

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -
INPUT FILE = C:\BND\AHY-1\B04F7D-1.TXT

AHYMO.SUM
- VERSION: 1997.02c

RUN DATE (MON/DAY/YR) =12/16/2015
USER NO.= AHYMO-C-9803c01UNMLIB-AH

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1 NOTATION

*S BOCA NEGRA DAM										
*S LOMR MODEL - NEW RAINFALL DATA										
*S INCLUDES BASINS DOWNSTREAM OF THE DAM										
*S 10 YR 24 HR STORM EVENT										
*S DATE: December 2015										

START										
LOCATION BERNALILLO COUNTY										
*S 10 YEAR 24HR STORM										
RAINFALL TYPE= 2										
*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										
*S*** Basin Contributing to INFLOW POINT 3 (IP3) *****										
*S QUAIL RANCH BASINS										
*S										
*S*** SUB-BASIN 10 ****										
COMPUTE NM HYD 10.00 - 1 .35800 14.97 1.185 .06208 1.800 .065 PER IMP= .00										
*S*** SUB-BASIN 11 ****										
COMPUTE NM HYD 11.00 - 2 .39000 14.80 1.291 .06208 1.850 .059 PER IMP= .00										
*S										
*S ADD IP3.10 TO IP3.11 TO GET IP3.11.9										
ADD HYD 11.90 1& 2 9 .74800 29.77 2.476 .06207 1.800 .062										
*S										
*S ROUTE 11.9 THRU IP3.12 IN NATURAL ARROYO TO 12.6										
ROUTE MCUNGE 12.60 9 6 .74800 28.68 2.441 .06120 3.100 .060 CCODE = .1										
*S*** SUB-BASIN 12 ****										
COMPUTE NM HYD 12.00 - 1 .30900 13.67 1.006 .06102 1.750 .069 PER IMP= .00										
*S										
ADD HYD 12.90 1& 6 9 1.05700 29.88 3.447 .06114 3.100 .044										
*S*** SUB-BASIN 14 ****										
COMPUTE NM HYD 14.00 - 2 .51300 19.42 1.669 .06102 1.800 .059 PER IMP= .00										
*S										
ADD HYD 14.80 2& 9 8 1.57000 32.95 5.116 .06110 1.800 .033										
*S										
*S ROUTE 14.8 THRU 15 IN NATURAL ARROYO TO 15.6										
ROUTE MCUNGE 15.60 8 6 1.57000 30.48 5.010 .05983 3.050 .030 CCODE = .1										
*S*** SUB-BASIN 15 ****										
COMPUTE NM HYD 15.00 - 1 .30100 11.01 .980 .06102 1.850 .057 PER IMP= .00										
*S										
ADD HYD 15.90 1& 6 9 1.87100 32.12 5.989 .06002 3.050 .027										
*S*** SUB-BASIN 16 ****										
COMPUTE NM HYD 16.00 - 1 .53300 20.81 1.734 .06102 1.800 .061 PER IMP= .00										
*S										
*S ROUTE 16 THRU 17 IN NATURAL ARROYO TO 17.7										
ROUTE MCUNGE 17.60 1 6 .53300 20.28 1.717 .06042 2.500 .059 CCODE = .1										
*S*** SUB-BASIN 17 ****										

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 2 NOTATION
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COMPUTE NM HYD      17.00  -    2      .26800      9.62      .872      .06102      1.850      .056 PER IMP=      .00
*S
*S ADD 17.6 TO 17 TO GET 17.7
ADD HYD              17.70  6& 2    7      .80100      24.31      2.590      .06062      2.450      .047
*S ADD 17.7 TO 15.9 TO GET 17.4
ADD HYD              17.40  7& 9    4      2.67200      43.97      8.579      .06020      3.000      .026
*S
*S ROUTE 17.4 THRU 20 IN NATURAL ARROYO TO 28.6
ROUTE MCUNGE         20.30    4    3      2.67200      43.77      8.586      .06025      3.150      .026 CCODE =      .2
*S*** SUB-BASIN 21 ****
COMPUTE NM HYD      21.00  -    1      .14500      8.64      .472      .06102      1.650      .093 PER IMP=      .00
*S
*S ROUTE 21 THRU 22 IN NATURAL ARROYO TO 22.8
ROUTE MCUNGE         22.50    1    5      .14500      8.11      .459      .05931      4.050      .087 CCODE =      .1
*S*** SUB-BASIN 22 ****
COMPUTE NM HYD      22.00  -    2      .73900      21.28      2.405      .06102      1.950      .045 PER IMP=      .00
*S
*S ADD 21 AND 22 TO GET 22.8
ADD HYD              22.80  5& 2    8      .88400      21.28      2.863      .06073      1.950      .038
*S
*S*** SUB-BASIN 24 ****
COMPUTE NM HYD      24.00  -    2      .11700      4.35      .381      .06102      1.800      .058 PER IMP=      .00
*S
*S ADD 24 AND 22.8 TO GET 24.7
ADD HYD              24.70  2& 8    7      1.00100      25.34      3.244      .06077      1.950      .040
*S
*S ROUTE 24.7 THRU 23 IN NATURAL ARROYO TO 23.8
ROUTE MCUNGE         23.60    7    6      1.00100      25.12      3.227      .06045      2.400      .039 CCODE =      .1
*S*** SUB-BASIN 23 ****
COMPUTE NM HYD      23.00  -    2      .24500      9.35      .797      .06102      1.800      .060 PER IMP=      .00
*S
*S ADD 23 AND 23.6 TO GET 23.8
ADD HYD              23.80  2& 6    8      1.24600      29.38      4.024      .06056      2.350      .037
*S
*S*** SUB-BASIN 28 ****
COMPUTE NM HYD      28.00  -    2      .15800      6.61      .550      .06528      1.800      .065 PER IMP=      .00
*S
*S ADD 28 AND 23.8 TO GET 28.9
ADD HYD              28.90  2& 8    9      1.40400      32.43      4.574      .06109      2.300      .036
*S
*S ADD 17.4 TO 28.9 TO GET 28.6
ADD HYD              28.60  3& 9    6      4.07600      60.50     13.160      .06054      2.550      .023
*S
*S ROUTE 28.6 THRU 20 IN NATURAL ARROYO TO 20.8
ROUTE MCUNGE         20.70    6    7      4.07600      59.87     13.158      .06053      2.650      .023 CCODE =      .2
*S*** SUB-BASIN 20 ****
COMPUTE NM HYD      20.00  -    1      .42600      20.59      1.483      .06528      1.750      .076 PER IMP=      .00
*S
ADD HYD              20.80  1& 7    8      4.50200      63.55     14.641      .06098      2.650      .022
*S*** SUB-BASIN 25 ****
COMPUTE NM HYD      25.00  -    1      .46300      14.85      1.481      .05996      1.900      .050 PER IMP=      .00
*S
*S*** SUB-BASIN 26 ****

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COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 3 NOTATION
COMPUTE NM HYD	26.00	-	2	.34800	14.72	1.113	.05996	1.750	.066 PER IMP=	.00

