

AMENDMENT REPORT
FOR
AMOLE-HUBBELL
DRAINAGE MANAGEMENT PLAN
(SNOW VISTA BASIN & TOWER SAGE BASIN)



NOVEMBER 2000

MARK GOODWIN & ASSOCIATES, PA

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SUMMARY

Under "existing drainage conditions", Subasin 190 is part of the Tower-Sage Drainage Basin. (Figure 4). Under "developed drainage conditions", subasin 190 was placed in the Snow Vista Basin according to the Amole-Hubbell Drainage Management Plan (Figure 5).

As a result of the existing grades in the area and more specifically the existing low lying area east of the present mobile home park in 102nd street midway between Central Avenue and Sunset Gardens Road, it has been proposed to split Subasin 190 into two subasins and remove approximately 40 percent of the eastern portion of subasin 190 (revised subasin 190B) from the Snow Vista Basin and make it part of the Tower-Sage Basin. The remaining 60 percent of subasin 190 (revised subasin 190A) will remain in the Snow Vista Basin as shown and will be allowed to drain to the Snow Vista Sedimentation Pond through the currently developing Sunrise Ranch Unit 2 subdivision (Figure 6). The mobile home park site will still be restricted to an allowable discharge rate of 1.29 cfs/acre (10.32 cfs) as was previously determined for subasin 190 as part of the Snow Vista Drainage Basin.

This change will result in an overall decrease in discharge to the Snow Vista Basin and, in the future, to a small increase in runoff to the Tower Sage Basin. At the present time, all runoff from Subasin 190 B (mobile home park) is contained within an onsite retention pond. In the future if the mobile home park is redeveloped, the increase in discharge from subasin 190B will increase the discharge at the Eucariz / 98th street intersection from an estimated 185.2 cfs to 196.4 cfs. (This increase includes an adjustment to the total area and land treatment value for Subasin A2-D) This results in a total volume increase to the Tower Detention Pond of 1.07 acre feet with an accompanying minimal increase in the outflow rate from 24.77 cfs to 24.89 cfs. This translates to a rise in the maximum water surface elevation by 0.138 feet (2 inches), from 87.73' to 87.868'.

I. PURPOSE FOR AMENDMENT

The proposed Sunrise Ranch Subdivision located in the southwest quadrant of the Sunset Gardens-98th street intersection covers an area of approximately 30.58 acres (Figure 1: Vicinity Map). The site is to be developed into a 184 single family residential community. The southwest corner of the site lies within a Zone AO floodplain as shown on FEMA Panel 35001 C 0328. The eastern portion of the site between the PNM substation and 98th street lies within the Tower Sage Basin and the western portion lies within the Snow Vista Basin (Figure 4). The purpose of this report is to amend the Tower Sage Basin and Snow Vista Basin boundary line as it relates to subbasin 190, as defined in AMAFCA's Amole-Hubbell Drainage Management Plan dated July 22, 1999.

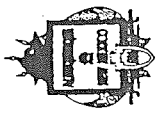
II. EXISTING DRAINAGE CONDITIONS

Under existing conditions runoff from sub basin 190 is in a general eastward direction toward 98th street which is part of the Tower Sage Basin (Figure 4). Field observation verified this fact and that there is an existing low lying area east of the mobile home park in 102nd street midway between Sunset Gardens Road and Central Avenue. In addition there is an existing berm along the south side of the Sunset Gardens right-of-way that prevents runoff from entering the Snow Vista Basin for the eastern half of subbasin 190, which includes the existing mobile home park. The existing boundary line in Figure 4 shows that Sub Basin 190 is more clearly a part of the Tower Sage Basin instead of the Snow Vista Basin. Further research into the City SAD 222 file found an exhibit with reference to subbasin 190 that stated, "Design Analysis Report for Snow Vista channel indicated some flows from this area could be directed to Snow Vista channel. Sub basin 190 represents this 20 +/- acres. Exact basin boundaries or conveyance route unknown" (Figure 3). This indicates the uncertain nature of the final basin boundary line.

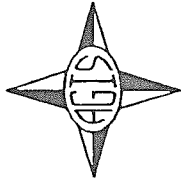
III. REVISED DRAINAGE CONDITIONS SUBBASIN 190

Most of the Sunrise Ranch Unit 2 subdivision lies within the Snow Vista Basin 200. Unit 2 was graded to minimize retaining walls and to match the existing grade along the property boundaries as much as possible. Given this design criteria it is not physically possible to grade that portion of Sunrise Ranch that lies within Subbasin 200 to allow for surface drainage from sub basin 190 through our site to the Snow Vista Sedimentation Pond (Figure 5). As an alternative to an expensive storm drain system through Unit 2 which would have to extend north to the low spot in 102nd street, runoff from the existing mobile home park should be diverted to the Tower Sage Basin in 98th street. This concept has City approval and the SAD 222 Engineers.

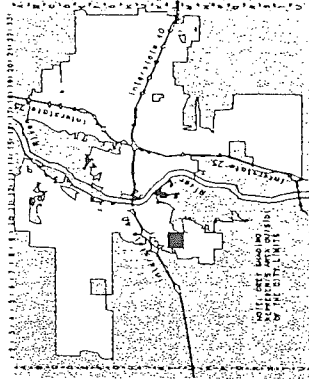
Under existing conditions runoff from mobile home park (Sub Basin 190B) is conveyed to a retention pond located within the site midway along the east property line. If this site were to redevelop into a different use, the developed flows should still be restricted to the allowable discharge rate of 1.29 cfs/acre as determined in the approved Amole-Hubbell Drainage Plan. The western portion of subbasin 190 (revised subbasin 190A, see Figure 6) will remain in the Snow Vista Basin. A "temporary drainage easement" along the western property line of Sunrise Ranch within sub basin 180 has been acquired to provide a conveyance path for developed runoff from sub basin 190A as well as the Sunrise Ranch Unit 2 site has been graded to allow offsite flows from Subbasin 190A to be conveyed as street flow through the site to inlets that discharge into the Snow Vista Pond. The allowable flow rate of 1.29 cfs per acre as determined in the approved Amole-Hubbell Drainage Plan will remain in effect.



CITY OF
Albuquerque
AGI
PLANNING DEPARTMENT
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GRAPHIC SCALE IN FEET

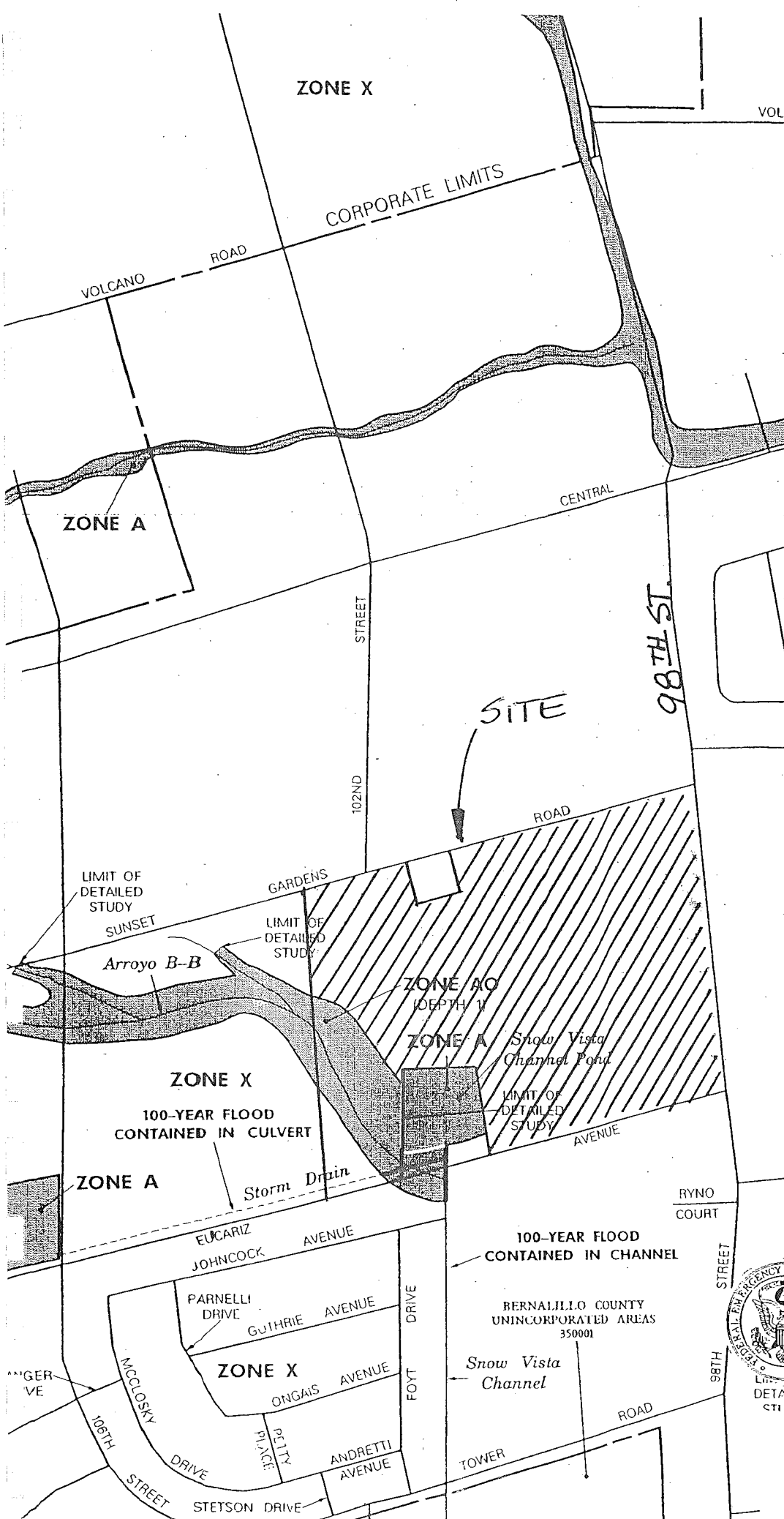


Zone Atlas Page L-9-Z

Map Amended through
September 17, 1999



FIGURE 1: VICINITY MAP



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP
BERNALILLO COUNTY,
NEW MEXICO AND
INCORPORATED AREAS

PANEL 328 OF 825
(SEE MAP INDEX FOR PANELS NOT PRINTED)



