```
    AHYMO PROGRAM (AHYMO_97) -                          - Version:  1997.02c
         RUN DATE (MON/DAY/YR) = 05/04/2015
         START TIME (HR:MIN:SEC) = 17:11:07     USER NO.= AHYMO-C-9803c01UNMLIB-AH
         INPUT FILE = C:\BNDAHY~1\BOCANE~1.TXT

*S**************************************************************************
*S BOCA NEGRA DAM
*S LOMR MODEL - NEW RAINFALL DATA
*S INCLUDES BASINS DOWNSTREAM OF THE DAM
*S 100 YR 24 HR STORM EVENT
*S DATE: APRIL 2015
*
*S**************************************************************************
START              TIME=0.0  PUNCH CODE=0 PRINT CODE=0
LOCATION           BERNALILLO COUNTY
     Bernalillo County soil infiltration values (LAND FACTORS) used for computations.
     Land Treatment     Initial Abstr.(in)    Unif. Infilt.(in/hour)
          A             0.65                  1.67
          B             0.50                  1.25
          C             0.35                  0.83
          D             0.10                  0.04

*S 100 YEAR 24HR STORM
RAINFALL              TYPE=2  RAIN QUARTER=1.01   RAIN ONE=1.69
                   RAIN SIX=2.17  RAIN DAY=2.54  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   .0056   .0114   .0173   .0234   .0298   .0363
                  .0431   .0502   .0576   .0652   .0732   .0816   .0903
                  .0996   .1093   .1196   .1306   .1423   .1549   .1685
                  .1756   .1835   .2063   .2602   .3529   .4962   .7026
                  .9848  1.2074  1.3079  1.3919  1.4654  1.5312  1.5907
                 1.6451  1.6949  1.7408  1.7831  1.8223  1.8585  1.8676
                 1.8761  1.8842  1.8918  1.8991  1.9061  1.9127  1.9192
                 1.9253  1.9313  1.9371  1.9427  1.9482  1.9535  1.9587
                 1.9637  1.9686  1.9734  1.9781  1.9827  1.9872  1.9917
                 1.9960  2.0002  2.0044  2.0085  2.0126  2.0165  2.0204
                 2.0243  2.0280  2.0318  2.0354  2.0391  2.0426  2.0462
                 2.0496  2.0531  2.0565  2.0598  2.0631  2.0664  2.0696
                 2.0728  2.0760  2.0791  2.0822  2.0852  2.0883  2.0913
                 2.0942  2.0972  2.1001  2.1029  2.1058  2.1086  2.1114
                 2.1142  2.1170  2.1197  2.1224  2.1251  2.1277  2.1304
                 2.1330  2.1356  2.1382  2.1407  2.1433  2.1458  2.1483
                 2.1508  2.1532  2.1557  2.1581  2.1605  2.1629  2.1653
                 2.1677  2.1700  2.1716  2.1732  2.1748  2.1763  2.1779
                 2.1795  2.1810  2.1826  2.1841  2.1857  2.1872  2.1887
                 2.1903  2.1918  2.1933  2.1948  2.1963  2.1978  2.1993
                 2.2008  2.2023  2.2038  2.2052  2.2067  2.2082  2.2096
                 2.2111  2.2125  2.2140  2.2154  2.2169  2.2183  2.2197
                 2.2211  2.2226  2.2240  2.2254  2.2268  2.2282  2.2296
                 2.2310  2.2324  2.2337  2.2351  2.2365  2.2379  2.2392
                 2.2406  2.2419  2.2433  2.2446  2.2460  2.2473  2.2487
                 2.2500  2.2513  2.2526  2.2540  2.2553  2.2566  2.2579
                 2.2592  2.2605  2.2618  2.2631  2.2644  2.2657  2.2669
                 2.2682  2.2695  2.2708  2.2720  2.2733  2.2746  2.2758
                 2.2771  2.2783  2.2796  2.2808  2.2820  2.2833  2.2845
                 2.2857  2.2870  2.2882  2.2894  2.2906  2.2918  2.2930
                 2.2943  2.2955  2.2967  2.2978  2.2990  2.3002  2.3014
                 2.3026  2.3038  2.3050  2.3061  2.3073  2.3085  2.3096
                 2.3108  2.3120  2.3131  2.3143  2.3154  2.3166  2.3177
                 2.3188  2.3200  2.3211  2.3223  2.3234  2.3245  2.3256
                 2.3268  2.3279  2.3290  2.3301  2.3312  2.3323  2.3334
                 2.3345  2.3356  2.3367  2.3378  2.3389  2.3400  2.3411
                 2.3422  2.3433  2.3443  2.3454  2.3465  2.3476  2.3486
                 2.3497  2.3507  2.3518  2.3529  2.3539  2.3550  2.3560
                 2.3571  2.3581  2.3592  2.3602  2.3612  2.3623  2.3633
                 2.3644  2.3654  2.3664  2.3674  2.3685  2.3695  2.3705
                 2.3715  2.3725  2.3735  2.3746  2.3756  2.3766  2.3776
                 2.3786  2.3796  2.3806  2.3816  2.3825  2.3835  2.3845
                 2.3855  2.3865  2.3875  2.3885  2.3894  2.3904  2.3914
                 2.3924  2.3933  2.3943  2.3953  2.3962  2.3972  2.3981
                 2.3991  2.4000  2.4010  2.4020  2.4029  2.4038  2.4048
                 2.4057  2.4067  2.4076  2.4086  2.4095  2.4104  2.4114
                 2.4123  2.4132  2.4141  2.4151  2.4160  2.4169  2.4178
                 2.4187  2.4197  2.4206  2.4215  2.4224  2.4233  2.4242
                 2.4251  2.4260  2.4269  2.4278  2.4287  2.4296  2.4305
                 2.4314  2.4323  2.4332  2.4341  2.4350  2.4358  2.4367
                 2.4376  2.4385  2.4394  2.4402  2.4411  2.4420  2.4428
                 2.4437  2.4446  2.4455  2.4463  2.4472  2.4480  2.4489
                 2.4498  2.4506  2.4515  2.4523  2.4532  2.4540  2.4549
                 2.4557  2.4566  2.4574  2.4583  2.4591  2.4599  2.4608
                 2.4616  2.4624  2.4633  2.4641  2.4649  2.4658  2.4666
                 2.4674  2.4682  2.4691  2.4699  2.4707  2.4715  2.4724
                 2.4732  2.4740  2.4748  2.4756  2.4764  2.4772  2.4780
                 2.4788  2.4796  2.4805  2.4813  2.4821  2.4829  2.4837
                 2.4845  2.4852  2.4860  2.4868  2.4876  2.4884  2.4892
                 2.4900  2.4908  2.4916  2.4923  2.4931  2.4939  2.4947
                 2.4955  2.4962  2.4970  2.4978  2.4986  2.4993  2.5001
                 2.5009  2.5017  2.5024  2.5032  2.5040  2.5047  2.5055
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                2.5062  2.5070  2.5078  2.5085  2.5093  2.5100  2.5108
                2.5115  2.5123  2.5130  2.5138  2.5145  2.5153  2.5160
                2.5168  2.5175  2.5183  2.5190  2.5197  2.5205  2.5212
                2.5219  2.5227  2.5234  2.5242  2.5249  2.5256  2.5263
                2.5271  2.5278  2.5285  2.5293  2.5300  2.5307  2.5314
                2.5321  2.5329  2.5336  2.5343  2.5350  2.5357  2.5364
                2.5372  2.5379  2.5386  2.5393  2.5400

*
*
**********************************************************************
*S  APPLY A 5% SEDIMENT BULKING FACTOR ABOVE THE ESCARPMENT AND 9% BELOW
*S  THE ESCARPMENT TO COMPUTED HYDROGRAPHS - NO SEDIMENT BULKING FACTOR
*S  WHEN USING RECALL HYD COMMAND
SEDIMENT BULK          CODE=1   BULKING FACTOR = 1.05
**********************************************************************
**********************************************************************
*S*** Basin Contributing to INFLOW POINT 3 (IP3) ******************
**********************************************************************
**********************************************************************
*S QUAIL RANCH BASINS
**********************************************************************
*S*
**********************************************************************
*S**** SUB-BASIN 10 ****
*
COMPUTE LT TP        LCODE=1
                     NK=3  ISLOPE=-1
                     LENGTH=400 FT   SLOPE=0.036 K=0.7
                     LENGTH=1600 FT  SLOPE=0.027 K=2.0
                     LENGTH=7708 FT  SLOPE=0.025 K=3.0
                     Kn=.033  CR=0.52

     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                               LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION           400.0            .036000             .7000
     SHALLOW FLOW PORTION        1600.0            .027000            2.0000
     CHANNEL FLOW PORTION        7708.0            .025000            3.0000
     TOTAL BASIN                 9708.0            .025783            2.5055


     LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=      9708.0
     TOTAL BASIN SLOPE (FT/FT)=    .025783     CENTROUD LENGTH (FT)=         5048.2


     TIME OF CONCENTRATION (HRS)=   .5818     TIME TO PEAK (HRS)=   .3879     LAG TIME (HRS)=   .4364

COMPUTE NM HYD       ID=1   HYD NO=10   DA= 0.358 SQ MI
                     PER A=99 PER B=0  PER C=1  PER D=0
                     TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .3879

     K =   .407141HR    TP =   .387886HR    K/TP RATIO =  1.049638     SHAPE CONSTANT, N =  3.363608
     UNIT PEAK =   286.33    CFS   UNIT VOLUME =    1.000       B =   310.24      P60 = 1.6900
     AREA =      .358000 SQ MI    IA =    .64700 INCHES    INF =   1.66160 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD            ID=1   CODE=1

                                       OUTFLOW HYDROGRAPH REACH    10.00


    RUNOFF VOLUME =      .40971 INCHES     =       7.8227 ACRE-FEET
    PEAK DISCHARGE RATE =     116.07 CFS  AT   1.750 HOURS   BASIN AREA =   .3580 SQ. MI.



*
**********************************************************************
*S**** SUB-BASIN 11 ****
*
COMPUTE LT TP       LCODE=1
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.019 K=0.7
                    LENGTH=1600 FT  SLOPE=0.024 K=2.0
                    LENGTH=7880 FT  SLOPE=0.024 K=3.0
                    Kn=.033  CR=.64

     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                               LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION           400.0            .019000             .7000
     SHALLOW FLOW PORTION        1600.0            .024000            2.0000
     CHANNEL FLOW PORTION        7880.0            .024000            3.0000
     TOTAL BASIN                 9880.0            .023798            2.4385
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     LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=      9880.0
     TOTAL BASIN SLOPE (FT/FT)=    .023798     CENTROUD LENGTH (FT)=         6323.2


     TIME OF CONCENTRATION (HRS)=   .6402     TIME TO PEAK (HRS)=   .4268     LAG TIME (HRS)=   .4802

COMPUTE NM HYD      ID=2   HYD NO=11   DA= 0.390 SQ MI
                    PER A=99 PER B=0  PER C=1  PER D=0
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .4268

     K =   .448010HR    TP =   .426823HR    K/TP RATIO =  1.049638     SHAPE CONSTANT, N =  3.363608
     UNIT PEAK =   283.47    CFS   UNIT VOLUME =    1.000       B =   310.24      P60 = 1.6900
     AREA =      .390000 SQ MI    IA =    .64700 INCHES    INF =   1.66160 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=2   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    11.00


    RUNOFF VOLUME =      .40971 INCHES     =       8.5219 ACRE-FEET
    PEAK DISCHARGE RATE =     115.19 CFS  AT   1.800 HOURS   BASIN AREA =   .3900 SQ. MI.



*S
*************************************************************************
*
*S ADD IP3.10 TO IP3.11 TO GET IP3.11.9
ADD HYD             ID=9   HYD NO=11.9 ID I=1 ID II=2
PRINT HYD           ID=9   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    11.90


    RUNOFF VOLUME =      .40971 INCHES     =      16.3446 ACRE-FEET
    PEAK DISCHARGE RATE =     229.96 CFS  AT   1.800 HOURS   BASIN AREA =   .7480 SQ. MI.



*S
*************************************************************************
*
*S ROUTE 11.9 THRU IP3.12 IN NATURAL ARROYO TO 12.6
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5896.45        MAX ELEV=5900.10
                      CH SLOPE=0.007    FP SLOPE=0.007
                      N=0.035           DIST=780
                      DIST  ELEV    DIST  ELEV
                        0  5898.04 132 5898.03
                                   250     5896.63 406     5896.45
                                   477     5898.02 593     5899.88
                                   740     5900.10 780     5899.98


                                    RATING CURVE VALLEY SECTION  1.0
                                       WATER       FLOW        FLOW        TOP
                                      SURFACE      AREA        RATE        WIDTH
                                       ELEV        SQ FT       CFS         FT
                                     5896.45         .00         .00         .00
                                     5896.64       16.76       12.92      165.71
                                     5896.83       50.94       75.09      190.56
                                     5897.03       89.89      178.32      215.42
                                     5897.22      133.62      320.96      240.27
                                     5897.41      182.11      503.57      265.12
                                     5897.60      235.37      727.47      289.98
                                     5897.79      293.40      994.31      314.83
                                     5897.99      356.20     1305.90      339.69
                                     5898.18      441.85     1471.31      486.81
                                     5898.37      536.41     2000.08      498.77
                                     5898.56      633.27     2596.18      510.74
                                     5898.75      732.43     3257.76      522.71
                                     5898.94      833.89     3983.49      534.68
                                     5899.14      937.64     4772.36      546.65
                                     5899.33     1043.68     5623.67      558.62
                                     5899.52     1152.03     6536.90      570.59
                                     5899.71     1262.67     7511.71      582.55
                                     5899.90     1375.79     8410.98      609.30
                                     5900.10     1507.24     8333.93      776.09
ROUTE MCUNGE        ID=6   HYD NO=12.6  INFLOW ID=9
                    DT=0.0   L=4765 FT   NS=0   SLOPE=0.007
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

     INFLOW END= 274            TABLE PTS= 19
     DT=  .050000               QMED=      114.98  CKMED=      2.6500
```

WIDTH MED= 200.17 NREACH= 19 DX= 250.79

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	2.535	.0	1.39	.27	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.19	16.8	12.9	1.717	165.7	1.35	.77	.967	.033	.967	.000	.033	2.0	.995	.000	.005
.38	50.9	75.1	.898	190.6	2.30	1.47	1.653	.097	.929	.273	-.202	38.5	.943	.158	-.101
.58	89.9	178.3	.667	215.4	3.00	1.98	2.151	.157	.905	.395	-.300	122.0	.915	.340	-.254
.77	133.6	321.0	.551	240.3	3.54	2.40	2.543	.215	.886	.468	-.353	245.3	.893	.433	-.326
.96	182.1	503.6	.479	265.1	4.01	2.77	2.876	.270	.870	.518	-.387	408.1	.876	.493	-.369
1.15	235.4	727.5	.428	290.0	4.42	3.09	3.172	.323	.856	.555	-.411	611.4	.861	.536	-.398
1.34	293.4	994.3	.391	314.8	4.80	3.39	3.442	.375	.844	.585	-.429	856.9	.849	.570	-.419
1.54	356.2	1305.9	.361	339.7	3.71	3.67	2.666	.590	.723	.530	-.253	1146.1	.838	.597	-.435
1.73	441.8	1471.3	.397	486.8	3.64	3.33	2.612	.473	.768	.510	-.279	1385.3	.455	.413	.132
1.92	536.4	2000.1	.355	498.8	5.88	3.73	4.223	.388	.862	.644	-.505	1727.8	.867	.628	-.495
2.11	633.3	2596.2	.323	510.7	6.42	4.10	4.610	.451	.851	.670	-.521	2290.6	.856	.657	-.513
2.30	732.4	3257.8	.298	522.7	6.92	4.45	4.968	.513	.842	.691	-.533	2919.8	.846	.681	-.527
2.49	833.9	3983.5	.277	534.7	7.39	4.78	5.301	.575	.833	.709	-.542	3613.7	.837	.701	-.537
2.69	937.6	4772.4	.260	546.6	7.82	5.09	5.614	.636	.825	.724	-.549	4371.2	.828	.717	-.545
2.88	1043.7	5623.7	.246	558.6	8.23	5.39	5.910	.696	.817	.737	-.554	5191.5	.821	.731	-.551
3.07	1152.0	6536.9	.233	570.6	8.63	5.67	6.191	.757	.810	.748	-.558	6074.0	.813	.743	-.556
3.26	1262.7	7511.7	.222	582.6	8.42	5.95	6.046	.872	.780	.747	-.527	7018.1	.806	.753	-.559
3.45	1375.8	8411.0	.217	609.3	7.83	6.11	5.620	1.004	.737	.738	-.474	7957.4	.746	.737	-.483

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 6 OCCURRED 2 TIMES. AVERAGE NUMBER ITERATIONS = 1.1066

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	2.535	.0	1.39	.27	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.19	16.8	12.9	1.717	165.7	1.35	.77	.967	.033	.967	.000	.033	2.0	.995	.000	.005
.38	50.9	75.1	.898	190.6	1.59	1.47	1.141	.141	.876	.124	.000	38.5	.924	.076	.000
.58	89.9	178.3	.667	215.4	1.77	1.98	1.267	.267	.789	.211	.000	122.0	.831	.169	.000
.77	133.6	321.0	.551	240.3	1.94	2.40	1.392	.392	.718	.282	.000	245.3	.751	.249	.000
.96	182.1	503.6	.479	265.1	2.11	2.77	1.513	.513	.661	.339	.000	408.1	.688	.312	.000
1.15	235.4	727.5	.428	290.0	2.27	3.09	1.629	.629	.614	.386	.000	611.4	.636	.364	.000
1.34	293.4	994.3	.391	314.8	2.43	3.39	1.741	.741	.574	.426	.000	856.9	.593	.407	.000
1.54	356.2	1305.9	.361	339.7	2.58	3.67	1.850	.850	.541	.459	.000	1146.1	.557	.443	.000
1.73	441.8	1471.3	.397	486.8	2.39	3.33	1.719	.719	.582	.418	.000	1385.3	.455	.413	.132
1.92	536.4	2000.1	.355	498.8	2.61	3.73	1.875	.875	.533	.467	.000	1727.8	.556	.444	.000
2.11	633.3	2596.2	.323	510.7	2.82	4.10	2.026	1.026	.494	.506	.000	2290.6	.513	.487	.000
2.30	732.4	3257.8	.298	522.7	3.03	4.45	2.173	1.173	.460	.540	.000	2919.8	.476	.524	.000
2.49	833.9	3983.5	.277	534.7	3.23	4.78	2.315	1.315	.432	.568	.000	3613.7	.445	.555	.000
2.69	937.6	4772.4	.260	546.6	3.42	5.09	2.454	1.454	.407	.593	.000	4371.2	.419	.581	.000
2.88	1043.7	5623.7	.246	558.6	3.61	5.39	2.589	1.589	.386	.614	.000	5191.5	.396	.604	.000
3.07	1152.0	6536.9	.233	570.6	3.79	5.67	2.721	1.721	.367	.633	.000	6074.0	.377	.623	.000
3.26	1262.7	7511.7	.222	582.6	3.97	5.95	2.850	1.850	.351	.649	.000	7018.1	.359	.641	.000
3.45	1375.8	8411.0	.217	609.3	4.08	6.11	2.928	1.928	.342	.658	.000	7957.4	.346	.654	.000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 13 TIMES. AVERAGE NUMBER ITERATIONS = 1.0740

Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1, C2 and C3

PRINT HYD ID=6 CODE=1

```
    RUNOFF VOLUME =      .39959 INCHES     =      15.9411 ACRE-FEET
    PEAK DISCHARGE RATE =     217.63 CFS  AT   2.550 HOURS   BASIN AREA =   .7480 SQ. MI.


*
**********************************************************************
*
*S*** SUB-BASIN 12 ****
*
COMPUTE LT TP       LCODE=1
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.047 K=0.7
                    LENGTH=1600 FT  SLOPE=0.026 K=2.0
                    LENGTH=6490 FT  SLOPE=0.018 K=3.0
                    Kn=.033  CR=0.50

     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                              LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION          400.0            .047000             .7000
     SHALLOW FLOW PORTION       1600.0            .026000            2.0000
     CHANNEL FLOW PORTION       6490.0            .018000            3.0000
     TOTAL BASIN                8490.0            .020874            2.4772


     LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=      8490.0
     TOTAL BASIN SLOPE (FT/FT)=    .020874     CENTROUD LENGTH (FT)=         4245.0


     TIME OF CONCENTRATION (HRS)=   .5404     TIME TO PEAK (HRS)=   .3603     LAG TIME (HRS)=   .4053

COMPUTE NM HYD      ID=1   HYD NO=12   DA= 0.309 SQ MI
                    PER A=99 PER B=1  PER C=0  PER D=0
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .3603

     K =   .379632HR    TP =   .360270HR    K/TP RATIO =  1.053742     SHAPE CONSTANT, N =  3.350701
     UNIT PEAK =   265.26    CFS   UNIT VOLUME =    1.000       B =   309.27      P60 = 1.6900
     AREA =      .309000 SQ MI    IA =    .64850 INCHES    INF =   1.66580 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=1   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    12.00


    RUNOFF VOLUME =      .40783 INCHES     =       6.7210 ACRE-FEET
    PEAK DISCHARGE RATE =     106.67 CFS  AT   1.750 HOURS   BASIN AREA =   .3090 SQ. MI.


*S
**********************************************************************
*
* ADD IP3.12 TO 12.6 TO GET 12.9
ADD HYD             ID=9   HYD NO=12.9 ID I=1 ID II=6
PRINT HYD           ID=9   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    12.90


    RUNOFF VOLUME =      .40200 INCHES     =      22.6620 ACRE-FEET
    PEAK DISCHARGE RATE =     235.06 CFS  AT   2.500 HOURS   BASIN AREA =  1.0570 SQ. MI.


*
**********************************************************************
*
*S*** SUB-BASIN 14 ****
*
COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.0199 K=0.7
                    LENGTH=1600 FT  SLOPE=0.033 K=2.0
                    LENGTH=8632 FT  SLOPE=0.023 K=3.0
                    Kn=.033  CR=0.50

     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                              LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION          400.0            .019900             .7000
     SHALLOW FLOW PORTION       1600.0            .033000            2.0000
     CHANNEL FLOW PORTION       8632.0            .023000            3.0000
```

```
     TOTAL BASIN                 10632.0           .024388            2.4822


     LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=     10632.0
     TOTAL BASIN SLOPE (FT/FT)=    .024388     CENTROUD LENGTH (FT)=         5316.0


     TIME OF CONCENTRATION (HRS)=   .6309     TIME TO PEAK (HRS)=   .4206     LAG TIME (HRS)=   .4732

COMPUTE NM HYD      ID=2   HYD NO=14   DA= 0.513 SQ MI
                    PER A=99 PER B=1  PER C=0  PER D=0
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .4206

     K =   .441975HR    TP =   .420599HR    K/TP RATIO =  1.050822     SHAPE CONSTANT, N =  3.359877
     UNIT PEAK =   378.05    CFS   UNIT VOLUME =    1.000       B =   309.96      P60 = 1.6900
     AREA =      .513000 SQ MI    IA =    .64850 INCHES    INF =   1.66580 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=2   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    14.00


    RUNOFF VOLUME =      .40783 INCHES     =      11.1581 ACRE-FEET
    PEAK DISCHARGE RATE =     152.83 CFS  AT   1.800 HOURS   BASIN AREA =   .5130 SQ. MI.



*S
**************************************************************************
* ADD IP3.14 TO 12.9 TO GET 14.8
ADD HYD             ID=8   HYD NO=14.8 ID I=2 ID II=9
PRINT HYD           ID=8   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    14.80


    RUNOFF VOLUME =      .40391 INCHES     =      33.8201 ACRE-FEET
    PEAK DISCHARGE RATE =     275.48 CFS  AT   2.500 HOURS   BASIN AREA =  1.5700 SQ. MI.



*S
**************************************************************************
*S ROUTE 14.8 THRU 15 IN NATURAL ARROYO TO 15.6
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5844.46   MAX ELEV=5850.0
                      CH SLOPE=0.007    FP SLOPE=0.007
                      N=0.035           DIST=600.0
                      DIST  ELEV    DIST  ELEV
                        0   5854.38   145 5852.0
                                  235     5845.95 300     5844.46
                                  399     5846.0  489     5850.0
                                  600     5856.87


                                   RATING CURVE VALLEY SECTION  1.0
                                       WATER       FLOW        FLOW        TOP
                                     SURFACE       AREA        RATE        WIDTH
                                       ELEV        SQ FT       CFS         FT
                                     5844.46         .00         .00         .00
                                     5844.75        4.58        4.51       31.45
                                     5845.04       18.34       28.63       62.91
                                     5845.33       41.26       84.42       94.36
                                     5845.63       73.35      181.82      125.81
                                     5845.92      114.61      329.66      157.27
                                     5846.21      163.16      558.29      172.55
                                     5846.50      215.05      849.13      183.45
                                     5846.79      270.12     1194.70      194.34
                                     5847.08      328.36     1595.05      205.24
                                     5847.38      389.77     2050.65      216.13
                                     5847.67      454.36     2562.29      227.03
                                     5847.96      522.13     3130.91      237.92
                                     5848.25      593.08     3757.61      248.82
                                     5848.54      667.20     4443.57      259.72
                                     5848.83      744.49     5190.02      270.61
                                     5849.12      824.96     5998.23      281.51
                                     5849.42      908.61     6869.52      292.40
                                     5849.71      995.44     7805.21      303.30
                                     5850.00     1085.44     8806.66      314.19
ROUTE MCUNGE        ID=6   HYD NO=15.6  INFLOW ID=8
                    DT=0.0   L=5450 FT   NS=0   SLOPE=0.007
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

     INFLOW END= 297           TABLE PTS= 20
     DT=  .050000              QMED=      137.74  CKMED=      3.0349
     WIDTH MED=      111.58    NREACH= 19         DX=      286.84
```

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	2.108	.0	1.59	.45	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.29	4.6	4.5	1.539	31.5	1.52	.98	.953	.047	.953	.000	.047	.7	.993	.000	.007
.58	18.3	28.6	.970	62.9	2.17	1.56	1.363	.104	.915	.189	-.105	13.4	.922	.070	.008
.87	41.3	84.4	.740	94.4	2.79	2.05	1.749	.160	.890	.312	-.203	52.7	.895	.245	-.140
1.17	73.4	181.8	.611	125.8	3.35	2.48	2.101	.215	.870	.397	-.267	128.7	.875	.352	-.227
1.46	114.6	329.7	.526	157.3	4.07	2.88	2.553	.257	.865	.475	-.340	250.9	.858	.426	-.285
1.75	163.2	558.3	.442	172.6	5.17	3.42	3.245	.312	.863	.561	-.424	437.9	.869	.531	-.400
2.04	215.1	849.1	.383	183.4	5.96	3.95	3.743	.387	.849	.610	-.459	697.8	.857	.589	-.446
2.33	270.1	1194.7	.342	194.3	6.59	4.42	4.138	.464	.834	.643	-.477	1016.3	.841	.627	-.468
2.62	328.4	1595.0	.312	205.2	7.16	4.86	4.494	.540	.821	.669	-.489	1389.4	.827	.656	-.483
2.92	389.8	2050.7	.288	216.1	7.68	5.26	4.822	.615	.809	.689	-.498	1817.6	.814	.679	-.493
3.21	454.4	2562.3	.268	227.0	8.17	5.64	5.126	.688	.798	.706	-.504	2301.3	.803	.698	-.501
3.50	522.1	3130.9	.252	237.9	8.62	6.00	5.411	.760	.788	.721	-.509	2841.5	.792	.714	-.506
3.79	593.1	3757.6	.239	248.8	9.05	6.34	5.682	.831	.779	.734	-.513	3439.2	.783	.727	-.510
4.08	667.2	4443.6	.227	259.7	9.46	6.66	5.939	.900	.770	.745	-.515	4095.6	.774	.739	-.513
4.37	744.5	5190.0	.217	270.6	9.86	6.97	6.186	.969	.762	.755	-.517	4811.8	.766	.750	-.516
4.66	825.0	5998.2	.208	281.5	10.24	7.27	6.424	1.037	.755	.764	-.519	5589.1	.758	.759	-.517
4.96	908.6	6869.5	.200	292.4	10.60	7.56	6.654	1.103	.748	.772	-.520	6428.9	.751	.768	-.519
5.25	995.4	7805.2	.193	303.3	10.96	7.84	6.877	1.170	.741	.779	-.520	7332.4	.744	.775	-.520
5.54	1085.4	8806.7	.187	314.2	11.15	8.11	7.000	1.251	.729	.784	-.513	8300.9	.738	.782	-.520

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 5 OCCURRED 4 TIMES. AVERAGE NUMBER ITERATIONS = 1.1914

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	2.108	.0	1.59	.45	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.29	4.6	4.5	1.539	31.5	1.52	.98	.953	.047	.953	.000	.047	.7	.993	.000	.007
.58	18.3	28.6	.970	62.9	1.79	1.56	1.126	.126	.888	.112	.000	13.4	.922	.070	.008
.87	41.3	84.4	.740	94.4	1.96	2.05	1.228	.228	.815	.185	.000	52.7	.849	.151	.000
1.17	73.4	181.8	.611	125.8	2.13	2.48	1.338	.338	.748	.252	.000	128.7	.778	.222	.000
1.46	114.6	329.7	.526	157.3	2.31	2.88	1.451	.451	.689	.311	.000	250.9	.716	.284	.000
1.75	163.2	558.3	.442	172.6	2.59	3.42	1.623	.623	.616	.384	.000	437.9	.650	.350	.000
2.04	215.1	849.1	.383	183.4	2.87	3.95	1.803	.803	.555	.445	.000	697.8	.583	.417	.000
2.33	270.1	1194.7	.342	194.3	3.14	4.42	1.974	.974	.507	.493	.000	1016.3	.529	.471	.000
2.62	328.4	1595.0	.312	205.2	3.41	4.86	2.137	1.137	.468	.532	.000	1389.4	.486	.514	.000
2.92	389.8	2050.7	.288	216.1	3.65	5.26	2.293	1.293	.436	.564	.000	1817.6	.451	.549	.000
3.21	454.4	2562.3	.268	227.0	3.89	5.64	2.444	1.444	.409	.591	.000	2301.3	.422	.578	.000
3.50	522.1	3130.9	.252	237.9	4.13	6.00	2.589	1.589	.386	.614	.000	2841.5	.397	.603	.000
3.79	593.1	3757.6	.239	248.8	4.35	6.34	2.729	1.729	.366	.634	.000	3439.2	.376	.624	.000
4.08	667.2	4443.6	.227	259.7	4.57	6.66	2.866	1.866	.349	.651	.000	4095.6	.357	.643	.000
4.37	744.5	5190.0	.217	270.6	4.78	6.97	2.999	1.999	.333	.667	.000	4811.8	.341	.659	.000
4.66	825.0	5998.2	.208	281.5	4.99	7.27	3.129	2.129	.320	.680	.000	5589.1	.326	.674	.000
4.96	908.6	6869.5	.200	292.4	5.19	7.56	3.255	2.255	.307	.693	.000	6428.9	.313	.687	.000
5.25	995.4	7805.2	.193	303.3	5.39	7.84	3.380	2.380	.296	.704	.000	7332.4	.301	.699	.000
5.54	1085.4	8806.7	.187	314.2	5.58	8.11	3.502	2.502	.286	.714	.000	8300.9	.291	.709	.000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 14 TIMES. AVERAGE NUMBER ITERATIONS = 1.1608

Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1, C2 and C3

PRINT HYD ID=6 CODE=1

OUTFLOW HYDROGRAPH REACH 15.60

RUNOFF VOLUME = .39834 INCHES = 33.3540 ACRE-FEET
PEAK DISCHARGE RATE = 255.20 CFS AT 3.250 HOURS BASIN AREA = 1.5700 SQ. MI.

*

****
*S*** SUB-BASIN 15 ****
*
COMPUTE LT TP LCODE=1 UPLAND/LAG TIME TRANSITION METHOD
NK=3 ISLOPE=-1
LENGTH=400 FT SLOPE=0.005 K=0.7
LENGTH=1600 FT SLOPE=0.006 K=2.0
LENGTH=2978 FT SLOPE=0.011 K=3.0
Kn=.033 CR=0.58

Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

SCS UPLAND METHOD FACTORS

	LENGTH (FT)	SLOPE (FT/FT)	COMPOSITE K
SHEET FLOW PORTION	400.0	.005000	.7000
SHALLOW FLOW PORTION	1600.0	.006000	2.0000
CHANNEL FLOW PORTION	2978.0	.011000	3.0000
TOTAL BASIN	4978.0	.008911	1.8919

LAG EQUATION FACTORS: Kn= .0330 TOTAL BASIN LENGTH (FT)= 4978.0
TOTAL BASIN SLOPE (FT/FT)= .008911 CENTROUD LENGTH (FT)= 2887.2

TIME OF CONCENTRATION (HRS)= .6525 TIME TO PEAK (HRS)= .4350 LAG TIME (HRS)= .4894

COMPUTE NM HYD ID=1 HYD NO=15 DA= 0.301 SQ MI
PER A=99 PER B=1 PER C=0 PER D=0
TP=0.0 MASSRAIN=-1
TIME TO PEAK (hrs)= .4350

K = .461282HR TP = .435001HR K/TP RATIO = 1.060418 SHAPE CONSTANT, N = 3.329977
UNIT PEAK = 212.92 CFS UNIT VOLUME = .9999 B = 307.70 P60 = 1.6900
AREA = .301000 SQ MI IA = .64850 INCHES INF = 1.66580 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

BULKING FACTOR APPLIED TO HYDROGRAPH. FACTOR = 1.05000 AT PEAK FLOW.

PRINT HYD ID=1 CODE=1

OUTFLOW HYDROGRAPH REACH 15.00

RUNOFF VOLUME = .40783 INCHES = 6.5470 ACRE-FEET
PEAK DISCHARGE RATE = 86.15 CFS AT 1.800 HOURS BASIN AREA = .3010 SQ. MI.

*S
****
* ADD 15 TO 15.6 TO GET 15.9
ADD HYD ID=9 HYD NO=15.9 ID I=1 ID II=6
PRINT HYD ID=9 CODE=1

OUTFLOW HYDROGRAPH REACH 15.90

RUNOFF VOLUME = .39986 INCHES = 39.9009 ACRE-FEET
PEAK DISCHARGE RATE = 267.87 CFS AT 2.450 HOURS BASIN AREA = 1.8710 SQ. MI.

*
****
*S*** SUB-BASIN 16 ****
*
COMPUTE LT TP LCODE=1 UPLAND/LAG TIME TRANSITION METHOD
NK=3 ISLOPE=-1
LENGTH=400 FT SLOPE=0.014 K=0.7
LENGTH=1600 FT SLOPE=0.022 K=2.0
LENGTH=8058 FT SLOPE=0.025 K=3.0
Kn=.033 CR=0.52

Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

SCS UPLAND METHOD FACTORS

	LENGTH (FT)	SLOPE (FT/FT)	COMPOSITE K
SHEET FLOW PORTION	400.0	.014000	.7000
SHALLOW FLOW PORTION	1600.0	.022000	2.0000
CHANNEL FLOW PORTION	8058.0	.025000	3.0000

TOTAL BASIN 10058.0 .024085 2.3817

LAG EQUATION FACTORS: Kn= .0330 TOTAL BASIN LENGTH (FT)= 10058.0
TOTAL BASIN SLOPE (FT/FT)= .024085 CENTROUD LENGTH (FT)= 5230.2

TIME OF CONCENTRATION (HRS)= .6125 TIME TO PEAK (HRS)= .4084 LAG TIME (HRS)= .4594

```
COMPUTE NM HYD      ID=1   HYD NO=16   DA= 0.533 SQ MI
                    PER A=99 PER B=1  PER C=0  PER D=0
                    TP=0.0   MASSRAIN=-1
```

TIME TO PEAK (hrs)= .4084

K = .429106HR TP = .408353HR K/TP RATIO = 1.050822 SHAPE CONSTANT, N = 3.359877
UNIT PEAK = 404.57 CFS UNIT VOLUME = 1.000 B = 309.96 P60 = 1.6900
AREA = .533000 SQ MI IA = .64850 INCHES INF = 1.66580 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

BULKING FACTOR APPLIED TO HYDROGRAPH. FACTOR = 1.05000 AT PEAK FLOW.

```
PRINT HYD           ID=1   CODE=1
```

OUTFLOW HYDROGRAPH REACH 16.00

RUNOFF VOLUME = .40783 INCHES = 11.5932 ACRE-FEET
PEAK DISCHARGE RATE = 163.09 CFS AT 1.800 HOURS BASIN AREA = .5330 SQ. MI.

```
*S
**************************************************************************
*S ROUTE 16 THRU 17 IN NATURAL ARROYO TO 17.7
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5849.92   MAX ELEV=5857.33
                      CH SLOPE=0.009    FP SLOPE=0.009
                      N=0.035           DIST=800.0
                      DIST  ELEV    DIST  ELEV
                        0   5854.05   148 5856.03
                                  199     5857.22 274     5854.0
                                  400     5849.92 484     5852.0
                                  575     5856.0  800     5857.33
```

RATING CURVE VALLEY SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH FT
5849.92	.00	.00	.00
5850.31	5.42	7.35	27.80
5850.70	21.69	46.64	55.61
5851.09	48.81	137.51	83.41
5851.48	86.78	296.16	111.21
5851.87	135.59	536.97	139.02
5852.26	194.65	885.02	162.22
5852.65	262.02	1339.54	183.14
5853.04	337.55	1900.98	204.07
5853.43	421.24	2576.56	224.99
5853.82	513.10	3373.44	245.92
5854.21	613.93	4198.94	277.32
5854.60	731.32	5062.27	324.44
5854.99	867.08	6142.46	371.56
5855.38	1021.24	7451.03	418.69
5855.77	1193.77	9001.84	465.81
5856.16	1386.34	10565.12	532.45
5856.55	1611.98	12217.50	624.25
5856.94	1873.42	14324.03	716.04
5857.33	2170.27	16999.43	800.00

```
ROUTE MCUNGE        ID=6   HYD NO=17.6  INFLOW ID=1
                    DT=0.0   L=3385 FT   NS=0   SLOPE=0.009
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
```

INFLOW END= 273 TABLE PTS= 20
DT= .050000 QMED= 81.54 CKMED= 3.3511
WIDTH MED= 66.28 NREACH= 11 DX= 307.73

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.951	.0	1.71	.62	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.39	5.4	7.3	.694	27.8	1.89	1.35	1.105	.051	.953	.072	-.025	1.2	.993	.011	-.004
.78	21.7	46.6	.437	55.6	2.99	2.15	1.749	.101	.929	.298	-.227	21.9	.934	.184	-.118
1.17	48.8	137.5	.334	83.4	3.84	2.82	2.245	.155	.909	.412	-.321	85.8	.912	.349	-.261
1.56	86.8	296.2	.276	111.2	4.61	3.41	2.697	.209	.893	.488	-.381	209.7	.896	.447	-.343
1.95	135.6	537.0	.237	139.0	5.42	3.96	3.169	.257	.884	.548	-.432	408.7	.883		

```
.514  -.397
        2.34  194.6    885.0    .207  162.2     6.35   4.55    3.714   .310   .876   .602  -.478    702.1    .880
.578  -.458
        2.73  262.0   1339.5    .184  183.1     7.12   5.11    4.166   .371   .866   .639  -.505   1103.0    .870
.621  -.492
        3.12  337.5   1901.0    .167  204.1     7.78   5.63    4.550   .432   .855   .666  -.521   1610.9    .859
.652  -.511
        3.51  421.2   2576.6    .154  225.0     8.40   6.12    4.911   .492   .846   .688  -.534   2229.2    .849
.676  -.526
        3.90  513.1   3373.4    .143  245.9     8.51   6.57    4.981   .582   .823   .695  -.518   2965.2    .841
.697  -.538
        4.29  613.9   4198.9    .137  277.3     7.85   6.84    4.589   .697   .778   .682  -.460   3778.5    .797
.686  -.483
        4.68  731.3   5062.3    .136  324.4     7.68   6.92    4.490   .734   .764   .679  -.443   4623.8    .750
.669  -.419
        5.07  867.1   6142.5    .133  371.6     8.24   7.08    4.820   .724   .779   .694  -.473   5593.7    .771
.686  -.457
        5.46 1021.2   7451.0    .129  418.7     8.75   7.30    5.121   .734   .786   .708  -.494   6786.3    .781
.701  -.482
        5.85 1193.8   9001.8    .125  465.8     8.62   7.54    5.040   .810   .764   .708  -.472   8214.5    .787
.714  -.501
        6.24 1386.3  10565.1    .123  532.4     7.77   7.62    4.545   .922   .715   .691  -.406   9774.0    .731
.696  -.427
        6.63 1612.0  12217.5    .124  624.2     7.72   7.58    4.514   .916   .715   .689  -.404  11382.0    .689
.680  -.368
        7.02 1873.4  14324.0    .123  716.0     8.55   7.65    4.999   .845   .753   .708  -.461  13257.9    .731
.697  -.427
        7.41 2170.3  16999.4    .120  800.0     8.83   7.83    5.166   .869   .753   .716  -.469  15643.7    .768
.719  -.487
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   4 OCCURRED      21 TIMES.  AVERAGE NUMBER ITERATIONS =  1.1314
       DEPTH    AREA      Q    TRAVEL  WIDTH     ck      VEL       C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
        (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
          .00     .0       .0    .951     .0     1.71    .62    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
          .39    5.4      7.3    .694   27.8     1.80   1.35    1.053   .053   .950   .050   .000      1.2    .983
.017   .000
          .78   21.7     46.6    .437   55.6     1.97   2.15    1.154   .154   .867   .133   .000     21.9    .908
.092   .000
         1.17   48.8    137.5    .334   83.4     2.18   2.82    1.273   .273   .785   .215   .000     85.8    .823
.177   .000
         1.56   86.8    296.2    .276  111.2     2.40   3.41    1.401   .401   .714   .286   .000    209.7    .746
.254   .000
         1.95  135.6    537.0    .237  139.0     2.62   3.96    1.532   .532   .653   .347   .000    408.7    .681
.319   .000
         2.34  194.6    885.0    .207  162.2     2.88   4.55    1.684   .684   .594   .406   .000    702.1    .621
.379   .000
         2.73  262.0   1339.5    .184  183.1     3.15   5.11    1.840   .840   .544   .456   .000   1103.0    .567
.433   .000
         3.12  337.5   1901.0    .167  204.1     3.40   5.63    1.989   .989   .503   .497   .000   1610.9    .522
.478   .000
         3.51  421.2   2576.6    .154  225.0     3.65   6.12    2.134  1.134   .469   .531   .000   2229.2    .485
.515   .000
         3.90  513.1   3373.4    .143  245.9     3.89   6.57    2.274  1.274   .440   .560   .000   2965.2    .453
.547   .000
         4.29  613.9   4198.9    .137  277.3     4.03   6.84    2.357  1.357   .424   .576   .000   3778.5    .432
.568   .000
         4.68  731.3   5062.3    .136  324.4     4.07   6.92    2.383  1.383   .420   .580   .000   4623.8    .422
.578   .000
         5.07  867.1   6142.5    .133  371.6     4.16   7.08    2.434  1.434   .411   .589   .000   5593.7    .415
.585   .000
         5.46 1021.2   7451.0    .129  418.7     4.28   7.30    2.502  1.502   .400   .600   .000   6786.3    .405
.595   .000
         5.85 1193.8   9001.8    .125  465.8     4.41   7.54    2.581  1.581   .387   .613   .000   8214.5    .393
.607   .000
         6.24 1386.3  10565.1    .123  532.4     4.46   7.62    2.607  1.607   .384   .616   .000   9774.0    .385
.615   .000
         6.63 1612.0  12217.5    .124  624.2     4.43   7.58    2.594  1.594   .386   .614   .000  11382.0    .385
.615   .000
         7.02 1873.4  14324.0    .123  716.0     4.47   7.65    2.615  1.615   .382   .618   .000  13257.9    .384
.616   .000
         7.41 2170.3  16999.4    .120  800.0     4.58   7.83    2.677  1.677   .374   .626   .000  15643.7    .378
.622   .000
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   3 OCCURRED      59 TIMES.  AVERAGE NUMBER ITERATIONS =  1.1125
     Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1,
C2 and C3
     PRINT HYD           ID=6   CODE=1

                                          OUTFLOW HYDROGRAPH REACH    17.60


        RUNOFF VOLUME =      .40391 INCHES     =      11.4818 ACRE-FEET
        PEAK DISCHARGE RATE =     158.07 CFS  AT   2.200 HOURS   BASIN AREA =   .5330 SQ. MI.


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     **********************************************************************
     *S*** SUB-BASIN 17 ****
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COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.012 K=0.7
                    LENGTH=1600 FT  SLOPE=0.008 K=2.0
                    LENGTH=5130 FT  SLOPE=0.008 K=3.0
                    Kn=.033  CR=0.59

     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                              LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION           400.0           .012000             .7000
     SHALLOW FLOW PORTION        1600.0           .008000            2.0000
     CHANNEL FLOW PORTION        5130.0           .008000            3.0000
     TOTAL BASIN                 7130.0           .008224            2.3625


     LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=      7130.0
     TOTAL BASIN SLOPE (FT/FT)=    .008224     CENTROUD LENGTH (FT)=         4206.7


     TIME OF CONCENTRATION (HRS)=   .6627     TIME TO PEAK (HRS)=   .4418     LAG TIME (HRS)=   .4970

COMPUTE NM HYD      ID=2   HYD NO=17   DA= 0.268 SQ MI
                    PER A=99 PER B=1  PER C=0  PER D=0
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .4418

     K =   .480672HR    TP =   .441813HR    K/TP RATIO =  1.087953     SHAPE CONSTANT, N =  3.247832
     UNIT PEAK =   182.85    CFS   UNIT VOLUME =    .9999       B =   301.44      P60 = 1.6900
     AREA =      .268000 SQ MI    IA =    .64850 INCHES    INF =   1.66580 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=2   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    17.00


    RUNOFF VOLUME =      .40783 INCHES     =       5.8292 ACRE-FEET
    PEAK DISCHARGE RATE =      73.97 CFS  AT   1.800 HOURS   BASIN AREA =   .2680 SQ. MI.



*S
**************************************************************************
*S ADD 17.6 TO 17 TO GET 17.7
ADD HYD             ID=7   HYD NO=17.7 ID I=6 ID II=2
PRINT HYD           ID=7   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    17.70


    RUNOFF VOLUME =      .40522 INCHES     =      17.3110 ACRE-FEET
    PEAK DISCHARGE RATE =     201.29 CFS  AT   2.200 HOURS   BASIN AREA =   .8010 SQ. MI.



*
**************************************************************************
*S ADD 17.7 TO 15.9 TO GET 17.4
ADD HYD             ID=4   HYD NO=17.4 ID I=7 ID II=9
PRINT HYD           ID=4   CODE=5

                                        OUTFLOW HYDROGRAPH REACH    17.40

      TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME
FLOW
       HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS
CFS
      .000        .0         3.250     290.9         6.500      11.6         9.750       1.0        13.000
  .1
      .250        .0         3.500     221.5         6.750       9.6        10.000        .8        13.250
  .1
      .500        .0         3.750     155.5         7.000       8.0        10.250        .7        13.500
  .1
      .750        .0         4.000     108.8         7.250       6.7        10.500        .5        13.750
  .0
     1.000        .0         4.250      76.3         7.500       5.5        10.750        .4        14.000
  .0
     1.250        .0         4.500      55.5         7.750       4.5        11.000        .4        14.250
  .0
     1.500       51.6        4.750      42.4         8.000       3.7        11.250        .3        14.500
  .0
     1.750      156.6        5.000      34.8         8.250       3.1        11.500        .2        14.750
  .0
     2.000      216.0        5.250      28.9         8.500       2.5        11.750        .2        15.000
  .0
     2.250      292.9        5.500      24.1         8.750       2.1        12.000        .2        15.250
  .0
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        2.500     401.1          5.750      20.0          9.000       1.7         12.250        .1         15.500
.0
        2.750     272.8          6.000      16.7          9.250       1.4         12.500        .1         15.750
.0
        3.000     204.0          6.250      13.9          9.500       1.2         12.750        .1

       RUNOFF VOLUME =      .40147 INCHES     =      57.2119 ACRE-FEET
       PEAK DISCHARGE RATE =     421.35 CFS  AT   2.400 HOURS   BASIN AREA =  2.6720 SQ. MI.


    *S
    ***********************************************************************
    *S ROUTE 17.4 THRU 20 IN NATURAL ARROYO TO 28.6
    COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                          MIN ELEV=5812.0   MAX ELEV=5825.39
                          CH SLOPE=0.0116    FP SLOPE=0.0116
                          N=0.035           DIST=800.0
                          DIST  ELEV    DIST  ELEV
                            0   5829.74   160 5824.0
                                      289     5816.16 374     5812.0
                                      499     5813.98 662     5819.96
                                      800     5825.39


                                     RATING CURVE VALLEY SECTION  1.0
                                        WATER       FLOW        FLOW        TOP
                                       SURFACE      AREA        RATE        WIDTH
                                        ELEV        SQ FT       CFS         FT
                                      5812.00         .00         .00         .00
                                      5812.70       20.74       47.30       58.88
                                      5813.41       82.97      300.34      117.76
                                      5814.11      186.36      899.32      171.84
                                      5814.82      319.27     1958.20      205.44
                                      5815.52      475.86     3442.24      239.04
                                      5816.23      656.11     5389.29      272.37
                                      5816.93      858.87     7859.91      303.17
                                      5817.64     1083.33    10850.48      333.97
                                      5818.34     1329.50    14391.48      364.77
                                      5819.05     1597.36    18513.44      395.57
                                      5819.75     1886.92    23246.49      426.37
                                      5820.46     2197.96    28653.54      456.25
                                      5821.16     2529.82    34738.90      485.75
                                      5821.86     2882.47    41514.38      515.25
                                      5822.57     3255.91    49006.30      544.75
                                      5823.27     3650.13    57240.66      574.25
                                      5823.98     4065.13    66243.14      603.75
                                      5824.68     4503.58    75496.88      641.05
                                      5825.39     4968.48    85617.45      678.59
    ROUTE MCUNGE        ID=3   HYD NO=20.3  INFLOW ID=4
                        DT=0.0   L=2323 FT   NS=0   SLOPE=0.0116
                        MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

         INFLOW END= 316            TABLE PTS= 20
         DT=  .050000               QMED=      210.67  CKMED=      4.0664
         WIDTH MED=       96.89     NREACH=  6         DX=      387.17

       DEPTH   AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
        (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
         .00     .0       .0    .388     .0     2.15   1.05    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
         .70   20.7     47.3    .283   58.9     3.18   2.28    1.478   .056   .956   .211  -.167      7.4    .993
.033  -.026
        1.41   83.0    300.3    .178  117.8     5.09   3.62    2.368   .111   .936   .425  -.361    141.0    .938
.316  -.254
        2.11  186.4    899.3    .134  171.8     6.86   4.83    3.188   .170   .922   .541  -.463    558.9    .923
.481  -.404
        2.82  319.3   1958.2    .105  205.4     8.83   6.13    4.104   .240   .910   .626  -.536   1384.8    .916
.592  -.508
        3.52  475.9   3442.2    .089  239.0    10.21   7.23    4.748   .314   .896   .670  -.567   2656.9    .901
.648  -.549
        4.23  656.1   5389.3    .079  272.4    11.52   8.21    5.357   .382   .887   .703  -.590   4372.0    .889
.686  -.575
        4.93  858.9   7859.9    .071  303.2    12.80   9.15    5.953   .451   .878   .730  -.608   6579.4    .882
.717  -.599
        5.64 1083.3  10850.5    .064  334.0    13.90  10.02    6.461   .521   .870   .749  -.619   9309.6    .873
.739  -.612
        6.34 1329.5  14391.5    .060  364.8    14.92  10.82    6.938   .589   .862   .765  -.627  12574.8    .865
.757  -.622
        7.05 1597.4  18513.4    .056  395.6    15.90  11.59    7.392   .655   .855   .779  -.634  16405.5    .858
.772  -.630
        7.75 1886.9  23246.5    .052  426.4    16.88  12.32    7.850   .719   .850   .791  -.641  20832.2    .851
.785  -.636
        8.46 2198.0  28653.5    .049  456.3    17.88  13.04    8.315   .782   .845   .802  -.647  25900.5    .847
.797  -.644
        9.16 2529.8  34738.9    .047  485.8    18.80  13.73    8.740   .847   .840   .811  -.651  31645.6    .842
.807  -.649
        9.86 2882.5  41514.4    .045  515.3    19.66  14.40    9.140   .913   .835   .819  -.654  38075.2    .837
.815  -.652
       10.57 3255.9  49006.3    .043  544.8    20.50  15.05    9.529   .977   .830   .826  -.656  45208.0    .832
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.823  -.654
      11.27 3650.1  57240.7    .041  574.3    21.31  15.68    9.907  1.042   .826   .833  -.658  53070.3    .827
.829  -.657
      11.98 4065.1  66243.1    .040  603.8    21.51  16.30    9.999  1.136   .813   .835  -.648  61687.8    .823
.835  -.659
      12.68 4503.6  75496.9    .038  641.0    21.45  16.76    9.975  1.222   .800   .836  -.636  70823.6    .800
.833  -.633
      13.39 4968.5  85617.5    .037  678.6    21.60  17.23   10.041  1.301   .789   .838  -.627  80508.6    .798
.838  -.636
    MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   4 OCCURRED       3 TIMES.  AVERAGE NUMBER ITERATIONS =  1.2752
      DEPTH   AREA      Q    TRAVEL  WIDTH     ck       VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
       (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
        .00     .0       .0    .388     .0     2.15   1.05    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
        .70   20.7     47.3    .283   58.9     2.32   2.28    1.077   .077   .928   .072   .000      7.4    .975
.025   .000
       1.41   83.0    300.3    .178  117.8     2.62   3.62    1.217   .217   .822   .178   .000    141.0    .874
.126   .000
       2.11  186.4    899.3    .134  171.8     2.99   4.83    1.390   .390   .720   .280   .000    558.9    .766
.234   .000
       2.82  319.3   1958.2    .105  205.4     3.47   6.13    1.612   .612   .620   .380   .000   1384.8    .664
.336   .000
       3.52  475.9   3442.2    .089  239.0     3.91   7.23    1.819   .819   .550   .450   .000   2656.9    .582
.418   .000
       4.23  656.1   5389.3    .079  272.4     4.34   8.21    2.016  1.016   .496   .504   .000   4372.0    .520
.480   .000
       4.93  858.9   7859.9    .071  303.2     4.76   9.15    2.213  1.213   .452   .548   .000   6579.4    .472
.528   .000
       5.64 1083.3  10850.5    .064  334.0     5.16  10.02    2.401  1.401   .417   .583   .000   9309.6    .433
.567   .000
       6.34 1329.5  14391.5    .060  364.8     5.55  10.82    2.582  1.582   .387   .613   .000  12574.8    .401
.599   .000
       7.05 1597.4  18513.4    .056  395.6     5.93  11.59    2.757  1.757   .363   .637   .000  16405.5    .374
.626   .000
       7.75 1886.9  23246.5    .052  426.4     6.30  12.32    2.928  1.928   .342   .658   .000  20832.2    .352
.648   .000
       8.46 2198.0  28653.5    .049  456.3     6.66  13.04    3.098  2.098   .323   .677   .000  25900.5    .332
.668   .000
       9.16 2529.8  34738.9    .047  485.8     7.03  13.73    3.266  2.266   .306   .694   .000  31645.6    .314
.686   .000
       9.86 2882.5  41514.4    .045  515.3     7.38  14.40    3.431  2.431   .291   .709   .000  38075.2    .298
.702   .000
      10.57 3255.9  49006.3    .043  544.8     7.73  15.05    3.592  2.592   .278   .722   .000  45208.0    .285
.715   .000
      11.27 3650.1  57240.7    .041  574.3     8.07  15.68    3.751  2.751   .267   .733   .000  53070.3    .272
.728   .000
      11.98 4065.1  66243.1    .040  603.8     8.40  16.30    3.907  2.907   .256   .744   .000  61687.8    .261
.739   .000
      12.68 4503.6  75496.9    .038  641.0     8.66  16.76    4.027  3.027   .248   .752   .000  70823.6    .252
.748   .000
      13.39 4968.5  85617.5    .037  678.6     8.92  17.23    4.148  3.148   .241   .759   .000  80508.6    .245
.755   .000
    MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   3 OCCURRED      35 TIMES.  AVERAGE NUMBER ITERATIONS =  1.2039
    Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1,
C2 and C3
    PRINT HYD           ID=3   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    20.30


       RUNOFF VOLUME =      .40093 INCHES     =      57.1349 ACRE-FEET
       PEAK DISCHARGE RATE =     413.90 CFS  AT   2.650 HOURS   BASIN AREA =  2.6720 SQ. MI.



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    **********************************************************************
    *S*** SUB-BASIN 21 ****
    *
    COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                        NK=3  ISLOPE=-1
                        LENGTH=400 FT   SLOPE=0.018 K=0.7
                        LENGTH=1600 FT  SLOPE=0.033 K=2.0
                        LENGTH=3667 FT   SLOPE=0.027 K=3.0
                        Kn=.033  CR=0.50

        Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

        SCS UPLAND METHOD FACTORS
                                  LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
        SHEET FLOW PORTION           400.0            .018000             .7000
        SHALLOW FLOW PORTION        1600.0            .033000            2.0000
        CHANNEL FLOW PORTION        3667.0            .027000            3.0000
        TOTAL BASIN                 5667.0            .028059            2.1011


        LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=      5667.0
        TOTAL BASIN SLOPE (FT/FT)=    .028059     CENTROUD LENGTH (FT)=         2833.5
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     TIME OF CONCENTRATION (HRS)=   .3928     TIME TO PEAK (HRS)=   .2619     LAG TIME (HRS)=   .2946

COMPUTE NM HYD      ID=1   HYD NO=21   DA= 0.145 SQ MI
                    PER A=99 PER B=1  PER C=0  PER D=0
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .2619

     K =   .311803HR    TP =   .261891HR    K/TP RATIO =  1.190584     SHAPE CONSTANT, N =  2.982728
     UNIT PEAK =   155.25    CFS   UNIT VOLUME =    .9999       B =   280.41      P60 = 1.6900
     AREA =      .145000 SQ MI    IA =    .64850 INCHES    INF =   1.66580 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=1   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    21.00


    RUNOFF VOLUME =      .40783 INCHES     =       3.1539 ACRE-FEET
    PEAK DISCHARGE RATE =      61.99 CFS  AT   1.650 HOURS   BASIN AREA =   .1450 SQ. MI.



*S
**********************************************************************
*S ROUTE 21 THRU 22 IN NATURAL ARROYO TO 22.8
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5875.66   MAX ELEV=5883.82
                      CH SLOPE=0.007    FP SLOPE=0.007
                      N=0.035           DIST=1200.0
                      DIST  ELEV    DIST  ELEV
                        0   5881.59   264 5875.89
                                  459     5876.12 598     5875.66
                                  879     5878.0  1045    5882.96
                                  1200    5883.82


                                     RATING CURVE VALLEY SECTION  1.0
                                        WATER       FLOW        FLOW        TOP
                                      SURFACE       AREA        RATE       WIDTH
                                        ELEV        SQ FT       CFS         FT
                                     5875.66          .00         .00         .00
                                     5876.09        56.82       58.94      360.04
                                     5876.52       241.31      552.48      466.36
                                     5876.95       457.07     1456.60      537.86
                                     5877.38       703.54     2750.33      609.37
                                     5877.81       980.74     4443.25      680.87
                                     5878.24      1286.21     6654.26      731.74
                                     5878.67      1607.99     9363.99      766.02
                                     5879.10      1944.50    12483.15      800.30
                                     5879.53      2295.75    16009.20      834.59
                                     5879.96      2661.73    19942.36      868.87
                                     5880.39      3042.43    24284.69      903.15
                                     5880.82      3437.87    29039.64      937.44
                                     5881.25      3848.04    34211.59      971.72
                                     5881.68      4272.77    39908.34     1002.02
                                     5882.11      4706.42    46441.32     1016.40
                                     5882.54      5146.24    53395.18     1030.78
                                     5882.96      5592.25    60736.71     1045.88
                                     5883.39      6058.29    66177.15     1123.34
                                     5883.82      6557.61    72264.00     1200.00
ROUTE MCUNGE        ID=5   HYD NO=22.5  INFLOW ID=1
                    DT=0.0   L=7312 FT   NS=0   SLOPE=0.007
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

     INFLOW END= 188           TABLE PTS= 20
     DT=  .050000              QMED=       31.00  CKMED=      1.0373
     WIDTH MED=      189.36    NREACH= 50         DX=      146.24

  DEPTH   AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
   (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
     .00     .0       .0   3.029     .0      .81    .30    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
     .43   56.8     58.9   1.958  360.0     1.38   1.04    1.694   .116   .917   .288  -.205      9.3    .987
.045  -.032
     .86  241.3    552.5    .887  466.4     3.60   2.29    4.434   .321   .888   .652  -.541    248.2    .909
.568  -.477
    1.29  457.1   1456.6    .637  537.9     4.80   3.19    5.904   .552   .852   .732  -.584    958.0    .865
.697  -.562
    1.72  703.5   2750.3    .520  609.4     5.73   3.91    7.054   .769   .826   .773  -.599   2060.3    .835
.754  -.589
    2.15  980.7   4443.2    .448  680.9     6.66   4.53    8.203   .957   .812   .803  -.615   3555.3    .812
.787  -.599
    2.58 1286.2   6654.3    .393  731.7     7.83   5.17    9.634  1.135   .807   .830  -.637   5504.3    .810
.818  -.628
    3.01 1608.0   9364.0    .349  766.0     8.87   5.82   10.918  1.346   .797   .849  -.646   7964.1    .804
.841  -.645
    3.44 1944.5  12483.2    .316  800.3     9.68   6.42   11.909  1.575   .783   .862  -.644  10880.6    .789
```

```
.856  -.645
      3.87 2295.8  16009.2    .291  834.6    10.41   6.97   12.815  1.800   .769   .872  -.641  14204.7    .775
.867  -.642
      4.30 2661.7  19942.4    .271  868.9    11.09   7.49   13.654  2.021   .758   .880  -.638  17935.5    .763
.876  -.639
      4.73 3042.4  24284.7    .254  903.2    11.73   7.98   14.438  2.239   .747   .887  -.634  22074.2    .751
.884  -.635
      5.16 3437.9  29039.6    .240  937.4    12.33   8.45   15.177  2.454   .737   .893  -.629  26623.6    .741
.890  -.631
      5.59 3848.0  34211.6    .228  971.7    13.01   8.89   16.017  2.643   .731   .898  -.629  31587.6    .731
.895  -.626
      6.02 4272.8  39908.3    .217 1002.0    14.17   9.34   17.444  2.745   .741   .906  -.646  37020.4    .731
.901  -.632
      6.45 4706.4  46441.3    .206 1016.4    15.45   9.87   19.013  2.890   .748   .913  -.660  43127.9    .752
.910  -.662
      6.88 5146.2  53395.2    .196 1030.8    16.15  10.38   19.873  3.134   .739   .917  -.656  49872.6    .743
.915  -.658
      7.30 5592.2  60736.7    .187 1045.9    14.36  10.86   17.670  3.952   .651   .912  -.562  57021.9    .734
.918  -.652
      7.73 6058.3  66177.1    .186 1123.3    11.94  10.92   14.702  4.818   .530   .903  -.433  63442.7    .516
.901  -.418
      8.16 6557.6  72264.0    .184 1200.0    11.96  11.02   14.721  4.919   .523   .903  -.426  69203.7    .540
.904  -.444
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   4 OCCURRED      97 TIMES.  AVERAGE NUMBER ITERATIONS =  1.0677
     Equations solved using the Ponce correction to C2
     PRINT HYD           ID=5   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    22.50


         RUNOFF VOLUME =      .38331 INCHES     =       2.9643 ACRE-FEET
         PEAK DISCHARGE RATE =      61.54 CFS  AT   3.550 HOURS   BASIN AREA =   .1450 SQ. MI.



     *
     ***********************************************************************

     *S*** SUB-BASIN 22 ****
     *
     COMPUTE LT TP       LCODE=1  USDI BUREAU OF RECLAMATION LAG TIME EQUATION
                         NK=3  ISLOPE=-1
                         LENGTH=400 FT   SLOPE=0.015 K=0.7
                         LENGTH=1600 FT  SLOPE=0.018 K=2.0
                         LENGTH=12166 FT  SLOPE=0.017 K=3.0
                         Kn=.033  CR=.5

          Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE


          LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=     14166.0
          TOTAL BASIN SLOPE (FT/FT)=    .017056     CENTROUD LENGTH (FT)=         7083.0


          TIME OF CONCENTRATION (HRS)=   .8308     TIME TO PEAK (HRS)=   .5538     LAG TIME (HRS)=   .6231

     COMPUTE NM HYD      ID=2   HYD NO=22   DA= 0.739 SQ MI
                         PER A=99 PER B=1  PER C=0  PER D=0
                         TP=0.0   MASSRAIN=-1
          TIME TO PEAK (hrs)=   .5538

          K =   .581986HR    TP =   .553839HR    K/TP RATIO =  1.050822     SHAPE CONSTANT, N =  3.359877
          UNIT PEAK =   413.58    CFS   UNIT VOLUME =    1.000       B =   309.96      P60 = 1.6900
          AREA =      .739000 SQ MI    IA =    .64850 INCHES    INF =   1.66580 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

         BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

     PRINT HYD           ID=2   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    22.00


         RUNOFF VOLUME =      .40783 INCHES     =      16.0738 ACRE-FEET
         PEAK DISCHARGE RATE =     167.46 CFS  AT   1.900 HOURS   BASIN AREA =   .7390 SQ. MI.



     *S
     ***********************************************************************
     *S ADD 21 AND 22 TO GET 22.8
     ADD HYD             ID=8   HYD NO=22.8 ID I=5 ID II=2
     PRINT HYD           ID=8   CODE=5

                                        OUTFLOW HYDROGRAPH REACH    22.80

          TIME      FLOW           TIME      FLOW           TIME      FLOW           TIME      FLOW           TIME
FLOW
           HRS       CFS            HRS       CFS            HRS       CFS            HRS       CFS            HRS
CFS
```

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.750	47.9	7.500	2.0	11.250	.2	15.000	.0
.250	.0	4.000	36.0	7.750	1.7	11.500	.2	15.250	.0
.500	.0	4.250	28.3	8.000	1.4	11.750	.1	15.500	.0
.750	.0	4.500	20.5	8.250	1.2	12.000	.1	15.750	.0
1.000	.0	4.750	14.7	8.500	1.0	12.250	.1	16.000	.0
1.250	.0	5.000	11.7	8.750	.9	12.500	.1	16.250	.0
1.500	35.4	5.250	9.7	9.000	.7	12.750	.1	16.500	.0
1.750	144.7	5.500	8.1	9.250	.6	13.000	.1	16.750	.0
2.000	164.5	5.750	6.7	9.500	.5	13.250	.1	17.000	.0
2.250	125.0	6.000	5.6	9.750	.5	13.500	.1	17.250	.0
2.500	81.7	6.250	4.7	10.000	.4	13.750	.0	17.500	.0
2.750	53.2	6.500	3.9	10.250	.3	14.000	.0	17.750	.0
3.000	34.6	6.750	3.3	10.500	.3	14.250	.0		
3.250	22.5	7.000	2.8	10.750	.3	14.500	.0		
3.500	44.8	7.250	2.3	11.000	.2	14.750	.0		

RUNOFF VOLUME = .40381 INCHES = 19.0380 ACRE-FEET
PEAK DISCHARGE RATE = 167.46 CFS AT 1.900 HOURS BASIN AREA = .8840 SQ. MI.

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*S
*************************************************************************
*S*** SUB-BASIN 24 ****
*
COMPUTE LT TP       LCODE=1  USDI BUREAU OF RECLAMATION LAG TIME EQUATION
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.005 K=0.7
                    LENGTH=1600 FT  SLOPE=0.007 K=2.0
                    LENGTH=1338 FT  SLOPE=0.008 K=3.0
```

Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

SCS UPLAND METHOD FACTORS

	LENGTH (FT)	SLOPE (FT/FT)	COMPOSITE K
SHEET FLOW PORTION	400.0	.005000	.7000
SHALLOW FLOW PORTION	1600.0	.007000	2.0000
CHANNEL FLOW PORTION	1338.0	.008000	3.0000
TOTAL BASIN	3338.0	.007161	1.7431

TIME OF CONCENTRATION (HRS)= .6286 TIME TO PEAK (HRS)= .4191 LAG TIME (HRS)= .4714

```
COMPUTE NM HYD      ID=2   HYD NO=24   DA= 0.117 SQ MI
                    PER A=99 PER B=1  PER C=0  PER D=0
                    TP=0.0   MASSRAIN=-1
```

TIME TO PEAK (hrs)= .4191

K = .508722HR TP = .419064HR K/TP RATIO = 1.213947 SHAPE CONSTANT, N = 2.930092
UNIT PEAK = 77.077 CFS UNIT VOLUME = .9998 B = 276.07 P60 = 1.6900
AREA = .117000 SQ MI IA = .64850 INCHES INF = 1.66580 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

BULKING FACTOR APPLIED TO HYDROGRAPH. FACTOR = 1.05000 AT PEAK FLOW.

```
PRINT HYD           ID=2   CODE=1
```

OUTFLOW HYDROGRAPH REACH 24.00

RUNOFF VOLUME = .40783 INCHES = 2.5448 ACRE-FEET
PEAK DISCHARGE RATE = 31.21 CFS AT 1.800 HOURS BASIN AREA = .1170 SQ. MI.