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*S
*S ADD 25 TO 26 TO GET 25.6
ADD HYD          25.60  1& 2   6          .81100      29.06      2.593      .05996      1.800      .056
*S*** SUB-BASIN 27 ****
COMPUTE NM HYD   27.00  -     1          .37600      15.47      1.202      .05996      1.800      .064 PER IMP=   .00
*S
*S ADD 27 TO 25.6 TO GET 25.75
ADD HYD          25.75  1& 6   7          1.18700      44.53      3.796      .05996      1.800      .059
*S
*S ROUTE 25.75 THRU UPPER 30 IN NATURAL ARROYO TO 30.91
ROUTE MCUNGE     30.51  7     51         1.18700      38.80      3.625      .05726      3.700      .051 CCODE =   .1
*S ROUTE 30.91 THRU LOWER 30 IN NATURAL ARROYO TO 30.9
ROUTE MCUNGE     30.50  51     5          1.18700      38.23      3.606      .05697      4.100      .050 CCODE =   .1
*S*** SUB-BASIN 30 ****
COMPUTE NM HYD   30.00  -     1          .58800      19.33      2.047      .06528      1.900      .051 PER IMP=   .00
*S
*S ADD 30 TO 30.5 TO GET 30.9
ADD HYD          30.90  1& 5   9          1.77500      39.73      5.653      .05972      4.100      .035
*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          20.75  9& 8   7          6.27700      76.30      20.294      .06062      2.250      .019
*S
*S ROUTE 20.75 THRU 32 IN NATURAL ARROYO TO 32.6
ROUTE MCUNGE     32.60  7     6          6.27700      71.71      20.289      .06060      2.500      .018 CCODE =   .2
*S ADD BASIN 32*****
COMPUTE NM HYD   32.00  -     1          .25000      13.08      .799      .05996      1.700      .082 PER IMP=   .00
*S
*S ADD 32 TO 20.75 TO GET 32.9
ADD HYD          32.90  1& 6   9          6.52700      74.90      21.088      .06058      2.300      .018
*S
*S ROUTE 32.9 THRU UPPER 39 IN NATURAL ARROYO TO 39.7
ROUTE MCUNGE     39.50  9     5          6.52700      74.29      21.073      .06054      2.550      .018 CCODE =   .1
*S*** SUB-BASIN 33 ****
COMPUTE NM HYD   33.00  -     1          .73100      19.05      2.338      .05996      2.000      .041 PER IMP=   .00
*S
*S*** SUB-BASIN 35 ****
COMPUTE NM HYD   35.00  -     2          .61600      15.94      1.970      .05996      2.000      .040 PER IMP=   .00
*S
*S ADD 33 TO 35 TO GET 35.8
*S
ADD HYD          35.80  1& 2   8          1.34700      34.98      4.307      .05996      2.000      .041
*S
*S ROUTE 35.8 THRU UPPER 39 IN NATURAL ARROYO TO 36.6
ROUTE MCUNGE     36.70  8     7          1.34700      34.77      4.296      .05980      2.350      .040 CCODE =   .1
*S*** SUB-BASIN 36 ****
COMPUTE NM HYD   36.00  -     1          .40700      22.67      1.943      .08952      1.800      .087 PER IMP=  2.00
*S
*S ADD 35.8 TO 36 TO GET 36.6
*S

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COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 4 NOTATION
ADD HYD	36.60	1& 7	6	1.75400	45.64	6.239	.06669	2.250	.041	
*S										
*S ROUTE 36.6 THRU MID 39 IN NATURAL ARROYO TO 39.7										
ROUTE MCUNGE	39.40	6	4	1.75400	45.64	6.243	.06674	2.400	.041 CCODE =	.2

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*S ADD 32.9 TO 39.4 TO GET 39.7
*S
ADD HYD          39.70  5& 4   7      8.28100    118.26    27.317    .06185    2.550    .022
*S
*S ROUTE 39.7 THRU LOWER 39 IN NATURAL ARROYO TO 39.8
ROUTE MCUNGE     39.60    7    6      8.28100    116.79    27.294    .06180    2.800    .022 CCODE =    .1
*S*** SUB-BASIN 39 *****
COMPUTE NM HYD    39.00    -    2      .34100     11.71     1.359    .07474    1.950    .054 PER IMP=    1.00
*S
*S ADD 39.6 TO 39 TO GET 39.8
*S
ADD HYD          39.80  2& 6   8      8.62200    121.22    28.653    .06231    2.800    .022
*S
*S*** SUB-BASIN 40A *****
COMPUTE NM HYD    40A    -    1      .10700     8.20     .480    .08408    1.700    .120 PER IMP=    .00
*S
*S ADD 40A TO 39.8 TO GET 40A.9
*S
ADD HYD          40A.9  1& 8   9      8.72900    121.91    29.133    .06258    2.800    .022
*S
*S ROUTE 40A.9 THRU 40 IN NATURAL ARROYO TO 40.5
ROUTE MCUNGE     40.60    9    6      8.72900    120.47    29.102    .06251    3.150    .022 CCODE =    .1
*S*** SUB-BASIN 40 *****
COMPUTE NM HYD    40.00    -    1      .35600     32.69     1.596    .08408    1.650    .143 PER IMP=    .00
*S
*S ADD 40 TO 40A.9 TO GET 40.5
*S
ADD HYD          40.50  1& 6   5      9.08500    121.91    30.698    .06336    3.150    .021
*S
*S ROUTE 40.5 THRU UPPER 41A IN NATURAL ARROYO TO 41A.9
ROUTE MCUNGE     41A.61    5   61    9.08500    121.46    30.678    .06332    3.550    .021 CCODE =    .1
*S ROUTE 40.5 THRU LOWER 41A IN NATURAL ARROYO TO 41A.9
ROUTE MCUNGE     41A.6    61    6     9.08500    121.42    30.679    .06332    3.600    .021 CCODE =    .2
*S*** SUB-BASIN 41A *****
COMPUTE NM HYD    41A    -    1      .45300     48.98     3.141    .13000    1.700    .169 PER IMP=    .00
*S
*S ADD 41A TO 40.5 TO GET 41A.9
*S
ADD HYD          41A.9  1& 6   9      9.53800    123.75    33.819    .06648    3.600    .020
*S
*S*** SUB-BASIN 37 *****
COMPUTE NM HYD    37.00    -    1      .59000     41.50     5.276    .16767    2.000    .110 PER IMP=    7.00
*S
*S ROUTE 37 THRU 34 IN NATURAL ARROYO TO 34.6
ROUTE MCUNGE     34.50    1    5      .59000     39.98     5.187    .16483    2.850    .106 CCODE =    .1
*S*** SUB-BASIN 34 *****
COMPUTE NM HYD    34.00    -    2      .12900     11.17     1.154    .16767    1.900    .135 PER IMP=    7.00
*S

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COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 5 NOTATION
*S ADD 34 TO 34.5 TO GET 34.6										
*S										
ADD HYD	34.60	5& 2	6	.71900	42.32	6.340	.16534	2.850	.092	
*S										
*S ROUTE 34.6 THRU 38 IN NATURAL ARROYO TO 34.3										
ROUTE MCUNGE	38.50	6	5	.71900	42.11	6.329	.16506	3.300	.092 CCODE =	.1
*S*** SUB-BASIN 38A *****										