APPROXIMATE SCALE IN FEET
500 0 500

MAP NUMBER
35001C0328 D

EFFECTIVE DATE:
SEPTEMBER 20, 1996



FIGURE 2: FEMA MAP

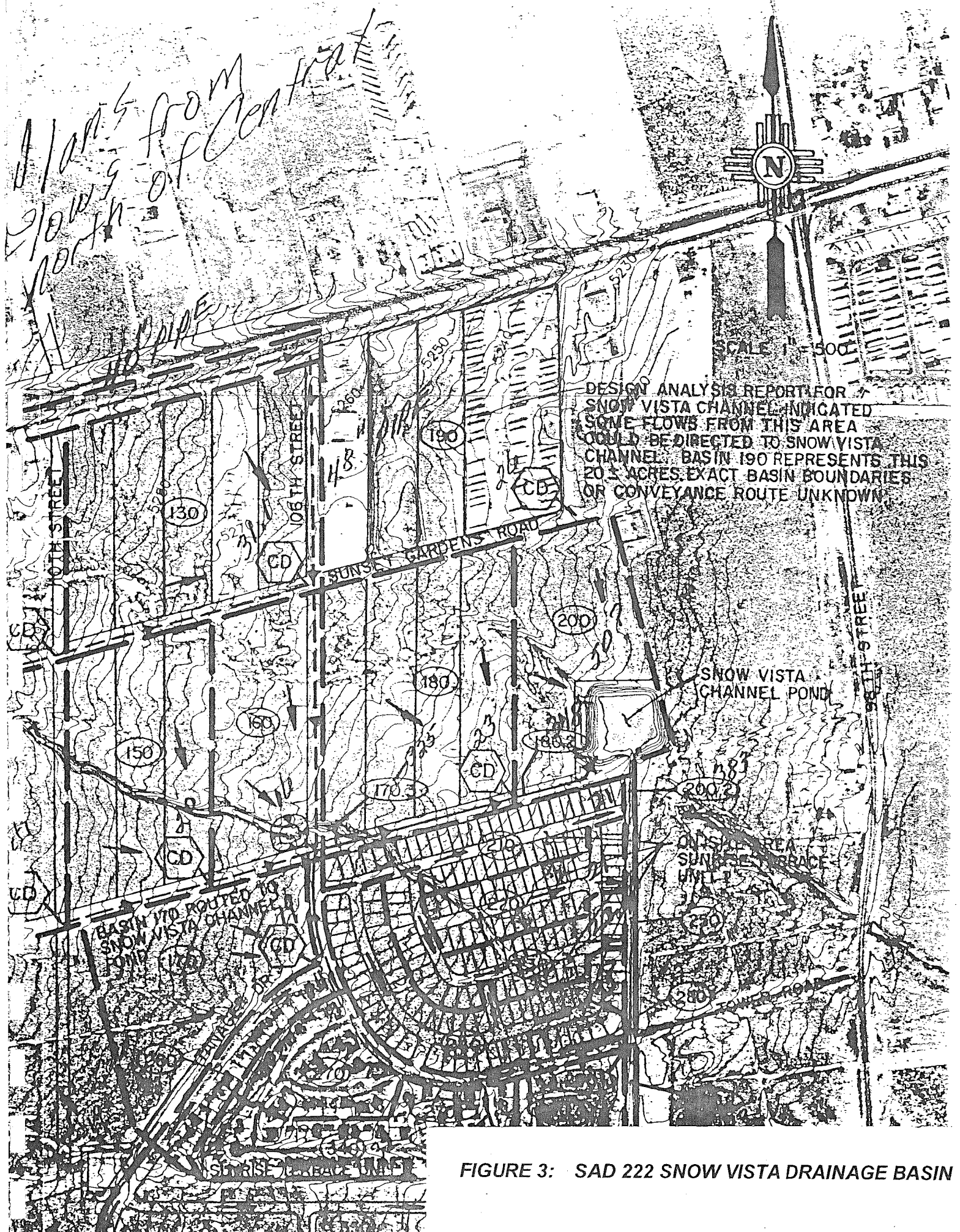
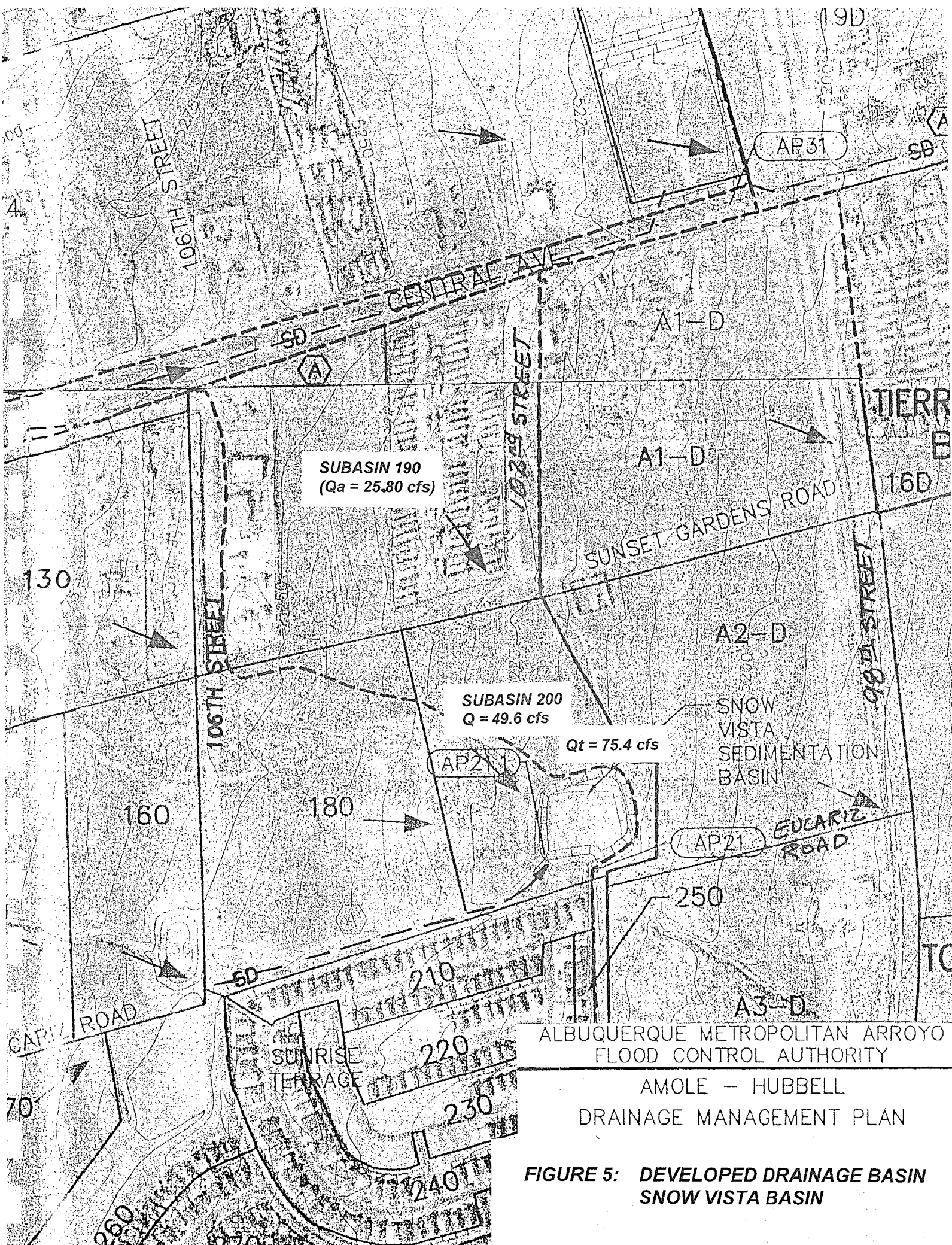