```
*S
*************************************************************************
*S ADD 24 AND 22.8 TO GET 24.7
ADD HYD             ID=7   HYD NO=24.7 ID I=2 ID II=8
PRINT HYD           ID=7   CODE=5
```

OUTFLOW HYDROGRAPH REACH 24.70

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.750	49.9	7.500	2.1	11.250	.2	15.000	

.0
.250 .0 4.000 37.7 7.750 1.8 11.500 .2 15.250
.0
.500 .0 4.250 29.7 8.000 1.5 11.750 .2 15.500
.0
.750 .0 4.500 21.8 8.250 1.3 12.000 .1 15.750
.0
1.000 .0 4.750 15.8 8.500 1.1 12.250 .1 16.000
.0
1.250 .0 5.000 12.6 8.750 .9 12.500 .1 16.250
.0
1.500 48.0 5.250 10.4 9.000 .8 12.750 .1 16.500
.0
1.750 175.7 5.500 8.7 9.250 .7 13.000 .1 16.750
.0
2.000 190.6 5.750 7.2 9.500 .6 13.250 .1 17.000
.0
2.250 141.3 6.000 6.0 9.750 .5 13.500 .1 17.250
.0
2.500 91.7 6.250 5.1 10.000 .4 13.750 .0 17.500
.0
2.750 59.3 6.500 4.2 10.250 .4 14.000 .0 17.750
.0
3.000 38.4 6.750 3.6 10.500 .3 14.250 .0
3.250 25.3 7.000 3.0 10.750 .3 14.500 .0
3.500 47.1 7.250 2.5 11.000 .2 14.750 .0

RUNOFF VOLUME = .40428 INCHES = 21.5828 ACRE-FEET
PEAK DISCHARGE RATE = 196.99 CFS AT 1.900 HOURS BASIN AREA = 1.0010 SQ. MI.

*S
****
*S ROUTE 24.7 THRU 23 IN NATURAL ARROYO TO 23.8
COMPUTE RATING CURVE CID=1 VS NO=1 NO SEGS=1
MIN ELEV=5824.56 MAX ELEV=5840.33
CH SLOPE=0.014 FP SLOPE=0.014
N=0.035 DIST=1000.0
DIST ELEV DIST ELEV
0 5839.67 207 5837.99
372 5829.93 498 5824.56
605 5827.79 729 5836.11
1000 5840.33

RATING CURVE VALLEY SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH FT
5824.56	.00	.00	.00
5825.39	19.50	54.47	46.97
5826.22	77.98	345.87	93.95
5827.05	175.47	1019.75	140.92
5827.88	311.86	2208.19	186.25
5828.71	479.69	4073.36	218.10
5829.54	673.94	6555.05	249.95
5830.37	894.35	9727.32	280.48
5831.20	1139.35	13626.96	309.84
5832.03	1408.73	18271.95	339.21
5832.86	1702.49	23704.22	368.57
5833.69	2020.62	29965.41	397.93
5834.52	2363.12	37096.56	427.30
5835.35	2730.00	45138.11	456.66
5836.18	3121.38	53874.45	489.54
5837.01	3556.92	61250.50	559.84
5837.84	4050.80	70307.03	630.14
5838.67	4626.88	76752.67	770.43
5839.50	5330.98	85980.91	926.03
5840.33	6137.26	103302.80	1000.00

ROUTE MCUNGE ID=6 HYD NO=23.6 INFLOW ID=7
DT=0.0 L=2675 FT NS=0 SLOPE=0.014
MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

INFLOW END= 360 TABLE PTS= 20
DT= .050000 QMED= 98.49 CKMED= 4.9822
WIDTH MED= 54.07 NREACH= 6 DX= 445.83

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.364	.0	2.48	1.28	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.83	19.5	54.5	.266	47.0	3.90	2.79	1.573	.048	.964	.237	-.200	8.6	.994	.037	-.032
1.66	78.0	345.9	.168	93.9	6.17	4.44	2.491	.096	.947	.442	-.389	162.4	.949	.339	-.289
2.49	175.5	1019.8	.128	140.9	7.96	5.81	3.212	.146	.933	.541	-.474	636.4	.935	.485	-.420
3.32	311.9	2208.2	.105	186.3	9.86	7.08	3.981	.193	.926	.613	-.539	1560.6	.925	.573	-.499

```
        4.15  479.7   4073.4    .088  218.1    12.04   8.49    4.862   .248   .919   .673  -.591   3081.4    .923
.649  -.572
        4.98  673.9   6555.1    .076  249.9    13.64   9.73    5.509   .308   .910   .707  -.616   5254.8    .912
.689  -.601
        5.81  894.3   9727.3    .068  280.5    15.21  10.88    6.140   .365   .903   .734  -.636   8080.1    .905
.720  -.625
        6.64 1139.4  13627.0    .062  309.8    16.63  11.96    6.715   .424   .896   .754  -.650  11614.8    .899
.744  -.643
        7.47 1408.7  18271.9    .057  339.2    17.91  12.97    7.232   .482   .889   .770  -.660  15886.3    .892
.762  -.654
        8.30 1702.5  23704.2    .053  368.6    19.13  13.92    7.722   .539   .884   .784  -.668  20923.9    .886
.777  -.663
        9.13 2020.6  29965.4    .050  397.9    20.29  14.83    8.191   .595   .878   .796  -.674  26769.5    .880
.790  -.670
        9.96 2363.1  37096.6    .047  427.3    21.40  15.70    8.641   .650   .874   .806  -.679  33464.4    .875
.801  -.676
       10.79 2730.0  45138.1    .045  456.7    22.17  16.53    8.952   .714   .866   .812  -.679  41049.4    .871
.810  -.681
       11.62 3121.4  53874.4    .043  489.5    20.01  17.26    8.079   .881   .823   .799  -.622  49442.3    .860
.814  -.673
       12.45 3556.9  61250.5    .043  559.8    17.68  17.22    7.140   .991   .783   .781  -.564  57528.9    .766
.774  -.540
       13.28 4050.8  70307.0    .043  630.1    14.95  17.36    6.034  1.196   .709   .757  -.466  65733.9    .793
.786  -.580
       14.11 4626.9  76752.7    .045  770.4    12.30  16.59    4.964  1.298   .643   .725  -.367  73500.0    .564
.713  -.277
       14.94 5331.0  85980.9    .046  926.0    17.09  16.13    6.901   .870   .802   .772  -.574  81323.3    .684
.732  -.416
       15.77 6137.3 103302.8    .044 1000.0    21.54  16.83    8.697   .768   .853   .809  -.662  94508.3    .861
.809  -.670
 MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   4 OCCURRED       9 TIMES.  AVERAGE NUMBER ITERATIONS =  1.2024
 Equations solved using the Ponce correction to C2
 PRINT HYD           ID=6   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    23.60


     RUNOFF VOLUME =      .40420 INCHES     =      21.5786 ACRE-FEET
     PEAK DISCHARGE RATE =     196.67 CFS  AT   2.050 HOURS   BASIN AREA =  1.0010 SQ. MI.



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 *S*** SUB-BASIN 23 ****
 *
 COMPUTE LT TP       LCODE=1  USDI BUREAU OF RECLAMATION LAG TIME EQUATION
                     NK=3  ISLOPE=-1
                     LENGTH=400 FT   SLOPE=0.004 K=0.7
                     LENGTH=1600 FT  SLOPE=0.006 K=2.0
                     LENGTH=3613 FT  SLOPE=0.015 K=3.0
                     Kn=.033  CR=.5

      Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

      SCS UPLAND METHOD FACTORS
                                LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
      SHEET FLOW PORTION           400.0           .004000             .7000
      SHALLOW FLOW PORTION        1600.0           .006000            2.0000
      CHANNEL FLOW PORTION        3613.0           .015000            3.0000
      TOTAL BASIN                 5613.0           .011651            1.7811


      LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=      5613.0
      TOTAL BASIN SLOPE (FT/FT)=    .011651     CENTROUD LENGTH (FT)=         2806.5


      TIME OF CONCENTRATION (HRS)=   .6213     TIME TO PEAK (HRS)=   .4142     LAG TIME (HRS)=   .4660

 COMPUTE NM HYD      ID=2   HYD NO=23   DA= 0.245 SQ MI
                     PER A=99 PER B=1  PER C=0  PER D=0
                     TP=0.0   MASSRAIN=-1
      TIME TO PEAK (hrs)=   .4142

      K =   .458572HR    TP =   .414194HR    K/TP RATIO =  1.107144     SHAPE CONSTANT, N =  3.193579
      UNIT PEAK =   175.82    CFS   UNIT VOLUME =    .9999       B =   297.24      P60 = 1.6900
      AREA =      .245000 SQ MI    IA =    .64850 INCHES    INF =   1.66580 INCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

     BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

 PRINT HYD           ID=2   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    23.00


     RUNOFF VOLUME =      .40783 INCHES     =       5.3289 ACRE-FEET
     PEAK DISCHARGE RATE =      71.05 CFS  AT   1.800 HOURS   BASIN AREA =   .2450 SQ. MI.
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*S
**************************************************************************


*S ADD 23 AND 23.6 TO GET 23.8
ADD HYD             ID=8   HYD NO=23.8 ID I=2 ID II=6
PRINT HYD           ID=8   CODE=5
```

OUTFLOW HYDROGRAPH REACH 23.80

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.750	70.4	7.500	2.9	11.250	.3	15.000	.0
.250	.0	4.000	44.5	7.750	2.4	11.500	.2	15.250	.0
.500	.0	4.250	39.4	8.000	2.0	11.750	.2	15.500	.0
.750	.0	4.500	31.5	8.250	1.7	12.000	.2	15.750	.0
1.000	.0	4.750	23.7	8.500	1.5	12.250	.1	16.000	.0
1.250	.0	5.000	17.6	8.750	1.2	12.500	.1	16.250	.0
1.500	26.0	5.250	14.1	9.000	1.1	12.750	.1	16.500	.0
1.750	168.7	5.500	11.7	9.250	.9	13.000	.1	16.750	.0
2.000	252.5	5.750	9.8	9.500	.8	13.250	.1	17.000	.0
2.250	207.9	6.000	8.2	9.750	.7	13.500	.1	17.250	.0
2.500	142.1	6.250	6.8	10.000	.6	13.750	.1	17.500	.0
2.750	92.5	6.500	5.7	10.250	.5	14.000	.0	17.750	.0
3.000	60.4	6.750	4.8	10.500	.4	14.250	.0	18.000	.0
3.250	42.2	7.000	4.0	10.750	.4	14.500	.0	18.250	.0
3.500	29.8	7.250	3.4	11.000	.3	14.750	.0		

```
    RUNOFF VOLUME =      .40491 INCHES     =      26.9075 ACRE-FEET
    PEAK DISCHARGE RATE =     252.54 CFS  AT   2.000 HOURS   BASIN AREA =  1.2460 SQ. MI.


*S
**************************************************************************
**************************************************************************
*S*** SUB-BASIN 28 ****
*
COMPUTE LT TP       LCODE=1  USDI BUREAU OF RECLAMATION LAG TIME EQUATION
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.019 K=0.7
                    LENGTH=1600 FT  SLOPE=0.006 K=2.0
                    LENGTH=5288 FT  SLOPE=0.012 K=3.0
                    Kn=.033  CR=.5

     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                              LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION           400.0           .019000             .7000
     SHALLOW FLOW PORTION        1600.0           .006000            2.0000
     CHANNEL FLOW PORTION        5288.0           .012000            3.0000
     TOTAL BASIN                 7288.0           .011067            2.2666


     LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=      7288.0
     TOTAL BASIN SLOPE (FT/FT)=    .011067     CENTROUD LENGTH (FT)=         3644.0


     TIME OF CONCENTRATION (HRS)=   .6031     TIME TO PEAK (HRS)=   .4021     LAG TIME (HRS)=   .4523

COMPUTE NM HYD      ID=2   HYD NO=28   DA= 0.158 SQ MI
                    PER A=95 PER B=5  PER C=0  PER D=0
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .4021

     K =   .471081HR    TP =   .402079HR    K/TP RATIO =  1.171611     SHAPE CONSTANT, N =  3.027397
     UNIT PEAK =   111.62    CFS   UNIT VOLUME =    .9999       B =   284.05      P60 = 1.6900
     AREA =      .158000 SQ MI    IA =    .64250 INCHES    INF =   1.64900 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=2   CODE=1
```

OUTFLOW HYDROGRAPH REACH 28.00

RUNOFF VOLUME = .41537 INCHES = 3.5002 ACRE-FEET
PEAK DISCHARGE RATE = 45.82 CFS AT 1.750 HOURS BASIN AREA = .1580 SQ. MI.

```
*S
**************************************************************************
*S ADD 28 AND 23.8 TO GET 28.9
ADD HYD             ID=9   HYD NO=28.9 ID I=2 ID II=8
PRINT HYD           ID=9   CODE=5
```

OUTFLOW HYDROGRAPH REACH 28.90

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.750	73.0	7.500	3.0	11.250	.3	15.000	.0
.250	.0	4.000	46.7	7.750	2.6	11.500	.2	15.250	.0
.500	.0	4.250	41.2	8.000	2.2	11.750	.2	15.500	.0
.750	.0	4.500	33.0	8.250	1.8	12.000	.2	15.750	.0
1.000	.0	4.750	25.0	8.500	1.6	12.250	.1	16.000	.0
1.250	.0	5.000	18.7	8.750	1.3	12.500	.1	16.250	.0
1.500	44.8	5.250	15.0	9.000	1.1	12.750	.1	16.500	.0
1.750	214.5	5.500	12.5	9.250	1.0	13.000	.1	16.750	.0
2.000	288.9	5.750	10.4	9.500	.8	13.250	.1	17.000	.0
2.250	229.6	6.000	8.7	9.750	.7	13.500	.1	17.250	.0
2.500	154.8	6.250	7.3	10.000	.6	13.750	.1	17.500	.0
2.750	100.0	6.500	6.1	10.250	.5	14.000	.0	17.750	.0
3.000	65.0	6.750	5.1	10.500	.4	14.250	.0	18.000	.0
3.250	45.9	7.000	4.3	10.750	.4	14.500	.0	18.250	.0
3.500	32.9	7.250	3.6	11.000	.3	14.750	.0		

RUNOFF VOLUME = .40609 INCHES = 30.4077 ACRE-FEET
PEAK DISCHARGE RATE = 288.90 CFS AT 2.000 HOURS BASIN AREA = 1.4040 SQ. MI.

```
*S
**************************************************************************
*S ADD 17.4 TO 28.9 TO GET 28.6
ADD HYD             ID=6   HYD NO=28.6 ID I=3 ID II=9
PRINT HYD           ID=6   CODE=5
```

OUTFLOW HYDROGRAPH REACH 28.60

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.750	295.3	7.500	9.9	11.250	.7	15.000	.0
.250	.0	4.000	204.7	7.750	8.3	11.500	.6	15.250	.0
.500	.0	4.250	152.8	8.000	6.9	11.750	.5	15.500	.0
.750	.0	4.500	111.8	8.250	5.7	12.000	.4	15.750	.0
1.000	.0	4.750	82.3	8.500	4.7	12.250	.3	16.000	.0
1.250	.0	5.000	62.3	8.750	3.9	12.500	.3	16.250	.0
1.500	44.8	5.250	50.5	9.000	3.3	12.750	.2	16.500	.0
1.750	251.0	5.500	42.0	9.250	2.7	13.000	.2	16.750	.0
2.000	442.0	5.750	35.1	9.500	2.3	13.250	.2	17.000	.0
2.250	440.4	6.000	29.2	9.750	1.9	13.500	.1	17.250	.0
2.500	459.3	6.250	24.4	10.000	1.6	13.750	.1	17.500	.0

```
      2.750     494.5          6.500      20.4         10.250       1.3         14.000        .1         17.750
.0
      3.000     337.6          6.750      17.0         10.500       1.1         14.250        .1         18.000
.0
      3.250     255.2          7.000      14.2         10.750        .9         14.500        .1         18.250
.0
      3.500     320.4          7.250      11.9         11.000        .8         14.750        .0

     RUNOFF VOLUME =      .40271 INCHES     =      87.5425 ACRE-FEET
     PEAK DISCHARGE RATE =     533.05 CFS  AT   2.650 HOURS   BASIN AREA =  4.0760 SQ. MI.


  *S

  ***********************************************************************

  *S ROUTE 28.6 THRU 20 IN NATURAL ARROYO TO 20.8
  *
  COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                        MIN ELEV=5771.07   MAX ELEV=5810.76
                        CH SLOPE=0.015    FP SLOPE=0.015
                        N=0.035           DIST=850.0
                        DIST  ELEV    DIST  ELEV
                          0   5810.76   126 5801.93
                                    250     5796.16 382     5779.97
                                    429     5771.07 483     5775.96
                                    604     5784.0  850     5792.39


                                       RATING CURVE VALLEY SECTION  1.0
                                          WATER       FLOW        FLOW        TOP
                                        SURFACE       AREA        RATE       WIDTH
                                          ELEV        SQ FT       CFS         FT
                                       5771.07          .00         .00         .00
                                       5773.16        35.61      189.55       34.10
                                       5775.25       142.45     1203.58       68.19
                                       5777.34       324.31     3495.74      107.81
                                       5779.43       593.86     7680.56      150.27
                                       5781.51       955.54    14165.13      197.18
                                       5783.60      1418.04    23630.47      245.64
                                       5785.69      2002.20    35354.90      318.26
                                       5787.78      2748.75    51802.03      396.53
                                       5789.87      3658.81    74014.84      474.81
                                       5791.96      4732.38   102673.60      553.09
                                       5794.05      5929.20   144379.90      582.77
                                       5796.14      7164.33   194134.90      599.80
                                       5798.23      8463.46   244360.60      644.38
                                       5800.31      9856.36   301208.00      689.27
                                       5802.40     11342.23   366119.80      730.74
                                       5804.49     12899.79   441774.30      760.55
                                       5806.58     14519.62   524447.70      790.36
                                       5808.67     16201.71   614238.90      820.17
                                       5810.76     17946.07   711255.30      849.98
  ROUTE MCUNGE        ID=7   HYD NO=20.7  INFLOW ID=6
                      DT=0.0   L=2290 FT   NS=0   SLOPE=0.015
                      MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

      INFLOW END= 370           TABLE PTS= 20
      DT=  .050000              QMED=      266.53  CKMED=      9.4914
      WIDTH MED=       36.69    NREACH=  3         DX=      763.33

       DEPTH   AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
        (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
          .00     .0       .0     .164     .0     4.24   2.45    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
         2.09    35.6    189.6    .120    34.1     7.42   5.32    1.750   .065   .954   .290  -.243     29.9    .967
.043  -.011
         4.18  142.4   1203.6    .075    68.2    11.58   8.45    2.731   .133   .931   .482  -.414    565.0    .936
.389  -.325
         6.27  324.3   3495.7    .059   107.8    14.32  10.78    3.378   .198   .914   .563  -.476   2186.3    .913
.509  -.423
         8.36  593.9   7680.6    .049   150.3    17.03  12.93    4.015   .262   .901   .621  -.522   5387.4    .903
.589  -.492
        10.44  955.5  14165.1    .043   197.2    19.36  14.82    4.566   .324   .890   .660  -.550  10695.2    .890
.636  -.526
        12.53 1418.0  23630.5    .038   245.6    20.81  16.66    4.907   .404   .872   .683  -.555  18636.6    .883
.676  -.559
        14.62 2002.2  35354.9    .036   318.3    21.16  17.66    4.990   .458   .858   .690  -.548  29229.3    .851
.674  -.524
        16.71 2748.8  51802.0    .034   396.5    23.32  18.85    5.499   .489   .860   .714  -.574  43248.5    .855
.700  -.555
        18.80 3658.8  74014.8    .031   474.8    25.65  20.23    6.048   .531   .860   .736  -.596  62515.3    .858
.724  -.582
        20.89 4732.4 102673.6    .029   553.1    30.11  21.70    7.099   .539   .875   .768  -.644  87896.7    .857
.745  -.602
        22.98 5929.2 144379.9    .026   582.8    37.54  24.35    8.852   .576   .889   .808  -.698 122840.3    .891
.796  -.687
        25.07 7164.3 194134.9    .023   599.8    40.22  27.10    9.484   .703   .874   .821  -.696 168549.8    .889
.820  -.709
```

```
      27.16 8463.5 244360.6    .022  644.4    39.80  28.87    9.386   .832   .852   .822  -.673 218736.3    .854
.817  -.671
      29.24 9856.4 301208.0    .021  689.3    42.27  30.56    9.968   .903   .848   .832  -.679 272266.8    .848
.826  -.674
      31.3311342.2 366119.8    .020  730.7    45.96  32.28   10.838   .952   .851   .844  -.695 333112.5    .847
.837  -.684
      33.4212899.8 441774.3    .019  760.6    49.86  34.25   11.757  1.017   .852   .855  -.707 403311.8    .855
.851  -.706
      35.5114519.6 524447.7    .018  790.4    52.26  36.12   12.323  1.109   .846   .861  -.708 482485.0    .849
.858  -.707
      37.6016201.7 614238.9    .017  820.2    54.54  37.91   12.862  1.199   .841   .867  -.708 568724.4    .843
.864  -.708
      39.6917946.1 711255.3    .016  850.0    56.02  39.63   13.210  1.305   .832   .871  -.703 662133.6    .838
.870  -.708
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   4 OCCURRED       2 TIMES.  AVERAGE NUMBER ITERATIONS =  1.2647
       DEPTH    AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
        (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
         .00     .0       .0    .164     .0     4.24    2.45    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
        2.09    35.6     189.6    .120    34.1     4.68    5.32    1.104   .104   .906   .094   .000     29.9    .966
.034   .000
        4.18   142.4    1203.6    .075    68.2     5.44    8.45    1.283   .283   .779   .221   .000    565.0    .840
.160   .000
        6.27   324.3    3495.7    .059   107.8     6.18   10.78    1.458   .458   .686   .314   .000   2186.3    .728
.272   .000
        8.36   593.9    7680.6    .049   150.3     6.96   12.93    1.641   .641   .609   .391   .000   5387.4    .644
.356   .000
       10.44   955.5   14165.1    .043   197.2     7.70   14.82    1.815   .815   .551   .449   .000  10695.2    .577
.423   .000
       12.53  1418.0   23630.5    .038   245.6     8.45   16.66    1.994   .994   .502   .498   .000  18636.6    .524
.476   .000
       14.62  2002.2   35354.9    .036   318.3     8.88   17.66    2.093  1.093   .478   .522   .000  29229.3    .489
.511   .000
       16.71  2748.8   51802.0    .034   396.5     9.39   18.85    2.215  1.215   .452   .548   .000  43248.5    .464
.536   .000
       18.80  3658.8   74014.8    .031   474.8    10.01   20.23    2.360  1.360   .424   .576   .000  62515.3    .437
.563   .000
       20.89  4732.4  102673.6    .029   553.1    10.68   21.70    2.518  1.518   .397   .603   .000  87896.7    .409
.591   .000
       22.98  5929.2  144379.9    .026   582.8    11.93   24.35    2.813  1.813   .355   .645   .000 122840.3    .375
.625   .000
       25.07  7164.3  194134.9    .023   599.8    13.27   27.10    3.130  2.130   .320   .680   .000 168549.8    .336
.664   .000
       27.16  8463.5  244360.6    .022   644.4    14.16   28.87    3.339  2.339   .299   .701   .000 218736.3    .309
.691   .000
       29.24  9856.4  301208.0    .021   689.3    15.02   30.56    3.541  2.541   .282   .718   .000 272266.8    .290
.710   .000
       31.3311342.2  366119.8    .020   730.7    15.91   32.28    3.751  2.751   .267   .733   .000 333112.5    .274
.726   .000
       33.4212899.8  441774.3    .019   760.6    16.94   34.25    3.995  2.995   .250   .750   .000 403311.8    .258
.742   .000
       35.5114519.6  524447.7    .018   790.4    17.94   36.12    4.230  3.230   .236   .764   .000 482485.0    .243
.757   .000
       37.6016201.7  614238.9    .017   820.2    18.91   37.91    4.459  3.459   .224   .776   .000 568724.4    .230
.770   .000
       39.6917946.1  711255.3    .016   850.0    19.85   39.63    4.681  3.681   .214   .786   .000 662133.6    .219
.781   .000
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   3 OCCURRED      21 TIMES.  AVERAGE NUMBER ITERATIONS =  1.2164
     Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1,
C2 and C3
     PRINT HYD           ID=7   CODE=5

                                          OUTFLOW HYDROGRAPH REACH    20.70

          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME
FLOW
           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS
CFS
          .000        .0         3.750     290.3         7.500      11.0        11.250        .7        15.000
  .0
          .250        .0         4.000     237.8         7.750       9.2        11.500        .6        15.250
  .0
          .500        .0         4.250     186.2         8.000       7.7        11.750        .5        15.500
  .0
          .750        .0         4.500     133.2         8.250       6.4        12.000        .4        15.750
  .0
         1.000        .0         4.750      97.2         8.500       5.3        12.250        .4        16.000
  .0
         1.250        .0         5.000      72.4         8.750       4.4        12.500        .3        16.250
  .0
         1.500        .8         5.250      56.3         9.000       3.7        12.750        .3        16.500
  .0
         1.750       92.2         5.500      46.6         9.250       3.0        13.000        .2        16.750
  .0
         2.000      381.0         5.750      38.9         9.500       2.5        13.250        .2        17.000
  .0
         2.250      430.7         6.000      32.5         9.750       2.1        13.500        .1        17.250
  .0
         2.500      444.7         6.250      27.1        10.000       1.8        13.750        .1        17.500
  .0
```

```
      2.750     529.5          6.500      22.6          10.250       1.5         14.000        .1         17.750
.0
      3.000     419.4          6.750      18.9          10.500       1.2         14.250        .1         18.000
.0
      3.250     279.1          7.000      15.8          10.750       1.0         14.500        .1         18.250
.0
      3.500     299.8          7.250      13.2          11.000        .9         14.750        .1         18.500
.0

     RUNOFF VOLUME =      .40252 INCHES     =      87.5026 ACRE-FEET
     PEAK DISCHARGE RATE =     529.55 CFS  AT   2.750 HOURS   BASIN AREA =  4.0760 SQ. MI.


  *
  ***********************************************************************
  *S*** SUB-BASIN 20 ****
  *
  COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                      NK=3  ISLOPE=-1
                      LENGTH=400 FT   SLOPE=0.015 K=0.7
                      LENGTH=1600 FT  SLOPE=0.015 K=2.0
                      LENGTH=5447 FT   SLOPE=0.018 K=3.0
                      Kn=.033  CR=0.50

       Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

       SCS UPLAND METHOD FACTORS
                                 LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
       SHEET FLOW PORTION           400.0           .015000             .7000
       SHALLOW FLOW PORTION        1600.0           .015000            2.0000
       CHANNEL FLOW PORTION        5447.0           .018000            3.0000
       TOTAL BASIN                 7447.0           .017194            2.2964


       LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=      7447.0
       TOTAL BASIN SLOPE (FT/FT)=    .017194     CENTROUD LENGTH (FT)=         3723.5


       TIME OF CONCENTRATION (HRS)=   .5304     TIME TO PEAK (HRS)=   .3536     LAG TIME (HRS)=   .3978

  COMPUTE NM HYD      ID=1   HYD NO=20   DA= 0.426 SQ MI
                      PER A=95 PER B=5  PER C=0  PER D=0
                      TP=0.0   MASSRAIN=-1
       TIME TO PEAK (hrs)=   .3536

       K =   .369891HR    TP =   .353595HR    K/TP RATIO =  1.046087     SHAPE CONSTANT, N =  3.374873
       UNIT PEAK =   374.78    CFS   UNIT VOLUME =    1.000       B =   311.08       P60 = 1.6900
       AREA =      .426000 SQ MI    IA =    .64250 INCHES    INF =   1.64900 INCHES PER HOUR
       RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

      BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

  PRINT HYD           ID=1   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    20.00


      RUNOFF VOLUME =      .41537 INCHES     =       9.4372 ACRE-FEET
      PEAK DISCHARGE RATE =     152.89 CFS  AT   1.750 HOURS   BASIN AREA =   .4260 SQ. MI.


  *S
  ***********************************************************************
  * ADD 20 TO 28.6 TO GET 20.8
  ADD HYD             ID=8   HYD NO=20.8 ID I=1 ID II=7
  PRINT HYD           ID=8   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    20.80


      RUNOFF VOLUME =      .40374 INCHES     =      96.9398 ACRE-FEET
      PEAK DISCHARGE RATE =     543.62 CFS  AT   2.750 HOURS   BASIN AREA =  4.5020 SQ. MI.


  *
  ***********************************************************************


  ***********************************************************************
  *S*** SUB-BASIN 25 ****
  *
  COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                      NK=3  ISLOPE=-1
                      LENGTH=400 FT   SLOPE=0.021 K=0.7
                      LENGTH=1600 FT  SLOPE=0.04 K=2.0
                      LENGTH=10314 FT   SLOPE=0.018 K=3.0
                      Kn=.033  CR=.5
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     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE


     LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=     12314.0
     TOTAL BASIN SLOPE (FT/FT)=    .020956     CENTROUD LENGTH (FT)=         6157.0


     TIME OF CONCENTRATION (HRS)=   .7321     TIME TO PEAK (HRS)=   .4881     LAG TIME (HRS)=   .5491

COMPUTE NM HYD      ID=1   HYD NO=25   DA= 0.463 SQ MI
                    PER A=100 PER B=0  PER C=0  PER D=0
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .4881

     K =   .513437HR    TP =   .488056HR    K/TP RATIO =  1.052006     SHAPE CONSTANT, N =  3.356146
     UNIT PEAK =   293.78    CFS   UNIT VOLUME =    1.000       B =   309.68      P60 = 1.6900
     AREA =      .463000 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=1   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    25.00


    RUNOFF VOLUME =      .40595 INCHES     =      10.0242 ACRE-FEET
    PEAK DISCHARGE RATE =     118.49 CFS  AT   1.850 HOURS   BASIN AREA =   .4630 SQ. MI.



*S
**********************************************************************
*S*** SUB-BASIN 26 ****
*
COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.04 K=0.7
                    LENGTH=1600 FT  SLOPE=0.034 K=2.0
                    LENGTH=6569 FT  SLOPE=0.020 K=3.0
                    Kn=.033  CR=0.60

     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                              LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION           400.0           .040000             .7000
     SHALLOW FLOW PORTION        1600.0           .034000            2.0000
     CHANNEL FLOW PORTION        6569.0           .020000            3.0000
     TOTAL BASIN                 8569.0           .023548            2.4622


     LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=      8569.0
     TOTAL BASIN SLOPE (FT/FT)=    .023548     CENTROUD LENGTH (FT)=         5141.4


     TIME OF CONCENTRATION (HRS)=   .5543     TIME TO PEAK (HRS)=   .3696     LAG TIME (HRS)=   .4157

COMPUTE NM HYD      ID=2   HYD NO=26   DA= 0.348 SQ MI
                    PER A=100 PER B=0  PER C=0  PER D=0
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .3696

     K =   .388772HR    TP =   .369553HR    K/TP RATIO =  1.052006     SHAPE CONSTANT, N =  3.356146
     UNIT PEAK =   291.62    CFS   UNIT VOLUME =    1.000       B =   309.68      P60 = 1.6900
     AREA =      .348000 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=2   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    26.00


    RUNOFF VOLUME =      .40595 INCHES     =       7.5344 ACRE-FEET
    PEAK DISCHARGE RATE =     117.05 CFS  AT   1.750 HOURS   BASIN AREA =   .3480 SQ. MI.



*S
**********************************************************************
*S ADD 25 TO 26 TO GET 25.6
ADD HYD             ID=6   HYD NO=25.6 ID I=1 ID II=2
PRINT HYD           ID=6   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    25.60


    RUNOFF VOLUME =      .40595 INCHES     =      17.5586 ACRE-FEET
    PEAK DISCHARGE RATE =     230.40 CFS  AT   1.800 HOURS   BASIN AREA =   .8110 SQ. MI.
```

```
*
**********************************************************************
*S*** SUB-BASIN 27 ****
*
COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.035 K=0.7
                    LENGTH=1600 FT  SLOPE=0.029 K=2.0
                    LENGTH=7044 FT  SLOPE=0.021 K=3.0
                    Kn=.033  CR=0.55

     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                              LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION          400.0            .035000             .7000
     SHALLOW FLOW PORTION       1600.0            .029000            2.0000
     CHANNEL FLOW PORTION       7044.0            .021000            3.0000
     TOTAL BASIN                9044.0            .023034            2.4876


     LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=      9044.0
     TOTAL BASIN SLOPE (FT/FT)=    .023034     CENTROUD LENGTH (FT)=         4974.2


     TIME OF CONCENTRATION (HRS)=   .5698     TIME TO PEAK (HRS)=   .3798     LAG TIME (HRS)=   .4273

COMPUTE NM HYD      ID=1   HYD NO=27   DA= 0.376 SQ MI
                    PER A=100 PER B=0  PER C=0  PER D=0
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .3798

     K =   .399597HR    TP =   .379843HR    K/TP RATIO =  1.052006     SHAPE CONSTANT, N =  3.356146
     UNIT PEAK =   306.54    CFS   UNIT VOLUME =    1.000       B =   309.68      P60 = 1.6900
     AREA =      .376000 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=1   CODE=1

                                     OUTFLOW HYDROGRAPH REACH    27.00


    RUNOFF VOLUME =      .40595 INCHES     =       8.1406 ACRE-FEET
    PEAK DISCHARGE RATE =     123.19 CFS  AT   1.750 HOURS   BASIN AREA =   .3760 SQ. MI.



*S
**********************************************************************
*S ADD 27 TO 25.6 TO GET 25.75
ADD HYD             ID=7   HYD NO=25.75 ID I=1 ID II=6
PRINT HYD           ID=7   CODE=1

                                     OUTFLOW HYDROGRAPH REACH    25.75


    RUNOFF VOLUME =      .40595 INCHES     =      25.6993 ACRE-FEET
    PEAK DISCHARGE RATE =     351.46 CFS  AT   1.800 HOURS   BASIN AREA =  1.1870 SQ. MI.



*S
**********************************************************************
*S ROUTE 25.75 THRU UPPER 30 IN NATURAL ARROYO TO 30.91
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5835.82   MAX ELEV=5841.47
                      CH SLOPE=0.005    FP SLOPE=0.005
                      N=0.035           DIST=900.0
                      DIST  ELEV    DIST  ELEV
                        0   5837.78   185 5842.09
                                  277     5840.10 449     5835.82
                                  630     5838.02 900     5841.47


                                   RATING CURVE VALLEY SECTION  1.0
                                      WATER       FLOW        FLOW        TOP
                                     SURFACE      AREA        RATE        WIDTH
                                      ELEV        SQ FT       CFS         FT
                                    5835.82         .00         .00         .00
                                    5836.12        5.41        4.56       36.41
                                    5836.41       21.66       28.96       72.82
                                    5836.71       48.72       85.39      109.24
                                    5837.01       86.62      183.89      145.65
                                    5837.31      135.35      333.42      182.06
```

5837.60	194.90	542.17	218.47
5837.90	265.59	808.46	260.10
5838.20	350.19	1143.74	308.56
5838.50	449.08	1572.21	356.55
5838.79	562.23	2101.92	404.53
5839.09	689.66	2741.74	452.51
5839.39	831.36	3500.24	500.50
5839.69	987.32	4385.73	548.48
5839.98	1157.55	5406.27	596.46
5840.28	1342.15	6563.07	645.54
5840.58	1541.51	7867.57	695.32
5840.88	1755.68	9332.17	745.11
5841.17	1984.65	10964.47	794.89
5841.47	2228.42	12771.91	844.67

ROUTE MCUNGE ID=51 HYD NO=30.51 INFLOW ID=7
DT=0.0 L=8763 FT NS=0 SLOPE=0.005
MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

INFLOW END= 311 TABLE PTS= 20
DT= .050000 QMED= 175.73 CKMED= 2.5993
WIDTH MED= 142.63 NREACH= 32 DX= 273.84

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M C2-M	C3-M
.00	.0	.0	3.958	.0	1.52	.39	1.000	.000	1.000	.000	.000	.0	1.000	.000
.30	5.4	4.6	2.889	36.4	1.42	.84	.936	.064	.936	.000	.064	.7	.990	.000
.59	21.7	29.0	1.820	72.8	1.86	1.34	1.223	.156	.869	.159	-.028	13.6	.880	.039
.89	48.7	85.4	1.389	109.2	2.39	1.75	1.569	.239	.830	.288	-.118	53.3	.838	.219
1.19	86.6	183.9	1.147	145.6	2.87	2.12	1.885	.322	.799	.376	-.176	130.2	.807	.330
1.49	135.3	333.4	.988	182.1	3.31	2.46	2.178	.404	.775	.442	-.216	253.8	.781	.408
1.78	194.9	542.2	.875	218.5	3.67	2.78	2.414	.494	.747	.488	-.235	432.5	.759	.467
2.08	265.6	808.5	.800	260.1	3.90	3.04	2.562	.583	.719	.517	-.236	670.0	.726	.500
2.38	350.2	1143.7	.745	308.6	4.16	3.27	2.736	.650	.703	.544	-.248	970.4	.702	.527
2.68	449.1	1572.2	.695	356.5	4.52	3.50	2.972	.712	.696	.573	-.269	1351.5	.697	.558
2.97	562.2	2101.9	.651	404.5	4.86	3.74	3.197	.780	.686	.598	-.285	1830.0	.688	.585
3.27	689.7	2741.7	.612	452.5	5.20	3.98	3.417	.851	.677	.620	-.297	2414.2	.679	.609
3.57	831.4	3500.2	.578	500.5	5.53	4.21	3.632	.924	.667	.640	-.307	3112.8	.670	.630
3.87	987.3	4385.7	.548	548.5	5.85	4.44	3.843	.999	.658	.658	-.316	3934.3	.661	.649
4.16	1157.6	5406.3	.521	596.5	6.14	4.67	4.038	1.078	.648	.673	-.321	4886.9	.652	.665
4.46	1342.2	6563.1	.498	645.5	6.41	4.89	4.216	1.158	.637	.686	-.323	5975.2	.640	.679
4.76	1541.5	7867.6	.477	695.3	6.70	5.10	4.403	1.234	.628	.699	-.327	7205.5	.631	.692
5.06	1755.7	9332.2	.458	745.1	6.99	5.32	4.596	1.308	.621	.710	-.331	8589.6	.623	.704
5.35	1984.6	10964.5	.441	794.9	7.28	5.52	4.784	1.384	.614	.721	-.335	10137.6	.616	.716
5.65	2228.4	12771.9	.425	844.7	7.38	5.73	4.851	1.496	.593	.728	-.320	11857.1	.609	.726

-.335

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 6 OCCURRED 5 TIMES. AVERAGE NUMBER ITERATIONS = 1.1540

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M C2-M	C3-M
.00	.0	.0	3.958	.0	1.52	.39	1.000	.000	1.000	.000	.000	.0	1.000	.000
.30	5.4	4.6	2.889	36.4	1.42	.84	.936	.064	.936	.000	.064	.7	.990	.000
.59	21.7	29.0	1.820	72.8	1.77	1.34	1.164	.164	.859	.141	.000	13.6	.880	.039
.89	48.7	85.4	1.389	109.2	1.96	1.75	1.291	.291	.775	.225	.000	53.3	.814	.186
1.19	86.6	183.9	1.147	145.6	2.17	2.12	1.425	.425	.702	.298	.000	130.2	.735	.265
1.49	135.3	333.4	.988	182.1	2.38	2.46	1.563	.563	.640	.360	.000	253.8	.668	.332
1.78	194.9	542.2	.875	218.5	2.59	2.78	1.701	.701	.588	.412	.000	432.5	.612	.388
2.08	265.6	808.5	.800	260.1	2.77	3.04	1.820	.820	.549	.451	.000	670.0	.567	.433
2.38	350.2	1143.7	.745	308.6	2.93	3.27	1.925	.925	.520	.480	.000	970.4	.534	.466
2.68	449.1	1572.2	.695	356.5	3.10	3.50	2.038	1.038	.491	.509	.000	1351.5	.504	.496
2.97	562.2	2101.9	.651	404.5	3.28	3.74	2.157	1.157	.464	.536	.000	1830.0	.476	.524

.000

```
        3.27  689.7   2741.7    .612  452.5     3.46   3.98    2.277  1.277   .439   .561   .000   2414.2    .451
.549   .000
        3.57  831.4   3500.2    .578  500.5     3.65   4.21    2.399  1.399   .417   .583   .000   3112.8    .427
.573   .000
        3.87  987.3   4385.7    .548  548.5     3.84   4.44    2.522  1.522   .397   .603   .000   3934.3    .406
.594   .000
        4.16 1157.6   5406.3    .521  596.5     4.02   4.67    2.645  1.645   .378   .622   .000   4886.9    .387
.613   .000
        4.46 1342.2   6563.1    .498  645.5     4.21   4.89    2.765  1.765   .362   .638   .000   5975.2    .369
.631   .000
        4.76 1541.5   7867.6    .477  695.3     4.39   5.10    2.884  1.884   .347   .653   .000   7205.5    .354
.646   .000
        5.06 1755.7   9332.2    .458  745.1     4.57   5.32    3.003  2.003   .333   .667   .000   8589.6    .340
.660   .000
        5.35 1984.6  10964.5    .441  794.9     4.75   5.52    3.121  2.121   .320   .680   .000  10137.6    .326
.674   .000
        5.65 2228.4  12771.9    .425  844.7     4.93   5.73    3.240  2.240   .309   .691   .000  11857.1    .314
.686   .000
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   5 OCCURRED       8 TIMES.  AVERAGE NUMBER ITERATIONS =  1.1266
     Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1,
C2 and C3
     PRINT HYD           ID=51   CODE=5

                                        OUTFLOW HYDROGRAPH REACH    30.51

          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME
FLOW
           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS
CFS
          .000        .0         3.500     137.2         7.000       5.7        10.500        .4        14.000
  .0
          .250        .0         3.750      90.0         7.250       4.7        10.750        .3        14.250
  .0
          .500        .0         4.000      58.9         7.500       3.9        11.000        .3        14.500
  .0
          .750        .0         4.250      41.0         7.750       3.2        11.250        .2        14.750
  .0
         1.000        .0         4.500      30.7         8.000       2.6        11.500        .2        15.000
  .0
         1.250        .0         4.750      25.7         8.250       2.2        11.750        .2        15.250
  .0
         1.500        .0         5.000      22.4         8.500       1.8        12.000        .1        15.500
  .0
         1.750        .0         5.250      19.4         8.750       1.5        12.250        .1        15.750
  .0
         2.000        .0         5.500      16.6         9.000       1.2        12.500        .1        16.000
  .0
         2.250        .0         5.750      14.1         9.250       1.0        12.750        .1        16.250
  .0
         2.500        .0         6.000      11.8         9.500        .9        13.000        .1        16.500
  .0
         2.750      208.5         6.250       9.9         9.750        .7        13.250        .1        16.750
  .0
         3.000      289.6         6.500       8.3        10.000        .6        13.500        .1        17.000
  .0
         3.250      206.5         6.750       6.9        10.250        .5        13.750        .0        17.250
  .0

       RUNOFF VOLUME =      .39167 INCHES     =      24.7954 ACRE-FEET
       PEAK DISCHARGE RATE =     310.87 CFS  AT   2.900 HOURS   BASIN AREA =  1.1870 SQ. MI.


     *
     ***********************************************************************
     *S ROUTE 30.91 THRU LOWER 30 IN NATURAL ARROYO TO 30.9
     *
     COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                           MIN ELEV=5792.02   MAX ELEV=5809.13
                           CH SLOPE=0.023    FP SLOPE=0.023
                           N=0.035           DIST=700.0
                           DIST  ELEV    DIST  ELEV
                             0   5812.39   101 5806.02
                                       218     5800.05 304     5795.17
                                       348     5792.02 376     5793.83
                                       457     5799.95 570     5807.93
                                       700     5809.13


                                    RATING CURVE VALLEY SECTION  1.0
                                       WATER       FLOW        FLOW        TOP
                                      SURFACE      AREA        RATE        WIDTH
                                       ELEV        SQ FT       CFS         FT
                                     5792.02         .00         .00         .00
                                     5792.92       11.93       45.06       26.51
                                     5793.82       47.73      286.13       53.01
                                     5794.72      106.51      846.14       77.53
                                     5795.62      187.71     1792.63      103.67
                                     5796.52      293.56     3224.39      131.46
                                     5797.42      424.43     5245.53      159.24
                                     5798.32      580.32     7937.13      187.02
```

5799.22	761.22	11375.61	214.81
5800.12	967.16	15621.08	242.90
5801.02	1199.55	20675.46	273.29
5801.92	1459.31	26718.63	303.69
5802.82	1746.43	33823.13	334.08
5803.73	2060.92	42059.20	364.48
5804.63	2402.78	51494.96	394.88
5805.53	2772.00	62196.71	425.27
5806.43	3168.29	74381.91	454.15
5807.33	3589.36	88114.90	481.17
5808.23	4038.92	99808.05	536.16
5809.13	4572.03	108176.50	648.00

ROUTE MCUNGE ID=5 HYD NO=30.5 INFLOW ID=51
DT=0.0 L=2903 FT NS=0 SLOPE=0.023
MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

INFLOW END= 347 TABLE PTS= 20
DT= .050000 QMED= 155.44 CKMED= 6.7341
WIDTH MED= 38.64 NREACH= 5 DX= 580.60

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.293	.0	3.23	1.74	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.90	11.9	45.1	.214	26.5	5.27	3.78	1.633	.024	.982	.247	-.229	7.1	.997	.039	-.036
1.80	47.7	286.1	.135	53.0	8.37	5.99	2.596	.048	.974	.451	-.425	134.3	.975	.347	-.322
2.70	106.5	846.1	.102	77.5	10.83	7.94	3.359	.075	.966	.549	-.515	528.4	.968	.499	-.466
3.60	187.7	1792.6	.084	103.7	12.75	9.55	3.954	.102	.960	.604	-.564	1277.7	.961	.571	-.532
4.50	293.6	3224.4	.073	131.5	14.60	10.98	4.527	.126	.955	.646	-.602	2461.7	.956	.622	-.578
5.40	424.4	5245.5	.065	159.2	16.45	12.36	5.101	.150	.952	.680	-.632	4183.3	.953	.662	-.614
6.30	580.3	7937.1	.059	187.0	18.22	13.68	5.649	.174	.949	.707	-.656	6535.3	.950	.693	-.642
7.20	761.2	11375.6	.054	214.8	19.89	14.94	6.166	.199	.946	.728	-.674	9596.4	.947	.717	-.664
8.10	967.2	15621.1	.050	242.9	21.30	16.15	6.604	.226	.942	.745	-.687	13435.1	.944	.737	-.680
9.00	1199.5	20675.5	.047	273.3	22.56	17.24	6.995	.251	.939	.757	-.697	18083.4	.939	.749	-.689
9.90	1459.3	26718.6	.044	303.7	24.06	18.31	7.458	.274	.937	.771	-.708	23627.7	.938	.764	-.702
10.80	1746.4	33823.1	.042	334.1	25.51	19.37	7.910	.297	.935	.783	-.718	30197.3	.936	.777	-.712
11.71	2060.9	42059.2	.040	364.5	26.94	20.41	8.352	.321	.934	.793	-.727	37863.6	.934	.788	-.722
12.61	2402.8	51495.0	.038	394.9	28.33	21.43	8.784	.345	.932	.803	-.734	46695.8	.932	.798	-.730
13.51	2772.0	62196.7	.036	425.3	29.88	22.44	9.264	.367	.931	.812	-.743	56761.0	.931	.807	-.737
14.41	3168.3	74381.9	.034	454.1	31.69	23.48	9.824	.387	.931	.822	-.753	68197.8	.931	.817	-.748
15.31	3589.4	88114.9	.033	481.2	29.61	24.55	9.179	.463	.913	.812	-.725	81150.9	.931	.826	-.757
16.21	4038.9	99808.1	.033	536.2	20.93	24.71	6.488	.666	.837	.755	-.591	93914.3	.885	.788	-.674
17.11	4572.0	108176.5	.034	648.0	14.71	23.66	4.559	.850	.735	.688	-.423	103960.2	.749	.701	-.450

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 5 OCCURRED 3 TIMES. AVERAGE NUMBER ITERATIONS = 1.2000

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.293	.0	3.23	1.74	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.90	11.9	45.1	.214	26.5	3.35	3.78	1.038	.038	.963	.037	.000	7.1	.988	.012	.000
1.80	47.7	286.1	.135	53.0	3.59	5.99	1.113	.113	.899	.101	.000	134.3	.932	.068	.000
2.70	106.5	846.1	.102	77.5	3.90	7.94	1.209	.209	.827	.173	.000	528.4	.861	.139	.000
3.60	187.7	1792.6	.084	103.7	4.22	9.55	1.307	.307	.765	.235	.000	1277.7	.794	.206	.000
4.50	293.6	3224.4	.073	131.5	4.53	10.98	1.405	.405	.712	.288	.000	2461.7	.736	.264	.000
5.40	424.4	5245.5	.065	159.2	4.86	12.36	1.507	.507	.663	.337	.000	4183.3	.686	.314	.000
6.30	580.3	7937.1	.059	187.0	5.20	13.68	1.611	.611	.621	.379	.000	6535.3	.640	.360	.000
7.20	761.2	11375.6	.054	214.8	5.54	14.94	1.716	.716	.583	.417	.000	9596.4	.600	.400	.000
8.10	967.2	15621.1	.050	242.9	5.87	16.15	1.820	.820	.549	.451	.000	13435.1	.565	.435	.000
9.00	1199.5	20675.5	.047	273.3	6.18	17.24	1.916	.916	.522	.478	.000	18083.4	.535	.465	.000
9.90	1459.3	26718.6	.044	303.7	6.50	18.31	2.014	1.014	.496	.504	.000	23627.7	.508	.492	.000

```
       10.80 1746.4  33823.1    .042  334.1     6.81  19.37    2.113  1.113   .473   .527   .000  30197.3    .484
.516   .000
       11.71 2060.9  42059.2    .040  364.5     7.13  20.41    2.211  1.211   .452   .548   .000  37863.6    .462
.538   .000
       12.61 2402.8  51495.0    .038  394.9     7.45  21.43    2.310  1.310   .433   .567   .000  46695.8    .442
.558   .000
       13.51 2772.0  62196.7    .036  425.3     7.77  22.44    2.409  1.409   .415   .585   .000  56761.0    .424
.576   .000
       14.41 3168.3  74381.9    .034  454.1     8.11  23.48    2.513  1.513   .398   .602   .000  68197.8    .406
.594   .000
       15.31 3589.4  88114.9    .033  481.2     8.46  24.55    2.622  1.622   .381   .619   .000  81150.9    .389
.611   .000
       16.21 4038.9  99808.1    .033  536.2     8.51  24.71    2.638  1.638   .379   .621   .000  93914.3    .380
.620   .000
       17.11 4572.0 108176.5    .034  648.0     8.16  23.66    2.531  1.531   .395   .605   .000 103960.2    .388
.612   .000
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   3 OCCURRED      19 TIMES.  AVERAGE NUMBER ITERATIONS =  1.1263
     Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1,
C2 and C3
     PRINT HYD           ID=5   CODE=5

                                        OUTFLOW HYDROGRAPH REACH    30.50

        TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME
FLOW
         HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS
CFS
         .000        .0         3.750     133.5         7.500       4.7        11.250        .3        15.000
  .0
         .250        .0         4.000      88.0         7.750       3.9        11.500        .2        15.250
  .0
         .500        .0         4.250      57.9         8.000       3.2        11.750        .2        15.500
  .0
         .750        .0         4.500      40.6         8.250       2.6        12.000        .2        15.750
  .0
        1.000        .0         4.750      30.5         8.500       2.2        12.250        .1        16.000
  .0
        1.250        .0         5.000      25.6         8.750       1.8        12.500        .1        16.250
  .0
        1.500        .0         5.250      22.3         9.000       1.5        12.750        .1        16.500
  .0
        1.750        .0         5.500      19.3         9.250       1.2        13.000        .1        16.750
  .0
        2.000        .0         5.750      16.5         9.500       1.0        13.250        .1        17.000
  .0
        2.250        .0         6.000      14.0         9.750        .9        13.500        .1        17.250
  .0
        2.500        .0         6.250      11.8        10.000        .7        13.750        .1        17.500
  .0
        2.750        .0         6.500       9.9        10.250        .6        14.000        .0
        3.000      237.9        6.750       8.2        10.500        .5        14.250        .0
        3.250      281.6        7.000       6.9        10.750        .4        14.500        .0
        3.500      199.9        7.250       5.7        11.000        .3        14.750        .0

       RUNOFF VOLUME =      .39059 INCHES     =      24.7265 ACRE-FEET
       PEAK DISCHARGE RATE =     308.75 CFS  AT   3.100 HOURS   BASIN AREA =  1.1870 SQ. MI.


     *
     ************************************************************************

     *S*** SUB-BASIN 30 ****
     *
     COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                         NK=3  ISLOPE=-1
                         LENGTH=400 FT   SLOPE=0.006 K=0.7
                         LENGTH=1600 FT  SLOPE=0.006 K=2.0
                         LENGTH=9286 FT  SLOPE=0.0111 K=3.0
                         Kn=.033  CR=0.50

          Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

          SCS UPLAND METHOD FACTORS
                                  LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
          SHEET FLOW PORTION         400.0           .006000             .7000
          SHALLOW FLOW PORTION      1600.0           .006000            2.0000
          CHANNEL FLOW PORTION      9286.0           .011100            3.0000
          TOTAL BASIN              11286.0           .010196            2.3738


          LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=     11286.0
          TOTAL BASIN SLOPE (FT/FT)=    .010196     CENTROUD LENGTH (FT)=         5643.0


          TIME OF CONCENTRATION (HRS)=   .7796     TIME TO PEAK (HRS)=   .5197     LAG TIME (HRS)=   .5847

     COMPUTE NM HYD      ID=1   HYD NO=30   DA= 0.588 SQ MI
                         PER A=95 PER B=5  PER C=0  PER D=0
                         TP=0.0   MASSRAIN=-1
          TIME TO PEAK (hrs)=   .5197
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     K =   .543667HR    TP =   .519715HR    K/TP RATIO =  1.046087     SHAPE CONSTANT, N =  3.374873
     UNIT PEAK =   351.95    CFS   UNIT VOLUME =    1.000       B =   311.08      P60 = 1.6900
     AREA =      .588000 SQ MI    IA =    .64250 INCHES    INF =   1.64900 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=1   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    30.00


    RUNOFF VOLUME =      .41537 INCHES     =      13.0260 ACRE-FEET
    PEAK DISCHARGE RATE =     145.28 CFS  AT   1.900 HOURS   BASIN AREA =   .5880 SQ. MI.



*S
**********************************************************************
*S ADD 30 TO 30.5 TO GET 30.9
ADD HYD             ID=9   HYD NO=30.9 ID I=1 ID II=5
PRINT HYD           ID=9   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    30.90


    RUNOFF VOLUME =      .39880 INCHES     =      37.7524 ACRE-FEET
    PEAK DISCHARGE RATE =     329.34 CFS  AT   3.100 HOURS   BASIN AREA =  1.7750 SQ. MI.



*S
**********************************************************************
*S  **************  TOTAL FLOW OUT OF BOCA NEGRA PART OF QUAIL RANCH
*S  ADD 30.9 TO 20.8 TO GET 20.75
*S
ADD HYD             ID=7  HYD NO=20.75 ID I=9 ID II=8
PRINT HYD           ID=7   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    20.75


    RUNOFF VOLUME =      .40234 INCHES     =     134.6923 ACRE-FEET
    PEAK DISCHARGE RATE =     714.50 CFS  AT   3.050 HOURS   BASIN AREA =  6.2770 SQ. MI.



*
*S
**********************************************************************
*S ROUTE 20.75 THRU 32 IN NATURAL ARROYO TO 32.6
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5748.37   MAX ELEV=5771.51
                      CH SLOPE=0.009    FP SLOPE=0.009
                      N=0.035           DIST=700.0
                      DIST  ELEV    DIST  ELEV
                        0   5764.7   119 5758.15
                                  227     5752.45 351     5748.37
                                  476     5758.03 594     5764.93
                                  700     5771.51


                                   RATING CURVE VALLEY SECTION  1.0
                                      WATER       FLOW        FLOW        TOP
                                     SURFACE      AREA        RATE        WIDTH
                                       ELEV       SQ FT       CFS         FT
                                    5748.37         .00         .00         .00
                                    5749.59       32.13       92.89       52.77
                                    5750.81      128.52      589.82      105.54
                                    5752.02      289.17     1738.99      158.31
                                    5753.24      510.50     3811.30      202.02
                                    5754.46      780.16     6872.56      240.86
                                    5755.68     1097.12    10979.83      279.69
                                    5756.89     1461.36    16234.66      318.52
                                    5758.11     1872.91    22721.89      357.70
                                    5759.33     2334.69    30417.02      400.68
                                    5760.55     2848.77    39599.05      443.62
                                    5761.77     3415.15    50371.62      486.57
                                    5762.98     4033.84    62836.27      529.52
                                    5764.20     4704.83    77091.55      572.47
                                    5765.42     5423.30    94486.51      601.87
                                    5766.64     6168.19   114613.90      621.49
                                    5767.85     6936.98   136539.10      641.11
                                    5769.07     7729.65   160267.00      660.73
                                    5770.29     8546.22   185806.20      680.35
                                    5771.51     9386.67   213168.90      699.97
ROUTE MCUNGE        ID=6   HYD NO=32.6  INFLOW ID=7
                    DT=0.0   L=3180 FT   NS=0   SLOPE=0.009
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
```

INFLOW END= 373 TABLE PTS= 20
DT= .050000 QMED= 357.25 CKMED= 5.1554
WIDTH MED= 80.84 NREACH= 7 DX= 454.29

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M C2-M	C3-M
.00	.0	.0	.419	.0	2.52	1.33	1.000	.000	1.000	.000	.000	.0	1.000	.000
1.22	32.1	92.9	.306	52.8	4.03	2.89	1.597	.107	.921	.260	-.181	14.6	.945	.010
.045														
2.44	128.5	589.8	.192	105.5	6.38	4.59	2.529	.214	.886	.466	-.351	276.9	.891	.365
-.257														
3.65	289.2	1739.0	.147	158.3	8.33	6.01	3.301	.322	.860	.567	-.428	1085.3	.861	.511
-.371														
4.87	510.5	3811.3	.118	202.0	10.47	7.47	4.148	.441	.842	.642	-.484	2683.3	.848	.609
-.457														
6.09	780.2	6872.6	.100	240.9	12.25	8.81	4.855	.570	.823	.689	-.511	5246.9	.829	.667
-.496														
7.31	1097.1	10979.8	.088	279.7	13.77	10.01	5.456	.697	.805	.720	-.525	8828.6	.810	.704
-.515														
8.52	1461.4	16234.7	.080	318.5	15.16	11.11	6.007	.822	.790	.745	-.534	13506.5	.795	.732
-.527														
9.74	1872.9	22721.9	.073	357.7	16.32	12.13	6.465	.952	.774	.762	-.536	19374.5	.781	.754
-.535														
10.96	2334.7	30417.0	.068	400.7	17.31	13.03	6.858	1.073	.760	.776	-.536	26465.5	.762	.768
-.530														
12.18	2848.8	39599.0	.064	443.6	18.48	13.90	7.323	1.181	.751	.790	-.541	34898.4	.754	.783
-.536														
13.40	3415.2	50371.6	.060	486.6	19.62	14.75	7.774	1.290	.744	.801	-.545	44870.4	.746	.795
-.541														
14.61	4033.8	62836.3	.057	529.5	20.73	15.58	8.214	1.400	.736	.812	-.548	56483.9	.738	.806
-.545														
15.83	4704.8	77091.5	.054	572.5	22.63	16.39	8.965	1.456	.745	.825	-.570	69838.9	.731	.816
-.547														
17.05	5423.3	94486.5	.051	601.9	25.56	17.42	10.126	1.502	.762	.842	-.604	85630.2	.758	.835
-.592														
18.27	6168.2	114613.9	.048	621.5	27.80	18.58	11.015	1.623	.762	.853	-.615	104372.1	.767	.849
-.616														
19.48	6937.0	136539.1	.045	641.1	29.25	19.68	11.591	1.781	.752	.861	-.613	125402.7	.757	.857
-.614														
20.70	7729.7	160267.0	.043	660.7	30.63	20.73	12.136	1.937	.743	.867	-.610	148232.8	.747	.864
-.611														
21.92	8546.2	185806.2	.041	680.3	31.94	21.74	12.655	2.091	.734	.873	-.607	172869.2	.738	.870
-.608														
23.14	9386.7	213168.9	.039	700.0	32.86	22.71	13.022	2.266	.722	.877	-.599	199322.6	.730	.876
-.605														

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 6 OCCURRED 1 TIMES. AVERAGE NUMBER ITERATIONS = 1.2678

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M C2-M	C3-M
.00	.0	.0	.419	.0	2.52	1.33	1.000	.000	1.000	.000	.000	.0	1.000	.000
1.22	32.1	92.9	.306	52.8	2.90	2.89	1.149	.149	.871	.129	.000	14.6	.945	.010
.045														
2.44	128.5	589.8	.192	105.5	3.51	4.59	1.390	.390	.720	.280	.000	276.9	.789	.211
.000														
3.65	289.2	1739.0	.147	158.3	4.16	6.01	1.647	.647	.607	.393	.000	1085.3	.656	.344
.000														
4.87	510.5	3811.3	.118	202.0	4.90	7.47	1.942	.942	.515	.485	.000	2683.3	.555	.445
.000														
6.09	780.2	6872.6	.100	240.9	5.64	8.81	2.236	1.236	.447	.553	.000	5246.9	.477	.523
.000														
7.31	1097.1	10979.8	.088	279.7	6.34	10.01	2.514	1.514	.398	.602	.000	8828.6	.420	.580
.000														
8.52	1461.4	16234.7	.080	318.5	7.01	11.11	2.778	1.778	.360	.640	.000	13506.5	.377	.623
.000														
9.74	1872.9	22721.9	.073	357.7	7.65	12.13	3.031	2.031	.330	.670	.000	19374.5	.344	.656
.000														
10.96	2334.7	30417.0	.068	400.7	8.22	13.03	3.258	2.258	.307	.693	.000	26465.5	.318	.682
.000														
12.18	2848.8	39599.0	.064	443.6	8.79	13.90	3.483	2.483	.287	.713	.000	34898.4	.296	.704
.000														
13.40	3415.2	50371.6	.060	486.6	9.35	14.75	3.707	2.707	.270	.730	.000	44870.4	.278	.722
.000														
14.61	4033.8	62836.3	.057	529.5	9.91	15.58	3.928	2.928	.255	.745	.000	56483.9	.262	.738
.000														
15.83	4704.8	77091.5	.054	572.5	10.47	16.39	4.147	3.147	.241	.759	.000	69838.9	.248	.752
.000														
17.05	5423.3	94486.5	.051	601.9	11.19	17.42	4.432	3.432	.226	.774	.000	85630.2	.233	.767
.000														
18.27	6168.2	114613.9	.048	621.5	12.01	18.58	4.757	3.757	.210	.790	.000	104372.1	.218	.782
.000														
19.48	6937.0	136539.1	.045	641.1	12.80	19.68	5.070	4.070	.197	.803	.000	125402.7	.203	.797
.000														
20.70	7729.7	160267.0	.043	660.7	13.56	20.73	5.374	4.374	.186	.814	.000	148232.8	.191	.809
.000														
21.92	8546.2	185806.2	.041	680.3	14.31	21.74	5.669	4.669	.176	.824	.000	172869.2	.181	.819
.000														
23.14	9386.7	213168.9	.039	700.0	15.03	22.71	5.956	4.956	.168	.832	.000	199322.6	.172	

.828 .000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 5 TIMES. AVERAGE NUMBER ITERATIONS = 1.2393
Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1, C2 and C3

PRINT HYD ID=6 CODE=5

OUTFLOW HYDROGRAPH REACH 32.60

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	4.000	447.3	8.000	15.4	12.000	.9	16.000	.0
.250	.0	4.250	359.1	8.250	12.8	12.250	.7	16.250	.0
.500	.0	4.500	261.2	8.500	10.6	12.500	.6	16.500	.0
.750	.0	4.750	192.5	8.750	8.8	12.750	.5	16.750	.0
1.000	.0	5.000	143.4	9.000	7.3	13.000	.4	17.000	.0
1.250	.0	5.250	110.3	9.250	6.1	13.250	.4	17.250	.0
1.500	.0	5.500	88.7	9.500	5.1	13.500	.3	17.500	.0
1.750	13.1	5.750	75.1	9.750	4.2	13.750	.2	17.750	.0
2.000	362.8	6.000	63.8	10.000	3.5	14.000	.2	18.000	.0
2.250	604.3	6.250	54.0	10.250	2.9	14.250	.2	18.250	.0
2.500	582.2	6.500	45.4	10.500	2.5	14.500	.1	18.500	.0
2.750	534.0	6.750	38.1	10.750	2.1	14.750	.1	18.750	.0
3.000	570.0	7.000	31.8	11.000	1.7	15.000	.1		
3.250	661.2	7.250	26.6	11.250	1.4	15.250	.1		
3.500	589.7	7.500	22.2	11.500	1.2	15.500	.1		
3.750	515.9	7.750	18.5	11.750	1.0	15.750	.1		

RUNOFF VOLUME = .40175 INCHES = 134.4937 ACRE-FEET
PEAK DISCHARGE RATE = 688.37 CFS AT 3.300 HOURS BASIN AREA = 6.2770 SQ. MI.

*
****
*S ADD BASIN 32**********
*
COMPUTE LT TP LCODE=1 UPLAND/LAG TIME TRANSITION METHOD
NK=3 ISLOPE=-1
LENGTH=400 FT SLOPE=0.012 K=0.7
LENGTH=1600 FT SLOPE=0.011 K=2.0
LENGTH=959 FT SLOPE=0.010 K=3.0

Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

SCS UPLAND METHOD FACTORS

	LENGTH (FT)	SLOPE (FT/FT)	COMPOSITE K
SHEET FLOW PORTION	400.0	.012000	.7000
SHALLOW FLOW PORTION	1600.0	.011000	2.0000
CHANNEL FLOW PORTION	959.0	.010000	3.0000
TOTAL BASIN	2959.0	.010811	1.7741

TIME OF CONCENTRATION (HRS)= .4456 TIME TO PEAK (HRS)= .2971 LAG TIME (HRS)= .3342

COMPUTE NM HYD ID=1 HYD NO=32 DA= 0.250 SQ MI
PER A=100 PER B=0 PER C=0 PER D=0
TP=0.0 MASSRAIN=-1
TIME TO PEAK (hrs)= .2971

K = .328093HR TP = .297051HR K/TP RATIO = 1.104499 SHAPE CONSTANT, N = 3.200921
UNIT PEAK = 250.64 CFS UNIT VOLUME = .9999 B = 297.81 P60 = 1.6900
AREA = .250000 SQ MI IA = .65000 INCHES INF = 1.67000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

BULKING FACTOR APPLIED TO HYDROGRAPH. FACTOR = 1.05000 AT PEAK FLOW.

PRINT HYD ID=1 CODE=1

OUTFLOW HYDROGRAPH REACH 32.00

RUNOFF VOLUME = .40595 INCHES = 5.4127 ACRE-FEET
PEAK DISCHARGE RATE = 99.71 CFS AT 1.650 HOURS BASIN AREA = .2500 SQ. MI.

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*S
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*S ADD 32 TO 20.75 TO GET 32.9
ADD HYD            ID=9   HYD NO=32.9 ID I=1 ID II=6
PRINT HYD          ID=9   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    32.90


    RUNOFF VOLUME =      .40191 INCHES     =     139.9063 ACRE-FEET
    PEAK DISCHARGE RATE =     692.78 CFS  AT   3.300 HOURS   BASIN AREA =  6.5270 SQ. MI.



*S
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*
*S ROUTE 32.9 THRU UPPER 39 IN NATURAL ARROYO TO 39.7
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5681.92   MAX ELEV=5694.67
                      CH SLOPE=0.016    FP SLOPE=0.016
                      N=0.035           DIST=490.0
                      DIST         ELEV    DIST    ELEV
                        0          5694.40 76      5691.91
                                   153     5688.85 244     5683.15
                                   294     5681.92 339     5685.05
                                   403     5690.03 490     5694.67


                                    RATING CURVE VALLEY SECTION  1.0
                                       WATER       FLOW        FLOW        TOP
                                      SURFACE      AREA        RATE        WIDTH
                                       ELEV        SQ FT       CFS         FT
                                     5681.92         .00         .00         .00
                                     5682.59       12.38       32.09       36.92
                                     5683.26       49.38      207.92       71.08
                                     5683.93      103.90      607.11       91.43
                                     5684.60      172.07     1230.77      111.79
                                     5685.27      253.86     2108.34      131.80
                                     5685.95      348.77     3267.32      151.14
                                     5686.62      456.65     4724.90      170.47
                                     5687.29      577.50     6504.56      189.80
                                     5687.96      711.32     8629.27      209.13
                                     5688.63      858.12    11121.39      228.47
                                     5689.30     1018.81    13870.59      251.93
                                     5689.97     1196.39    17001.34      277.44
                                     5690.64     1392.18    20479.51      306.55
                                     5691.31     1607.73    24488.67      336.01
                                     5691.98     1843.05    29054.48      365.86
                                     5692.65     2099.60    34081.44      398.92
                                     5693.33     2378.33    39783.99      431.98
                                     5694.00     2679.23    46195.91      465.04
                                     5694.67     3001.23    53908.09      489.95
ROUTE MCUNGE          ID=5   HYD NO=39.5  INFLOW ID=9
                      DT=0.0   L=1800 FT   NS=0   SLOPE=0.016
                      MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

          INFLOW END= 380            TABLE PTS= 20
          DT=  .050000               QMED=      346.39  CKMED=      7.3228
          WIDTH MED=       78.14     NREACH=  3         DX=      600.00

       DEPTH   AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
        (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
          .00     .0       .0    .267     .0     3.33   1.15    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
          .67   12.4     32.1    .193   36.9     3.67   2.59    1.100   .025   .977   .059  -.036      5.1    .996
.009  -.006
         1.34   49.4    207.9    .119   71.1     6.08   4.21    1.825   .050   .965   .304  -.269     97.6    .968
.186  -.153
         2.01  103.9    607.1    .086   91.4     8.40   5.84    2.519   .082   .954   .445  -.399    383.5    .959
.385  -.344
         2.68  172.1   1230.8    .070  111.8    10.04   7.15    3.013   .114   .945   .515  -.460    894.9    .948
.479  -.426
         3.35  253.9   2108.3    .060  131.8    11.54   8.31    3.462   .144   .937   .566  -.503   1644.8    .940
.540  -.479
         4.03  348.8   3267.3    .053  151.1    12.93   9.37    3.878   .174   .931   .604  -.535   2662.3    .933
.585  -.518
         4.70  456.7   4724.9    .048  170.5    14.17  10.35    4.252   .204   .925   .633  -.559   3969.9    .927
.618  -.545
         5.37  577.5   6504.6    .044  189.8    15.35  11.26    4.605   .233   .920   .657  -.578   5587.8    .922
.645  -.567
         6.04  711.3   8629.3    .041  209.1    16.47  12.13    4.941   .261   .916   .678  -.593   7539.2    .917
.667  -.584
         6.71  858.1  11121.4    .039  228.5    17.15  12.96    5.146   .296   .908   .690  -.598   9846.8    .913
.686  -.599
         7.38 1018.8  13870.6    .037  251.9    17.42  13.61    5.225   .329   .900   .695  -.594  12469.6    .901
.689  -.590
         8.05 1196.4  17001.3    .035  277.4    17.79  14.21    5.337   .359   .893   .701  -.594  15408.9    .896
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.698  -.594
        8.72 1392.2  20479.5    .034  306.6    18.21  14.71    5.463   .382   .888   .708  -.596  18713.8    .888
.701  -.589
        9.39 1607.7  24488.7    .033  336.0    19.03  15.23    5.709   .399   .888   .719  -.606  22454.9    .888
.713  -.600
       10.06 1843.1  29054.5    .032  365.9    19.57  15.76    5.871   .423   .884   .726  -.610  26740.1    .887
.723  -.610
       10.73 2099.6  34081.4    .031  398.9    20.05  16.23    6.015   .444   .881   .732  -.613  31536.5    .880
.726  -.606
       11.41 2378.3  39784.0    .030  432.0    20.91  16.73    6.272   .459   .881   .741  -.623  36898.3    .881
.736  -.617
       12.08 2679.2  46195.9    .029  465.0    22.58  17.24    6.773   .458   .889   .757  -.646  42952.7    .881
.745  -.626
       12.75 3001.2  53908.1    .028  489.9    24.08  17.96    7.225   .476   .891   .770  -.661  50002.1    .895
.769  -.665
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   4 OCCURRED       3 TIMES.  AVERAGE NUMBER ITERATIONS =  1.3322
     Equations solved using the Ponce correction to C2
     PRINT HYD           ID=5   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    39.50


         RUNOFF VOLUME =      .40191 INCHES     =     139.9067 ACRE-FEET
         PEAK DISCHARGE RATE =     691.70 CFS  AT   3.400 HOURS   BASIN AREA =  6.5270 SQ. MI.



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     *S*** SUB-BASIN 33 ****
     *
     COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                         NK=3  ISLOPE=-1
                         LENGTH=400 FT   SLOPE=0.01 K=0.7
                         LENGTH=1600 FT  SLOPE=0.009 K=2.0
                         LENGTH=10392 FT  SLOPE=0.009 K=3.0
                         Kn=.033  CR=0.61

          Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE


          LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=     12392.0
          TOTAL BASIN SLOPE (FT/FT)=    .009032     CENTROUD LENGTH (FT)=         7559.1


          TIME OF CONCENTRATION (HRS)=   .9019     TIME TO PEAK (HRS)=   .6013     LAG TIME (HRS)=   .6765

     COMPUTE NM HYD      ID=1   HYD NO=33   DA= 0.731 SQ MI
                         PER A=100 PER B=0  PER C=0  PER D=0
                         TP=0.0   MASSRAIN=-1
          TIME TO PEAK (hrs)=   .6013

          K =   .632565HR    TP =   .601295HR    K/TP RATIO =  1.052006     SHAPE CONSTANT, N =  3.356146
          UNIT PEAK =   376.48    CFS   UNIT VOLUME =    1.000       B =   309.68      P60 = 1.6900
          AREA =      .731000 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

         BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

     PRINT HYD           ID=1   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    33.00


         RUNOFF VOLUME =      .40595 INCHES     =      15.8266 ACRE-FEET
         PEAK DISCHARGE RATE =     151.98 CFS  AT   1.950 HOURS   BASIN AREA =   .7310 SQ. MI.



     *S
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     *S*** SUB-BASIN 35 ****
     *
     COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                         NK=3  ISLOPE=-1
                         LENGTH=400 FT   SLOPE=0.004 K=0.7
                         LENGTH=1600 FT  SLOPE=0.006 K=2.0
                         LENGTH=11265 FT  SLOPE=0.008 K=3.0
                         Kn=.033  CR=0.50

          Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE


          LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=     13265.0
          TOTAL BASIN SLOPE (FT/FT)=    .007638     CENTROUD LENGTH (FT)=         6632.5
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     TIME OF CONCENTRATION (HRS)=   .9083     TIME TO PEAK (HRS)=   .6055     LAG TIME (HRS)=   .6812

COMPUTE NM HYD       ID=2   HYD NO=35   DA= 0.616 SQ MI
                     PER A=100 PER B=0  PER C=0  PER D=0
                     TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .6055

     K =   .636992HR    TP =   .605502HR    K/TP RATIO =  1.052006     SHAPE CONSTANT, N =  3.356146
     UNIT PEAK =   315.05    CFS   UNIT VOLUME =    1.000       B =   309.68      P60 = 1.6900
     AREA =      .616000 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD            ID=2   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    35.00


    RUNOFF VOLUME =      .40595 INCHES     =      13.3368 ACRE-FEET
    PEAK DISCHARGE RATE =     127.16 CFS  AT   2.000 HOURS   BASIN AREA =   .6160 SQ. MI.



*S
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*S  ADD 33 TO 35 TO GET 35.8
*S
ADD HYD              ID=8  HYD NO=35.8 ID I=1 ID II=2
PRINT HYD            ID=8   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    35.80


    RUNOFF VOLUME =      .40595 INCHES     =      29.1634 ACRE-FEET
    PEAK DISCHARGE RATE =     279.09 CFS  AT   1.950 HOURS   BASIN AREA =  1.3470 SQ. MI.



*
*S
**************************************************************************
*S ROUTE 35.8 THRU UPPER 39 IN NATURAL ARROYO TO 36.6
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5766.06   MAX ELEV=5778.83
                      CH SLOPE=0.013    FP SLOPE=0.013
                      N=0.035           DIST=700.0
                      DIST  ELEV    DIST  ELEV
                        0   5774.95   177 5770.03
                                  320     5766.17 361     5766.06
                                  408     5769.73 494     5778.01
                                  555     5778.83 700     5775.56


                                    RATING CURVE VALLEY SECTION  1.0
                                        WATER       FLOW        FLOW        TOP
                                      SURFACE       AREA        RATE       WIDTH
                                        ELEV       SQ FT        CFS         FT
                                     5766.06         .00         .00         .00
                                     5766.73       34.04      101.44       70.43
                                     5767.40       92.61      414.95      103.92
                                     5768.08      173.68      982.34      137.42
                                     5768.75      277.26     1852.05      170.91
                                     5769.42      403.35     3070.01      204.41
                                     5770.09      551.78     4689.72      236.97
                                     5770.76      721.45     6752.28      268.11
                                     5771.44      912.06     9274.84      299.26
                                     5772.11     1123.59    12291.48      330.41
                                     5772.78     1356.04    15835.27      361.56
                                     5773.45     1609.43    19938.37      392.70
                                     5774.12     1883.74    24632.06      423.85
                                     5774.79     2178.98    29946.89      455.00
                                     5775.47     2490.36    36738.55      467.58
                                     5776.14     2814.27    43063.19      500.20
                                     5776.81     3162.69    49894.73      536.97
                                     5777.48     3535.82    57491.10      573.74
                                     5778.15     3934.31    65250.65      619.72
                                     5778.83     4377.48    71915.94      699.48
ROUTE MCUNGE         ID=7   HYD NO=36.7  INFLOW ID=8
                     DT=0.0   L=2020 FT   NS=0   SLOPE=0.013
                     MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

     INFLOW END= 385            TABLE PTS= 20
     DT=  .050000               QMED=      139.54  CKMED=      5.3527
     WIDTH MED=       74.50     NREACH=  5         DX=      404.00

      DEPTH   AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
       (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
```