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 6
COMPUTE NM HYD	38A	-	1	.07500	4.60	.240	.05996	1.650	.096 PER IMP=	.00
*S										
*S ROUTE 38A THRU 38 IN NATURAL ARROYO TO 34.3										
ROUTE MCUNGE	38.20	1	2	.07500	4.47	.237	.05923	2.550	.093 CCODE =	.1
*S ADD 38.2 TO 38.5 TO GET 34.3										
*S										
ADD HYD	34.30	2& 5	3	.79400	42.81	6.566	.15506	3.300	.084	
*S										
*S*** SUB-BASIN 38 ****										
COMPUTE NM HYD	38.00	-	1	.13100	8.61	.449	.06421	1.650	.103 PER IMP=	.00
*S										
*S ADD 38 TO 34.3 TO GET 38.4										
*S										
ADD HYD	38.40	1& 3	4	.92500	43.18	7.015	.14219	3.300	.073	
*S										
*S ROUTE 38.4 THRU 42 IN NATURAL ARROYO TO 42.3										
ROUTE MCUNGE	42.60	4	6	.92500	43.06	7.010	.14210	3.750	.073 CCODE =	.1
*S*** SUB-BASIN 42 ****										
COMPUTE NM HYD	42.00	-	1	.57600	42.59	2.513	.08181	1.700	.116 PER IMP=	.00
*S										
*S ADD 42 TO 38.9 TO GET 42.3										
*S										
ADD HYD	42.30	1& 6	3	1.50100	44.59	9.523	.11896	3.750	.046	
*S										
*S*** SUB-BASIN 42A ****										
COMPUTE NM HYD	42A	-	1	.31700	35.36	1.383	.08181	1.600	.174 PER IMP=	.00
*S										
*S ADD 42 TO 38.9 TO GET 42A.4										
*S										
ADD HYD	42A.4	1& 3	4	1.81800	74.77	10.907	.11248	1.650	.064	
*S										
*S ROUTE 42A.4 THRU UPPER 41B IN NATURAL ARROYO TO 41B.52										
ROUTE MCUNGE	41B.51	4	51	1.81800	72.32	10.859	.11199	2.100	.062 CCODE =	.1
*S ROUTE 41B.52 THRU MID 41B IN NATURAL ARROYO TO 41B.5										
ROUTE MCUNGE	41B.52	51	52	1.81800	72.32	10.859	.11199	2.100	.062 CCODE =	.0
*S ROUTE 41B.5 THRU LOWER 41B IN NATURAL ARROYO TO 41B.3										
ROUTE MCUNGE	41B.5	52	5	1.81800	69.52	10.811	.11150	2.450	.060 CCODE =	.1
*S*** SUB-BASIN 41B ****										
COMPUTE NM HYD	41B	-	1	.13700	20.50	.950	.13000	1.600	.234 PER IMP=	.00
*S										
*S ADD 41B TO 42A.4 TO GET 41B.3										
*S										
ADD HYD	41B.3	1& 5	3	1.95500	71.32	11.761	.11280	2.450	.057	
*S										
*S*** SUB-BASIN 43A ****										

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COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 6
COMPUTE NM HYD	43A	-	2	.18600	17.51	.926	.09330	1.650	.147 PER IMP=	.00
*S										
*S ADD 43A TO 41B.3 TO GET 43A.6										
*S										
ADD HYD	43A.6	2& 3	6	2.14100	73.35	12.687	.11110	2.450	.054	
*S										
*S ADD 43A.6 TO 41A.9 TO GET 41A.7										
*S										
ADD HYD	41A.7	6& 9	7	11.67900	142.62	46.506	.07466	3.600	.019	
*S										

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COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 7 NOTATION
*S ROUTE 41A.7 THRU 43 IN NATURAL ARROYO TO 43.3										
ROUTE MCUNGE	43.50	7	5	11.67900	142.46	46.580	.07478	3.900	.019	CCODE = .2
*S*** SUB-BASIN 43 ****										
COMPUTE NM HYD	43.00	-	1	.17000	12.96	.846	.09330	1.700	.119	PER IMP= .00
*S										
*S ADD 43 TO 41A.7 TO GET 43.3										
*S										
ADD HYD	43.30	1& 5	3	11.84900	142.96	47.426	.07505	3.900	.019	
*S										
*S										
*S*** SUB-BASIN 44 ****										
COMPUTE NM HYD	44.00	-	5	.40900	22.60	1.785	.08181	1.800	.086	PER IMP= .00
*S										
*S ADD 44 TO 61.6 TO GET 44.8										
ADD HYD	44.80	5& 3	8	12.25800	156.52	49.211	.07527	1.900	.020	
*S										
*S*** SUB-BASIN 61 ****										
COMPUTE NM HYD	61.00	-	3	.04846	5.22	.241	.09330	1.600	.168	PER IMP= .00
*S ADD 61 TO 44 TO GET 61.4										
ADD HYD	61.40	8& 3	4	12.30646	159.03	49.452	.07534	1.900	.020	
*S ROUTE 61.4 THRU 60 IN NATURAL ARROYO TO 60.3										
ROUTE MCUNGE	60.30	4	3	12.30646	149.35	49.450	.07534	2.000	.019	CCODE = .2
*S*** SUB-BASIN 60 ****										
COMPUTE NM HYD	60.00	-	1	.11036	8.55	.353	.05996	1.600	.121	PER IMP= .00
*S										
*S ADD 60 TO 44.8 TO GET 60.20										
*S										
ADD HYD	60.60	1& 3	6	12.41682	151.71	49.803	.07520	2.000	.019	
*S										
*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	60.19	6	19	12.41682	144.06	49.803	.07520	4.000	.018	AC-FT= .542
*S*** Basin Contributing to INFLOW POINT 2 (IP2) *****										
*S*** SUB-BASIN 46C										
COMPUTE NM HYD	46C	-	1	.00250	.39	.011	.08181	1.550	.241	PER IMP= .00
*S ROUTE 46C THRU 62 IN NATURAL ARROYO TO 62.3										
ROUTE MCUNGE	62.30	1	3	.00250	.33	.010	.07671	3.150	.205	CCODE = .1
*S*** SUB-BASIN 62										
COMPUTE NM HYD	62.00	-	2	.06722	6.81	.334	.09330	1.650	.158	PER IMP= .00
*S ADD 61.4 TO 62 TO GET 62.5										
ADD HYD	62.10	2& 3	1	.06972	6.81	.345	.09269	1.650	.153	
*S										
*S APPLY NO SEDIMENT BULKING FACTOR										
SEDIMENT BULK										
*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	BYPASS.ROUTE	-	99	1.05360	60.72	76.374	1.35915	2.800	.090	
*S ROUTE 99 IN 36" PIPE IN UNIVERSE TO GET 47.19										
ROUTE MCUNGE	47.70	99	7	1.05360	60.72	76.379	1.35925	2.900	.090	CCODE = .2
*S APPLY SEDIMENT BULKING FACTOR										
SEDIMENT BULK										
*S*** SUB-BASIN 47B STATE LAND PROPERTY ***										
COMPUTE NM HYD	47B	-	5	.03050	4.42	.133	.08181	1.550	.226	PER IMP= .00