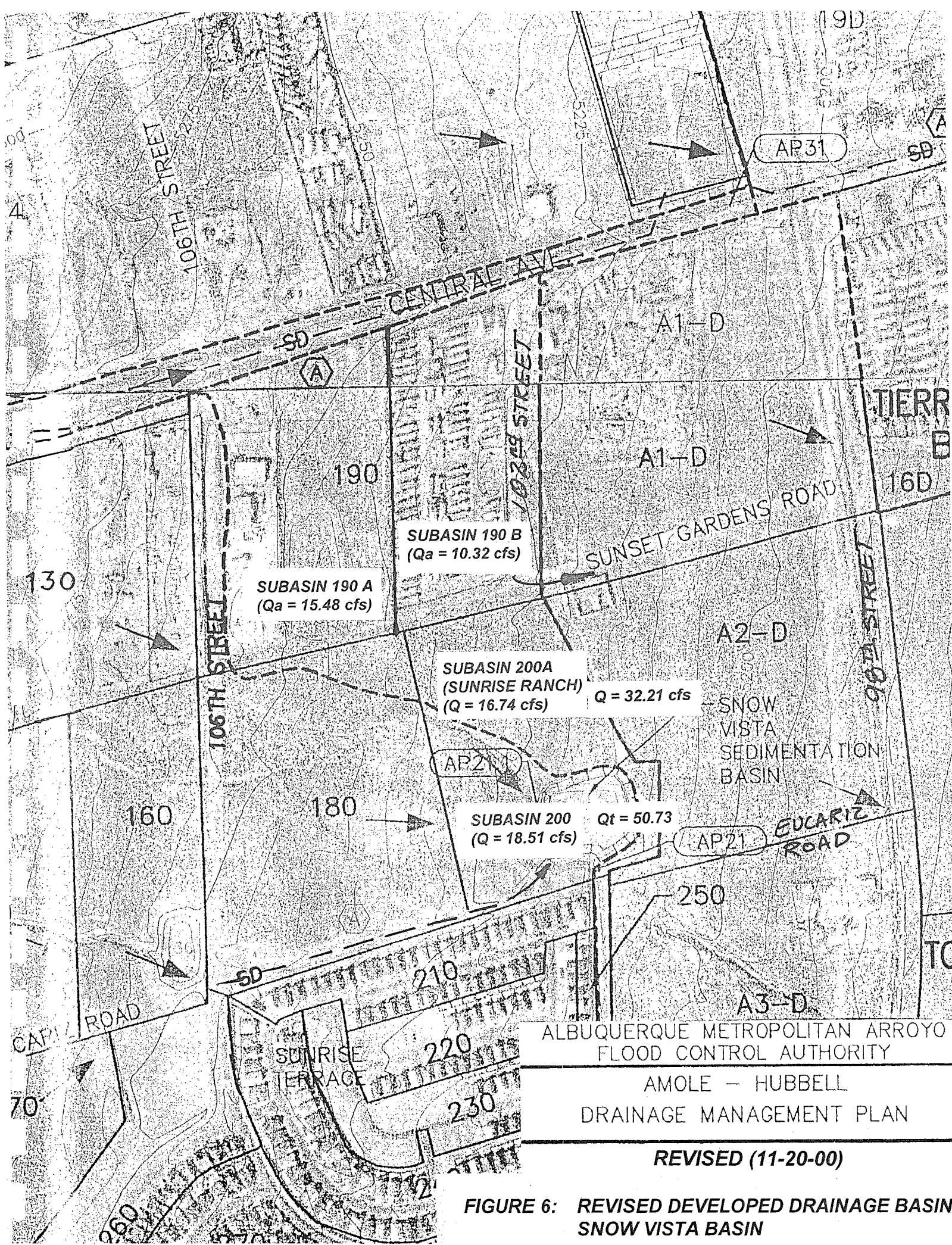
FIGURE 4: EXISTING DRAINAGE BASIN
SNOW VISTA BASIN



ALBUQUERQUE METROPOLITAN ARROYO
FLOOD CONTROL AUTHORITY

AMOLE - HUBBELL
DRAINAGE MANAGEMENT PLAN

**FIGURE 5: DEVELOPED DRAINAGE BASIN
SNOW VISTA BASIN**



**FIGURE 6: REVISED DEVELOPED DRAINAGE BASIN
SNOW VISTA BASIN**

APPENDIX A

SNOW VISTA BASIN

AHYMO PRINTOUTS

TABLE III-3
HYDROLOGIC SUMMARY
SNOW VISTA BASIN

AP NO.	MAP NO.	DESCRIPTION	VARIABLE	PROPOSED DMP FACILITIES		REVISED PROPOSED DMP FACILITIES	
				DMP	FUTURE CAPACITY	DMP	FUTURE CAPACITY
21.1	4	SNOW VISTA SEDIMENTATION BASIN	Q (cfs) Tvol (AF) Dvol (AF) Runoff (in) cfs/ac	423 53.8 6.4 2.07 1.36	484	400 51.5 6.3 2.05 1.33	484
21	4	SNOW VISTA CHANNEL AT HEAD	Q (cfs) Tvol (AF) Runoff (in) cfs/ac	388 53.18 2.07 1.25	375	372 51.5 2.05 1.24	375
22	4	SNOW VISTA BELOW SECTION LINE JUNCTION	Q (cfs) Tvol (AF) Runoff (in) cfs/ac	747 95 1.97 1.29	810	726 93 1.96 1.28	810
22.1	4	SNOW VISTA BELOW SAGE CROSSING	Q (cfs) Tvol (AF) Runoff (in) cfs/ac	916 114.4 1.93 1.29	930	895 112.1 1.92 1.28	930
22.2	4	SNOW VISTA BELOW INLET FROM WESTGATE	Q (cfs) Tvol (AF) Runoff (in) cfs/ac	1031 121.7 1.92 1.36	1050	1012 119.4 1.91 1.35	1050
23	4	SNOW VISTA BELOW BENAVIDES INLET	Q (cfs) Tvol (AF) Runoff (in) cfs/ac	2058 167.5 1.88 1.93	2100	2045 165.2 1.87 1.93	2100
24	7	SNOW VISTA AT ENTRANCE TO AMOLE ARROYO	Q (cfs) Tvol (AF) Runoff (in) cfs/ac	2081 183.4 1.87 1.77	2100	2065 181.1 1.86 1.77	2100

ROUTE	170.40	12	11	.11743	94.99	12.286	1.96169	1.850	1.264	1.850	3.612 PER IMP=	70.00
COMPUTE NM HYD	180.00	-	2	.02810	64.96	2.846	1.89898	1.500	3.612 AC-FT=	1.500		.684
ROUTE RESERVOIR	180.10	2	5	.02810	23.20	2.854	1.90432	1.800	1.290	1.800		
ADD HYD	180.20	11& 5	10	.14553	118.19	15.140	1.95061	1.850	1.269	1.850		
ROUTE	180.30	10	11	.14553	118.20	15.140	1.95061	1.850	1.269	1.850		
COMPUTE NM HYD	190A	-	2	.01878	47.54	2.167	2.16311	1.500	3.955 PER IMP=	1.500	85.00	
ROUTE RESERVOIR	190.10	2	5	.01878	15.47	2.167	2.16309	1.850	1.287 AC-FT=	1.850	.571	
ROUTE	190.20	90	10	.28490	246.00	32.991	2.17124	1.450	1.349	1.450		
ADD HYD	190.30	11&10	12	.43043	355.63	48.131	2.09664	1.450	1.291	1.450		
COMPUTE NM HYD	200.00	-	1	.01436	18.51	.510	.66636	1.500	2.014 PER IMP=	1.500	.00	
COMPUTE NM HYD	200A	-	3	.00736	16.74	.700	1.78251	1.500	3.554 PER IMP=	1.500	60.00	
ADD HYD	200.A	5& 3	4	.02614	32.21	2.866	2.05592	1.500	1.926	1.500		
ADD HYD	200.A	1& 4	2	.04050	50.73	3.377	1.56322	1.500	1.957	1.500		
*S THE VOLUME FROM 200.1 IS THE SNOW VISTA POND VOLUME UNDER DEV. COND.												
*S HYD=200.1 IS *****AP 21.1*****												
ADD HYD	200.10	2&12	10	.47093	400.36	51.508	2.05076	1.450	1.328	1.450		
ROUTE RESERVOIR	200.20	10	3	.47093	371.31	51.520	2.05127	2.000	1.232 AC-FT=	2.000	6.285	
*S HYD=200.2 IS *****AP 21*****												
MODIFY TIME	200.20	3	3	.47093	372.16	51.520	2.05127	2.050	1.235	2.050		
*S BEGIN ONSITE WATERSHED												
COMPUTE NM HYD	210.00	-	2	.00920	20.66	.871	1.77514	1.500	3.509 PER IMP=	1.500	61.00	
ADD HYD	210.10	3& 2	10	.48013	376.49	52.391	2.04598	1.950	1.225	1.950		
ROUTE	210.20	10	11	.48013	376.91	52.390	2.04593	1.950	1.227	1.950		
COMPUTE NM HYD	220.00	-	2	.00800	17.97	.757	1.77514	1.500	3.510 PER IMP=	1.500	61.00	
ADD HYD	220.10	11& 2	10	.48813	381.05	53.147	2.04149	1.950	1.220	1.950		
ROUTE	220.20	10	11	.48813	380.71	53.147	2.04147	1.950	1.219	1.950		
COMPUTE NM HYD	230.00	-	2	.00940	21.11	.890	1.77514	1.500	3.509 PER IMP=	1.500	61.00	
ADD HYD	230.10	11& 2	10	.49753	385.90	54.037	2.03644	1.900	1.212	1.900		
ROUTE	230.20	10	11	.49753	386.65	54.036	2.03641	1.900	1.214	1.900		
COMPUTE NM HYD	240.00	-	2	.01450	32.56	1.373	1.77514	1.500	3.509 PER IMP=	1.500	61.00	
*S END ONSITE WATERSHED												
ADD HYD	240.10	11& 2	10	.51203	395.00	55.409	2.02901	1.900	1.205	1.900		
COMPUTE NM HYD	250.00	-	2	.00220	5.04	.201	1.71016	1.500	3.582 PER IMP=	1.500	50.00	
ADD HYD	250.10	10& 2	11	.51423	396.28	55.609	2.02764	1.900	1.204	1.900		
COMPUTE NM HYD	260.00	-	2	.01570	34.01	1.443	1.72289	1.500	3.385 PER IMP=	1.500	60.00	
ROUTE	260.10	2	15	.01570	32.36	1.443	1.72292	1.550	3.221	1.550		
COMPUTE NM HYD	270.00	-	2	.01020	20.61	.841	1.54680	1.500	3.157 PER IMP=	1.500	50.00	
ADD HYD	270.10	15& 2	16	.02590	52.62	2.284	1.65352	1.500	3.175	1.500		
DIVIDE HYD	270.20	16	15	.02035	25.79	1.795	1.65352	1.500	1.980	1.500		
ROUTE	270.30	AND	3	.00555	26.84	.489	1.65352	1.500	7.556	1.500		
COMPUTE NM HYD	280.00	3	16	.00555	24.11	.489	1.65360	1.500	6.788	1.500		
ADD HYD	280.10	16& 2	17	.00775	28.88	.733	2.07506	1.500	3.850 PER IMP=	1.500	80.00	
ADD HYD	280.20	17&11	10	.52198	400.20	56.342	1.77310	1.550	5.821	1.550		
ROUTE	280.30	10	11	.52198	400.31	56.338	2.02387	1.800	1.198	1.800		
COMPUTE NM HYD	290.00	-	2	.00670	12.00	.421	1.17900	1.500	2.799 PER IMP=	1.500	25.00	
ADD HYD	290.10	11& 2	10	.52868	403.71	56.760	2.01302	1.800	1.193	1.800		
COMPUTE NM HYD	300.00	-	2	.07090	179.34	8.179	2.16311	1.500	3.952 PER IMP=	1.500	85.00	
ROUTE RESERVOIR	300.10	2	5	.07090	58.60	8.192	2.16634	1.850	1.291 AC-FT=	1.850	2.142	
ROUTE	300.20	5	11	.07090	58.59	8.192	2.16636	2.350	1.291	2.350		
COMPUTE NM HYD	310.00	-	2	.08640	214.61	9.724	2.11028	1.500	3.881 PER IMP=	1.500	82.00	