.00	.0	.0	.251	.0	2.24	1.48	1.000	.000	1.000	.000	.000	.0	1.000	.000 .000
.67	34.0	101.4	.188	70.4	5.03	2.98	2.242	.055	.967	.393	-.360	16.0	.982	.240 -.222
1.34	92.6	414.9	.125	103.9	6.36	4.48	2.834	.120	.940	.494	-.434	230.8	.945	.420 -.365
2.02	173.7	982.3	.099	137.4	7.82	5.66	3.483	.174	.925	.571	-.496	669.5	.928	.529 -.458
2.69	277.3	1852.0	.084	170.9	9.12	6.68	4.062	.226	.914	.622	-.536	1386.2	.917	.594 -.511
3.36	403.3	3070.0	.074	204.4	10.35	7.61	4.610	.276	.906	.660	-.566	2428.2	.908	.639 -.547
4.03	551.8	4689.7	.066	237.0	11.58	8.50	5.159	.325	.900	.692	-.591	3844.9	.901	.675 -.577
4.70	721.5	6752.3	.060	268.1	12.75	9.36	5.679	.376	.893	.717	-.610	5684.2	.896	.704 -.600
5.38	912.1	9274.8	.055	299.3	13.79	10.17	6.145	.428	.887	.736	-.623	7975.5	.889	.726 -.615
6.05	1123.6	12291.5	.051	330.4	14.79	10.94	6.590	.479	.881	.752	-.633	10743.8	.883	.744 -.627
6.72	1356.0	15835.3	.048	361.6	15.75	11.68	7.019	.529	.876	.766	-.642	14022.7	.878	.759 -.637
7.39	1609.4	19938.4	.045	392.7	16.68	12.39	7.433	.579	.871	.778	-.649	17844.8	.873	.772 -.645
8.06	1883.7	24632.1	.043	423.9	17.58	13.08	7.835	.629	.867	.789	-.656	22241.9	.868	.783 -.652
8.73	2179.0	29946.9	.041	455.0	19.68	13.74	8.770	.637	.878	.808	-.685	27244.8	.864	.793 -.658
9.41	2490.4	36738.5	.038	467.6	21.04	14.75	9.373	.711	.872	.820	-.691	33277.4	.890	.824 -.714
10.08	2814.3	43063.2	.037	500.2	19.60	15.30	8.733	.836	.842	.811	-.653	39860.3	.846	.809 -.655
10.75	3162.7	49894.7	.036	537.0	20.00	15.78	8.912	.884	.836	.815	-.651	46439.5	.836	.811 -.647
11.42	3535.8	57491.1	.035	573.7	19.98	16.26	8.900	.955	.824	.816	-.640	53650.9	.835	.818 -.653
12.09	3934.3	65250.7	.034	619.7	17.43	16.59	7.765	1.150	.768	.798	-.566	61335.8	.810	.812 -.621
12.77	4377.5	71915.9	.034	699.5	14.42	16.43	6.423	1.358	.691	.772	-.463	68563.9	.707	.778 -.485

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 5 OCCURRED 3 TIMES. AVERAGE NUMBER ITERATIONS = 1.2321

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck	VEL (FPS)	C (FPS)	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M C3-M
.00	.0	.0	.251	.0	2.24	1.48	1.000	.000	1.000	.000	.000	.0	1.000	.000 .000
.67	34.0	101.4	.188	70.4	2.49	2.98	1.110	.110	.901	.099	.000	16.0	.964	.036 .000
1.34	92.6	414.9	.125	103.9	2.84	4.48	1.267	.267	.789	.211	.000	230.8	.841	.159 .000
2.02	173.7	982.3	.099	137.4	3.20	5.66	1.425	.425	.702	.298	.000	669.5	.741	.259 .000
2.69	277.3	1852.0	.084	170.9	3.55	6.68	1.581	.581	.632	.368	.000	1386.2	.664	.336 .000
3.36	403.3	3070.0	.074	204.4	3.89	7.61	1.735	.735	.577	.423	.000	2428.2	.602	.398 .000
4.03	551.8	4689.7	.066	237.0	4.24	8.50	1.889	.889	.529	.471	.000	3844.9	.551	.449 .000
4.70	721.5	6752.3	.060	268.1	4.59	9.36	2.045	1.045	.489	.511	.000	5684.2	.508	.492 .000
5.38	912.1	9274.8	.055	299.3	4.93	10.17	2.197	1.197	.455	.545	.000	7975.5	.471	.529 .000
6.05	1123.6	12291.5	.051	330.4	5.26	10.94	2.345	1.345	.426	.574	.000	10743.8	.440	.560 .000
6.72	1356.0	15835.3	.048	361.6	5.59	11.68	2.491	1.491	.401	.599	.000	14022.7	.413	.587 .000
7.39	1609.4	19938.4	.045	392.7	5.91	12.39	2.635	1.635	.380	.620	.000	17844.8	.390	.610 .000
8.06	1883.7	24632.1	.043	423.9	6.23	13.08	2.776	1.776	.360	.640	.000	22241.9	.369	.631 .000
8.73	2179.0	29946.9	.041	455.0	6.54	13.74	2.915	1.915	.343	.657	.000	27244.8	.351	.649 .000
9.41	2490.4	36738.5	.038	467.6	7.02	14.75	3.130	2.130	.320	.680	.000	33277.4	.331	.669 .000
10.08	2814.3	43063.2	.037	500.2	7.29	15.30	3.248	2.248	.308	.692	.000	39860.3	.313	.687 .000
10.75	3162.7	49894.7	.036	537.0	7.52	15.78	3.352	2.352	.298	.702	.000	46439.5	.303	.697 .000
11.42	3535.8	57491.1	.035	573.7	7.76	16.26	3.458	2.458	.289	.711	.000	53650.9	.294	.706 .000
12.09	3934.3	65250.7	.034	619.7	7.92	16.59	3.530	2.530	.283	.717	.000	61335.8	.286	.714 .000
12.77	4377.5	71915.9	.034	699.5	7.85	16.43	3.495	2.495	.286	.714	.000	68563.9	.285	.715 .000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 27 TIMES. AVERAGE NUMBER ITERATIONS = 1.1368

Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1, C2 and C3

PRINT HYD ID=7 CODE=5

OUTFLOW HYDROGRAPH REACH 36.70

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	4.000	24.9	8.000	3.1	12.000	.4	16.000	.0
.250	.0	4.250	21.9	8.250	2.7	12.250	.3	16.250	.0
.500	.0	4.500	19.2	8.500	2.4	12.500	.3	16.500	.0
.750	.0	4.750	16.9	8.750	2.1	12.750	.3	16.750	.0
1.000	.0	5.000	14.8	9.000	1.8	13.000	.2	17.000	.0
1.250	.0	5.250	13.0	9.250	1.6	13.250	.2	17.250	.0
1.500	.0	5.500	11.4	9.500	1.4	13.500	.2	17.500	.0
1.750	68.5	5.750	10.0	9.750	1.2	13.750	.1	17.750	.0
2.000	241.8	6.000	8.8	10.000	1.1	14.000	.1	18.000	.0
2.250	274.4	6.250	7.7	10.250	.9	14.250	.1	18.250	.0
2.500	219.9	6.500	6.7	10.500	.8	14.500	.1	18.500	.0
2.750	152.2	6.750	5.9	10.750	.7	14.750	.1	18.750	.0
3.000	103.6	7.000	5.2	11.000	.6	15.000	.1	19.000	.0
3.250	69.9	7.250	4.5	11.250	.6	15.250	.1	19.250	.0
3.500	47.4	7.500	4.0	11.500	.5	15.500	.1	19.500	.0
3.750	32.2	7.750	3.5	11.750	.4	15.750	.1		

RUNOFF VOLUME = .40524 INCHES = 29.1125 ACRE-FEET
PEAK DISCHARGE RATE = 277.79 CFS AT 2.200 HOURS BASIN AREA = 1.3470 SQ. MI.

*
****
*S*** SUB-BASIN 36 ****
*
COMPUTE LT TP LCODE=1 UPLAND/LAG TIME TRANSITION METHOD
NK=3 ISLOPE=-1
LENGTH=400 FT SLOPE=0.012 K=0.7
LENGTH=1600 FT SLOPE=0.008 K=2.0
LENGTH=5646 FT SLOPE=0.015 K=3.0
Kn=.033 CR=0.50

Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

SCS UPLAND METHOD FACTORS

	LENGTH (FT)	SLOPE (FT/FT)	COMPOSITE K
SHEET FLOW PORTION	400.0	.012000	.7000
SHALLOW FLOW PORTION	1600.0	.008000	2.0000
CHANNEL FLOW PORTION	5646.0	.015000	3.0000
TOTAL BASIN	7646.0	.013378	2.2388

LAG EQUATION FACTORS: Kn= .0330 TOTAL BASIN LENGTH (FT)= 7646.0
TOTAL BASIN SLOPE (FT/FT)= .013378 CENTROUD LENGTH (FT)= 3823.0

TIME OF CONCENTRATION (HRS)= .5867 TIME TO PEAK (HRS)= .3912 LAG TIME (HRS)= .4401

COMPUTE NM HYD ID=1 HYD NO=36 DA= 0.407 SQ MI
PER A=98 PER B=0 PER C=0 PER D=2
TP=0.0 MASSRAIN=-1
TIME TO PEAK (hrs)= .3912

K = .231818HR TP = .391163HR K/TP RATIO = .592638 SHAPE CONSTANT, N = 6.391015
UNIT PEAK = 10.231 CFS UNIT VOLUME = .9988 B = 491.65 P60 = 1.6900
AREA = .008140 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .411506HR TP = .391163HR K/TP RATIO = 1.052006 SHAPE CONSTANT, N = 3.356146
UNIT PEAK = 315.77 CFS UNIT VOLUME = 1.000 B = 309.68 P60 = 1.6900
AREA = .398860 SQ MI IA = .65000 INCHES INF = 1.67000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

BULKING FACTOR APPLIED TO HYDROGRAPH. FACTOR = 1.05000 AT PEAK FLOW.

PRINT HYD ID=1 CODE=1

OUTFLOW HYDROGRAPH REACH 36.00

```
    RUNOFF VOLUME =      .44594 INCHES     =       9.6798 ACRE-FEET
    PEAK DISCHARGE RATE =     138.58 CFS  AT   1.750 HOURS   BASIN AREA =   .4070 SQ. MI.


*S
*************************************************************************
*S  ADD 35.8 TO 36 TO GET 36.6
*S
ADD HYD             ID=6  HYD NO=36.6 ID I=1 ID II=7
PRINT HYD           ID=6   CODE=1

                                    OUTFLOW HYDROGRAPH REACH    36.60


    RUNOFF VOLUME =      .41468 INCHES     =      38.7921 ACRE-FEET
    PEAK DISCHARGE RATE =     352.26 CFS  AT   2.100 HOURS   BASIN AREA =  1.7540 SQ. MI.


*
*S
*************************************************************************

*S ROUTE 36.6 THRU MID 39 IN NATURAL ARROYO TO 39.7
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5714.17   MAX ELEV=5716.23
                      CH SLOPE=0.015    FP SLOPE=0.015
                      N=0.035           DIST=600.0
                      DIST  ELEV    DIST  ELEV
                        0   5716.58   50 5715.99
                                  98      5715.76 137     5715.92
                                  301     5714.17 417     5715.74
                                  536     5715.06 600     5716.23


                                   RATING CURVE VALLEY SECTION  1.0
                                      WATER       FLOW        FLOW        TOP
                                     SURFACE      AREA        RATE        WIDTH
                                      ELEV        SQ FT       CFS         FT
                                    5714.17         .00         .00         .00
                                    5714.28         .98         .73       18.17
                                    5714.39        3.94        4.66       36.33
                                    5714.50        8.86       13.73       54.50
                                    5714.60       15.75       29.56       72.66
                                    5714.71       24.61       53.60       90.83
                                    5714.82       35.44       87.15      109.00
                                    5714.93       48.24      131.47      127.16
                                    5715.04       63.01      187.70      145.33
                                    5715.15       80.59      242.45      183.12
                                    5715.25      102.77      315.84      226.18
                                    5715.36      129.62      414.03      269.24
                                    5715.47      161.14      539.03      312.30
                                    5715.58      197.33      693.19      355.36
                                    5715.69      238.18      878.89      398.42
                                    5715.80      283.62     1093.88      443.96
                                    5715.90      335.27     1319.69      509.02
                                    5716.01      392.49     1649.74      540.02
                                    5716.12      451.84     2048.13      555.14
                                    5716.23      512.84     2484.47      570.25
ROUTE MCUNGE          ID=4   HYD NO=39.4  INFLOW ID=6
                      DT=0.0   L=1884 FT   NS=0   SLOPE=0.015
                      MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

      INFLOW END= 531            TABLE PTS= 20
      DT=  .050000               QMED=      176.13  CKMED=      3.8075
      WIDTH MED=      141.59     NREACH=  6         DX=      314.00

      DEPTH   AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M  C3-M
       (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
         .00     .0       .0    .963     .0     1.74    .34    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
         .11    1.0       .7    .703   18.2     1.74    .74     .995   .005   .995   .000   .005       .1    .999
.000   .001
         .22    3.9      4.7    .443   36.3     1.72   1.18     .984   .016   .984   .000   .016      2.2    .991
.000   .009
         .33    8.9     13.7    .338   54.5     2.11   1.55    1.210   .025   .977   .105  -.082      8.6    .979
.032  -.011
         .43   15.8     29.6    .279   72.7     2.53   1.88    1.453   .034   .973   .196  -.168     20.9    .974
.145  -.119
         .54   24.6     53.6    .240   90.8     2.93   2.18    1.679   .043   .969   .265  -.234     40.8    .970
.227  -.197
         .65   35.4     87.2    .213  109.0     3.30   2.46    1.892   .051   .965   .320  -.285     69.5    .966
.291  -.257
         .76   48.2    131.5    .192  127.2     3.65   2.73    2.093   .060   .962   .366  -.328    108.4    .963
.341  -.304
         .87   63.0    187.7    .176  145.3     3.57   2.98    2.047   .077   .951   .360  -.311    158.6    .960
.384  -.343
         .98   80.6    242.4    .174  183.1     3.23   3.01    1.851   .087   .941   .319  -.260    214.3    .936
```

```
.297  -.234
        1.08  102.8    315.8    .170  226.2     3.50   3.07    2.004   .085   .945   .353  -.298    278.2    .941
.328  -.269
        1.19  129.6    414.0    .164  269.2     3.82   3.19    2.191   .085   .948   .390  -.338    363.7    .946
.370  -.316
        1.30  161.1    539.0    .156  312.3     4.12   3.35    2.364   .089   .949   .421  -.369    475.0    .948
.404  -.352
        1.41  197.3    693.2    .149  355.4     4.41   3.51    2.529   .094   .948   .448  -.396    614.4    .948
.433  -.381
        1.52  238.2    878.9    .142  398.4     4.65   3.69    2.663   .101   .946   .469  -.415    784.1    .947
.459  -.407
        1.63  283.6   1093.9    .136  444.0     4.60   3.86    2.638   .114   .939   .467  -.406    984.4    .944
.474  -.418
        1.73  335.3   1319.7    .133  509.0     4.99   3.94    2.861   .110   .944   .496  -.441   1205.1    .932
.448  -.380
        1.84  392.5   1649.7    .125  540.0     6.20   4.20    3.555   .105   .955   .571  -.526   1481.4    .953
.549  -.502
        1.95  451.8   2048.1    .115  555.1     6.94   4.53    3.979   .113   .956   .607  -.563   1844.9    .957
.596  -.553
        2.06  512.8   2484.5    .108  570.3     7.30   4.84    4.187   .127   .952   .624  -.576   2262.4    .954
.617  -.571
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   5 OCCURRED       1 TIMES.  AVERAGE NUMBER ITERATIONS =  1.2085
     Equations solved using the Ponce correction to C2
     PRINT HYD           ID=4   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    39.40


         RUNOFF VOLUME =      .41479 INCHES     =      38.8016 ACRE-FEET
         PEAK DISCHARGE RATE =     351.79 CFS  AT   2.250 HOURS   BASIN AREA =  1.7540 SQ. MI.



     *
     ************************************************************************
     *S  ADD 32.9 TO 39.4 TO GET 39.7
     *S
     ADD HYD             ID=7  HYD NO=39.7 ID I=5 ID II=4
     PRINT HYD           ID=7   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    39.70


         RUNOFF VOLUME =      .40464 INCHES     =     178.7082 ACRE-FEET
         PEAK DISCHARGE RATE =     980.06 CFS  AT   2.350 HOURS   BASIN AREA =  8.2810 SQ. MI.



     *
     *S
     ************************************************************************

     *S ROUTE 39.7 THRU LOWER 39 IN NATURAL ARROYO TO 39.8
     *
     COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                           MIN ELEV=5687.82   MAX ELEV=5701.09
                           CH SLOPE=0.0156    FP SLOPE=0.0156
                           N=0.035           DIST=500.0
                           DIST  ELEV    DIST  ELEV
                             0   5696.81   76 5694.05
                                       174     5692.95 250     5687.82
                                       339     5693.72 432     5699.97
                                       500     5701.09


                                      RATING CURVE VALLEY SECTION  1.0
                                         WATER       FLOW        FLOW        TOP
                                       SURFACE       AREA        RATE       WIDTH
                                         ELEV        SQ FT       CFS         FT
                                      5687.82          .00         .00         .00
                                      5688.52         7.29       19.13       20.88
                                      5689.22        29.15      121.49       41.75
                                      5689.91        65.59      358.20       62.63
                                      5690.61       116.61      771.43       83.50
                                      5691.31       182.20     1398.69      104.38
                                      5692.01       262.37     2274.43      125.25
                                      5692.71       357.12     3430.81      146.13
                                      5693.41       474.15     4452.44      200.86
                                      5694.10       639.70     6019.98      270.20
                                      5694.80       838.70     8821.59      299.82
                                      5695.50      1058.39    12208.82      329.43
                                      5696.20      1298.75    16213.98      359.05
                                      5696.90      1559.69    20953.34      386.27
                                      5697.60      1833.03    26943.03      396.66
                                      5698.29      2113.62    33577.68      407.05
                                      5698.99      2401.47    40847.31      417.44
                                      5699.69      2696.57    48745.13      427.83
                                      5700.39      3002.93    55782.66      457.39
                                      5701.09      3337.10    62694.86      499.79
     ROUTE MCUNGE        ID=6   HYD NO=39.6  INFLOW ID=7
```

```
                        DT=0.0   L=2583 FT   NS=0   SLOPE=0.0156
                        MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

          INFLOW END= 537            TABLE PTS= 20
          DT=  .050000               QMED=      490.03  CKMED=      8.0998
          WIDTH MED=       69.29     NREACH=  4         DX=      645.75

       DEPTH   AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
        (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
          .00     .0       .0    .374     .0     3.59   1.21    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
          .70    7.3     19.1    .273   20.9     3.66   2.63    1.021   .025   .976   .022   .002      3.0    .996
.003   .000
         1.40   29.2    121.5    .172   41.8     5.80   4.17    1.616   .050   .963   .250  -.212     57.0    .965
.132  -.098
         2.09   65.6    358.2    .131   62.6     7.44   5.46    2.074   .076   .952   .365  -.317    223.6    .954
.300  -.253
         2.79  116.6    771.4    .108   83.5     8.94   6.62    2.491   .103   .943   .443  -.386    546.3    .945
.401  -.345
         3.49  182.2   1398.7    .093  104.4    10.33   7.68    2.878   .129   .936   .501  -.437   1064.6    .937
.470  -.407
         4.19  262.4   2274.4    .083  125.3    11.63   8.67    3.243   .155   .930   .545  -.475   1814.4    .931
.522  -.453
         4.89  357.1   3430.8    .075  146.1    10.88   9.61    3.032   .214   .899   .529  -.428   2828.9    .926
.562  -.487
         5.59  474.2   4452.4    .076  200.9     9.20   9.39    2.566   .239   .874   .474  -.349   3923.6    .851
.444  -.295
         6.28  639.7   6020.0    .076  270.2    11.41   9.41    3.180   .194   .911   .543  -.454   5207.4    .880
.483  -.364
         6.98  838.7   8821.6    .068  299.8    14.80  10.52    4.126   .197   .926   .624  -.550   7369.5    .928
.608  -.537
         7.68 1058.4  12208.8    .062  329.4    16.09  11.54    4.484   .229   .920   .650  -.570  10463.7    .922
.637  -.559
         8.38 1298.8  16214.0    .057  359.0    17.44  12.48    4.860   .257   .916   .673  -.589  14159.4    .917
.660  -.577
         9.08 1559.7  20953.3    .053  386.3    19.78  13.43    5.514   .272   .920   .705  -.625  18528.5    .915
.685  -.599
         9.78 1833.0  26943.0    .049  396.7    22.81  14.70    6.359   .296   .923   .739  -.661  23876.5    .925
.729  -.654
        10.47 2113.6  33577.7    .045  407.0    24.48  15.89    6.823   .335   .918   .755  -.673  30191.5    .920
.747  -.667
        11.17 2401.5  40847.3    .042  417.4    26.03  17.01    7.257   .373   .914   .768  -.682  37146.1    .916
.762  -.677
        11.87 2696.6  48745.1    .040  427.8    25.20  18.08    7.024   .449   .894   .764  -.658  44731.8    .911
.774  -.685
        12.57 3002.9  55782.7    .039  457.4    21.92  18.58    6.110   .552   .856   .739  -.595  52228.7    .869
.746  -.615
        13.27 3337.1  62694.9    .038  499.8    20.17  18.79    5.622   .617   .829   .724  -.553  59212.1    .838
.728  -.566
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   4 OCCURRED       7 TIMES.  AVERAGE NUMBER ITERATIONS =  1.3234
     Equations solved using the Ponce correction to C2
     PRINT HYD           ID=6   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    39.60

         RUNOFF VOLUME =      .40465 INCHES     =     178.7147 ACRE-FEET
         PEAK DISCHARGE RATE =     978.30 CFS  AT   2.400 HOURS   BASIN AREA =  8.2810 SQ. MI.


     *
     ************************************************************************

     *S*** SUB-BASIN 39 ****
     *
     COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                         NK=3  ISLOPE=-1
                         LENGTH=400 FT   SLOPE=0.015 K=0.7
                         LENGTH=1600 FT  SLOPE=0.015 K=2.0
                         LENGTH=5883 FT  SLOPE=0.002 K=3.0
                         Kn=.033  CR=0.50

         Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

         SCS UPLAND METHOD FACTORS
                                LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
         SHEET FLOW PORTION        400.0            .015000             .7000
         SHALLOW FLOW PORTION     1600.0            .015000            2.0000
         CHANNEL FLOW PORTION     5883.0            .002000            3.0000
         TOTAL BASIN              7883.0            .005298            1.9674


         LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=      7883.0
         TOTAL BASIN SLOPE (FT/FT)=    .005298     CENTROUD LENGTH (FT)=         3941.5


         TIME OF CONCENTRATION (HRS)=   .8376     TIME TO PEAK (HRS)=   .5584     LAG TIME (HRS)=   .6282

     COMPUTE NM HYD      ID=2   HYD NO=39   DA= 0.341 SQ MI
```

```
                PER A=99 PER B=0  PER C=0  PER D=1
                TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .5584

     K =   .330923HR    TP =   .558389HR    K/TP RATIO =   .592638     SHAPE CONSTANT, N =  6.391015
     UNIT PEAK =   3.0025    CFS   UNIT VOLUME =    .9958       B =   491.65      P60 = 1.6900
     AREA =      .003410 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .587428HR    TP =   .558389HR    K/TP RATIO =  1.052006     SHAPE CONSTANT, N =  3.356146
     UNIT PEAK =   187.22    CFS   UNIT VOLUME =    .9999       B =   309.68      P60 = 1.6900
     AREA =      .337590 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=2   CODE=1

                                     OUTFLOW HYDROGRAPH REACH    39.00


    RUNOFF VOLUME =      .42594 INCHES     =       7.7465 ACRE-FEET
    PEAK DISCHARGE RATE =      79.51 CFS  AT   1.950 HOURS   BASIN AREA =   .3410 SQ. MI.



*S
**********************************************************************
*S  ADD 39.6 TO 39 TO GET 39.8
*S
ADD HYD             ID=8  HYD NO=39.8 ID I=2 ID II=6
PRINT HYD           ID=8   CODE=1

                                     OUTFLOW HYDROGRAPH REACH    39.80


    RUNOFF VOLUME =      .40549 INCHES     =     186.4611 ACRE-FEET
    PEAK DISCHARGE RATE =    1025.12 CFS  AT   2.400 HOURS   BASIN AREA =  8.6220 SQ. MI.



*
*S
**********************************************************************

*S*** SUB-BASIN 40A ****
*
COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.033 K=0.7
                    LENGTH=1600 FT  SLOPE=0.013 K=2.0
                    LENGTH=2012 FT  SLOPE=0.016 K=3.0
                    Kn=.033  CR=0.50

     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                              LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION          400.0           .033000             .7000
     SHALLOW FLOW PORTION       1600.0           .013000            2.0000
     CHANNEL FLOW PORTION       2012.0           .016000            3.0000
     TOTAL BASIN                4012.0           .016499            2.0198


     LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=      4012.0
     TOTAL BASIN SLOPE (FT/FT)=    .016499     CENTROUD LENGTH (FT)=         2006.0


     TIME OF CONCENTRATION (HRS)=   .4288     TIME TO PEAK (HRS)=   .2858     LAG TIME (HRS)=   .3216

COMPUTE NM HYD      ID=1   HYD NO=40A   DA= 0.107 SQ MI
                    PER A=88 PER B=2  PER C=10  PER D=0
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .2858

     K =   .336162HR    TP =   .285837HR    K/TP RATIO =  1.176063     SHAPE CONSTANT, N =  3.016754
     UNIT PEAK =   106.01    CFS   UNIT VOLUME =    .9998       B =   283.19      P60 = 1.6900
     AREA =      .107000 SQ MI    IA =    .61700 INCHES    INF =   1.57760 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=1   CODE=1

                                     HYDROGRAPH FROM AREA 40A


    RUNOFF VOLUME =      .44800 INCHES     =       2.5566 ACRE-FEET
    PEAK DISCHARGE RATE =      46.49 CFS  AT   1.650 HOURS   BASIN AREA =   .1070 SQ. MI.
```

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*S
**********************************************************************
*S  ADD 40A TO 39.8 TO GET 40A.9
*S
ADD HYD             ID=9  HYD NO=40A.9 ID I=1 ID II=8
PRINT HYD           ID=9   CODE=1

                                        HYDROGRAPH FROM AREA 40A.9


    RUNOFF VOLUME =      .40601 INCHES     =     189.0177 ACRE-FEET
    PEAK DISCHARGE RATE =    1031.81 CFS  AT   2.400 HOURS   BASIN AREA =  8.7290 SQ. MI.



*
*S
**********************************************************************
*S ROUTE 40A.9 THRU 40 IN NATURAL ARROYO TO 40.5
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5636.01   MAX ELEV=5641.34
                      CH SLOPE=0.0097    FP SLOPE=0.0097
                      N=0.035           DIST=600.0
                      DIST  ELEV    DIST  ELEV
                        0   5643.37   111 5641.34
                                  223     5638.84 301     5636.01
                                  448     5641.12 600     5639.78


                                     RATING CURVE VALLEY SECTION  1.0
                                        WATER       FLOW        FLOW        TOP
                                       SURFACE      AREA        RATE        WIDTH
                                        ELEV        SQ FT       CFS         FT
                                      5636.01         .00         .00         .00
                                      5636.29        2.22        2.51       15.81
                                      5636.57        8.88       15.91       31.63
                                      5636.85       19.98       46.92       47.44
                                      5637.13       35.52      101.05       63.26
                                      5637.41       55.50      183.22       79.07
                                      5637.69       79.92      297.93       94.89
                                      5637.98      108.78      449.41      110.70
                                      5638.26      142.08      641.64      126.51
                                      5638.54      179.82      878.41      142.33
                                      5638.82      222.00     1163.37      158.14
                                      5639.10      269.20     1480.25      178.41
                                      5639.38      322.19     1856.47      199.06
                                      5639.66      380.98     2298.41      219.72
                                      5639.94      447.03     2691.56      258.59
                                      5640.22      527.00     3130.66      311.08
                                      5640.50      621.71     3716.46      363.58
                                      5640.78      731.16     4451.06      416.07
                                      5641.06      855.34     5340.96      468.57
                                      5641.34      990.70     6629.10      489.24
ROUTE MCUNGE        ID=6   HYD NO=40.6  INFLOW ID=9
                    DT=0.0   L=2390 FT   NS=0   SLOPE=0.0097
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

        INFLOW END= 541           TABLE PTS= 20
        DT=  .050000              QMED=      515.91  CKMED=      5.7725
        WIDTH MED=      116.17    NREACH=  5         DX=      478.00

       DEPTH   AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
        (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
          .00     .0       .0    .806     .0     2.66     .52    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
          .28    2.2      2.5    .588   15.8     2.62    1.13     .987   .013   .987   .000   .013       .4    .998
.000   .002
          .56    8.9     15.9    .370   31.6     2.54    1.79     .957   .043   .957   .000   .043      7.5    .976
.000   .024
          .84   20.0     46.9    .283   47.4     3.20    2.35    1.205   .067   .941   .119  -.061     29.3    .945
.047   .008
         1.12   35.5    101.1    .233   63.3     3.84    2.84    1.447   .090   .929   .212  -.141     71.6    .932
.161  -.094
         1.40   55.5    183.2    .201   79.1     4.44    3.30    1.672   .113   .919   .282  -.201    139.5    .922
.244  -.166
         1.68   79.9    297.9    .178   94.9     5.00    3.73    1.884   .135   .910   .338  -.248    237.7    .913
.308  -.221
         1.97  108.8    449.4    .161  110.7     5.54    4.13    2.085   .158   .902   .383  -.286    370.6    .905
.359  -.264
         2.25  142.1    641.6    .147  126.5     6.04    4.52    2.276   .181   .895   .421  -.317    542.2    .898
.401  -.299
         2.53  179.8    878.4    .136  142.3     6.53    4.88    2.460   .204   .889   .454  -.343    756.5    .891
.437  -.328
         2.81  222.0   1163.4    .127  158.1     6.81    5.24    2.563   .233   .877   .473  -.350   1017.2    .885
.468  -.353
         3.09  269.2   1480.2    .121  178.4     6.92    5.50    2.607   .259   .866   .483  -.349   1318.4    .866
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.470  -.336
      3.37  322.2   1856.5    .115  199.1     7.32   5.76    2.757   .275   .864   .504  -.368   1664.7    .864
.492  -.356
      3.65  381.0   2298.4    .110  219.7     6.84   6.03    2.575   .330   .831   .488  -.319   2073.4    .862
.514  -.375
      3.93  447.0   2691.6    .110  258.6     5.75   6.02    2.166   .390   .780   .438  -.218   2492.5    .785
.442  -.227
      4.21  527.0   3130.7    .112  311.1     5.87   5.94    2.209   .370   .793   .441  -.235   2908.3    .768
.423  -.190
      4.49  621.7   3716.5    .111  363.6     6.47   5.98    2.435   .341   .819   .470  -.290   3419.5    .807
.456  -.264
      4.77  731.2   4451.1    .109  416.1     6.95   6.09    2.618   .332   .832   .494  -.326   4078.4    .826
.482  -.307
      5.05  855.3   5341.0    .106  468.6     8.20   6.24    3.087   .300   .863   .544  -.407   4889.5    .835
.503  -.338
      5.33  990.7   6629.1    .099  489.2     9.74   6.69    3.669   .300   .879   .598  -.477   5972.3    .885
.591  -.476
 MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   4 OCCURRED       3 TIMES.  AVERAGE NUMBER ITERATIONS =  1.3108
 Equations solved using the Ponce correction to C2
 PRINT HYD           ID=6   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    40.60


     RUNOFF VOLUME =      .40599 INCHES     =     189.0080 ACRE-FEET
     PEAK DISCHARGE RATE =    1029.72 CFS  AT   2.500 HOURS   BASIN AREA =  8.7290 SQ. MI.



 *
 **************************************************************************

 *S*** SUB-BASIN 40 ****
 *
 COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                     NK=3  ISLOPE=-1
                     LENGTH=400 FT   SLOPE=0.052 K=0.7
                     LENGTH=1600 FT  SLOPE=0.020 K=2.0
                     LENGTH=2836 FT  SLOPE=0.026 K=3.0
                     Kn=.033  CR=0.50

      Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

      SCS UPLAND METHOD FACTORS
                                LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
      SHEET FLOW PORTION           400.0           .052000             .7000
      SHALLOW FLOW PORTION        1600.0           .020000            2.0000
      CHANNEL FLOW PORTION        2836.0           .026000            3.0000
      TOTAL BASIN                 4836.0           .026165            2.1316


      LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=      4836.0
      TOTAL BASIN SLOPE (FT/FT)=    .026165     CENTROUD LENGTH (FT)=         2418.0


      TIME OF CONCENTRATION (HRS)=   .3611     TIME TO PEAK (HRS)=   .2407     LAG TIME (HRS)=   .2708

 COMPUTE NM HYD      ID=1   HYD NO=40   DA= 0.356 SQ MI
                     PER A=88 PER B=2  PER C=10  PER D=0
                     TP=0.0   MASSRAIN=-1
      TIME TO PEAK (hrs)=   .2407

      K =   .246967HR    TP =   .240717HR    K/TP RATIO =  1.025965     SHAPE CONSTANT, N =  3.440588
      UNIT PEAK =   467.29    CFS   UNIT VOLUME =    1.000       B =   315.97      P60 = 1.6900
      AREA =      .356000 SQ MI    IA =    .61700 INCHES    INF =   1.57760 INCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

     BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

 PRINT HYD           ID=1   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    40.00


     RUNOFF VOLUME =      .44800 INCHES     =       8.5060 ACRE-FEET
     PEAK DISCHARGE RATE =     201.31 CFS  AT   1.600 HOURS   BASIN AREA =   .3560 SQ. MI.



 *S
 **************************************************************************
 *S  ADD 40 TO 40A.9 TO GET 40.5
 *S
 ADD HYD             ID=5  HYD NO=40.5 ID I=1 ID II=6
 PRINT HYD           ID=5   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    40.50


     RUNOFF VOLUME =      .40764 INCHES     =     197.5141 ACRE-FEET
     PEAK DISCHARGE RATE =    1044.04 CFS  AT   2.500 HOURS   BASIN AREA =  9.0850 SQ. MI.
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*
*S
*************************************************************************
*S ROUTE 40.5 THRU UPPER 41A IN NATURAL ARROYO TO 41A.9
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5518.27   MAX ELEV=5549.49
                      CH SLOPE=0.032    FP SLOPE=0.032
                      N=0.035           DIST=400.0
                      DIST  ELEV    DIST  ELEV
                        0   5546.63   70 5541.99
                                  134     5529.86 200     5518.27
                                  228     5519.99 260     5530.34
                                  322     5545.97 400     5549.49


                                     RATING CURVE VALLEY SECTION  1.0
                                        WATER       FLOW        FLOW        TOP
                                       SURFACE      AREA        RATE        WIDTH
                                        ELEV        SQ FT       CFS         FT
                                      5518.27         .00         .00         .00
                                      5519.91       29.66      196.88       36.10
                                      5521.56      102.47     1220.99       51.56
                                      5523.20      199.04     3124.50       65.99
                                      5524.84      319.32     6011.90       80.43
                                      5526.49      463.34    10004.45       94.87
                                      5528.13      631.07    15222.14      109.30
                                      5529.77      822.52    21781.31      123.74
                                      5531.41     1037.69    29757.30      138.47
                                      5533.06     1277.67    39263.71      153.65
                                      5534.70     1542.61    50471.71      168.84
                                      5536.34     1832.50    63491.66      184.02
                                      5537.99     2147.34    78430.69      199.21
                                      5539.63     2487.13    95392.95      214.40
                                      5541.27     2851.88   114480.00      229.58
                                      5542.92     3245.78   132907.50      253.85
                                      5544.56     3688.59   152355.30      285.16
                                      5546.20     4183.34   173934.70      320.69
                                      5547.85     4749.38   197925.00      363.55
                                      5549.49     5376.63   228588.40      399.96
ROUTE MCUNGE          ID=61   HYD NO=41A.61  INFLOW ID=5
                      DT=0.0   L=4947 FT   NS=0   SLOPE=0.032
                      MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

          INFLOW END= 546            TABLE PTS= 20
          DT=  .050000               QMED=      522.02  CKMED=     14.0657
          WIDTH MED=       41.01     NREACH=  4         DX=     1236.75

       DEPTH   AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
        (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
          .00     .0       .0    .299     .0     6.87   2.56    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
         1.64   29.7    196.9    .207   36.1     9.60   6.64    1.397   .014   .988   .171  -.159     31.0    .998
.027  -.025
         3.29  102.5   1221.0    .115   51.6    17.58  11.92    2.559   .034   .981   .443  -.424    602.5    .984
.350  -.334
         4.93  199.0   3124.5    .088   66.0    22.23  15.70    3.236   .054   .975   .534  -.509   2070.4    .977
.487  -.464
         6.57  319.3   6011.9    .073   80.4    26.13  18.83    3.803   .072   .970   .590  -.560   4464.2    .972
.560  -.532
         8.22  463.3  10004.5    .064   94.9    29.62  21.59    4.311   .090   .967   .630  -.596   7901.1    .968
.608  -.576
         9.86  631.1  15222.1    .057  109.3    32.85  24.12    4.781   .107   .964   .660  -.624  12502.4    .965
.644  -.609
        11.50  822.5  21781.3    .052  123.7    35.81  26.48    5.212   .124   .961   .684  -.645  18386.8    .962
.672  -.634
        13.14 1037.7  29757.3    .048  138.5    38.48  28.68    5.600   .141   .958   .703  -.661  25651.2    .959
.693  -.652
        14.79 1277.7  39263.7    .045  153.7    41.06  30.73    5.977   .157   .956   .720  -.676  34388.4    .956
.711  -.667
        16.43 1542.6  50471.7    .042  168.8    43.70  32.72    6.361   .173   .954   .735  -.689  44740.3    .955
.727  -.681
        18.07 1832.5  63491.7    .040  184.0    46.27  34.65    6.734   .188   .952   .748  -.700  56849.0    .953
.741  -.694
        19.72 2147.3  78430.7    .038  199.2    48.76  36.52    7.097   .204   .951   .759  -.710  70823.5    .951
.753  -.704
        21.36 2487.1  95392.9    .036  214.4    51.20  38.35    7.451   .220   .949   .769  -.719  86769.2    .950
.764  -.714
        23.00 2851.9 114480.0    .034  229.6    50.02  40.14    7.280   .252   .941   .766  -.707 104789.0    .948
.774  -.722
        24.65 3245.8 132907.5    .034  253.9    45.54  40.95    6.628   .291   .927   .747  -.674 123589.8    .931
.751  -.681
        26.29 3688.6 152355.3    .033  285.2    43.88  41.30    6.386   .308   .920   .740  -.660 142533.5    .921
.740  -.661
        27.93 4183.3 173934.7    .033  320.7    43.32  41.58    6.306   .316   .917   .738  -.655 163042.6    .917
.737  -.655
        29.58 4749.4 197925.0    .033  363.5    45.68  41.67    6.649   .301   .924   .748  -.673 185816.9    .914
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.734  -.649
      31.22 5376.6 228588.4    .032  400.0    47.80  42.52    6.957   .302   .927   .758  -.685 213090.9    .931
.762  -.693
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   4 OCCURRED       6 TIMES.  AVERAGE NUMBER ITERATIONS =  1.3662
       DEPTH   AREA      Q    TRAVEL  WIDTH     ck       VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
        (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
          .00     .0       .0    .299     .0     6.87   2.56    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
         1.64   29.7    196.9    .207   36.1     7.01   6.64    1.020   .020   .981   .019   .000     31.0    .994
.006   .000
         3.29  102.5   1221.0    .115   51.6     7.42  11.92    1.081   .081   .925   .075   .000    602.5    .954
.046   .000
         4.93  199.0   3124.5    .088   66.0     7.91  15.70    1.151   .151   .869   .131   .000   2070.4    .896
.104   .000
         6.57  319.3   6011.9    .073   80.4     8.41  18.83    1.224   .224   .817   .183   .000   4464.2    .841
.159   .000
         8.22  463.3  10004.5    .064   94.9     8.92  21.59    1.299   .299   .770   .230   .000   7901.1    .792
.208   .000
         9.86  631.1  15222.1    .057  109.3     9.43  24.12    1.373   .373   .728   .272   .000  12502.4    .748
.252   .000
        11.50  822.5  21781.3    .052  123.7     9.94  26.48    1.447   .447   .691   .309   .000  18386.8    .709
.291   .000
        13.14 1037.7  29757.3    .048  138.5    10.44  28.68    1.520   .520   .658   .342   .000  25651.2    .674
.326   .000
        14.79 1277.7  39263.7    .045  153.7    10.93  30.73    1.591   .591   .629   .371   .000  34388.4    .643
.357   .000
        16.43 1542.6  50471.7    .042  168.8    11.42  32.72    1.662   .662   .602   .398   .000  44740.3    .615
.385   .000
        18.07 1832.5  63491.7    .040  184.0    11.90  34.65    1.732   .732   .577   .423   .000  56849.0    .589
.411   .000
        19.72 2147.3  78430.7    .038  199.2    12.39  36.52    1.803   .803   .555   .445   .000  70823.5    .565
.435   .000
        21.36 2487.1  95392.9    .036  214.4    12.87  38.35    1.873   .873   .534   .466   .000  86769.2    .544
.456   .000
        23.00 2851.9 114480.0    .034  229.6    13.35  40.14    1.944   .944   .515   .485   .000 104789.0    .524
.476   .000
        24.65 3245.8 132907.5    .034  253.9    13.57  40.95    1.975   .975   .506   .494   .000 123589.8    .510
.490   .000
        26.29 3688.6 152355.3    .033  285.2    13.66  41.30    1.988   .988   .503   .497   .000 142533.5    .505
.495   .000
        27.93 4183.3 173934.7    .033  320.7    13.73  41.58    1.998   .998   .500   .500   .000 163042.6    .502
.498   .000
        29.58 4749.4 197925.0    .033  363.5    13.75  41.67    2.001  1.001   .500   .500   .000 185816.9    .500
.500   .000
        31.22 5376.6 228588.4    .032  400.0    13.97  42.52    2.034  1.034   .492   .508   .000 213090.9    .496
.504   .000
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   3 OCCURRED      24 TIMES.  AVERAGE NUMBER ITERATIONS =  1.2534
     Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1,
C2 and C3
     PRINT HYD           ID=61   CODE=1

                                          HYDROGRAPH FROM AREA 41A.61

        RUNOFF VOLUME =      .40754 INCHES     =     197.4664 ACRE-FEET
        PEAK DISCHARGE RATE =    1042.92 CFS  AT   2.700 HOURS   BASIN AREA =  9.0850 SQ. MI.


     *
     **********************************************************************

     *S ROUTE 40.5 THRU LOWER 41A IN NATURAL ARROYO TO 41A.9
     *
     COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                           MIN ELEV=5457.93   MAX ELEV=5504.28
                           CH SLOPE=0.017    FP SLOPE=0.017
                           N=0.035           DIST=400.0
                           DIST  ELEV    DIST  ELEV
                             0   5485.62   37 5499.76
                                       75     5504.28 121     5489.83
                                      155     5469.83 201     5457.93
                                      233     5470.10 265     5490.19
                                      288     5499.91 336     5502.91
                                      400     5504.19


                                     RATING CURVE VALLEY SECTION  1.0
                                        WATER       FLOW        FLOW        TOP
                                       SURFACE      AREA        RATE        WIDTH
                                        ELEV        SQ FT       CFS         FT
                                      5457.93         .00         .00         .00
                                      5460.37       19.33      118.38       15.84
                                      5462.81       77.30      751.67       31.69
                                      5465.25      173.93     2216.17       47.53
                                      5467.69      309.21     4772.79       63.38
                                      5470.13      483.05     8694.58       78.55
                                      5472.57      684.46    14462.26       86.58
                                      5475.01      905.47    21604.93       94.61
                                      5477.45     1146.08    30157.85      102.65
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                                        5479.89     1406.28    40167.77      110.68
                                        5482.32     1686.07    51687.35      118.71
                                        5484.76     1985.47    64772.37      126.75
                                        5487.20     2307.73    78117.62      138.92
                                        5489.64     2664.21    92780.25      153.34
                                        5492.08     3061.00   108294.30      172.56
                                        5494.52     3506.25   126514.40      192.48
                                        5496.96     4000.10   147812.70      212.40
                                        5499.40     4542.54   172341.40      232.32
                                        5501.84     5171.52   186034.50      290.61
                                        5504.28     5994.23   194576.60      400.00
     ROUTE MCUNGE        ID=6   HYD NO=41A.6  INFLOW ID=61
                         DT=0.0   L=1702 FT   NS=0   SLOPE=0.017
                         MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

          INFLOW END= 550            TABLE PTS= 20
          DT=  .050000               QMED=      521.46  CKMED=     10.9231
          WIDTH MED=       25.93     NREACH=  2         DX=      851.00

        DEPTH   AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
         (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
           .00     .0       .0    .106     .0     4.73   2.82    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
          2.44   19.3    118.4    .077   15.8     8.54   6.13    1.807   .060   .958   .302  -.260     18.6    .970
.057  -.028
          4.88   77.3    751.7    .049   31.7    13.52   9.72    2.861   .121   .939   .498  -.437    352.8    .942
.401  -.343
          7.32  173.9   2216.2    .037   47.5    17.36  12.74    3.671   .186   .924   .588  -.512   1383.1    .926
.538  -.464
          9.76  309.2   4772.8    .031   63.4    20.96  15.44    4.433   .248   .913   .648  -.561   3379.7    .914
.615  -.529
         12.20  483.0   8694.6    .026   78.5    25.22  18.00    5.335   .303   .909   .699  -.607   6605.6    .906
.670  -.576
         14.64  684.5  14462.3    .022   86.6    30.66  21.13    6.485   .377   .904   .746  -.650  11436.3    .909
.729  -.639
         17.08  905.5  21604.9    .020   94.6    34.07  23.86    7.207   .463   .893   .769  -.662  17898.3    .898
.758  -.655
         19.52 1146.1  30157.9    .018  102.6    37.12  26.31    7.852   .547   .884   .787  -.671  25749.9    .887
.778  -.666
         21.96 1406.3  40167.8    .017  110.7    39.92  28.56    8.443   .628   .875   .801  -.677  35033.4    .879
.794  -.673
         24.39 1686.1  51687.3    .015  118.7    42.52  30.66    8.994   .708   .868   .813  -.681  45799.1    .871
.807  -.678
         26.83 1985.5  64772.4    .014  126.7    42.96  32.62    9.088   .822   .849   .817  -.666  58101.6    .864
.818  -.682
         29.27 2307.7  78117.6    .014  138.9    41.40  33.85    8.758   .939   .824   .813  -.637  71343.9    .830
.811  -.641
         31.71 2664.2  92780.3    .014  153.3    40.46  34.82    8.558  1.034   .805   .811  -.616  85348.8    .816
.813  -.628
         34.15 3061.0 108294.3    .013  172.6    40.09  35.38    8.479  1.082   .795   .811  -.606 100443.3    .788
.807  -.595
         36.59 3506.3 126514.4    .013  192.5    42.09  36.08    8.903  1.079   .803   .818  -.621 117293.3    .797
.814  -.611
         39.03 4000.1 147812.7    .013  212.4    44.23  36.95    9.356  1.087   .810   .825  -.635 137033.9    .806
.821  -.627
         41.47 4542.5 172341.4    .012  232.3    34.09  37.94    7.210  1.504   .690   .794  -.484 159930.0    .811
.828  -.640
         43.91 5171.5 186034.5    .013  290.6    15.63  35.97    3.306  2.831   .207   .720   .073 179102.8    .426
.741  -.168
         46.35 5994.2 194576.6    .015  400.0     9.87  32.46    2.088  3.407  -.049   .692   .357 190096.5    .085
.707   .208
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   5 OCCURRED       1 TIMES.  AVERAGE NUMBER ITERATIONS =  1.3642
     Equations solved using the Ponce correction to C2
     PRINT HYD           ID=6   CODE=1

                                          HYDROGRAPH FROM AREA 41A.6


         RUNOFF VOLUME =      .40756 INCHES     =     197.4741 ACRE-FEET
         PEAK DISCHARGE RATE =    1042.38 CFS  AT   2.750 HOURS   BASIN AREA =  9.0850 SQ. MI.



     *
     **************************************************************************

     *S*** SUB-BASIN 41A ****
     *
     COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                         NK=3  ISLOPE=-1
                         LENGTH=400 FT   SLOPE=0.022 K=0.7
                         LENGTH=1600 FT  SLOPE=0.014 K=2.0
                         LENGTH=6215 FT  SLOPE=0.036 K=3.0
                         Kn=.033  CR=0.50

          Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

          SCS UPLAND METHOD FACTORS
                                   LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
          SHEET FLOW PORTION          400.0            .022000             .7000
```

SHALLOW FLOW PORTION	1600.0	.014000	2.0000
CHANNEL FLOW PORTION	6215.0	.036000	3.0000
TOTAL BASIN	8215.0	.031033	2.1657

LAG EQUATION FACTORS: Kn= .0330 TOTAL BASIN LENGTH (FT)= 8215.0
TOTAL BASIN SLOPE (FT/FT)= .031033 CENTROUD LENGTH (FT)= 4107.5

TIME OF CONCENTRATION (HRS)= .4932 TIME TO PEAK (HRS)= .3288 LAG TIME (HRS)= .3699

```
COMPUTE NM HYD      ID=1   HYD NO=41A   DA= 0.453 SQ MI
                    PER A=70 PER B=0  PER C=30  PER D=0
                    TP=0.0   MASSRAIN=-1
```

TIME TO PEAK (hrs)= .3288

K = .322545HR TP = .328797HR K/TP RATIO = .980987 SHAPE CONSTANT, N = 3.599799
UNIT PEAK = 451.27 CFS UNIT VOLUME = 1.000 B = 327.54 P60 = 1.6900
AREA = .453000 SQ MI IA = .56000 INCHES INF = 1.41800 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

BULKING FACTOR APPLIED TO HYDROGRAPH. FACTOR = 1.05000 AT PEAK FLOW.

```
PRINT HYD           ID=1   CODE=1
```

HYDROGRAPH FROM AREA 41A

RUNOFF VOLUME = .52701 INCHES = 12.7325 ACRE-FEET
PEAK DISCHARGE RATE = 230.97 CFS AT 1.700 HOURS BASIN AREA = .4530 SQ. MI.

```
*S
**************************************************************************
*S  ADD 41A TO 40.5 TO GET 41A.9
*S
ADD HYD             ID=9  HYD NO=41A.9 ID I=1 ID II=6
PRINT HYD           ID=9   CODE=1
```

HYDROGRAPH FROM AREA 41A.9

RUNOFF VOLUME = .41323 INCHES = 210.2065 ACRE-FEET
PEAK DISCHARGE RATE = 1060.60 CFS AT 2.750 HOURS BASIN AREA = 9.5380 SQ. MI.

```
*
*S
**************************************************************************
**************************************************************************
*S*** SUB-BASIN 37 ****
*
COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.012 K=0.7
                    LENGTH=1600 FT  SLOPE=0.010 K=2.0
                    LENGTH=10600 FT  SLOPE=0.008 K=3.0
                    Kn=.033  CR=0.55
```

Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

LAG EQUATION FACTORS: Kn= .0330 TOTAL BASIN LENGTH (FT)= 12600.0
TOTAL BASIN SLOPE (FT/FT)= .008381 CENTROUD LENGTH (FT)= 6930.0

TIME OF CONCENTRATION (HRS)= .8922 TIME TO PEAK (HRS)= .5948 LAG TIME (HRS)= .6692

```
COMPUTE NM HYD      ID=1   HYD NO=37   DA= 0.590 SQ MI
                    PER A=91 PER B=0  PER C=2  PER D=7
                    TP=0.0   MASSRAIN=-1
```

TIME TO PEAK (hrs)= .5948

K = .352511HR TP = .594816HR K/TP RATIO = .592638 SHAPE CONSTANT, N = 6.391015
UNIT PEAK = 34.137 CFS UNIT VOLUME = .9996 B = 491.65 P60 = 1.6900
AREA = .041300 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .622722HR TP = .594816HR K/TP RATIO = 1.046915 SHAPE CONSTANT, N = 3.372244
UNIT PEAK = 286.78 CFS UNIT VOLUME = 1.000 B = 310.88 P60 = 1.6900
AREA = .548700 SQ MI IA = .64355 INCHES INF = 1.65194 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

BULKING FACTOR APPLIED TO HYDROGRAPH. FACTOR = 1.05000 AT PEAK FLOW.

```
PRINT HYD           ID=1   CODE=1
```

OUTFLOW HYDROGRAPH REACH 37.00

RUNOFF VOLUME = .55343 INCHES = 17.4146 ACRE-FEET
PEAK DISCHARGE RATE = 163.84 CFS AT 2.000 HOURS BASIN AREA = .5900 SQ. MI.

```
*S
**************************************************************************
*S ROUTE 37 THRU 34 IN NATURAL ARROYO TO 34.6
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5769.66   MAX ELEV=5778.71
                      CH SLOPE=0.005    FP SLOPE=0.005
                      N=0.035           DIST=500.0
                      DIST  ELEV    DIST  ELEV
                        0   5778.71   99 5771.79
                                  180     5769.8  249     5769.66
                                  340     5769.9  500     5775.36
```

RATING CURVE VALLEY SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH FT
5769.66	.00	.00	.00
5770.14	63.57	95.13	180.62
5770.61	157.49	385.43	213.94
5771.09	267.27	845.03	247.27
5771.56	392.93	1476.32	280.60
5772.04	533.62	2314.01	307.31
5772.52	684.86	3357.71	328.07
5772.99	845.99	4583.53	348.84
5773.47	1017.01	5993.91	369.60
5773.94	1197.91	7592.27	390.36
5774.42	1388.69	9382.70	411.12
5774.90	1589.35	11369.66	431.88
5775.37	1799.90	13565.59	452.26
5775.85	2016.83	16235.71	459.07
5776.33	2237.01	19107.10	465.88
5776.80	2460.42	22176.29	472.69
5777.28	2687.08	25440.44	479.50
5777.75	2916.98	28897.18	486.32
5778.23	3150.13	32544.57	493.13
5778.71	3386.51	36381.00	499.94

```
ROUTE MCUNGE        ID=5   HYD NO=34.5  INFLOW ID=1
                    DT=0.0   L=4007 FT   NS=0   SLOPE=0.005
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

      INFLOW END= 591           TABLE PTS= 20
      DT=  .050000              QMED=      81.92  CKMED=     1.4965
      WIDTH MED=     155.55     NREACH= 24         DX=     166.96
```

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	1.033	.0	.93	.66	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.48	63.6	95.1	.744	180.6	2.63	1.50	2.836	.240	.882	.509	-.392	15.0	.931	.358	-.289
.95	157.5	385.4	.455	213.9	3.73	2.45	4.025	.578	.794	.643	-.437	218.8	.819	.580	-.399
1.43	267.3	845.0	.352	247.3	4.66	3.16	5.029	.878	.746	.710	-.456	595.8	.763	.680	-.442
1.90	392.9	1476.3	.296	280.6	5.50	3.76	5.933	1.145	.716	.752	-.469	1142.2	.722	.731	-.453
2.38	533.6	2314.0	.257	307.3	6.44	4.34	6.942	1.401	.700	.786	-.486	1876.0	.707	.771	-.478
2.86	684.9	3357.7	.227	328.1	7.28	4.90	7.850	1.684	.680	.810	-.490	2816.8	.691	.800	-.491
3.33	846.0	4583.5	.205	348.8	7.95	5.42	8.571	1.980	.657	.827	-.484	3952.2	.667	.819	-.485
3.81	1017.0	5993.9	.189	369.6	8.56	5.89	9.230	2.269	.637	.840	-.477	5270.8	.645	.834	-.479
4.28	1197.9	7592.3	.176	390.4	9.13	6.34	9.840	2.553	.619	.851	-.469	6775.5	.626	.845	-.472
4.76	1388.7	9382.7	.165	411.1	9.66	6.76	10.413	2.831	.603	.860	-.462	8470.1	.609	.855	-.464
5.24	1589.4	11369.7	.156	431.9	10.18	7.15	10.973	3.098	.589	.867	-.456	10359.0	.594	.863	-.457
5.71	1799.9	13565.6	.148	452.3	11.25	7.54	12.132	3.193	.609	.877	-.486	12450.4	.582	.871	-.453
6.19	2016.8	16235.7	.138	459.1	12.68	8.05	13.675	3.340	.629	.889	-.518	14877.7	.636	.885	-.521
6.67	2237.0	19107.1	.130	465.9	13.40	8.54	14.445	3.667	.616	.895	-.512	17649.2	.622	.892	-.515
7.14	2460.4	22176.3	.123	472.7	14.08	9.01	15.177	3.992	.604	.901	-.505	20620.1	.610	.898	-.508
7.62	2687.1	25440.4	.118	479.5	14.73	9.47	15.876	4.316	.593	.906	-.498	23787.3	.598	.903	-.501
8.09	2917.0	28897.2	.112	486.3	15.35	9.91	16.546	4.638	.582	.910	-.492	27148.3	.587		

```
.908  -.495
     8.57 3150.1  32544.6    .108  493.1    15.94  10.33   17.189  4.959   .572   .914  -.485  30700.8    .576
.912  -.488
     9.05 3386.5  36381.0    .104  499.9    16.44  10.74   17.724  5.302   .559   .917  -.475  34443.1    .566
.915  -.482
 MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   7 OCCURRED       7 TIMES.  AVERAGE NUMBER ITERATIONS =  1.2202
 Equations solved using the Ponce correction to C2
 PRINT HYD           ID=5   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    34.50


     RUNOFF VOLUME =      .57360 INCHES     =      18.0491 ACRE-FEET
     PEAK DISCHARGE RATE =     163.84 CFS  AT   2.350 HOURS   BASIN AREA =   .5900 SQ. MI.



 *
 ************************************************************************

 *S*** SUB-BASIN 34 ****
 *
 COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                     NK=3  ISLOPE=-1
                     LENGTH=400 FT   SLOPE=0.010 K=0.7
                     LENGTH=1600 FT  SLOPE=0.003 K=2.0
                     LENGTH=1557 FT  SLOPE=0.007 K=3.0


      Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

      SCS UPLAND METHOD FACTORS
                               LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
      SHEET FLOW PORTION          400.0           .010000             .7000
      SHALLOW FLOW PORTION       1600.0           .003000            2.0000
      CHANNEL FLOW PORTION       1557.0           .007000            3.0000
      TOTAL BASIN                3557.0           .005538            1.8021


      TIME OF CONCENTRATION (HRS)=   .7368     TIME TO PEAK (HRS)=   .4912     LAG TIME (HRS)=   .5526

 COMPUTE NM HYD      ID=2   HYD NO=34   DA= 0.129 SQ MI
                     PER A=91 PER B=0  PER C=2  PER D=7
                     TP=0.0   MASSRAIN=-1
      TIME TO PEAK (hrs)=   .4912

      K =   .273915HR    TP =   .491175HR    K/TP RATIO =   .557672     SHAPE CONSTANT, N =  6.900863
      UNIT PEAK =   9.4963    CFS   UNIT VOLUME =    .9987       B =   516.54       P60 = 1.6900
      AREA =      .009030 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


      K =   .588008HR    TP =   .491175HR    K/TP RATIO =  1.197146     SHAPE CONSTANT, N =  2.967682
      UNIT PEAK =   68.189    CFS   UNIT VOLUME =    .9998       B =   279.18       P60 = 1.6900
      AREA =      .119970 SQ MI    IA =    .64355 INCHES    INF =   1.65194 INCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

     BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

 PRINT HYD           ID=2   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    34.00


     RUNOFF VOLUME =      .55343 INCHES     =       3.8076 ACRE-FEET
     PEAK DISCHARGE RATE =      39.76 CFS  AT   1.850 HOURS   BASIN AREA =   .1290 SQ. MI.



 *S
 ************************************************************************
 *S  ADD 34 TO 34.5 TO GET 34.6
 *S
 ADD HYD             ID=6  HYD NO=34.6 ID I=5 ID II=2
 PRINT HYD           ID=6   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    34.60


     RUNOFF VOLUME =      .56998 INCHES     =      21.8567 ACRE-FEET
     PEAK DISCHARGE RATE =     185.78 CFS  AT   2.350 HOURS   BASIN AREA =   .7190 SQ. MI.



 *
 *S
 ************************************************************************
 *S ROUTE 34.6 THRU 38 IN NATURAL ARROYO TO 34.3
 *
 COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                       MIN ELEV=5749.96   MAX ELEV=5753.54
```

CH SLOPE=0.014 FP SLOPE=0.014
N=0.035 DIST=500.0
DIST ELEV DIST ELEV
0 5750.07 77 5749.96
177 5753.54 211 5751.74
251 5750.83 287 5752.19
394 5753.47 500 5751.61

RATING CURVE VALLEY SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH FT
5749.96	.00	.00	.00
5750.15	10.78	13.97	82.26
5750.34	26.78	61.08	87.53
5750.53	43.77	133.25	92.79
5750.71	61.76	227.94	98.06
5750.90	80.92	334.46	108.41
5751.09	103.10	450.78	126.95
5751.28	128.77	596.27	145.49
5751.47	157.94	773.56	164.02
5751.66	190.67	976.37	185.20
5751.84	228.19	1204.28	211.86
5752.03	270.44	1485.64	236.42
5752.22	317.34	1807.41	262.78
5752.41	370.20	2148.13	298.10
5752.60	429.71	2555.94	333.42
5752.79	495.88	3034.37	368.73
5752.98	568.71	3587.34	404.05
5753.16	648.19	4218.91	439.36
5753.35	734.33	4933.21	474.68
5753.54	826.77	5806.42	500.00

ROUTE MCUNGE ID=5 HYD NO=38.5 INFLOW ID=6
DT=0.0 L=2678 FT NS=0 SLOPE=0.014
MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

INFLOW END= 600 TABLE PTS= 20
DT= .050000 QMED= 92.89 CKMED= 4.2466
WIDTH MED= 89.85 NREACH= 7 DX= 382.57

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.822	.0	2.13	.51	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.19	10.8	14.0	.574	82.3	2.24	1.30	1.054	.014	.986	.033	-.019	2.2	.998	.005	-.003
.38	26.8	61.1	.326	87.5	3.67	2.28	1.727	.036	.974	.276	-.250	34.1	.979	.172	-.151
.57	43.8	133.2	.244	92.8	4.80	3.04	2.259	.056	.966	.397	-.363	94.3	.970	.343	-.313
.75	61.8	227.9	.202	98.1	5.51	3.69	2.591	.079	.957	.455	-.412	178.0	.963	.435	-.398
.94	80.9	334.5	.180	108.4	5.50	4.13	2.586	.105	.943	.458	-.401	279.2	.950	.454	-.404
1.13	103.1	450.8	.170	126.9	5.48	4.37	2.578	.121	.935	.459	-.394	390.8	.934	.441	-.375
1.32	128.8	596.3	.161	145.5	5.89	4.63	2.773	.130	.933	.488	-.421	521.5	.933	.472	-.405
1.51	157.9	773.6	.152	164.0	6.17	4.90	2.902	.143	.929	.506	-.435	682.7	.932	.499	-.431
1.70	190.7	976.4	.145	185.2	6.19	5.12	2.913	.159	.922	.509	-.431	872.8	.925	.506	-.431
1.88	228.2	1204.3	.141	211.9	6.38	5.28	3.000	.166	.920	.520	-.440	1088.1	.916	.503	-.420
2.07	270.4	1485.6	.135	236.4	6.78	5.49	3.190	.173	.921	.542	-.462	1342.3	.922	.535	-.456
2.26	317.3	1807.4	.131	262.8	6.72	5.70	3.160	.191	.912	.540	-.452	1643.8	.918	.545	-.463
2.45	370.2	2148.1	.128	298.1	6.66	5.80	3.136	.202	.907	.539	-.446	1975.3	.903	.527	-.431
2.64	429.7	2555.9	.125	333.4	7.05	5.95	3.319	.203	.910	.558	-.468	2349.1	.908	.548	-.456
2.83	495.9	3034.4	.122	368.7	7.42	6.12	3.493	.207	.912	.574	-.486	2791.8	.911	.566	-.476
3.02	568.7	3587.3	.118	404.0	7.78	6.31	3.661	.213	.913	.590	-.502	3307.1	.912	.582	-.493
3.20	648.2	4218.9	.114	439.4	8.13	6.51	3.825	.221	.913	.604	-.516	3899.0	.912	.596	-.508
3.39	734.3	4933.2	.111	474.7	8.85	6.72	4.162	.219	.918	.628	-.547	4571.6	.912	.610	-.522
3.58	826.8	5806.4	.106	500.0	9.53	7.02	4.484	.228	.920	.650	-.570	5363.7	.924	.648	-.572

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 7 TIMES. AVERAGE NUMBER ITERATIONS = 1.1695

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.822	.0	2.13	.51	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.19	10.8	14.0	.574	82.3	2.16	1.30	1.015	.015	.986	.014	.000	2.2	.995		

```
.005   .000
         .38   26.8     61.1    .326   87.5     2.25   2.28    1.058   .058   .945   .055   .000     34.1    .967
.033   .000
         .57   43.8    133.2    .244   92.8     2.37   3.04    1.113   .113   .898   .102   .000     94.3    .922
.078   .000
         .75   61.8    227.9    .202   98.1     2.50   3.69    1.174   .174   .852   .148   .000    178.0    .875
.125   .000
         .94   80.9    334.5    .180  108.4     2.60   4.13    1.222   .222   .818   .182   .000    279.2    .835
.165   .000
        1.13  103.1    450.8    .170  126.9     2.66   4.37    1.250   .250   .800   .200   .000    390.8    .809
.191   .000
        1.32  128.8    596.3    .161  145.5     2.72   4.63    1.281   .281   .781   .219   .000    521.5    .790
.210   .000
        1.51  157.9    773.6    .152  164.0     2.79   4.90    1.315   .315   .760   .240   .000    682.7    .770
.230   .000
        1.70  190.7    976.4    .145  185.2     2.86   5.12    1.344   .344   .744   .256   .000    872.8    .752
.248   .000
        1.88  228.2   1204.3    .141  211.9     2.90   5.28    1.366   .366   .732   .268   .000   1088.1    .738
.262   .000
        2.07  270.4   1485.6    .135  236.4     2.97   5.49    1.396   .396   .717   .283   .000   1342.3    .724
.276   .000
        2.26  317.3   1807.4    .131  262.8     3.03   5.70    1.424   .424   .702   .298   .000   1643.8    .709
.291   .000
        2.45  370.2   2148.1    .128  298.1     3.06   5.80    1.440   .440   .695   .305   .000   1975.3    .698
.302   .000
        2.64  429.7   2555.9    .125  333.4     3.11   5.95    1.461   .461   .684   .316   .000   2349.1    .689
.311   .000
        2.83  495.9   3034.4    .122  368.7     3.16   6.12    1.486   .486   .673   .327   .000   2791.8    .678
.322   .000
        3.02  568.7   3587.3    .118  404.0     3.22   6.31    1.515   .515   .660   .340   .000   3307.1    .666
.334   .000
        3.20  648.2   4218.9    .114  439.4     3.29   6.51    1.546   .546   .647   .353   .000   3899.0    .653
.347   .000
        3.39  734.3   4933.2    .111  474.7     3.35   6.72    1.578   .578   .634   .366   .000   4571.6    .640
.360   .000
        3.58  826.8   5806.4    .106  500.0     3.46   7.02    1.627   .627   .615   .385   .000   5363.7    .624
.376   .000
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   3 OCCURRED      36 TIMES.  AVERAGE NUMBER ITERATIONS =  1.1138
     Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1,
C2 and C3
     PRINT HYD           ID=5   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    38.50

        RUNOFF VOLUME =      .56801 INCHES     =      21.7813 ACRE-FEET
        PEAK DISCHARGE RATE =     183.99 CFS  AT   2.650 HOURS   BASIN AREA =   .7190 SQ. MI.