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*S*** SUB-BASIN 46B APS HIGH SCHOOL PROPERTY ***
COMPUTE NM HYD          APS      -      3      .11300      97.76      5.686      .94344      1.600      1.352 PER IMP= 53.00
*S*** ADD 47B TO 46B TO GET 46B.6
ADD HYD          46B.6      5& 3      6      .14350      101.66      5.819      .76030      1.600      1.107
*S*** ROUTE -46B.6 THRU APS POND TO DISCHARGE 4.5 CFS TO UNIVERSE SD
ROUTE RESERVOIR          46B.4      6      4      .14350      4.48      5.716      .74693      2.750      .049 AC-FT= 3.904
*S ADD 46B.6 TO 46B.4 TO GET 46B.8
*S
ADD HYD          46B.8      7& 4      8      1.19710      65.20      80.633      1.26294      2.900      .085
*S ROUTE 46B.8 IN 36" PIPE IN UNIVERSE TO GET 46.18
ROUTE MCUNGE          46.18      8      18      1.19710      65.15      80.610      1.26259      3.150      .085 CCODE = .2
*S ADD 46.18 TO 62.1 TO GET 46.9
ADD HYD          46.90      18& 1      9      1.26682      65.78      80.955      1.19820      1.800      .081
*S ROUTE 46.9 IN 72" IN SCENIC
ROUTE MCUNGE          IP2      9      2      1.26682      65.77      80.943      1.19803      3.200      .081 CCODE = .1
*S*****
*S ADD IP2 TO IP3 TO GET 60.20
ADD HYD          60.20      2&19      20      13.68364      208.96      130.746      .17915      4.000      .024
*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 NM HYD          86.10      -      1      .24800      30.49      1.910      .14438      1.650      .192 PER IMP= 4.00
*S ROUTE THRU 48" SD - IP4
ROUTE MCUNGE          IP4      1      10      .24800      30.27      1.906      .14414      1.800      .191 CCODE = .1
*S INFLOW POINT IP5
*S ONSITE BASINS VV1 UNITS 2 AND PART OF UNIT 3
COMPUTE NM HYD          VV1.23      -      1      .08940      91.01      4.909      1.02954      1.550      1.591 PER IMP= 60.00
*S ROUTE THRU 48" SD - IP5
ROUTE MCUNGE          IP5      1      11      .08940      90.28      4.909      1.02962      1.600      1.578 CCODE = .2
*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 NM HYD          83.00      -      1      .53800      29.29      2.772      .09660      1.850      .085 PER IMP= 1.00
*S*** SUB-BASIN 83A
COMPUTE NM HYD          83A      -      2      .13700      16.27      .706      .09660      1.600      .186 PER IMP= 1.00
*S ADD 83 TO 83A TO GET 83A.3
*S

```

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 8 NOTATION
ADD HYD	83A.3	1& 2	3	.67500	38.98	3.477	.09660	1.700	.090	
*S										
*S*** ONSITE SUB-BASIN VV2 - PARTS OF UNITS 4 & 1										
COMPUTE NM HYD	VV2.41	-	2	.03730	29.99	2.048	1.02954	1.650	1.256	PER IMP= 60.00
*S ADD VV.41 TO 83A.3 TO GET 83A.4										
*S										
ADD HYD	83A.4	3& 2	4	.71230	67.93	5.526	.14545	1.700	.149	
*S										
*S ROUTE THRU 60" TO IP6										
ROUTE MCUNGE	IP6	4	12	.71230	67.88	5.523	.14539	1.750	.149	CCODE = .1
*S ADD IP5 TO IP5 AND IP6 TO GET 86.2										
*S										
ADD HYD	86.20	12&11	2	.80170	134.64	10.432	.24399	1.650	.262	
*S										
*S ADD IP4 TO 86.2 TO GET 86.45										
*S										
ADD HYD	86.45	2&10	45	1.04970	156.34	12.339	.22040	1.700	.233	

AHYMO.SUM										
COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 9 NOTATION
*S										
*S ADD 62.20 (IP3) TO 86.45 (IP4, 5 & 6) TO GET 86.70										
*S										
ADD HYD	86.70 45&20	7		14.73334	286.70	143.085	.18209	2.000	.030	
*S										
*S										
*S TOTAL OUTFLOW FROM BOCA NEGRA DETENTION FACILITY										
ROUTE RESERVOIR	51.60	7	14	14.73334	214.68	142.980	.18196	2.250	.023	AC-FT= 8.733
*S DIVIDE SURFACE FLOW FROM PIPE FLOW										
DIVIDE HYD	PIPE.80	14	80	14.73334	214.68	142.980	.18196	2.250	.023	
	SURF.90 and	90		.00000	.00	.000	.00000	-.050	.000	
*S APPLY SEDIMENT BULKING FACTOR										
SEDIMENT BULK										PK BF = 1.05
*S										
*S ADD BASINS DRAINING INTO THE TEMPORARY PONDS ALONG UNSER BLVD										
*S										
COMPUTE NM HYD	3.00	-	3	.09570	7.97	.532	.10430	1.700	.130	PER IMP= 3.00
*S ROUTE SUB-BASIN 3 THRU UNSER TEMP POND A										
ROUTE RESERVOIR	4.90	3	1	.09570	4.58	.532	.10429	2.000	.075	AC-FT= .143
COMPUTE NM HYD	4.00	-	4	.02820	3.53	.135	.08952	1.550	.195	PER IMP= 2.00
*S ADD ROUTED FLOW FROM TEMP POND A TO SUB-BASIN 4										
*S ADD SUB-BASINS 3 AND 4										
ADD HYD	4.20	1& 4	2	.12390	6.12	.667	.10092	1.750	.077	
*S ROUTE THRU UNSER TEMP POND B										
ROUTE RESERVOIR	5.90	2	1	.12390	1.80	.510	.07716	2.800	.023	AC-FT= .395
*S ROUTE THRU 24"IN ALMENDRA PL										
ROUTE MCUNGE	5.92	1	2	.12390	1.80	.510	.07716	2.800	.023	CCODE = .0
COMPUTE NM HYD	5.00	-	5	.09400	6.88	.449	.08952	1.700	.114	PER IMP= 2.00
*S										
*S ADD ROUTED FLOW FROM TEMP POND B TO SUB-BASIN 5										
ADD HYD	5.10	2& 5	1	.21790	6.89	.959	.08249	1.700	.049	
*S ROUTE THRU UNSER TEMP POND C										
ROUTE RESERVOIR	5.93	1	3	.21790	2.52	.957	.08236	2.650	.018	AC-FT= .266
*S APPLY NO SEDIMENT BULKING FACTOR										
SEDIMENT BULK										PK BF = 1.00
*S RECALL HYD FROM SAD 228 POND 4										
*S										
*S										
RECALL HYD	POND4A	-	14	.02050	18.04	1.546	1.41378	1.750	1.375	
*S										
*S ADD SAD 228 POND 4 OUTFLOW TO TEMP POND C OUTFLOW										
ADD HYD	200.30	3&14	4	.23840	19.20	2.503	.19685	1.800	.126	
*S RECALL HYD FROM SAD 228 POND 5										
*S										
RECALL HYD	POND5	-	12	.14890	36.97	12.287	1.54726	2.350	.388	
*S										
*S ADD SAD 228 POND 4 & 5 OUTFLOW TO TEMP POND C OUTFLOW										
ADD HYD	201.10	4&12	1	.38730	54.18	14.790	.71602	1.950	.219	
*S ROUTE 201.1 IN 54" SD IN UNSER BLVD TO GET 201.7										
ROUTE MCUNGE	102.70	1	7	.38730	54.06	14.790	.71601	1.950	.218	CCODE = .2
*S APPLY SEDIMENT BULKING FACTOR										
SEDIMENT BULK										PK BF = 1.05
*S										
*S COMPUTE UNSER BLVD RUNOFF SOUTH OF KIMMICK TO BOCA NEGRA DAM										
COMPUTE NM HYD	6.00	-	6	.01166	12.93	.848	1.36330	1.600	1.733	PER IMP= 85.00
*S ADD TOTAL FLOWS FROM UNSER BLVD										

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 10 NOTATION
ADD HYD	6.20 7& 6	2		.39896						
*S ADD PIPE.80 TO 6.2 TO GET PIPE.1										
ADD HYD	PIPE.1 80& 2	1		15.13230	269.59	158.618	.19654	2.200	.028	
*S ROUTE PIPE.1 IN 60" SD TO GET PIPE.2										
ROUTE MCUNGE	PIPE.2 1 8			15.13230	269.59	158.618	.19654	2.200	.028	CCODE = .0
*S ROUTE PIPE.2 IN 54" SD TO GET PIPE.3										
ROUTE MCUNGE	PIPE.3 8 1			15.13230	269.59	158.618	.19654	2.200	.028	CCODE = .0
*S ROUTE PIPE.3 IN 60" SD TO GET PIPE.4										
ROUTE MCUNGE	PIPE.4 1 8			15.13230	269.24	158.610	.19653	2.250	.028	CCODE = .2
*S APPLY SEDIMENT BULKING FACTOR										
SEDIMENT BULK										
*S*** SUB-BASIN 71 DOWNSTREAM OF THE DAM ***										
COMPUTE NM HYD	71.00 -	5		.07675	10.46	.447	.10916	1.600	.213	PER IMP= .00
*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	71.60 5&90	6		.07675	10.46	.447	.10916	1.600	.213	
*S ADD 71.6 to PIPE.2 TO GET 70.9										
ADD HYD	70.90 6& 8	9		15.20905	270.47	159.057	.19609	2.200	.028	
*S APPLY NO SEDIMENT BULKING FACTOR										
SEDIMENT BULK										
*S RECALL HYD FROM THE VOLCANO HEIGHTS MODEL (BOCA NEGRA ARROYO SOUTH BRANCH)										
RECALL HYD	102.00 -	2		1.64000	378.54	33.646	.38467	2.250	.361	
*S ROUTE THE BOCA NEGRA ARROYO SOUTH BRANCH FLOWS THRU 72" IN EMERALD DR										
ROUTE MCUNGE	70.50 2 5			1.64000	377.51	33.649	.38470	2.300	.360	CCODE = .2
*S APPLY SEDIMENT BULKING FACTOR										
SEDIMENT BULK										
*S										
*S*** SUB-BASIN 70 EAST OF SAD 227 ***										
COMPUTE NM HYD	70.00 -	4		.06914	14.60	.403	.10916	1.500	.330	PER IMP= .00
*S										
*S ADD BASIN 70 to ROUTED BOCA NEGRA ARROYO SOUTH BRANCH										
*S										
*S*** SUB-BASIN 72 DOWNSTREAM OF CONFLUENCE WITH SOUTH BRANCH ***										
COMPUTE NM HYD	72.00 -	2		.16708	25.90	.973	.10916	1.550	.242	PER IMP= .00
*S ADD OUTFLOW FROM POND 6 TO BASIN 72										
ADD HYD	72.10 19& 2	1		.23248	55.93	6.375	.51415	2.000	.376	
*S ADD ALL FLOWS AT TESUQUE DR										
*S ADD 72.1 TO 72.6 TO GET 72.3										
ADD HYD	72.30 1& 6	3		17.15067	683.72	199.380	.21797	2.400	.062	
*S ROUTE 72.3 IN 73.1 TO GET 73.1.5										
ROUTE MCUNGE	73.1.5 3 5			17.15067	682.56	199.345	.21793	2.450	.062	CCODE = .2
*S*** SUB-BASIN 73.1										
COMPUTE NM HYD	73.10 -	4		.12879	104.69	5.408	.78732	1.550	1.270	PER IMP= 40.00

				AHYMO.SUM					
*S ADD 72.3 TO 73.1 TO GET 73.1.2									
ADD HYD	73.1.2	4& 5	2	17.27946	689.19	204.753	.22218	2.450	.062
*S ROUTE 73.1.2 THRU 73.2 TO GET 73.2.5									
ROUTE MCUNGE	73.2.5	2	5	17.27946	688.65	204.743	.22217	2.500	.062 CCODE = .2
*S									
*S*** SUB-BASIN 73.2									
COMPUTE NM HYD	73.20	-	4	.05105	51.53	2.144	.78732	1.500	1.577 PER IMP= 40.00
*S ADD 73.2 TO 73.2.5 TO GET 73.2.1									
*S TOTAL FLOWS UPSTREAM END OF SAN ILDEFONSO DR									
ADD HYD	73.2.1	4& 5	1	17.33051	690.09	206.886	.22383	2.500	.062
FINISH									