ROUTE RESERVOIR	310.10	2	5	.08640	71.30	9.826	2.13237	1.800	1.289 AC-FT=	2.505
ADD HYD	310.20 11& 5	12		.15730	129.89	18.018	2.14769	2.300	1.290	
ROUTE	310.30 12	11		.15730	129.89	18.018	2.14769	2.300	1.290	
ROUTE	310.40 11	13		.15730	129.89	18.018	2.14769	2.350	1.290	
COMPUTE NM HYD	320.00 -	2		.05470	122.45	5.283	1.81093	1.500	3.498 PER IMP=	65.00
ROUTE RESERVOIR	320.10 2	5		.05470	16.32	5.206	1.78457	2.100	.466 AC-FT=	3.035
ROUTE	320.20 5	11		.05470	16.32	5.205	1.78432	2.150	.466	
COMPUTE NM HYD	330.00 -	2		.02380	53.29	2.239	1.81093	1.500	3.498 PER IMP=	65.00
ADD HYD	330.10 11& 2	12		.07850	63.27	7.504	1.79239	1.500	1.259	
ADD HYD	330.20 12&13	14		.23580	190.99	25.522	2.02940	1.500	1.266	
ROUTE	330.30 14	12		.23580	189.79	25.521	2.02938	1.550	1.258	
ROUTE	330.40 12	11		.23580	190.04	25.521	2.02933	1.550	1.259	
ROUTE	330.50 15	17		.02035	25.49	1.795	1.65356	1.550	1.957	
ROUTE	330.60 17	16		.02035	25.11	1.795	1.65356	1.550	1.928	
COMPUTE NM HYD	340.00 -	2		.01550	31.31	1.279	1.54680	1.500	3.156 PER IMP=	50.00
ADD HYD	340.10 16& 2	15		.03585	55.01	3.073	1.60737	1.500	2.398	
ROUTE	340.20 15	16		.03585	54.76	3.073	1.60739	1.500	2.387	
ROUTE	340.30 16	15		.03585	54.42	3.073	1.60739	1.500	2.372	
COMPUTE NM HYD	350.00 -	2		.04830	97.54	3.985	1.54680	1.500	3.155 PER IMP=	50.00
ADD HYD	350.10 15& 2	16		.08415	151.96	7.058	1.57260	1.500	2.822	
ROUTE	350.20 16	15		.08415	151.86	7.058	1.57261	1.500	2.820	
ROUTE	350.30 15	16		.08415	150.38	7.058	1.57261	1.500	2.792	
COMPUTE NM HYD	360.00 -	2		.02080	42.01	1.716	1.54680	1.500	3.156 PER IMP=	50.00
ADD HYD	360.10 16& 2	15		.10495	192.40	8.774	1.56748	1.500	2.864	
ADD HYD	360.20 15&11	17		.34075	379.27	34.295	1.88709	1.500	1.739	
ROUTE	360.30 17	16		.34075	377.82	34.295	1.88708	1.500	1.732	
ADD HYD	360.40 16&10	15		.86943	719.82	91.054	1.96366	1.600	1.294	
COMPUTE NM HYD	370.00 -	2		.01830	36.97	1.510	1.54680	1.500	3.156 PER IMP=	50.00
ROUTE RESERVOIR	370.10 2	5		.01830	6.64	1.510	1.54678	2.050	.567 AC-FT=	.768
*S HYD=AP22 IS *****										
ADD HYD	AP22 5&15	22		.88773	725.91	92.564	1.95507	1.600	1.278	
ROUTE	100.00 22	88		.88773	731.89	92.563	1.95504	1.600	1.288	
*S COMPUTE HYD FOR BASIN 301.61										
COMPUTE NM HYD	301.61 -	61		.03590	84.71	3.399	1.77514	1.500	3.687 PER IMP=	61.00
*S ROUTE ID=61 THROUGH POND.61										
ROUTE RESERVOIR	.61 61	1		.03590	26.35	3.411	1.78163	1.750	1.147 AC-FT=	1.154
*S ROUTE THIS FLOW DOWN THE 24" STORM DRAIN PIPE TO POND.62										
ROUTE	.61 1	11		.03590	26.36	3.411	1.78166	1.800	1.147	
*S HYDROGRAPH ID = 11 IS THE ROUTED FLOW OUT OF POND.61										
*S COMPUTE HYD FOR BASIN 301.62										
COMPUTE NM HYD	301.62 -	62		.03440	81.18	3.257	1.77514	1.500	3.687 PER IMP=	61.00
*S ROUTE ID=62 THROUGH POND.62										
ROUTE RESERVOIR	.62 62	1		.03440	25.02	3.267	1.78046	1.800	1.136 AC-FT=	1.098
*S ROUTED FLOW OUT OF POND.62										
*S ADD HYD ID=11 TO ID=1 AND ROUTE THIS FLOW THROUGH THE 30" STORM DRAIN										
*S TO POND.63										
ADD HYD	POND.62 1&11	1		.07030	51.38	6.678	1.78106	1.800	1.142	
ROUTE	.62 1	12		.07030	51.40	6.678	1.78107	1.800	1.142	
*S HYDROGRAPH ID = 12 IS THE ROUTED FLOW DOWN THE 30" STORM DRAIN PIPE										
*S COMPUTE HYD FOR BASIN 301.63										
COMPUTE NM HYD	301.63 -	63		.03440	81.18	3.257	1.77514	1.500	3.687 PER IMP=	61.00

[illegible]

[illegible]

RUN DATE. (MON/DAY/YR) =11/21/2000
USER NO. = M_GOODWN. I01

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
 INPUT FILE = SV DMP.DAT

[illegible]