     *
     ************************************************************************

     *S*** SUB-BASIN 38A ****
     *
     COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                         NK=2  ISLOPE=-1
                         LENGTH=400 FT   SLOPE=0.010 K=0.7
                         LENGTH=1373 FT  SLOPE=0.008 K=2.0

          Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

          SCS UPLAND METHOD FACTORS
                                   LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
          SHEET FLOW PORTION           400.0           .010000             .7000
          SHALLOW FLOW PORTION        1373.0           .008000            2.0000
          CHANNEL FLOW PORTION           .0            .000000             .0000
          TOTAL BASIN                 1773.0           .008451            1.4404


          TIME OF CONCENTRATION (HRS)=   .3719     TIME TO PEAK (HRS)=   .2480     LAG TIME (HRS)=   .2789

     COMPUTE NM HYD      ID=1   HYD NO=38A   DA= 0.075 SQ MI
                         PER A=100 PER B=0  PER C=0  PER D=0
                         TP=0.0   MASSRAIN=-1
          TIME TO PEAK (hrs)=   .2480

          K =   .310311HR    TP =   .247955HR    K/TP RATIO =  1.251479     SHAPE CONSTANT, N =  2.850611
          UNIT PEAK =   81.489    CFS   UNIT VOLUME =    .9995       B =   269.41      P60 = 1.6900
          AREA =      .075000 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

         BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

     PRINT HYD           ID=1   CODE=1

                                        HYDROGRAPH FROM AREA 38A


        RUNOFF VOLUME =      .40595 INCHES     =       1.6238 ACRE-FEET
        PEAK DISCHARGE RATE =      32.25 CFS  AT   1.600 HOURS   BASIN AREA =   .0750 SQ. MI.
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*S
*********************************************************************
*S ROUTE 38A THRU 38 IN NATURAL ARROYO TO 34.3
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                     MIN ELEV=5742.94   MAX ELEV=5751.34
                      CH SLOPE=0.014    FP SLOPE=0.014
                      N=0.035           DIST=650.0
                      DIST  ELEV    DIST  ELEV
                        0   5751.34   136 5745.99
                                  243     5743.74 326     5742.94
                                  440     5745.94 517     5747.36
                                  650     5743.89


                                   RATING CURVE VALLEY SECTION  1.0
                                      WATER       FLOW        FLOW        TOP
                                    SURFACE       AREA        RATE       WIDTH
                                      ELEV        SQ FT       CFS         FT
                                    5742.94         .00         .00         .00
                                    5743.38       13.84       25.40       62.62
                                    5743.82       55.15      164.47      120.55
                                    5744.27      119.48      469.33      172.75
                                    5744.71      207.91      983.48      227.50
                                    5745.15      320.54     1752.53      282.24
                                    5745.59      457.36     2815.96      336.99
                                    5746.03      618.42     4207.28      392.30
                                    5746.48      803.29     5986.73      444.43
                                    5746.92     1011.20     8159.82      496.57
                                    5747.36     1242.15    10756.41      548.70
                                    5747.80     1487.14    14323.43      560.03
                                    5748.24     1737.10    18312.47      571.26
                                    5748.68     1992.02    22710.20      582.50
                                    5749.13     2251.90    27507.32      593.73
                                    5749.57     2516.75    32696.66      604.96
                                    5750.01     2786.56    38272.65      616.20
                                    5750.45     3061.34    44230.98      627.43
                                    5750.89     3341.08    50568.35      638.67
                                    5751.34     3625.79    57282.28      649.90
ROUTE MCUNGE        ID=2   HYD NO=38.2  INFLOW ID=1
                    DT=0.0   L=3283 FT   NS=0   SLOPE=0.014
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

     INFLOW END= 175           TABLE PTS= 20
     DT=  .050000              QMED=      16.13  CKMED=      1.8358
     WIDTH MED=       39.76    NREACH= 19         DX=      172.79

      DEPTH   AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
       (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
        .00      .0       .0    .688     .0      .96     .82    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
        .44   13.8     25.4    .497   62.6     2.60   1.84    2.706   .065   .966   .470  -.435      4.0    .974
.243  -.218
        .88   55.1    164.5    .306  120.6     4.21   2.98    4.384   .134   .951   .638  -.589     77.2    .955
.564  -.519
       1.33  119.5    469.3    .232  172.8     5.37   3.93    5.596   .209   .939   .706  -.645    297.3    .940
.669  -.609
       1.77  207.9    983.5    .193  227.5     6.39   4.73    6.661   .279   .930   .748  -.678    704.3    .931
.725  -.656
       2.21  320.5   1752.5    .167  282.2     7.36   5.47    7.665   .349   .923   .778  -.701   1343.8    .924
.762  -.686
       2.65  457.4   2816.0    .148  337.0     8.26   6.16    8.600   .418   .916   .800  -.717   2258.1    .918
.789  -.706
       3.09  618.4   4207.3    .134  392.3     9.15   6.80    9.530   .485   .912   .818  -.730   3483.8    .912
.808  -.720
       3.54  803.3   5986.7    .122  444.4    10.07   7.45   10.495   .553   .908   .834  -.742   5066.8    .910
.827  -.736
       3.98 1011.2   8159.8    .113  496.6    10.88   8.07   11.333   .624   .904   .846  -.749   7041.8    .905
.840  -.745
       4.42 1242.2  10756.4    .105  548.7    12.59   8.66   13.111   .644   .913   .864  -.777   9425.4    .901
.850  -.751
       4.86 1487.1  14323.4    .095  560.0    15.28   9.63   15.921   .692   .921   .886  -.808  12490.4    .924
.881  -.805
       5.30 1737.1  18312.5    .087  571.3    16.63  10.54   17.320   .797   .917   .895  -.812  16270.8    .919
.891  -.810
       5.74 1992.0  22710.2    .080  582.5    17.87  11.40   18.619   .902   .912   .903  -.815  20466.2    .914
.899  -.813
       6.19 2251.9  27507.3    .075  593.7    19.04  12.22   19.837  1.006   .908   .908  -.816  25065.2    .910
.906  -.815
       6.63 2516.8  32696.7    .070  605.0    20.14  12.99   20.985  1.109   .904   .913  -.817  30059.9    .906
.911  -.817
       7.07 2786.6  38272.6    .066  616.2    21.19  13.73   22.073  1.212   .900   .918  -.818  35443.8    .902
.916  -.818
       7.51 3061.3  44231.0    .063  627.4    22.18  14.45   23.107  1.314   .897   .921  -.818  41212.0    .898
.920  -.818
       7.95 3341.1  50568.3    .060  638.7    23.13  15.14   24.095  1.415   .893   .925  -.818  47360.7    .895
.923  -.818
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        8.40 3625.8  57282.3    .058  649.9    23.89  15.80   24.892  1.525   .889   .927  -.816  53887.2    .892
.926  -.818
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   6 OCCURRED       2 TIMES.  AVERAGE NUMBER ITERATIONS =  1.0825
       DEPTH   AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
        (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
          .00     .0       .0    .688     .0      .96    .82    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
          .44   13.8     25.4    .497   62.6     1.11   1.84    1.152   .152   .868   .132   .000      4.0    .950
.050   .000
          .88   55.1    164.5    .306  120.6     1.36   2.98    1.415   .415   .707   .293   .000     77.2    .779
.221   .000
         1.33  119.5    469.3    .232  172.8     1.62   3.93    1.692   .692   .591   .409   .000    297.3    .641
.359   .000
         1.77  207.9    983.5    .193  227.5     1.87   4.73    1.953   .953   .512   .488   .000    704.3    .547
.453   .000
         2.21  320.5   1752.5    .167  282.2     2.12   5.47    2.210  1.210   .452   .548   .000   1343.8    .479
.521   .000
         2.65  457.4   2816.0    .148  337.0     2.36   6.16    2.462  1.462   .406   .594   .000   2258.1    .427
.573   .000
         3.09  618.4   4207.3    .134  392.3     2.60   6.80    2.706  1.706   .369   .631   .000   3483.8    .386
.614   .000
         3.54  803.3   5986.7    .122  444.4     2.84   7.45    2.960  1.960   .338   .662   .000   5066.8    .352
.648   .000
         3.98 1011.2   8159.8    .113  496.6     3.08   8.07    3.207  2.207   .312   .688   .000   7041.8    .324
.676   .000
         4.42 1242.2  10756.4    .105  548.7     3.31   8.66    3.448  2.448   .290   .710   .000   9425.4    .300
.700   .000
         4.86 1487.1  14323.4    .095  560.0     3.70   9.63    3.856  2.856   .259   .741   .000  12490.4    .274
.726   .000
         5.30 1737.1  18312.5    .087  571.3     4.08  10.54    4.249  3.249   .235   .765   .000  16270.8    .247
.753   .000
         5.74 1992.0  22710.2    .080  582.5     4.44  11.40    4.628  3.628   .216   .784   .000  20466.2    .225
.775   .000
         6.19 2251.9  27507.3    .075  593.7     4.79  12.22    4.995  3.995   .200   .800   .000  25065.2    .208
.792   .000
         6.63 2516.8  32696.7    .070  605.0     5.14  12.99    5.350  4.350   .187   .813   .000  30059.9    .193
.807   .000
         7.07 2786.6  38272.6    .066  616.2     5.47  13.73    5.696  4.696   .176   .824   .000  35443.8    .181
.819   .000
         7.51 3061.3  44231.0    .063  627.4     5.79  14.45    6.032  5.032   .166   .834   .000  41212.0    .170
.830   .000
         7.95 3341.1  50568.3    .060  638.7     6.11  15.14    6.361  5.361   .157   .843   .000  47360.7    .161
.839   .000
         8.40 3625.8  57282.3    .058  649.9     6.41  15.80    6.681  5.681   .150   .850   .000  53887.2    .153
.847   .000
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   3 OCCURRED      33 TIMES.  AVERAGE NUMBER ITERATIONS =  1.0467
     Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1,
C2 and C3
     PRINT HYD           ID=2   CODE=1

                                          OUTFLOW HYDROGRAPH REACH    38.20


         RUNOFF VOLUME =      .39689 INCHES     =       1.5875 ACRE-FEET
         PEAK DISCHARGE RATE =      30.10 CFS  AT   2.450 HOURS   BASIN AREA =   .0750 SQ. MI.


     *
     ************************************************************************


     *S  ADD 38.2 TO 38.5 TO GET 34.3
     *S
     ADD HYD             ID=3  HYD NO=34.3 ID I=2 ID II=5
     PRINT HYD           ID=3   CODE=1

                                          OUTFLOW HYDROGRAPH REACH    34.30


         RUNOFF VOLUME =      .55185 INCHES     =      23.3688 ACRE-FEET
         PEAK DISCHARGE RATE =     206.42 CFS  AT   2.600 HOURS   BASIN AREA =   .7940 SQ. MI.


     *
     *S
     ************************************************************************
     *S*** SUB-BASIN 38 ****
     *
     COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                         NK=3  ISLOPE=-1
                         LENGTH=400 FT   SLOPE=0.012 K=0.7
                         LENGTH=1600 FT  SLOPE=0.022 K=2.0
                         LENGTH=960 FT   SLOPE=0.012 K=3.0


          Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

          SCS UPLAND METHOD FACTORS
```

	LENGTH (FT)	SLOPE (FT/FT)	COMPOSITE K
SHEET FLOW PORTION	400.0	.012000	.7000
SHALLOW FLOW PORTION	1600.0	.022000	2.0000
CHANNEL FLOW PORTION	960.0	.012000	3.0000
TOTAL BASIN	2960.0	.017405	1.6581

TIME OF CONCENTRATION (HRS)= .3759 TIME TO PEAK (HRS)= .2506 LAG TIME (HRS)= .2819

```
COMPUTE NM HYD      ID=1   HYD NO=38   DA= 0.131 SQ MI
                    PER A=96 PER B=4  PER C=0  PER D=0
                    TP=0.0   MASSRAIN=-1
```

TIME TO PEAK (hrs)= .2506

K = .299622HR TP = .250578HR K/TP RATIO = 1.195727 SHAPE CONSTANT, N = 2.970919
UNIT PEAK = 146.09 CFS UNIT VOLUME = .9998 B = 279.44 P60 = 1.6900
AREA = .131000 SQ MI IA = .64400 INCHES INF = 1.65320 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

BULKING FACTOR APPLIED TO HYDROGRAPH. FACTOR = 1.05000 AT PEAK FLOW.

```
PRINT HYD           ID=1   CODE=1
```

OUTFLOW HYDROGRAPH REACH 38.00

RUNOFF VOLUME = .41348 INCHES = 2.8888 ACRE-FEET
PEAK DISCHARGE RATE = 58.62 CFS AT 1.600 HOURS BASIN AREA = .1310 SQ. MI.

```
*S
**************************************************************************
*S  ADD 38 TO 34.3 TO GET 38.4
*S
ADD HYD             ID=4  HYD NO=38.4 ID I=1 ID II=3
PRINT HYD           ID=4   CODE=1
```

OUTFLOW HYDROGRAPH REACH 38.40

RUNOFF VOLUME = .53225 INCHES = 26.2576 ACRE-FEET
PEAK DISCHARGE RATE = 211.05 CFS AT 2.600 HOURS BASIN AREA = .9250 SQ. MI.

```
*
*S
**************************************************************************

*S ROUTE 38.4 THRU 42 IN NATURAL ARROYO TO 42.3
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5692.77   MAX ELEV=5703.76
                      CH SLOPE=0.03    FP SLOPE=0.03
                      N=0.035           DIST=500.0
                      DIST  ELEV    DIST  ELEV
                        0   5703.76   112 5700.06
                                  214     5695.01 251     5692.77
                                  288     5695.93 348     5700.22
                                  410     5701.04 500     5702.54
```

RATING CURVE VALLEY SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH FT
5692.77	.00	.00	.00
5693.35	4.73	15.17	16.33
5693.93	18.90	96.35	32.67
5694.51	42.53	284.07	49.00
5695.08	75.61	610.21	65.61
5695.66	118.92	1100.15	84.07
5696.24	173.01	1792.22	103.24
5696.82	238.47	2722.26	123.02
5697.40	315.37	3927.34	142.80
5697.98	403.71	5436.44	162.57
5698.56	503.50	7277.25	182.35
5699.13	614.74	9476.35	202.13
5699.71	737.42	12059.36	221.91
5700.29	871.97	14789.60	248.45
5700.87	1033.45	16951.72	309.72
5701.45	1229.08	20301.36	364.60
5702.03	1455.16	24604.75	416.84
5702.61	1711.32	29971.46	465.09
5703.19	1985.49	37460.37	482.60
5703.76	2269.80	45728.79	500.00

```
ROUTE MCUNGE        ID=6   HYD NO=42.6  INFLOW ID=4
                    DT=0.0   L=4626 FT   NS=0   SLOPE=0.030
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
```

INFLOW END= 600 TABLE PTS= 20
DT= .050000 QMED= 105.52 CKMED= 7.9453
WIDTH MED= 33.46 NREACH= 7 DX= 660.86

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.548	.0	3.67	1.48	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.58	4.7	15.2	.400	16.3	4.48	3.21	1.220	.010	.991	.103	-.094	2.4	.999	.016	-.015
1.16	18.9	96.3	.252	32.7	7.09	5.10	1.931	.021	.986	.323	-.308	45.2	.987	.209	-.196
1.74	42.5	284.1	.192	49.0	9.08	6.68	2.473	.032	.982	.429	-.411	177.3	.982	.369	-.351
2.31	75.6	610.2	.159	65.6	10.77	8.07	2.934	.044	.978	.497	-.475	432.5	.979	.460	-.439
2.89	118.9	1100.1	.139	84.1	12.17	9.25	3.315	.054	.975	.542	-.517	838.9	.976	.514	-.490
3.47	173.0	1792.2	.124	103.2	13.59	10.36	3.702	.064	.973	.580	-.553	1428.3	.973	.558	-.532
4.05	238.5	2722.3	.113	123.0	15.01	11.42	4.088	.074	.971	.613	-.584	2237.5	.971	.594	-.566
4.63	315.4	3927.3	.103	142.8	16.44	12.45	4.477	.084	.970	.640	-.610	3303.2	.970	.625	-.595
5.21	403.7	5436.4	.095	162.6	17.82	13.47	4.854	.095	.968	.664	-.632	4658.7	.969	.651	-.620
5.79	503.5	7277.3	.089	182.4	19.16	14.45	5.218	.105	.967	.684	-.650	6332.1	.967	.673	-.640
6.36	614.7	9476.3	.083	202.1	20.46	15.42	5.572	.116	.965	.701	-.666	8350.7	.966	.692	-.658
6.94	737.4	12059.4	.079	221.9	20.80	16.35	5.665	.132	.961	.706	-.667	10740.4	.965	.708	-.673
7.52	872.0	14789.6	.076	248.4	17.21	16.96	4.686	.175	.940	.659	-.599	13401.5	.957	.697	-.654
8.10	1033.5	16951.7	.078	309.7	15.36	16.40	4.182	.180	.933	.627	-.560	15855.6	.911	.587	-.499
8.68	1229.1	20301.4	.078	364.6	18.12	16.52	4.937	.155	.949	.672	-.621	18601.2	.944	.657	-.601
9.26	1455.2	24604.8	.076	416.8	20.02	16.91	5.452	.149	.955	.697	-.652	22419.1	.952	.684	-.636
9.84	1711.3	29971.5	.073	465.1	23.67	17.51	6.448	.137	.964	.736	-.700	27244.2	.957	.709	-.666
10.42	1985.5	37460.4	.068	482.6	28.23	18.87	7.690	.139	.969	.773	-.742	33638.8	.969	.767	-.736
10.99	2269.8	45728.8	.064	500.0	29.60	20.15	8.062	.156	.966	.783	-.749	41519.4	.968	.779	-.747

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 4 TIMES. AVERAGE NUMBER ITERATIONS = 1.2118

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.548	.0	3.67	1.48	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.58	4.7	15.2	.400	16.3	3.72	3.21	1.013	.013	.988	.012	.000	2.4	.996	.004	.000
1.16	18.9	96.3	.252	32.7	3.81	5.10	1.039	.039	.962	.038	.000	45.2	.976	.024	.000
1.74	42.5	284.1	.192	49.0	3.94	6.68	1.074	.074	.931	.069	.000	177.3	.947	.053	.000
2.31	75.6	610.2	.159	65.6	4.09	8.07	1.115	.115	.897	.103	.000	432.5	.913	.087	.000
2.89	118.9	1100.1	.139	84.1	4.24	9.25	1.156	.156	.865	.135	.000	838.9	.881	.119	.000
3.47	173.0	1792.2	.124	103.2	4.40	10.36	1.199	.199	.834	.166	.000	1428.3	.849	.151	.000
4.05	238.5	2722.3	.113	123.0	4.57	11.42	1.244	.244	.804	.196	.000	2237.5	.818	.182	.000
4.63	315.4	3927.3	.103	142.8	4.74	12.45	1.292	.292	.774	.226	.000	3303.2	.788	.212	.000
5.21	403.7	5436.4	.095	162.6	4.93	13.47	1.342	.342	.745	.255	.000	4658.7	.759	.241	.000
5.79	503.5	7277.3	.089	182.4	5.12	14.45	1.393	.393	.718	.282	.000	6332.1	.731	.269	.000
6.36	614.7	9476.3	.083	202.1	5.31	15.42	1.446	.446	.692	.308	.000	8350.7	.704	.296	.000
6.94	737.4	12059.4	.079	221.9	5.50	16.35	1.498	.498	.667	.333	.000	10740.4	.679	.321	.000
7.52	872.0	14789.6	.076	248.4	5.63	16.96	1.533	.533	.652	.348	.000	13401.5	.659	.341	.000
8.10	1033.5	16951.7	.078	309.7	5.51	16.40	1.501	.501	.666	.334	.000	15855.6	.660	.340	.000
8.68	1229.1	20301.4	.078	364.6	5.53	16.52	1.507	.507	.663	.337	.000	18601.2	.665	.335	.000
9.26	1455.2	24604.8	.076	416.8	5.62	16.91	1.530	.530	.654	.346	.000	22419.1	.658	.342	.000
9.84	1711.3	29971.5	.073	465.1	5.75	17.51	1.566	.566	.639	.361	.000	27244.2	.646	.354	.000
10.42	1985.5	37460.4	.068	482.6	6.05	18.87	1.647	.647	.607	.393	.000	33638.8	.622	.378	.000
10.99	2269.8	45728.8	.064	500.0	6.34	20.15	1.727	.727	.579	.421	.000	41519.4	.592	.408	.000

```
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   3 OCCURRED      10 TIMES.  AVERAGE NUMBER ITERATIONS =  1.1175
     Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1,
C2 and C3
     PRINT HYD           ID=6   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    42.60


         RUNOFF VOLUME =      .53178 INCHES     =      26.2341 ACRE-FEET
         PEAK DISCHARGE RATE =     210.37 CFS  AT   2.950 HOURS   BASIN AREA =   .9250 SQ. MI.



     *
     ***********************************************************************

     *S*** SUB-BASIN 42 ****
     *
     COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                         NK=3  ISLOPE=-1
                         LENGTH=400 FT   SLOPE=0.020 K=0.7
                         LENGTH=1600 FT  SLOPE=0.025 K=2.0
                         LENGTH=4881 FT   SLOPE=0.030 K=3.0
                         Kn=.033  CR=.5

          Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

          SCS UPLAND METHOD FACTORS
                                  LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
          SHEET FLOW PORTION         400.0           .020000             .7000
          SHALLOW FLOW PORTION      1600.0           .025000            2.0000
          CHANNEL FLOW PORTION      4881.0           .030000            3.0000
          TOTAL BASIN               6881.0           .028256            2.2135


          LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=      6881.0
          TOTAL BASIN SLOPE (FT/FT)=    .028256     CENTROUD LENGTH (FT)=         3440.5


          TIME OF CONCENTRATION (HRS)=   .4378     TIME TO PEAK (HRS)=   .2919     LAG TIME (HRS)=   .3283

     COMPUTE NM HYD      ID=1   HYD NO=42   DA= 0.576 SQ MI
                         PER A=90 PER B=0  PER C=10  PER D=0
                         TP=0.0   MASSRAIN=-1
          TIME TO PEAK (hrs)=   .2919

          K =   .300133HR    TP =   .291863HR    K/TP RATIO =  1.028333     SHAPE CONSTANT, N =  3.432684
          UNIT PEAK =   622.42    CFS   UNIT VOLUME =    1.000       B =   315.38      P60 = 1.6900
          AREA =      .576000 SQ MI    IA =    .62000 INCHES    INF =   1.58600 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

         BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

     PRINT HYD           ID=1   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    42.00


         RUNOFF VOLUME =      .44411 INCHES     =      13.6431 ACRE-FEET
         PEAK DISCHARGE RATE =     269.27 CFS  AT   1.650 HOURS   BASIN AREA =   .5760 SQ. MI.



     *
     *S
     ***********************************************************************
     *S  ADD 42 TO 38.9 TO GET 42.3
     *S
     ADD HYD             ID=3  HYD NO=42.3 ID I=1 ID II=6
     PRINT HYD           ID=3   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    42.30


         RUNOFF VOLUME =      .49814 INCHES     =      39.8773 ACRE-FEET
         PEAK DISCHARGE RATE =     269.32 CFS  AT   1.650 HOURS   BASIN AREA =  1.5010 SQ. MI.



     *
     *S
     ***********************************************************************
     *S*** SUB-BASIN 42A ****
     *
     COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                         NK=3  ISLOPE=-1
                         LENGTH=400 FT   SLOPE=0.055 K=0.7
                         LENGTH=1600 FT  SLOPE=0.040 K=2.0
                         LENGTH=2240 FT   SLOPE=0.033 K=3.0
                         Kn=.033  CR=.5
```

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     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                              LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION           400.0           .055000             .7000
     SHALLOW FLOW PORTION        1600.0           .040000            2.0000
     CHANNEL FLOW PORTION        2240.0           .033000            3.0000
     TOTAL BASIN                 4240.0           .037717            2.0700


     LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=      4240.0
     TOTAL BASIN SLOPE (FT/FT)=    .037717     CENTROUD LENGTH (FT)=         2120.0


     TIME OF CONCENTRATION (HRS)=   .2877     TIME TO PEAK (HRS)=   .1918     LAG TIME (HRS)=   .2158

COMPUTE NM HYD      ID=1   HYD NO=42A   DA= 0.317 SQ MI
                    PER A=90 PER B=0  PER C=10  PER D=0
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .1918

     K =   .197227HR    TP =   .191793HR    K/TP RATIO =  1.028333     SHAPE CONSTANT, N =  3.432684
     UNIT PEAK =   521.27    CFS   UNIT VOLUME =    1.000       B =   315.38      P60 = 1.6900
     AREA =      .317000 SQ MI    IA =    .62000 INCHES    INF =   1.58600 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=1   CODE=1

                                        HYDROGRAPH FROM AREA 42A


    RUNOFF VOLUME =      .44411 INCHES     =       7.5084 ACRE-FEET
    PEAK DISCHARGE RATE =     217.62 CFS  AT   1.550 HOURS   BASIN AREA =   .3170 SQ. MI.



*
*S
**************************************************************************
*S  ADD 42 TO 38.9 TO GET 42A.4
*S
ADD HYD             ID=4  HYD NO=42A.4 ID I=1 ID II=3
PRINT HYD           ID=4   CODE=1

                                        HYDROGRAPH FROM AREA 42A.4


    RUNOFF VOLUME =      .48872 INCHES     =      47.3857 ACRE-FEET
    PEAK DISCHARGE RATE =     465.40 CFS  AT   1.600 HOURS   BASIN AREA =  1.8180 SQ. MI.



*
*S
**************************************************************************
*S ROUTE 42A.4 THRU UPPER 41B IN NATURAL ARROYO TO 41B.52
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5556.25   MAX ELEV=5561.32
                      CH SLOPE=0.0195    FP SLOPE=0.0195
                      N=0.035           DIST=400.0
                      DIST  ELEV    DIST  ELEV
                        0   5561.13   62 5558.07
                                  199     5556.25 288     5558.06
                                  400     5561.32


                                   RATING CURVE VALLEY SECTION  1.0
                                      WATER       FLOW        FLOW        TOP
                                     SURFACE      AREA        RATE        WIDTH
                                      ELEV        SQ FT       CFS         FT
                                    5556.25         .00         .00         .00
                                    5556.52        4.42        6.84       33.18
                                    5556.78       17.69       43.44       66.36
                                    5557.05       39.81      128.09       99.54
                                    5557.32       70.76      275.85      132.72
                                    5557.58      110.57      500.15      165.90
                                    5557.85      159.22      813.30      199.07
                                    5558.12      216.63     1238.07      228.87
                                    5558.38      279.59     1817.78      243.43
                                    5558.65      346.43     2499.58      257.99
                                    5558.92      417.15     3284.18      272.55
                                    5559.18      491.76     4172.95      287.12
                                    5559.45      570.25     5167.68      301.68
                                    5559.72      652.61     6270.46      316.24
                                    5559.98      738.86     7483.55      330.80
                                    5560.25      829.00     8809.37      345.36
                                    5560.52      923.01    10250.39      359.92
```

5560.78 1020.91 11809.18 374.49
5561.05 1122.69 13488.33 389.05
5561.32 1228.00 15378.95 399.85

ROUTE MCUNGE ID=51 HYD NO=41B.51 INFLOW ID=4
DT=0.0 L=2296 FT NS=0 SLOPE=0.0195
MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

INFLOW END= 600 TABLE PTS= 20
DT= .050000 QMED= 232.70 CKMED= 4.7728
WIDTH MED= 123.03 NREACH= 6 DX= 382.67

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.565	.0	2.13	.71	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.27	4.4	6.8	.412	33.2	2.16	1.55	1.015	.013	.987	.014	-.001	1.1	.998	.002	.000
.53	17.7	43.4	.260	66.4	3.42	2.46	1.607	.026	.980	.240	-.221	20.4	.982	.122	-.104
.80	39.8	128.1	.198	99.5	4.38	3.22	2.062	.039	.975	.355	-.330	79.9	.976	.289	-.265
1.07	70.8	275.8	.164	132.7	5.27	3.90	2.477	.053	.970	.433	-.403	195.3	.971	.390	-.361
1.33	110.6	500.1	.141	165.9	6.08	4.52	2.862	.066	.966	.491	-.457	380.7	.967	.460	-.427
1.60	159.2	813.3	.125	199.1	6.94	5.11	3.266	.079	.964	.540	-.503	648.8	.964	.511	-.475
1.87	216.6	1238.1	.112	228.9	8.19	5.72	3.851	.089	.964	.595	-.559	1016.8	.963	.564	-.526
2.13	279.6	1817.8	.098	243.4	9.74	6.50	4.580	.103	.964	.648	-.612	1517.2	.966	.631	-.597
2.40	346.4	2499.6	.088	258.0	10.67	7.22	5.021	.122	.960	.674	-.635	2148.4	.962	.662	-.623
2.67	417.2	3284.2	.081	272.6	11.53	7.87	5.422	.140	.957	.695	-.653	2881.9	.959	.685	-.644
2.93	491.8	4172.9	.075	287.1	12.31	8.49	5.792	.158	.954	.712	-.667	3718.8	.956	.704	-.659
3.20	570.2	5167.7	.070	301.7	13.05	9.06	6.138	.176	.952	.727	-.678	4660.7	.953	.719	-.672
3.47	652.6	6270.5	.066	316.2	13.74	9.61	6.464	.193	.950	.739	-.688	5709.6	.951	.733	-.683
3.73	738.9	7483.6	.063	330.8	14.40	10.13	6.774	.211	.947	.750	-.697	6867.6	.948	.744	-.692
4.00	829.0	8809.4	.060	345.4	15.03	10.63	7.071	.227	.945	.759	-.704	8137.1	.946	.754	-.700
4.27	923.0	10250.4	.057	359.9	15.64	11.11	7.356	.244	.943	.767	-.711	9520.5	.944	.763	-.707
4.53	1020.9	11809.2	.055	374.5	16.22	11.57	7.631	.261	.941	.775	-.716	11020.5	.942	.771	-.713
4.80	1122.7	13488.3	.053	389.0	17.19	12.01	8.084	.270	.942	.786	-.728	12639.4	.940	.778	-.719
5.07	1228.0	15378.9	.051	399.8	18.14	12.52	8.532	.284	.942	.796	-.738	14422.8	.944	.794	-.738

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 5 OCCURRED 3 TIMES. AVERAGE NUMBER ITERATIONS = 1.2341
Equations solved using the Ponce correction to C2
PRINT HYD ID=51 CODE=1

HYDROGRAPH FROM AREA 41B.51

RUNOFF VOLUME = .48956 INCHES = 47.4675 ACRE-FEET
PEAK DISCHARGE RATE = 461.26 CFS AT 1.750 HOURS BASIN AREA = 1.8180 SQ. MI.

*
****
*S ROUTE 41B.52 THRU MID 41B IN NATURAL ARROYO TO 41B.5
*
COMPUTE RATING CURVE CID=1 VS NO=1 NO SEGS=1
MIN ELEV=5482.02 MAX ELEV=5532.32
CH SLOPE=0.18 FP SLOPE=0.18
N=0.035 DIST=400.0
DIST ELEV DIST ELEV
0 5530.30 53 5531.12
112 5527.73 199 5482.02
294 5527.84 400 5532.32

RATING CURVE VALLEY SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH FT
5482.02	.00	.00	.00
5484.67	13.94	280.70	10.53
5487.31	55.74	1782.35	21.06
5489.96	125.43	5254.98	31.58
5492.61	222.98	11317.26	42.11
5495.26	348.41	20519.57	52.64

5497.90	501.70	33367.11	63.17
5500.55	682.88	50331.93	73.70
5503.20	891.92	71860.30	84.22
5505.85	1128.84	98377.54	94.75
5508.49	1393.62	130291.50	105.28
5511.14	1686.29	167995.10	115.81
5513.79	2006.82	211868.50	126.34
5516.44	2355.23	262280.10	136.86
5519.08	2731.50	319588.60	147.39
5521.73	3135.66	384143.30	157.92
5524.38	3567.68	456285.50	168.45
5527.03	4027.57	536348.80	178.98
5529.67	4580.97	530426.50	259.24
5532.32	5484.07	546080.90	400.00

```
ROUTE MCUNGE        ID=52   HYD NO=41B.52  INFLOW ID=51
                    DT=0.0   L=370 FT   NS=0   SLOPE=0.18
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
     ZERO VALUE HYDROGRAPH OR SHORT ROUTE - ROUTING BYPASSED
PRINT HYD           ID=52   CODE=1

                                    HYDROGRAPH FROM AREA 41B.52


    RUNOFF VOLUME =      .48956 INCHES     =      47.4675 ACRE-FEET
    PEAK DISCHARGE RATE =     461.26 CFS  AT   1.750 HOURS   BASIN AREA =  1.8180 SQ. MI.



*
**********************************************************************
*S ROUTE 41B.5 THRU LOWER 41B IN NATURAL ARROYO TO 41B.3
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5451.32   MAX ELEV=5462.04
                      CH SLOPE=0.016    FP SLOPE=0.016
                      N=0.035           DIST=300.0
                      DIST  ELEV    DIST  ELEV
                        0   5462.04   103 5452.05
                                150     5451.32 219     5452.73
                                300     5457.13
```

RATING CURVE VALLEY SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH FT
5451.32	.00	.00	.00
5451.88	18.05	41.71	63.96
5452.45	67.90	270.34	106.35
5453.01	136.15	749.36	131.15
5453.58	214.75	1481.67	147.36
5454.14	302.50	2446.09	163.57
5454.71	399.40	3649.30	179.78
5455.27	505.45	5100.70	195.99
5455.84	620.65	6810.93	212.20
5456.40	745.01	8791.24	228.41
5456.96	878.51	11053.14	244.62
5457.53	1019.70	13836.65	253.49
5458.09	1164.42	17002.18	259.31
5458.66	1312.43	20448.90	265.13
5459.22	1463.73	24173.38	270.95
5459.79	1618.31	28173.12	276.77
5460.35	1776.17	32446.41	282.59
5460.92	1937.32	36992.16	288.41
5461.48	2101.76	41809.76	294.23
5462.04	2269.47	46903.77	300.00

```
ROUTE MCUNGE        ID=5   HYD NO=41B.5  INFLOW ID=52
                    DT=0.0   L=1760 FT   NS=0   SLOPE=0.016
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

    INFLOW END= 600            TABLE PTS= 20
    DT=  .050000               QMED=      230.63  CKMED=      4.5862
    WIDTH MED=       98.99     NREACH=  5         DX=       352.00
```

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.300	.0	1.96	.94	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.56	18.1	41.7	.212	64.0	3.34	2.31	1.707	.035	.975	.270	-.245	6.6	.981	.006	.012
1.13	67.9	270.3	.123	106.4	5.96	3.98	3.048	.076	.963	.515	-.478	129.3	.967	.420	-.387
1.69	136.1	749.4	.089	131.1	8.25	5.50	4.217	.123	.954	.625	-.579	482.6	.957	.578	-.536
2.26	214.7	1481.7	.071	147.4	10.25	6.90	5.242	.174	.946	.688	-.634	1089.7	.949	.662	-.611
2.82	302.5	2446.1	.060	163.6	11.78	8.09	6.022	.225	.938	.724	-.662	1939.5	.941	.707	-.647
3.39	399.4	3649.3	.054	179.8	13.11	9.14	6.703	.275	.931	.749	-.680	3024.0	.934		

```
.737  -.670
        3.95  505.5   5100.7    .048  196.0    14.31  10.09    7.319   .323   .925   .769  -.694   4351.6    .927
.759  -.686
        4.52  620.7   6810.9    .045  212.2    15.43  10.97    7.888   .369   .920   .784  -.704   5932.6    .922
.776  -.698
        5.08  745.0   8791.2    .041  228.4    16.47  11.80    8.422   .415   .916   .797  -.712   7777.8    .917
.790  -.708
        5.64  878.5  11053.1    .039  244.6    18.20  12.58    9.306   .441   .918   .814  -.732   9898.8    .913
.802  -.715
        6.21 1019.7  13836.6    .036  253.5    20.77  13.57   10.622   .467   .923   .835  -.757  12415.5    .923
.827  -.750
        6.77 1164.4  17002.2    .033  259.3    22.60  14.60   11.559   .515   .921   .847  -.768  15388.5    .923
.842  -.765
        7.34 1312.4  20448.9    .031  265.1    23.97  15.58   12.259   .571   .917   .855  -.773  18695.7    .919
.851  -.770
        7.90 1463.7  24173.4    .030  270.9    25.27  16.51   12.920   .627   .914   .863  -.776  22282.2    .915
.859  -.774
        8.47 1618.3  28173.1    .028  276.8    26.49  17.41   13.546   .682   .910   .869  -.779  26145.0    .912
.866  -.778
        9.03 1776.2  32446.4    .027  282.6    27.66  18.27   14.142   .737   .907   .874  -.781  30282.2    .909
.871  -.780
        9.60 1937.3  36992.2    .026  288.4    28.77  19.09   14.711   .792   .904   .879  -.783  34692.3    .905
.876  -.782
       10.16 2101.8  41809.8    .025  294.2    29.85  19.89   15.264   .845   .901   .883  -.784  39374.5    .902
.881  -.783
       10.72 2269.5  46903.8    .024  300.0    30.69  20.67   15.692   .905   .897   .886  -.784  44330.6    .900
.885  -.785
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   7 OCCURRED       1 TIMES.  AVERAGE NUMBER ITERATIONS =  1.2231
       DEPTH   AREA      Q    TRAVEL  WIDTH     ck       VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
        (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                              (CFS)
         .00     .0       .0    .300     .0     1.96    .94    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
          .56   18.1     41.7    .212   64.0     2.07   2.31    1.056   .056   .947   .053   .000      6.6    .981
.006   .012
         1.13   67.9    270.3    .123  106.4     2.33   3.98    1.193   .193   .838   .162   .000    129.3    .891
.109   .000
         1.69  136.1    749.4    .089  131.1     2.69   5.50    1.377   .377   .726   .274   .000    482.6    .777
.223   .000
         2.26  214.7   1481.7    .071  147.4     3.09   6.90    1.578   .578   .634   .366   .000   1089.7    .676
.324   .000
         2.82  302.5   2446.1    .060  163.6     3.46   8.09    1.768   .768   .566   .434   .000   1939.5    .597
.403   .000
         3.39  399.4   3649.3    .054  179.8     3.81   9.14    1.947   .947   .514   .486   .000   3024.0    .538
.462   .000
         3.95  505.5   5100.7    .048  196.0     4.14  10.09    2.116  1.116   .472   .528   .000   4351.6    .492
.508   .000
         4.52  620.7   6810.9    .045  212.2     4.46  10.97    2.279  1.279   .439   .561   .000   5932.6    .455
.545   .000
         5.08  745.0   8791.2    .041  228.4     4.76  11.80    2.435  1.435   .411   .589   .000   7777.8    .424
.576   .000
         5.64  878.5  11053.1    .039  244.6     5.06  12.58    2.586  1.586   .387   .613   .000   9898.8    .398
.602   .000
         6.21 1019.7  13836.6    .036  253.5     5.44  13.57    2.782  1.782   .359   .641   .000  12415.5    .372
.628   .000
         6.77 1164.4  17002.2    .033  259.3     5.85  14.60    2.991  1.991   .334   .666   .000  15388.5    .346
.654   .000
         7.34 1312.4  20448.9    .031  265.1     6.24  15.58    3.193  2.193   .313   .687   .000  18695.7    .323
.677   .000
         7.90 1463.7  24173.4    .030  270.9     6.63  16.51    3.390  2.390   .295   .705   .000  22282.2    .304
.696   .000
         8.47 1618.3  28173.1    .028  276.8     7.00  17.41    3.581  2.581   .279   .721   .000  26145.0    .287
.713   .000
         9.03 1776.2  32446.4    .027  282.6     7.37  18.27    3.767  2.767   .265   .735   .000  30282.2    .272
.728   .000
         9.60 1937.3  36992.2    .026  288.4     7.72  19.09    3.949  2.949   .253   .747   .000  34692.3    .259
.741   .000
        10.16 2101.8  41809.8    .025  294.2     8.07  19.89    4.127  3.127   .242   .758   .000  39374.5    .248
.752   .000
        10.72 2269.5  46903.8    .024  300.0     8.41  20.67    4.301  3.301   .233   .767   .000  44330.6    .237
.763   .000
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   4 OCCURRED       6 TIMES.  AVERAGE NUMBER ITERATIONS =  1.1492
     Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1,
C2 and C3
     PRINT HYD           ID=5   CODE=1

                                          HYDROGRAPH FROM AREA 41B.5


        RUNOFF VOLUME =      .48663 INCHES     =      47.1835 ACRE-FEET
        PEAK DISCHARGE RATE =     452.72 CFS  AT   1.900 HOURS   BASIN AREA =  1.8180 SQ. MI.



     *
     **********************************************************************

     *S*** SUB-BASIN 41B ****
     *
     COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
```

```
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.020 K=0.7
                    LENGTH=1600 FT  SLOPE=0.020 K=2.0
                    LENGTH=2167 FT   SLOPE=0.044 K=3.0
                    Kn=.033  CR=.5

     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                              LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION          400.0           .020000             .7000
     SHALLOW FLOW PORTION       1600.0           .020000            2.0000
     CHANNEL FLOW PORTION       2167.0           .044000            3.0000
     TOTAL BASIN                4167.0           .032481            1.7595


     LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=      4167.0
     TOTAL BASIN SLOPE (FT/FT)=    .032481     CENTROUD LENGTH (FT)=         2083.5


     TIME OF CONCENTRATION (HRS)=   .3571     TIME TO PEAK (HRS)=   .2380     LAG TIME (HRS)=   .2678

COMPUTE NM HYD      ID=1   HYD NO=41B   DA= 0.137 SQ MI
                    PER A=70 PER B=0  PER C=30  PER D=0
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .2380

     K =   .256256HR    TP =   .238041HR    K/TP RATIO =  1.076520     SHAPE CONSTANT, N =  3.281296
     UNIT PEAK =   174.97    CFS   UNIT VOLUME =    1.000       B =   304.01      P60 = 1.6900
     AREA =      .137000 SQ MI    IA =    .56000 INCHES    INF =   1.41800 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=1   CODE=1

                                        HYDROGRAPH FROM AREA 41B


    RUNOFF VOLUME =      .52701 INCHES     =       3.8507 ACRE-FEET
    PEAK DISCHARGE RATE =      87.53 CFS  AT   1.600 HOURS   BASIN AREA =   .1370 SQ. MI.



*
*S
*************************************************************************
*S  ADD 41B TO 42A.4 TO GET 41B.3
*S
ADD HYD             ID=3  HYD NO=41B.3 ID I=1 ID II=5
PRINT HYD           ID=3   CODE=1

                                        HYDROGRAPH FROM AREA 41B.3


    RUNOFF VOLUME =      .48946 INCHES     =      51.0341 ACRE-FEET
    PEAK DISCHARGE RATE =     491.33 CFS  AT   1.900 HOURS   BASIN AREA =  1.9550 SQ. MI.



*
*S
*************************************************************************
*S*** SUB-BASIN 43A ****
*
COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.038 K=0.7
                    LENGTH=1600 FT  SLOPE=0.034 K=2.0
                    LENGTH=4762 FT   SLOPE=0.037 K=3.0
                    Kn=.033  CR=.5

     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                              LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION          400.0           .038000             .7000
     SHALLOW FLOW PORTION       1600.0           .034000            2.0000
     CHANNEL FLOW PORTION       4762.0           .037000            3.0000
     TOTAL BASIN                6762.0           .036349            2.2849


     LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=      6762.0
     TOTAL BASIN SLOPE (FT/FT)=    .036349     CENTROUD LENGTH (FT)=         3381.0


     TIME OF CONCENTRATION (HRS)=   .3939     TIME TO PEAK (HRS)=   .2626     LAG TIME (HRS)=   .2954

COMPUTE NM HYD      ID=2   HYD NO=43A   DA= 0.186 SQ MI
                    PER A=80 PER B=10  PER C=10  PER D=0
                    TP=0.0   MASSRAIN=-1
```

```
     TIME TO PEAK (hrs)=   .2626

     K =   .289729HR    TP =   .262593HR    K/TP RATIO =  1.103339     SHAPE CONSTANT, N =  3.204149
     UNIT PEAK =   211.13    CFS   UNIT VOLUME =    1.000       B =   298.06      P60 = 1.6900
     AREA =      .186000 SQ MI    IA =    .60500 INCHES    INF =   1.54400 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=2   CODE=1

                                        HYDROGRAPH FROM AREA 43A


    RUNOFF VOLUME =      .46367 INCHES     =       4.5996 ACRE-FEET
    PEAK DISCHARGE RATE =      94.85 CFS  AT   1.650 HOURS   BASIN AREA =   .1860 SQ. MI.



*
*S
**********************************************************************
*S  ADD 43A TO 41B.3 TO GET 43A.6
*S
ADD HYD             ID=6  HYD NO=43A.6 ID I=2 ID II=3
PRINT HYD           ID=6   CODE=1

                                        HYDROGRAPH FROM AREA 43A.6


    RUNOFF VOLUME =      .48722 INCHES     =      55.6338 ACRE-FEET
    PEAK DISCHARGE RATE =     541.85 CFS  AT   1.900 HOURS   BASIN AREA =  2.1410 SQ. MI.



*
*S
**********************************************************************
*S  ADD 43A.6 TO 41A.9 TO GET 41A.7
*S
ADD HYD             ID=7  HYD NO=41A.7 ID I=6 ID II=9
PRINT HYD           ID=7   CODE=1

                                        HYDROGRAPH FROM AREA 41A.7


    RUNOFF VOLUME =      .42679 INCHES     =     265.8403 ACRE-FEET
    PEAK DISCHARGE RATE =    1175.63 CFS  AT   2.750 HOURS   BASIN AREA = 11.6790 SQ. MI.



*
*S
**********************************************************************
*S ROUTE 41A.7 THRU 43 IN NATURAL ARROYO TO 43.3
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5412.0   MAX ELEV=5437.18
                      CH SLOPE=0.009    FP SLOPE=0.009
                      N=0.035           DIST=600.0
                      DIST  ELEV    DIST  ELEV
                        0   5437.18   131 5420.64
                                  248     5414.98 300     5412.0
                                  362     5413.9  488     5419.34
                                  600     5424.41


                                   RATING CURVE VALLEY SECTION  1.0
                                      WATER       FLOW        FLOW        TOP
                                     SURFACE      AREA        RATE        WIDTH
                                       ELEV       SQ FT       CFS         FT
                                    5412.00          .00         .00         .00
                                    5413.33        43.98      134.55       66.37
                                    5414.65       173.24      863.91      125.63
                                    5415.98       376.98     2459.75      182.66
                                    5417.30       657.53     5171.28      240.74
                                    5418.63      1015.05     9232.20      298.83
                                    5419.95      1449.34    14866.76      356.26
                                    5421.28      1956.43    22508.80      404.82
                                    5422.60      2519.24    32224.46      444.58
                                    5423.93      3134.75    43809.27      484.35
                                    5425.25      3795.14    58548.43      505.53
                                    5426.58      4472.01    75913.80      516.02
                                    5427.90      5162.80    95153.55      526.52
                                    5429.23      5867.49   116221.90      537.01
                                    5430.55      6586.09   139083.70      547.51
                                    5431.88      7318.60   163712.00      558.01
                                    5433.20      8065.02   190086.00      568.50
                                    5434.53      8825.35   218189.80      579.00
                                    5435.85      9599.59   248011.70      589.49
                                    5437.18     10387.74   279542.90      599.99
```

ROUTE MCUNGE ID=5 HYD NO=43.5 INFLOW ID=7
DT=0.0 L=4200 FT NS=0 SLOPE=0.009
MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

INFLOW END= 600 TABLE PTS= 20
DT= .050000 QMED= 587.82 CKMED= 5.6425
WIDTH MED= 103.20 NREACH= 8 DX= 525.00

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M C2-M	C3-M
.00	.0	.0	.529	.0	2.92	1.35	1.000	.000	1.000	.000	.000	.0	1.000	.000
1.33	44.0	134.5	.381	66.4	4.32	3.06	1.483	.099	.923	.225	-.149	21.2	.988	.035
-.023														
2.65	173.2	863.9	.234	125.6	7.03	4.99	2.410	.207	.886	.447	-.333	407.5	.895	.350
-.245														
3.98	377.0	2459.8	.179	182.7	8.91	6.52	3.056	.320	.854	.543	-.397	1557.6	.859	.491
-.350														
5.30	657.5	5171.3	.148	240.7	10.63	7.86	3.646	.428	.831	.606	-.437	3698.3	.836	.573
-.408														
6.63	1015.0	9232.2	.128	298.8	12.26	9.10	4.203	.533	.814	.651	-.465	7073.2	.817	.628
-.445														
7.95	1449.3	14866.8	.114	356.3	14.04	10.26	4.813	.629	.805	.690	-.494	11910.3	.803	.669
-.471														
9.28	1956.4	22508.8	.101	404.8	16.18	11.51	5.546	.727	.800	.725	-.525	18530.5	.802	.709
-.511														
10.60	2519.2	32224.5	.091	444.6	18.10	12.79	6.207	.847	.790	.752	-.541	27199.9	.796	.740
-.536														
11.93	3134.7	43809.3	.083	484.4	20.41	13.98	6.997	.938	.790	.776	-.566	37850.7	.781	.761
-.542														
13.25	3795.1	58548.4	.076	505.5	23.93	15.43	8.203	1.024	.800	.804	-.604	50974.3	.799	.793
-.593														
14.58	4472.0	75913.8	.069	516.0	26.79	16.98	9.185	1.162	.795	.824	-.619	67013.7	.801	.816
-.617														
15.90	5162.8	95153.5	.063	526.5	28.91	18.43	9.911	1.323	.784	.837	-.620	85325.9	.789	.830
-.619														
17.23	5867.5	116221.9	.059	537.0	30.88	19.81	10.589	1.483	.773	.847	-.620	105488.0	.778	.842
-.620														
18.55	6586.1	139083.7	.055	547.5	32.74	21.12	11.226	1.642	.763	.856	-.619	127459.8	.768	.852
-.619														
19.88	7318.6	163712.0	.052	558.0	34.50	22.37	11.829	1.800	.754	.863	-.617	151210.7	.758	.860
-.618														
21.20	8065.0	190086.0	.049	568.5	36.17	23.57	12.401	1.956	.745	.870	-.615	176716.8	.749	.867
-.616														
22.53	8825.4	218189.8	.047	579.0	37.76	24.72	12.946	2.112	.737	.875	-.612	203960.1	.741	.873
-.614														
23.85	9599.6	248011.7	.045	589.5	39.28	25.84	13.468	2.267	.729	.880	-.610	232926.8	.733	.878
-.611														
25.18	10387.7	279542.9	.043	600.0	40.49	26.91	13.883	2.435	.719	.885	-.603	263606.8	.725	.883
-.608														

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 5 OCCURRED 2 TIMES. AVERAGE NUMBER ITERATIONS = 1.3891

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M C2-M	C3-M
.00	.0	.0	.529	.0	2.92	1.35	1.000	.000	1.000	.000	.000	.0	1.000	.000
1.33	44.0	134.5	.381	66.4	3.30	3.06	1.130	.130	.885	.115	.000	21.2	.958	.042
.000														
2.65	173.2	863.9	.234	125.6	3.98	4.99	1.365	.365	.732	.268	.000	407.5	.802	.198
.000														
3.98	377.0	2459.8	.179	182.7	4.69	6.52	1.608	.608	.622	.378	.000	1557.6	.670	.330
.000														
5.30	657.5	5171.3	.148	240.7	5.38	7.86	1.845	.845	.542	.458	.000	3698.3	.577	.423
.000														
6.63	1015.0	9232.2	.128	298.8	6.06	9.10	2.079	1.079	.481	.519	.000	7073.2	.508	.492
.000														
7.95	1449.3	14866.8	.114	356.3	6.74	10.26	2.311	1.311	.433	.567	.000	11910.3	.455	.545
.000														
9.28	1956.4	22508.8	.101	404.8	7.50	11.51	2.570	1.570	.389	.611	.000	18530.5	.409	.591
.000														
10.60	2519.2	32224.5	.091	444.6	8.30	12.79	2.847	1.847	.351	.649	.000	27199.9	.369	.631
.000														
11.93	3134.7	43809.3	.083	484.4	9.07	13.98	3.110	2.110	.322	.678	.000	37850.7	.335	.665
.000														
13.25	3795.1	58548.4	.076	505.5	10.04	15.43	3.442	2.442	.291	.709	.000	50974.3	.305	.695
.000														
14.58	4472.0	75913.8	.069	516.0	11.10	16.98	3.805	2.805	.263	.737	.000	67013.7	.276	.724
.000														
15.90	5162.8	95153.5	.063	526.5	12.12	18.43	4.156	3.156	.241	.759	.000	85325.9	.251	.749
.000														
17.23	5867.5	116221.9	.059	537.0	13.11	19.81	4.494	3.494	.223	.777	.000	105488.0	.231	.769
.000														
18.55	6586.1	139083.7	.055	547.5	14.07	21.12	4.822	3.822	.207	.793	.000	127459.8	.215	.785
.000														
19.88	7318.6	163712.0	.052	558.0	14.99	22.37	5.141	4.141	.195	.805	.000	151210.7	.201	.799
.000														
21.20	8065.0	190086.0	.049	568.5	15.90	23.57	5.451	4.451	.183	.817	.000	176716.8	.189	.811
.000														
22.53	8825.4	218189.8	.047	579.0	16.78	24.72	5.753	4.753	.174	.826	.000	203960.1	.178	.822
.000														

```
      23.85 9599.6 248011.7    .045  589.5    17.64  25.84    6.048  5.048   .165   .835   .000 232926.8    .169
.831   .000
      25.1810387.7 279542.9    .043  600.0    18.48  26.91    6.336  5.336   .158   .842   .000 263606.8    .161
.839   .000
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   4 OCCURRED       2 TIMES.  AVERAGE NUMBER ITERATIONS =  1.3303
     Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1,
C2 and C3
     PRINT HYD           ID=5   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    43.50


         RUNOFF VOLUME =      .42625 INCHES     =     265.5005 ACRE-FEET
         PEAK DISCHARGE RATE =    1168.97 CFS  AT   3.050 HOURS   BASIN AREA = 11.6790 SQ. MI.



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     *S*** SUB-BASIN 43 ****
     *
     COMPUTE LT TP       LCODE=1  USDI BUREAU OF RECLAMATION LAG TIME EQUATION
                         NK=3  ISLOPE=-1
                         LENGTH=400 FT   SLOPE=0.0204 K=0.7
                         LENGTH=1600 FT  SLOPE=0.009 K=2.0
                         LENGTH=3052 FT   SLOPE=0.017 K=3.0
                         Kn=.033  CR=.5

          Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

          SCS UPLAND METHOD FACTORS
                                   LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
          SHEET FLOW PORTION          400.0            .020400             .7000
          SHALLOW FLOW PORTION       1600.0            .009000            2.0000
          CHANNEL FLOW PORTION       3052.0            .017000            3.0000
          TOTAL BASIN                5052.0            .014736            2.0566


          LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=      5052.0
          TOTAL BASIN SLOPE (FT/FT)=    .014736     CENTROUD LENGTH (FT)=         2526.0


          TIME OF CONCENTRATION (HRS)=   .4868     TIME TO PEAK (HRS)=   .3246     LAG TIME (HRS)=   .3651

     COMPUTE NM HYD      ID=1   HYD NO=43   DA= 0.170 SQ MI
                         PER A=80 PER B=10  PER C=10  PER D=0
                         TP=0.0   MASSRAIN=-1
          TIME TO PEAK (hrs)=   .3246

          K =   .361665HR    TP =   .324560HR    K/TP RATIO =  1.114323     SHAPE CONSTANT, N =  3.173880
          UNIT PEAK =   154.89    CFS   UNIT VOLUME =    .9999       B =   295.71      P60 = 1.6900
          AREA =      .170000 SQ MI    IA =    .60500 INCHES    INF =   1.54400 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

         BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

     PRINT HYD           ID=1   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    43.00


         RUNOFF VOLUME =      .46367 INCHES     =       4.2040 ACRE-FEET
         PEAK DISCHARGE RATE =      70.50 CFS  AT   1.700 HOURS   BASIN AREA =   .1700 SQ. MI.



     *
     *S
     ************************************************************************
     *S  ADD 43 TO 41A.7 TO GET 43.3
     *S
     ADD HYD             ID=3  HYD NO=43.3 ID I=1 ID II=5
     PRINT HYD           ID=3   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    43.30


         RUNOFF VOLUME =      .42679 INCHES     =     269.7044 ACRE-FEET
         PEAK DISCHARGE RATE =    1173.65 CFS  AT   3.050 HOURS   BASIN AREA = 11.8490 SQ. MI.



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     *S*** SUB-BASIN 44 ****
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COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.049 K=0.7
                    LENGTH=1600 FT  SLOPE=0.040 K=2.0
                    LENGTH=8103 FT   SLOPE=0.025 K=3.0
                    Kn=.033  CR=0.51

     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                              LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION           400.0           .049000             .7000
     SHALLOW FLOW PORTION        1600.0           .040000            2.0000
     CHANNEL FLOW PORTION        8103.0           .025000            3.0000
     TOTAL BASIN                10103.0           .028326            2.5367


     LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=     10103.0
     TOTAL BASIN SLOPE (FT/FT)=    .028326     CENTROUD LENGTH (FT)=         5152.5


     TIME OF CONCENTRATION (HRS)=   .5875     TIME TO PEAK (HRS)=   .3917     LAG TIME (HRS)=   .4407

COMPUTE NM HYD      ID=5   HYD NO=44   DA= 0.409 SQ MI
                    PER A=90 PER B=0  PER C=10  PER D=0
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .3917

     K =   .402796HR    TP =   .391698HR    K/TP RATIO =  1.028333     SHAPE CONSTANT, N =  3.432684
     UNIT PEAK =   329.31    CFS   UNIT VOLUME =    1.000       B =   315.38      P60 = 1.6900
     AREA =      .409000 SQ MI    IA =    .62000 INCHES    INF =   1.58600 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=5   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    44.00


    RUNOFF VOLUME =      .44411 INCHES     =       9.6875 ACRE-FEET
    PEAK DISCHARGE RATE =     144.19 CFS  AT   1.750 HOURS   BASIN AREA =   .4090 SQ. MI.



*S
**********************************************************************
*S ADD 44 TO 61.6 TO GET 44.8
*
ADD HYD             ID=8  HYD NO=44.8 ID I=5 ID II=3
PRINT HYD           ID=8   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    44.80


    RUNOFF VOLUME =      .42736 INCHES     =     279.3919 ACRE-FEET
    PEAK DISCHARGE RATE =    1185.10 CFS  AT   3.050 HOURS   BASIN AREA = 12.2580 SQ. MI.



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*
*S*** SUB-BASIN 61 ****
*
COMPUTE LT TP       LCODE=1  USDI BUREAU OF RECLAMATION LAG TIME EQUATION
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.04 K=0.7
                    LENGTH=1600 FT  SLOPE=0.008 K=2.0
                    LENGTH=308 FT   SLOPE=0.044 K=3.0


     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                              LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION           400.0           .040000             .7000
     SHALLOW FLOW PORTION        1600.0           .008000            2.0000
     CHANNEL FLOW PORTION         308.0           .044000            3.0000
     TOTAL BASIN                 2308.0           .018350            1.3862


     TIME OF CONCENTRATION (HRS)=   .3414     TIME TO PEAK (HRS)=   .2276     LAG TIME (HRS)=   .2561

COMPUTE NM HYD      ID=3   HYD NO=61   DA= 0.04846 SQ MI
                    PER A=80 PER B=10  PER C=10  PER D=0
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .2276

     K =   .270427HR    TP =   .227608HR    K/TP RATIO =  1.188123     SHAPE CONSTANT, N =  2.988424
```

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     UNIT PEAK =   59.801    CFS   UNIT VOLUME =    .9996       B =   280.88      P60 = 1.6900
     AREA =      .048460 SQ MI    IA =    .60500 INCHES    INF =   1.54400 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=3   CODE=1

                                    OUTFLOW HYDROGRAPH REACH    61.00


    RUNOFF VOLUME =      .46367 INCHES     =       1.1984 ACRE-FEET
    PEAK DISCHARGE RATE =      26.79 CFS  AT   1.600 HOURS   BASIN AREA =   .0485 SQ. MI.



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*
*S ADD 61 TO 44 TO GET 61.4
*
ADD HYD             ID=4  HYD NO=61.4 ID I=8 ID II=3
PRINT HYD           ID=4   CODE=1

                                    OUTFLOW HYDROGRAPH REACH    61.40


    RUNOFF VOLUME =      .42751 INCHES     =     280.5903 ACRE-FEET
    PEAK DISCHARGE RATE =    1186.15 CFS  AT   3.050 HOURS   BASIN AREA = 12.3065 SQ. MI.



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*
*S ROUTE 61.4 THRU 60 IN NATURAL ARROYO TO 60.3
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5354   MAX ELEV=5360
                      CH SLOPE=0.013    FP SLOPE=0.0194
                      N=0.035           DIST=369.0
                      DIST  ELEV    DIST  ELEV
                        0          5360    45      5359
                                   89      5356    105     5355
                                   133     5354    150     5354
                                   177     5354    210     5355
                                   295     5357    349     5359
                                   369     5360


                                  RATING CURVE VALLEY SECTION  1.0
                                      WATER       FLOW        FLOW        TOP
                                     SURFACE      AREA        RATE        WIDTH
                                      ELEV        SQ FT       CFS         FT
                                    5354.00         .00         .00         .00
                                    5354.32       16.94       41.63       63.27
                                    5354.63       39.98      145.77       82.54
                                    5354.95       69.10      315.50      101.81
                                    5355.26      104.22      559.56      120.42
                                    5355.58      145.18      883.98      138.91
                                    5355.90      191.98     1295.74      157.39
                                    5356.21      244.60     1803.57      175.59
                                    5356.53      302.92     2413.10      193.65
                                    5356.84      366.95     3130.03      211.71
                                    5357.16      436.49     3986.33      227.30
                                    5357.48      510.37     4982.63      240.46
                                    5357.79      588.42     6095.60      253.63
                                    5358.11      670.62     7328.43      266.79
                                    5358.42      756.99     8684.42      279.95
                                    5358.74      847.51    10166.92      293.12
                                    5359.05      942.22    11747.49      307.55
                                    5359.37     1042.63    13320.75      328.09
                                    5359.69     1149.52    15052.23      348.62
                                    5360.00     1262.90    16952.94      369.00
ROUTE MCUNGE        ID=3   HYD NO=60.3  INFLOW ID=4
                    DT=0.0   L=1205 FT   NS=0   SLOPE=0.0194
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

     INFLOW END= 600            TABLE PTS= 20
     DT=  .050000               QMED=      593.08  CKMED=      7.9197
     WIDTH MED=      122.33     NREACH=  2         DX=      602.50

   DEPTH   AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
    (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
      .00     .0       .0    .181     .0     3.35   1.25    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
      .32   16.9     41.6    .136   63.3     4.58   2.46    1.369   .012   .990   .160  -.150      6.6    .995
```

```
.025  -.020
        .63   40.0    145.8    .092   82.5     5.31   3.65    1.586   .028   .978   .235  -.213     86.2    .981
.154  -.135
         .95   69.1    315.5    .073  101.8     6.46   4.57    1.931   .041   .972   .327  -.300    223.2    .974
.278  -.252
        1.26  104.2    559.6    .062  120.4     7.50   5.37    2.240   .053   .968   .393  -.360    430.0    .969
.359  -.328
        1.58  145.2    884.0    .055  138.9     8.41   6.09    2.512   .065   .964   .441  -.405    714.1    .965
.415  -.380
        1.90  192.0   1295.7    .050  157.4     9.26   6.75    2.767   .076   .960   .480  -.440   1082.0    .961
.459  -.420
        2.21  244.6   1803.6    .045  175.6    10.09   7.37    3.013   .087   .958   .512  -.470   1541.5    .959
.495  -.454
        2.53  302.9   2413.1    .042  193.6    10.85   7.97    3.243   .098   .955   .539  -.494   2099.9    .956
.525  -.481
        2.84  366.9   3130.0    .039  211.7    11.75   8.53    3.511   .108   .953   .567  -.520   2763.0    .953
.550  -.503
        3.16  436.5   3986.3    .037  227.3    12.90   9.13    3.853   .116   .953   .598  -.551   3548.7    .953
.583  -.537
        3.48  510.4   4982.6    .034  240.5    13.89   9.76    4.151   .128   .952   .621  -.573   4474.4    .953
.612  -.564
        3.79  588.4   6095.6    .032  253.6    14.65  10.36    4.377   .140   .949   .637  -.587   5529.1    .950
.629  -.579
        4.11  670.6   7328.4    .031  266.8    15.37  10.93    4.591   .153   .947   .652  -.599   6702.0    .948
.644  -.592
        4.42  757.0   8684.4    .029  280.0    16.06  11.47    4.797   .165   .945   .665  -.609   7996.4    .945
.658  -.604
        4.74  847.5  10166.9    .028  293.1    16.56  12.00    4.947   .179   .942   .674  -.615   9415.6    .943
.670  -.613
        5.05  942.2  11747.5    .027  307.6    16.28  12.47    4.865   .201   .934   .670  -.604  10947.7    .939
.675  -.615
        5.37 1042.6  13320.8    .026  328.1    15.95  12.78    4.764   .218   .927   .666  -.593  12526.7    .927
.661  -.588
        5.69 1149.5  15052.2    .026  348.6    16.49  13.09    4.928   .224   .927   .675  -.602  14178.5    .927
.670  -.597
        6.00 1262.9  16952.9    .025  369.0    16.62  13.42    4.964   .237   .924   .677  -.601  15994.1    .927
.679  -.606
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   4 OCCURRED       2 TIMES.  AVERAGE NUMBER ITERATIONS =  1.4354
     Equations solved using the Ponce correction to C2
     PRINT HYD           ID=3   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    60.30

        RUNOFF VOLUME =      .42750 INCHES     =     280.5875 ACRE-FEET
        PEAK DISCHARGE RATE =    1185.85 CFS  AT   3.100 HOURS   BASIN AREA = 12.3065 SQ. MI.



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     *S*** SUB-BASIN 60 ****
     *
     COMPUTE LT TP       LCODE=1  USDI BUREAU OF RECLAMATION LAG TIME EQUATION
                         NK=3  ISLOPE=-1
                         LENGTH=400 FT   SLOPE=0.065 K=0.7
                         LENGTH=1600 FT  SLOPE=0.026 K=2.0
                         LENGTH=1310 FT   SLOPE=0.016 K=3.0


          Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

          SCS UPLAND METHOD FACTORS
                                    LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
          SHEET FLOW PORTION           400.0            .065000             .7000
          SHALLOW FLOW PORTION        1600.0            .026000            2.0000
          CHANNEL FLOW PORTION        1310.0            .016000            3.0000
          TOTAL BASIN                 3310.0            .026755            1.8992


          TIME OF CONCENTRATION (HRS)=   .2960     TIME TO PEAK (HRS)=   .1973     LAG TIME (HRS)=   .2220

     COMPUTE NM HYD      ID=1   HYD NO=60   DA= 0.11036 SQ MI
                         PER A=100 PER B=0  PER C=0  PER D=0
                         TP=0.0   MASSRAIN=-1
          TIME TO PEAK (hrs)=   .1973

          K =   .241072HR    TP =   .197312HR    K/TP RATIO =  1.221780     SHAPE CONSTANT, N =  2.913005
          UNIT PEAK =   153.62    CFS   UNIT VOLUME =    .9996       B =   274.65      P60 = 1.6900
          AREA =      .110360 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

         BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

     PRINT HYD           ID=1   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    60.00


         RUNOFF VOLUME =      .40595 INCHES     =       2.3894 ACRE-FEET
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PEAK DISCHARGE RATE = 59.79 CFS AT 1.550 HOURS BASIN AREA = .1104 SQ. MI.