```

*****
*S BOCA NEGRA DAM
*S LOMR MODEL - NEW RAINFALL DATA
*S INCLUDES BASINS DOWNSTREAM OF THE DAM
*S 10 YR 24 HR STORM EVENT
*S DATE: December 2015
*
*****
START          TIME=0.0  PUNCH CODE=0  PRINT CODE=0
LOCATION         BERNALILLO COUNTY
*S 10 YEAR 24HR STORM
RAINFALL       TYPE=2  RAIN QUARTER=0.634  RAIN ONE=1.06
               RAIN SIX=1.41  RAIN DAY=1.71  DT=0.05
*
*****
*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
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
PRINT HYD          ID=1  CODE=1
*
*****
*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
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
PRINT HYD          ID=2  CODE=1
*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
*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

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
PRINT HYD          ID=6  CODE=1
*
*****
*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
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
PRINT HYD          ID=1  CODE=1
*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
*
*****
*S*** SUB-BASIN 14 ****

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*
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
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
PRINT HYD          ID=2 CODE=1
*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
*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

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
PRINT HYD          ID=6 CODE=1
*
*****
*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
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
PRINT HYD          ID=1 CODE=1
*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
*
*****
*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
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
PRINT HYD          ID=1 CODE=1
*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

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
PRINT HYD          ID=6 CODE=1
*
*****
*S*** SUB-BASIN 17 ****
*
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
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
PRINT HYD          ID=2 CODE=1
*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
*
*****

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*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
*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

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
PRINT HYD ID=3 CODE=1
*

*****
*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
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
PRINT HYD ID=1 CODE=1
*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

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
PRINT HYD ID=5 CODE=1
*

*****
*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
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
PRINT HYD ID=2 CODE=1
*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
*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

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
PRINT HYD ID=2 CODE=1
*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
*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

ROUTE MCUNGE ID=6 HYD NO=23.6 INFLOW ID=7

```

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BOCA NEGRA ARROYO 10 yr.txt
DT=0.0 L=2675 FT NS=0 SLOPE=0.014
MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
ID=6 CODE=1
PRINT HYD
*
*****
*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
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
PRINT HYD ID=2 CODE=1
*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
*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
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
PRINT HYD ID=2 CODE=1
*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
*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
*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

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
ID=7 CODE=5
PRINT HYD
*
*****
*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
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
PRINT HYD ID=1 CODE=1
*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
*
*****
*****
*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
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

```

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BOCA NEGRA ARROYO 10 yr.txt

PRINT HYD          ID=1  CODE=1
*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
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
                   ID=2  CODE=1
PRINT HYD
*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
*
*****
*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
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
                   ID=1  CODE=1
PRINT HYD
*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
*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

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
PRINT HYD          ID=51  CODE=5
*
*****
*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

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
PRINT HYD          ID=5  CODE=5
*
*****
*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
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
                   ID=1  CODE=1
PRINT HYD
*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
*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
*
*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

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
PRINT HYD             ID=6  CODE=5
*
*****
*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

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
PRINT HYD              ID=1  CODE=1
*S
*****

*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
*S
*****
*
*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

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
PRINT HYD             ID=5  CODE=1
*
*****
*****
*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
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
PRINT HYD              ID=1  CODE=1
*S
*****
*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
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
PRINT HYD              ID=2  CODE=1
*S
*****
*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
*
*****
*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