START

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ROUTE

ADD H2

ROUTE

COMPUTER

ROUTE 100

**ADD H:
POLYMER**

ROUTE
COVER

CONTINUED

ROUTE RESERVOIR	180.10	2	5	.02810	23.20	2.854	1.90432	1.800	1.290 AC-FT=	.684
ADD HYD	180.20 11& 5	10		.14553	118.19	15.140	1.95061	1.850		
ROUTE	180.30 10	11		.14553	118.20	15.140	1.95061	1.850		
COMPUTE NM HYD	190.00 -	2		.03130	79.22	3.611	2.16311	1.500	3.955 PER IMP=	85.00
ROUTE RESERVOIR	190.10 2	5		.03130	25.80	3.611	2.16310	1.850	1.288 AC-FT=	.950
ADD HYD	190.00 90& 5	1		.31620	267.54	36.602	2.17043	1.450	1.322	
ROUTE	190.20 1	10		.31620	271.17	36.602	2.17043	1.450	1.340	
ADD HYD	190.30 11&10	12		.46173	380.80	51.742	2.10114	1.450	1.289	
COMPUTE NM HYD	200.00 -	2		.02520	49.60	2.074	1.54349	1.500	3.075 PER IMP=	52.00
*S THE VOLUME FROM 200.1 IS THE SNOW VISTA POND VOLUME UNDER DEV. COND.										
*S HYD=200.1 IS ***** 21.1*****										
ADD HYD	200.10 2&12	10		.48693	423.42	53.816	2.07228	1.450	1.359	
ROUTE RESERVOIR	200.20 10	3		.48693	387.71	53.814	2.07218	2.000	1.244 AC-FT=	6.455
*S HYD=200.2 IS ***** 21*****										
MODIFY TIME	200.20 3	3		.48693	388.53	53.814	2.07218	1.950	1.247	
*S BEGIN ONSITE WATERSHED										
COMPUTE NM HYD	210.00 -	2		.00920	20.66	.871	1.77514	1.500	3.509 PER IMP=	61.00
ADD HYD	210.10 3& 2	10		.49613	393.57	54.685	2.06667	1.900	1.239	
ROUTE	210.20 10	11		.49613	393.76	54.684	2.06663	1.950	1.240	
COMPUTE NM HYD	220.00 -	2		.00800	17.97	.757	1.77514	1.500	3.510 PER IMP=	61.00
ADD HYD	220.10 11& 2	10		.50413	397.90	55.441	2.06200	1.950	1.233	
ROUTE	220.20 10	11		.50413	397.80	55.440	2.06198	1.900	1.233	
COMPUTE NM HYD	230.00 -	2		.00940	21.11	.890	1.77514	1.500	3.509 PER IMP=	61.00
ADD HYD	230.10 11& 2	10		.51353	403.48	56.330	2.05673	1.850	1.228	
ROUTE	230.20 10	11		.51353	404.02	56.330	2.05670	1.900	1.229	
COMPUTE NM HYD	240.00 -	2		.01450	32.56	1.373	1.77514	1.500	3.509 PER IMP=	61.00
*S END ONSITE WATERSHED										
ADD HYD	240.10 11& 2	10		.52803	412.58	57.702	2.04897	1.800	1.221	
COMPUTE NM HYD	250.00 -	2		.00220	5.04	.201	1.71016	1.500	3.582 PER IMP=	50.00
ADD HYD	250.10 10& 2	11		.53023	414.22	57.903	2.04756	1.800	1.221	
COMPUTE NM HYD	260.00 -	2		.01570	34.01	1.443	1.72289	1.500	3.385 PER IMP=	60.00
ROUTE	260.10 2	15		.01570	32.36	1.443	1.72292	1.550	3.221	
COMPUTE NM HYD	270.00 -	2		.01020	20.61	.841	1.54680	1.500	3.157 PER IMP=	50.00
ADD HYD	270.10 15& 2	16		.02590	52.62	2.284	1.65352	1.500	3.175	
DIVIDE HYD	270.20 16	15		.02035	25.79	1.795	1.65352	1.500	1.980	
ROUTE	270.30 AND	3		.00555	26.84	.489	1.65352	1.500	7.556	
COMPUTE NM HYD	280.00 -	2		.00555	24.11	.489	1.65360	1.550	6.788	
ADD HYD	280.10 16& 2	17		.00775	28.88	.733	2.07506	1.500	3.850 PER IMP=	80.00
COMPUTE NM HYD	280.20 17&11	10		.53798	419.19	58.636	1.77310	1.550	5.821	
ROUTE	280.30 10	11		.53798	419.02	58.632	2.04361	1.750	1.217	
COMPUTE NM HYD	290.00 -	2		.00670	12.00	.421	1.17900	1.500	1.217	
ADD HYD	290.10 11& 2	10		.54463	424.08	59.053	2.03284	1.700	2.799 PER IMP=	25.00
COMPUTE NM HYD	300.00 -	2		.07090	179.34	8.179	2.16311	1.500	1.217	
ROUTE RESERVOIR	300.20 5	11		.07090	58.59	8.192	2.16634	1.850	3.952 PER IMP=	85.00
ROUTE	310.00 -	2		.08640	214.61	9.724	2.11028	1.500	1.291 AC-FT=	2.142
COMPUTE NM HYD	310.10 2	5		.08640	71.30	9.826	2.13237	1.800	3.881 PER IMP=	82.00
ROUTE RESERVOIR	310.20 11& 5	12		.15730	129.89	18.018	2.14769	2.300	1.289 AC-FT=	2.505
ADD HYD	310.30 12	11		.15730	129.89	18.018	2.14769	2.300	1.290	
ROUTE	310.40 11	13		.15730	129.89	18.018	2.14769	2.350	1.290	

COMPUTE NM HYD	320.00	-	2	.05470	122.45	5.283	1.81093	1.500	3.498	PER IMP=	65.00
ROUTE RESERVOIR	320.10	2	5	.05470	16.32	5.206	1.78457	2.100	.466	AC-FT=	3.035
ROUTE	320.20	5	11	.05470	16.32	5.205	1.78432	2.150	.466		
COMPUTE NM HYD	330.00	-	2	.02380	53.29	2.299	1.81093	1.500	3.498	PER IMP=	65.00
ADD HYD	330.10	11& 2	12	.07850	63.27	7.504	1.79239	1.500	1.259		
ADD HYD	330.20	12&13	14	.23580	190.99	25.522	2.02940	1.500	1.266		
ROUTE	330.30	14	12	.23580	189.79	25.521	2.02938	1.550	1.258		
ROUTE	330.40	12	11	.23580	190.04	25.521	2.02933	1.550	1.259		
ROUTE	330.50	15	17	.02035	25.49	1.795	1.65356	1.550	1.957		
ROUTE	330.60	17	16	.02035	25.11	1.795	1.65356	1.550	1.928		
COMPUTE NM HYD	340.00	-	2	.01550	31.31	1.279	1.54680	1.500	3.156	PER IMP=	50.00
ADD HYD	340.10	16& 2	15	.03585	55.01	3.073	1.60737	1.500	2.398		
ROUTE	340.20	15	16	.03585	54.76	3.073	1.60739	1.500	2.387		
ROUTE	340.30	16	15	.03585	54.42	3.073	1.60739	1.500	2.372		
COMPUTE NM HYD	350.00	-	2	.04830	97.54	3.985	1.54680	1.500	3.155	PER IMP=	50.00
ADD HYD	350.10	15& 2	16	.08415	151.96	7.058	1.57260	1.500	2.820		
ROUTE	350.20	16	15	.08415	151.86	7.058	1.57261	1.500	2.822		
ROUTE	350.30	15	16	.08415	150.38	7.058	1.57261	1.500	2.792		
COMPUTE NM HYD	360.00	-	2	.02080	42.01	1.716	1.54680	1.500	3.156	PER IMP=	50.00
ADD HYD	360.10	16& 2	15	.10495	192.40	8.774	1.56748	1.500	2.864		
ADD HYD	360.20	15&11	17	.34075	379.27	34.295	1.88709	1.500	1.739		
ROUTE	360.30	17	16	.34075	377.82	34.295	1.88708	1.500	1.732		
ADD HYD	360.40	16&10	15	.88543	741.01	93.348	1.97675	1.600	1.308		
COMPUTE NM HYD	370.00	-	2	.01830	36.97	1.510	1.54680	1.500	3.156	PER IMP=	50.00
ROUTE RESERVOIR	370.10	2	5	.01830	6.64	1.510	1.54678	2.050	.567	AC-FT=	.768
*S HYD=AP22 IS *****											
ADD HYD	AP22	5&15	22	.90373	747.11	94.857	1.96804	1.600	1.292		
ROUTE	100.00	22	88	.90373	752.81	94.856	1.96801	1.600	1.302		
*S COMPUTE HYD FOR BASIN 301.61											
COMPUTE NM HYD	301.61	-	61	.03590	84.71	3.399	1.77514	1.500	3.687	PER IMP=	61.00
*S ROUTE ID=61 THROUGH POND.61											
ROUTE RESERVOIR	.61	61	1	.03590	26.35	3.411	1.78163	1.750	1.147	AC-FT=	1.154
*S ROUTE THIS FLOW DOWN THE 24" STORM DRAIN PIPE TO POND.62											
ROUTE	.61	1	11	.03590	26.36	3.411	1.78166	1.800	1.147		
*S HYDROGRAPH ID = 11 IS THE ROUTED FLOW OUT OF POND.61											
*S COMPUTE HYD FOR BASIN 301.62											
COMPUTE NM HYD	301.62	-	62	.03440	81.18	3.257	1.77514	1.500	3.687	PER IMP=	61.00
*S ROUTE ID=62 THROUGH POND.62											
ROUTE RESERVOIR	.62	62	1	.03440	25.02	3.267	1.78046	1.800	1.13		

[illegible]

APPENDIX B
TOWER SAGE BASIN
AHYMO PRINTOUTS

Input File Revisions

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START          0.0 HOURS   PC=0   PL=-1
*S
*S          TOWER/SAGE WATERSHED SAD 222
*S
*S 100-YR, 24-HR STORM WITH SEDIMENT
*S FILE NAME: TS_DMPR.DAT
*S BY: RICHARD STOCKTON   PEER REVIEWED BY: DEBORAH DIXON
*S LAST REVISION: 06-8-99 (kmj HYD=AP#22R)
*S DMG* REVISION 11-20-00: ADDED SUBBASIN 190B TO SUBBASIN A1-D
*S DMG* REVISED SUBBASIN A2-D AREA
*****
*****
**S100 YEAR 24HR STORM DEVELOPED CONDITION
RAINFALL          TYPE=2   0.0   1.87   2.20   2.66   DT=0.05
** 10 YEAR 24HR STORM DEVELOPED CONDITION
**RAINFALL          TYPE=2   0.0   1.25   1.47   1.77   DT=0.05
** 2 YEAR 24HR STORM DEVELOPED CONDITION
**RAINFALL          TYPE=2   0.0   0.74   0.95   1.15   DT=0.05
*****
*****
*LH*   THIS IS THE INPUT FILE FOR THE MASTER DRAINAGE STUDY FOR SAD-222 AREA.
*LH*   DEVELOPED CONDITIONS
*LH**  INPUT FILE NAME: MASTER24.IN
*LH**  100 YEAR 24 HOUR STORM.
*LH**
*LH***** Set time to start *****
*LH**
*LH*START          TIME = 0.0
*LH**
*LH***** COMPUTE RAINFALL DISTRIBUTION
*LH**
*LH*RAINFALL          TYPE=2
*LH*          RAIN QUARTER=0.0          RAIN ONE = 1.90 IN
*LH*          RAIN SIX=2.21 IN          RAIN DAY = 2.67 IN
*LH*          DT=0.075
*LH**
*LH**
*LH** THE FOLLOWING HYDROLOGY IS TO DETERMINE THE TOTAL FLOW AND VOLUME INTO
*LH** TOWER POND.
*LH**
*LH**
*LH***** SEDIMENT BULKING FACTOR = 5%
*LH**
*LH**SEDIMENT BULK          CODE=1   BULK FACTOR=1.05
*
*DMG* (REVISION 11-20-00: ADD SUBBASIN 190B AT SUNSET GARDENS TO TOWER-SAGE BASIN)
*
COMPUTE NM HYD          ID=3   HYD=190B   DA==0.01252 SM
                        %A=0   %B=15.0   %C=0.0   %D=85.0   TP=0.13333
                        MASS RAINFALL=-1
PRINT HYD              ID=3   CODE=1
*DMG* USE A ROUTE RESERVOIR ROUTINE TO SIMULATE CONTROLLED DISCHARGE
*DMG* ASSUMED ALLOWABLE DISCHARGE Q=10.32 cfs
*
ROUTE RESERVOIR          ID=1   HYDROGRAPH NO=190.1   INFLOW ID=3   CODE=24
                        OUTFLOW(cfs)   STORAGE(ac ft)   ELEV(ft)
                                0           0.0           100
                                10.31        0.001         100.1
                                10.32        1.30           105
PRINT HYD              ID=1   CODE=1
*
***** BASIN A1-D
*
COMPUTE NM HYD          ID=2   HYD NO=A1-D&AP#1   DRAINAGE AREA=.0458   SQ MI
                        PERCENT A=0   PERCENT B=24   PERCENT C=0   PERCENT D=76
                        TP=.15 HRS
                        MASSRAINFALL=-1
PRINT HYD              ID=2   CODE=1
*
*DMG* ADD SUBBASIN 190 TO SUBBASIN A1-D
*
ADD HYD                  ID=3   HYD NO=AP#2   ID I=1   ID II=2

```