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*
*S ADD 60 TO 44.8 TO GET 60.20
*S
ADD HYD             ID=6  HYD NO=60.6 ID I=1 ID II=3
PRINT HYD           ID=6   CODE=1
```

OUTFLOW HYDROGRAPH REACH 60.60

RUNOFF VOLUME = .42731 INCHES = 282.9768 ACRE-FEET
PEAK DISCHARGE RATE = 1187.56 CFS AT 3.100 HOURS BASIN AREA = 12.4168 SQ. MI.

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*
*S ROUTE THRU 4-60" PIPES IN SCENIC BLVD - IP3 ********************
*S ROUTE RESERVOIR COMMAND WAS USED TO ROUTE THRU MULTIPLE PIPES IN SCENIC
*
ROUTE RESERVOIR         ID=19 HYD=60.19    INFLOW ID=6 CODE=5
                        OUTFLOW(CFS)    STORAGE(AC FT)  ELEV (FT)
                                  0.0             0.000           5339.8
                                 0.23             0.001           5340
                                   32             0.200           5341
                                  111             0.452           5342
                                  229             0.775           5343
                                  374             1.185           5344
                                  535             1.682           5345
                                  700             2.435           5346
                                 1190             3.181           5346.7
```

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TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5339.80	.000	.00
.25	.00	5339.80	.000	.00
.50	.00	5339.80	.000	.00
.75	.00	5339.80	.000	.00
1.00	.00	5339.80	.000	.00
1.25	.00	5339.80	.000	.00
1.50	85.85	5341.12	.231	41.81
1.75	274.44	5343.26	.881	266.49
2.00	590.41	5345.08	1.743	548.30
2.25	953.17	5346.34	2.796	937.21
2.50	744.13	5346.08	2.516	753.30
2.75	952.98	5346.32	2.777	924.55
3.00	1176.46	5346.67	3.149	1168.83
3.25	1163.04	5346.67	3.147	1167.77
3.50	1044.79	5346.50	2.970	1051.43
3.75	961.14	5346.38	2.839	965.39
4.00	920.56	5346.31	2.771	920.53
4.25	833.82	5346.21	2.664	850.48
4.50	664.75	5345.90	2.358	683.11
4.75	593.53	5345.46	2.031	611.37
5.00	489.85	5344.81	1.590	505.20
5.25	392.61	5344.21	1.290	408.04
5.50	306.47	5343.61	1.024	317.22
5.75	240.64	5343.14	.831	248.92
6.00	191.31	5342.73	.688	197.13
6.25	154.96	5342.41	.584	159.26
6.50	128.54	5342.17	.508	131.63
6.75	110.16	5342.01	.456	112.29
7.00	95.75	5341.83	.410	97.88
7.25	83.09	5341.67	.369	84.96
7.50	71.88	5341.53	.333	73.54
7.75	61.98	5341.40	.300	63.44
8.00	53.37	5341.29	.272	54.63
8.25	46.05	5341.19	.248	47.13
8.50	39.70	5341.11	.227	40.62
8.75	34.26	5341.04	.210	35.06
9.00	29.54	5340.96	.192	30.73
9.25	25.38	5340.83	.166	26.60
9.50	21.71	5340.71	.142	22.79
9.75	18.52	5340.61	.121	19.46
10.00	15.81	5340.52	.104	16.60
10.25	13.54	5340.44	.089	14.21
10.50	11.64	5340.38	.076	12.20

10.75	10.03	5340.32	.065	10.50
11.00	8.68	5340.28	.056	9.08
11.25	7.53	5340.24	.049	7.87
11.50	6.56	5340.21	.042	6.84
11.75	5.74	5340.18	.037	5.98
12.00	5.03	5340.16	.032	5.24
12.25	4.44	5340.14	.028	4.61
12.50	3.94	5340.12	.025	4.08
12.75	3.50	5340.11	.022	3.63
13.00	3.14	5340.09	.020	3.24
13.25	2.82	5340.08	.018	2.92
13.50	2.55	5340.08	.016	2.63
13.75	2.32	5340.07	.015	2.39

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
14.00	2.12	5340.06	.013	2.18
14.25	1.95	5340.06	.012	2.00
14.50	1.80	5340.05	.011	1.84
14.75	1.67	5340.05	.010	1.71
15.00	1.55	5340.04	.009	1.58
15.25	1.45	5340.04	.009	1.48
15.50	1.37	5340.04	.008	1.39
15.75	1.29	5340.03	.008	1.31
16.00	1.23	5340.03	.007	1.25
16.25	1.17	5340.03	.007	1.18
16.50	1.12	5340.03	.007	1.13
16.75	1.07	5340.03	.006	1.08
17.00	1.03	5340.03	.006	1.04
17.25	1.00	5340.02	.006	1.01
17.50	.97	5340.02	.006	.98
17.75	.94	5340.02	.006	.95
18.00	.91	5340.02	.005	.92
18.25	.89	5340.02	.005	.90
18.50	.87	5340.02	.005	.88
18.75	.86	5340.02	.005	.86
19.00	.84	5340.02	.005	.84
19.25	.82	5340.02	.005	.83
19.50	.81	5340.02	.005	.81
19.75	.80	5340.02	.005	.80
20.00	.79	5340.02	.005	.79
20.25	.77	5340.02	.004	.78
20.50	.76	5340.02	.004	.77
20.75	.75	5340.02	.004	.76
21.00	.74	5340.02	.004	.74
21.25	.73	5340.02	.004	.73
21.50	.72	5340.02	.004	.72
21.75	.71	5340.02	.004	.72
22.00	.71	5340.02	.004	.71
22.25	.70	5340.01	.004	.70
22.50	.69	5340.01	.004	.70
22.75	.69	5340.01	.004	.69
23.00	.68	5340.01	.004	.68
23.25	.68	5340.01	.004	.68
23.50	.67	5340.01	.004	.67
23.75	.66	5340.01	.004	.67
24.00	.66	5340.01	.004	.66
24.25	.65	5340.01	.004	.66
24.50	.65	5340.01	.004	.65
24.75	.64	5340.01	.004	.65
25.00	.64	5340.01	.004	.64
25.25	.63	5340.01	.004	.63
25.50	.62	5340.01	.003	.62
25.75	.60	5340.01	.003	.61
26.00	.55	5340.01	.003	.57
26.25	.49	5340.01	.003	.51
26.50	.45	5340.01	.002	.46
26.75	.44	5340.01	.002	.44
27.00	.42	5340.01	.002	.43
27.25	.39	5340.01	.002	.41
27.50	.28	5340.00	.002	.32
27.75	.17	5339.97	.001	.19

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
28.00	.10	5339.90	.000	.11
28.25	.07	5339.86	.000	.07
28.50	.05	5339.85	.000	.05
28.75	.04	5339.84	.000	.04
29.00	.03	5339.83	.000	.03
29.25	.02	5339.82	.000	.03
29.50	.02	5339.82	.000	.02
29.75	.02	5339.81	.000	.02

PEAK DISCHARGE = 1187.870 CFS - PEAK OCCURS AT HOUR 3.10
MAXIMUM WATER SURFACE ELEVATION = 5346.697
MAXIMUM STORAGE = 3.1778 AC-FT INCREMENTAL TIME= .050000HRS

PRINT HYD ID=19 CODE=5

OUTFLOW HYDROGRAPH REACH 60.19

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	197.1	12.000	5.2	18.000	.9	24.000	.7
.250	.0	6.250	159.3	12.250	4.6	18.250	.9	24.250	.7
.500	.0	6.500	131.6	12.500	4.1	18.500	.9	24.500	.7
.750	.0	6.750	112.3	12.750	3.6	18.750	.9	24.750	.6
1.000	.0	7.000	97.9	13.000	3.2	19.000	.8	25.000	.6
1.250	.0	7.250	85.0	13.250	2.9	19.250	.8	25.250	.6
1.500	41.8	7.500	73.5	13.500	2.6	19.500	.8	25.500	.6
1.750	266.5	7.750	63.4	13.750	2.4	19.750	.8	25.750	.6
2.000	548.3	8.000	54.6	14.000	2.2	20.000	.8	26.000	.6
2.250	937.2	8.250	47.1	14.250	2.0	20.250	.8	26.250	.5
2.500	753.3	8.500	40.6	14.500	1.8	20.500	.8	26.500	.5
2.750	924.6	8.750	35.1	14.750	1.7	20.750	.8	26.750	.4
3.000	1168.8	9.000	30.7	15.000	1.6	21.000	.7	27.000	.4
3.250	1167.8	9.250	26.6	15.250	1.5	21.250	.7	27.250	.4
3.500	1051.4	9.500	22.8	15.500	1.4	21.500	.7	27.500	.3
3.750	965.4	9.750	19.5	15.750	1.3	21.750	.7	27.750	.2
4.000	920.5	10.000	16.6	16.000	1.2	22.000	.7	28.000	.1
4.250	850.5	10.250	14.2	16.250	1.2	22.250	.7	28.250	.1
4.500	683.1	10.500	12.2	16.500	1.1	22.500	.7	28.500	.1
4.750	611.4	10.750	10.5	16.750	1.1	22.750	.7	28.750	.0
5.000	505.2	11.000	9.1	17.000	1.0	23.000	.7	29.000	.0
5.250	408.0	11.250	7.9	17.250	1.0	23.250	.7	29.250	.0
5.500	317.2	11.500	6.8	17.500	1.0	23.500	.7	29.500	.0
5.750	248.9	11.750	6.0	17.750	1.0	23.750	.7	29.750	.0

RUNOFF VOLUME = .42731 INCHES = 282.9765 ACRE-FEET
PEAK DISCHARGE RATE = 1187.87 CFS AT 3.100 HOURS BASIN AREA = 12.4168 SQ. MI.

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*
**********************************************************************
*
*S*** Basin Contributing to INFLOW POINT 2 (IP2) ******************
*
**********************************************************************
*S*** SUB-BASIN 46C
*
COMPUTE LT TP       LCODE=1  USDI BUREAU OF RECLAMATION LAG TIME EQUATION
                    NK=1  ISLOPE=-1
                    LENGTH=330 FT   SLOPE=0.023 K=1.0
```

Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

SCS UPLAND METHOD FACTORS

	LENGTH (FT)	SLOPE (FT/FT)	COMPOSITE K
SHEET FLOW PORTION	330.0	.023000	1.0000
SHALLOW FLOW PORTION	.0	.000000	.0000
CHANNEL FLOW PORTION	.0	.000000	.0000
TOTAL BASIN	330.0	.023000	1.0000

TIME OF CONCENTRATION (HRS)= .0604 TIME TO PEAK (HRS)= .0403 LAG TIME (HRS)= .0453

TIME TO PEAK COMPUTED TO BE LESS THAN 0.133333 HOUR MINIMUM VALUE.
REVISED VALUES: TIME OF CONCENTRATION (HRS)= .2000 TIME TO PEAK (HRS)= .1333 LAG TIME (HRS)= .1500

```
COMPUTE NM HYD      ID=1   HYD NO=46C   DA= 0.0025 SQ MI
                    PER A=90 PER B=00  PER C=10  PER D=0
                    TP=0.0   MASSRAIN=-1

     TIME TO PEAK (hrs)=   .1333

     K =   .161823HR    TP =   .133333HR    K/TP RATIO =  1.213676     SHAPE CONSTANT, N =  2.930686
     UNIT PEAK =   5.1773    CFS   UNIT VOLUME =    .9956       B =   276.12       P60 = 1.6900
     AREA =      .002500 SQ MI    IA =    .62000 INCHES    INF =   1.58600 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=1   CODE=1

                                        HYDROGRAPH FROM AREA 46C


    RUNOFF VOLUME =      .44411 INCHES     =        .0592 ACRE-FEET
    PEAK DISCHARGE RATE =       2.11 CFS  AT   1.500 HOURS   BASIN AREA =   .0025 SQ. MI.



**********************************************************************
*
*S ROUTE 46C THRU 62 IN NATURAL ARROYO TO 62.3
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5372.6   MAX ELEV=5375
                      CH SLOPE=0.0141    FP SLOPE=0.015
                      N=0.035           DIST=172.0
                      DIST  ELEV          DIST  ELEV
                        0          5375    73      5374
                                   91      5373    109     5372.6
                                   142     5373    157     5374
                                   172     5375


                                    RATING CURVE VALLEY SECTION  1.0
                                       WATER       FLOW        FLOW        TOP
                                     SURFACE       AREA        RATE        WIDTH
                                       ELEV        SQ FT       CFS         FT
                                    5372.60          .00         .00         .00
                                    5372.73         1.02         .84       16.13
                                    5372.85         4.08        5.34       32.26
                                    5372.98         9.18       15.76       48.38
                                    5373.11        15.79       35.93       54.50
                                    5373.23        22.94       63.78       58.67
                                    5373.36        30.63       98.59       62.84
                                    5373.49        38.84      140.32       67.02
                                    5373.61        47.58      189.03       71.19
                                    5373.74        56.84      244.81       75.36
                                    5373.86        66.64      307.80       79.54
                                    5373.99        76.96      378.17       83.71
                                    5374.12        88.19      438.17       94.36
                                    5374.24       100.83      508.50      105.48
                                    5374.37       114.87      591.08      116.61
                                    5374.50       130.32      686.45      127.74
                                    5374.62       147.18      795.21      138.87
                                    5374.75       165.45      918.01      150.00
                                    5374.88       185.12     1055.49      161.13
                                    5375.00       206.20     1209.53      172.00
ROUTE MCUNGE        ID=3   HYD NO=62.3  INFLOW ID=1
                    DT=0.0   L=2596 FT   NS=0   SLOPE=0.015
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

     INFLOW END=  78           TABLE PTS= 20
     DT=  .050000              QMED=        1.05  CKMED=      1.4716
     WIDTH MED=       16.89    NREACH= 20         DX=      129.80

  DEPTH   AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
   (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
     .00     .0       .0   1.197     .0      .72     .38    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
     .13    1.0       .8    .874   16.1     1.15     .83    1.596   .023   .982   .236  -.219       .1    .997
.037  -.034
     .25    4.1      5.3    .550   32.3     1.82    1.31    2.527   .047   .974   .440  -.414      2.5    .975
.337  -.312
     .38    9.2     15.8    .420   48.4     2.47    1.72    3.425   .068   .970   .555  -.525      9.8    .968
.482  -.450
     .51   15.8     35.9    .317   54.5     3.51    2.28    4.861   .097   .968   .664  -.632     25.0    .970
.628  -.598
     .63   22.9     63.8    .259   58.7     4.24    2.78    5.878   .132   .962   .715  -.677     49.1    .965
.693  -.658
     .76   30.6     98.6    .224   62.8     4.83    3.22    6.695   .167   .958   .746  -.703     80.4    .960
.731  -.690
     .89   38.8    140.3    .200   67.0     5.34    3.61    7.412   .201   .953   .768  -.721    118.7    .955
.757  -.712
    1.01   47.6    189.0    .181   71.2     5.81    3.97    8.057   .235   .949   .785  -.734    164.0    .951
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.776  -.727
        1.14   56.8    244.8    .167   75.4     6.24   4.31    8.650   .267   .946   .798  -.744    216.2    .947
.792  -.739
        1.26   66.6    307.8    .156   79.5     6.64   4.62    9.201   .300   .943   .810  -.752    275.6    .944
.804  -.748
        1.39   77.0    378.2    .147   83.7     6.22   4.91    8.631   .373   .925   .800  -.726    342.3    .941
.814  -.756
        1.52   88.2    438.2    .145   94.4     5.47   4.97    7.579   .436   .903   .778  -.681    407.8    .900
.773  -.673
        1.64  100.8    508.5    .143  105.5     5.73   5.04    7.950   .432   .908   .787  -.695    472.9    .904
.781  -.686
        1.77  114.9    591.1    .140  116.6     6.04   5.15    8.369   .431   .912   .796  -.708    549.3    .910
.791  -.701
        1.90  130.3    686.4    .137  127.7     6.32   5.27    8.764   .437   .914   .804  -.718    638.2    .913
.800  -.713
        2.02  147.2    795.2    .133  138.9     6.59   5.40    9.145   .446   .916   .811  -.727    740.2    .915
.807  -.722
        2.15  165.4    918.0    .130  150.0     6.86   5.55    9.517   .458   .917   .818  -.734    855.9    .916
.814  -.730
        2.28  185.1   1055.5    .126  161.1     7.15   5.70    9.920   .470   .917   .824  -.742    986.0    .916
.821  -.737
        2.40  206.2   1209.5    .123  172.0     7.24   5.87   10.040   .499   .914   .827  -.740   1131.7    .918
.828  -.746
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   3 OCCURRED      38 TIMES.  AVERAGE NUMBER ITERATIONS =  1.0252
       DEPTH    AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
        (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
          .00     .0       .0   1.197     .0      .72     .38    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
          .13    1.0       .8    .874   16.1      .75     .83    1.036   .036   .965   .035   .000       .1    .989
.011   .000
          .25    4.1      5.3    .550   32.3      .80    1.31    1.107   .107   .904   .096   .000      2.5    .935
.065   .000
          .38    9.2     15.8    .420   48.4      .86    1.72    1.194   .194   .837   .163   .000      9.8    .869
.131   .000
          .51   15.8     35.9    .317   54.5      .97    2.28    1.348   .348   .742   .258   .000     25.0    .786
.214   .000
          .63   22.9     63.8    .259   58.7     1.09    2.78    1.512   .512   .661   .339   .000     49.1    .699
.301   .000
          .76   30.6     98.6    .224   62.8     1.20    3.22    1.669   .669   .599   .401   .000     80.4    .628
.372   .000
          .89   38.8    140.3    .200   67.0     1.31    3.61    1.820   .820   .550   .450   .000    118.7    .573
.427   .000
         1.01   47.6    189.0    .181   71.2     1.42    3.97    1.963   .963   .509   .491   .000    164.0    .528
.472   .000
         1.14   56.8    244.8    .167   75.4     1.52    4.31    2.101  1.101   .476   .524   .000    216.2    .492
.508   .000
         1.26   66.6    307.8    .156   79.5     1.61    4.62    2.234  1.234   .448   .552   .000    275.6    .461
.539   .000
         1.39   77.0    378.2    .147   83.7     1.70    4.91    2.362  1.362   .423   .577   .000    342.3    .435
.565   .000
         1.52   88.2    438.2    .145   94.4     1.72    4.97    2.386  1.386   .419   .581   .000    407.8    .421
.579   .000
         1.64  100.8    508.5    .143  105.5     1.74    5.04    2.419  1.419   .413   .587   .000    472.9    .416
.584   .000
         1.77  114.9    591.1    .140  116.6     1.78    5.15    2.465  1.465   .406   .594   .000    549.3    .409
.591   .000
         1.90  130.3    686.4    .137  127.7     1.82    5.27    2.519  1.519   .397   .603   .000    638.2    .401
.599   .000
         2.02  147.2    795.2    .133  138.9     1.86    5.40    2.581  1.581   .388   .612   .000    740.2    .392
.608   .000
         2.15  165.4    918.0    .130  150.0     1.91    5.55    2.647  1.647   .378   .622   .000    855.9    .382
.618   .000
         2.28  185.1   1055.5    .126  161.1     1.96    5.70    2.717  1.717   .368   .632   .000    986.0    .373
.627   .000
         2.40  206.2   1209.5    .123  172.0     2.01    5.87    2.793  1.793   .358   .642   .000   1131.7    .363
.637   .000
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   2 OCCURRED     259 TIMES.  AVERAGE NUMBER ITERATIONS =  1.0226
     Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1,
C2 and C3
     PRINT HYD           ID=3   CODE=1

                                          OUTFLOW HYDROGRAPH REACH    62.30


         RUNOFF VOLUME =      .43518 INCHES     =        .0580 ACRE-FEET
         PEAK DISCHARGE RATE =       1.89 CFS  AT   2.450 HOURS   BASIN AREA =   .0025 SQ. MI.



     *
     **********************************************************************
     *
     *S*** SUB-BASIN 62
     *
     COMPUTE LT TP       LCODE=1  USDI BUREAU OF RECLAMATION LAG TIME EQUATION
                         NK=3  ISLOPE=-1
                         LENGTH=400 FT   SLOPE=0.02 K=0.7
                         LENGTH=1600 FT  SLOPE=0.015 K=2.0
                         LENGTH=708 FT  SLOPE=0.009 K=3.0
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     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                              LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION          400.0           .020000             .7000
     SHALLOW FLOW PORTION       1600.0           .015000            2.0000
     CHANNEL FLOW PORTION        708.0           .009000            3.0000
     TOTAL BASIN                2708.0           .014170            1.7419


     TIME OF CONCENTRATION (HRS)=   .3628     TIME TO PEAK (HRS)=   .2419     LAG TIME (HRS)=   .2721

COMPUTE NM HYD      ID=2   HYD NO=62   DA= 0.06722 SQ MI
                    PER A=80 PER B=10  PER C=10  PER D=0
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .2419

     K =   .286571HR    TP =   .241856HR    K/TP RATIO =  1.184883     SHAPE CONSTANT, N =  2.995963
     UNIT PEAK =   78.236    CFS   UNIT VOLUME =    .9997       B =   281.49      P60 = 1.6900
     AREA =      .067220 SQ MI    IA =    .60500 INCHES    INF =   1.54400 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=2   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    62.00


    RUNOFF VOLUME =      .46367 INCHES     =       1.6623 ACRE-FEET
    PEAK DISCHARGE RATE =      35.04 CFS  AT   1.600 HOURS   BASIN AREA =   .0672 SQ. MI.



*
**********************************************************************
*
*S ADD 61.4 TO 62 TO GET 62.5
*
ADD HYD             ID=1  HYD NO=62.1 ID I=2 ID II=3
PRINT HYD           ID=1   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    62.10


    RUNOFF VOLUME =      .46264 INCHES     =       1.7203 ACRE-FEET
    PEAK DISCHARGE RATE =      35.04 CFS  AT   1.600 HOURS   BASIN AREA =   .0697 SQ. MI.



*
*S
**********************************************************************
**********************************************************************
*S  APPLY NO SEDIMENT BULKING FACTOR
SEDIMENT BULK          CODE=1   BULKING FACTOR = 1.00
*
**********************************************************************
*
*S THE TRAILS SUBDIVISION
*S OUTFLOW RESTRICTED TO 62 CFS AT UNIVERSE AND AVENIDA DE JAMITO
*
**********************************************************************

*S RECALL HYD FROM THE TRAILS SUBDIVISION
*S
RECALL HYD          ID=99  HYD=BYPASS.ROUTE.K
                    DT=  .100000 HRS   DA=   1.0536 SQ MI
                    PEAK=     60.718CFS  RO= 1.3592 INCHES  NO PTS=600
                    FLOW RATES
                           .000       .000       .000       .000       .000
                           .000       .000       .000       .000       .000
                           .000      2.066     35.012     45.415     47.520
                         51.159     54.044     56.146     57.431     58.230
                         58.915     59.490     59.932     60.231     60.418
                         60.547     60.637     60.693     60.718     60.716
                         60.695     60.659     60.612     60.557     60.494
                         60.426     60.354     60.278     60.199     60.117
                         60.032     59.946     59.857     59.767     59.675
                         59.582     59.488     59.392     59.296     59.199
                         59.101     59.003     58.903     58.804     58.703
                         58.602     58.500     58.398     58.295     58.191
                         58.086     57.981     57.876     57.770     57.662
                         57.552     57.441     57.326     57.208     56.909
                         56.388     55.855     55.180     54.215     53.381
                         52.834     52.221     51.798     51.322     50.935
                         50.532     50.146     49.791     49.468     49.159
                         48.832     48.521     48.232     47.893     47.580
                         47.327     47.047     46.743     46.462     46.200
                         45.916     45.646     45.394     45.118     44.858
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44.614	44.347	44.074	43.796	43.493
43.212	42.904	42.592	42.303	42.020
41.748	41.452	41.172	40.883	40.609
40.358	40.112	39.876	39.614	39.369
39.139	38.891	38.655	38.440	38.201
37.979	37.772	37.574	37.381	37.165
36.958	36.772	36.562	36.393	36.234
36.011	35.797	35.628	35.437	35.232
35.029	34.808	34.598	34.407	34.221
34.041	33.865	33.664	33.472	33.302
33.105	32.945	32.796	32.610	32.427
32.233	32.049	31.911	31.745	31.575
31.420	31.240	31.071	30.917	30.770
30.625	30.482	30.342	30.177	30.018
29.879	29.739	29.607	29.446	29.296
29.159	29.028	28.900	28.772	28.620
28.474	28.371	28.240	28.075	27.952
27.825	27.572	27.308	27.056	26.807
26.519	26.213	25.894	25.536	25.192
24.857	24.538	24.194	23.793	23.410
23.035	22.691	22.381	22.089	21.803
21.511	21.200	20.854	20.510	20.241
19.934	19.509	19.115	18.697	18.355
18.045	17.687	17.366	17.074	16.789
16.536	16.289	16.042	15.671	15.037
14.483	14.020	13.573	13.089	12.637
12.135	11.689	11.292	10.870	10.437
10.086	9.818	9.524	9.278	9.083
8.871	7.958	6.399	5.329	4.840
4.555	4.321	4.134	3.981	3.841
3.728	3.634	3.545	3.463	3.394
3.324	3.260	3.204	3.146	3.093
3.045	2.997	2.951	2.910	2.868
2.828	2.792	2.754	2.719	2.685
2.652	2.619	2.588	2.557	2.527
2.498	2.469	2.441	2.414	2.386
2.359	2.333	2.307	2.282	2.257
2.232	2.208	2.184	2.160	2.136
2.113	2.090	2.068	2.045	2.024
2.002	1.979	1.958	1.936	1.916
1.896	1.876	1.856	1.836	1.816
1.797	1.778	1.759	1.741	1.722
1.704	1.686	1.668	1.651	1.633
1.616	1.599	1.582	1.565	1.549
1.532	1.516	1.500	1.484	1.469
1.453	1.438	1.423	1.408	1.393
1.379	1.364	1.350	1.336	1.321
1.307	1.293	1.280	1.266	1.253
1.240	1.227	1.214	1.202	1.189
1.177	1.164	1.152	1.140	1.129
1.117	1.105	1.094	1.083	1.071
1.060	1.049	1.039	1.028	1.017
1.007	.996	.986	.976	.966
.956	.946	.936	.927	.917
.908	.899	.890	.880	.871
.863	.854	.845	.836	.828
.819	.811	.803	.795	.787
.779	.771	.763	.755	.748
.740	.732	.725	.718	.711
.703	.696	.689	.682	.675
.669	.662	.655	.649	.642
.636	.629	.623	.617	.611
.604	.598	.592	.586	.581
.575	.569	.563	.558	.552
.547	.541	.536	.531	.525
.520	.515	.510	.505	.500
.495	.490	.485	.480	.476
.471	.466	.462	.457	.453
.448	.444	.439	.435	.431
.426	.422	.418	.414	.410
.406	.402	.398	.394	.390
.386	.383	.379	.375	.371
.368	.364	.361	.357	.354
.350	.347	.343	.340	.337
.333	.330	.327	.324	.321
.317	.314	.311	.308	.305
.302	.299	.296	.294	.291
.288	.285	.282	.280	.277
.274	.272	.269	.266	.264
.261	.259	.256	.254	.251
.249	.246	.244	.242	.239
.237	.235	.232	.230	.228
.226	.224	.221	.219	.217
.214	.212	.210	.208	.206
.204	.202	.200	.198	.196
.194	.193	.191	.189	.187
.185	.184	.182	.180	.178
.177	.175	.173	.172	.170
.168	.167	.164	.163	.161
.159	.158	.156	.155	.154
.152	.151	.149	.148	.146

.145	.144	.142	.141	.140
.138	.137	.136	.134	.133
.132	.131	.129	.128	.127
.126	.124	.123	.122	.121
.120	.119	.118	.116	.115
.113	.112	.111	.110	.109
.108	.107	.106	.105	.104
.103	.102	.101	.100	.099
.098	.097	.096	.096	.095

```
**********************************************************************
*
*S ROUTE 99 IN 36" PIPE IN UNIVERSE TO GET 47.19
*
COMPUTE RATING CURVE       CID=1   VS NO=1 NO SEGS=-1  SLP=0.019
                                   DIAM=3.0 FT     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
.16	.14	.48	1.33
.31	.39	2.09	1.83
.47	.71	4.87	2.18
.63	1.07	8.75	2.44
.78	1.46	13.67	2.63
.94	1.89	19.50	2.78
1.09	2.33	26.13	2.89
1.25	2.79	33.40	2.96
1.41	3.26	41.18	2.99
1.56	3.72	49.28	3.00
1.72	4.19	57.53	3.00
1.88	4.65	65.74	3.00
2.03	5.10	73.68	3.00
2.19	5.53	81.11	3.00
2.35	5.93	87.77	3.00
2.50	6.30	93.31	3.00
2.66	6.62	97.27	3.00
2.81	6.89	98.90	3.00
3.00	7.07	98.90	3.00

```
ROUTE MCUNGE        ID=7   HYD NO=47.7 INFLOW ID=99
                           DT=0.0 HR       LENGTH=1532 FT
                           NS=0    SLOPE=0.019  CODE=5

     INFLOW END= 600            TABLE PTS= 19
     DT=  .100000               QMED=       30.36  CKMED=     15.9074
     WIDTH MED=        2.93     NREACH=  1         DX=     1532.00
```

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.169	.0	4.26	1.62	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.16	.1	.5	.124	1.3	5.65	3.43	1.327	.002	.998	.141	-.139	.1	1.000	.022	-.022
.31	.4	2.1	.079	1.8	7.79	5.36	1.831	.005	.996	.295	-.291	1.2	.997	.207	-.204
.47	.7	4.9	.062	2.2	9.87	6.89	2.319	.008	.995	.399	-.394	3.4	.996	.351	-.346
.63	1.1	8.8	.052	2.4	11.62	8.20	2.730	.011	.994	.465	-.460	6.7	.995	.435	-.430
.78	1.5	13.7	.046	2.6	13.10	9.33	3.079	.014	.993	.511	-.505	11.1	.994	.490	-.484
.94	1.9	19.5	.041	2.8	14.37	10.33	3.377	.017	.992	.545	-.537	16.5	.993	.530	-.523
1.09	2.3	26.1	.038	2.9	15.43	11.20	3.627	.020	.991	.570	-.561	22.7	.992	.559	-.551
1.25	2.8	33.4	.036	3.0	16.31	11.97	3.832	.024	.990	.588	-.578	29.7	.991	.580	-.571
1.41	3.3	41.2	.034	3.0	16.99	12.65	3.993	.028	.989	.602	-.591	37.2	.990	.596	-.586
1.56	3.7	49.3	.032	3.0	17.47	13.23	4.105	.032	.987	.611	-.598	45.2	.988	.607	-.596
1.72	4.2	57.5	.031	3.0	17.58	13.73	4.131	.037	.985	.613	-.599	53.4	.987	.613	-.600
1.88	4.7	65.7	.030	3.0	17.25	14.14	4.054	.044	.983	.608	-.591	61.6	.984	.612	-.596
2.03	5.1	73.7	.029	3.0	16.43	14.45	3.862	.051	.979	.593	-.572	69.7	.981	.602	-.583
2.19	5.5	81.1	.029	3.0	15.06	14.68	3.540	.062	.973	.565	-.539	77.4	.977	.582	-.558
2.35	5.9	87.8	.029	3.0	13.03	14.81	3.062	.077	.963	.517	-.480	84.4	.969	.546	-.515
2.50	6.3	93.3	.029	3.0	10.15	14.82	2.385	.105	.940	.427	-.367	90.5	.955	.482	-.437
2.66	6.6	97.3	.029	3.0	5.94	14.69	1.397	.187	.855	.226	-.081	95.3	.917	.358	-.275
2.81	6.9	98.9	.030	3.0	3.39	14.36	.796	.334	.686	.061	.253	98.1	.697		

.065 .238

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 1 TIMES. AVERAGE NUMBER ITERATIONS = 1.4482
Equations solved using the Ponce correction to C2
PRINT HYD ID=7 CODE=5

OUTFLOW HYDROGRAPH REACH 47.70

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	12.000	39.2	24.000	9.0	36.000	1.0	48.000	.3
.500	.0	12.500	38.0	24.500	4.7	36.500	1.0	48.500	.3
1.000	.0	13.000	37.0	25.000	3.8	37.000	.9	49.000	.3
1.500	51.9	13.500	36.1	25.500	3.4	37.500	.9	49.500	.3
2.000	58.6	14.000	35.1	26.000	3.1	38.000	.8	50.000	.3
2.500	60.5	14.500	34.1	26.500	2.8	38.500	.8	50.500	.2
3.000	60.7	15.000	33.2	27.000	2.7	39.000	.7	51.000	.2
3.500	60.4	15.500	32.3	27.500	2.5	39.500	.7	51.500	.2
4.000	60.1	16.000	31.5	28.000	2.4	40.000	.7	52.000	.2
4.500	59.6	16.500	30.7	28.500	2.2	40.500	.6	52.500	.2
5.000	59.1	17.000	29.9	29.000	2.1	41.000	.6	53.000	.2
5.500	58.6	17.500	29.2	29.500	2.0	41.500	.6	53.500	.2
6.000	58.1	18.000	28.5	30.000	1.9	42.000	.6	54.000	.2
6.500	57.6	18.500	27.9	30.500	1.8	42.500	.5	54.500	.2
7.000	56.5	19.000	26.6	31.000	1.7	43.000	.5	55.000	.2
7.500	52.9	19.500	25.0	31.500	1.6	43.500	.5	55.500	.1
8.000	50.7	20.000	23.1	32.000	1.5	44.000	.5	56.000	.1
8.500	48.9	20.500	21.6	32.500	1.5	44.500	.4	56.500	.1
9.000	47.4	21.000	20.0	33.000	1.4	45.000	.4	57.000	.1
9.500	46.0	21.500	18.1	33.500	1.3	45.500	.4	57.500	.1
10.000	44.7	22.000	16.6	34.000	1.2	46.000	.4	58.000	.1
10.500	43.3	22.500	14.6	34.500	1.2	46.500	.4	58.500	.1
11.000	41.8	23.000	12.3	35.000	1.1	47.000	.3	59.000	.1
11.500	40.4	23.500	10.2	35.500	1.1	47.500	.3	59.500	.1

RUNOFF VOLUME = 1.35925 INCHES = 76.3787 ACRE-FEET
PEAK DISCHARGE RATE = 60.72 CFS AT 2.900 HOURS BASIN AREA = 1.0536 SQ. MI.

*
****
*S APPLY SEDIMENT BULKING FACTOR
SEDIMENT BULK CODE=1 BULKING FACTOR = 1.05

*
****
****
*S*** SUB-BASIN 47B STATE LAND PROPERTY ***
*
COMPUTE LT TP LCODE=1 UPLAND/LAG TIME TRANSITION METHOD
NK=2 ISLOPE=-1
LENGTH=400 FT SLOPE=0.026 K=0.7
LENGTH=936 FT SLOPE=0.012 K=1.0

Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

SCS UPLAND METHOD FACTORS
NOTE: Upland factor input values have been adjusted to meet Upland/Lag Time requirements.

	LENGTH (FT)	SLOPE (FT/FT)	COMPOSITE K
SHEET FLOW PORTION	400.0	.026000	.7000
SHALLOW FLOW PORTION	936.0	.012000	2.0000
CHANNEL FLOW PORTION	.0	.000000	.0000
TOTAL BASIN	1336.0	.016192	1.3433

TIME OF CONCENTRATION (HRS)= .2171 TIME TO PEAK (HRS)= .1447 LAG TIME (HRS)= .1628

```
COMPUTE NM HYD      ID=5   HYD NO=47B   DA=0.0305 SQ MI
                    PER A=90 PER B=0  PER C=10  PER D=0
                    TP=0.0   MASSRAIN=-1
```

TIME TO PEAK (hrs)= .1447

K = .175670HR TP = .144742HR K/TP RATIO = 1.213676 SHAPE CONSTANT, N = 2.930686
UNIT PEAK = 58.184 CFS UNIT VOLUME = .9985 B = 276.12 P60 = 1.6900
AREA = .030500 SQ MI IA = .62000 INCHES INF = 1.58600 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

BULKING FACTOR APPLIED TO HYDROGRAPH. FACTOR = 1.05000 AT PEAK FLOW.

```
PRINT HYD           ID=5   CODE=1
```

HYDROGRAPH FROM AREA 47B

RUNOFF VOLUME = .44411 INCHES = .7224 ACRE-FEET
PEAK DISCHARGE RATE = 23.57 CFS AT 1.500 HOURS BASIN AREA = .0305 SQ. MI.

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*
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*
*S*** SUB-BASIN 46B APS HIGH SCHOOL PROPERTY ***
*
COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.02 K=0.7
                    LENGTH=1600 FT  SLOPE=0.02 K=2.0
                    LENGTH=745 FT  SLOPE=0.02 K=3.0
```

Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

SCS UPLAND METHOD FACTORS

	LENGTH (FT)	SLOPE (FT/FT)	COMPOSITE K
SHEET FLOW PORTION	400.0	.020000	.7000
SHALLOW FLOW PORTION	1600.0	.020000	2.0000
CHANNEL FLOW PORTION	745.0	.020000	3.0000
TOTAL BASIN	2745.0	.020000	1.6947

TIME OF CONCENTRATION (HRS)= .3182 TIME TO PEAK (HRS)= .2121 LAG TIME (HRS)= .2386

```
COMPUTE NM HYD      ID=3   HYD NO=APS   DA=0.113 SQ MI
                    PER A=0 PER B=22  PER C=25  PER D=53
                    TP=0.0   MASSRAIN=-1
```

TIME TO PEAK (hrs)= .2121

K = .117636HR TP = .212101HR K/TP RATIO = .554623 SHAPE CONSTANT, N = 6.949226
UNIT PEAK = 146.50 CFS UNIT VOLUME = 1.000 B = 518.84 P60 = 1.6900
AREA = .059890 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .187171HR TP = .212101HR K/TP RATIO = .882464 SHAPE CONSTANT, N = 4.021449
UNIT PEAK = 89.292 CFS UNIT VOLUME = 1.000 B = 356.60 P60 = 1.6900
AREA = .053110 SQ MI IA = .42021 INCHES INF = 1.02660 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

BULKING FACTOR APPLIED TO HYDROGRAPH. FACTOR = 1.05000 AT PEAK FLOW.

```
PRINT HYD           ID=3   CODE=1
```

HYDROGRAPH FROM AREA APS

RUNOFF VOLUME = 1.63785 INCHES = 9.8707 ACRE-FEET
PEAK DISCHARGE RATE = 181.87 CFS AT 1.600 HOURS BASIN AREA = .1130 SQ. MI.

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*
**********************************************************************
*
*S*** ADD 47B TO 46B TO GET 46B.6
*
ADD HYD             ID=6  HYD NO=46B.6 ID I=5 ID II=3
PRINT HYD           ID=6   CODE=1
```

HYDROGRAPH FROM AREA 46B.6

RUNOFF VOLUME = 1.38413 INCHES = 10.5931 ACRE-FEET

PEAK DISCHARGE RATE = 203.51 CFS AT 1.550 HOURS BASIN AREA = .1435 SQ. MI.

*
****
****
*
*S*** ROUTE -46B.6 THRU APS POND TO DISCHARGE 4.5 CFS TO UNIVERSE SD
*
ROUTE RESERVOIR ID=4 HYD=46B.4 INFLOW ID=6 CODE=5

OUTFLOW(CFS)	STORAGE(AC FT)	ELEV (FT)
0.01	0.0004	5375
0.03	0.1097	5376
4.45	0.4827	5377
4.46	1.0921	5378
4.47	1.9496	5379
4.48	3.2565	5380
4.49	4.9487	5381
4.50	8.2	5382

* * * * * * * * * * * * * * * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5374.50	-.054	.00
.25	.00	5375.00	.000	.01
.50	.00	5375.00	.000	.01
.75	.02	5375.00	.000	.01
1.00	4.85	5375.38	.042	.02
1.25	9.14	5376.16	.170	.74
1.50	175.80	5378.50	1.519	4.46
1.75	126.98	5381.05	5.098	4.49
2.00	59.70	5381.57	6.800	4.50
2.25	27.86	5381.82	7.616	4.50
2.50	13.89	5381.91	7.923	4.50
2.75	8.69	5381.96	8.058	4.50
3.00	5.70	5381.97	8.111	4.50
3.25	4.00	5381.97	8.117	4.50
3.50	3.02	5381.97	8.095	4.50
3.75	2.44	5381.96	8.058	4.50
4.00	2.10	5381.94	8.012	4.50
4.25	1.90	5381.93	7.960	4.50
4.50	1.78	5381.91	7.905	4.50
4.75	1.73	5381.89	7.849	4.50
5.00	1.72	5381.87	7.791	4.50
5.25	1.73	5381.86	7.734	4.50
5.50	1.76	5381.84	7.677	4.50
5.75	1.81	5381.82	7.621	4.50
6.00	1.86	5381.81	7.566	4.50
6.25	1.55	5381.79	7.509	4.50
6.50	1.34	5381.77	7.446	4.50
6.75	1.29	5381.75	7.380	4.50
7.00	1.25	5381.73	7.313	4.50
7.25	1.22	5381.71	7.246	4.50
7.50	1.19	5381.69	7.178	4.50
7.75	1.17	5381.66	7.109	4.50
8.00	1.16	5381.64	7.041	4.50
8.25	1.13	5381.62	6.971	4.50
8.50	1.11	5381.60	6.902	4.50
8.75	1.10	5381.58	6.832	4.50
9.00	1.08	5381.56	6.761	4.50
9.25	1.06	5381.54	6.691	4.50
9.50	1.05	5381.51	6.620	4.50
9.75	1.04	5381.49	6.548	4.49
10.00	1.02	5381.47	6.477	4.49
10.25	1.01	5381.45	6.405	4.49
10.50	.99	5381.43	6.333	4.49
10.75	.98	5381.40	6.260	4.49
11.00	.97	5381.38	6.187	4.49
11.25	.95	5381.36	6.114	4.49
11.50	.94	5381.34	6.041	4.49
11.75	.93	5381.31	5.967	4.49
12.00	.92	5381.29	5.894	4.49
12.25	.90	5381.27	5.820	4.49
12.50	.90	5381.25	5.745	4.49
12.75	.89	5381.22	5.671	4.49
13.00	.87	5381.20	5.597	4.49
13.25	.87	5381.18	5.522	4.49
13.50	.86	5381.15	5.447	4.49
13.75	.85	5381.13	5.371	4.49

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
14.00	.84	5381.11	5.296	4.49
14.25	.83	5381.08	5.220	4.49
14.50	.82	5381.06	5.145	4.49

14.75	.80	5381.04	5.068	4.49
15.00	.80	5381.01	4.992	4.49
15.25	.79	5380.98	4.916	4.49
15.50	.78	5380.94	4.839	4.49
15.75	.77	5380.89	4.763	4.49
16.00	.77	5380.84	4.686	4.49
16.25	.76	5380.80	4.609	4.49
16.50	.75	5380.75	4.532	4.49
16.75	.74	5380.71	4.454	4.49
17.00	.73	5380.66	4.377	4.49
17.25	.73	5380.62	4.299	4.49
17.50	.72	5380.57	4.222	4.49
17.75	.71	5380.52	4.144	4.49
18.00	.71	5380.48	4.066	4.48
18.25	.70	5380.43	3.988	4.48
18.50	.69	5380.39	3.910	4.48
18.75	.69	5380.34	3.831	4.48
19.00	.68	5380.29	3.753	4.48
19.25	.68	5380.25	3.674	4.48
19.50	.67	5380.20	3.595	4.48
19.75	.67	5380.15	3.517	4.48
20.00	.65	5380.11	3.438	4.48
20.25	.66	5380.06	3.359	4.48
20.50	.64	5380.01	3.280	4.48
20.75	.65	5379.96	3.200	4.48
21.00	.63	5379.90	3.121	4.48
21.25	.63	5379.84	3.042	4.48
21.50	.63	5379.77	2.962	4.48
21.75	.62	5379.71	2.883	4.48
22.00	.62	5379.65	2.803	4.48
22.25	.61	5379.59	2.723	4.48
22.50	.61	5379.53	2.643	4.48
22.75	.60	5379.47	2.563	4.47
23.00	.60	5379.41	2.483	4.47
23.25	.59	5379.35	2.403	4.47
23.50	.58	5379.29	2.323	4.47
23.75	.58	5379.22	2.243	4.47
24.00	.58	5379.16	2.162	4.47
24.25	.26	5379.10	2.080	4.47
24.50	.07	5379.03	1.990	4.47
24.75	.04	5378.94	1.899	4.47
25.00	.02	5378.83	1.807	4.47
25.25	.01	5378.73	1.715	4.47
25.50	.00	5378.62	1.623	4.47
25.75	.00	5378.51	1.531	4.47
26.00	.00	5378.40	1.438	4.46
26.25	.00	5378.30	1.346	4.46
26.50	.00	5378.19	1.254	4.46
26.75	.00	5378.08	1.162	4.46
27.00	.00	5377.96	1.070	4.46
27.25	.00	5377.81	.977	4.46
27.50	.00	5377.66	.885	4.46
27.75	.00	5377.51	.793	4.46

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
28.00	.00	5377.36	.701	4.45
28.25	.00	5377.21	.609	4.45
28.50	.00	5377.06	.517	4.45
28.75	.00	5376.86	.430	3.82
29.00	.00	5376.67	.360	2.99
29.25	.00	5376.52	.305	2.34
29.50	.00	5376.41	.262	1.83
29.75	.00	5376.32	.228	1.43

PEAK DISCHARGE = 4.500 CFS - PEAK OCCURS AT HOUR 3.15
MAXIMUM WATER SURFACE ELEVATION = 5381.975
MAXIMUM STORAGE = 8.1186 AC-FT INCREMENTAL TIME= .050000HRS

PRINT HYD ID=4 CODE=5

HYDROGRAPH FROM AREA 46B.4

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	4.5	12.000	4.5	18.000	4.5	24.000	4.5
.250	.0	6.250	4.5	12.250	4.5	18.250	4.5	24.250	4.5
.500	.0	6.500	4.5	12.500	4.5	18.500	4.5	24.500	4.5
.750	.0	6.750	4.5	12.750	4.5	18.750	4.5	24.750	4.5
1.000	.0	7.000	4.5	13.000	4.5	19.000	4.5	25.000	4.5
1.250	.7	7.250	4.5	13.250	4.5	19.250	4.5	25.250	4.5
1.500	4.5	7.500	4.5	13.500	4.5	19.500	4.5	25.500	4.5

1.750	4.5	7.750	4.5	13.750	4.5	19.750	4.5	25.750	4.5
2.000	4.5	8.000	4.5	14.000	4.5	20.000	4.5	26.000	4.5
2.250	4.5	8.250	4.5	14.250	4.5	20.250	4.5	26.250	4.5
2.500	4.5	8.500	4.5	14.500	4.5	20.500	4.5	26.500	4.5
2.750	4.5	8.750	4.5	14.750	4.5	20.750	4.5	26.750	4.5
3.000	4.5	9.000	4.5	15.000	4.5	21.000	4.5	27.000	4.5
3.250	4.5	9.250	4.5	15.250	4.5	21.250	4.5	27.250	4.5
3.500	4.5	9.500	4.5	15.500	4.5	21.500	4.5	27.500	4.5
3.750	4.5	9.750	4.5	15.750	4.5	21.750	4.5	27.750	4.5
4.000	4.5	10.000	4.5	16.000	4.5	22.000	4.5	28.000	4.5
4.250	4.5	10.250	4.5	16.250	4.5	22.250	4.5	28.250	4.5
4.500	4.5	10.500	4.5	16.500	4.5	22.500	4.5	28.500	4.5
4.750	4.5	10.750	4.5	16.750	4.5	22.750	4.5	28.750	3.8
5.000	4.5	11.000	4.5	17.000	4.5	23.000	4.5	29.000	3.0
5.250	4.5	11.250	4.5	17.250	4.5	23.250	4.5	29.250	2.3
5.500	4.5	11.500	4.5	17.500	4.5	23.500	4.5	29.500	1.8
5.750	4.5	11.750	4.5	17.750	4.5	23.750	4.5	29.750	1.4

RUNOFF VOLUME = 1.35751 INCHES = 10.3894 ACRE-FEET
PEAK DISCHARGE RATE = 4.50 CFS AT 3.150 HOURS BASIN AREA = .1435 SQ. MI.

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*
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*
*S ADD 46B.6 TO 46B.4 TO GET 46B.8
*S
ADD HYD             ID=8  HYD NO=46B.8 ID I=7 ID II=4
PRINT HYD           ID=8   CODE=1
```

HYDROGRAPH FROM AREA 46B.8

RUNOFF VOLUME = 1.33613 INCHES = 85.3052 ACRE-FEET
PEAK DISCHARGE RATE = 65.22 CFS AT 2.900 HOURS BASIN AREA = 1.1971 SQ. MI.

```
*
*
**********************************************************************
*
*S ROUTE 46B.8 IN 36" PIPE IN UNIVERSE TO GET 46.18
*
COMPUTE RATING CURVE       CID=1   VS NO=1 NO SEGS=-1  SLP=0.008
                                   DIAM=3.0 FT     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
.16	.14	.31	1.33
.31	.39	1.36	1.83
.47	.71	3.16	2.18
.63	1.07	5.68	2.44
.78	1.46	8.87	2.63
.94	1.89	12.65	2.78
1.09	2.33	16.95	2.89
1.25	2.79	21.67	2.96
1.41	3.26	26.72	2.99
1.56	3.72	31.98	3.00
1.72	4.19	37.33	3.00
1.88	4.65	42.66	3.00
2.03	5.10	47.81	3.00
2.19	5.53	52.63	3.00
2.35	5.93	56.95	3.00
2.50	6.30	60.55	3.00
2.66	6.62	63.12	3.00
2.81	6.89	64.17	3.00
3.00	7.07	64.17	3.00

```
ROUTE MCUNGE        ID=18  HYD NO=46.18    INFLOW ID=8
```

DT=0.0 HR LENGTH=1902 FT
NS=0 SLOPE=0.008 CODE=5

INFLOW END= 600 TABLE PTS= 19
DT= .050000 QMED= 32.61 CKMED= 11.4738
WIDTH MED= 3.00 NREACH= 2 DX= 951.00

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.322	.0	5.28	1.05	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.16	.1	.3	.237	1.3	5.25	2.23	.994	.006	.994	.000	.006	.0	.999	.000	.001
.31	.4	1.4	.152	1.8	5.18	3.48	.981	.019	.981	.000	.019	.7	.989	.000	.011
.47	.7	3.2	.118	2.2	6.40	4.47	1.212	.030	.973	.108	-.081	2.2	.976	.052	-.028
.63	1.1	5.7	.099	2.4	7.54	5.32	1.427	.041	.967	.189	-.156	4.3	.970	.152	-.121
.78	1.5	8.9	.087	2.6	8.50	6.05	1.610	.052	.961	.249	-.209	7.2	.964	.221	-.185
.94	1.9	12.7	.079	2.8	9.32	6.70	1.765	.064	.955	.293	-.248	10.7	.958	.273	-.231
1.09	2.3	17.0	.073	2.9	10.01	7.27	1.896	.077	.948	.327	-.275	14.8	.951	.312	-.263
1.25	2.8	21.7	.068	3.0	10.58	7.77	2.003	.091	.941	.354	-.295	19.3	.945	.342	-.287
1.41	3.3	26.7	.064	3.0	11.03	8.21	2.087	.106	.933	.374	-.307	24.2	.938	.365	-.303
1.56	3.7	32.0	.062	3.0	11.33	8.59	2.145	.124	.924	.388	-.313	29.3	.929	.383	-.312
1.72	4.2	37.3	.059	3.0	11.41	8.91	2.159	.143	.913	.394	-.308	34.6	.919	.393	-.312
1.88	4.7	42.7	.058	3.0	11.19	9.17	2.119	.167	.898	.391	-.290	40.0	.907	.394	-.301
2.03	5.1	47.8	.056	3.0	10.66	9.38	2.018	.196	.878	.378	-.256	45.2	.889	.386	-.276
2.19	5.5	52.6	.055	3.0	9.77	9.53	1.850	.236	.847	.352	-.199	50.2	.865	.367	-.232
2.35	5.9	57.0	.055	3.0	8.46	9.61	1.601	.295	.796	.309	-.106	54.8	.826	.334	-.161
2.50	6.3	60.5	.055	3.0	6.58	9.61	1.246	.403	.696	.245	.059	58.8	.759	.282	-.041
2.66	6.6	63.1	.055	3.0	3.86	9.53	.730	.717	.414	.183	.403	61.8	.610	.210	.180
2.81	6.9	64.2	.057	3.0	2.20	9.32	.416	1.279	.051	.258	.691	63.7	.070	.249	.680

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 2 TIMES. AVERAGE NUMBER ITERATIONS = 1.8164
Equations solved using the Ponce correction to C2
PRINT HYD ID=18 CODE=5

OUTFLOW HYDROGRAPH REACH 46.18

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	62.7	12.000	43.8	18.000	33.1	24.000	13.5
.250	.0	6.250	62.5	12.250	43.2	18.250	32.8	24.250	11.6
.500	.0	6.500	62.2	12.500	42.6	18.500	32.4	24.500	9.3
.750	.0	6.750	61.9	12.750	42.1	18.750	31.8	24.750	8.7
1.000	.0	7.000	61.4	13.000	41.6	19.000	31.2	25.000	8.3
1.250	22.4	7.250	60.0	13.250	41.1	19.250	30.5	25.250	8.1
1.500	51.8	7.500	57.8	13.500	40.7	19.500	29.6	25.500	7.9
1.750	59.8	7.750	56.4	13.750	40.2	19.750	28.8	25.750	7.7
2.000	62.5	8.000	55.3	14.000	39.7	20.000	27.8	26.000	7.6
2.250	63.6	8.250	54.4	14.250	39.1	20.250	26.9	26.250	7.4
2.500	64.4	8.500	53.6	14.500	38.7	20.500	26.2	26.500	7.3
2.750	64.9	8.750	52.8	14.750	38.2	20.750	25.4	26.750	7.2
3.000	65.1	9.000	52.0	15.000	37.7	21.000	24.6	27.000	7.2
3.250	65.2	9.250	51.3	15.250	37.3	21.250	23.7	27.250	7.1
3.500	65.1	9.500	50.6	15.500	36.9	21.500	22.8	27.500	7.0
3.750	64.9	9.750	50.0	15.750	36.4	21.750	21.9	27.750	6.9

4.000	64.7	10.000	49.3	16.000	36.0	22.000	21.2	28.000	6.8
4.250	64.5	10.250	48.6	16.250	35.6	22.250	20.6	28.250	6.8
4.500	64.3	10.500	47.9	16.500	35.2	22.500	19.4	28.500	6.7
4.750	64.1	10.750	47.2	16.750	34.9	22.750	18.2	28.750	6.3
5.000	63.9	11.000	46.4	17.000	34.5	23.000	17.0	29.000	5.3
5.250	63.6	11.250	45.7	17.250	34.1	23.250	15.9	29.250	4.6
5.500	63.3	11.500	45.0	17.500	33.7	23.500	14.9	29.500	4.0
5.750	63.0	11.750	44.4	17.750	33.4	23.750	14.1	29.750	3.5

RUNOFF VOLUME = 1.33565 INCHES = 85.2746 ACRE-FEET
PEAK DISCHARGE RATE = 65.17 CFS AT 3.150 HOURS BASIN AREA = 1.1971 SQ. MI.

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*
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*
*S ADD 46.18 TO 62.1 TO GET 46.9
*
ADD HYD             ID=9  HYD NO=46.9 ID I=18 ID II=1
PRINT HYD           ID=9   CODE=1
```

OUTFLOW HYDROGRAPH REACH 46.90

RUNOFF VOLUME = 1.28761 INCHES = 86.9949 ACRE-FEET
PEAK DISCHARGE RATE = 91.92 CFS AT 1.600 HOURS BASIN AREA = 1.2668 SQ. MI.

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*
*
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*
*S ROUTE 46.9 IN 72" IN SCENIC
*
COMPUTE RATING CURVE       CID=1   VS NO=1 NO SEGS=-1  SLP=0.0085
                                   DIAM=6.0 FT     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
.31	.56	2.05	2.67
.63	1.56	8.89	3.67
.94	2.82	20.67	4.36
1.25	4.27	37.17	4.87
1.56	5.86	58.04	5.27
1.88	7.55	82.82	5.56
2.19	9.33	110.95	5.78
2.50	11.16	141.86	5.92
2.81	13.02	174.87	5.99
3.13	14.90	209.29	6.00
3.44	16.76	244.34	6.00
3.75	18.60	279.18	6.00
4.06	20.39	312.91	6.00
4.38	22.10	344.49	6.00
4.69	23.71	372.76	6.00
5.00	25.19	396.27	6.00
5.32	26.49	413.10	6.00
5.63	27.55	420.02	6.00
6.00	28.27	420.02	6.00

```
ROUTE MCUNGE        ID=2   HYD NO=IP2      INFLOW ID=9
                           DT=0.0 HR       LENGTH=868 FT
                           NS=0    SLOPE=0.0085  CODE=5
```

INFLOW END= 600 TABLE PTS= 19
DT= .050000 QMED= 45.96 CKMED= 13.1397
WIDTH MED= 5.04 NREACH= 1 DX= 868.00

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.090	.0	4.82	1.72	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.31	.6	2.0	.066	2.7	6.00	3.64	1.243	.017	.985	.115	-.100	.3	.998	.018	-.016
.63	1.6	8.9	.042	3.7	8.28	5.69	1.716	.040	.971	.274	-.245	4.9	.975	.185	-.160
.94	2.8	20.7	.033	4.4	10.48	7.32	2.173	.061	.962	.382	-.344	14.3	.966		

```
.332  -.298
        1.25    4.3     37.2    .028    4.9    12.33   8.70    2.558   .084   .954   .451  -.405     28.5    .958
.419  -.377
        1.56    5.9     58.0    .024    5.3    13.91   9.91    2.885   .107   .946   .499  -.445     47.2    .950
.477  -.427
        1.88    7.6     82.8    .022    5.6    15.26  10.96    3.164   .132   .938   .534  -.473     70.1    .942
.519  -.461
        2.19    9.3    111.0    .020    5.8    16.39  11.89    3.398   .159   .930   .561  -.491     96.6    .934
.549  -.484
        2.50   11.2    141.9    .019    5.9    17.31  12.71    3.590   .188   .921   .581  -.503    126.1    .926
.573  -.499
        2.81   13.0    174.9    .018    6.0    18.04  13.43    3.741   .219   .912   .597  -.508    158.1    .917
.590  -.507
        3.13   14.9    209.3    .017    6.0    18.55  14.05    3.846   .255   .900   .608  -.508    191.9    .906
.604  -.510
        3.44   16.8    244.3    .017    6.0    18.66  14.58    3.871   .296   .886   .613  -.498    226.7    .894
.612  -.505
        3.75   18.6    279.2    .016    6.0    18.32  15.01    3.798   .344   .866   .611  -.477    261.6    .877
.613  -.490
        4.06   20.4    312.9    .016    6.0    17.45  15.35    3.618   .405   .839   .602  -.441    296.0    .854
.608  -.462
        4.38   22.1    344.5    .015    6.0    15.99  15.59    3.317   .487   .797   .584  -.381    328.7    .821
.595  -.416
        4.69   23.7    372.8    .015    6.0    13.84  15.72    2.869   .609   .728   .553  -.282    358.6    .769
.571  -.340
        5.00   25.2    396.3    .015    6.0    10.77  15.73    2.234   .831   .591   .508  -.099    384.6    .677
.534  -.211
        5.32   26.5    413.1    .015    6.0     6.31  15.60    1.309  1.479   .219   .472   .309    404.8    .474
.484   .041
        5.63   27.5    420.0    .016    6.0     3.60  15.25     .746  2.638  -.203   .544   .660    416.6    .005
.508   .487
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   3 OCCURRED       7 TIMES.  AVERAGE NUMBER ITERATIONS =  1.8664
       DEPTH   AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1     C2     C3     Q-M     C1-M
C2-M   C3-M
        (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
         .00     .0       .0    .090     .0     4.82    1.72    1.000   .000  1.000   .000   .000       .0    1.000
.000   .000
         .31     .6      2.0    .066    2.7     4.92    3.64    1.021   .021   .979   .021   .000       .3    .993
.007   .000
         .63    1.6      8.9    .042    3.7     5.13    5.69    1.064   .064   .940   .060   .000      4.9    .960
.040   .000
         .94    2.8     20.7    .033    4.4     5.40    7.32    1.119   .119   .894   .106   .000     14.3    .916
.084   .000
        1.25    4.3     37.2    .028    4.9     5.70    8.70    1.181   .181   .846   .154   .000     28.5    .869
.131   .000
        1.56    5.9     58.0    .024    5.3     6.02    9.91    1.248   .248   .801   .199   .000     47.2    .823
.177   .000
        1.88    7.6     82.8    .022    5.6     6.35   10.96    1.318   .318   .759   .241   .000     70.1    .779
.221   .000
        2.19    9.3    111.0    .020    5.8     6.70   11.89    1.389   .389   .720   .280   .000     96.6    .739
.261   .000
        2.50   11.2    141.9    .019    5.9     7.05   12.71    1.461   .461   .684   .316   .000    126.1    .702
.298   .000
        2.81   13.0    174.9    .018    6.0     7.40   13.43    1.535   .535   .652   .348   .000    158.1    .667
.333   .000
        3.13   14.9    209.3    .017    6.0     7.76   14.05    1.609   .609   .621   .379   .000    191.9    .636
.364   .000
        3.44   16.8    244.3    .017    6.0     8.11   14.58    1.681   .681   .595   .405   .000    226.7    .608
.392   .000
        3.75   18.6    279.2    .016    6.0     8.43   15.01    1.748   .748   .572   .428   .000    261.6    .583
.417   .000
        4.06   20.4    312.9    .016    6.0     8.73   15.35    1.810   .810   .553   .447   .000    296.0    .562
.438   .000
        4.38   22.1    344.5    .015    6.0     8.99   15.59    1.865   .865   .536   .464   .000    328.7    .544
.456   .000
        4.69   23.7    372.8    .015    6.0     9.22   15.72    1.913   .913   .523   .477   .000    358.6    .529
.471   .000
        5.00   25.2    396.3    .015    6.0     9.41   15.73    1.951   .951   .512   .488   .000    384.6    .518
.482   .000
        5.32   26.5    413.1    .015    6.0     6.31   15.60    1.309  1.479   .219   .472   .309    404.8    .474
.484   .041
        5.63   27.5    420.0    .016    6.0     4.77   15.25     .989  1.989   .000   .497   .503    416.6    .108
.485   .407
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   3 OCCURRED       4 TIMES.  AVERAGE NUMBER ITERATIONS =  1.5292
     Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1,
C2 and C3
     PRINT HYD           ID=2   CODE=5

                                        HYDROGRAPH FROM AREA IP2

          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME
FLOW
           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS
CFS
          .000        .0         6.000      62.8        12.000      43.9        18.000      33.1        24.000
13.6
          .250        .0         6.250      62.5        12.250      43.3        18.250      32.8        24.250
12.3
          .500        .0         6.500      62.3        12.500      42.7        18.500      32.5        24.500
 9.6
          .750        .0         6.750      62.0        12.750      42.2        18.750      32.0        24.750
```

8.8
1.000 .0 7.000 61.6 13.000 41.7 19.000 31.3 25.000
8.4
1.250 5.0 7.250 60.3 13.250 41.2 19.250 30.6 25.250
8.1
1.500 67.0 7.500 58.1 13.500 40.7 19.500 29.7 25.500
7.9
1.750 89.6 7.750 56.6 13.750 40.2 19.750 28.9 25.750
7.7
2.000 76.0 8.000 55.5 14.000 39.8 20.000 28.0 26.000
7.6
2.250 69.2 8.250 54.5 14.250 39.2 20.250 27.1 26.250
7.5
2.500 69.3 8.500 53.7 14.500 38.7 20.500 26.3 26.500
7.4
2.750 67.9 8.750 52.9 14.750 38.3 20.750 25.6 26.750
7.3
3.000 67.0 9.000 52.1 15.000 37.8 21.000 24.8 27.000
7.2
3.250 66.6 9.250 51.4 15.250 37.4 21.250 23.9 27.250
7.1
3.500 66.1 9.500 50.7 15.500 36.9 21.500 22.9 27.500
7.0
3.750 65.7 9.750 50.1 15.750 36.5 21.750 22.1 27.750
6.9
4.000 65.3 10.000 49.4 16.000 36.1 22.000 21.3 28.000
6.9
4.250 65.0 10.250 48.7 16.250 35.7 22.250 20.7 28.250
6.8
4.500 64.7 10.500 48.0 16.500 35.3 22.500 19.7 28.500
6.7
4.750 64.4 10.750 47.3 16.750 34.9 22.750 18.4 28.750
6.5
5.000 64.1 11.000 46.6 17.000 34.5 23.000 17.2 29.000
5.5
5.250 63.8 11.250 45.8 17.250 34.2 23.250 16.1 29.250
4.7
5.500 63.4 11.500 45.1 17.500 33.8 23.500 15.1 29.500
4.1
5.750 63.1 11.750 44.5 17.750 33.5 23.750 14.2 29.750
3.6

RUNOFF VOLUME = 1.28734 INCHES = 86.9766 ACRE-FEET
PEAK DISCHARGE RATE = 91.83 CFS AT 1.650 HOURS BASIN AREA = 1.2668 SQ. MI.

```
*
*************************************************************************
*
*S*************************************************************************
*S ADD IP2 TO IP3 TO GET 60.20
*
ADD HYD             ID=20  HYD NO=60.20 ID I=2 ID II=19
PRINT HYD           ID=20   CODE=1
```

OUTFLOW HYDROGRAPH REACH 60.20

RUNOFF VOLUME = .50693 INCHES = 369.9536 ACRE-FEET
PEAK DISCHARGE RATE = 1254.72 CFS AT 3.100 HOURS BASIN AREA = 13.6836 SQ. MI.

```
*
*
*************************************************************************
*************************************************************************
*
*S ADD OFFSITE VISTA VIEJA (VV) SUB-BASIN - INFLOW POINT IP4
*
*S*** SUB-BASIN 86 - BASIN E IN VV DRAINAGE REPORT
*S*** INCLUDES 10 AC DEVELOPED VV
*
COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.065 K=0.7
                    LENGTH=1600 FT  SLOPE=0.038 K=2.0
                    LENGTH=4852 FT  SLOPE=0.028 K=3.0
                    Kn=.033  CR=0.51
```

Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

SCS UPLAND METHOD FACTORS

	LENGTH (FT)	SLOPE (FT/FT)	COMPOSITE K
SHEET FLOW PORTION	400.0	.065000	.7000
SHALLOW FLOW PORTION	1600.0	.038000	2.0000
CHANNEL FLOW PORTION	4852.0	.028000	3.0000
TOTAL BASIN	6852.0	.032495	2.3741

LAG EQUATION FACTORS: Kn= .0330 TOTAL BASIN LENGTH (FT)= 6852.0
TOTAL BASIN SLOPE (FT/FT)= .032495 CENTROUD LENGTH (FT)= 3494.5

TIME OF CONCENTRATION (HRS)= .4073 TIME TO PEAK (HRS)= .2715 LAG TIME (HRS)= .3055

COMPUTE NM HYD ID=1 HYD NO=86.1 DA=0.248 SQ MI
PER A=84 PER B=1 PER C=11 PER D=4
TP=0.0 MASSRAIN=-1
TIME TO PEAK (hrs)= .2715

K = .157581HR TP = .271529HR K/TP RATIO = .580348 SHAPE CONSTANT, N = 6.561513
UNIT PEAK = 18.270 CFS UNIT VOLUME = .9991 B = 500.09 P60 = 1.6900
AREA = .009920 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .290582HR TP = .271529HR K/TP RATIO = 1.070171 SHAPE CONSTANT, N = 3.300278
UNIT PEAK = 267.83 CFS UNIT VOLUME = 1.000 B = 305.45 P60 = 1.6900
AREA = .238080 SQ MI IA = .61406 INCHES INF = 1.56937 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

BULKING FACTOR APPLIED TO HYDROGRAPH. FACTOR = 1.05000 AT PEAK FLOW.

PRINT HYD ID=1 CODE=5

OUTFLOW HYDROGRAPH REACH 86.10

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.250	.7	10.500	.2	15.750	.1	21.000	.1
.250	.0	5.500	.6	10.750	.2	16.000	.1	21.250	.1
.500	.0	5.750	.5	11.000	.2	16.250	.1	21.500	.1
.750	.0	6.000	.5	11.250	.2	16.500	.1	21.750	.1
1.000	.5	6.250	.4	11.500	.2	16.750	.1	22.000	.1
1.250	1.2	6.500	.3	11.750	.2	17.000	.1	22.250	.1
1.500	84.9	6.750	.3	12.000	.2	17.250	.1	22.500	.1
1.750	118.3	7.000	.3	12.250	.2	17.500	.1	22.750	.1
2.000	54.5	7.250	.2	12.500	.1	17.750	.1	23.000	.1
2.250	24.2	7.500	.2	12.750	.1	18.000	.1	23.250	.1
2.500	12.5	7.750	.2	13.000	.1	18.250	.1	23.500	.1
2.750	9.1	8.000	.2	13.250	.1	18.500	.1	23.750	.1
3.000	6.7	8.250	.2	13.500	.1	18.750	.1	24.000	.1
3.250	5.0	8.500	.2	13.750	.1	19.000	.1	24.250	.1
3.500	3.8	8.750	.2	14.000	.1	19.250	.1	24.500	.0
3.750	2.9	9.000	.2	14.250	.1	19.500	.1	24.750	.0
4.000	2.2	9.250	.2	14.500	.1	19.750	.1	25.000	.0
4.250	1.7	9.500	.2	14.750	.1	20.000	.1	25.250	.0
4.500	1.3	9.750	.2	15.000	.1	20.250	.1	25.500	.0
4.750	1.1	10.000	.2	15.250	.1	20.500	.1	25.750	.0
5.000	.9	10.250	.2	15.500	.1	20.750	.1		

RUNOFF VOLUME = .52996 INCHES = 7.0095 ACRE-FEET
PEAK DISCHARGE RATE = 135.81 CFS AT 1.650 HOURS BASIN AREA = .2480 SQ. MI.