ROUTE MCUNGE ID=7 HYD NO=36.7 INFLOW ID=8
 DT=0.0 L=2020 FT NS=0 SLOPE=0.013
 PRINT HYD MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
 ID=7 CODE=5

 *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

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
 PRINT HYD ID=1 CODE=1

*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

*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

ROUTE MCUNGE ID=4 HYD NO=39.4 INFLOW ID=6
 DT=0.0 L=1884 FT NS=0 SLOPE=0.015
 PRINT HYD MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
 ID=4 CODE=1

*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

*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		

ROUTE MCUNGE ID=6 HYD NO=39.6 INFLOW ID=7
 DT=0.0 L=2583 FT NS=0 SLOPE=0.0156
 PRINT HYD MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
 ID=6 CODE=1

*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

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
 PRINT HYD ID=2 CODE=1

*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

*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

```

COMPUTE NM HYD      Kn=.033  CR=0.50
                    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
PRINT HYD           ID=1    CODE=1
*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
*
*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

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
PRINT HYD           ID=6    CODE=1
*
*****
*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
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
PRINT HYD           ID=1    CODE=1
*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
*
*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

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
PRINT HYD           ID=61   CODE=1
*
*****
*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

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
PRINT HYD           ID=6    CODE=1
*
*****
*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
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
PRINT HYD           ID=1    CODE=1

```

```

*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
*
*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
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
PRINT HYD        ID=1   CODE=1
*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

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
PRINT HYD        ID=5   CODE=1
*
*****
*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

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
PRINT HYD        ID=2   CODE=1
*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
*
*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

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
PRINT HYD        ID=5   CODE=1
*
*****
*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
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
PRINT HYD        ID=1   CODE=1
*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

```

BOCA NEGRA ARROYO 10 yr.txt

```

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
PRINT HYD          ID=2  CODE=1
*
*****

```

```

*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
*
*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

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
PRINT HYD          ID=1  CODE=1
*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
*
*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

```

```

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
PRINT HYD          ID=6  CODE=1
*
*****

```

```

*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

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
PRINT HYD          ID=1  CODE=1
*
*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
*
*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

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
PRINT HYD          ID=1  CODE=1
*
*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
*
*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

```

```

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
PRINT HYD         ID=51  CODE=1

```

```

*
*****
*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

```

```

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
PRINT HYD         ID=52  CODE=1

```

```

*
*****
*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

```

```

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
PRINT HYD         ID=5  CODE=1

```

```

*
*****
*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
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
PRINT HYD          ID=1  CODE=1

```

```

*
*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
*

```

```

*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
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
PRINT HYD          ID=2  CODE=1

```

```

*
*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
*

```

```

*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
*

```

```

*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		

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
 PRINT HYD ID=5 CODE=1
 *

 *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
 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
 PRINT HYD ID=1 CODE=1
 *

*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
 *S

*S

 *S*** SUB-BASIN 44 *****
 *

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
 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
 PRINT HYD ID=5 CODE=1
 *

*S

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

*S

 *

*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
 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
 PRINT HYD ID=3 CODE=1
 *

 *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
 *

 *

*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		

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
 PRINT HYD ID=3 CODE=1
 *

```

*****
*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

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
PRINT HYD           ID=1  CODE=1
*
*S
*****
*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
*
*S
*****
*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

PRINT HYD            ID=19  CODE=5
*
*****
*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

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
PRINT HYD           ID=1  CODE=1
*
*****
*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

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
PRINT HYD             ID=3  CODE=1
*
*****
*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

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
PRINT HYD           ID=2  CODE=1
*
*****
*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
*
*S
*****
*S APPLY NO SEDIMENT BULKING FACTOR

```

SEDIMENT BULK CODE=1 BULKING FACTOR = 1.00 BOCA NEGRA ARROYO 10 yr.txt

*

*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
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

BOCA NEGRA ARROYO 10 yr.txt

.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=0.013ROUTE MCUNGE ID=7 HYD NO=47.7 INFLOW ID=99
DT=0.0 HR LENGTH=1532 FT
NS=0 SLOPE=0.019 CODE=5

PRINT HYD ID=7 CODE=5

*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=1.0COMPUTE 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

PRINT HYD ID=5 CODE=1

*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=3.0COMPUTE 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

PRINT HYD ID=3 CODE=1

*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

*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

PRINT HYD ID=4 CODE=5

*
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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
*
*****
*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

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

PRINT HYD         ID=18  CODE=5
*
*****
*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
*
*****
*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

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

PRINT HYD         ID=2  CODE=5
*
*****
*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
*
*****
*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

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

PRINT HYD          ID=1  CODE=5
*
*****
*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

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

PRINT HYD         ID=10  CODE=5
*
*****
*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

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

PRINT HYD          ID=1  CODE=5
*
*****
*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

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

PRINT HYD         ID=11  CODE=5

```

```

*****
*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
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
PRINT HYD          ID=1 CODE=5
*
*****
*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
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
PRINT HYD          ID=2 CODE=5
*
*****
*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
*
*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
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
PRINT HYD          ID=2 CODE=5
*
*****
*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
*
*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
ROUTE MCUNGE       ID=12 HYD NO=IP6 INFLOW ID=4
                   DT=0.0 HR LENGTH=2865 FT
                   NS=0 SLOPE=0.028 CODE=5
PRINT HYD          ID=12 CODE=5
*
*****
*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
*
*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
*
*S
*****
*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
*
*S
*****
*S
*****

```

** 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
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

PRINT HYD ID=14 CODE=0

*

*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
 PRINT HYD ID=90 CODE=1

*

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

*

*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

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

PRINT HYD ID=3 CODE=5

*

*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

PRINT HYD ID=1 CODE=5

*

*S COMPUTE HYD FOR SUB-BASIN 4

COMPUTE LT TP LCODE=1 NK=2 ISLOPE=0
 LENGTH=400 SLOPE=0.017 K=.7
 LENGTH=1053 SLOPE=0.017 K=1

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

PRINT HYD ID=4 CODE=5

```

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

PRINT HYD        ID=1  CODE=5
*
*****
*
*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

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

PRINT HYD      ID=2  CODE=5
*
*****
*
*      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

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

PRINT HYD      ID=5  CODE=5
*
*****
*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
*
*****
*
*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

PRINT HYD        ID=3  CODE=5
*
*****
*S APPLY NO SEDIMENT BULKING FACTOR
SEDIMENT BULK  CODE=1  BULKING FACTOR = 1.00
*
*****
*
*****
*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

```

BOCA NEGRA ARROYO 10 yr.txt

.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
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.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
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.079	.079	.078	.078	.078
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.075	.075	.075	.074	.075
.075	.076	.076	.076	.075
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.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		

*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

*

*

*S RECALL HYD FROM SAD 228 POND 5

*

*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

BOCA NEGRA ARROYO 10 yr.txt

.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
.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

BOCA NEGRA ARROYO 10 yr.txt

.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

*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

*

*

*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

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

PRINT HYD ID=7 CODE=5

*

*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

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

PRINT HYD ID=6 CODE=1

*

*

*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

*

*

*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

*

*

*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

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

PRINT HYD ID=8 CODE=5

*

*

*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

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

PRINT HYD ID=1 CODE=5

*

*

*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

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

PRINT HYD ID=8 CODE=5

*S APPLY SEDIMENT BULKING FACTOR
 SEDIMENT BULK CODE=1 BULKING FACTOR = 1.09

*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

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
 PRINT HYD ID=5 CODE=5

*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

*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

*S APPLY NO SEDIMENT BULKING FACTOR
 SEDIMENT BULK CODE=1 BULKING FACTOR = 1.00

*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	.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