```

*
*   TOTAL FLOW AT AP#2
*
PRINT HYD          ID=3  CODE=1
*
*   TOTAL FLOW AT AP#1
*
PRINT HYD          ID=3  CODE=1
*
*
***** ROUTE FLOW AT AP#1 TO AP#2 THROUGH PIPE IN 98TH ST.
*
COMPUTE RATING CURVE ID=1  VS NO=1  CODE=-1  SLP=0.0085  DIA=4.0  FT N=0.015
*
COMPUTE TRAVEL TIME ID=2  REACH=1  NO VS=1
                      L=1000  SLP=0.0085
*
ROUTE              ID=2    HYD NO=AP-1R
                      INFLOW=3  DT=0.00
*
PRINT HYD          ID=2  CODE=1
**
*DMG* REVISED SUBBASIN A2-D AREA AND LAND TREATMENT VALUES (INCLUDES EUCARIZ AND 98TH ST)
*
***** BASIN A2-D
**
COMPUTE NM HYD      ID=3  HYD NO=A2-D DRAINAGE AREA=.04067 SQ MI
                      PERCENT A=0 PERCENT B=20 PERCENT C=20 PERCENT D=60
                      TP=.14 HRS
                      MASSRAINFALL=-1
*
PRINT HYD          ID=3  CODE=1
*
*
***** ADD HYDROGRAPHS A1-D, A2-D
*
ADD HYD             ID=10  HYD NO=AP#2  ID I=2  ID II=3
*
*   TOTAL FLOW AT AP#2
*
PRINT HYD          ID=10  CODE=1
*
*
***** ROUTE FLOW AT AP#2 TO AP#3 THROUGH PIPE IN 98TH ST.
*
COMPUTE RATING CURVE ID=1  VS NO=1  CODE=-1  SLP=0.0072  DIA=5.0  FT N=0.015
*
COMPUTE TRAVEL TIME ID=2  REACH=1  NO VS=1
                      L=1150  SLP=0.0072
*
ROUTE              ID=2    HYD NO=AP#2R
                      INFLOW=10  DT=0.00
*
PRINT HYD          ID=2  CODE=1
*
*
***** BASIN A3-D
*
COMPUTE NM HYD      ID=3  HYD NO=A3-D DRAINAGE AREA=.0419 SQ MI
                      PERCENT A=0 PERCENT B=35 PERCENT C=0 PERCENT D=65
                      TP=.13 HRS
                      MASSRAINFALL=-1
*
PRINT HYD          ID=3  CODE=1
*
*
***** ADD HYDROGRAPHS A1-D, A2-D, A3-D
*
ADD HYD             ID=10  HYD NO=AP#3  ID I=2  ID II=3
*
*   TOTAL FLOW AT AP#3

```


ADD HYD	AP#10	2 & 3	20	38179	728.87	37.069	1.82051	1.550	2.983	
COMPUTE NM HYD	B1-D&AP#11	-	3	.02300	53.05	2.286	1.86376	1.500	3.604	PER IMP= 68.00
ROUTE	AP#11R	3	2	.02300	49.30	2.286	1.86378	1.550	3.349	
COMPUTE NM HYD	B2-D	-	3	.03500	76.65	3.216	1.72289	1.500	3.422	PER IMP= 60.00
ADD HYD	AP#12	2 & 3	10	.05800	122.10	5.502	1.77874	1.500	3.289	
ROUTE	AP#12R	10	2	.05800	117.16	5.502	1.77876	1.550	3.156	
COMPUTE NM HYD	B3-D	-	3	.04360	81.77	3.597	1.54680	1.550	2.931	PER IMP= 50.00
ADD HYD	AP#13	2 & 3	10	.10160	196.47	9.099	1.67920	1.550	3.021	
ROUTE	AP#13R	10	2	.10160	195.91	9.099	1.67921	1.550	3.013	
COMPUTE NM HYD	B4-D	-	3	.02300	47.03	1.897	1.54680	1.500	3.195	PER IMP= 50.00
ADD HYD	AP#14	2 & 3	10	.12460	237.27	10.996	1.65476	1.550	2.975	
ROUTE	AP#14R	10	12	.12460	236.83	10.996	1.65477	1.550	2.970	
COMPUTE NM HYD	S1-D&AP#15	-	3	.03140	71.05	3.033	1.81093	1.500	3.536	PER IMP= 65.00
ROUTE	AP#15R	3	2	.01630	33.33	3.033	1.81095	1.500	3.444	
COMPUTE NM HYD	S2-D	-	3	.04770	102.54	4.377	1.72066	1.500	3.359	
ADD HYD	AP#16	2 & 3	10	.04770	100.02	4.377	1.72068	1.550	3.276	
ROUTE	AP#16R	10	2	.05670	111.51	4.678	1.54680	1.500	3.073	PER IMP= 50.00
COMPUTE NM HYD	S3-D	-	3	.10440	208.85	9.055	1.62623	1.500	3.126	
ADD HYD	AP#17	2 & 3	10	.10440	208.86	9.055	1.62624	1.550	3.126	
ROUTE	AP#17R	10	2	.10440	208.86	9.055	1.72289	1.550	3.026	PER IMP= 60.00
COMPUTE NM HYD	S4-D	-	3	.04360	84.44	4.006	1.65471	1.550	3.096	
ADD HYD	AP#18	2 & 3	10	.14800	293.30	13.061	1.65471	1.550	2.977	
ROUTE	AP#18R	10	2	.02380	282.01	13.061	1.65471	1.550	2.977	
COMPUTE NM HYD	S5-D	-	3	.17180	327.26	15.226	1.70528	1.550	3.399	PER IMP= 59.00
ADD HYD	AP#19	2 & 3	10	.29640	564.09	26.222	1.65879	1.550	2.976	
ADD HYD	AP#20	12 & 10	10	.67819	1292.96	63.292	1.74983	1.550	2.979	
ADD HYD	PART AP#21	20 & 10	10	.03910	50.89	1.489	.71403	1.500	2.033	PER IMP= 5.00
COMPUTE NM HYD	B5-D TWRPND	-	3	.71729	1340.22	64.781	1.69337	1.550	2.919	
ADD HYD	AP#21	10 & 3	20	.71729	24.89	64.690	1.69099	3.000	.054	AC-FT= 48.879
ROUTE RESERVOIR	AP#22	20	12	.71729	30.53	64.690	1.69099	2.950	.066	
MODIFY TIME	AP#22	12	12	.71729	30.53	64.690	1.68880	2.950	.066	
ROUTE	AP#22R	12	2	.04590	63.53	4.433	1.81093	1.700	2.163	PER IMP= 65.00
COMPUTE NM HYD	B6-D	-	3	.76319	90.01	69.039	1.69614	1.700	.184	
ADD HYD	AP#23	2 & 3	10	.76319	87.84	68.927	1.69339	1.750	.180	
ROUTE	AP#23R	10	2	.05310	90.35	5.819	1.84615	1.650	2.389	PER IMP= 67.00
COMPUTE NM HYD	B7-D	-	3	.82229	172.54	74.746	1.70437	1.700	.328	
ADD HYD	AP#24	2 & 3	10	.82229	170.63	74.649	1.70216	1.700	.324	
ROUTE	AP#24R	10	2	.08910	80.38	7.350	1.54680	1.900	1.410	PER IMP= 50.00
COMPUTE NM HYD	B8-D	-	3	.91139	239.84	81.999	1.68697	1.750	.411	
ADD HYD	T52 DMP HYD	2 & 3	30	.03590	84.31	3.838	2.00463	1.500	3.669	PER IMP= 76.00
COMPUTE NM HYD	A12-DEAP#26	-	3	.03590	80.90	3.838	2.00464	1.550	3.521	
ROUTE	AP#26R	3	2	.04520	79.18	4.366	1.81093	1.600	2.737	PER IMP= 65.00
COMPUTE NM HYD	A13-D	-	3	.08110	159.76	8.204	1.89667	1.550	3.078	
ADD HYD	AP#27	2 & 3	10	.08110	152.20	8.204	1.89667	1.600	2.932	
ROUTE	AP#27R	10	2	.08110	152.20	8.204	1.89667	1.600	2.932	
COMPUTE NM HYD	A14-D	-	3	.12630	195.52	12.781	1.89897	1.750	2.055	PER IMP= 70.00
ADD HYD	AP#28	2 & 3	10	.12630	194.13	12.781	1.89749	1.600	2.419	
ROUTE	AP#28R	10	2	.02530	44.20	2.325	1.72289	1.550	2.402	
COMPUTE NM HYD	A15-D	-	3	.15160	237.29	15.106	1.72289	1.600	2.446	
ADD HYD	PART AP#33	2 & 3	20	.01080	22.09	.891	1.86835	1.500	3.196	PER IMP= 50.00
COMPUTE NM HYD	A17-DEAP#29	-	3				1.54680			

[illegible]

* REVISED DEVELOPED CONDITIONS 11-20-00

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*

* THE FOLOWING IS TO DETERMINE THE FLOW INTO THE AMOLE DEL NORTE CHANNEL
* FROM THE SAN YAGNACIO STORM DRAIN LINE.

***** ROUTE HYDROGRAPH THROUGH THE TOWER DETENTION POND

ROUTE RESERVOIR ID=12 HYD NO=AP#22 INFLOW ID=20 CODE=20.2
OUTFLOW (CFS) STORAGE (AC-FT) ELEVATION (FT)
0.0 0.0 72.0
11.9 5.8 76.0
17.4 13.0 80.0
18.5 15.2 81.0
19.6 17.7 82.0
20.6 20.5 83.0
21.5 23.8 84.0
22.5 28.2 85.0
23.3 34.4 86.0
25.0 49.9 88.0
25.8 58.0 89.0
3000.0 84.4 92.0

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	72.00	.000	.00
1.00	.00	72.00	.000	.00
2.00	372.33	86.87	41.178	24.04
3.00	22.70	87.87	48.879	24.89
4.00	8.28	87.74	47.900	24.78
5.00	7.02	87.56	46.458	24.62
6.00	8.32	87.37	45.055	24.47
7.00	10.06	87.22	43.831	24.33
8.00	9.52	87.06	42.636	24.20
9.00	8.93	86.90	41.403	24.07
10.00	8.44	86.74	40.138	23.93
11.00	7.99	86.57	38.846	23.79
12.00	7.62	86.40	37.531	23.64
13.00	7.25	86.23	36.197	23.50
14.00	6.93	86.06	34.847	23.35
15.00	6.64	85.85	33.485	23.18
16.00	6.38	85.63	32.115	23.01
17.00	6.13	85.41	30.738	22.83
18.00	5.90	85.19	29.357	22.65