*
****
*S ROUTE THRU 48" SD - IP4
*
COMPUTE RATING CURVE CID=1 VS NO=1 NO SEGS=-1 SLP=0.02
DIAM=4.0 FT N=0.013

RATING CURVE PIPE SECTION 1.0

WATER SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	MAX WIDTH FT

OUT.WPD

.00	.00	.00	.00
.21	.25	1.07	1.78
.42	.69	4.63	2.44
.63	1.25	10.75	2.91
.83	1.90	19.34	3.25
1.04	2.60	30.20	3.51
1.25	3.36	43.09	3.71
1.46	4.15	57.73	3.85
1.67	4.96	73.80	3.94
1.88	5.79	90.98	3.99
2.08	6.62	108.89	4.00
2.29	7.45	127.12	4.00
2.50	8.27	145.25	4.00
2.71	9.06	162.80	4.00
2.92	9.82	179.23	4.00
3.13	10.54	193.93	4.00
3.34	11.20	206.17	4.00
3.54	11.77	214.92	4.00
3.75	12.24	218.52	4.00
4.00	12.57	218.52	4.00

ROUTE MCUNGE ID=10 HYD NO=IP4 INFLOW ID=1
DT=0.0 HR LENGTH=2620 FT
NS=0 SLOPE=0.02 CODE=5

INFLOW END= 517 TABLE PTS= 19
DT= .050000 QMED= 67.90 CKMED= 19.7710
WIDTH MED= 3.91 NREACH= 2 DX= 1310.00

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.232	.0	7.28	2.01	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.21	.2	1.1	.171	1.8	7.25	4.27	.997	.003	.997	.000	.003	.2	1.000	.000	.000
.42	.7	4.6	.109	2.4	9.69	6.66	1.331	.007	.994	.145	-.138	2.5	.995	.052	-.047
.63	1.3	10.8	.085	2.9	12.26	8.57	1.685	.012	.991	.258	-.250	7.4	.992	.205	-.198
.83	1.9	19.3	.071	3.2	14.44	10.19	1.984	.016	.990	.333	-.323	14.8	.990	.299	-.289
1.04	2.6	30.2	.063	3.5	16.29	11.60	2.238	.020	.988	.386	-.374	24.6	.989	.362	-.350
1.25	3.4	43.1	.057	3.7	17.86	12.83	2.454	.025	.986	.425	-.411	36.5	.987	.408	-.394
1.46	4.1	57.7	.052	3.9	19.18	13.92	2.636	.030	.984	.454	-.438	50.2	.985	.441	-.426
1.67	5.0	73.8	.049	3.9	20.27	14.88	2.785	.035	.982	.476	-.458	65.6	.983	.467	-.450
1.88	5.8	91.0	.046	4.0	21.12	15.72	2.902	.041	.979	.493	-.472	82.3	.980	.486	-.467
2.08	6.6	108.9	.044	4.0	21.71	16.45	2.983	.048	.976	.504	-.480	99.8	.978	.500	-.478
2.29	7.5	127.1	.043	4.0	21.85	17.06	3.002	.056	.973	.507	-.480	117.9	.975	.507	-.482
2.50	8.3	145.2	.041	4.0	21.44	17.57	2.946	.065	.968	.501	-.469	136.1	.970	.506	-.476
2.71	9.1	162.8	.041	4.0	20.43	17.97	2.807	.076	.961	.485	-.446	154.0	.965	.495	-.460
2.92	9.8	179.2	.040	4.0	18.72	18.25	2.573	.091	.950	.454	-.404	171.0	.956	.472	-.429
3.13	10.5	193.9	.040	4.0	16.20	18.40	2.226	.114	.932	.401	-.333	186.6	.943	.433	-.375
3.34	11.2	206.2	.040	4.0	12.61	18.42	1.733	.156	.892	.308	-.200	200.1	.917	.364	-.282
3.54	11.8	214.9	.040	4.0	7.39	18.26	1.015	.278	.758	.128	.115	210.6	.855	.241	-.095
3.75	12.2	218.5	.041	4.0	4.21	17.85	.579	.495	.522	.036	.442	216.7	.537	.035	.428

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 3 TIMES. AVERAGE NUMBER ITERATIONS = 1.1291
Equations solved using the Ponce correction to C2
PRINT HYD ID=10 CODE=5

HYDROGRAPH FROM AREA IP4

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.250	.8	10.500	.2	15.750	.1	21.000	.1
.250	.0	5.500	.7	10.750	.2	16.000	.1	21.250	.1
.500	.0	5.750	.6	11.000	.2	16.250	.1	21.500	.1
.750	.0	6.000	.5	11.250	.2	16.500	.1	21.750	.1
1.000	.2	6.250	.5	11.500	.2	16.750	.1	22.000	.1
1.250	.9	6.500	.4	11.750	.2	17.000	.1	22.250	

.1	1.500	57.0	6.750	.3	12.000	.2	17.250	.1	22.500
.1	1.750	126.9	7.000	.3	12.250	.2	17.500	.1	22.750
.1	2.000	61.5	7.250	.3	12.500	.1	17.750	.1	23.000
.1	2.250	28.3	7.500	.2	12.750	.1	18.000	.1	23.250
.1	2.500	13.6	7.750	.2	13.000	.1	18.250	.1	23.500
.1	2.750	9.8	8.000	.2	13.250	.1	18.500	.1	23.750
.1	3.000	7.3	8.250	.2	13.500	.1	18.750	.1	24.000
.1	3.250	5.5	8.500	.2	13.750	.1	19.000	.1	24.250
.1	3.500	4.1	8.750	.2	14.000	.1	19.250	.1	24.500
.0	3.750	3.2	9.000	.2	14.250	.1	19.500	.1	24.750
.0	4.000	2.4	9.250	.2	14.500	.1	19.750	.1	25.000
.0	4.250	1.9	9.500	.2	14.750	.1	20.000	.1	25.250
.0	4.500	1.5	9.750	.2	15.000	.1	20.250	.1	25.500
.0	4.750	1.2	10.000	.2	15.250	.1	20.500	.1	25.750
.0	5.000	.9	10.250	.2	15.500	.1	20.750	.1	

RUNOFF VOLUME = .53022 INCHES = 7.0131 ACRE-FEET
PEAK DISCHARGE RATE = 134.99 CFS AT 1.700 HOURS BASIN AREA = .2480 SQ. MI.

```
*
**********************************************************************
*S INFLOW POINT IP5
*S ONSITE BASINS VV1 UNITS 2 AND PART OF UNIT 3
*
COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.02 K=0.7
                    LENGTH=1600 FT  SLOPE=0.02 K=2.0
                    LENGTH=150 FT  SLOPE=0.02 K=3.0


     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                              LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION          400.0           .020000             .7000
     SHALLOW FLOW PORTION       1600.0           .020000            2.0000
     CHANNEL FLOW PORTION        150.0           .020000            3.0000
     TOTAL BASIN                2150.0           .020000            1.5126


     TIME OF CONCENTRATION (HRS)=   .2792     TIME TO PEAK (HRS)=   .1861     LAG TIME (HRS)=   .2094

COMPUTE NM HYD      ID=1   HYD NO=VV1.23   DA=0.0894 SQ MI
                    PER A=0 PER B=20  PER C=20  PER D=60
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .1861

     K =   .102395HR    TP =   .186130HR    K/TP RATIO =   .550126     SHAPE CONSTANT, N =  7.021823
     UNIT PEAK =   150.52    CFS   UNIT VOLUME =    1.000       B =   522.29      P60 = 1.6900
     AREA =      .053640 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .165794HR    TP =   .186130HR    K/TP RATIO =   .890743     SHAPE CONSTANT, N =  3.981464
     UNIT PEAK =   67.999    CFS   UNIT VOLUME =    1.000       B =   353.93      P60 = 1.6900
     AREA =      .035760 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=1   CODE=5
```

HYDROGRAPH FROM AREA VV1.23

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.250	1.5	10.500	.9	15.750	.7	21.000	.6
.250	.0	5.500	1.6	10.750	.9	16.000	.7	21.250	.6
.500	.0	5.750	1.6	11.000	.9	16.250	.7	21.500	

.6	.750	.0	6.000	1.7	11.250	.9	16.500	.7	21.750
.6	1.000	5.0	6.250	1.3	11.500	.8	16.750	.7	22.000
.6	1.250	9.9	6.500	1.2	11.750	.8	17.000	.7	22.250
.5	1.500	148.7	6.750	1.1	12.000	.8	17.250	.7	22.500
.5	1.750	88.3	7.000	1.1	12.250	.8	17.500	.6	22.750
.5	2.000	45.4	7.250	1.1	12.500	.8	17.750	.6	23.000
.5	2.250	19.0	7.500	1.1	12.750	.8	18.000	.6	23.250
.5	2.500	9.4	7.750	1.0	13.000	.8	18.250	.6	23.500
.5	2.750	5.7	8.000	1.0	13.250	.8	18.500	.6	23.750
.5	3.000	3.8	8.250	1.0	13.500	.8	18.750	.6	24.000
.5	3.250	2.7	8.500	1.0	13.750	.8	19.000	.6	24.250
.2	3.500	2.2	8.750	1.0	14.000	.7	19.250	.6	24.500
.1	3.750	1.8	9.000	1.0	14.250	.7	19.500	.6	24.750
.0	4.000	1.7	9.250	1.0	14.500	.7	19.750	.6	25.000
.0	4.250	1.6	9.500	.9	14.750	.7	20.000	.6	25.250
.0	4.500	1.5	9.750	.9	15.000	.7	20.250	.6	25.500
.0	4.750	1.5	10.000	.9	15.250	.7	20.500	.6	
	5.000	1.5	10.250	.9	15.500	.7	20.750	.6	

RUNOFF VOLUME = 1.74818 INCHES = 8.3353 ACRE-FEET
PEAK DISCHARGE RATE = 163.45 CFS AT 1.550 HOURS BASIN AREA = .0894 SQ. MI.

```
*
**********************************************************************
*S ROUTE THRU 48" SD - IP5
*
COMPUTE RATING CURVE       CID=1   VS NO=1 NO SEGS=-1  SLP=0.015
                                   DIAM=4.0 FT     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
.21	.25	.92	1.78
.42	.69	4.01	2.44
.63	1.25	9.31	2.91
.83	1.90	16.75	3.25
1.04	2.60	26.15	3.51
1.25	3.36	37.31	3.71
1.46	4.15	49.99	3.85
1.67	4.96	63.92	3.94
1.88	5.79	78.79	3.99
2.08	6.62	94.30	4.00
2.29	7.45	110.09	4.00
2.50	8.27	125.79	4.00
2.71	9.06	140.99	4.00
2.92	9.82	155.22	4.00
3.13	10.54	167.95	4.00
3.34	11.20	178.55	4.00
3.54	11.77	186.13	4.00
3.75	12.24	189.24	4.00
4.00	12.57	189.25	4.00

```
ROUTE MCUNGE        ID=11  HYD NO=IP5      INFLOW ID=1
                           DT=0.0 HR       LENGTH=2060 FT
                           NS=0    SLOPE=0.015  CODE=5
```

INFLOW END= 515 TABLE PTS= 19
DT= .050000 QMED= 81.73 CKMED= 18.6076
WIDTH MED= 3.99 NREACH= 2 DX= 1030.00

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck	VEL (FPS)	C (FPS)	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.211	.0	5.72	1.74	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.21	.2	.9	.155	1.8	6.08	3.69	1.062	.006	.995	.033	-.027	.1	.999	.005	-.004
.42	.7	4.0	.099	2.4	8.39	5.76	1.466	.013	.990	.193	-.183	2.2	.991	.101	-.093

```
        .63    1.3      9.3    .077    2.9    10.62   7.42    1.856   .020   .986   .304  -.291      6.4    .988
.253  -.240
        .83    1.9     16.7    .065    3.2    12.50   8.82    2.185   .027   .983   .377  -.361     12.8    .985
.344  -.328
       1.04    2.6     26.2    .057    3.5    14.11  10.04    2.465   .034   .980   .428  -.409     21.3    .982
.405  -.387
       1.25    3.4     37.3    .051    3.7    15.47  11.11    2.703   .042   .978   .466  -.443     31.6    .979
.449  -.428
       1.46    4.1     50.0    .047    3.9    16.61  12.06    2.903   .051   .974   .494  -.469     43.5    .976
.482  -.458
       1.67    5.0     63.9    .044    3.9    17.55  12.89    3.067   .060   .971   .515  -.486     56.8    .973
.506  -.479
       1.88    5.8     78.8    .042    4.0    18.29  13.61    3.196   .070   .967   .531  -.498     71.2    .969
.525  -.494
       2.08    6.6     94.3    .040    4.0    18.80  14.24    3.286   .081   .963   .542  -.505     86.5    .965
.538  -.503
       2.29    7.5    110.1    .039    4.0    18.92  14.78    3.307   .094   .957   .546  -.503    102.1    .960
.545  -.506
       2.50    8.3    125.8    .038    4.0    18.57  15.22    3.245   .110   .950   .541  -.490    117.9    .954
.545  -.499
       2.71    9.1    141.0    .037    4.0    17.69  15.56    3.091   .129   .939   .526  -.465    133.4    .945
.535  -.480
       2.92    9.8    155.2    .036    4.0    16.21  15.80    2.834   .155   .922   .499  -.421    148.1    .932
.515  -.447
       3.13   10.5    168.0    .036    4.0    14.03  15.94    2.451   .194   .894   .451  -.345    161.6    .911
.479  -.390
       3.34   11.2    178.5    .036    4.0    10.92  15.95    1.909   .265   .833   .370  -.203    173.3    .872
.419  -.291
       3.54   11.8    186.1    .036    4.0     6.40  15.81    1.118   .471   .636   .227   .136    182.4    .777
.314  -.091
       3.75   12.2    189.2    .037    4.0     3.65  15.46     .637   .840   .322   .193   .486    187.7    .341
.189   .471
 MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   3 OCCURRED      33 TIMES.  AVERAGE NUMBER ITERATIONS =  1.1385
 Equations solved using the Ponce correction to C2
 PRINT HYD           ID=11  CODE=5

                                    HYDROGRAPH FROM AREA IP5

      TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME
FLOW
       HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS
CFS
       .000       .0          5.250       1.5        10.500        .9        15.750        .7        21.000
  .6
       .250       .0          5.500       1.6        10.750        .9        16.000        .7        21.250
  .6
       .500       .0          5.750       1.6        11.000        .9        16.250        .7        21.500
  .6
       .750       .0          6.000       1.7        11.250        .9        16.500        .7        21.750
  .6
      1.000      3.6          6.250       1.5        11.500        .8        16.750        .7        22.000
  .6
      1.250      6.1          6.500       1.2        11.750        .8        17.000        .7        22.250
  .5
      1.500    126.1          6.750       1.2        12.000        .8        17.250        .7        22.500
  .5
      1.750     98.7          7.000       1.1        12.250        .8        17.500        .7        22.750
  .5
      2.000     48.8          7.250       1.1        12.500        .8        17.750        .6        23.000
  .5
      2.250     22.9          7.500       1.1        12.750        .8        18.000        .6        23.250
  .5
      2.500     10.5          7.750       1.1        13.000        .8        18.250        .6        23.500
  .5
      2.750      6.4          8.000       1.0        13.250        .8        18.500        .6        23.750
  .5
      3.000      4.2          8.250       1.0        13.500        .8        18.750        .6        24.000
  .5
      3.250      3.0          8.500       1.0        13.750        .8        19.000        .6        24.250
  .4
      3.500      2.3          8.750       1.0        14.000        .7        19.250        .6        24.500
  .1
      3.750      1.9          9.000       1.0        14.250        .7        19.500        .6        24.750
  .0
      4.000      1.7          9.250       1.0        14.500        .7        19.750        .6        25.000
  .0
      4.250      1.6          9.500        .9        14.750        .7        20.000        .6        25.250
  .0
      4.500      1.5          9.750        .9        15.000        .7        20.250        .6        25.500
  .0
      4.750      1.5         10.000        .9        15.250        .7        20.500        .6        25.750
  .0
      5.000      1.5         10.250        .9        15.500        .7        20.750        .6

 RUNOFF VOLUME =     1.74798 INCHES     =       8.3343 ACRE-FEET
 PEAK DISCHARGE RATE =     162.20 CFS  AT   1.600 HOURS   BASIN AREA =   .0894 SQ. MI.


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*S ADD OFFSITE VISTA VIEJA (VV2) SUB-BASIN - INFLOW POINT IP6
*S*** SUB-BASIN 83 & 83A - BASIN E IN D DRAINAGE REPORT
*S INCLUDES PARTS OF UNIT 4 & 1
**********************************************************************
*S*** SUB-BASIN 83
*
*
COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.058 K=0.7
                    LENGTH=1600 FT  SLOPE=0.061 K=2.0
                    LENGTH=9817 FT  SLOPE=0.0326 K=3.0
                    Kn=.033  CR=0.61

     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                              LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION          400.0            .058000             .7000
     SHALLOW FLOW PORTION       1600.0            .061000            2.0000
     CHANNEL FLOW PORTION       9817.0            .032600            3.0000
     TOTAL BASIN               11817.0            .037305            2.5776


     LAG EQUATION FACTORS:     Kn=   .0330     TOTAL BASIN LENGTH (FT)=     11817.0
     TOTAL BASIN SLOPE (FT/FT)=    .037305     CENTROUD LENGTH (FT)=         7208.4


     TIME OF CONCENTRATION (HRS)=   .6879     TIME TO PEAK (HRS)=   .4586     LAG TIME (HRS)=   .5159

COMPUTE NM HYD      ID=1   HYD NO=83   DA=0.538 SQ MI
                    PER A=89 PER B=0  PER C=10  PER D=1
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .4586

     K =   .271774HR    TP =   .458584HR    K/TP RATIO =   .592638     SHAPE CONSTANT, N =  6.391029
     UNIT PEAK =   5.7680    CFS   UNIT VOLUME =    .9977       B =   491.65      P60 = 1.6900
     AREA =      .005380 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .471467HR    TP =   .458584HR    K/TP RATIO =  1.028094     SHAPE CONSTANT, N =  3.433486
     UNIT PEAK =   366.37    CFS   UNIT VOLUME =    1.000       B =   315.44      P60 = 1.6900
     AREA =      .532620 SQ MI    IA =    .61970 INCHES    INF =   1.58515 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=1   CODE=5

                                        OUTFLOW HYDROGRAPH REACH    83.00

      TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
       HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000        .0         5.500       2.9        11.000        .1        16.500        .1        22.000        .1
      .250        .0         5.750       2.5        11.250        .1        16.750        .1        22.250        .1
      .500        .0         6.000       2.1        11.500        .1        17.000        .1        22.500        .1
      .750        .0         6.250       1.8        11.750        .1        17.250        .1        22.750        .1
     1.000        .1         6.500       1.5        12.000        .1        17.500        .1        23.000        .1
     1.250        .3         6.750       1.3        12.250        .1        17.750        .1        23.250        .1
     1.500      48.1         7.000       1.1        12.500        .1        18.000        .1        23.500        .1
     1.750     161.4         7.250        .9        12.750        .1        18.250        .1        23.750        .1
     2.000     147.4         7.500        .8        13.000        .1        18.500        .1        24.000        .1
     2.250      91.3         7.750        .7        13.250        .1        18.750        .1        24.250        .0
     2.500      53.5         8.000        .6        13.500        .1        19.000        .1        24.500        .0
     2.750      31.5         8.250        .5        13.750        .1        19.250        .1        24.750        .0
     3.000      18.6         8.500        .4        14.000        .1        19.500        .1        25.000        .0
     3.250      14.2         8.750        .4        14.250        .1        19.750        .1        25.250        .0
     3.500      11.9         9.000        .3        14.500        .1        20.000        .1        25.500        .0
     3.750       9.9         9.250        .3        14.750        .1        20.250        .1        25.750        .0
     4.000       8.3         9.500        .3        15.000        .1        20.500        .1        26.000        .0
     4.250       7.0         9.750        .2        15.250        .1        20.750        .1        26.250
```

.0
4.500 5.9 10.000 .2 15.500 .1 21.000 .1 26.500
.0
4.750 4.9 10.250 .2 15.750 .1 21.250 .1
5.000 4.1 10.500 .2 16.000 .1 21.500 .1
5.250 3.5 10.750 .2 16.250 .1 21.750 .1

RUNOFF VOLUME = .46411 INCHES = 13.3169 ACRE-FEET
PEAK DISCHARGE RATE = 168.06 CFS AT 1.850 HOURS BASIN AREA = .5380 SQ. MI.

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****
*S*** SUB-BASIN 83A
*
COMPUTE LT TP LCODE=1 UPLAND/LAG TIME TRANSITION METHOD
NK=3 ISLOPE=-1
LENGTH=400 FT SLOPE=0.031 K=0.7
LENGTH=1600 FT SLOPE=0.043 K=2.0
LENGTH=2172 FT SLOPE=0.0355 K=3.0
Kn=.033 CR=.5

Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

SCS UPLAND METHOD FACTORS

	LENGTH (FT)	SLOPE (FT/FT)	COMPOSITE K
SHEET FLOW PORTION	400.0	.031000	.7000
SHALLOW FLOW PORTION	1600.0	.043000	2.0000
CHANNEL FLOW PORTION	2172.0	.035500	3.0000
TOTAL BASIN	4172.0	.037945	1.9566

LAG EQUATION FACTORS: Kn= .0330 TOTAL BASIN LENGTH (FT)= 4172.0
TOTAL BASIN SLOPE (FT/FT)= .037945 CENTROUD LENGTH (FT)= 2086.0

TIME OF CONCENTRATION (HRS)= .2993 TIME TO PEAK (HRS)= .1995 LAG TIME (HRS)= .2245

COMPUTE NM HYD ID=2 HYD NO=83A DA=0.137 SQ MI
PER A=89 PER B=0 PER C=10 PER D=1
TP=0.0 MASSRAIN=-1
TIME TO PEAK (hrs)= .1995

K = .111572HR TP = .199522HR K/TP RATIO = .559196 SHAPE CONSTANT, N = 6.876949
UNIT PEAK = 3.5389 CFS UNIT VOLUME = .9964 B = 515.39 P60 = 1.6900
AREA = .001370 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .231052HR TP = .199522HR K/TP RATIO = 1.158030 SHAPE CONSTANT, N = 3.060499
UNIT PEAK = 194.90 CFS UNIT VOLUME = .9997 B = 286.72 P60 = 1.6900
AREA = .135630 SQ MI IA = .61970 INCHES INF = 1.58515 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

BULKING FACTOR APPLIED TO HYDROGRAPH. FACTOR = 1.05000 AT PEAK FLOW.

PRINT HYD ID=2 CODE=5

HYDROGRAPH FROM AREA 83A

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.2	10.000	.0	15.000	.0	20.000	.0
.250	.0	5.250	.1	10.250	.0	15.250	.0	20.250	.0
.500	.0	5.500	.1	10.500	.0	15.500	.0	20.500	.0
.750	.0	5.750	.1	10.750	.0	15.750	.0	20.750	.0
1.000	.1	6.000	.1	11.000	.0	16.000	.0	21.000	.0
1.250	.2	6.250	.1	11.250	.0	16.250	.0	21.250	.0
1.500	72.5	6.500	.0	11.500	.0	16.500	.0	21.500	.0
1.750	53.1	6.750	.0	11.750	.0	16.750	.0	21.750	.0
2.000	18.5	7.000	.0	12.000	.0	17.000	.0	22.000	.0
2.250	7.9	7.250	.0	12.250	.0	17.250	.0	22.250	.0
2.500	5.4	7.500	.0	12.500	.0	17.500	.0	22.500	.0
2.750	3.7	7.750	.0	12.750	.0	17.750	.0	22.750	.0
3.000	2.6	8.000	.0	13.000	.0	18.000	.0	23.000	.0

3.250	1.8	8.250	.0	13.250	.0	18.250	.0	23.250	.0
3.500	1.3	8.500	.0	13.500	.0	18.500	.0	23.500	.0
3.750	.9	8.750	.0	13.750	.0	18.750	.0	23.750	.0
4.000	.6	9.000	.0	14.000	.0	19.000	.0	24.000	.0
4.250	.5	9.250	.0	14.250	.0	19.250	.0	24.250	.0
4.500	.3	9.500	.0	14.500	.0	19.500	.0	24.500	.0
4.750	.2	9.750	.0	14.750	.0	19.750	.0		

RUNOFF VOLUME = .46411 INCHES = 3.3911 ACRE-FEET
PEAK DISCHARGE RATE = 84.78 CFS AT 1.550 HOURS BASIN AREA = .1370 SQ. MI.

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*
**********************************************************************
*S ADD 83 TO 83A TO GET 83A.3
*S
ADD HYD             ID=3  HYD NO=83A.3 ID I=1 ID II=2
PRINT HYD           ID=3   CODE=1
```

HYDROGRAPH FROM AREA 83A.3

RUNOFF VOLUME = .46411 INCHES = 16.7079 ACRE-FEET
PEAK DISCHARGE RATE = 214.52 CFS AT 1.750 HOURS BASIN AREA = .6750 SQ. MI.

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*S
**********************************************************************
*S*** ONSITE SUB-BASIN VV2 - PARTS OF UNITS 4 & 1
*
COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.006 K=0.7
                    LENGTH=1600 FT  SLOPE=0.011 K=2.0
                    LENGTH=130 FT  SLOPE=0.013 K=3.0
```

Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

SCS UPLAND METHOD FACTORS

	LENGTH (FT)	SLOPE (FT/FT)	COMPOSITE K
SHEET FLOW PORTION	400.0	.006000	.7000
SHALLOW FLOW PORTION	1600.0	.011000	2.0000
CHANNEL FLOW PORTION	130.0	.013000	3.0000
TOTAL BASIN	2130.0	.010183	1.3720

TIME OF CONCENTRATION (HRS)= .4274 TIME TO PEAK (HRS)= .2849 LAG TIME (HRS)= .3205

```
COMPUTE NM HYD      ID=2   HYD NO=VV2.41   DA=0.0373 SQ MI
                    PER A=0 PER B=20  PER C=20  PER D=60
                    TP=0.0   MASSRAIN=-1
```

TIME TO PEAK (hrs)= .2849

K = .155273HR TP = .284905HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 41.340 CFS UNIT VOLUME = .9998 B = 526.28 P60 = 1.6900
AREA = .022380 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .254337HR TP = .284905HR K/TP RATIO = .892706 SHAPE CONSTANT, N = 3.972111
UNIT PEAK = 18.502 CFS UNIT VOLUME = .9993 B = 353.31 P60 = 1.6900
AREA = .014920 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

BULKING FACTOR APPLIED TO HYDROGRAPH. FACTOR = 1.05000 AT PEAK FLOW.

```
PRINT HYD           ID=2   CODE=5
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HYDROGRAPH FROM AREA VV2.41

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.250	.7	10.500	.4	15.750	.3	21.000	.2
.250	.0	5.500	.7	10.750	.4	16.000	.3	21.250	.2
.500	.0	5.750	.7	11.000	.4	16.250	.3	21.500	.2
.750	.0	6.000	.7	11.250	.4	16.500	.3	21.750	

.2
1.000 1.1 6.250 .6 11.500 .4 16.750 .3 22.000
.2
1.250 2.5 6.500 .5 11.750 .3 17.000 .3 22.250
.2
1.500 31.6 6.750 .5 12.000 .3 17.250 .3 22.500
.2
1.750 47.3 7.000 .5 12.250 .3 17.500 .3 22.750
.2
2.000 24.8 7.250 .5 12.500 .3 17.750 .3 23.000
.2
2.250 13.2 7.500 .5 12.750 .3 18.000 .3 23.250
.2
2.500 6.2 7.750 .4 13.000 .3 18.250 .3 23.500
.2
2.750 3.9 8.000 .4 13.250 .3 18.500 .3 23.750
.2
3.000 2.7 8.250 .4 13.500 .3 18.750 .3 24.000
.2
3.250 1.9 8.500 .4 13.750 .3 19.000 .3 24.250
.2
3.500 1.5 8.750 .4 14.000 .3 19.250 .3 24.500
.0
3.750 1.2 9.000 .4 14.250 .3 19.500 .3 24.750
.0
4.000 1.0 9.250 .4 14.500 .3 19.750 .3 25.000
.0
4.250 .8 9.500 .4 14.750 .3 20.000 .2 25.250
.0
4.500 .8 9.750 .4 15.000 .3 20.250 .2 25.500
.0
4.750 .7 10.000 .4 15.250 .3 20.500 .2 25.750
.0
5.000 .7 10.250 .4 15.500 .3 20.750 .2 26.000
.0

RUNOFF VOLUME = 1.74819 INCHES = 3.4777 ACRE-FEET
PEAK DISCHARGE RATE = 53.40 CFS AT 1.650 HOURS BASIN AREA = .0373 SQ. MI.

*
****
*S ADD VV.41 TO 83A.3 TO GET 83A.4
*S
ADD HYD ID=4 HYD NO=83A.4 ID I=3 ID II=2
PRINT HYD ID=4 CODE=1

HYDROGRAPH FROM AREA 83A.4

RUNOFF VOLUME = .53135 INCHES = 20.1856 ACRE-FEET
PEAK DISCHARGE RATE = 265.85 CFS AT 1.700 HOURS BASIN AREA = .7123 SQ. MI.

*
*S

****
*S ROUTE THRU 60" TO IP6
*
*
COMPUTE RATING CURVE CID=1 VS NO=1 NO SEGS=-1 SLP=0.028
DIAM=5.0 FT 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
.26	.39	2.29	2.22
.52	1.09	9.92	3.06
.78	1.96	23.07	3.63
1.04	2.97	41.49	4.06
1.30	4.07	64.79	4.39
1.56	5.25	92.43	4.64
1.82	6.48	123.84	4.81
2.08	7.75	158.33	4.93
2.35	9.04	195.19	4.99
2.61	10.35	233.60	5.00
2.87	11.64	272.72	5.00
3.13	12.92	311.61	5.00
3.39	14.16	349.25	5.00
3.65	15.35	384.50	5.00
3.91	16.47	416.05	5.00
4.17	17.49	442.30	5.00
4.43	18.39	461.08	5.00
4.69	19.13	468.80	5.00
5.00	19.63	468.80	5.00

ROUTE MCUNGE ID=12 HYD NO=IP6 INFLOW ID=4
DT=0.0 HR LENGTH=2865 FT
NS=0 SLOPE=0.028 CODE=5

INFLOW END= 533 TABLE PTS= 19
DT= .050000 QMED= 132.92 CKMED= 27.1456
WIDTH MED= 4.84 NREACH= 2 DX= 1432.50

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.185	.0	7.96	2.76	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.26	.4	2.3	.136	2.2	9.64	5.86	1.211	.003	.998	.097	-.094	.4	1.000	.015	-.015
.52	1.1	9.9	.087	3.1	13.30	9.14	1.671	.006	.995	.253	-.248	5.5	.996	.163	-.160
.78	2.0	23.1	.068	3.6	16.84	11.76	2.116	.009	.994	.360	-.354	15.9	.995	.310	-.305
1.04	3.0	41.5	.057	4.1	19.82	13.99	2.491	.013	.993	.429	-.422	31.8	.993	.397	-.391
1.30	4.1	64.8	.050	4.4	22.36	15.92	2.810	.016	.991	.477	-.469	52.7	.992	.455	-.447
1.56	5.2	92.4	.045	4.6	24.52	17.62	3.081	.020	.990	.512	-.503	78.2	.991	.497	-.487
1.82	6.5	123.8	.042	4.8	26.34	19.12	3.309	.024	.989	.539	-.527	107.8	.989	.527	-.516
2.08	7.7	158.3	.039	4.9	27.83	20.43	3.497	.029	.987	.558	-.545	140.8	.988	.550	-.538
2.35	9.0	195.2	.037	5.0	29.00	21.58	3.643	.034	.986	.572	-.558	176.5	.987	.567	-.553
2.61	10.3	233.6	.035	5.0	29.81	22.58	3.745	.039	.984	.582	-.566	214.2	.985	.579	-.563
2.87	11.6	272.7	.034	5.0	30.00	23.43	3.769	.045	.981	.585	-.566	253.0	.983	.585	-.567
3.13	12.9	311.6	.033	5.0	29.44	24.12	3.699	.053	.978	.579	-.557	292.0	.980	.583	-.563
3.39	14.2	349.2	.032	5.0	28.05	24.67	3.524	.062	.973	.564	-.537	330.3	.976	.573	-.549
3.65	15.3	384.5	.032	5.0	25.71	25.05	3.230	.075	.965	.535	-.501	366.8	.970	.552	-.522
3.91	16.5	416.1	.031	5.0	22.24	25.27	2.795	.093	.952	.486	-.438	400.3	.960	.515	-.475
4.17	17.5	442.3	.031	5.0	17.32	25.29	2.176	.127	.923	.395	-.317	429.2	.942	.450	-.392
4.43	18.4	461.1	.032	5.0	10.14	25.07	1.274	.227	.819	.200	-.019	451.8	.895	.326	-.221
4.69	19.1	468.8	.032	5.0	5.78	24.51	.726	.404	.620	.061	.318	465.0	.633	.064	.303

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 4 TIMES. AVERAGE NUMBER ITERATIONS = 1.2179
Equations solved using the Ponce correction to C2
PRINT HYD ID=12 CODE=5

HYDROGRAPH FROM AREA IP6

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.500	3.9	11.000	.5	16.500	.4	22.000	.3
.250	.0	5.750	3.4	11.250	.5	16.750	.4	22.250	.3
.500	.0	6.000	3.0	11.500	.5	17.000	.4	22.500	.3
.750	.0	6.250	2.6	11.750	.5	17.250	.4	22.750	.3
1.000	.5	6.500	2.2	12.000	.5	17.500	.4	23.000	.3
1.250	2.5	6.750	1.9	12.250	.5	17.750	.4	23.250	.3
1.500	114.4	7.000	1.7	12.500	.5	18.000	.3	23.500	.3
1.750	265.0	7.250	1.5	12.750	.5	18.250	.3	23.750	.3
2.000	200.2	7.500	1.3	13.000	.4	18.500	.3	24.000	.3
2.250	120.1	7.750	1.2	13.250	.4	18.750	.3	24.250	.3
2.500	70.0	8.000	1.1	13.500	.4	19.000	.3	24.500	.1
2.750	42.4	8.250	1.0	13.750	.4	19.250	.3	24.750	.0
3.000	26.2	8.500	.9	14.000	.4	19.500	.3	25.000	.0
3.250	18.8	8.750	.8	14.250	.4	19.750	.3	25.250	.0
3.500	15.3	9.000	.8	14.500	.4	20.000	.3	25.500	.0
3.750	12.5	9.250	.7	14.750	.4	20.250	.3	25.750	

```
.0
       4.000      10.4          9.500        .7         15.000        .4         20.500        .3         26.000
.0
       4.250       8.6          9.750        .7         15.250        .4         20.750        .3         26.250
.0
       4.500       7.3         10.000        .6         15.500        .4         21.000        .3         26.500
.0
       4.750       6.1         10.250        .6         15.750        .4         21.250        .3
       5.000       5.2         10.500        .6         16.000        .4         21.500        .3
       5.250       4.5         10.750        .6         16.250        .4         21.750        .3

      RUNOFF VOLUME =      .53149 INCHES     =      20.1910 ACRE-FEET
      PEAK DISCHARGE RATE =     265.02 CFS  AT   1.750 HOURS   BASIN AREA =   .7123 SQ. MI.



  ***************************************************************************

  *S ADD IP5 TO IP5 AND IP6 TO GET 86.2
  *S
  ADD HYD             ID=2  HYD NO=86.2 ID I=12 ID II=11
  PRINT HYD           ID=2   CODE=1

                                       OUTFLOW HYDROGRAPH REACH    86.20


      RUNOFF VOLUME =      .66715 INCHES     =      28.5252 ACRE-FEET
      PEAK DISCHARGE RATE =     398.74 CFS  AT   1.650 HOURS   BASIN AREA =   .8017 SQ. MI.



  *
  *S
  ***************************************************************************
  *S ADD IP4 TO 86.2 TO GET 86.45
  *S
  ADD HYD             ID=45  HYD NO=86.45 ID I=2 ID II=10
  PRINT HYD           ID=45   CODE=1

                                       OUTFLOW HYDROGRAPH REACH    86.45


      RUNOFF VOLUME =      .63480 INCHES     =      35.5383 ACRE-FEET
      PEAK DISCHARGE RATE =     533.06 CFS  AT   1.650 HOURS   BASIN AREA =  1.0497 SQ. MI.



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  *S
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  *
  *S ADD 62.20 (IP3) TO 86.45 (IP4, 5 & 6) TO GET 86.70

  *S
  ADD HYD             ID=7  HYD NO=86.70 ID I=45 ID II=20
  PRINT HYD           ID=7   CODE=1

                                       OUTFLOW HYDROGRAPH REACH    86.70


      RUNOFF VOLUME =      .51604 INCHES     =     405.4915 ACRE-FEET
      PEAK DISCHARGE RATE =    1286.69 CFS  AT   3.100 HOURS   BASIN AREA = 14.7333 SQ. MI.



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  ** DETENTION BASIN ** AMAFCA BOCA NEGRA DAM
  ** ROUTE 46B.4 THROUGH DAM TO GET 51.6 OUTFLOW TO DOWN CANYON PIPE
  ***************************************************************************
  *S TOTAL OUTFLOW FROM BOCA NEGRA DETENTION FACILITY
  ROUTE RESERVOIR         ID=14 HYD=51.6  INFLOW ID=7 CODE=2
                          OUTFLOW(CFS)    STORAGE(AC FT)  ELEV (FT)
                                    0             0.0          5323
                                   18            0.86          5324
                                   31            1.78          5325
                                   40            2.99          5326
                                   62            4.51          5327
                                  106            6.46          5328
                                  226            8.97          5329
                                  430           12.16          5330
                                  479           16.37          5331
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513	21.62	5332	
545	27.74	5333	
574	34.67	5334	
602	42.83	5335	
629	52.31	5336	
655	62.75	5337	
679	74.19	5338	
	684	76.49	5338.2
1438	86.29	5339	
3699	99.27	5340	
6830	113.10	5341	
10683	127.90	5342	
15192	143.55	5343	
20320	160.17	5344	
26006	178.15	5345	
32315	197.56	5346	
39208	218.35	5347	
46624	240.56	5348	

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TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5323.00	.000	.00
.10	.00	5323.00	.000	.00
.20	.01	5323.00	.000	.00
.30	.01	5323.00	.000	.00
.40	.01	5323.00	.000	.00
.50	.01	5323.00	.000	.00
.60	.01	5323.00	.000	.01
.70	.01	5323.00	.000	.01
.80	.01	5323.00	.000	.01
.90	.63	5323.00	.002	.04
1.00	4.30	5323.02	.020	.41
1.10	7.49	5323.07	.062	1.30
1.20	9.24	5323.14	.117	2.44
1.30	37.37	5323.28	.244	5.11
1.40	115.44	5323.87	.749	15.68
1.50	406.31	5325.62	2.536	36.62
1.60	758.89	5328.16	6.865	125.38
1.70	859.50	5329.81	11.570	392.27
1.80	825.05	5330.66	14.948	462.45
1.90	868.34	5331.30	17.929	489.10
2.00	934.68	5331.94	21.288	510.85
2.10	954.30	5332.52	24.772	529.48
2.20	1139.03	5333.15	28.762	549.28
2.30	1163.26	5333.87	33.760	570.19
2.40	1027.94	5334.42	38.059	585.63
2.50	916.70	5334.80	41.170	596.30
2.60	909.46	5335.09	43.692	604.46
2.70	988.13	5335.38	46.475	612.38
2.80	1123.13	5335.76	50.078	622.64
2.90	1225.47	5336.22	54.631	634.78
3.00	1273.52	5336.71	59.673	647.34
3.10	1286.69	5337.19	64.872	659.45
3.20	1273.26	5337.63	69.962	670.13
3.30	1242.84	5338.05	74.793	680.31
3.40	1186.59	5338.38	78.688	853.14
3.50	1139.26	5338.53	80.575	998.30
3.60	1100.55	5338.59	81.315	1055.21
3.70	1062.92	5338.61	81.466	1066.81
3.80	1037.12	5338.60	81.352	1058.07
3.90	1014.03	5338.58	81.147	1042.30
4.00	1000.36	5338.56	80.919	1024.76
4.10	1002.77	5338.55	80.778	1013.90
4.20	967.72	5338.54	80.618	1001.62
4.30	881.06	5338.50	80.132	964.18
4.40	799.01	5338.43	79.337	903.04
4.50	758.03	5338.37	78.541	841.82
4.60	726.19	5338.32	77.918	793.84
4.70	699.61	5338.28	77.413	755.00
4.80	666.59	5338.24	76.967	720.68
4.90	624.55	5338.20	76.496	684.48
5.00	576.93	5338.14	75.818	682.54
5.10	538.74	5338.05	74.794	680.31
5.20	499.43	5337.94	73.475	677.50
5.30	458.24	5337.79	71.846	674.08
5.40	420.21	5337.63	69.920	670.04
5.50	386.76	5337.44	67.734	665.46

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
5.60	357.13	5337.23	65.327	660.41
5.70	330.25	5337.00	62.731	654.95
5.80	305.83	5336.73	59.973	648.08
5.90	284.30	5336.46	57.084	640.89
6.00	265.11	5336.17	54.087	633.43
6.10	248.42	5335.86	51.006	625.29
6.20	233.39	5335.53	47.865	616.34

6.30	219.85	5335.20	44.681	607.27
6.40	207.96	5334.83	41.468	597.33
6.50	197.65	5334.44	38.253	586.29
6.60	188.70	5334.05	35.049	575.30
6.70	181.06	5333.60	31.875	562.30
6.80	174.50	5333.15	28.750	549.23
6.90	168.46	5332.66	25.688	534.27
7.00	162.51	5332.18	22.705	518.67
7.10	156.62	5331.65	19.807	501.26
7.20	150.88	5331.12	17.010	483.14
7.30	145.30	5330.52	14.349	455.48
7.40	139.72	5329.92	11.909	413.95
7.50	134.31	5329.36	10.122	299.67
7.60	129.38	5329.02	9.039	230.39
7.70	124.76	5328.75	8.336	195.71
7.80	120.40	5328.55	7.835	171.73
7.90	116.34	5328.40	7.469	154.23
8.00	112.47	5328.29	7.195	141.16
8.10	108.91	5328.21	6.986	131.15
8.20	105.50	5328.14	6.822	123.29
8.30	102.30	5328.09	6.688	116.91
8.40	99.27	5328.05	6.577	111.61
8.50	96.45	5328.01	6.483	107.08
8.60	93.76	5327.97	6.395	104.54
8.70	91.22	5327.92	6.304	102.48
8.80	88.82	5327.87	6.210	100.35
8.90	86.52	5327.82	6.114	98.19
9.00	84.80	5327.77	6.019	96.06
9.10	82.87	5327.73	5.927	93.97
9.20	80.91	5327.68	5.836	91.91
9.30	78.96	5327.63	5.745	89.87
9.40	77.10	5327.59	5.656	87.85
9.50	75.35	5327.54	5.568	85.87
9.60	73.65	5327.50	5.482	83.93
9.70	72.05	5327.46	5.398	82.04
9.80	70.53	5327.41	5.317	80.20
9.90	69.09	5327.37	5.238	78.43
10.00	67.71	5327.33	5.162	76.72
10.10	66.44	5327.30	5.089	75.07
10.20	65.21	5327.26	5.020	73.50
10.30	64.05	5327.23	4.953	71.98
10.40	62.94	5327.19	4.888	70.54
10.50	61.87	5327.16	4.827	69.15
10.60	60.84	5327.13	4.768	67.82
10.70	59.88	5327.10	4.712	66.55
10.80	58.93	5327.08	4.658	65.33
10.90	58.03	5327.05	4.606	64.16
11.00	57.20	5327.02	4.556	63.04
11.10	56.41	5327.00	4.509	61.99

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
11.20	55.63	5326.97	4.463	61.31
11.30	54.88	5326.94	4.415	60.63
11.40	54.18	5326.91	4.368	59.94
11.50	53.50	5326.88	4.320	59.25
11.60	52.87	5326.84	4.273	58.57
11.70	52.27	5326.81	4.226	57.89
11.80	51.70	5326.78	4.180	57.22
11.90	51.14	5326.75	4.135	56.57
12.00	50.59	5326.72	4.090	55.92
12.10	50.09	5326.70	4.047	55.29
12.20	49.59	5326.67	4.004	54.68
12.30	49.11	5326.64	3.963	54.08
12.40	48.66	5326.61	3.922	53.49
12.50	48.23	5326.59	3.883	52.92
12.60	47.80	5326.56	3.845	52.37
12.70	47.42	5326.54	3.807	51.83
12.80	47.04	5326.51	3.772	51.31
12.90	46.67	5326.49	3.737	50.81
13.00	46.31	5326.47	3.703	50.32
13.10	45.95	5326.45	3.671	49.85
13.20	45.62	5326.43	3.639	49.39
13.30	45.30	5326.41	3.608	48.95
13.40	44.99	5326.39	3.579	48.52
13.50	44.72	5326.37	3.550	48.10
13.60	44.40	5326.35	3.522	47.70
13.70	44.07	5326.33	3.495	47.31
13.80	43.81	5326.31	3.469	46.93
13.90	43.53	5326.30	3.444	46.56
14.00	43.23	5326.28	3.419	46.21
14.10	42.95	5326.27	3.395	45.85
14.20	42.65	5326.25	3.371	45.51
14.30	42.37	5326.23	3.347	45.17
14.40	42.12	5326.22	3.324	44.84
14.50	41.86	5326.21	3.302	44.52
14.60	41.62	5326.19	3.281	44.21
14.70	41.37	5326.18	3.259	43.90
14.80	41.11	5326.16	3.239	43.60
14.90	40.87	5326.15	3.218	43.30

15.00	40.65	5326.14	3.198	43.02
15.10	40.41	5326.12	3.179	42.74
15.20	40.19	5326.11	3.160	42.46
15.30	40.00	5326.10	3.142	42.19
15.40	39.78	5326.09	3.124	41.93
15.50	39.55	5326.08	3.106	41.68
15.60	39.32	5326.06	3.088	41.43
15.70	39.10	5326.05	3.071	41.17
15.80	38.92	5326.04	3.054	40.93
15.90	38.73	5326.03	3.038	40.69
16.00	38.53	5326.02	3.022	40.46
16.10	38.34	5326.01	3.006	40.23
16.20	38.14	5326.00	2.990	40.01
16.30	37.93	5325.99	2.975	39.89
16.40	37.75	5325.97	2.958	39.76
16.50	37.58	5325.96	2.941	39.64
16.60	37.40	5325.95	2.924	39.51
16.70	37.25	5325.93	2.907	39.38

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
16.80	37.08	5325.92	2.889	39.25
16.90	36.90	5325.90	2.871	39.11
17.00	36.71	5325.89	2.852	38.98
17.10	36.55	5325.87	2.833	38.84
17.20	36.40	5325.85	2.814	38.69
17.30	36.24	5325.84	2.795	38.55
17.40	36.08	5325.82	2.776	38.41
17.50	35.91	5325.81	2.757	38.27
17.60	35.75	5325.79	2.737	38.12
17.70	35.60	5325.77	2.718	37.98
17.80	35.46	5325.76	2.698	37.83
17.90	35.31	5325.74	2.679	37.68
18.00	35.15	5325.73	2.659	37.54
18.10	35.00	5325.71	2.639	37.39
18.20	34.87	5325.69	2.619	37.24
18.30	34.73	5325.68	2.600	37.10
18.40	34.56	5325.66	2.580	36.95
18.50	34.41	5325.65	2.560	36.81
18.60	34.27	5325.63	2.541	36.66
18.70	34.04	5325.61	2.521	36.51
18.80	33.76	5325.59	2.500	36.35
18.90	33.50	5325.58	2.478	36.19
19.00	33.23	5325.56	2.455	36.02
19.10	32.95	5325.54	2.432	35.85
19.20	32.63	5325.52	2.407	35.67
19.30	32.31	5325.50	2.382	35.48
19.40	31.95	5325.48	2.355	35.28
19.50	31.59	5325.45	2.327	35.07
19.60	31.25	5325.43	2.298	34.85
19.70	30.92	5325.40	2.267	34.62
19.80	30.58	5325.38	2.236	34.39
19.90	30.18	5325.35	2.204	34.15
20.00	29.77	5325.32	2.171	33.90
20.10	29.39	5325.29	2.136	33.65
20.20	29.04	5325.26	2.100	33.38
20.30	28.73	5325.23	2.064	33.11
20.40	28.42	5325.20	2.028	32.84
20.50	28.12	5325.17	1.991	32.57
20.60	27.80	5325.14	1.954	32.30
20.70	27.50	5325.11	1.917	32.02
20.80	27.16	5325.08	1.879	31.74
20.90	26.82	5325.05	1.841	31.46
21.00	26.50	5325.02	1.803	31.17
21.10	26.21	5324.98	1.764	30.78
21.20	25.81	5324.94	1.727	30.25
21.30	25.38	5324.90	1.691	29.74
21.40	24.99	5324.86	1.655	29.24
21.50	24.60	5324.83	1.621	28.75
21.60	24.30	5324.79	1.587	28.27
21.70	23.94	5324.75	1.555	27.82
21.80	23.60	5324.72	1.523	27.37
21.90	23.30	5324.69	1.492	26.94
22.00	23.01	5324.66	1.463	26.52
22.10	22.74	5324.62	1.434	26.12
22.20	22.48	5324.59	1.407	25.73
22.30	22.22	5324.57	1.381	25.36

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
22.40	21.89	5324.54	1.355	24.99
22.50	21.34	5324.51	1.329	24.62
22.60	20.73	5324.48	1.301	24.23
22.70	20.27	5324.45	1.272	23.82
22.80	19.80	5324.42	1.242	23.40
22.90	19.33	5324.38	1.212	22.97
23.00	18.85	5324.35	1.182	22.55
23.10	18.39	5324.32	1.151	22.11
23.20	17.90	5324.28	1.120	21.68

23.30	17.50	5324.25	1.089	21.24
23.40	17.08	5324.22	1.058	20.80
23.50	16.66	5324.18	1.027	20.37
23.60	16.26	5324.15	.997	19.93
23.70	15.96	5324.12	.967	19.51
23.80	15.68	5324.08	.938	19.10
23.90	15.40	5324.05	.910	18.71
24.00	15.19	5324.03	.884	18.33
24.10	14.97	5324.00	.858	17.96
24.20	14.33	5323.97	.833	17.44
24.30	12.79	5323.94	.804	16.83
24.40	11.26	5323.89	.768	16.07
24.50	10.42	5323.85	.727	15.22
24.60	9.98	5323.80	.689	14.42
24.70	9.67	5323.76	.654	13.69
24.80	9.43	5323.72	.622	13.03
24.90	9.24	5323.69	.594	12.44
25.00	9.08	5323.66	.569	11.92
25.10	8.94	5323.64	.547	11.45
25.20	8.82	5323.61	.528	11.04
25.30	8.72	5323.59	.510	10.68
25.40	8.63	5323.58	.495	10.36
25.50	8.54	5323.56	.482	10.08
25.60	8.46	5323.55	.470	9.83
25.70	8.39	5323.53	.459	9.61
25.80	8.32	5323.52	.449	9.41
25.90	8.24	5323.51	.441	9.23
26.00	8.16	5323.50	.433	9.06
26.10	8.09	5323.50	.426	8.91
26.20	8.02	5323.49	.419	8.78
26.30	7.94	5323.48	.413	8.65
26.40	7.88	5323.47	.408	8.53
26.50	7.82	5323.47	.403	8.42
26.60	7.77	5323.46	.398	8.32
26.70	7.72	5323.46	.393	8.23
26.80	7.68	5323.45	.389	8.15
26.90	7.63	5323.45	.386	8.07
27.00	7.59	5323.44	.382	8.00
27.10	7.56	5323.44	.379	7.93
27.20	7.51	5323.44	.376	7.87
27.30	7.46	5323.43	.373	7.81
27.40	7.40	5323.43	.370	7.75
27.50	7.32	5323.43	.367	7.69
27.60	7.24	5323.42	.364	7.62
27.70	7.17	5323.42	.361	7.56
27.80	7.09	5323.42	.358	7.49
27.90	7.03	5323.41	.354	7.42

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
28.00	6.97	5323.41	.351	7.35
28.10	6.93	5323.40	.348	7.29
28.20	6.88	5323.40	.345	7.23
28.30	6.85	5323.40	.342	7.17
28.40	6.81	5323.40	.340	7.11
28.50	6.78	5323.39	.337	7.06
28.60	6.75	5323.39	.335	7.02
28.70	6.69	5323.39	.333	6.97
28.80	6.31	5323.38	.330	6.90
28.90	5.91	5323.38	.324	6.77
29.00	5.54	5323.37	.316	6.61
29.10	5.21	5323.36	.306	6.41
29.20	4.90	5323.34	.296	6.19
29.30	4.62	5323.33	.285	5.97
29.40	4.37	5323.32	.274	5.73
29.50	4.13	5323.31	.263	5.50
29.60	3.92	5323.29	.251	5.26
29.70	3.72	5323.28	.240	5.03
29.80	3.54	5323.27	.230	4.81
29.90	3.37	5323.26	.219	4.59

PEAK DISCHARGE = 1066.813 CFS - PEAK OCCURS AT HOUR 3.70
MAXIMUM WATER SURFACE ELEVATION = 5338.606
MAXIMUM STORAGE = 81.4655 AC-FT INCREMENTAL TIME= .050000HRS

PRINT HYD ID=14 CODE=0

OUTFLOW HYDROGRAPH REACH 51.60

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	633.4	12.000	55.9	18.000	37.5	24.000	18.3
.050	.0	6.050	629.6	12.050	55.6	18.050	37.5	24.050	18.2
.100	.0	6.100	625.3	12.100	55.3	18.100	37.4	24.100	18.0
.150	.0	6.150	620.8	12.150	55.0	18.150	37.3	24.150	17.7

.200	.0	6.200	616.3	12.200	54.7	18.200	37.2	24.200
17.4								
.250	.0	6.250	611.8	12.250	54.4	18.250	37.2	24.250
17.2								
.300	.0	6.300	607.3	12.300	54.1	18.300	37.1	24.300
16.8								
.350	.0	6.350	602.7	12.350	53.8	18.350	37.0	24.350
16.5								
.400	.0	6.400	597.3	12.400	53.5	18.400	37.0	24.400
16.1								
.450	.0	6.450	591.8	12.450	53.2	18.450	36.9	24.450
15.6								
.500	.0	6.500	586.3	12.500	52.9	18.500	36.8	24.500
15.2								
.550	.0	6.550	580.8	12.550	52.6	18.550	36.7	24.550
14.8								
.600	.0	6.600	575.3	12.600	52.4	18.600	36.7	24.600
14.4								
.650	.0	6.650	568.9	12.650	52.1	18.650	36.6	24.650
14.0								
.700	.0	6.700	562.3	12.700	51.8	18.700	36.5	24.700
13.7								
.750	.0	6.750	555.7	12.750	51.6	18.750	36.4	24.750
13.3								
.800	.0	6.800	549.2	12.800	51.3	18.800	36.4	24.800
13.0								
.850	.0	6.850	542.2	12.850	51.1	18.850	36.3	24.850
12.7								
.900	.0	6.900	534.3	12.900	50.8	18.900	36.2	24.900
12.4								
.950	.2	6.950	526.4	12.950	50.6	18.950	36.1	24.950
12.2								
1.000	.4	7.000	518.7	13.000	50.3	19.000	36.0	25.000
11.9								
1.050	.8	7.050	510.6	13.050	50.1	19.050	35.9	25.050
11.7								
1.100	1.3	7.100	501.3	13.100	49.8	19.100	35.8	25.100
11.5								
1.150	1.9	7.150	492.1	13.150	49.6	19.150	35.8	25.150
11.2								
1.200	2.4	7.200	483.1	13.200	49.4	19.200	35.7	25.200
11.0								
1.250	3.2	7.250	470.7	13.250	49.2	19.250	35.6	25.250
10.9								
1.300	5.1	7.300	455.5	13.300	48.9	19.300	35.5	25.300
10.7								
1.350	8.9	7.350	440.8	13.350	48.7	19.350	35.4	25.350
10.5								
1.400	15.7	7.400	413.9	13.400	48.5	19.400	35.3	25.400
10.4								
1.450	25.1	7.450	349.6	13.450	48.3	19.450	35.2	25.450
10.2								
1.500	36.6	7.500	299.7	13.500	48.1	19.500	35.1	25.500
10.1								
1.550	60.8	7.550	260.8	13.550	47.9	19.550	35.0	25.550
10.0								
1.600	125.4	7.600	230.4	13.600	47.7	19.600	34.8	25.600
9.8								
1.650	252.8	7.650	211.0	13.650	47.5	19.650	34.7	25.650
9.7								
1.700	392.3	7.700	195.7	13.700	47.3	19.700	34.6	25.700
9.6								
1.750	444.1	7.750	182.8	13.750	47.1	19.750	34.5	25.750
9.5								
1.800	462.5	7.800	171.7	13.800	46.9	19.800	34.4	25.800
9.4								
1.850	479.3	7.850	162.3	13.850	46.7	19.850	34.3	25.850
9.3								
1.900	489.1	7.900	154.2	13.900	46.6	19.900	34.2	25.900
9.2								
1.950	499.7	7.950	147.2	13.950	46.4	19.950	34.0	25.950
9.1								
2.000	510.9	8.000	141.2	14.000	46.2	20.000	33.9	26.000
9.1								
2.050	520.4	8.050	135.8	14.050	46.0	20.050	33.8	26.050
9.0								
2.100	529.5	8.100	131.2	14.100	45.9	20.100	33.6	26.100
8.9								
2.150	539.0	8.150	127.0	14.150	45.7	20.150	33.5	26.150
8.8								
2.200	549.3	8.200	123.3	14.200	45.5	20.200	33.4	26.200
8.8								
2.250	559.7	8.250	119.9	14.250	45.3	20.250	33.2	26.250
8.7								
2.300	570.2	8.300	116.9	14.300	45.2	20.300	33.1	26.300
8.7								
2.350	578.8	8.350	114.1	14.350	45.0	20.350	33.0	26.350
8.6								
2.400	585.6	8.400	111.6	14.400	44.8	20.400	32.8	26.400
8.5								
2.450	591.4	8.450	109.3	14.450	44.7	20.450	32.7	26.450

8.5	2.500	596.3	8.500	107.1	14.500	44.5	20.500	32.6	26.500
8.4	2.550	600.7	8.550	105.5	14.550	44.4	20.550	32.4	26.550
8.4	2.600	604.5	8.600	104.5	14.600	44.2	20.600	32.3	26.600
8.3	2.650	608.2	8.650	103.5	14.650	44.1	20.650	32.2	26.650
8.3	2.700	612.4	8.700	102.5	14.700	43.9	20.700	32.0	26.700
8.2	2.750	617.1	8.750	101.4	14.750	43.7	20.750	31.9	26.750
8.2	2.800	622.6	8.800	100.4	14.800	43.6	20.800	31.7	26.800
8.1	2.850	628.9	8.850	99.3	14.850	43.5	20.850	31.6	26.850
8.1	2.900	634.8	8.900	98.2	14.900	43.3	20.900	31.5	26.900
8.1	2.950	641.0	8.950	97.1	14.950	43.2	20.950	31.3	26.950
8.0	3.000	647.3	9.000	96.1	15.000	43.0	21.000	31.2	27.000
8.0	3.050	653.8	9.050	95.0	15.050	42.9	21.050	31.0	27.050
8.0	3.100	659.5	9.100	94.0	15.100	42.7	21.100	30.8	27.100
7.9	3.150	664.8	9.150	92.9	15.150	42.6	21.150	30.5	27.150
7.9	3.200	670.1	9.200	91.9	15.200	42.5	21.200	30.3	27.200
7.9	3.250	675.3	9.250	90.9	15.250	42.3	21.250	30.0	27.250
7.8	3.300	680.3	9.300	89.9	15.300	42.2	21.300	29.7	27.300
7.8	3.350	721.5	9.350	88.9	15.350	42.1	21.350	29.5	27.350
7.8	3.400	853.1	9.400	87.8	15.400	41.9	21.400	29.2	27.400
7.7	3.450	941.0	9.450	86.9	15.450	41.8	21.450	29.0	27.450
7.7	3.500	998.3	9.500	85.9	15.500	41.7	21.500	28.7	27.500
7.7	3.550	1034.4	9.550	84.9	15.550	41.6	21.550	28.5	27.550
7.7	3.600	1055.2	9.600	83.9	15.600	41.4	21.600	28.3	27.600
7.6	3.650	1064.9	9.650	83.0	15.650	41.3	21.650	28.0	27.650
7.6	3.700	1066.8	9.700	82.0	15.700	41.2	21.700	27.8	27.700
7.6	3.750	1063.8	9.750	81.1	15.750	41.1	21.750	27.6	27.750
7.5	3.800	1058.1	9.800	80.2	15.800	40.9	21.800	27.4	27.800
7.5	3.850	1050.8	9.850	79.3	15.850	40.8	21.850	27.2	27.850
7.5	3.900	1042.3	9.900	78.4	15.900	40.7	21.900	26.9	27.900
7.4	3.950	1033.2	9.950	77.6	15.950	40.6	21.950	26.7	27.950
7.4	4.000	1024.8	10.000	76.7	16.000	40.5	22.000	26.5	28.000
7.4	4.050	1018.3	10.050	75.9	16.050	40.3	22.050	26.3	28.050
7.3	4.100	1013.9	10.100	75.1	16.100	40.2	22.100	26.1	28.100
7.3	4.150	1009.6	10.150	74.3	16.150	40.1	22.150	25.9	28.150
7.3	4.200	1001.6	10.200	73.5	16.200	40.0	22.200	25.7	28.200
7.2	4.250	986.8	10.250	72.7	16.250	39.9	22.250	25.5	28.250
7.2	4.300	964.2	10.300	72.0	16.300	39.9	22.300	25.4	28.300
7.2	4.350	935.3	10.350	71.3	16.350	39.8	22.350	25.2	28.350
7.1	4.400	903.0	10.400	70.5	16.400	39.8	22.400	25.0	28.400
7.1	4.450	870.8	10.450	69.8	16.450	39.7	22.450	24.8	28.450
7.1	4.500	841.8	10.500	69.2	16.500	39.6	22.500	24.6	28.500
7.1	4.550	816.5	10.550	68.5	16.550	39.6	22.550	24.4	28.550
7.0	4.600	793.8	10.600	67.8	16.600	39.5	22.600	24.2	28.600
7.0	4.650	773.4	10.650	67.2	16.650	39.4	22.650	24.0	28.650
7.0	4.700	755.0	10.700	66.5	16.700	39.4	22.700	23.8	28.700
7.0									

4.750	737.7	10.750	65.9	16.750	39.3	22.750	23.6	28.750
6.9								
4.800	720.7	10.800	65.3	16.800	39.2	22.800	23.4	28.800
6.9								
4.850	703.0	10.850	64.7	16.850	39.2	22.850	23.2	28.850
6.8								
4.900	684.5	10.900	64.2	16.900	39.1	22.900	23.0	28.900
6.8								
4.950	683.4	10.950	63.6	16.950	39.0	22.950	22.8	28.950
6.7								
5.000	682.5	11.000	63.0	17.000	39.0	23.000	22.5	29.000
6.6								
5.050	681.5	11.050	62.5	17.050	38.9	23.050	22.3	29.050
6.5								
5.100	680.3	11.100	62.0	17.100	38.8	23.100	22.1	29.100
6.4								
5.150	679.0	11.150	61.7	17.150	38.8	23.150	21.9	29.150
6.3								
5.200	677.5	11.200	61.3	17.200	38.7	23.200	21.7	29.200
6.2								
5.250	675.9	11.250	61.0	17.250	38.6	23.250	21.5	29.250
6.1								
5.300	674.1	11.300	60.6	17.300	38.6	23.300	21.2	29.300
6.0								
5.350	672.1	11.350	60.3	17.350	38.5	23.350	21.0	29.350
5.8								
5.400	670.0	11.400	59.9	17.400	38.4	23.400	20.8	29.400
5.7								
5.450	667.8	11.450	59.6	17.450	38.3	23.450	20.6	29.450
5.6								
5.500	665.5	11.500	59.3	17.500	38.3	23.500	20.4	29.500
5.5								
5.550	663.0	11.550	58.9	17.550	38.2	23.550	20.2	29.550
5.4								
5.600	660.4	11.600	58.6	17.600	38.1	23.600	19.9	29.600
5.3								
5.650	657.7	11.650	58.2	17.650	38.0	23.650	19.7	29.650
5.1								
5.700	655.0	11.700	57.9	17.700	38.0	23.700	19.5	29.700
5.0								
5.750	651.6	11.750	57.6	17.750	37.9	23.750	19.3	29.750
4.9								
5.800	648.1	11.800	57.2	17.800	37.8	23.800	19.1	29.800
4.8								
5.850	644.5	11.850	56.9	17.850	37.8	23.850	18.9	29.850
4.7								
5.900	640.9	11.900	56.6	17.900	37.7	23.900	18.7	29.900
4.6								
5.950	637.2	11.950	56.2	17.950	37.6	23.950	18.5	29.950
4.5								

RUNOFF VOLUME = .51577 INCHES = 405.2797 ACRE-FEET
PEAK DISCHARGE RATE = 1066.81 CFS AT 3.700 HOURS BASIN AREA = 14.7333 SQ. MI.

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*
*S DIVIDE SURFACE FLOW FROM PIPE FLOW
*
DIVIDE HYD          ID=14  Q=372   ID=80   HYD=PIPE.80
                                   ID=90   HYD=SURF.90

PRINT HYD                  ID=80   CODE=1
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HYDROGRAPH FROM AREA PIPE.80

RUNOFF VOLUME = .51577 INCHES = 257.1398 ACRE-FEET
PEAK DISCHARGE RATE = 372.00 CFS AT 1.700 HOURS BASIN AREA = 9.3479 SQ. MI.

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PRINT HYD                  ID=90   CODE=1
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HYDROGRAPH FROM AREA SURF.90

RUNOFF VOLUME = .51577 INCHES = 148.1398 ACRE-FEET
PEAK DISCHARGE RATE = 694.81 CFS AT 3.700 HOURS BASIN AREA = 5.3854 SQ. MI.

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*S  APPLY SEDIMENT BULKING FACTOR
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SEDIMENT BULK          CODE=1   BULKING FACTOR = 1.05

*
**********************************************************************
*S
*S ADD BASINS DRAINING INTO THE TEMPORARY PONDS ALONG UNSER BLVD
*
**********************************************************************
**********************************************************************

**********************************************************************
*S
*                   COMPUTE HYD FOR SUB-BASIN 3
**********************************************************************
*
COMPUTE LT TP       LCODE=1        NK=3    ISLOPE=0
                          LENGTH=400      SLOPE=0.013     K=.7
                          LENGTH=1600     SLOPE=0.013     K=1
                          LENGTH=1250     SLOPE=0.013     K=2


     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
          NOTE: Upland factor input values have been adjusted to meet Upland/Lag Time requirements.
                                LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION            400.0           .013000             .7000
     SHALLOW FLOW PORTION         1600.0           .013000            2.0000
     CHANNEL FLOW PORTION         1250.0           .013000            3.0000
     TOTAL BASIN                  3250.0           .013000            1.8176


     TIME OF CONCENTRATION (HRS)=   .4356     TIME TO PEAK (HRS)=   .2904     LAG TIME (HRS)=   .3267

COMPUTE NM HYD      ID=3   HYD NO=3        DA=0.0957 SQ MI
                           PER A=97   PER B=0   PER C=0   PER D=3
                           TP=0.0  MASS RAIN=-1

     TIME TO PEAK (hrs)=   .2904

     K =   .160116HR    TP =   .290419HR    K/TP RATIO =   .551326     SHAPE CONSTANT, N =  7.002282
     UNIT PEAK =   5.1540    CFS   UNIT VOLUME =    .9978       B =   521.36      P60 = 1.6900
     AREA =      .002871 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .358404HR    TP =   .290419HR    K/TP RATIO =  1.234093     SHAPE CONSTANT, N =  2.886688
     UNIT PEAK =   87.085    CFS   UNIT VOLUME =    .9998       B =   272.45      P60 = 1.6900
     AREA =      .092829 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=3   CODE=5

                                    OUTFLOW HYDROGRAPH REACH     3.00

      TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME
FLOW
       HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS
CFS
      .000        .0         5.250        .4        10.500        .0        15.750        .0        21.000
  .0
      .250        .0         5.500        .3        10.750        .0        16.000        .0        21.250
  .0
      .500        .0         5.750        .3        11.000        .0        16.250        .0        21.500
  .0
      .750        .0         6.000        .2        11.250        .0        16.500        .0        21.750
  .0
     1.000        .1         6.250        .2        11.500        .0        16.750        .0        22.000
  .0
     1.250        .3         6.500        .2        11.750        .0        17.000        .0        22.250
  .0
     1.500      24.7         6.750        .1        12.000        .0        17.250        .0        22.500
  .0
     1.750      37.1         7.000        .1        12.250        .0        17.500        .0        22.750
  .0
     2.000      20.2         7.250        .1        12.500        .0        17.750        .0        23.000
  .0
     2.250      10.2         7.500        .1        12.750        .0        18.000        .0        23.250
  .0
     2.500       5.0         7.750        .1        13.000        .0        18.250        .0        23.500
  .0
     2.750       3.3         8.000        .1        13.250        .0        18.500        .0        23.750
  .0
     3.000       2.6         8.250        .1        13.500        .0        18.750        .0        24.000
  .0
     3.250       2.0         8.500        .1        13.750        .0        19.000        .0        24.250
  .0
     3.500       1.6         8.750        .1        14.000        .0        19.250        .0        24.500
  .0
```

3.750	1.3	9.000	.1	14.250	.0	19.500	.0	24.750
.0								
4.000	1.0	9.250	.1	14.500	.0	19.750	.0	25.000
.0								
4.250	.8	9.500	.1	14.750	.0	20.000	.0	25.250
.0								
4.500	.7	9.750	.1	15.000	.0	20.250	.0	
4.750	.5	10.000	.0	15.250	.0	20.500	.0	
5.000	.4	10.250	.0	15.500	.0	20.750	.0	

RUNOFF VOLUME = .46593 INCHES = 2.3781 ACRE-FEET
PEAK DISCHARGE RATE = 39.97 CFS AT 1.650 HOURS BASIN AREA = .0957 SQ. MI.