BOCA NEGRA ARROYO 10 yr.txt

.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

*

*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

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

PRINT HYD ID=5 CODE=1

*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

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

PRINT HYD ID=4 CODE=5

*

*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

*

*

*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

*

*

*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

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

PRINT HYD ID=6 CODE=1

*S APPLY NO SEDIMENT BULKING FACTOR

SEDIMENT BULK CODE=1 BULKING FACTOR = 1.00

*

BOCA NEGRA ARROYO 10 yr.txt

*

*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
.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	

*

*S APPLY SEDIMENT BULKING FACTOR
 SEDIMENT BULK CODE=1 BULKING FACTOR = 1.09

*

*S
 *S*** SUB-BASIN 72 DOWNSTREAM OF CONFLUENCE WITH SOUTH BRANCH ***

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

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
 PRINT HYD ID=2 CODE=5

*

*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

*

*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

*

*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

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

PRINT HYD ID=5 CODE=1

*

*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

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
 PRINT HYD ID=4 CODE=5

*

*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

*

*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	5162.40	17	5157.28
25	5156.08	35	5151.92
75	5149.46	112	5150.98
132	5156.42	149	5157.55

```

BOCA NEGRA ARROYO 10 yr.txt
      0  5144.26      23 5143.43
      39 5138.80      68 5137.16
      110 5138.29     132 5144.34
      149 5144.48

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

PRINT HYD      ID=5  CODE=5

*
*****
*
*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

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
PRINT HYD      ID=4  CODE=5
*
*****
*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
*
*****
FINISH
*****

```

OUT.WPD

AHYMO PROGRAM (AHYMO_97) - - Version: 1997.02c
RUN DATE (MON/DAY/YR) = 12/16/2015
START TIME (HR:MIN:SEC) = 10:32:45 USER NO.= AHYMO-C-9803c01UNMLIB-AH
INPUT FILE = C:\BND\AHY-1\B04F7D-1.TXT

*S*****
*S BOCA NEGRA DAM
*S LOMR MODEL - NEW RAINFALL DATA
*S INCLUDES BASINS DOWNSTREAM OF THE DAM
*S 10 YR 24 HR STORM EVENT
*S DATE: December 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 10 YEAR 24HR STORM
RAINFALL TYPE=2 RAIN QUARTER=0.634 RAIN ONE=1.06
RAIN SIX=1.41 RAIN DAY=1.71 DT=0.05

COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
DT = .050000 HOURS END TIME = 24.000000 HOURS

.0000	.0047	.0095	.0145	.0196	.0249	.0304
.0361	.0420	.0481	.0545	.0611	.0681	.0754
.0830	.0911	.0996	.1086	.1183	.1287	.1399
.1443	.1493	.1636	.1974	.2555	.3454	.4748
.6519	.7915	.8545	.9072	.9533	.9946	1.0319
1.0660	1.0973	1.1260	1.1526	1.1771	1.1999	1.2055
1.2109	1.2160	1.2208	1.2254	1.2299	1.2342	1.2383
1.2423	1.2462	1.2500	1.2537	1.2573	1.2608	1.2642
1.2675	1.2708	1.2740	1.2771	1.2802	1.2832	1.2861
1.2890	1.2919	1.2947	1.2975	1.3002	1.3029	1.3056
1.3082	1.3107	1.3133	1.3158	1.3183	1.3207	1.3231
1.3255	1.3279	1.3302	1.3325	1.3348	1.3371	1.3393
1.3415	1.3437	1.3459	1.3480	1.3502	1.3523	1.3544
1.3564	1.3585	1.3605	1.3625	1.3645	1.3665	1.3685
1.3704	1.3724	1.3743	1.3762	1.3781	1.3800	1.3818
1.3837	1.3855	1.3873	1.3892	1.3910	1.3927	1.3945
1.3963	1.3980	1.3998	1.4015	1.4032	1.4049	1.4066
1.4083	1.4100	1.4113	1.4125	1.4138	1.4151	1.4163
1.4176	1.4188	1.4201	1.4213	1.4226	1.4238	1.4250
1.4263	1.4275	1.4287	1.4299	1.4311	1.4323	1.4335
1.4347	1.4359	1.4371	1.4383	1.4395	1.4406	1.4418
1.4430	1.4441	1.4453	1.4465	1.4476	1.4488	1.4499
1.4510	1.4522	1.4533	1.4545	1.4556	1.4567	1.4578
1.4590	1.4601	1.4612	1.4623	1.4634	1.4645	1.4656
1.4667	1.4678	1.4689	1.4699	1.4710	1.4721	1.4732
1.4743	1.4753	1.4764	1.4775	1.4785	1.4796	1.4806
1.4817	1.4827	1.4838	1.4848	1.4859	1.4869	1.4879
1.4890	1.4900	1.4910	1.4920	1.4930	1.4941	1.4951
1.4961	1.4971	1.4981	1.4991	1.5001	1.5011	1.5021
1.5031	1.5041	1.5051	1.5060	1.5070	1.5080	1.5090
1.5100	1.5109	1.5119	1.5129	1.5138	1.5148	1.5157
1.5167	1.5177	1.5186	1.5196	1.5205	1.5214	1.5224
1.5233	1.5243	1.5252	1.5261	1.5271	1.5280	1.5289
1.5298	1.5308	1.5317	1.5326	1.5335	1.5344	1.5353
1.5362	1.5371	1.5380	1.5389	1.5398	1.5407	1.5416
1.5425	1.5434	1.5443	1.5452	1.5461	1.5470	1.5478
1.5487	1.5496	1.5505	1.5513	1.5522	1.5531	1.5539
1.5548	1.5557	1.5565	1.5574	1.5582	1.5591	1.5600
1.5608	1.5617	1.5625	1.5633	1.5642	1.5650	1.5659
1.5667	1.5675	1.5684	1.5692	1.5700	1.5709	1.5717
1.5725	1.5733	1.5742	1.5750	1.5758	1.5766	1.5774
1.5782	1.5791	1.5799	1.5807	1.5815	1.5823	1.5831
1.5839	1.5847	1.5855	1.5863	1.5871	1.5879	1.5887
1.5894	1.5902	1.5910	1.5918	1.5926	1.5934	1.5941
1.5949	1.5957	1.5965	1.5973	1.5980	1.5988	1.5996
1.6003	1.6011	1.6019	1.6026	1.6034	1.6041	1.6049
1.6057	1.6064	1.6072	1.6079	1.6087	1.6094	1.6102
1.6109	1.6117	1.6124	1.6131	1.6139	1.6146	1.6154
1.6161	1.6168	1.6176	1.6183	1.6190	1.6198	1.6205
1.6212	1.6219	1.6227	1.6234	1.6241	1.6248	1.6256
1.6263	1.6270	1.6277	1.6284	1.6291	1.6298	1.6306
1.6313	1.6320	1.6327	1.6334	1.6341	1.6348	1.6355
1.6362	1.6369	1.6376	1.6383	1.6390	1.6397	1.6404
1.6411	1.6417	1.6424	1.6431	1.6438	1.6445	1.6452
1.6459	1.6465	1.6472	1.6479	1.6486	1.6493	1.6499
1.6506	1.6513	1.6520	1.6526	1.6533	1.6540	1.6546
1.6553	1.6560	1.6566	1.6573	1.6580	1.6586	1.6593
1.6599	1.6606	1.6612	1.6619	1.6626	1.6632	1.6639
1.6645	1.6652	1.6658	1.6665	1.6671	1.6678	1.6684
1.6690	1.6697	1.6703	1.6710	1.6716	1.6723	1.6729
1.6735	1.6742	1.6748	1.6754	1.6761	1.6767	1.6773
1.6780	1.6786	1.6792	1.6798	1.6805	1.6811	1.6817
1.6823	1.6830	1.6836	1.6842	1.6848	1.6854	1.6861
1.6867	1.6873	1.6879	1.6885	1.6891	1.6897	1.6904
1.6910	1.6916	1.6922	1.6928	1.6934	1.6940	1.6946
1.6952	1.6958	1.6964	1.6970	1.6976	1.6982	1.6988
1.6994	1.7000	1.7006	1.7012	1.7018	1.7024	1.7030
1.7036	1.7041	1.7047	1.7053	1.7059	1.7065	1.7071
1.7077	1.7083	1.7088	1.7094	1.7100		