19.00	5.70	84.95	27.972	22.45
20.00	5.52	84.63	26.593	22.13
21.00	5.33	84.32	25.224	21.82
22.00	5.16	84.02	23.867	21.52
23.00	5.01	83.61	22.524	21.15
24.00	4.86	83.21	21.198	20.79
25.00	.34	82.71	19.677	20.31
26.00	.02	82.12	18.031	19.72
27.00	.00	81.49	16.429	19.04
28.00	.00	80.86	14.884	18.34
29.00	.00	80.18	13.399	17.60
30.00	.00	79.43	11.982	16.62
31.00	.00	78.70	10.651	15.61
32.00	.00	78.00	9.401	14.65
33.00	.00	77.35	8.228	13.75
34.00	.00	76.74	7.126	12.91
35.00	.00	76.16	6.092	12.12
36.00	.00	75.55	5.146	10.56
37.00	.00	75.00	4.343	8.91

38.00	.00	74.53	3.666	7.52
39.00	.00	74.13	3.094	6.35
40.00	.00	73.80	2.611	5.36
41.00	.00	73.52	2.204	4.52
42.00	.00	73.28	1.860	3.82
43.00	.00	73.08	1.570	3.22
44.00	.00	72.91	1.325	2.72
45.00	.00	72.77	1.119	2.30
46.00	.00	72.65	.944	1.94
47.00	.00	72.55	.797	1.64
48.00	.00	72.46	.673	1.38
49.00	.00	72.39	.568	1.16
50.00	.00	72.33	.479	.98
51.00	.00	72.28	.404	.83
52.00	.00	72.24	.341	.70
53.00	.00	72.20	.288	.59
54.00	.00	72.17	.243	.50
55.00	.00	72.14	.205	.42

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
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56.00	.00	72.12	.173	.36
57.00	.00	72.10	.146	.30
58.00	.00	72.09	.123	.25
59.00	.00	72.07	.104	.21

PEAK DISCHARGE = 24.888 CFS - PEAK OCCURS AT HOUR 3.00

MAXIMUM WATER SURFACE ELEVATION = 87.868

MAXIMUM STORAGE = 48.8790 AC-FT INCREMENTAL TIME= .100000HRS

AHYMO SUMMARY TABLE (AHYMO194) - AMAFCA Hydrologic Model - January, 1994
 INPUT FILE = TS DMP. DAT

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RUN DATE (MON/DAY/YR) =11/20/2000
USER NO.= M GOODWN.101

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RUNOFF INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1
			NOTATION
			TIME=

TIME=.00

START

TOWER/SAGE WATERSHED SAD 222

52

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

*S FILE NAME: TS DMP.DAT

*S BY: RICHARD STOCKTON PEER REVIEWED BY: DEBORAH DIXON

*\$ LAST REVISION: 06-8-99 (kmj HYP=AP#22B)

STATION: 00 0 35										RAINFALL TYPE= 2										RAIN24= 2.66																			
A1-DGAP#1 - 3										COMPUTE NM HYD										PER IMP= 76.00																			
A2-1R 3										ROUTE										3.464																			
A2-D - 3										COMPUTE NM HYD										PER IMP= 70.00																			
AP#2 2& 3 10										ADD HYD										3.395																			
AP#2R 10 2										ROUTE										3.378																			
A3-D - 3										COMPUTE NM HYD										PER IMP= 65.00																			
AP#3 2& 3 10										ADD HYD										3.279																			
AP#3R 10 2										ROUTE										3.332																			
A4-D - 3										COMPUTE NM HYD										PER IMP= 80.00																			
AP#4 2& 3 10										ADD HYD										3.362																			
AP#4R 10 2										ROUTE										3.388																			
A5-D - 3										COMPUTE NM HYD										PER IMP= 60.00																			
AP#5 2& 3 10										ADD HYD										3.314																			
AP#5R 10 2										ROUTE										3.324																			
A6-D - 3										COMPUTE NM HYD										PER IMP= 50.00																			
PART AP#9 2& 3 10										ADD HYD										3.240																			
A7-D - 3										COMPUTE NM HYD										PER IMP= 50.00																			
PART AP#9 10& 3 10										ADD HYD										3.211																			
A8-DGAP#6 - 3										COMPUTE NM HYD										PER IMP= 70.00																			
AP#6R 3 2										ROUTE										2.986																			
A9-D - 3										COMPUTE NM HYD										PER IMP= 50.00																			
AP#7 2& 3 20										ADD HYD										2.865																			
AP#7R 20 2										ROUTE										2.883																			
A10-D - 3										COMPUTE NM HYD										PER IMP= 50.00																			
AP#8 2& 3 20										ADD HYD										3.196																			
AP#8R 20 2										ROUTE										2.748																			
AP#9 10& 2 10										ADD HYD										3.048																			
AP#9R 10 2										ROUTE										3.043																			
A11-D - 3										COMPUTE NM HYD										PER IMP= 76.00																			
AP#10 2& 3 20										ADD HYD										3.049																			
B1-DGAP#11 - 3										COMPUTE NM HYD										PER IMP= 68.00																			
AP#11R 3 2										ROUTE										3.349																			
B2-D - 3										COMPUTE NM HYD										PER IMP= 60.00																			
103.28										4.897										2.00463										1.500									
101.55										4.897										2.00464										1.550									
89.28										4.001										1.89898										1.500									
185.32										8.897										1.95570										1.500									
184.43										8.897										1.95571										1.550									
94.80										4.047										1.81093										1.500									
266.97										12.944										1.90801										1.550									
271.22										12.944										1.90801										1.550									
101.56										4.858										2.07506										1.500									
368.16										17.802										1.95087										1.550									
371.05										17.802										1.95087										1.550									
95.53										4.153										1.72289										1.500									
458.83										21.956										1.90323										1.550									
460.09										21.956										1.90323										1.550									
88.89										3.729										1.54680										1.500									
542.31										25.684										1.84162										1.550									
40.52										1.699										1.54680										1.500									
579.79										27.384										1.82009										1.550									
110.97										5.773										1.89898										1.550									
108.92										5.773										1.89898										1.600									
20.86										.841										1.54680										1.500									
123.22										6.614										1.84551										1.600									
123.98										6.614										1.84552										1.600									
20.86										.841										1.54680										1.500									
138.28										7.456										1.80614										1.600									
136.11										7.456										1.80615										1.600									
701.38										34.840										1.81709										1.550									
700.23										34.840										1.81709										1.550									
20.85										.919										2.00463										1.500									
718.26										35.759										1.82147										1.550									
53.05										2.286																													

ADD HYD	AP#12	2& 3	10	.05800	122.10	5.502	1.77874	1.500	3.289	