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*
*S ROUTE SUB-BASIN 3 THRU UNSER TEMP POND A
*
ROUTE RESERVOIR ID=1 HYD=4.9 INFLOW ID=3 CODE=2

OUTFLOW(CFS)	STORAGE(AC FT)	ELEV (FT)
0.0	0.0	5337
4.4	0.114	5338
6.7	0.493	5339
7.6	1.086	5340
8.5	1.779	5341

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TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	5337.00	.000	.00
.10	.00	5337.00	.000	.00
.20	.00	5337.00	.000	.00
.30	.00	5337.00	.000	.00
.40	.00	5337.00	.000	.00
.50	.00	5337.00	.000	.00
.60	.00	5337.00	.000	.00
.70	.00	5337.00	.000	.00
.80	.00	5337.00	.000	.00
.90	.05	5337.00	.000	.01
1.00	.14	5337.01	.001	.03
1.10	.23	5337.02	.002	.07
1.20	.28	5337.03	.003	.12
1.30	.44	5337.04	.005	.18
1.40	5.67	5337.17	.019	.75
1.50	24.70	5338.02	.123	4.45
1.60	37.98	5338.61	.346	5.81
1.70	39.42	5339.21	.618	6.89
1.80	33.85	5339.63	.864	7.26
1.90	26.44	5339.94	1.052	7.55
2.00	20.16	5340.14	1.180	7.72
2.10	15.43	5340.25	1.262	7.83
2.20	11.77	5340.32	1.309	7.89
2.30	8.86	5340.35	1.329	7.92
2.40	6.65	5340.35	1.327	7.91
2.50	5.03	5340.32	1.310	7.89
2.60	3.97	5340.28	1.282	7.85
2.70	3.52	5340.23	1.248	7.81
2.80	3.18	5340.18	1.211	7.76
2.90	2.88	5340.12	1.172	7.71
3.00	2.61	5340.07	1.131	7.66
3.10	2.36	5340.00	1.089	7.60
3.20	2.14	5339.93	1.045	7.54
3.30	1.95	5339.85	1.000	7.47
3.40	1.77	5339.78	.954	7.40
3.50	1.61	5339.70	.907	7.33
3.60	1.47	5339.62	.859	7.26
3.70	1.34	5339.54	.811	7.18
3.80	1.22	5339.45	.763	7.11
3.90	1.11	5339.37	.714	7.04
4.00	1.01	5339.29	.665	6.96
4.10	.93	5339.21	.615	6.89
4.20	.85	5339.12	.566	6.81
4.30	.78	5339.04	.517	6.74
4.40	.71	5338.93	.468	6.55
4.50	.66	5338.81	.421	6.26
4.60	.60	5338.69	.375	5.99
4.70	.56	5338.57	.332	5.72
4.80	.51	5338.46	.290	5.47
4.90	.48	5338.36	.250	5.22
5.00	.44	5338.26	.211	4.99
5.10	.41	5338.16	.175	4.77
5.20	.38	5338.07	.139	4.55
5.30	.35	5337.93	.106	4.10
5.40	.33	5337.70	.080	3.07
5.50	.31	5337.53	.060	2.32

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
5.60	.29	5337.40	.046	1.77
5.70	.27	5337.31	.035	1.36
5.80	.26	5337.24	.027	1.06
5.90	.24	5337.19	.022	.84
6.00	.23	5337.15	.017	.67
6.10	.22	5337.13	.014	.55
6.20	.20	5337.10	.012	.46
6.30	.19	5337.09	.010	.39
6.40	.17	5337.07	.009	.33
6.50	.16	5337.06	.007	.28
6.60	.15	5337.06	.006	.25
6.70	.14	5337.05	.006	.22
6.80	.13	5337.04	.005	.20
6.90	.12	5337.04	.005	.18
7.00	.12	5337.04	.004	.16
7.10	.11	5337.03	.004	.15
7.20	.11	5337.03	.004	.14
7.30	.10	5337.03	.003	.13
7.40	.10	5337.03	.003	.12
7.50	.09	5337.03	.003	.11
7.60	.09	5337.02	.003	.11
7.70	.09	5337.02	.003	.10
7.80	.08	5337.02	.003	.10
7.90	.08	5337.02	.002	.09
8.00	.08	5337.02	.002	.09
8.10	.08	5337.02	.002	.09
8.20	.07	5337.02	.002	.08
8.30	.07	5337.02	.002	.08
8.40	.07	5337.02	.002	.08
8.50	.07	5337.02	.002	.07
8.60	.07	5337.02	.002	.07
8.70	.06	5337.02	.002	.07
8.80	.06	5337.02	.002	.07
8.90	.06	5337.02	.002	.07
9.00	.06	5337.02	.002	.07
9.10	.06	5337.01	.002	.06
9.20	.06	5337.01	.002	.06
9.30	.06	5337.01	.002	.06
9.40	.06	5337.01	.002	.06
9.50	.06	5337.01	.002	.06
9.60	.06	5337.01	.002	.06
9.70	.05	5337.01	.001	.06
9.80	.05	5337.01	.001	.06
9.90	.05	5337.01	.001	.06
10.00	.05	5337.01	.001	.05
10.10	.05	5337.01	.001	.05
10.20	.05	5337.01	.001	.05
10.30	.05	5337.01	.001	.05
10.40	.05	5337.01	.001	.05
10.50	.05	5337.01	.001	.05
10.60	.05	5337.01	.001	.05
10.70	.05	5337.01	.001	.05
10.80	.05	5337.01	.001	.05
10.90	.05	5337.01	.001	.05
11.00	.05	5337.01	.001	.05
11.10	.05	5337.01	.001	.05

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
11.20	.05	5337.01	.001	.05
11.30	.05	5337.01	.001	.05
11.40	.05	5337.01	.001	.05
11.50	.05	5337.01	.001	.05
11.60	.05	5337.01	.001	.05
11.70	.04	5337.01	.001	.05
11.80	.04	5337.01	.001	.05
11.90	.04	5337.01	.001	.05
12.00	.04	5337.01	.001	.05
12.10	.04	5337.01	.001	.04
12.20	.04	5337.01	.001	.04
12.30	.04	5337.01	.001	.04
12.40	.04	5337.01	.001	.04
12.50	.04	5337.01	.001	.04
12.60	.04	5337.01	.001	.04
12.70	.04	5337.01	.001	.04
12.80	.04	5337.01	.001	.04
12.90	.04	5337.01	.001	.04
13.00	.04	5337.01	.001	.04
13.10	.04	5337.01	.001	.04
13.20	.04	5337.01	.001	.04
13.30	.04	5337.01	.001	.04
13.40	.04	5337.01	.001	.04
13.50	.04	5337.01	.001	.04
13.60	.04	5337.01	.001	.04
13.70	.04	5337.01	.001	.04
13.80	.04	5337.01	.001	.04
13.90	.04	5337.01	.001	.04

14.00	.04	5337.01	.001	.04
14.10	.04	5337.01	.001	.04
14.20	.04	5337.01	.001	.04
14.30	.04	5337.01	.001	.04
14.40	.04	5337.01	.001	.04
14.50	.04	5337.01	.001	.04
14.60	.04	5337.01	.001	.04
14.70	.04	5337.01	.001	.04
14.80	.04	5337.01	.001	.04
14.90	.04	5337.01	.001	.04
15.00	.04	5337.01	.001	.04
15.10	.04	5337.01	.001	.04
15.20	.04	5337.01	.001	.04
15.30	.04	5337.01	.001	.04
15.40	.04	5337.01	.001	.04
15.50	.04	5337.01	.001	.04
15.60	.04	5337.01	.001	.04
15.70	.04	5337.01	.001	.04
15.80	.04	5337.01	.001	.04
15.90	.04	5337.01	.001	.04
16.00	.04	5337.01	.001	.04
16.10	.04	5337.01	.001	.04
16.20	.04	5337.01	.001	.04
16.30	.04	5337.01	.001	.04
16.40	.04	5337.01	.001	.04
16.50	.04	5337.01	.001	.04
16.60	.04	5337.01	.001	.04
16.70	.04	5337.01	.001	.04

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
16.80	.04	5337.01	.001	.04
16.90	.04	5337.01	.001	.04
17.00	.04	5337.01	.001	.04
17.10	.04	5337.01	.001	.04
17.20	.04	5337.01	.001	.04
17.30	.04	5337.01	.001	.04
17.40	.04	5337.01	.001	.04
17.50	.03	5337.01	.001	.04
17.60	.03	5337.01	.001	.04
17.70	.03	5337.01	.001	.03
17.80	.03	5337.01	.001	.03
17.90	.03	5337.01	.001	.03
18.00	.03	5337.01	.001	.03
18.10	.03	5337.01	.001	.03
18.20	.03	5337.01	.001	.03
18.30	.03	5337.01	.001	.03
18.40	.03	5337.01	.001	.03
18.50	.03	5337.01	.001	.03
18.60	.03	5337.01	.001	.03
18.70	.03	5337.01	.001	.03
18.80	.03	5337.01	.001	.03
18.90	.03	5337.01	.001	.03
19.00	.03	5337.01	.001	.03
19.10	.03	5337.01	.001	.03
19.20	.03	5337.01	.001	.03
19.30	.03	5337.01	.001	.03
19.40	.03	5337.01	.001	.03
19.50	.03	5337.01	.001	.03
19.60	.03	5337.01	.001	.03
19.70	.03	5337.01	.001	.03
19.80	.03	5337.01	.001	.03
19.90	.03	5337.01	.001	.03
20.00	.03	5337.01	.001	.03
20.10	.03	5337.01	.001	.03
20.20	.03	5337.01	.001	.03
20.30	.03	5337.01	.001	.03
20.40	.03	5337.01	.001	.03
20.50	.03	5337.01	.001	.03
20.60	.03	5337.01	.001	.03
20.70	.03	5337.01	.001	.03
20.80	.03	5337.01	.001	.03
20.90	.03	5337.01	.001	.03
21.00	.03	5337.01	.001	.03
21.10	.03	5337.01	.001	.03
21.20	.03	5337.01	.001	.03
21.30	.03	5337.01	.001	.03
21.40	.03	5337.01	.001	.03
21.50	.03	5337.01	.001	.03
21.60	.03	5337.01	.001	.03
21.70	.03	5337.01	.001	.03
21.80	.03	5337.01	.001	.03
21.90	.03	5337.01	.001	.03
22.00	.03	5337.01	.001	.03
22.10	.03	5337.01	.001	.03
22.20	.03	5337.01	.001	.03
22.30	.03	5337.01	.001	.03

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

22.40	.03	5337.01	.001	.03
22.50	.03	5337.01	.001	.03
22.60	.03	5337.01	.001	.03
22.70	.03	5337.01	.001	.03
22.80	.03	5337.01	.001	.03
22.90	.03	5337.01	.001	.03
23.00	.03	5337.01	.001	.03
23.10	.03	5337.01	.001	.03
23.20	.03	5337.01	.001	.03
23.30	.03	5337.01	.001	.03
23.40	.03	5337.01	.001	.03
23.50	.03	5337.01	.001	.03
23.60	.03	5337.01	.001	.03
23.70	.03	5337.01	.001	.03
23.80	.03	5337.01	.001	.03
23.90	.03	5337.01	.001	.03
24.00	.03	5337.01	.001	.03
24.10	.03	5337.01	.001	.03
24.20	.02	5337.01	.001	.03
24.30	.02	5337.01	.001	.03
24.40	.01	5337.00	.001	.02
24.50	.01	5337.00	.000	.02
24.60	.00	5337.00	.000	.01
24.70	.00	5337.00	.000	.01
24.80	.00	5337.00	.000	.01
24.90	.00	5337.00	.000	.01
25.00	.00	5337.00	.000	.01
25.10	.00	5337.00	.000	.00

PEAK DISCHARGE = 7.917 CFS - PEAK OCCURS AT HOUR 2.35
MAXIMUM WATER SURFACE ELEVATION = 5340.353
MAXIMUM STORAGE = 1.3304 AC-FT INCREMENTAL TIME= .050000HRS

PRINT HYD ID=1 CODE=5

OUTFLOW HYDROGRAPH REACH 4.90

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.250	4.5	10.500	.0	15.750	.0	21.000	.0
.250	.0	5.500	2.3	10.750	.0	16.000	.0	21.250	.0
.500	.0	5.750	1.2	11.000	.0	16.250	.0	21.500	.0
.750	.0	6.000	.7	11.250	.0	16.500	.0	21.750	.0
1.000	.0	6.250	.4	11.500	.0	16.750	.0	22.000	.0
1.250	.1	6.500	.3	11.750	.0	17.000	.0	22.250	.0
1.500	4.5	6.750	.2	12.000	.0	17.250	.0	22.500	.0
1.750	7.1	7.000	.2	12.250	.0	17.500	.0	22.750	.0
2.000	7.7	7.250	.1	12.500	.0	17.750	.0	23.000	.0
2.250	7.9	7.500	.1	12.750	.0	18.000	.0	23.250	.0
2.500	7.9	7.750	.1	13.000	.0	18.250	.0	23.500	.0
2.750	7.8	8.000	.1	13.250	.0	18.500	.0	23.750	.0
3.000	7.7	8.250	.1	13.500	.0	18.750	.0	24.000	.0
3.250	7.5	8.500	.1	13.750	.0	19.000	.0	24.250	.0
3.500	7.3	8.750	.1	14.000	.0	19.250	.0	24.500	.0
3.750	7.1	9.000	.1	14.250	.0	19.500	.0	24.750	.0
4.000	7.0	9.250	.1	14.500	.0	19.750	.0	25.000	.0
4.250	6.8	9.500	.1	14.750	.0	20.000	.0	25.250	.0
4.500	6.3	9.750	.1	15.000	.0	20.250	.0	25.500	.0
4.750	5.6	10.000	.1	15.250	.0	20.500	.0		
5.000	5.0	10.250	.1	15.500	.0	20.750	.0		

RUNOFF VOLUME = .46592 INCHES = 2.3781 ACRE-FEET
PEAK DISCHARGE RATE = 7.92 CFS AT 2.350 HOURS BASIN AREA = .0957 SQ. MI.

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*
* COMPUTE HYD FOR SUB-BASIN 4

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**************************************************************************
*
COMPUTE LT TP       LCODE=1        NK=2    ISLOPE=0
                          LENGTH=400      SLOPE=0.017     K=.7
                          LENGTH=1053     SLOPE=0.017     K=1


     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
          NOTE: Upland factor input values have been adjusted to meet Upland/Lag Time requirements.
                                LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION            400.0            .017000             .7000
     SHALLOW FLOW PORTION         1053.0            .017000            2.0000
     CHANNEL FLOW PORTION            .0             .000000             .0000
     TOTAL BASIN                  1453.0            .017000            1.3234


     TIME OF CONCENTRATION (HRS)=   .2339     TIME TO PEAK (HRS)=   .1559     LAG TIME (HRS)=   .1754

COMPUTE NM HYD      ID=4   HYD NO=4        DA=0..0282 SQ MI
                           PER A=98   PER B=0   PER C=0   PER D=2
                           TP=0.0  MASS RAIN=-1

     TIME TO PEAK (hrs)=   .1559

     K =   .084987HR    TP =   .155939HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   1.9034    CFS   UNIT VOLUME =    .9945       B =   526.28      P60 = 1.6900
     AREA =      .000564 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .196792HR    TP =   .155939HR    K/TP RATIO =  1.261977     SHAPE CONSTANT, N =  2.829424
     UNIT PEAK =   47.426    CFS   UNIT VOLUME =    .9986       B =   267.61      P60 = 1.6900
     AREA =      .027636 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=4   CODE=5

                                    OUTFLOW HYDROGRAPH REACH     4.00

      TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME
FLOW
       HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS
CFS
      .000        .0         5.000        .0        10.000        .0        15.000        .0        20.000
  .0
      .250        .0         5.250        .0        10.250        .0        15.250        .0        20.250
  .0
      .500        .0         5.500        .0        10.500        .0        15.500        .0        20.500
  .0
      .750        .0         5.750        .0        10.750        .0        15.750        .0        20.750
  .0
     1.000        .1         6.000        .0        11.000        .0        16.000        .0        21.000
  .0
     1.250        .1         6.250        .0        11.250        .0        16.250        .0        21.250
  .0
     1.500      19.0         6.500        .0        11.500        .0        16.500        .0        21.500
  .0
     1.750       8.6         6.750        .0        11.750        .0        16.750        .0        21.750
  .0
     2.000       2.6         7.000        .0        12.000        .0        17.000        .0        22.000
  .0
     2.250       1.4         7.250        .0        12.250        .0        17.250        .0        22.250
  .0
     2.500        .9         7.500        .0        12.500        .0        17.500        .0        22.500
  .0
     2.750        .6         7.750        .0        12.750        .0        17.750        .0        22.750
  .0
     3.000        .4         8.000        .0        13.000        .0        18.000        .0        23.000
  .0
     3.250        .3         8.250        .0        13.250        .0        18.250        .0        23.250
  .0
     3.500        .2         8.500        .0        13.500        .0        18.500        .0        23.500
  .0
     3.750        .1         8.750        .0        13.750        .0        18.750        .0        23.750
  .0
     4.000        .1         9.000        .0        14.000        .0        19.000        .0        24.000
  .0
     4.250        .1         9.250        .0        14.250        .0        19.250        .0        24.250
  .0
     4.500        .0         9.500        .0        14.500        .0        19.500        .0
     4.750        .0         9.750        .0        14.750        .0        19.750        .0

    RUNOFF VOLUME =      .44594 INCHES     =        .6707 ACRE-FEET
    PEAK DISCHARGE RATE =      19.54 CFS  AT   1.550 HOURS   BASIN AREA =   .0282 SQ. MI.
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*****************************************************************************
*
*S ADD ROUTED FLOW FROM TEMP POND A TO SUB-BASIN 4
*
*S ADD SUB-BASINS 3 AND 4
*
ADD HYD             ID=2  HYD NO=4.2 ID I=1 ID II=4
PRINT HYD           ID=2   CODE=1

                                      OUTFLOW HYDROGRAPH REACH     4.20


    RUNOFF VOLUME =      .46137 INCHES     =       3.0487 ACRE-FEET
    PEAK DISCHARGE RATE =      24.60 CFS  AT   1.550 HOURS   BASIN AREA =   .1239 SQ. MI.



*
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*
*S ROUTE THRU UNSER TEMP POND B
*
ROUTE RESERVOIR         ID=1 HYD=5.9 INFLOW ID=2 CODE=2
                        OUTFLOW(CFS)    STORAGE(AC FT)  ELEV (FT)
                                  0.0             0.0             5333
                                 0.01            0.16             5334
                                  2.6             0.50             5335
                                  5.1             0.71           5335.5
                                  8.0            0.918             5336


  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *

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

      .00        .00   5333.00       .000       .00
      .10        .00   5333.00       .000       .00
      .20        .00   5333.00       .000       .00
      .30        .00   5333.00       .000       .00
      .40        .00   5333.00       .000       .00
      .50        .00   5333.00       .000       .00
      .60        .00   5333.00       .000       .00
      .70        .00   5333.00       .000       .00
      .80        .01   5333.00       .000       .00
      .90        .05   5333.00       .000       .00
     1.00        .09   5333.00       .001       .00
     1.10        .14   5333.01       .002       .00
     1.20        .20   5333.02       .003       .00
     1.30        .46   5333.04       .006       .00
     1.40       7.14   5333.17       .027       .00
     1.50      23.49   5333.99       .158       .01
     1.60      23.06   5334.56       .350      1.46
     1.70      17.87   5335.01       .502      2.63
     1.80      14.00   5335.25       .606      3.86
     1.90      11.73   5335.42       .676      4.70
     2.00      10.36   5335.54       .726      5.32
     2.10       9.79   5335.63       .762      5.83
     2.20       9.46   5335.70       .792      6.24
     2.30       9.21   5335.76       .816      6.58
     2.40       8.99   5335.80       .836      6.85
     2.50       8.80   5335.84       .852      7.08
     2.60       8.61   5335.87       .864      7.25
     2.70       8.45   5335.90       .874      7.39
     2.80       8.30   5335.91       .882      7.50
     2.90       8.17   5335.93       .888      7.58
     3.00       8.05   5335.94       .892      7.64
     3.10       7.93   5335.94       .895      7.67
     3.20       7.82   5335.95       .896      7.70
     3.30       7.71   5335.95       .897      7.70
     3.40       7.60   5335.95       .896      7.70
     3.50       7.50   5335.95       .895      7.68
     3.60       7.40   5335.94       .893      7.66
     3.70       7.31   5335.94       .891      7.62
     3.80       7.22   5335.93       .888      7.58
     3.90       7.13   5335.92       .885      7.54
     4.00       7.04   5335.91       .881      7.49
     4.10       6.96   5335.90       .878      7.44
     4.20       6.87   5335.89       .874      7.38
     4.30       6.79   5335.88       .869      7.32
     4.40       6.60   5335.87       .865      7.26
     4.50       6.31   5335.86       .858      7.17
     4.60       6.03   5335.84       .850      7.06
     4.70       5.76   5335.82       .841      6.93
     4.80       5.50   5335.79       .831      6.79
     4.90       5.25   5335.76       .820      6.63
     5.00       5.02   5335.74       .808      6.47
     5.10       4.79   5335.71       .796      6.30
     5.20       4.58   5335.68       .784      6.12
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5.30	4.12	5335.64	.770	5.94
5.40	3.09	5335.60	.752	5.68
5.50	2.34	5335.54	.728	5.36

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
5.60	1.79	5335.48	.703	5.01
5.70	1.38	5335.42	.675	4.69
5.80	1.08	5335.35	.648	4.36
5.90	.86	5335.29	.621	4.04
6.00	.69	5335.23	.596	3.74
6.10	.57	5335.17	.571	3.45
6.20	.47	5335.11	.548	3.17
6.30	.40	5335.06	.526	2.91
6.40	.34	5335.02	.506	2.68
6.50	.30	5334.96	.488	2.51
6.60	.26	5334.91	.470	2.37
6.70	.23	5334.86	.453	2.24
6.80	.21	5334.81	.437	2.12
6.90	.19	5334.77	.421	2.00
7.00	.17	5334.73	.407	1.89
7.10	.16	5334.68	.393	1.78
7.20	.15	5334.65	.380	1.68
7.30	.14	5334.61	.367	1.59
7.40	.13	5334.58	.356	1.50
7.50	.12	5334.54	.345	1.42
7.60	.12	5334.51	.334	1.34
7.70	.11	5334.48	.325	1.26
7.80	.11	5334.46	.315	1.19
7.90	.10	5334.43	.307	1.13
8.00	.10	5334.41	.298	1.06
8.10	.10	5334.38	.291	1.01
8.20	.09	5334.36	.283	.95
8.30	.09	5334.34	.277	.90
8.40	.09	5334.32	.270	.85
8.50	.09	5334.31	.264	.80
8.60	.08	5334.29	.258	.76
8.70	.08	5334.27	.253	.72
8.80	.08	5334.26	.248	.68
8.90	.08	5334.24	.243	.64
9.00	.08	5334.23	.238	.61
9.10	.07	5334.22	.234	.57
9.20	.07	5334.21	.230	.54
9.30	.07	5334.19	.226	.52
9.40	.07	5334.18	.223	.49
9.50	.07	5334.17	.219	.46
9.60	.07	5334.17	.216	.44
9.70	.07	5334.16	.213	.42
9.80	.07	5334.15	.210	.39
9.90	.07	5334.14	.208	.37
10.00	.06	5334.13	.205	.36
10.10	.06	5334.13	.203	.34
10.20	.06	5334.12	.201	.32
10.30	.06	5334.11	.199	.31
10.40	.06	5334.11	.197	.29
10.50	.06	5334.10	.195	.28
10.60	.06	5334.10	.193	.26
10.70	.06	5334.09	.192	.25
10.80	.06	5334.09	.190	.24
10.90	.06	5334.08	.189	.23
11.00	.06	5334.08	.187	.22
11.10	.06	5334.08	.186	.21

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
11.20	.06	5334.07	.185	.20
11.30	.06	5334.07	.184	.19
11.40	.06	5334.07	.182	.18
11.50	.06	5334.06	.181	.17
11.60	.05	5334.06	.181	.17
11.70	.05	5334.06	.180	.16
11.80	.05	5334.06	.179	.15
11.90	.05	5334.05	.178	.15
12.00	.05	5334.05	.177	.14
12.10	.05	5334.05	.177	.14
12.20	.05	5334.05	.176	.13
12.30	.05	5334.04	.175	.13
12.40	.05	5334.04	.175	.12
12.50	.05	5334.04	.174	.12
12.60	.05	5334.04	.174	.11
12.70	.05	5334.04	.173	.11
12.80	.05	5334.04	.173	.11
12.90	.05	5334.04	.172	.10
13.00	.05	5334.03	.172	.10
13.10	.05	5334.03	.171	.10
13.20	.05	5334.03	.171	.09
13.30	.05	5334.03	.171	.09
13.40	.05	5334.03	.170	.09
13.50	.05	5334.03	.170	.09

13.60	.05	5334.03	.170	.08
13.70	.05	5334.03	.169	.08
13.80	.05	5334.03	.169	.08
13.90	.05	5334.03	.169	.08
14.00	.05	5334.03	.169	.08
14.10	.05	5334.02	.168	.07
14.20	.05	5334.02	.168	.07
14.30	.05	5334.02	.168	.07
14.40	.05	5334.02	.168	.07
14.50	.05	5334.02	.168	.07
14.60	.05	5334.02	.168	.07
14.70	.05	5334.02	.167	.07
14.80	.05	5334.02	.167	.06
14.90	.05	5334.02	.167	.06
15.00	.05	5334.02	.167	.06
15.10	.05	5334.02	.167	.06
15.20	.05	5334.02	.167	.06
15.30	.05	5334.02	.167	.06
15.40	.05	5334.02	.166	.06
15.50	.05	5334.02	.166	.06
15.60	.05	5334.02	.166	.06
15.70	.05	5334.02	.166	.06
15.80	.04	5334.02	.166	.06
15.90	.04	5334.02	.166	.06
16.00	.04	5334.02	.166	.05
16.10	.04	5334.02	.166	.05
16.20	.04	5334.02	.166	.05
16.30	.04	5334.02	.166	.05
16.40	.04	5334.02	.166	.05
16.50	.04	5334.02	.165	.05
16.60	.04	5334.02	.165	.05
16.70	.04	5334.02	.165	.05

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
16.80	.04	5334.02	.165	.05
16.90	.04	5334.02	.165	.05
17.00	.04	5334.02	.165	.05
17.10	.04	5334.02	.165	.05
17.20	.04	5334.02	.165	.05
17.30	.04	5334.01	.165	.05
17.40	.04	5334.01	.165	.05
17.50	.04	5334.01	.165	.05
17.60	.04	5334.01	.165	.05
17.70	.04	5334.01	.165	.05
17.80	.04	5334.01	.165	.05
17.90	.04	5334.01	.165	.05
18.00	.04	5334.01	.165	.05
18.10	.04	5334.01	.165	.05
18.20	.04	5334.01	.165	.05
18.30	.04	5334.01	.165	.05
18.40	.04	5334.01	.165	.04
18.50	.04	5334.01	.165	.04
18.60	.04	5334.01	.165	.04
18.70	.04	5334.01	.164	.04
18.80	.04	5334.01	.164	.04
18.90	.04	5334.01	.164	.04
19.00	.04	5334.01	.164	.04
19.10	.04	5334.01	.164	.04
19.20	.04	5334.01	.164	.04
19.30	.04	5334.01	.164	.04
19.40	.04	5334.01	.164	.04
19.50	.04	5334.01	.164	.04
19.60	.04	5334.01	.164	.04
19.70	.04	5334.01	.164	.04
19.80	.04	5334.01	.164	.04
19.90	.04	5334.01	.164	.04
20.00	.04	5334.01	.164	.04
20.10	.04	5334.01	.164	.04
20.20	.04	5334.01	.164	.04
20.30	.04	5334.01	.164	.04
20.40	.04	5334.01	.164	.04
20.50	.04	5334.01	.164	.04
20.60	.04	5334.01	.164	.04
20.70	.04	5334.01	.164	.04
20.80	.04	5334.01	.164	.04
20.90	.04	5334.01	.164	.04
21.00	.04	5334.01	.164	.04
21.10	.04	5334.01	.164	.04
21.20	.04	5334.01	.164	.04
21.30	.04	5334.01	.164	.04
21.40	.04	5334.01	.164	.04
21.50	.04	5334.01	.164	.04
21.60	.04	5334.01	.164	.04
21.70	.04	5334.01	.164	.04
21.80	.04	5334.01	.164	.04
21.90	.04	5334.01	.164	.04
22.00	.04	5334.01	.164	.04
22.10	.04	5334.01	.164	.04
22.20	.04	5334.01	.164	.04

22.30	.04	5334.01	.164	.04

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
22.40	.04	5334.01	.164	.04
22.50	.04	5334.01	.164	.04
22.60	.04	5334.01	.164	.04
22.70	.03	5334.01	.164	.04
22.80	.03	5334.01	.164	.04
22.90	.03	5334.01	.164	.04
23.00	.03	5334.01	.164	.04
23.10	.03	5334.01	.163	.04
23.20	.03	5334.01	.163	.04
23.30	.03	5334.01	.163	.04
23.40	.03	5334.01	.163	.04
23.50	.03	5334.01	.163	.04
23.60	.03	5334.01	.163	.04
23.70	.03	5334.01	.163	.04
23.80	.03	5334.01	.163	.04
23.90	.03	5334.01	.163	.04
24.00	.03	5334.01	.163	.04
24.10	.03	5334.01	.163	.04
24.20	.03	5334.01	.163	.04
24.30	.03	5334.01	.163	.03
24.40	.02	5334.01	.163	.03
24.50	.02	5334.01	.163	.03
24.60	.01	5334.01	.163	.03
24.70	.01	5334.01	.163	.03
24.80	.01	5334.01	.163	.03
24.90	.01	5334.01	.162	.03
25.00	.01	5334.01	.162	.03
25.10	.00	5334.01	.162	.03
25.20	.00	5334.01	.162	.02
25.30	.00	5334.00	.162	.02
25.40	.00	5334.00	.162	.02
25.50	.00	5334.00	.161	.02
25.60	.00	5334.00	.161	.02
25.70	.00	5334.00	.161	.02
25.80	.00	5334.00	.161	.02
25.90	.00	5334.00	.161	.02
26.00	.00	5334.00	.161	.02
26.10	.00	5334.00	.161	.01
26.20	.00	5334.00	.160	.01
26.30	.00	5334.00	.160	.01
26.40	.00	5334.00	.160	.01
26.50	.00	5334.00	.160	.01
26.60	.00	5334.00	.160	.01
26.70	.00	5334.00	.160	.01
26.80	.00	5334.00	.160	.01
26.90	.00	5334.00	.160	.01
27.00	.00	5334.00	.160	.01
27.10	.00	5334.00	.160	.01
27.20	.00	5334.00	.160	.01
27.30	.00	5334.00	.159	.01
27.40	.00	5334.00	.159	.01
27.50	.00	5334.00	.159	.01
27.60	.00	5334.00	.159	.01
27.70	.00	5333.99	.159	.01
27.80	.00	5333.99	.159	.01
27.90	.00	5333.99	.159	.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
28.00	.00	5333.99	.159	.01
28.10	.00	5333.99	.159	.01
28.20	.00	5333.99	.159	.01
28.30	.00	5333.99	.159	.01
28.40	.00	5333.99	.159	.01
28.50	.00	5333.99	.158	.01
28.60	.00	5333.99	.158	.01
28.70	.00	5333.99	.158	.01
28.80	.00	5333.99	.158	.01
28.90	.00	5333.99	.158	.01
29.00	.00	5333.99	.158	.01
29.10	.00	5333.99	.158	.01
29.20	.00	5333.99	.158	.01
29.30	.00	5333.99	.158	.01
29.40	.00	5333.99	.158	.01
29.50	.00	5333.99	.158	.01
29.60	.00	5333.98	.158	.01
29.70	.00	5333.98	.158	.01
29.80	.00	5333.98	.157	.01
29.90	.00	5333.98	.157	.01

PEAK DISCHARGE = 7.703 CFS - PEAK OCCURS AT HOUR 3.30
MAXIMUM WATER SURFACE ELEVATION = 5335.949
MAXIMUM STORAGE = .8967 AC-FT INCREMENTAL TIME= .050000HRS

PRINT HYD ID=1 CODE=5

OUTFLOW HYDROGRAPH REACH 5.90

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	3.7	12.000	.1	18.000	.0	24.000	.0
.250	.0	6.250	3.0	12.250	.1	18.250	.0	24.250	.0
.500	.0	6.500	2.5	12.500	.1	18.500	.0	24.500	.0
.750	.0	6.750	2.2	12.750	.1	18.750	.0	24.750	.0
1.000	.0	7.000	1.9	13.000	.1	19.000	.0	25.000	.0
1.250	.0	7.250	1.6	13.250	.1	19.250	.0	25.250	.0
1.500	.0	7.500	1.4	13.500	.1	19.500	.0	25.500	.0
1.750	3.3	7.750	1.2	13.750	.1	19.750	.0	25.750	.0
2.000	5.3	8.000	1.1	14.000	.1	20.000	.0	26.000	.0
2.250	6.4	8.250	.9	14.250	.1	20.250	.0	26.250	.0
2.500	7.1	8.500	.8	14.500	.1	20.500	.0	26.500	.0
2.750	7.4	8.750	.7	14.750	.1	20.750	.0	26.750	.0
3.000	7.6	9.000	.6	15.000	.1	21.000	.0	27.000	.0
3.250	7.7	9.250	.5	15.250	.1	21.250	.0	27.250	.0
3.500	7.7	9.500	.5	15.500	.1	21.500	.0	27.500	.0
3.750	7.6	9.750	.4	15.750	.1	21.750	.0	27.750	.0
4.000	7.5	10.000	.4	16.000	.1	22.000	.0	28.000	.0
4.250	7.4	10.250	.3	16.250	.1	22.250	.0	28.250	.0
4.500	7.2	10.500	.3	16.500	.1	22.500	.0	28.500	.0
4.750	6.9	10.750	.2	16.750	.1	22.750	.0	28.750	.0
5.000	6.5	11.000	.2	17.000	.0	23.000	.0	29.000	.0
5.250	6.0	11.250	.2	17.250	.0	23.250	.0	29.250	.0
5.500	5.4	11.500	.2	17.500	.0	23.500	.0	29.500	.0
5.750	4.5	11.750	.2	17.750	.0	23.750	.0	29.750	.0

RUNOFF VOLUME = .43757 INCHES = 2.8914 ACRE-FEET
PEAK DISCHARGE RATE = 7.70 CFS AT 3.300 HOURS BASIN AREA = .1239 SQ. MI.

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*
*S ROUTE THRU 24"IN ALMENDRA PL
*
COMPUTE RATING CURVE       CID=1   VS NO=1 NO SEGS=-1  SLP=0.011
                                   DIAM=2.0 FT     N=0.013
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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	.54	1.22
.31	.31	1.26	1.45
.42	.47	2.26	1.62
.52	.65	3.53	1.76
.63	.84	5.03	1.85
.73	1.04	6.74	1.93
.83	1.24	8.62	1.97
.94	1.45	10.63	2.00
1.04	1.66	12.72	2.00
1.15	1.86	14.85	2.00
1.25	2.07	16.96	2.00
1.35	2.27	19.01	2.00
1.46	2.46	20.93	2.00
1.56	2.63	22.65	2.00
1.67	2.80	24.08	2.00

1.77	2.94	25.10	2.00
1.88	3.06	25.52	2.00
2.00	3.14	25.52	2.00

ROUTE MCUNGE ID=2 HYD NO=5.92 INFLOW ID=1
DT=0.0 HR LENGTH=48.6 FT
NS=0 SLOPE=0.011 CODE=5

ZERO VALUE HYDROGRAPH OR SHORT ROUTE - ROUTING BYPASSED
PRINT HYD ID=2 CODE=5

OUTFLOW HYDROGRAPH REACH 5.92

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	3.7	12.000	.1	18.000	.0	24.000	.0
.250	.0	6.250	3.0	12.250	.1	18.250	.0	24.250	.0
.500	.0	6.500	2.5	12.500	.1	18.500	.0	24.500	.0
.750	.0	6.750	2.2	12.750	.1	18.750	.0	24.750	.0
1.000	.0	7.000	1.9	13.000	.1	19.000	.0	25.000	.0
1.250	.0	7.250	1.6	13.250	.1	19.250	.0	25.250	.0
1.500	.0	7.500	1.4	13.500	.1	19.500	.0	25.500	.0
1.750	3.3	7.750	1.2	13.750	.1	19.750	.0	25.750	.0
2.000	5.3	8.000	1.1	14.000	.1	20.000	.0	26.000	.0
2.250	6.4	8.250	.9	14.250	.1	20.250	.0	26.250	.0
2.500	7.1	8.500	.8	14.500	.1	20.500	.0	26.500	.0
2.750	7.4	8.750	.7	14.750	.1	20.750	.0	26.750	.0
3.000	7.6	9.000	.6	15.000	.1	21.000	.0	27.000	.0
3.250	7.7	9.250	.5	15.250	.1	21.250	.0	27.250	.0
3.500	7.7	9.500	.5	15.500	.1	21.500	.0	27.500	.0
3.750	7.6	9.750	.4	15.750	.1	21.750	.0	27.750	.0
4.000	7.5	10.000	.4	16.000	.1	22.000	.0	28.000	.0
4.250	7.4	10.250	.3	16.250	.1	22.250	.0	28.250	.0
4.500	7.2	10.500	.3	16.500	.1	22.500	.0	28.500	.0
4.750	6.9	10.750	.2	16.750	.1	22.750	.0	28.750	.0
5.000	6.5	11.000	.2	17.000	.0	23.000	.0	29.000	.0
5.250	6.0	11.250	.2	17.250	.0	23.250	.0	29.250	.0
5.500	5.4	11.500	.2	17.500	.0	23.500	.0	29.500	.0
5.750	4.5	11.750	.2	17.750	.0	23.750	.0	29.750	.0

RUNOFF VOLUME = .43757 INCHES = 2.8914 ACRE-FEET
PEAK DISCHARGE RATE = 7.70 CFS AT 3.300 HOURS BASIN AREA = .1239 SQ. MI.

*

****
* COMPUTE HYD FOR SUB-BASIN 5
****
*
COMPUTE LT TP LCODE=1 NK=3 ISLOPE=0
LENGTH=400 SLOPE=0.017 K=.7
LENGTH=1600 SLOPE=0.017 K=1
LENGTH=2000 SLOPE=0.017 K=2

Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

SCS UPLAND METHOD FACTORS
NOTE: Upland factor input values have been adjusted to meet Upland/Lag Time requirements.

	LENGTH (FT)	SLOPE (FT/FT)	COMPOSITE K
SHEET FLOW PORTION	400.0	.017000	.7000
SHALLOW FLOW PORTION	1600.0	.017000	2.0000
CHANNEL FLOW PORTION	2000.0	.017000	3.0000
TOTAL BASIN	4000.0	.017000	1.9626

```
     TIME OF CONCENTRATION (HRS)=   .4342     TIME TO PEAK (HRS)=   .2895     LAG TIME (HRS)=   .3257

 COMPUTE NM HYD      ID=5   HYD NO=5        DA=0.0940 SQ MI
                            PER A=98   PER B=0   PER C=0   PER D=2
                            TP=0.0  MASS RAIN=-1

     TIME TO PEAK (hrs)=   .2895

     K =   .159500HR    TP =   .289472HR    K/TP RATIO =   .551002     SHAPE CONSTANT, N =  7.007543
     UNIT PEAK =   3.3877    CFS   UNIT VOLUME =    .9967       B =   521.61      P60 = 1.6900
     AREA =      .001880 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .357648HR    TP =   .289472HR    K/TP RATIO =  1.235521     SHAPE CONSTANT, N =  2.883674
     UNIT PEAK =   86.622    CFS   UNIT VOLUME =    .9997       B =   272.20      P60 = 1.6900
     AREA =      .092120 SQ MI    IA =    .65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

 PRINT HYD           ID=5   CODE=5

                                      OUTFLOW HYDROGRAPH REACH     5.00

      TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME
FLOW
       HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS
CFS
      .000        .0         5.250        .3        10.500        .0        15.750        .0        21.000
  .0
      .250        .0         5.500        .3        10.750        .0        16.000        .0        21.250
  .0
      .500        .0         5.750        .2        11.000        .0        16.250        .0        21.500
  .0
      .750        .0         6.000        .2        11.250        .0        16.500        .0        21.750
  .0
     1.000        .1         6.250        .2        11.500        .0        16.750        .0        22.000
  .0
     1.250        .2         6.500        .1        11.750        .0        17.000        .0        22.250
  .0
     1.500      23.6         6.750        .1        12.000        .0        17.250        .0        22.500
  .0
     1.750      35.3         7.000        .1        12.250        .0        17.500        .0        22.750
  .0
     2.000      19.1         7.250        .1        12.500        .0        17.750        .0        23.000
  .0
     2.250       9.6         7.500        .1        12.750        .0        18.000        .0        23.250
  .0
     2.500       4.7         7.750        .1        13.000        .0        18.250        .0        23.500
  .0
     2.750       3.2         8.000        .1        13.250        .0        18.500        .0        23.750
  .0
     3.000       2.5         8.250        .1        13.500        .0        18.750        .0        24.000
  .0
     3.250       2.0         8.500        .0        13.750        .0        19.000        .0        24.250
  .0
     3.500       1.5         8.750        .0        14.000        .0        19.250        .0        24.500
  .0
     3.750       1.2         9.000        .0        14.250        .0        19.500        .0        24.750
  .0
     4.000       1.0         9.250        .0        14.500        .0        19.750        .0        25.000
  .0
     4.250        .8         9.500        .0        14.750        .0        20.000        .0
     4.500        .6         9.750        .0        15.000        .0        20.250        .0
     4.750        .5        10.000        .0        15.250        .0        20.500        .0
     5.000        .4        10.250        .0        15.500        .0        20.750        .0

     RUNOFF VOLUME =      .44594 INCHES     =       2.2356 ACRE-FEET
     PEAK DISCHARGE RATE =      38.02 CFS  AT   1.650 HOURS   BASIN AREA =   .0940 SQ. MI.


 *
 ***********************************************************************
 *S
 *S ADD ROUTED FLOW FROM TEMP POND B TO SUB-BASIN 5

 ADD HYD             ID=1  HYD NO=5.1 ID I=2 ID II=5
 PRINT HYD           ID=1   CODE=1

                                      OUTFLOW HYDROGRAPH REACH     5.10


     RUNOFF VOLUME =      .44118 INCHES     =       5.1270 ACRE-FEET
     PEAK DISCHARGE RATE =      40.11 CFS  AT   1.700 HOURS   BASIN AREA =   .2179 SQ. MI.
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**************************************************************************
*
*S ROUTE THRU UNSER TEMP POND C
*
ROUTE RESERVOIR         ID=3 HYD=5.93 INFLOW ID=1 CODE=2
                        OUTFLOW(CFS)    STORAGE(AC FT)  ELEV (FT)
                                  0.0             0.0             5329
                                  1.3             0.173           5330
                                  5.7             0.509           5331
                                  12              0.946           5332
                                  19.7            1.211           5333


  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *

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

      .00        .00   5329.00       .000       .00
      .10        .00   5329.00       .000       .00
      .20        .00   5329.00       .000       .00
      .30        .00   5329.00       .000       .00
      .40        .00   5329.00       .000       .00
      .50        .00   5329.00       .000       .00
      .60        .00   5329.00       .000       .00
      .70        .00   5329.00       .000       .00
      .80        .00   5329.00       .000       .00
      .90        .03   5329.00       .000       .00
     1.00        .09   5329.00       .001       .00
     1.10        .15   5329.01       .002       .01
     1.20        .18   5329.02       .003       .02
     1.30        .29   5329.03       .004       .03
     1.40       5.27   5329.11       .019       .15
     1.50      23.66   5329.77       .133      1.00
     1.60      37.65   5330.60       .373      3.92
     1.70      40.11   5331.33       .651      7.75
     1.80      36.05   5331.87       .890     11.19
     1.90      29.81   5332.41      1.054     15.13
     2.00      24.41   5332.73      1.140     17.65
     2.10      20.39   5332.86      1.174     18.64
     2.20      17.31   5332.87      1.175     18.66
     2.30      14.92   5332.79      1.156     18.10
     2.40      13.12   5332.68      1.126     17.22
     2.50      11.82   5332.54      1.090     16.19
     2.60      11.00   5332.41      1.055     15.16
     2.70      10.73   5332.29      1.023     14.24
     2.80      10.52   5332.19       .996     13.46
     2.90      10.32   5332.11       .974     12.81
     3.00      10.12   5332.03       .955     12.26
     3.10       9.93   5331.98       .938     11.89
     3.20       9.75   5331.95       .922     11.66
     3.30       9.57   5331.91       .907     11.43
     3.40       9.39   5331.88       .891     11.21
     3.50       9.22   5331.84       .877     11.00
     3.60       9.06   5331.81       .862     10.79
     3.70       8.90   5331.78       .848     10.59
     3.80       8.75   5331.74       .834     10.39
     3.90       8.60   5331.71       .821     10.20
     4.00       8.46   5331.68       .808     10.01
     4.10       8.32   5331.65       .795      9.83
     4.20       8.19   5331.63       .783      9.65
     4.30       8.06   5331.60       .771      9.48
     4.40       7.93   5331.57       .759      9.31
     4.50       7.79   5331.55       .748      9.15
     4.60       7.63   5331.52       .737      8.99
     4.70       7.45   5331.50       .726      8.82
     4.80       7.27   5331.47       .714      8.66
     4.90       7.08   5331.44       .703      8.49
     5.00       6.88   5331.42       .691      8.32
     5.10       6.68   5331.39       .679      8.15
     5.20       6.47   5331.36       .667      7.97
     5.30       6.26   5331.33       .654      7.79
     5.40       5.98   5331.30       .641      7.60
     5.50       5.63   5331.27       .627      7.40

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

     5.60       5.27   5331.24       .612      7.18
     5.70       4.93   5331.20       .596      6.95
     5.80       4.59   5331.16       .579      6.70
     5.90       4.26   5331.12       .561      6.45
     6.00       3.94   5331.08       .542      6.18
     6.10       3.63   5331.03       .524      5.91
     6.20       3.34   5330.99       .505      5.64
     6.30       3.07   5330.93       .486      5.39
     6.40       2.82   5330.87       .466      5.14
     6.50       2.64   5330.82       .447      4.89
     6.60       2.49   5330.76       .429      4.65
     6.70       2.36   5330.71       .412      4.43
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6.80	2.22	5330.66	.395	4.21
6.90	2.10	5330.61	.379	4.00
7.00	1.98	5330.57	.364	3.80
7.10	1.87	5330.52	.349	3.60
7.20	1.77	5330.48	.335	3.42
7.30	1.67	5330.44	.322	3.25
7.40	1.58	5330.40	.309	3.08
7.50	1.49	5330.37	.297	2.92
7.60	1.41	5330.33	.285	2.77
7.70	1.33	5330.30	.274	2.63
7.80	1.26	5330.27	.264	2.49
7.90	1.19	5330.24	.254	2.36
8.00	1.12	5330.21	.244	2.24
8.10	1.06	5330.19	.236	2.12
8.20	1.00	5330.16	.227	2.01
8.30	.95	5330.14	.219	1.90
8.40	.90	5330.11	.211	1.80
8.50	.85	5330.09	.204	1.71
8.60	.81	5330.07	.197	1.62
8.70	.76	5330.05	.191	1.53
8.80	.72	5330.03	.184	1.45
8.90	.69	5330.02	.179	1.37
9.00	.65	5330.00	.173	1.30
9.10	.62	5329.97	.168	1.26
9.20	.58	5329.94	.162	1.22
9.30	.56	5329.91	.157	1.18
9.40	.53	5329.88	.152	1.14
9.50	.50	5329.85	.147	1.10
9.60	.48	5329.82	.142	1.07
9.70	.45	5329.79	.137	1.03
9.80	.43	5329.77	.133	1.00
9.90	.41	5329.74	.128	.96
10.00	.39	5329.71	.123	.93
10.10	.37	5329.69	.119	.89
10.20	.35	5329.66	.115	.86
10.30	.34	5329.64	.111	.83
10.40	.32	5329.62	.107	.80
10.50	.31	5329.59	.103	.77
10.60	.29	5329.57	.099	.74
10.70	.28	5329.55	.095	.72
10.80	.27	5329.53	.092	.69
10.90	.26	5329.51	.088	.66
11.00	.25	5329.49	.085	.64
11.10	.24	5329.47	.082	.61

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
11.20	.23	5329.46	.079	.59
11.30	.22	5329.44	.076	.57
11.40	.21	5329.42	.073	.55
11.50	.20	5329.41	.070	.53
11.60	.20	5329.39	.068	.51
11.70	.19	5329.38	.065	.49
11.80	.18	5329.36	.063	.47
11.90	.18	5329.35	.060	.45
12.00	.17	5329.34	.058	.44
12.10	.16	5329.32	.056	.42
12.20	.16	5329.31	.054	.40
12.30	.15	5329.30	.052	.39
12.40	.15	5329.29	.050	.38
12.50	.15	5329.28	.048	.36
12.60	.14	5329.27	.046	.35
12.70	.14	5329.26	.045	.34
12.80	.13	5329.25	.043	.32
12.90	.13	5329.24	.042	.31
13.00	.13	5329.23	.040	.30
13.10	.12	5329.22	.039	.29
13.20	.12	5329.22	.037	.28
13.30	.12	5329.21	.036	.27
13.40	.12	5329.20	.035	.26
13.50	.11	5329.19	.034	.25
13.60	.11	5329.19	.033	.24
13.70	.11	5329.18	.031	.24
13.80	.11	5329.18	.030	.23
13.90	.10	5329.17	.029	.22
14.00	.10	5329.16	.028	.21
14.10	.10	5329.16	.028	.21
14.20	.10	5329.15	.027	.20
14.30	.10	5329.15	.026	.19
14.40	.10	5329.15	.025	.19
14.50	.09	5329.14	.024	.18
14.60	.09	5329.14	.024	.18
14.70	.09	5329.13	.023	.17
14.80	.09	5329.13	.022	.17
14.90	.09	5329.13	.022	.16
15.00	.09	5329.12	.021	.16
15.10	.09	5329.12	.021	.15
15.20	.09	5329.12	.020	.15
15.30	.08	5329.11	.019	.15
15.40	.08	5329.11	.019	.14

15.50	.08	5329.11	.018	.14
15.60	.08	5329.10	.018	.14
15.70	.08	5329.10	.018	.13
15.80	.08	5329.10	.017	.13
15.90	.08	5329.10	.017	.13
16.00	.08	5329.09	.016	.12
16.10	.08	5329.09	.016	.12
16.20	.08	5329.09	.016	.12
16.30	.08	5329.09	.015	.12
16.40	.08	5329.09	.015	.11
16.50	.08	5329.09	.015	.11
16.60	.07	5329.08	.014	.11
16.70	.07	5329.08	.014	.11

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
16.80	.07	5329.08	.014	.10
16.90	.07	5329.08	.014	.10
17.00	.07	5329.08	.013	.10
17.10	.07	5329.08	.013	.10
17.20	.07	5329.08	.013	.10
17.30	.07	5329.07	.013	.10
17.40	.07	5329.07	.013	.09
17.50	.07	5329.07	.012	.09
17.60	.07	5329.07	.012	.09
17.70	.07	5329.07	.012	.09
17.80	.07	5329.07	.012	.09
17.90	.07	5329.07	.012	.09
18.00	.07	5329.07	.012	.09
18.10	.07	5329.07	.011	.09
18.20	.07	5329.06	.011	.08
18.30	.07	5329.06	.011	.08
18.40	.07	5329.06	.011	.08
18.50	.07	5329.06	.011	.08
18.60	.07	5329.06	.011	.08
18.70	.07	5329.06	.011	.08
18.80	.07	5329.06	.011	.08
18.90	.07	5329.06	.010	.08
19.00	.06	5329.06	.010	.08
19.10	.06	5329.06	.010	.08
19.20	.06	5329.06	.010	.08
19.30	.06	5329.06	.010	.08
19.40	.06	5329.06	.010	.07
19.50	.06	5329.06	.010	.07
19.60	.06	5329.06	.010	.07
19.70	.06	5329.06	.010	.07
19.80	.06	5329.06	.010	.07
19.90	.06	5329.05	.009	.07
20.00	.06	5329.05	.009	.07
20.10	.06	5329.05	.009	.07
20.20	.06	5329.05	.009	.07
20.30	.06	5329.05	.009	.07
20.40	.06	5329.05	.009	.07
20.50	.06	5329.05	.009	.07
20.60	.06	5329.05	.009	.07
20.70	.06	5329.05	.009	.07
20.80	.06	5329.05	.009	.07
20.90	.06	5329.05	.009	.07
21.00	.06	5329.05	.009	.07
21.10	.06	5329.05	.009	.07
21.20	.06	5329.05	.009	.07
21.30	.06	5329.05	.009	.06
21.40	.06	5329.05	.009	.06
21.50	.06	5329.05	.009	.06
21.60	.06	5329.05	.008	.06
21.70	.06	5329.05	.008	.06
21.80	.06	5329.05	.008	.06
21.90	.06	5329.05	.008	.06
22.00	.06	5329.05	.008	.06
22.10	.06	5329.05	.008	.06
22.20	.06	5329.05	.008	.06
22.30	.06	5329.05	.008	.06

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
22.40	.06	5329.05	.008	.06
22.50	.06	5329.05	.008	.06
22.60	.06	5329.05	.008	.06
22.70	.06	5329.05	.008	.06
22.80	.06	5329.05	.008	.06
22.90	.06	5329.05	.008	.06
23.00	.06	5329.05	.008	.06
23.10	.06	5329.05	.008	.06
23.20	.06	5329.05	.008	.06
23.30	.05	5329.05	.008	.06
23.40	.05	5329.04	.008	.06
23.50	.05	5329.04	.008	.06
23.60	.05	5329.04	.008	.06
23.70	.05	5329.04	.008	.06

23.80	.05	5329.04	.008	.06
23.90	.05	5329.04	.008	.06
24.00	.05	5329.04	.008	.06
24.10	.05	5329.04	.008	.06
24.20	.05	5329.04	.008	.06
24.30	.04	5329.04	.007	.06
24.40	.04	5329.04	.007	.06
24.50	.04	5329.04	.007	.05
24.60	.03	5329.04	.007	.05
24.70	.03	5329.04	.007	.05
24.80	.03	5329.04	.007	.05
24.90	.03	5329.04	.007	.05
25.00	.03	5329.04	.006	.05
25.10	.03	5329.04	.006	.05
25.20	.02	5329.04	.006	.05
25.30	.02	5329.03	.006	.04
25.40	.02	5329.03	.006	.04
25.50	.02	5329.03	.006	.04
25.60	.02	5329.03	.005	.04
25.70	.02	5329.03	.005	.04
25.80	.02	5329.03	.005	.04
25.90	.02	5329.03	.005	.04
26.00	.02	5329.03	.005	.04
26.10	.01	5329.03	.005	.03
26.20	.01	5329.03	.004	.03
26.30	.01	5329.02	.004	.03
26.40	.01	5329.02	.004	.03
26.50	.01	5329.02	.004	.03
26.60	.01	5329.02	.004	.03
26.70	.01	5329.02	.004	.03
26.80	.01	5329.02	.003	.03
26.90	.01	5329.02	.003	.03
27.00	.01	5329.02	.003	.02
27.10	.01	5329.02	.003	.02
27.20	.01	5329.02	.003	.02
27.30	.01	5329.02	.003	.02
27.40	.01	5329.02	.003	.02
27.50	.01	5329.02	.003	.02
27.60	.01	5329.02	.003	.02
27.70	.01	5329.01	.003	.02
27.80	.01	5329.01	.002	.02
27.90	.01	5329.01	.002	.02

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
28.00	.01	5329.01	.002	.02
28.10	.01	5329.01	.002	.02
28.20	.01	5329.01	.002	.02
28.30	.01	5329.01	.002	.02
28.40	.01	5329.01	.002	.02
28.50	.01	5329.01	.002	.02
28.60	.01	5329.01	.002	.02
28.70	.01	5329.01	.002	.01
28.80	.01	5329.01	.002	.01
28.90	.01	5329.01	.002	.01
29.00	.01	5329.01	.002	.01
29.10	.01	5329.01	.002	.01
29.20	.01	5329.01	.002	.01
29.30	.01	5329.01	.002	.01
29.40	.01	5329.01	.002	.01
29.50	.01	5329.01	.002	.01
29.60	.01	5329.01	.002	.01
29.70	.01	5329.01	.002	.01
29.80	.01	5329.01	.002	.01
29.90	.01	5329.01	.002	.01

PEAK DISCHARGE = 18.742 CFS - PEAK OCCURS AT HOUR 2.15
MAXIMUM WATER SURFACE ELEVATION = 5332.875
MAXIMUM STORAGE = 1.1780 AC-FT INCREMENTAL TIME= .050000HRS

PRINT HYD ID=3 CODE=5

OUTFLOW HYDROGRAPH REACH 5.93

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	6.2	12.000	.4	18.000	.1	24.000	.1
.250	.0	6.250	5.5	12.250	.4	18.250	.1	24.250	.1
.500	.0	6.500	4.9	12.500	.4	18.500	.1	24.500	.1
.750	.0	6.750	4.3	12.750	.3	18.750	.1	24.750	.1
1.000	.0	7.000	3.8	13.000	.3	19.000	.1	25.000	.0
1.250	.0	7.250	3.3	13.250	.3	19.250	.1	25.250	.0
1.500	1.0	7.500	2.9	13.500	.3	19.500	.1	25.500	

.0
1.750 9.6 7.750 2.6 13.750 .2 19.750 .1 25.750
.0
2.000 17.6 8.000 2.2 14.000 .2 20.000 .1 26.000
.0
2.250 18.4 8.250 2.0 14.250 .2 20.250 .1 26.250
.0
2.500 16.2 8.500 1.7 14.500 .2 20.500 .1 26.500
.0
2.750 13.8 8.750 1.5 14.750 .2 20.750 .1 26.750
.0
3.000 12.3 9.000 1.3 15.000 .2 21.000 .1 27.000
.0
3.250 11.5 9.250 1.2 15.250 .1 21.250 .1 27.250
.0
3.500 11.0 9.500 1.1 15.500 .1 21.500 .1 27.500
.0
3.750 10.5 9.750 1.0 15.750 .1 21.750 .1 27.750
.0
4.000 10.0 10.000 .9 16.000 .1 22.000 .1 28.000
.0
4.250 9.6 10.250 .8 16.250 .1 22.250 .1 28.250
.0
4.500 9.1 10.500 .8 16.500 .1 22.500 .1 28.500
.0
4.750 8.7 10.750 .7 16.750 .1 22.750 .1 28.750
.0
5.000 8.3 11.000 .6 17.000 .1 23.000 .1 29.000
.0
5.250 7.9 11.250 .6 17.250 .1 23.250 .1 29.250
.0
5.500 7.4 11.500 .5 17.500 .1 23.500 .1 29.500
.0
5.750 6.8 11.750 .5 17.750 .1 23.750 .1 29.750
.0

RUNOFF VOLUME = .44104 INCHES = 5.1254 ACRE-FEET
PEAK DISCHARGE RATE = 18.74 CFS AT 2.150 HOURS BASIN AREA = .2179 SQ. MI.

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*S APPLY NO SEDIMENT BULKING FACTOR
SEDIMENT BULK CODE=1 BULKING FACTOR = 1.00

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****
*S RECALL HYD FROM SAD 228 POND 4
*
*S
RECALL HYD ID=14 HYD=POND4A
DT= .050000 HRS DA= .0205 SQ MI
PEAK= 18.038CFS RO= 1.4138 INCHES NO PTS=503
FLOW RATES

.000	.000	.000	.000	.000
.000	.000	.000	.000	.000
.000	.000	.000	.000	.001
.020	.091	.228	.402	.568
.709	.826	.908	.922	.917
1.110	1.922	4.102	7.064	10.145
11.550	13.447	15.337	16.809	17.708
18.038	18.026	17.734	17.205	16.542
15.798	15.014	14.211	13.388	12.542
11.685	10.840	10.027	7.066	3.940
2.143	1.856	1.674	1.516	1.375
1.250	1.138	1.040	.952	.874
.804	.740	.684	.634	.589
.550	.515	.485	.458	.433
.410	.389	.370	.352	.336
.323	.312	.302	.293	.285
.278	.272	.267	.262	.257
.253	.250	.247	.244	.241
.240	.239	.238	.236	.234
.232	.229	.228	.227	.227
.228	.229	.230	.231	.231
.231	.232	.233	.234	.236
.238	.239	.240	.241	.243
.244	.245	.246	.248	.250
.251	.253	.251	.239	.219
.198	.181	.170	.162	.157
.153	.151	.148	.147	.145
.144	.143	.143	.141	.140
.139	.138	.137	.136	.135
.135	.134	.133	.133	.132
.132	.131	.131	.131	.130
.130	.129	.128	.128	.127
.126	.126	.126	.126	.125

.125	.124	.123	.124	.123
.122	.122	.122	.122	.121
.121	.120	.120	.120	.120
.119	.118	.118	.117	.117
.117	.117	.117	.117	.116
.115	.115	.115	.115	.114
.114	.113	.113	.113	.113
.113	.112	.111	.111	.110
.110	.110	.110	.109	.109
.109	.109	.109	.108	.107
.107	.107	.106	.106	.106
.106	.106	.106	.106	.105
.104	.104	.104	.104	.103
.103	.103	.102	.102	.101
.101	.101	.101	.101	.101
.101	.101	.101	.100	.099
.099	.099	.099	.098	.098
.098	.098	.098	.097	.097
.096	.096	.096	.096	.096
.096	.095	.095	.095	.095
.095	.094	.093	.093	.093
.093	.093	.093	.093	.093
.092	.092	.092	.092	.091
.091	.091	.090	.090	.090
.090	.090	.090	.090	.090
.089	.089	.089	.088	.088
.088	.088	.088	.087	.087
.088	.087	.087	.086	.086
.085	.085	.086	.087	.087
.086	.086	.085	.084	.083
.083	.083	.084	.084	.084
.084	.084	.083	.083	.083
.083	.082	.082	.082	.082
.081	.081	.081	.081	.081
.081	.081	.080	.080	.081
.081	.081	.080	.080	.079
.079	.078	.079	.079	.079
.079	.079	.078	.078	.078
.078	.078	.078	.077	.077
.077	.077	.077	.076	.076
.076	.077	.077	.076	.075
.075	.075	.075	.074	.075
.075	.076	.076	.076	.075
.075	.074	.073	.072	.072
.073	.073	.073	.074	.074
.074	.073	.072	.072	.072
.073	.072	.072	.072	.072
.072	.071	.071	.072	.072
.071	.071	.071	.071	.071
.071	.070	.070	.069	.069
.069	.070	.070	.070	.070
.069	.069	.069	.069	.069
.069	.068	.068	.068	.068
.068	.068	.068	.068	.068
.067	.067	.067	.067	.067
.067	.067	.067	.066	.066
.067	.066	.066	.065	.066
.066	.066	.065	.065	.066
.066	.066	.065	.065	.064
.064	.064	.064	.064	.065
.065	.066	.065	.065	.064
.064	.064	.064	.064	.064
.064	.063	.062	.062	.062
.062	.062	.061	.054	.043
.032	.022	.016	.012	.009
.008	.007	.006	.005	.004
.004	.003	.003	.002	.002
.002	.001	.001		

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*S
*S ADD SAD 228 POND 4 OUTFLOW TO TEMP POND C OUTFLOW

ADD HYD             ID=4  HYD NO=200.3 ID I=3 ID II=14
PRINT HYD           ID=4   CODE=1

                                PARTIAL HYDROGRAPH   200.30


    RUNOFF VOLUME =      .52468 INCHES     =       6.6711 ACRE-FEET
    PEAK DISCHARGE RATE =      33.45 CFS  AT   2.000 HOURS   BASIN AREA =   .2384 SQ. MI.


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*
*S RECALL HYD FROM SAD 228 POND 5
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*S
RECALL HYD          ID=12  HYD=POND5
                    DT=  .050000 HRS   DA=    .1489 SQ MI
                    PEAK=     36.968CFS  RO= 1.5473 INCHES  NO PTS=600
                    FLOW RATES
                          .000       .000       .000       .000       .000
                          .000       .000       .000       .000       .000
                          .000       .000       .000       .000       .000
                          .001       .004       .016       .042       .087
                          .155       .246       .358       .485       .621
                          .767       .948      1.234      1.765      2.740
                         4.748      9.594     15.707     21.217     25.243
                        28.978     31.229     33.174     34.808     35.892
                        36.174     36.404     36.589     36.734     36.842
                        36.915     36.956     36.968     36.957     36.926
                        36.881     36.825     36.760     36.687     36.608
                        36.524     36.436     36.344     36.248     36.149
                        36.048     35.944     35.837     35.519     35.090
                        34.659     34.228     33.796     33.364     32.934
                        32.504     32.077     31.651     31.229     30.808
                        30.391     29.977     29.567     29.160     28.736
                        28.129     27.535     26.951     26.379     25.818
                        25.269     24.730     24.203     23.686     23.180
                        22.685     22.201     21.726     21.263     20.809
                        20.366     19.932     19.508     18.867     18.173
                        17.507     16.868     16.255     15.668     15.105
                        14.565     14.047     13.551     13.076     12.620
                        12.183     11.766     11.365     10.982     10.615
                        10.263      9.927      9.605      9.296      9.001
                         8.718      8.448      8.189      7.941      7.700
                         7.466      7.236      7.010      6.789      6.573
                         6.363      6.159      5.961      5.771      5.587
                         5.411      5.241      5.078      4.921      4.770
                         4.625      4.486      4.352      4.223      4.099
                         3.990      3.934      3.879      3.825      3.772
                         3.719      3.668      3.617      3.567      3.519
                         3.471      3.424      3.378      3.332      3.288
                         3.244      3.201      3.159      3.118      3.077
                         3.037      2.998      2.960      2.922      2.885
                         2.849      2.813      2.778      2.744      2.710
                         2.677      2.644      2.613      2.581      2.551
                         2.520      2.491      2.462      2.433      2.405
                         2.378      2.350      2.324      2.298      2.272
                         2.247      2.223      2.199      2.175      2.152
                         2.129      2.106      2.084      2.062      2.041
                         2.020      1.999      1.979      1.959      1.940
                         1.921      1.902      1.883      1.865      1.847
                         1.829      1.812      1.795      1.779      1.762
                         1.746      1.730      1.715      1.700      1.684
                         1.670      1.655      1.641      1.627      1.613
                         1.600      1.586      1.573      1.560      1.548
                         1.535      1.523      1.511      1.499      1.487
                         1.476      1.464      1.453      1.442      1.431
                         1.421      1.410      1.400      1.390      1.380
                         1.371      1.361      1.352      1.342      1.333
                         1.324      1.315      1.307      1.298      1.290
                         1.281      1.273      1.265      1.257      1.249
                         1.241      1.233      1.226      1.219      1.211
                         1.204      1.197      1.190      1.183      1.177
                         1.170      1.163      1.157      1.150      1.144
                         1.138      1.132      1.126      1.120      1.114
                         1.108      1.103      1.097      1.091      1.086
                         1.080      1.075      1.070      1.065      1.060
                         1.055      1.050      1.045      1.040      1.035
                         1.030      1.026      1.021      1.016      1.012
                         1.007      1.003       .999       .994       .990
                          .986       .982       .978       .974       .970
                          .966       .962       .959       .955       .951
                          .947       .943       .940       .936       .932
                          .929       .926       .922       .919       .916
                          .912       .909       .906       .903       .899
                          .896       .893       .890       .887       .884
                          .881       .878       .875       .872       .869
                          .866       .864       .861       .858       .856
                          .853       .850       .848       .845       .842
                          .840       .837       .835       .832       .830
                          .827       .825       .823       .820       .818
                          .816       .813       .811       .809       .806
                          .804       .802       .800       .797       .795
                          .793       .791       .789       .787       .784
                          .782       .780       .778       .776       .775
                          .773       .771       .769       .767       .765
                          .763       .761       .759       .757       .755
                          .753       .752       .750       .748       .746
                          .744       .743       .741       .739       .737
                          .736       .734       .732       .730       .729
                          .727       .726       .724       .722       .721
                          .719       .718       .716       .714       .713
                          .711       .710       .708       .706       .705
                          .704       .702       .701       .699       .698
                          .696       .695       .693       .692       .690
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.689	.687	.686	.685	.683
.682	.681	.679	.678	.676
.675	.674	.672	.671	.670
.668	.667	.666	.664	.663
.662	.660	.659	.658	.657
.655	.654	.653	.652	.651
.649	.648	.647	.645	.644
.643	.642	.641	.640	.639
.638	.637	.636	.634	.633
.632	.631	.630	.629	.627
.626	.625	.624	.622	.620
.617	.612	.606	.599	.591
.582	.573	.563	.554	.544
.534	.525	.515	.506	.496
.487	.478	.469	.460	.451
.442	.433	.425	.417	.408
.400	.392	.384	.377	.369
.362	.355	.347	.340	.333
.327	.320	.314	.307	.301
.295	.289	.283	.277	.271
.266	.260	.255	.250	.245
.240	.235	.230	.225	.221
.216	.211	.207	.203	.199
.195	.191	.187	.183	.179
.175	.172	.168	.165	.161
.158	.155	.151	.148	.145
.142	.139	.136	.134	.131
.128	.125	.123	.120	.118
.115	.113	.111	.108	.106
.104	.102	.100	.098	.096
.094	.092	.090	.088	.086
.084	.083	.081	.079	.078
.076	.074	.073	.071	.070
.068	.067	.066	.064	.063

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**********************************************************************
*S
*S ADD SAD 228 POND 4 & 5 OUTFLOW TO TEMP POND C OUTFLOW

ADD HYD             ID=1  HYD NO=201.1 ID I=4 ID II=12
PRINT HYD           ID=1   CODE=1

                                  PARTIAL HYDROGRAPH   201.10


    RUNOFF VOLUME =      .91782 INCHES     =      18.9584 ACRE-FEET
    PEAK DISCHARGE RATE =      69.71 CFS  AT   2.050 HOURS   BASIN AREA =   .3873 SQ. MI.


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*
*S ROUTE 201.1 IN 54" SD IN UNSER BLVD TO GET 201.7
*
COMPUTE RATING CURVE       CID=1   VS NO=1 NO SEGS=-1  SLP=0.0112
                                   DIAM=4.5 FT     N=0.013


                                   RATING CURVE PIPE SECTION  1.0
                                       WATER       FLOW        FLOW        MAX
                                      SURFACE      AREA        RATE        WIDTH
                                       ELEV        SQ FT       CFS         FT
                                         .00         .00         .00         .00
                                         .23         .32        1.09        2.00
                                         .47         .88        4.74        2.75
                                         .70        1.59       11.02        3.27
                                         .94        2.40       19.81        3.66
                                        1.17        3.30       30.94        3.95
                                        1.41        4.25       44.14        4.17
                                        1.64        5.25       59.14        4.33
                                        1.88        6.28       75.61        4.44
                                        2.11        7.32       93.21        4.49
                                        2.35        8.38      111.55        4.50
                                        2.58        9.43      130.23        4.50
                                        2.81       10.46      148.80        4.50
                                        3.05       11.47      166.78        4.50
                                        3.28       12.43      183.61        4.50
                                        3.52       13.34      198.68        4.50
                                        3.75       14.17      211.21        4.50
                                        3.99       14.90      220.18        4.50
                                        4.22       15.50      223.87        4.50
                                        4.50       15.90      223.87        4.50
ROUTE MCUNGE        ID=7   HYD NO=102.7    INFLOW ID=1
                           DT=0.0 HR       LENGTH=730 FT
                           NS=0    SLOPE=0.0112  CODE=5


     INFLOW END= 600            TABLE PTS= 19
     DT=  .050000               QMED=       34.86  CKMED=     13.8449
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WIDTH MED= 4.02 NREACH= 1 DX= 730.00

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.080	.0	4.06	1.63	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.23	.3	1.1	.059	2.0	5.68	3.45	1.401	.012	.990	.171	-.161	.2	.998	.027	-.025
.47	.9	4.7	.038	2.7	7.84	5.39	1.933	.027	.982	.324	-.306	2.6	.984	.238	-.222
.70	1.6	11.0	.029	3.3	9.93	6.94	2.448	.042	.976	.427	-.403	7.6	.978	.380	-.358
.94	2.4	19.8	.025	3.7	11.69	8.25	2.882	.057	.971	.492	-.463	15.2	.973	.462	-.436
1.17	3.3	30.9	.022	4.0	13.18	9.39	3.251	.073	.966	.537	-.504	25.2	.969	.517	-.486
1.41	4.2	44.1	.020	4.2	14.46	10.39	3.565	.090	.962	.570	-.532	37.3	.964	.556	-.519
1.64	5.2	59.1	.018	4.3	15.53	11.27	3.829	.108	.956	.595	-.551	51.5	.959	.584	-.543
1.88	6.3	75.6	.017	4.4	16.41	12.05	4.045	.127	.951	.613	-.564	67.2	.954	.605	-.559
2.11	7.3	93.2	.016	4.5	17.09	12.73	4.215	.148	.945	.627	-.572	84.3	.948	.621	-.569
2.35	8.4	111.6	.015	4.5	17.57	13.31	4.333	.173	.937	.637	-.574	102.3	.941	.633	-.574
2.58	9.4	130.2	.015	4.5	17.69	13.81	4.361	.200	.928	.640	-.568	120.8	.933	.640	-.573
2.81	10.5	148.8	.014	4.5	17.36	14.22	4.279	.233	.915	.637	-.553	139.5	.922	.640	-.562
3.05	11.5	166.8	.014	4.5	16.53	14.54	4.077	.274	.898	.626	-.524	157.8	.908	.633	-.541
3.28	12.4	183.6	.014	4.5	15.15	14.77	3.737	.329	.870	.605	-.475	175.2	.886	.618	-.504
3.52	13.3	198.7	.014	4.5	13.11	14.90	3.233	.412	.823	.569	-.392	191.2	.851	.591	-.442
3.75	14.2	211.2	.014	4.5	10.21	14.91	2.517	.562	.724	.510	-.234	205.0	.787	.545	-.332
3.99	14.9	220.2	.014	4.5	5.98	14.78	1.474	1.001	.424	.425	.151	215.7	.635	.472	-.107
4.22	15.5	223.9	.014	4.5	3.41	14.45	.840	1.785	.015	.448	.536	222.1	.037	.443	.520

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 7 TIMES. AVERAGE NUMBER ITERATIONS = 1.3276
Equations solved using the Ponce correction to C2
PRINT HYD ID=7 CODE=5

PARTIAL HYDROGRAPH 102.70

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	15.3	12.000	2.0	18.000	1.0	24.000	.7
.250	.0	6.250	13.3	12.250	1.9	18.250	1.0	24.250	.7
.500	.0	6.500	11.5	12.500	1.8	18.500	1.0	24.500	.7
.750	.0	6.750	10.0	12.750	1.7	18.750	.9	24.750	.6
1.000	.7	7.000	8.7	13.000	1.6	19.000	.9	25.000	.5
1.250	1.6	7.250	7.5	13.250	1.6	19.250	.9	25.250	.5
1.500	15.9	7.500	6.8	13.500	1.5	19.500	.9	25.500	.4
1.750	55.1	7.750	6.2	13.750	1.5	19.750	.9	25.750	.4
2.000	69.6	8.000	5.7	14.000	1.4	20.000	.9	26.000	.4
2.250	67.3	8.250	5.2	14.250	1.4	20.250	.9	26.250	.3
2.500	55.7	8.500	4.7	14.500	1.3	20.500	.9	26.500	.3
2.750	51.8	8.750	4.3	14.750	1.3	20.750	.8	26.750	.3
3.000	49.2	9.000	4.0	15.000	1.3	21.000	.8	27.000	.2
3.250	46.9	9.250	3.7	15.250	1.2	21.250	.8	27.250	.2
3.500	44.1	9.500	3.5	15.500	1.2	21.500	.8	27.500	.2
3.750	41.4	9.750	3.3	15.750	1.2	21.750	.8	27.750	.2
4.000	38.6	10.000	3.1	16.000	1.1	22.000	.8	28.000	.2
4.250	35.3	10.250	2.9	16.250	1.1	22.250	.8	28.250	.1
4.500	32.2	10.500	2.7	16.500	1.1	22.500	.8	28.500	.1

```
      4.750      29.5         10.750       2.6         16.750       1.1         22.750        .8         28.750
.1
      5.000      26.3         11.000       2.4         17.000       1.1         23.000        .8         29.000
.1
      5.250      22.9         11.250       2.3         17.250       1.0         23.250        .8         29.250
.1
      5.500      20.0         11.500       2.2         17.500       1.0         23.500        .8         29.500
.1
      5.750      17.5         11.750       2.1         17.750       1.0         23.750        .8         29.750
.1

     RUNOFF VOLUME =      .91781 INCHES     =      18.9581 ACRE-FEET
     PEAK DISCHARGE RATE =      69.68 CFS  AT   2.050 HOURS   BASIN AREA =   .3873 SQ. MI.



*
**********************************************************************
*S  APPLY SEDIMENT BULKING FACTOR
SEDIMENT BULK          CODE=1   BULKING FACTOR = 1.05

*
**********************************************************************
*S
*S COMPUTE UNSER BLVD RUNOFF SOUTH OF KIMMICK TO BOCA NEGRA DAM
*
*
COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.005 K=0.7
                    LENGTH=770 FT  SLOPE=0.005 K=2.0



     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
          NOTE: Upland factor input values have been adjusted to meet Upland/Lag Time requirements.
                              LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION           400.0           .005000             .7000
     SHALLOW FLOW PORTION         770.0           .005000            2.0000
     CHANNEL FLOW PORTION            .0           .000000             .0000
     TOTAL BASIN                1170.0           .005000            1.2233


     TIME OF CONCENTRATION (HRS)=   .3757     TIME TO PEAK (HRS)=   .2505     LAG TIME (HRS)=   .2818

COMPUTE NM HYD      ID=6   HYD NO=6   DA=0.01166 SQ MI
                    PER A=0 PER B=0  PER C=15  PER D=85
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .2505

     K =   .136512HR    TP =   .250481HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   20.824    CFS   UNIT VOLUME =    .9997       B =   526.28      P60 = 1.6900
     AREA =      .009911 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


     K =   .195117HR    TP =   .250481HR    K/TP RATIO =   .778968     SHAPE CONSTANT, N =  4.614413
     UNIT PEAK =   2.7528    CFS   UNIT VOLUME =    .9954       B =   394.24      P60 = 1.6900
     AREA =      .001749 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.05000 AT PEAK FLOW.

