.7800
AREA = .000675 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=8 CODE=1

OUTFLOW HYDROGRAPH REACH 15.40

RUNOFF VOLUME = 2.04828 INCHES = .3687 ACRE-FEET
PEAK DISCHARGE RATE = 8.11 CFS AT 1.500 HOURS BASIN AREA = .0034 SQ. MI.

*S
*S ADD THE FLOW FROM BASIN 15.1W AND 15.4N
ADD HYD ID=9 HYD=16.2 I=7 II=8
PRINT HYD ID=9 CODE=10

OUTFLOW HYDROGRAPH REACH 16.20

FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME	FLOW	TIME
CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS
.1	.000	.0	5.000	.1	10.000	.1	15.000	.1	20.000
.1	.500	.0	5.500	.1	10.500	.1	15.500	.1	20.500
.1	1.000	.3	6.000	.2	11.000	.1	16.000	.1	21.000
.1	1.500	19.9	6.500	.1	11.500	.1	16.500	.1	21.500
.1	2.000	14.0	7.000	.1	12.000	.1	17.000	.1	22.000
.1	2.500	3.3	7.500	.1	12.500	.1	17.500	.1	22.500
.1	3.000	.6	8.000	.1	13.000	.1	18.000	.1	23.000
.1	3.500	.3	8.500	.1	13.500	.1	18.500	.1	23.500
.1	4.000	.2	9.000	.1	14.000	.1	19.000	.1	24.000
.1	4.500	.1	9.500	.1	14.500	.1	19.500	.1	24.500
.0									

RUNOFF VOLUME = .78697 INCHES = 1.5393 ACRE-FEET
PEAK DISCHARGE RATE = 19.85 CFS AT 1.500 HOURS BASIN AREA = .0367 SQ. MI.

*S
*S CALCULATE THE FLOW FROM SUB-BASINS 15.2W
COMPUTE NM HYD ID=10 HYD=15.2 AREA=0.0665 SQ MI
A=67 B=10 C=15 D=8
TP=0.1333 MASSRAIN=-1

K = .072732HR TP = .133300HR K/TP RATIO = .545627 SHAPE CONSTANT, N = 7.095958
UNIT PEAK = 20.984 CFS UNIT VOLUME = .9986 B = 525.78 P60 = 1.7800
AREA = .005320 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .152008HR TP = .133300HR K/TP RATIO = 1.140342 SHAPE CONSTANT, N = 3.105082
UNIT PEAK = 133.23 CFS UNIT VOLUME = .9995 B = 290.28 P60 = 1.7800
AREA = .061180 SQ MI IA = .58478 INCHES INF = 1.48739 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

PRINT HYD ID=10 CODE=1

OUTFLOW HYDROGRAPH REACH 15.20

RUNOFF VOLUME = .65916 INCHES = 2.3378 ACRE-FEET
PEAK DISCHARGE RATE = 73.57 CFS AT 1.500 HOURS BASIN AREA = .0665 SQ. MI.

APPENDIX C

**NORTH COORS BLVD.
DRAINAGE MANAGEMENT PLAN
EXCERPTS**



North Coors Drainage Management Plan

TABLE B
HYDROLOGY SUMMARY - PEAK FLOWS
NORTH COORS DRAINAGE MANAGEMENT PLAN (NCDMP) - MIDDLE AREA

BASINS THAT DISCHARGE DIRECTLY TO
THE CORRALES MAIN CANAL / LA ORILLA OUTLET

Basin	Original NCDMP (cfs)	Future Controls	AHYMO Computed Sub- Basin Flows (cfs)	*Allowable Discharge By This Plan (cfs)
8.3W	156	Yes	59	0
101EA - 506A	337	Yes	457	38
11.1W	176	Yes	114	43
11.2E	35	No	74	74
12.1W	79	Yes	97	12
12.2W	42	Yes	16	15
12.3E	44	Yes	62	10
13.1W	26	Yes	21	8
13.2E	36	No	34	34
14.1W	33	No	67	67
* 15.1W	21	No	30	30
* 15.2W	50	No	75	75
* 15.3E	50	Yes	30	30
16.1W And 16.3NRTH	26	No	70	70
16.2W And 16.3 STH	51	Yes	151	35
16.3E	109	No	26	26
17.1W	10	No	11	11
17.4E	136	Yes	87	87
Numeric Total	1669		1481	665
Total Not Controlled	280		387	387
Routed Total	389		381	*Based on existing downstream capacity.

Note: All of these discharge areas will require sediment control ponds.

ATTIVO PARAMETER SUMMARY SHEET

BASIN #	AREA	LAND TREATMENTS				Tp	Q100 *	ALLOWABLE	V100
		A	B	C	D				
	(SQMI)					(MIN)	(CFS)	PEAK DISCHARGE (CFS)	DEVELOPED (AC-FT)
504	0.0257	0	10	0	90	0.2025	57	29	3
505	0.0497	15	10	5	70	0.2066	108	108	5.8
505A	0.0056	0	10	0	90	0.1333	15	15	0.6
506	0.0559	10	30	30	30	0.2045	80	80	3.7
506A	0.00802	0	10	0	90	0.1868	18	18	0.9
11.1W	0.04607	10	10	0	80	0.1333	114	43 **	4.9
11.2E	0.02769	0	10	0	90	0.1333	74	74 **	3.2
12.1W	0.04399	0	42	0	58	0.1333	97	12 **	3.9
12.2W	0.00691	0	42	0	58	0.1333	15	15 **	0.6
12.3E	0.02616	0	25	0	75	0.14	62	10 **	2.7
13.1W	0.0102	25	20	0	55	0.1333	21	8 **	0.8
13.2E	0.0148	15	15	0	70	0.1333	34	34 **	1.4
14.1W	0.05117	60	10	10	15	0.1333	67	67 **	2.2
15.1W	0.0256	67	10	15	8	0.1333	30	30 **	0.9
15.2W	0.0638	67	10	15	8	0.1333	75	75 **	2.3
15.3E	0.0123	0	25	0	75	0.1333	30	30 **	1.3
16.1W	0.0333	67	10	15	8	0.1333	39	39 **	1.2
16.2W	0.0665	67	10	15	8	0.1333	78	24 **	2.4
16.3E	0.0112	0	20	20	60	0.13333	26	26 **	1
16.3NRTH	0.01565	0	52	4	44	0.1333	31	31 **	1.2
16.3STH	0.03122	0	23.7	16.5	59.8	0.1333	72	11 **	2.9
17.4E	0.05517	0	37.1	0	62.9	0.1333	87	87 **	3.5
17.1W	0.0103	73	10	10	7	0.1333	11	11 **	0.4

*Q100 Developed flows represent expected discharge values prior to implemented flow restrictions where the "Q100 Developed" is larger than the "Allowable Peak Discharge," on-site detention ponding is required.

** Sediment control ponds are required for any areas that discharge to the Corrales Main Canal / La Orilla Outlet.

*** Future retention ponding for a 100-year 10-day event is required.

August, 1996

study area. This flow is controlled by a "normally closed" gate that is only opened when capacity in the Corrales Main Canal is available. Therefore, it is not necessary to include flow from the dam when modeling peak flows in the Corrales Main Canal.

Conclusions:

Downstream of Paseo-del-Norte, the Corrales Main Canal intercepts the 100-year existing condition flows that reach the canal. There are no known conditions that cause flows to cross over the canal. The Corrales Main Canal in this reach is designed to carry the expected 100-year discharge with not less than 2-feet of freeboard.