ROUTE	AP#12R	10	2	.05800	117.16	5.502	1.77876	1.550	3.156	
COMPUTE NM HYD	B3-D	-	3	.04360	81.77	3.597	1.54680	1.500	PER IMP=	50.00
ADD HYD	AP#13	2& 3	10	.10160	196.47	9.099	1.67920	1.550	3.021	
ROUTE	AP#13R	10	2	.10160	195.91	9.099	1.67921	1.550	3.013	
COMPUTE NM HYD	B4-D	-	3	.02300	47.03	1.897	1.54680	1.500	3.195	PER IMP= 50.00
ADD HYD	AP#14	2& 3	10	.12460	237.27	10.996	1.65476	1.550	2.975	
ROUTE	AP#14R	10	12	.12460	236.83	10.996	1.65477	1.550	2.970	
COMPUTE NM HYD	S1-D&AP#15	-	3	.03140	71.05	3.033	1.81093	1.500	3.536	PER IMP= 65.00
ROUTE	AP#15R	3	2	.03140	69.21	3.033	1.81095	1.500	3.444	
COMPUTE NM HYD	S2-D	-	3	.01630	33.33	1.345	1.54680	1.500	3.195	PER IMP= 50.00
ADD HYD	AP#16	2& 3	10	.04770	102.54	4.377	1.72066	1.500	3.359	
ROUTE	AP#16R	10	2	.04770	100.02	4.377	1.72068	1.550	3.276	
COMPUTE NM HYD	S3-D	-	3	.05670	111.51	4.678	1.54680	1.500	3.073	PER IMP= 50.00
ADD HYD	AP#17	2& 3	10	.10440	208.85	9.055	1.62623	1.500	3.126	
ROUTE	AP#17R	10	2	.10440	208.86	9.055	1.62624	1.550	3.126	
COMPUTE NM HYD	S4-D	-	3	.04360	84.44	4.006	1.72289	1.550	3.026	PER IMP= 60.00
ADD HYD	AP#18	2& 3	10	.14800	293.30	13.061	1.65471	1.550	3.096	
ROUTE	AP#18R	10	2	.14800	282.01	13.061	1.65471	1.550	2.977	
COMPUTE NM HYD	S5-D	-	3	.02380	51.78	2.165	1.70528	1.500	3.399	PER IMP= 59.00
ADD HYD	AP#19	2& 3	10	.17180	327.26	15.226	1.66171	1.550	2.976	
ROUTE	AP#20	12&10	10	.29640	564.09	26.222	1.65879	1.550	2.974	
ADD HYD	PART AP#21	20&10	10	.66450	1282.35	61.981	1.74891	1.550	3.015	
COMPUTE NM HYD	B5-D TWRPND	-	3	.03910	50.89	1.489	.71403	1.500	2.033	PER IMP= 5.00
ADD HYD	AP#21	10& 3	20	.70360	1329.61	63.470	1.69140	1.550	2.953	
ROUTE RESERVOIR	AP#22	20	12	.70360	24.77	63.388	1.68920	2.900	.055	AC-FT= 47.808
MODIFY TIME	AP#22	12	12	.70360	30.06	63.388	1.68920	2.950	.067	
ROUTE	AP#22R	12	2	.70360	30.05	63.307	1.68704	2.850	.067	
COMPUTE NM HYD	B6-D	-	3	.04590	63.53	4.433	1.81093	1.700	2.163	PER IMP= 65.00
ADD HYD	AP#23	2& 3	10	.74950	89.65	67.740	1.69463	1.700	.187	
ROUTE	AP#23R	10	2	.74950	87.49	67.632	1.69193	1.750	.182	
COMPUTE NM HYD	B7-D	-	3	.05910	90.35	5.819	1.84615	1.650	2.389	PER IMP= 67.00
ADD HYD	AP#24	2& 3	10	.80860	172.21	73.451	1.70320	1.700	.333	
ROUTE	AP#24R	10	2	.80860	170.31	73.358	1.70103	1.700	.329	
COMPUTE NM HYD	B8-D	-	3	.08910	80.38	7.350	1.54680	1.900	1.410	PER IMP= 50.00
ADD HYD	TS2 DMP HYD	2& 3	30	.89770	239.50	80.708	1.68572	1.750	.417	
COMPUTE NM HYD	A12-D&AP#26	-	3	.03590	84.31	3.838	2.00463	1.500	3.669	PER IMP= 76.00
ROUTE	AP#26R	3	2	.03590	80.90	3.838	2.00464	1.550	3.521	
COMPUTE NM HYD	A13-D	-	3	.04520	79.18	4.366	1.81093	1.600	2.737	PER IMP= 65.00
ADD HYD	AP#27	2& 3	10	.08110	159.76	8.204	1.89667	1.550	3.078	
ROUTE	AP#27R	10	2	.08110	152.20	8.204	1.89667	1.600	2.932	
COMPUTE NM HYD	A14-D	-	3	.04520	59.45	4.578	1.89897	1.750	2.055	PER IMP= 70.00
ADD HYD	AP#28	2& 3	10	.12630	195.52	12.781	1.89749	1.600	2.419	
ROUTE	AP#28R	10	2	.12630	194.13	12.782	1.89749	1.600	2.402	
COMPUTE NM HYD	A15-D	-	3	.02530	44.20	2.325	1.72289	1.550	2.730	PER IMP= 60.00
ADD HYD	PART AP#33	2& 3	20	.15160	237.29	15.106	1.86835	1.600	2.446	
ROUTE	A17-D&AP#29	-	3	.01080	22.09	.891	1.54680	1.500	3.196	PER IMP= 50.00
COMPUTE NM HYD	AP#29R	3	2	.01080	16.02	.891	1.54684	1.600	2.317	
ROUTE	A18-D	-	3	.01030	22.57	.946	1.72289	1.500	3.423	PER IMP= 60.00
COMPUTE NM HYD	AP#30	2& 3	10	.02110	35.43	1.837	1.63273	1.550	2.624	
ADD HYD	AP#30R	10	2	.02110	25.29	1.837	1.63269	1.650	1.873	

[illegible]

Tower Pond - Before Revisions

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***** ROUTE FLOW AT AP#9 TO AP#10 THROUGH PIPE IN TOWER RD.

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* THE FOLOWING IS TO DETERMINE THE FLOW INTO THE AMOLE DEL NORTE CHANNEL
* FROM THE SAN YAGNACIO STORM DRAIN LINE.

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***** ROUTE HYDROGRAPH THROUGH THE TOWER DETENTION POND

*

ROUTE RESERVOIR	ID=12	HYD NO=AP#22	INFLOW ID=20	CODE=20.2
	OUTFLOW (CFS)	STORAGE (AC-FT)	ELEVATION (FT)	
	0.0	0.0	72.0	
	11.9	5.8	76.0	
	17.4	13.0	80.0	
	18.5	15.2	81.0	
	19.6	17.7	82.0	
	20.6	20.5	83.0	
	21.5	23.8	84.0	
	22.5	28.2	85.0	
	23.3	34.4	86.0	
	25.0	49.9	88.0	
	25.8	58.0	89.0	
	3000.0	84.4	92.0	

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	72.00	.000	.00
1.00	.00	72.00	.000	.00
2.00	363.29	86.81	40.659	23.99
3.00	22.40	87.73	47.805	24.77
4.00	8.15	87.60	46.820	24.66
5.00	6.90	87.42	45.378	24.50
6.00	8.18	87.24	43.973	24.35
7.00	9.88	87.08	42.746	24.22
8.00	9.35	86.92	41.546	24.08
9.00	8.78	86.76	40.310	23.95
10.00	8.29	86.60	39.041	23.81
11.00	7.85	86.43	37.747	23.67
12.00	7.49	86.26	36.431	23.52
13.00	7.13	86.09	35.096	23.38
14.00	6.81	85.89	33.746	23.22
15.00	6.52	85.68	32.386	23.04
16.00	6.27	85.45	31.018	22.86
17.00	6.03	85.23	29.643	22.69
18.00	5.80	85.01	28.265	22.51
19.00	5.60	84.70	26.888	22.20
20.00	5.42	84.39	25.521	21.89
21.00	5.23	84.08	24.165	21.58
22.00	5.07	83.70	22.821	21.23
23.00	4.92	83.30	21.494	20.87
24.00	4.78	82.89	20.184	20.49
25.00	.33	82.35	18.686	19.95
26.00	.02	81.75	17.070	19.32
27.00	.00	81.12	15.502	18.63

28.00	.00	80.45	13.992	17.90
29.00	.00	79.75	12.545	17.05
30.00	.00	78.99	11.179	16.01
31.00	.00	78.28	9.897	15.03
32.00	.00	77.61	8.693	14.11
33.00	.00	76.98	7.563	13.25
34.00	.00	76.39	6.502	12.44
35.00	.00	75.80	5.511	11.31
36.00	.00	75.21	4.651	9.54
37.00	.00	74.71	3.926	8.05
38.00	.00	74.29	3.314	6.80
39.00	.00	73.93	2.797	5.74
40.00	.00	73.63	2.361	4.84
41.00	.00	73.37	1.992	4.09
42.00	.00	73.16	1.682	3.45
43.00	.00	72.98	1.419	2.91
44.00	.00	72.83	1.198	2.46
45.00	.00	72.70	1.011	2.07
46.00	.00	72.59	.853	1.75
47.00	.00	72.50	.720	1.48
48.00	.00	72.42	.608	1.25
49.00	.00	72.35	.513	1.05
50.00	.00	72.30	.433	.89
51.00	.00	72.25	.366	.75
52.00	.00	72.21	.309	.63
53.00	.00	72.18	.260	.53
54.00	.00	72.15	.220	.45
55.00	.00	72.13	.186	.38

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
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56.00	.00	72.11	.157	.32
57.00	.00	72.09	.132	.27
58.00	.00	72.08	.112	.23
59.00	.00	72.06	.094	.19

PEAK DISCHARGE = 24.771 CFS - PEAK OCCURS AT HOUR 2.90

MAXIMUM WATER SURFACE ELEVATION = 87.730

MAXIMUM STORAGE = 47.8083 AC-FT INCREMENTAL TIME= .100000HRS

*

* AP#22 = OUTFLOW FROM TOWER DETENTION POND

*

PRINT HYD ID=12 CODE=1

HYDROGRAPH FROM AREA AP#22

RUNOFF VOLUME = 1.68920 INCHES = 63.3874 ACRE-FEET

PEAK DISCHARGE RATE = 24.77 CFS AT 2.900 HOURS BASIN AREA = .7036 SQ. MI.