PRINT HYD           ID=6   CODE=1

                                      OUTFLOW HYDROGRAPH REACH     6.00


    RUNOFF VOLUME =     2.18501 INCHES     =       1.3588 ACRE-FEET
    PEAK DISCHARGE RATE =      21.35 CFS  AT   1.600 HOURS   BASIN AREA =   .0117 SQ. MI.



*
**********************************************************************
*
*S ADD TOTAL FLOWS FROM UNSER BLVD

ADD HYD             ID=2  HYD NO=6.2 ID I=7 ID II=6
PRINT HYD           ID=2   CODE=1

                                      OUTFLOW HYDROGRAPH REACH     6.20


    RUNOFF VOLUME =      .95484 INCHES     =      20.3169 ACRE-FEET
    PEAK DISCHARGE RATE =      78.37 CFS  AT   1.950 HOURS   BASIN AREA =   .3990 SQ. MI.
```

```
*
**********************************************************************
*
*S ADD PIPE.80 TO 6.2 TO GET PIPE.1
*
ADD HYD             ID=1  HYD NO=PIPE.1 ID I=80 ID II=2
PRINT HYD           ID=1   CODE=1
```

HYDROGRAPH FROM AREA PIPE.1

RUNOFF VOLUME = .53374 INCHES = 277.4568 ACRE-FEET
PEAK DISCHARGE RATE = 450.37 CFS AT 1.950 HOURS BASIN AREA = 9.7469 SQ. MI.

```
*
**********************************************************************
**********************************************************************
*
*S ROUTE PIPE.1 IN 60" SD TO GET PIPE.2
*
COMPUTE RATING CURVE       CID=1   VS NO=1 NO SEGS=-1  SLP=0.015
                                   DIAM=5.0 FT     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
.26	.39	1.67	2.22
.52	1.09	7.26	3.06
.78	1.96	16.89	3.63
1.04	2.97	30.37	4.06
1.30	4.07	47.42	4.39
1.56	5.25	67.65	4.64
1.82	6.48	90.64	4.81
2.08	7.75	115.89	4.93
2.35	9.04	142.86	4.99
2.61	10.35	170.98	5.00
2.87	11.64	199.61	5.00
3.13	12.92	228.07	5.00
3.39	14.16	255.62	5.00
3.65	15.35	281.43	5.00
3.91	16.47	304.52	5.00
4.17	17.49	323.73	5.00
4.43	18.39	337.48	5.00
4.69	19.13	343.12	5.00
5.00	19.63	343.12	5.00

```
ROUTE MCUNGE        ID=8   HYD NO=PIPE.2   INFLOW ID=1
                           DT=0.0 HR       LENGTH=640 FT
                           NS=0    SLOPE=0.015  CODE=5
```

ZERO VALUE HYDROGRAPH OR SHORT ROUTE - ROUTING BYPASSED

```
PRINT HYD           ID=8   CODE=5
```

HYDROGRAPH FROM AREA PIPE.2

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	387.6	12.000	58.0	18.000	38.6	24.000	19.2
.250	.0	6.250	385.6	12.250	56.4	18.250	38.3	24.250	17.9
.500	.0	6.500	383.8	12.500	54.9	18.500	37.9	24.500	15.9
.750	.0	6.750	382.2	12.750	53.4	18.750	37.5	24.750	14.0
1.000	1.7	7.000	380.9	13.000	52.1	19.000	37.1	25.000	12.5
1.250	6.1	7.250	379.7	13.250	50.9	19.250	36.6	25.250	11.4
1.500	67.7	7.500	306.7	13.500	49.8	19.500	36.1	25.500	10.5
1.750	443.6	7.750	189.2	13.750	48.7	19.750	35.5	25.750	9.9
2.000	450.3	8.000	147.0	14.000	47.8	20.000	34.9	26.000	9.4
2.250	443.9	8.250	125.3	14.250	46.9	20.250	34.2	26.250	9.0
2.500	429.8	8.500	112.0	14.500	46.0	20.500	33.5	26.500	8.7
2.750	425.1	8.750	105.9	14.750	45.2	20.750	32.8	26.750	8.5
3.000	422.1	9.000	100.2	15.000	44.4	21.000	32.1	27.000	8.2
3.250	419.5	9.250	94.8	15.250	43.7	21.250	30.9	27.250	

3.500	416.5	9.500	89.5	15.500	43.0	21.500	29.7	27.500
8.1								
3.750	413.7	9.750	84.6	15.750	42.3	21.750	28.5	27.750
7.9								
4.000	411.0	10.000	80.0	16.000	41.7	22.000	27.4	28.000
7.7								
4.250	407.6	10.250	75.8	16.250	41.2	22.250	26.4	28.250
7.5								
4.500	404.5	10.500	72.0	16.500	40.9	22.500	25.5	28.500
7.3								
4.750	401.8	10.750	68.7	16.750	40.5	22.750	24.5	28.750
7.2								
5.000	398.6	11.000	65.6	17.000	40.1	23.000	23.4	29.000
7.1								
5.250	395.2	11.250	63.4	17.250	39.8	23.250	22.3	29.250
6.7								
5.500	392.3	11.500	61.6	17.500	39.4	23.500	21.2	29.500
6.2								
5.750	389.8	11.750	59.8	17.750	39.0	23.750	20.2	29.750
5.6								
5.0								

RUNOFF VOLUME = .53374 INCHES = 277.4568 ACRE-FEET
PEAK DISCHARGE RATE = 450.37 CFS AT 1.950 HOURS BASIN AREA = 9.7469 SQ. MI.

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*
**********************************************************************
*
*S ROUTE PIPE.2 IN 54" SD TO GET PIPE.3
*
COMPUTE RATING CURVE       CID=1   VS NO=1 NO SEGS=-1  SLP=0.0881
                                   DIAM=4.5 FT     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
.23	.32	3.06	2.00
.47	.88	13.29	2.75
.70	1.59	30.90	3.27
.94	2.40	55.57	3.66
1.17	3.30	86.77	3.95
1.41	4.25	123.80	4.17
1.64	5.25	165.86	4.33
1.88	6.28	212.06	4.44
2.11	7.32	261.42	4.49
2.35	8.38	312.87	4.50
2.58	9.43	365.26	4.50
2.81	10.46	417.34	4.50
3.05	11.47	467.76	4.50
3.28	12.43	514.97	4.50
3.52	13.34	557.23	4.50
3.75	14.17	592.38	4.50
3.99	14.90	617.54	4.50
4.22	15.50	627.88	4.50
4.50	15.90	627.88	4.50

```
ROUTE MCUNGE        ID=1   HYD NO=PIPE.3   INFLOW ID=8
                           DT=0.0 HR       LENGTH=1147 FT
                           NS=0    SLOPE=0.0881  CODE=5

     ZERO VALUE HYDROGRAPH OR SHORT ROUTE - ROUTING BYPASSED
PRINT HYD           ID=1   CODE=5
```

HYDROGRAPH FROM AREA PIPE.3

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	387.6	12.000	58.0	18.000	38.6	24.000	19.2
.250	.0	6.250	385.6	12.250	56.4	18.250	38.3	24.250	17.9
.500	.0	6.500	383.8	12.500	54.9	18.500	37.9	24.500	15.9
.750	.0	6.750	382.2	12.750	53.4	18.750	37.5	24.750	14.0
1.000	1.7	7.000	380.9	13.000	52.1	19.000	37.1	25.000	12.5
1.250	6.1	7.250	379.7	13.250	50.9	19.250	36.6	25.250	11.4
1.500	67.7	7.500	306.7	13.500	49.8	19.500	36.1	25.500	10.5
1.750	443.6	7.750	189.2	13.750	48.7	19.750	35.5	25.750	9.9
2.000	450.3	8.000	147.0	14.000	47.8	20.000	34.9	26.000	9.4

2.250	443.9	8.250	125.3	14.250	46.9	20.250	34.2	26.250
9.0								
2.500	429.8	8.500	112.0	14.500	46.0	20.500	33.5	26.500
8.7								
2.750	425.1	8.750	105.9	14.750	45.2	20.750	32.8	26.750
8.5								
3.000	422.1	9.000	100.2	15.000	44.4	21.000	32.1	27.000
8.2								
3.250	419.5	9.250	94.8	15.250	43.7	21.250	30.9	27.250
8.1								
3.500	416.5	9.500	89.5	15.500	43.0	21.500	29.7	27.500
7.9								
3.750	413.7	9.750	84.6	15.750	42.3	21.750	28.5	27.750
7.7								
4.000	411.0	10.000	80.0	16.000	41.7	22.000	27.4	28.000
7.5								
4.250	407.6	10.250	75.8	16.250	41.2	22.250	26.4	28.250
7.3								
4.500	404.5	10.500	72.0	16.500	40.9	22.500	25.5	28.500
7.2								
4.750	401.8	10.750	68.7	16.750	40.5	22.750	24.5	28.750
7.1								
5.000	398.6	11.000	65.6	17.000	40.1	23.000	23.4	29.000
6.7								
5.250	395.2	11.250	63.4	17.250	39.8	23.250	22.3	29.250
6.2								
5.500	392.3	11.500	61.6	17.500	39.4	23.500	21.2	29.500
5.6								
5.750	389.8	11.750	59.8	17.750	39.0	23.750	20.2	29.750
5.0								

RUNOFF VOLUME = .53374 INCHES = 277.4568 ACRE-FEET
PEAK DISCHARGE RATE = 450.37 CFS AT 1.950 HOURS BASIN AREA = 9.7469 SQ. MI.

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*
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*
*S ROUTE PIPE.3 IN 60" SD TO GET PIPE.4
*
COMPUTE RATING CURVE       CID=1   VS NO=1 NO SEGS=-1  SLP=0.02
                                   DIAM=5.0 FT     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
.26	.39	1.93	2.22
.52	1.09	8.39	3.06
.78	1.96	19.50	3.63
1.04	2.97	35.07	4.06
1.30	4.07	54.75	4.39
1.56	5.25	78.12	4.64
1.82	6.48	104.66	4.81
2.08	7.75	133.82	4.93
2.35	9.04	164.96	4.99
2.61	10.35	197.43	5.00
2.87	11.64	230.49	5.00
3.13	12.92	263.36	5.00
3.39	14.16	295.17	5.00
3.65	15.35	324.96	5.00
3.91	16.47	351.63	5.00
4.17	17.49	373.81	5.00
4.43	18.39	389.68	5.00
4.69	19.13	396.21	5.00
5.00	19.63	396.21	5.00

```
ROUTE MCUNGE        ID=8   HYD NO=PIPE.4   INFLOW ID=1
                           DT=0.0 HR       LENGTH=949 FT
                           NS=0    SLOPE=0.02  CODE=5
```

INFLOW END= 600 TABLE PTS= 19
DT= .050000 QMED= 225.19 CKMED= 25.5022
WIDTH MED= 5.00 NREACH= 1 DX= 949.00

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.072	.0	5.27	2.33	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.26	.4	1.9	.053	2.2	8.15	4.95	1.545	.006	.996	.216	-.211	.3	.998	.033	-.030
.52	1.1	8.4	.034	3.1	11.24	7.72	2.132	.013	.992	.364	-.356	4.6	.993	.280	-.273
.78	2.0	19.5	.027	3.6	14.23	9.94	2.699	.020	.989	.462	-.452	13.5	.990	.417	-.407
1.04	3.0	35.1	.022	4.1	16.75	11.82	3.178	.027	.987	.524	-.511	26.9	.988	.496	-.484

1.30	4.1	54.8	.020	4.4	18.90	13.46	3.585	.035	.985	.567	-.552	44.5	.986
.548	-.534												
1.56	5.2	78.1	.018	4.6	20.73	14.89	3.931	.043	.983	.598	-.581	66.1	.984
.584	-.568												
1.82	6.5	104.7	.016	4.8	22.26	16.16	4.222	.051	.980	.621	-.601	91.1	.982
.611	-.592												
2.08	7.7	133.8	.015	4.9	23.52	17.27	4.461	.061	.978	.638	-.616	119.0	.979
.630	-.610												
2.35	9.0	165.0	.014	5.0	24.51	18.24	4.648	.071	.975	.650	-.625	149.2	.977
.645	-.622												
2.61	10.3	197.4	.014	5.0	25.19	19.08	4.778	.083	.972	.659	-.631	181.0	.974
.656	-.629												
2.87	11.6	230.5	.013	5.0	25.35	19.80	4.809	.096	.968	.661	-.629	213.8	.970
.661	-.631												
3.13	12.9	263.4	.013	5.0	24.88	20.39	4.719	.112	.962	.657	-.619	246.8	.965
.660	-.625												
3.39	14.2	295.2	.013	5.0	23.70	20.85	4.496	.131	.953	.645	-.598	279.2	.958
.652	-.610												
3.65	15.3	325.0	.012	5.0	21.73	21.17	4.121	.158	.940	.621	-.561	310.0	.948
.635	-.583												
3.91	16.5	351.6	.012	5.0	18.80	21.35	3.565	.197	.917	.580	-.497	338.3	.931
.604	-.536												
4.17	17.5	373.8	.012	5.0	14.64	21.37	2.776	.269	.867	.506	-.372	362.8	.899
.551	-.450												
4.43	18.4	389.7	.012	5.0	8.57	21.18	1.626	.479	.691	.356	-.047	381.8	.819
.451	-.269												
4.69	19.1	396.2	.013	5.0	4.89	20.71	.927	.855	.385	.281	.334	393.0	.404
.280	.316												

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 6 OCCURRED 1 TIMES. AVERAGE NUMBER ITERATIONS = 1.9883
Equations solved using the Ponce correction to C2
PRINT HYD ID=8 CODE=5

HYDROGRAPH FROM AREA PIPE.4

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	387.8	12.000	58.1	18.000	38.7	24.000	19.2
.250	.0	6.250	385.8	12.250	56.5	18.250	38.3	24.250	18.1
.500	.0	6.500	383.9	12.500	54.9	18.500	37.9	24.500	16.1
.750	.0	6.750	382.3	12.750	53.5	18.750	37.5	24.750	14.1
1.000	1.2	7.000	381.0	13.000	52.2	19.000	37.1	25.000	12.6
1.250	5.4	7.250	379.8	13.250	51.0	19.250	36.6	25.250	11.4
1.500	61.8	7.500	320.7	13.500	49.8	19.500	36.1	25.500	10.6
1.750	427.8	7.750	191.2	13.750	48.8	19.750	35.5	25.750	10.0
2.000	449.8	8.000	148.3	14.000	47.8	20.000	34.9	26.000	9.5
2.250	445.8	8.250	126.0	14.250	46.9	20.250	34.3	26.250	9.1
2.500	433.3	8.500	112.5	14.500	46.0	20.500	33.6	26.500	8.8
2.750	425.9	8.750	106.2	14.750	45.2	20.750	32.9	26.750	8.5
3.000	422.7	9.000	100.5	15.000	44.5	21.000	32.2	27.000	8.3
3.250	420.2	9.250	95.0	15.250	43.7	21.250	31.0	27.250	8.1
3.500	417.2	9.500	89.8	15.500	43.0	21.500	29.8	27.500	7.9
3.750	414.3	9.750	84.8	15.750	42.4	21.750	28.6	27.750	7.7
4.000	411.6	10.000	80.2	16.000	41.8	22.000	27.5	28.000	7.5
4.250	408.3	10.250	76.0	16.250	41.2	22.250	26.5	28.250	7.4
4.500	405.2	10.500	72.2	16.500	40.9	22.500	25.6	28.500	7.2
4.750	402.4	10.750	68.8	16.750	40.5	22.750	24.6	28.750	7.1
5.000	399.4	11.000	65.8	17.000	40.2	23.000	23.5	29.000	6.8
5.250	395.9	11.250	63.5	17.250	39.8	23.250	22.4	29.250	6.2
5.500	392.9	11.500	61.7	17.500	39.4	23.500	21.3	29.500	5.7
5.750	390.1	11.750	59.9	17.750	39.0	23.750	20.2	29.750	5.1

RUNOFF VOLUME = .53376 INCHES = 277.4647 ACRE-FEET
PEAK DISCHARGE RATE = 449.97 CFS AT 2.050 HOURS BASIN AREA = 9.7469 SQ. MI.

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*S  APPLY SEDIMENT BULKING FACTOR
SEDIMENT BULK          CODE=1   BULKING FACTOR = 1.09
*
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**********************************************************************

*S*** SUB-BASIN 71 DOWNSTREAM OF THE DAM ***
*
COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                    NK=3  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.02 K=0.7
                    LENGTH=1600 FT  SLOPE=0.02 K=2.0
                    LENGTH=800 FT  SLOPE=0.02 K=3.0


     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                              LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION          400.0           .020000             .7000
     SHALLOW FLOW PORTION       1600.0           .020000            2.0000
     CHANNEL FLOW PORTION        800.0           .020000            3.0000
     TOTAL BASIN                2800.0           .020000            1.7093


     TIME OF CONCENTRATION (HRS)=   .3218     TIME TO PEAK (HRS)=   .2145     LAG TIME (HRS)=   .2413

COMPUTE NM HYD      ID=5   HYD NO=71   DA=0.07675 SQ MI
                    PER A=80 PER B=0  PER C=20  PER D=0
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .2145

     K =   .248010HR    TP =   .214502HR    K/TP RATIO =  1.156214     SHAPE CONSTANT, N =  3.064995
     UNIT PEAK =   102.72    CFS   UNIT VOLUME =    .9998       B =   287.08      P60 = 1.6900
     AREA =      .076750 SQ MI    IA =    .59000 INCHES    INF =   1.50200 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.09000 AT PEAK FLOW.

PRINT HYD           ID=5   CODE=5

                                      OUTFLOW HYDROGRAPH REACH    71.00

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME
FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS
CFS
      .000        .0         1.500      39.6         3.000       1.7         4.500        .2         6.000
  .0
      .250        .0         1.750      34.0         3.250       1.2         4.750        .2         6.250
  .0
      .500        .0         2.000      12.5         3.500        .9         5.000        .1         6.500
  .0
      .750        .0         2.250       4.9         3.750        .6         5.250        .1         6.750
  .0
     1.000        .0         2.500       3.4         4.000        .5         5.500        .1         7.000
  .0
     1.250        .0         2.750       2.4         4.250        .3         5.750        .0         7.250
  .0

     RUNOFF VOLUME =      .50198 INCHES     =       2.0547 ACRE-FEET
     PEAK DISCHARGE RATE =      49.24 CFS  AT   1.600 HOURS   BASIN AREA =   .0768 SQ. MI.


*
**********************************************************************
*
*S ADD SURFACE FLOW FROM DAM TO BASIN 71 TO GET 71.5
*
*S ADD BASIN 71 to PIPE.2 TO GET 70.9
*
ADD HYD             ID=6  HYD NO=71.6 ID I=5 ID II=90
PRINT HYD           ID=6   CODE=1

                                      OUTFLOW HYDROGRAPH REACH    71.60


     RUNOFF VOLUME =      .51558 INCHES     =     150.1944 ACRE-FEET
     PEAK DISCHARGE RATE =     695.49 CFS  AT   3.700 HOURS   BASIN AREA =  5.4622 SQ. MI.


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*
*S ADD 71.6 to PIPE.2 TO GET 70.9
*
ADD HYD             ID=9  HYD NO=70.9 ID I=6 ID II=8
PRINT HYD           ID=9   CODE=1

                                    OUTFLOW HYDROGRAPH REACH    70.90


    RUNOFF VOLUME =      .52723 INCHES     =     427.6592 ACRE-FEET
    PEAK DISCHARGE RATE =    1110.38 CFS  AT   3.700 HOURS   BASIN AREA = 15.2091 SQ. MI.



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*S  APPLY NO SEDIMENT BULKING FACTOR
SEDIMENT BULK          CODE=1   BULKING FACTOR = 1.00
*
**************************************************************************

*
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*
*S RECALL HYD FROM THE VOLCANO HEIGHTS MODEL (BOCA NEGRA ARROYO SOUTH BRANCH)
*S
RECALL HYD          ID= 2 HYD=      102.00 DT=  .050000 HRS DA=   1.6400 SQ MI
                    PEAK=    378.544CFS  RO=  .3847 INCHES  NO PTS=340
                    FLOW RATES
                           .000       .000       .000       .000       .000
                           .000       .000       .000       .000       .000
                           .000       .000       .000       .000       .000
                           .000       .000       .000       .000       .000
                           .000       .000       .000       .000       .000
                           .000       .000      1.009      9.899     32.824
                         63.396     90.963    109.803    118.751    119.115
                        113.134    103.107     91.039     81.968     97.947
                        149.940    227.995    295.915    342.675    368.910
                        378.544    375.650    363.734    345.685    323.866
                        300.290    276.692    253.626    231.248    209.969
                        190.200    172.161    155.820    141.030    127.642
                        115.523    104.556     94.638     85.701     77.771
                         70.968     65.162     59.974     55.161     50.785
                         46.796     43.156     39.835     36.850     34.361
                         32.647     31.381     30.209     29.084     28.002
                         26.961     25.961     24.998     24.073     23.182
                         22.326     21.502     20.709     19.947     19.213
                         18.507     17.828     17.174     16.545     15.940
                         15.357     14.797     14.257     13.737     13.237
                         12.756     12.292     11.846     11.417     11.003
                         10.605     10.222      9.852      9.497      9.155
                          8.825      8.507      8.201      7.907      7.623
                          7.350      7.087      6.833      6.589      6.353
                          6.127      5.908      5.698      5.495      5.299
                          5.111      4.930      4.755      4.586      4.424
                          4.267      4.116      3.971      3.831      3.696
                          3.565      3.440      3.319      3.202      3.090
                          2.981      2.877      2.776      2.679      2.585
                          2.494      2.407      2.323      2.242      2.164
                          2.088      2.016      1.946      1.878      1.813
                          1.750      1.689      1.631      1.574      1.520
                          1.467      1.416      1.367      1.320      1.274
                          1.231      1.188      1.147      1.108      1.070
                          1.033       .997       .963       .930       .898
                           .867       .838       .809       .781       .754
                           .729       .704       .680       .657       .634
                           .613       .592       .571       .552       .533
                           .515       .498       .481       .464       .449
                           .433       .419       .404       .391       .378
                           .365       .352       .340       .329       .318
                           .305       .293       .283       .274       .265
                           .256       .247       .239       .231       .223
                           .216       .209       .202       .195       .188
                           .182       .176       .170       .164       .159
                           .154       .148       .144       .139       .134
                           .130       .125       .121       .117       .113
                           .109       .106       .102       .099       .096
                           .092       .089       .086       .084       .081
                           .078       .075       .073       .070       .066
                           .062       .060       .058       .057       .055
                           .053       .051       .050       .048       .046
                           .045       .043       .042       .041       .039
                           .038       .037       .036       .034       .033
                           .032       .031       .030       .029       .028
                           .027       .026       .026       .025       .024
```

.023	.022	.022	.021	.020
.020	.019	.018	.018	.017
.017	.016	.016	.015	.015
.014	.014	.013	.013	.012
.012	.012	.011	.011	.010
.010	.010	.009	.009	.009
.009	.008	.008	.008	.008
.007	.007	.007	.007	.006
.006	.006	.006	.006	.005
.005	.005	.005	.005	.005
.004	.004	.004	.004	.004
.002	.001	.001	.001	.001

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**************************************************************************
*
*S ROUTE THE BOCA NEGRA ARROYO SOUTH BRANCH FLOWS THRU 72" IN EMERALD DR
*
*
COMPUTE RATING CURVE       CID=1   VS NO=1 NO SEGS=-1  SLP=0.021
                                   DIAM=6.0 FT     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
.31	.56	3.22	2.67
.63	1.56	13.98	3.67
.94	2.82	32.49	4.36
1.25	4.27	58.43	4.87
1.56	5.86	91.23	5.27
1.88	7.55	130.17	5.56
2.19	9.33	174.40	5.78
2.50	11.16	222.98	5.92
2.81	13.02	274.87	5.99
3.13	14.90	328.97	6.00
3.44	16.76	384.05	6.00
3.75	18.60	438.82	6.00
4.06	20.39	491.83	6.00
4.38	22.10	541.47	6.00
4.69	23.71	585.90	6.00
5.00	25.19	622.87	6.00
5.32	26.49	649.32	6.00
5.63	27.55	660.18	6.00
6.00	28.27	660.18	6.00

```
ROUTE MCUNGE        ID=5   HYD NO=70.5     INFLOW ID=2
                           DT=0.0 HR       LENGTH=1347 FT
                           NS=0    SLOPE=0.021  CODE=5

     INFLOW END= 340            TABLE PTS= 19
     DT=  .050000               QMED=      189.27  CKMED=     26.5472
     WIDTH MED=        5.82     NREACH=  1         DX=     1347.00
```

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.089	.0	7.48	2.70	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.31	.6	3.2	.065	2.7	9.42	5.73	1.259	.005	.996	.117	-.113	.5	.999	.018	-.018
.63	1.6	14.0	.042	3.7	13.01	8.94	1.738	.010	.992	.272	-.265	7.7	.993	.184	-.177
.94	2.8	32.5	.033	4.4	16.47	11.51	2.201	.016	.990	.378	-.368	22.4	.991	.329	-.320
1.25	4.3	58.4	.027	4.9	19.39	13.68	2.591	.022	.988	.446	-.434	44.7	.989	.415	-.404
1.56	5.9	91.2	.024	5.3	21.87	15.57	2.923	.028	.986	.494	-.480	74.2	.987	.472	-.459
1.88	7.6	130.2	.022	5.6	23.98	17.23	3.205	.034	.984	.528	-.512	110.1	.985	.513	-.497
2.19	9.3	174.4	.020	5.8	25.76	18.69	3.442	.041	.982	.554	-.535	151.8	.983	.543	-.525
2.50	11.2	223.0	.019	5.9	27.21	19.98	3.637	.049	.979	.573	-.552	198.3	.980	.565	-.545
2.81	13.0	274.9	.018	6.0	28.36	21.11	3.789	.057	.976	.587	-.564	248.6	.978	.582	-.559
3.13	14.9	329.0	.017	6.0	29.15	22.08	3.895	.066	.973	.597	-.570	301.6	.975	.593	-.568
3.44	16.8	384.1	.016	6.0	29.34	22.91	3.920	.077	.969	.600	-.569	356.3	.971	.600	-.571
3.75	18.6	438.8	.016	6.0	28.79	23.59	3.847	.090	.964	.595	-.559	411.3	.967	.599	-.565
4.06	20.4	491.8	.016	6.0	27.43	24.12	3.665	.106	.956	.581	-.536	465.2	.960	.590	-.550
4.38	22.1	541.5	.015	6.0	25.14	24.50	3.359	.127	.943	.554	-.498	516.6	.951	.570	-.521
4.69	23.7	585.9	.015	6.0	21.75	24.71	2.906	.159	.922	.508	-.430	563.7	.935	.535	-.470
5.00	25.2	622.9	.015	6.0	16.93	24.73	2.263	.217	.875	.425	-.301	604.5	.905		

```
.476  -.381
     5.32   26.5    649.3    .015    6.0     9.92  24.51    1.325   .386   .715   .262   .022    636.2    .831
.365  -.196
     5.63   27.5    660.2    .016    6.0     5.65  23.97     .755   .688   .437   .182   .382    654.8    .454
.180   .366
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   4 OCCURRED       2 TIMES.  AVERAGE NUMBER ITERATIONS =  1.2618
     Equations solved using the Ponce correction to C2
     PRINT HYD           ID=5   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    70.50


         RUNOFF VOLUME =      .38470 INCHES     =      33.6484 ACRE-FEET
         PEAK DISCHARGE RATE =     377.51 CFS  AT   2.300 HOURS   BASIN AREA =  1.6400 SQ. MI.



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     *S  APPLY SEDIMENT BULKING FACTOR
     SEDIMENT BULK          CODE=1   BULKING FACTOR = 1.09
     *
     **************************************************************************
     **************************************************************************
     *S
     *S*** SUB-BASIN 70 EAST OF SAD 227 ***
     *
     COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                         NK=3  ISLOPE=-1
                         LENGTH=400 FT   SLOPE=0.072 K=0.7
                         LENGTH=1580 FT  SLOPE=0.072 K=2.0



          Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

          SCS UPLAND METHOD FACTORS
               NOTE: Upland factor input values have been adjusted to meet Upland/Lag Time requirements.
                                LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
          SHEET FLOW PORTION          400.0           .072000            .7000
          SHALLOW FLOW PORTION       1580.0           .072000           2.0000
          CHANNEL FLOW PORTION          .0            .000000            .0000
          TOTAL BASIN                1980.0           .072000           1.4544


          TIME OF CONCENTRATION (HRS)=   .1409     TIME TO PEAK (HRS)=   .0940     LAG TIME (HRS)=   .1057



          TIME TO PEAK COMPUTED TO BE LESS THAN 0.133333 HOUR MINIMUM VALUE.
          REVISED VALUES: TIME OF CONCENTRATION (HRS)=   .2000     TIME TO PEAK (HRS)=   .1333     LAG TIME (HRS)=
.1500

     COMPUTE NM HYD      ID=4   HYD NO=70   DA=0.06914 SQ MI
                         PER A=80 PER B=0  PER C=20  PER D=0
                         TP=0.0   MASSRAIN=-1
          TIME TO PEAK (hrs)=   .1333

          K =   .154814HR    TP =   .133333HR    K/TP RATIO =  1.161107     SHAPE CONSTANT, N =  3.052911
          UNIT PEAK =   148.36    CFS   UNIT VOLUME =    .9992       B =   286.11      P60 = 1.6900
          AREA =      .069140 SQ MI    IA =    .59000 INCHES    INF =   1.50200 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

         BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.09000 AT PEAK FLOW.

     PRINT HYD           ID=4   CODE=5

                                        OUTFLOW HYDROGRAPH REACH    70.00

          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME
FLOW
           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS
CFS
          .000        .0         1.250        .0         2.500       2.0         3.750        .1         5.000
  .0
          .250        .0         1.500      66.6         2.750       1.2         4.000        .1         5.250
  .0
          .500        .0         1.750      19.9         3.000        .7         4.250        .0
          .750        .0         2.000       5.8         3.250        .4         4.500        .0
         1.000        .0         2.250       3.4         3.500        .2         4.750        .0

         RUNOFF VOLUME =      .50198 INCHES     =       1.8510 ACRE-FEET
         PEAK DISCHARGE RATE =      66.65 CFS  AT   1.500 HOURS   BASIN AREA =   .0691 SQ. MI.



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*****************************************************************
*S
*S ADD BASIN 70 to ROUTED BOCA NEGRA ARROYO SOUTH BRANCH
*
ADD HYD             ID=6  HYD NO=70.6 ID I=4 ID II=5
PRINT HYD           ID=6   CODE=1

                                    OUTFLOW HYDROGRAPH REACH    70.60


    RUNOFF VOLUME =      .38945 INCHES     =      35.4994 ACRE-FEET
    PEAK DISCHARGE RATE =     380.70 CFS  AT   2.250 HOURS   BASIN AREA =  1.7091 SQ. MI.



*
*****************************************************************
*
*S ADD ALL FLOWS AT THE CONFLUENCE WITH BOCA NEGRA ARROYO
*
ADD HYD             ID=7  HYD NO=71.7 ID I=6 ID II=9
PRINT HYD           ID=7   CODE=1

                                    OUTFLOW HYDROGRAPH REACH    71.70


    RUNOFF VOLUME =      .51331 INCHES     =     463.1585 ACRE-FEET
    PEAK DISCHARGE RATE =    1147.37 CFS  AT   3.650 HOURS   BASIN AREA = 16.9182 SQ. MI.



*
*****************************************************************
*
*S ROUTE 71.7 IN 72 TO GET 72.6
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5164.49   MAX ELEV=5167.54
                      CH SLOPE=0.008    FP SLOPE=0.008
                      N=0.035           DIST=137
                      DIST  ELEV    DIST  ELEV
                        0   5167.54        20 5165.67
                                   41   5166.80    77 5165.39
                                   81   5164.71    92 5164.49
                                   99   5165.64    137 5166.10


                                  RATING CURVE VALLEY SECTION  1.0
                                     WATER       FLOW        FLOW        TOP
                                    SURFACE      AREA        RATE        WIDTH
                                     ELEV        SQ FT       CFS         FT
                                   5164.49         .00         .00         .00
                                   5164.65         .72         .51        9.02
                                   5164.81        2.67        3.43       13.55
                                   5164.97        5.00        8.92       15.48
                                   5165.13        7.64       16.71       17.40
                                   5165.29       10.59       26.83       19.32
                                   5165.45       13.89       38.08       22.50
                                   5165.61       17.91       50.82       27.58
                                   5165.78       23.61       57.27       46.10
                                   5165.94       32.79       76.31       68.18
                                   5166.10       45.52      109.36       90.26
                                   5166.26       60.77      166.06       99.35
                                   5166.42       77.44      235.02      108.15
                                   5166.58       95.52      316.48      116.96
                                   5166.74      115.02      410.94      125.76
                                   5166.90      135.71      529.15      130.15
                                   5167.06      156.75      667.01      131.87
                                   5167.22      178.07      817.89      133.59
                                   5167.38      199.67      981.41      135.31
                                   5167.54      221.55     1157.42      137.00
ROUTE MCUNGE          ID=6   HYD NO=72.6  INFLOW ID=7
                      DT=0.0   L=1805 FT   NS=0   SLOPE=0.008
                      MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

     INFLOW END= 600            TABLE PTS= 20
     DT=  .050000               QMED=      573.69  CKMED=      6.5504
     WIDTH MED=      130.71     NREACH=  3         DX=      601.67

      DEPTH   AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1     C2     C3     Q-M      C1-M
C2-M   C3-M
       (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
         .00     .0       .0   1.029     .0     3.34    .27    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
         .16     .7       .5    .710    9.0     3.33    .71     .996   .004   .996   .000   .004       .1    .999
.000   .001
         .32    2.7      3.4    .391   13.6     3.29   1.28     .984   .016   .984   .000   .016      1.6    .992
.000   .008
         .48    5.0      8.9    .281   15.5     3.22   1.78     .963   .037   .963   .000   .037      5.9    .974
.000   .026
         .64    7.6     16.7    .229   17.4     3.22   2.19     .963   .062   .939   .012   .049     12.6    .952
```

```
.006   .043
         .80   10.6     26.8    .198   19.3     3.48   2.53    1.042   .083   .922   .059   .019     21.5    .932
.046   .022
          .96   13.9     38.1    .183   22.5     3.34   2.74     .999   .105   .900   .049   .051     32.3    .908
.046   .046
         1.12   17.9     50.8    .177   27.6     2.90   2.84     .868   .132   .868   .000   .132     44.3    .887
.029   .084
         1.29   23.6     57.3    .207   46.1     3.06   2.43     .916   .084   .916   .000   .084     53.7    .889
.000   .111
         1.45   32.8     76.3    .215   68.2     3.09   2.33     .925   .075   .925   .000   .075     66.3    .920
.000   .080
         1.61   45.5    109.4    .209   90.3     3.07   2.40     .918   .082   .918   .000   .082     92.1    .922
.000   .078
         1.77   60.8    166.1    .183   99.3     3.94   2.73    1.180   .088   .922   .118  -.040    136.6    .927
.088  -.015
         1.93   77.4    235.0    .165  108.2     4.34   3.03    1.297   .104   .913   .167  -.080    199.4    .917
.143  -.060
         2.09   95.5    316.5    .151  117.0     4.69   3.31    1.402   .120   .905   .207  -.112    274.6    .908
.187  -.095
         2.25  115.0    410.9    .140  125.8     5.24   3.57    1.567   .130   .904   .258  -.162    362.6    .901
.224  -.124
         2.41  135.7    529.2    .129  130.2     6.11   3.90    1.828   .138   .907   .326  -.233    468.6    .907
.299  -.206
         2.57  156.8    667.0    .118  131.9     6.82   4.26    2.040   .154   .904   .374  -.277    596.5    .907
.356  -.263
         2.73  178.1    817.9    .109  133.6     7.33   4.59    2.193   .174   .897   .406  -.303    741.0    .900
.390  -.290
         2.89  199.7    981.4    .102  135.3     7.81   4.92    2.338   .193   .891   .434  -.324    898.2    .894
.420  -.314
         3.05  221.5   1157.4    .096  137.0     8.24   5.22    2.465   .213   .884   .456  -.340   1068.0    .888
.446  -.334
     MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   4 OCCURRED      10 TIMES.  AVERAGE NUMBER ITERATIONS =  1.5299
     Equations solved using the Ponce correction to C2

     PRINT HYD           ID=6   CODE=1

                                        OUTFLOW HYDROGRAPH REACH    72.60


         RUNOFF VOLUME =      .51331 INCHES     =     463.1622 ACRE-FEET
         PEAK DISCHARGE RATE =    1147.49 CFS  AT   3.750 HOURS   BASIN AREA = 16.9182 SQ. MI.



     *
     ************************************************************************
     *S  APPLY NO SEDIMENT BULKING FACTOR
     SEDIMENT BULK          CODE=1   BULKING FACTOR = 1.00

     *
     ************************************************************************
     ************************************************************************
     *
     *S RECALL HYD FROM SAD 228 POND 6
     *
     RECALL HYD          ID=19  HYD=POND6
                         DT=  .050000 HRS   DA=    .0654 SQ MI
                         PEAK=     50.659CFS  RO= 1.5488 INCHES  NO PTS=539
                         FLOW RATES
                                .000       .000       .000       .000       .000
                                .000       .000       .000       .000       .000
                                .000       .000       .000       .000       .000
                                .002       .012       .049       .137       .296
                                .533       .841      1.202      1.585      1.956
                               2.303      2.701      3.408      4.947      8.041
                              12.321     18.906     24.765     30.903     36.022
                              39.406     41.514     43.269     44.579     48.727
                              50.659     48.563     44.986     44.498     43.781
                              42.862     41.773     40.543     39.204     37.551
                              34.501     31.620     28.909     25.345     22.281
                              19.653     16.660     14.038     12.007     10.418
                               9.161      8.152      7.158      6.362      5.742
                               5.246      4.836      4.491      4.193      3.932
                               3.699      3.490      3.300      3.127      2.967
                               2.820      2.684      2.558      2.442      2.334
                               2.234      2.141      2.054      1.974      1.899
                               1.830      1.766      1.706      1.650      1.598
                               1.550      1.505      1.464      1.426      1.390
                               1.358      1.328      1.300      1.274      1.250
                               1.228      1.207      1.189      1.172      1.158
                               1.144      1.131      1.120      1.109      1.099
                               1.091      1.084      1.079      1.074      1.070
                               1.066      1.063      1.060      1.057      1.055
                               1.053      1.051      1.050      1.048      1.043
                               1.029      1.007       .975       .937       .895
                                .853       .813       .777       .745       .718
                                .696       .677       .662       .649       .639
                                .630       .622       .614       .608       .601
                                .595       .589       .584       .579       .574
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.569	.565	.561	.557	.553
.548	.544	.540	.536	.533
.529	.526	.522	.519	.517
.514	.512	.510	.508	.506
.504	.502	.500	.498	.496
.495	.493	.491	.489	.488
.486	.485	.483	.481	.479
.478	.476	.474	.473	.472
.471	.470	.468	.467	.465
.464	.462	.461	.459	.458
.456	.455	.454	.453	.451
.450	.448	.446	.445	.444
.442	.441	.440	.439	.438
.437	.436	.434	.433	.431
.430	.429	.428	.427	.426
.425	.424	.423	.422	.420
.419	.418	.417	.416	.414
.413	.412	.410	.409	.408
.407	.406	.405	.405	.404
.403	.402	.401	.400	.399
.398	.397	.396	.395	.394
.393	.392	.391	.390	.388
.387	.386	.385	.384	.384
.383	.383	.382	.381	.380
.379	.377	.376	.375	.374
.374	.373	.372	.372	.371
.370	.369	.368	.367	.366
.365	.364	.363	.362	.362
.361	.361	.360	.359	.358
.357	.356	.355	.354	.353
.352	.352	.351	.351	.350
.349	.348	.347	.346	.346
.346	.345	.345	.345	.344
.343	.341	.339	.338	.337
.337	.337	.336	.336	.336
.335	.334	.333	.332	.332
.331	.330	.329	.328	.327
.327	.326	.326	.325	.325
.324	.324	.323	.323	.322
.322	.321	.320	.319	.318
.317	.317	.316	.316	.316
.315	.314	.314	.313	.313
.312	.311	.310	.310	.309
.308	.308	.307	.307	.306
.306	.305	.304	.303	.302
.301	.301	.301	.301	.301
.301	.301	.301	.300	.299
.297	.296	.295	.294	.294
.294	.294	.293	.293	.292
.292	.291	.291	.290	.289
.289	.288	.288	.287	.287
.287	.286	.286	.286	.285
.285	.284	.284	.283	.282
.281	.281	.280	.280	.279
.279	.279	.279	.278	.278
.277	.277	.276	.275	.275
.274	.274	.273	.273	.273
.273	.272	.272	.271	.271
.270	.270	.269	.269	.268
.268	.267	.267	.266	.266
.265	.264	.264	.264	.263
.263	.263	.263	.263	.262
.262	.261	.260	.259	.258
.258	.258	.258	.259	.259
.259	.259	.258	.257	.257
.256	.256	.255	.254	.253
.252	.251	.250	.249	.245
.238	.226	.209	.188	.165
.143	.122	.104	.088	.075
.064	.055	.048	.042	.038
.034	.030	.028	.025	.023
.021	.019	.018	.016	.015
.014	.013	.011	.011	.010
.009	.008	.008	.007	.006
.006	.005	.005	.005	.004
.004	.003	.003	.003	.003
.002	.002	.002	.002	.002
.002	.001	.001	.001	

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**************************************************************************
*S  APPLY SEDIMENT BULKING FACTOR
SEDIMENT BULK          CODE=1   BULKING FACTOR = 1.09

*
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*S
*S*** SUB-BASIN 72 DOWNSTREAM OF CONFLUENCE WITH SOUTH BRANCH ***
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COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                    NK=3  ISLOPE=-1
                    LENGTH=355 FT   SLOPE=0.02 K=0.7
                    LENGTH=1645 FT  SLOPE=0.02 K=2.0
                    LENGTH=260 FT  SLOPE=0.02 K=3.0


     Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

     SCS UPLAND METHOD FACTORS
                              LENGTH (FT)      SLOPE (FT/FT)       COMPOSITE K
     SHEET FLOW PORTION          355.0           .020000             .7000
     SHALLOW FLOW PORTION       1645.0           .020000            2.0000
     CHANNEL FLOW PORTION        260.0           .020000            3.0000
     TOTAL BASIN                2260.0           .020000            1.5957


     TIME OF CONCENTRATION (HRS)=   .2782     TIME TO PEAK (HRS)=   .1855     LAG TIME (HRS)=   .2086

COMPUTE NM HYD      ID=2   HYD NO=72   DA=0.16708 SQ MI
                    PER A=80 PER B=0  PER C=20  PER D=0
                    TP=0.0   MASSRAIN=-1
     TIME TO PEAK (hrs)=   .1855

     K =   .203662HR    TP =   .185460HR    K/TP RATIO =  1.098145     SHAPE CONSTANT, N =  3.218722
     UNIT PEAK =   269.54    CFS   UNIT VOLUME =    1.000       B =   299.19      P60 = 1.6900
     AREA =      .167080 SQ MI    IA =    .59000 INCHES    INF =   1.50200 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.09000 AT PEAK FLOW.

PRINT HYD           ID=2   CODE=5

                                       OUTFLOW HYDROGRAPH REACH    72.00

     TIME      FLOW           TIME      FLOW           TIME      FLOW           TIME      FLOW           TIME
FLOW
      HRS       CFS            HRS       CFS            HRS       CFS            HRS       CFS            HRS
CFS
      .000        .0          1.500     111.6          3.000       2.9          4.500        .2          6.000
  .0
      .250        .0          1.750      68.0          3.250       1.9          4.750        .2          6.250
  .0
      .500        .0          2.000      20.0          3.500       1.3          5.000        .1          6.500
  .0
      .750        .0          2.250       9.9          3.750        .8          5.250        .1          6.750
  .0
     1.000        .0          2.500       6.5          4.000        .6          5.500        .0
     1.250        .0          2.750       4.3          4.250        .4          5.750        .0

    RUNOFF VOLUME =      .50198 INCHES     =       4.4731 ACRE-FEET
    PEAK DISCHARGE RATE =     126.65 CFS  AT   1.550 HOURS   BASIN AREA =   .1671 SQ. MI.


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*
*S ADD OUTFLOW FROM POND 6 TO BASIN 72
*
ADD HYD             ID=1  HYD NO=72.1 ID I=19 ID II=2
PRINT HYD           ID=1   CODE=1

                                       OUTFLOW HYDROGRAPH REACH    72.10


    RUNOFF VOLUME =      .79646 INCHES     =       9.8752 ACRE-FEET
    PEAK DISCHARGE RATE =     146.85 CFS  AT   1.600 HOURS   BASIN AREA =   .2325 SQ. MI.


*
**********************************************************************
*
*S ADD ALL FLOWS AT TESUQUE DR
*S ADD 72.1 TO 72.6 TO GET 72.3
*
ADD HYD             ID=3  HYD NO=72.3 ID I=1 ID II=6
PRINT HYD           ID=3   CODE=1

                                       OUTFLOW HYDROGRAPH REACH    72.30


    RUNOFF VOLUME =      .51715 INCHES     =     473.0370 ACRE-FEET
    PEAK DISCHARGE RATE =    1151.15 CFS  AT   3.750 HOURS   BASIN AREA = 17.1507 SQ. MI.



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*
*S ROUTE 72.3 IN 73.1 TO GET 73.1.5
*
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5149.46   MAX ELEV=5162.40
                      CH SLOPE=0.006    FP SLOPE=0.006
                      N=0.035           DIST=149
                      DIST  ELEV    DIST  ELEV
                        0   5162.40        17 5157.28
                                   25   5156.08    35 5151.92
                                   75   5149.46    112 5150.98
                                   132   5156.42   149 5157.55


                                    RATING CURVE VALLEY SECTION  1.0
                                        WATER       FLOW        FLOW        TOP
                                       SURFACE      AREA        RATE        WIDTH
                                        ELEV        SQ FT       CFS         FT
                                      5149.46         .00         .00         .00
                                      5150.14        9.42       15.09       27.66
                                      5150.82       37.68       95.84       55.31
                                      5151.50       81.94      292.89       72.15
                                      5152.18      135.23      618.82       82.06
                                      5152.87      192.54     1077.35       86.21
                                      5153.55      252.67     1640.05       90.35
                                      5154.23      315.62     2303.15       94.49
                                      5154.91      381.39     3064.67       98.63
                                      5155.59      449.98     3923.72      102.77
                                      5156.27      521.48     4857.76      107.73
                                      5156.95      598.87     5670.68      120.83
                                      5157.63      685.95     6666.85      133.18
                                      5158.31      777.43     8119.27      135.44
                                      5159.00      870.46     9691.45      137.70
                                      5159.68      965.02    11381.12      139.96
                                      5160.36     1061.13    13186.48      142.22
                                      5161.04     1158.77    15106.07      144.48
                                      5161.72     1257.96    17138.70      146.74
                                      5162.40     1358.68    19283.99      149.00
ROUTE MCUNGE        ID=5   HYD NO=73.1.5  INFLOW ID=3
                    DT=0.0   L=1380 FT   NS=0   SLOPE=0.006
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

    INFLOW END= 600           TABLE PTS= 20
    DT=  .050000              QMED=      575.58  CKMED=      6.1166
    WIDTH MED=       80.75    NREACH=  3         DX=      460.00

 DEPTH   AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D      C1      C2     C3     Q-M      C1-M
C2-M   C3-M
  (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                          (CFS)
   .00     .0       .0    .328     .0     2.56     .74    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
   .68    9.4     15.1    .239   27.7     2.34   1.60     .915   .085   .915   .000   .085      2.4    .987
.000   .013
  1.36   37.7     95.8    .151   55.3     3.66   2.54    1.432   .172   .868   .232  -.100     45.0    .873
.101   .026
  2.04   81.9    292.9    .107   72.2     5.34   3.57    2.088   .276   .836   .405  -.241    181.8    .847
.333  -.180
  2.72  135.2    618.8    .084   82.1     7.03   4.58    2.750   .389   .812   .517  -.329    443.1    .821
.468  -.290
  3.41  192.5   1077.3    .069   86.2     8.73   5.60    3.415   .519   .790   .595  -.384    835.5    .804
.563  -.367
  4.09  252.7   1640.0    .059   90.3     9.98   6.49    3.907   .659   .763   .641  -.404   1347.2    .775
.619  -.394
  4.77  315.6   2303.1    .053   94.5    11.09   7.30    4.338   .797   .740   .674  -.414   1960.8    .751
.658  -.409
  5.45  381.4   3064.7    .048   98.6    12.08   8.04    4.726   .932   .720   .700  -.420   2673.6    .729
.687  -.416
  6.13  450.0   3923.7    .044  102.8    12.84   8.72    5.023  1.078   .696   .718  -.415   3484.3    .710
.710  -.420
  6.81  521.5   4857.8    .041  107.7    12.03   9.32    4.706  1.358   .615   .717  -.332   4381.7    .681
.724  -.405
  7.49  598.9   5670.7    .040  120.8    10.98   9.47    4.296  1.549   .547   .708  -.255   5259.2    .521
.701  -.222
  8.17  686.0   6666.8    .039  133.2    13.36   9.72    5.227  1.358   .642   .736  -.378   6162.2    .565
.715  -.281
  8.85  777.4   8119.3    .037  135.4    16.40  10.44    6.418  1.324   .697   .771  -.468   7379.4    .704
.764  -.468
  9.54  870.5   9691.4    .034  137.7    17.40  11.13    6.808  1.466   .684   .784  -.468   8892.2    .690
.778  -.468
 10.22  965.0  11381.1    .033  140.0    18.34  11.79    7.176  1.607   .672   .796  -.467  10523.6    .677
.790  -.467
 10.90 1061.1  13186.5    .031  142.2    19.23  12.43    7.526  1.747   .660   .805  -.465  12271.4    .665
.801  -.466
 11.58 1158.8  15106.1    .029  144.5    20.09  13.04    7.860  1.886   .649   .814  -.463  14134.2    .654
.810  -.464
 12.26 1258.0  17138.7    .028  146.7    20.90  13.62    8.180  2.024   .639   .821  -.460  16110.6    .644
.818  -.461
 12.94 1358.7  19284.0    .027  149.0    21.58  14.19    8.444  2.173   .626   .828  -.454  18199.8    .634
.825  -.459
MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   4 OCCURRED       9 TIMES.  AVERAGE NUMBER ITERATIONS =  1.5713
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DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.328	.0	2.56	.74	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.68	9.4	15.1	.239	27.7	2.34	1.60	.915	.085	.915	.000	.085	2.4	.987	.000	.013
1.36	37.7	95.8	.151	55.3	3.08	2.54	1.204	.204	.831	.169	.000	45.0	.873	.101	.026
2.04	81.9	292.9	.107	72.2	3.60	3.57	1.409	.409	.710	.290	.000	181.8	.764	.236	.000
2.72	135.2	618.8	.084	82.1	4.21	4.58	1.649	.649	.607	.393	.000	443.1	.653	.347	.000
3.41	192.5	1077.3	.069	86.2	4.91	5.60	1.922	.922	.520	.480	.000	835.5	.559	.441	.000
4.09	252.7	1640.0	.059	90.3	5.57	6.49	2.180	1.180	.459	.541	.000	1347.2	.487	.513	.000
4.77	315.6	2303.1	.053	94.5	6.20	7.30	2.425	1.425	.412	.588	.000	1960.8	.434	.566	.000
5.45	381.4	3064.7	.048	98.6	6.79	8.04	2.658	1.658	.376	.624	.000	2673.6	.393	.607	.000
6.13	450.0	3923.7	.044	102.8	7.36	8.72	2.880	1.880	.347	.653	.000	3484.3	.361	.639	.000
6.81	521.5	4857.8	.041	107.7	7.86	9.32	3.077	2.077	.325	.675	.000	4381.7	.336	.664	.000
7.49	598.9	5670.7	.040	120.8	7.99	9.47	3.127	2.127	.320	.680	.000	5259.2	.322	.678	.000
8.17	686.0	6666.8	.039	133.2	8.20	9.72	3.211	2.211	.311	.689	.000	6162.2	.315	.685	.000
8.85	777.4	8119.3	.037	135.4	8.84	10.44	3.458	2.458	.289	.711	.000	7379.4	.300	.700	.000
9.54	870.5	9691.4	.034	137.7	9.45	11.13	3.698	2.698	.270	.730	.000	8892.2	.279	.721	.000
10.22	965.0	11381.1	.033	140.0	10.05	11.79	3.932	2.932	.254	.746	.000	10523.6	.262	.738	.000
10.90	1061.1	13186.5	.031	142.2	10.63	12.43	4.160	3.160	.240	.760	.000	12271.4	.247	.753	.000
11.58	1158.8	15106.1	.029	144.5	11.20	13.04	4.382	3.382	.228	.772	.000	14134.2	.234	.766	.000
12.26	1258.0	17138.7	.028	146.7	11.76	13.62	4.600	3.600	.217	.783	.000	16110.6	.223	.777	.000
12.94	1358.7	19284.0	.027	149.0	12.30	14.19	4.813	3.813	.208	.792	.000	18199.8	.212	.788	.000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 2 TIMES. AVERAGE NUMBER ITERATIONS = 1.5466
Equations solved with two passes: first using the Ponce correction to C1, second using the Fread correction to C1, C2 and C3

PRINT HYD ID=5 CODE=1

HYDROGRAPH FROM AREA 73.1.5

RUNOFF VOLUME = .51690 INCHES = 472.8104 ACRE-FEET
PEAK DISCHARGE RATE = 1148.83 CFS AT 3.800 HOURS BASIN AREA = 17.1507 SQ. MI.

*
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*
*S*** SUB-BASIN 73.1
*
COMPUTE LT TP LCODE=1 UPLAND/LAG TIME TRANSITION METHOD
NK=3 ISLOPE=-1
LENGTH=355 FT SLOPE=0.02 K=0.7
LENGTH=1645 FT SLOPE=0.02 K=2.0
LENGTH=260 FT SLOPE=0.02 K=3.0

Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

SCS UPLAND METHOD FACTORS

	LENGTH (FT)	SLOPE (FT/FT)	COMPOSITE K
SHEET FLOW PORTION	355.0	.020000	.7000
SHALLOW FLOW PORTION	1645.0	.020000	2.0000
CHANNEL FLOW PORTION	260.0	.020000	3.0000
TOTAL BASIN	2260.0	.020000	1.5957

TIME OF CONCENTRATION (HRS)= .2782 TIME TO PEAK (HRS)= .1855 LAG TIME (HRS)= .2086

COMPUTE NM HYD ID=4 HYD NO=73.1 DA=0.12879 SQ MI
PER A=10 PER B=20 PER C=30 PER D=40
TP=0.0 MASSRAIN=-1
TIME TO PEAK (hrs)= .1855

K = .103418HR TP = .185460HR K/TP RATIO = .557632 SHAPE CONSTANT, N = 6.901476
UNIT PEAK = 143.49 CFS UNIT VOLUME = 1.000 B = 516.57 P60 = 1.6900
AREA = .051516 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

```
      K =   .171438HR    TP =   .185460HR    K/TP RATIO =   .924395     SHAPE CONSTANT, N =  3.828155
      UNIT PEAK =   143.14    CFS   UNIT VOLUME =    1.000       B =   343.54      P60 = 1.6900
      AREA =      .077274 SQ MI    IA =    .45000 INCHES    INF =   1.11000 INCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.09000 AT PEAK FLOW.

PRINT HYD           ID=4   CODE=5

                                        OUTFLOW HYDROGRAPH REACH    73.10

      TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
       HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000        .0         5.250       1.5        10.500        .9        15.750        .7        21.000        .6
      .250        .0         5.500       1.6        10.750        .9        16.000        .7        21.250        .6
      .500        .0         5.750       1.6        11.000        .9        16.250        .7        21.500        .6
      .750        .0         6.000       1.7        11.250        .8        16.500        .7        21.750        .6
     1.000       4.9         6.250       1.3        11.500        .8        16.750        .7        22.000        .5
     1.250      10.0         6.500       1.2        11.750        .8        17.000        .7        22.250        .5
     1.500     189.5         6.750       1.1        12.000        .8        17.250        .7        22.500        .5
     1.750     112.8         7.000       1.1        12.250        .8        17.500        .6        22.750        .5
     2.000      51.6         7.250       1.1        12.500        .8        17.750        .6        23.000        .5
     2.250      22.4         7.500       1.1        12.750        .8        18.000        .6        23.250        .5
     2.500      11.5         7.750       1.0        13.000        .8        18.250        .6        23.500        .5
     2.750       7.1         8.000       1.0        13.250        .8        18.500        .6        23.750        .5
     3.000       4.6         8.250       1.0        13.500        .8        18.750        .6        24.000        .5
     3.250       3.2         8.500       1.0        13.750        .8        19.000        .6        24.250        .2
     3.500       2.5         8.750       1.0        14.000        .7        19.250        .6        24.500        .1
     3.750       2.0         9.000       1.0        14.250        .7        19.500        .6        24.750        .0
     4.000       1.8         9.250        .9        14.500        .7        19.750        .6        25.000        .0
     4.250       1.6         9.500        .9        14.750        .7        20.000        .6        25.250        .0
     4.500       1.6         9.750        .9        15.000        .7        20.250        .6        25.500        .0
     4.750       1.5        10.000        .9        15.250        .7        20.500        .6
     5.000       1.5        10.250        .9        15.500        .7        20.750        .6

      RUNOFF VOLUME =     1.44269 INCHES     =       9.9095 ACRE-FEET
      PEAK DISCHARGE RATE =     209.07 CFS  AT   1.550 HOURS   BASIN AREA =   .1288 SQ. MI.


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*
*S ADD 72.3 TO 73.1 TO GET 73.1.2

*
ADD HYD             ID=2  HYD NO=73.1.2 ID I=4 ID II=5
PRINT HYD           ID=2   CODE=1

                                        HYDROGRAPH FROM AREA 73.1.2


      RUNOFF VOLUME =      .52380 INCHES     =     482.7200 ACRE-FEET
      PEAK DISCHARGE RATE =    1150.81 CFS  AT   3.800 HOURS   BASIN AREA = 17.2795 SQ. MI.



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*
*S ROUTE 73.1.2 THRU 73.2 TO GET 73.2.5
*
COMPUTE RATING CURVE  CID=1   VS NO=1   NO SEGS=1
                      MIN ELEV=5149.46   MAX ELEV=5162.40
                      CH SLOPE=0.004    FP SLOPE=0.004
                      N=0.035           DIST=149
                      DIST  ELEV    DIST  ELEV
```

```
0   5144.26        23 5143.43
          39   5138.80    68 5137.16
          110   5138.29   132 5144.34
          149   5144.48


                                    RATING CURVE VALLEY SECTION  1.0
                                       WATER        FLOW        FLOW        TOP
                                     SURFACE       AREA        RATE       WIDTH
                                       ELEV        SQ FT       CFS         FT
                                    5149.46          .00         .00      149.00
                                    5150.14      1454.98    17726.59      149.00
                                    5150.82      1556.47    19835.01      149.00
                                    5151.50      1657.96    22037.14      149.00
                                    5152.18      1759.46    24331.04      149.00
                                    5152.87      1860.95    26714.91      149.00
                                    5153.55      1962.44    29187.08      149.00
                                    5154.23      2063.93    31745.99      149.00
                                    5154.91      2165.42    34390.21      149.00
                                    5155.59      2266.91    37118.38      149.00
                                    5156.27      2368.41    39929.21      149.00
                                    5156.95      2469.90    42821.54      149.00
                                    5157.63      2571.39    45794.19      149.00
                                    5158.31      2672.88    48846.13      149.00
                                    5159.00      2774.37    51976.31      149.00
                                    5159.68      2875.86    55183.79      149.00
                                    5160.36      2977.36    58467.63      149.00
                                    5161.04      3078.85    61826.96      149.00
                                    5161.72      3180.34    65260.96      149.00
                                    5162.40      3281.83    68768.80      149.00
ROUTE MCUNGE        ID=5   HYD NO=73.2.5  INFLOW ID=2
                    DT=0.0   L=1060 FT   NS=0   SLOPE=0.004
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

      INFLOW END= 600           TABLE PTS= 20
      DT=  .050000              QMED=      575.41  CKMED=     12.1834
      WIDTH MED=      149.00    NREACH=  1         DX=     1060.00

       DEPTH   AREA      Q    TRAVEL  WIDTH     ck      VEL      C       D       C1      C2      C3     Q-M      C1-M
C2-M   C3-M
        (FT)  (SQ FT)  (CFS)  TIME(HR) (FT)     (FPS)   (FPS)                                                 (CFS)
          .00     .0       .0    .025  149.0     5.89  11.16    1.000   .000  1.000   .000   .000       .0   1.000
.000   .000
          .68 1455.0  17726.6    .024  149.0   275.19  12.18   46.731   .102   .996   .958  -.954   1973.8    .998
.908  -.905
         1.36 1556.5  19835.0    .023  149.0    21.24  12.74    3.607  1.478   .514   .671  -.185  18769.0    .520
.664  -.184
         2.04 1658.0  22037.1    .022  149.0    22.15  13.29    3.762  1.575   .503   .684  -.187  20924.5    .508
.678  -.186
         2.72 1759.5  24331.0    .021  149.0    23.05  13.83    3.914  1.671   .492   .696  -.189  23172.7    .498
.690  -.188
         3.41 1860.9  26714.9    .021  149.0    23.93  14.36    4.063  1.767   .482   .707  -.190  25511.8    .487
.702  -.189
         4.09 1962.4  29187.1    .020  149.0    24.79  14.87    4.209  1.864   .473   .717  -.190  27940.1    .478
.712  -.190
         4.77 2063.9  31746.0    .019  149.0    25.64  15.38    4.353  1.960   .464   .727  -.190  30455.8    .468
.722  -.190
         5.45 2165.4  34390.2    .019  149.0    26.47  15.88    4.495  2.057   .455   .735  -.190  33057.5    .460
.731  -.191
         6.13 2266.9  37118.4    .018  149.0    27.29  16.37    4.634  2.153   .447   .743  -.190  35743.9    .451
.739  -.190
         6.81 2368.4  39929.2    .017  149.0    28.10  16.86    4.771  2.249   .439   .751  -.190  38513.5    .443
.747  -.190
         7.49 2469.9  42821.5    .017  149.0    28.90  17.34    4.907  2.346   .432   .758  -.189  41365.3    .435
.754  -.189
         8.17 2571.4  45794.2    .017  149.0    29.68  17.81    5.040  2.442   .424   .764  -.188  44297.9    .428
.761  -.189
         8.85 2672.9  48846.1    .016  149.0    30.46  18.27    5.172  2.538   .417   .770  -.188  47310.3    .421
.767  -.188
         9.54 2774.4  51976.3    .016  149.0    31.22  18.73    5.302  2.635   .410   .776  -.187  50401.5    .414
.773  -.187
        10.22 2875.9  55183.8    .015  149.0    31.98  19.19    5.431  2.731   .404   .782  -.185  53570.4    .407
.779  -.186
        10.90 2977.4  58467.6    .015  149.0    32.73  19.64    5.558  2.828   .397   .787  -.184  56816.2    .401
.784  -.185
        11.58 3078.8  61827.0    .015  149.0    33.47  20.08    5.683  2.924   .391   .792  -.183  60137.9    .394
.789  -.184
        12.26 3180.3  65261.0    .014  149.0    34.20  20.52    5.808  3.020   .385   .797  -.182  63534.7    .388
.794  -.182
        12.94 3281.8  68768.8    .014  149.0    34.91  20.95    5.927  3.118   .379   .801  -.180  67005.7    .382
.799  -.181
MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) =   4 OCCURRED       1 TIMES.  AVERAGE NUMBER ITERATIONS =  1.5465
Equations solved using the Ponce correction to C2


PRINT HYD           ID=5   CODE=5

                                        HYDROGRAPH FROM AREA 73.2.5

        TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME
FLOW
```

HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS	HRS	CFS
.000	.0	6.000	674.7	12.000	61.9	18.000	40.1	24.000	21.5
.250	.0	6.250	652.4	12.250	60.1	18.250	39.7	24.250	20.2
.500	.0	6.500	627.0	12.500	58.4	18.500	39.3	24.500	19.0
.750	.0	6.750	597.9	12.750	56.8	18.750	39.0	24.750	17.2
1.000	4.1	7.000	564.3	13.000	55.3	19.000	38.6	25.000	15.0
1.250	7.3	7.250	524.6	13.250	53.9	19.250	38.2	25.250	13.3
1.500	153.4	7.500	471.4	13.500	52.6	19.500	37.7	25.500	12.0
1.750	465.4	7.750	323.1	13.750	51.5	19.750	37.2	25.750	11.0
2.000	814.1	8.000	202.0	14.000	50.4	20.000	36.6	26.000	10.2
2.250	943.6	8.250	156.4	14.250	49.3	20.250	36.1	26.250	9.7
2.500	1079.3	8.500	132.7	14.500	48.4	20.500	35.4	26.500	9.3
2.750	969.8	8.750	118.4	14.750	47.5	20.750	34.7	26.750	8.9
3.000	870.6	9.000	110.4	15.000	46.6	21.000	34.0	27.000	8.6
3.250	823.8	9.250	104.6	15.250	45.8	21.250	33.3	27.250	8.4
3.500	845.5	9.500	98.9	15.500	45.0	21.500	32.4	27.500	8.2
3.750	1142.4	9.750	93.5	15.750	44.3	21.750	31.1	27.750	8.0
4.000	1128.5	10.000	88.3	16.000	43.7	22.000	29.8	28.000	7.8
4.250	1082.7	10.250	83.4	16.250	43.0	22.250	28.7	28.250	7.6
4.500	1000.8	10.500	79.0	16.500	42.4	22.500	27.7	28.500	7.4
4.750	857.5	10.750	75.1	16.750	42.0	22.750	26.7	28.750	7.3
5.000	761.1	11.000	71.5	17.000	41.6	23.000	25.8	29.000	7.1
5.250	723.0	11.250	68.3	17.250	41.3	23.250	24.7	29.250	6.9
5.500	709.7	11.500	65.6	17.500	40.9	23.500	23.6	29.500	6.5
5.750	693.8	11.750	63.7	17.750	40.5	23.750	22.5	29.750	5.9

RUNOFF VOLUME = .52378 INCHES = 482.6983 ACRE-FEET
PEAK DISCHARGE RATE = 1150.39 CFS AT 3.800 HOURS BASIN AREA = 17.2795 SQ. MI.

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*
*S
*S*** SUB-BASIN 73.2
*
COMPUTE LT TP       LCODE=1  UPLAND/LAG TIME TRANSITION METHOD
                    NK=2  ISLOPE=-1
                    LENGTH=400 FT   SLOPE=0.02 K=0.7
                    LENGTH=865 FT  SLOPE=0.02 K=2.0
```

Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

SCS UPLAND METHOD FACTORS

	LENGTH (FT)	SLOPE (FT/FT)	COMPOSITE K
SHEET FLOW PORTION	400.0	.020000	.7000
SHALLOW FLOW PORTION	865.0	.020000	2.0000
CHANNEL FLOW PORTION	.0	.000000	.0000
TOTAL BASIN	1265.0	.020000	1.2600

TIME OF CONCENTRATION (HRS)= .1972 TIME TO PEAK (HRS)= .1315 LAG TIME (HRS)= .1479

TIME TO PEAK COMPUTED TO BE LESS THAN 0.133333 HOUR MINIMUM VALUE.
REVISED VALUES: TIME OF CONCENTRATION (HRS)= .2000 TIME TO PEAK (HRS)= .1333 LAG TIME (HRS)= .1500

```
COMPUTE NM HYD      ID=4   HYD NO=73.2   DA=0.05105 SQ MI
                    PER A=10 PER B=20  PER C=30  PER D=40
                    TP=0.0   MASSRAIN=-1
```

```
 TIME TO PEAK (hrs)=   .1333

 K =   .072666HR    TP =   .133333HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
 UNIT PEAK =   80.599    CFS   UNIT VOLUME =    .9990       B =   526.28      P60 = 1.6900
 AREA =      .020420 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000


 K =   .124706HR    TP =   .133333HR    K/TP RATIO =   .935295     SHAPE CONSTANT, N =  3.781454
 UNIT PEAK =   78.182    CFS   UNIT VOLUME =    1.001       B =   340.33      P60 = 1.6900
 AREA =      .030630 SQ MI    IA =    .45000 INCHES    INF =   1.11000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .050000

BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.09000 AT PEAK FLOW.

PRINT HYD           ID=4   CODE=5

                                    OUTFLOW HYDROGRAPH REACH    73.20

      TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
       HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000        .0         5.250        .6        10.500        .3        15.750        .3        21.000        .2
      .250        .0         5.500        .6        10.750        .3        16.000        .3        21.250        .2
      .500        .0         5.750        .6        11.000        .3        16.250        .3        21.500        .2
      .750        .1         6.000        .7        11.250        .3        16.500        .3        21.750        .2
     1.000       2.4         6.250        .5        11.500        .3        16.750        .3        22.000        .2
     1.250       7.1         6.500        .5        11.750        .3        17.000        .3        22.250        .2
     1.500      99.7         6.750        .4        12.000        .3        17.250        .3        22.500        .2
     1.750      34.8         7.000        .4        12.250        .3        17.500        .2        22.750        .2
     2.000      17.4         7.250        .4        12.500        .3        17.750        .2        23.000        .2
     2.250       5.8         7.500        .4        12.750        .3        18.000        .3        23.250        .2
     2.500       3.0         7.750        .4        13.000        .3        18.250        .3        23.500        .2
     2.750       1.8         8.000        .4        13.250        .3        18.500        .2        23.750        .2
     3.000       1.2         8.250        .4        13.500        .3        18.750        .2        24.000        .2
     3.250        .9         8.500        .4        13.750        .3        19.000        .2        24.250        .0
     3.500        .7         8.750        .4        14.000        .3        19.250        .2        24.500        .0
     3.750        .7         9.000        .4        14.250        .3        19.500        .2        24.750        .0
     4.000        .6         9.250        .4        14.500        .3        19.750        .2        25.000        .0
     4.250        .6         9.500        .4        14.750        .3        20.000        .2
     4.500        .6         9.750        .4        15.000        .3        20.250        .2
     4.750        .6        10.000        .4        15.250        .3        20.500        .2
     5.000        .6        10.250        .4        15.500        .3        20.750        .2

 RUNOFF VOLUME =     1.44269 INCHES     =       3.9280 ACRE-FEET
 PEAK DISCHARGE RATE =      99.73 CFS  AT   1.500 HOURS   BASIN AREA =   .0511 SQ. MI.


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*S ADD 73.2 TO 73.2.5 TO GET 73.2.1
*S TOTAL FLOWS UPSTREAM END OF SAN ILDEFONSO DR
*
ADD HYD             ID=1  HYD NO=73.2.1 ID I=4 ID II=5
PRINT HYD           ID=1   CODE=1

                                    HYDROGRAPH FROM AREA 73.2.1


 RUNOFF VOLUME =      .52649 INCHES     =     486.6263 ACRE-FEET
 PEAK DISCHARGE RATE =    1151.04 CFS  AT   3.800 HOURS   BASIN AREA = 17.3305 SQ. MI.


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FINISH

 NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 17:11:09
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