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*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

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***** OUT.WPD *****
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*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 = .503210HR  TP = .387886HR  K/TP RATIO = 1.297313  SHAPE CONSTANT, N = 2.761219
UNIT PEAK = 241.57 CFS  UNIT VOLUME = .9998  B = 261.74  P60 = 1.0600
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 = .06208 INCHES = 1.1853 ACRE-FEET
PEAK DISCHARGE RATE = 14.97 CFS AT 1.800 HOURS  BASIN AREA = .3580 SQ. MI.

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*S*** SUB-BASIN 11 *****
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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

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 = .553724HR  TP = .426823HR  K/TP RATIO = 1.297313  SHAPE CONSTANT, N = 2.761220
UNIT PEAK = 239.16 CFS  UNIT VOLUME = .9999  B = 261.74  P60 = 1.0600
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 = .06208 INCHES = 1.2912 ACRE-FEET
PEAK DISCHARGE RATE = 14.80 CFS AT 1.850 HOURS  BASIN AREA = .3900 SQ. MI.

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***** OUT.WPD *****

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*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 = .06207 INCHES = 2.4764 ACRE-FEET
PEAK DISCHARGE RATE = 29.77 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= 307 TABLE PTS= 19
DT= .050000 QMED= 14.88 CKMED= 1.8187
WIDTH MED= 166.49 NREACH= 29 DX= 164.31

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	.91	.27	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.19	16.8	12.9	1.717	165.7	1.16	.77	1.273	.058	.950	.142	-.092	2.0	.992	.022	-.015
.38	50.9	75.1	.898	190.6	2.30	1.47	2.524	.149	.919	.455	-.374	38.5	.934	.355	-.288
.58	89.9	178.3	.667	215.4	3.00	1.98	3.283	.240	.894	.558	-.452	122.0	.904	.512	-.415
.77	133.6	321.0	.551	240.3	3.54	2.40	3.882	.328	.874	.616	-.490	245.3	.882	.588	-.470
.96	182.1	503.6	.479	265.1	4.01	2.77	4.390	.412	.858	.655	-.513	408.1	.864	.636	-.500
1.15	235.4	727.5	.428	290.0	4.42	3.09	4.841	.494	.844	.684	-.528	611.4	.849	.670	-.519
1.34	293.4	994.3	.391	314.8	4.80	3.39	5.253	.573	.832	.707	-.539	856.9	.837	.696	-.532
1.54	356.2	1305.9	.361	339.7	3.71	3.67	4.070	.900	.699	.665	-.363	1146.1	.826	.716	-.542
1.73	441.8	1471.3	.397	486.8	3.64	3.33	3.987	.722	.747	.650	-.397	1385.3	.394	.572	.034
1.92	536.4	2000.1	.355	498.8	5.88	3.73	6.446	.593	.853	.751	-.604	1727.8	.858	.739	-.597
2.11	633.3	2596.2	.323	510.7	6.42	4.10	7.036	.688	.842	.771	-.613	2290.6	.847	.761	-.608
2.30	732.4	3257.8	.298	522.7	6.92	4.45	7.582	.783	.833	.786	-.619	2919.8	.837	.779	-.616
2.49	833.9	3983.5	.277	534.7	7.39	4.78	8.091	.877	.824	.799	-.623	3613.7	.828	.793	-.621
2.69	937.6	4772.4	.260	546.6	7.82	5.09	8.569	.970	.816	.810	-.626	4371.2	.820	.805	-.625
2.88	1043.7	5623.7	.246	558.6	8.23	5.39	9.021	1.063	.808	.820	-.628	5191.5	.812	.815	-.627
3.07	1152.0	6536.9	.233	570.6	8.63	5.67	9.449	1.155	.801	.828	-.629	6074.0	.804	.824	-.628
3.26	1262.7	7511.7	.222	582.6	8.42	5.95	9.229	1.331	.770	.827	-.597	7018.1	.797	.831	-.629
3.45	1375.8	8411.0	.217	609.3	7.83	6.11	8.578	1.533	.724	.820	-.544	7957.4	.734	.820	-.553

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 34 TIMES. AVERAGE NUMBER ITERATIONS = 1.0801

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	.91	.27	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.19	16.8	12.9	1.717	165.7	.98	.77	1.069	.069	.935	.065	.000	2.0	.978	.022	.000
.38	50.9	75.1	.898	190.6	1.18	1.47	1.291	.291	.775	.225	.000	38.5	.851	.149	.000
.58	89.9	178.3	.667	215.4	1.39	1.98	1.519	.519	.658	.342	.000	122.0	.711	.289	.000
.77	133.6	321.0	.551	240.3	1.58	2.40	1.734	.734	.577	.423	.000	245.3	.614	.386	.000
.96	182.1	503.6	.479	265.1	1.77	2.77	1.935	.935	.517	.483	.000	408.1	.544	.456	.000
1.15	235.4	727.5	.428	290.0	1.94	3.09	2.125	1.125	.471	.529	.000	611.4	.492	.508	.000
1.34	293.4	994.3	.391	314.8	2.10	3.39	2.305	1.305	.434	.566	.000	856.9	.451	.549	.000
1.54	356.2	1305.9	.361	339.7	2.26	3.67	2.478	1.478	.404	.596	.000	1146.1	.418	.582	.000
1.73	441.8	1471.3	.397	486.8	2.07	3.33	2.269	1.269	.441	.559	.000	1385.3	.394	.572	.034
1.92	536.4	2000.1	.355	498.8	2.30	3.73	2.517	1.517	.397	.603	.000	1727.8	.418	.582	.000
2.11	633.3	2596.2	.323	510.7	2.52	4.10	2.756	1.756	.363	.637	.000	2290.6	.379	.621	.000
2.30	732.4	3257.8	.298	522.7	2.73	4.45	2.987	1.987	.335	.665	.000	2919.8	.348	.652	.000
2.49	833.9	3983.5	.277	534.7	2.93	4.78	3.210	2.210	.311	.689	.000	3613.7	.323	.677	.000
2.69	937.6	4772.4	.260	546.6	3.13	5.09	3.427	2.427	.292	.708	.000	4371.2	.301	.699	.000
2.88	1043.7	5623.7	.246	558.6	3.32	5.39	3.637	2.637	.275	.725	.000	5191.5	.283	.717	.000
3.07	1152.0	6536.9	.233	570.6	3.51	5.67	3.841	2.841	.260	.740	.000	6074.0	.267	.733	.000
3.26	1262.7	7511.7	.222	582.6	3.69	5.95	4.040	3.040	.248	.752	.000	7018.1	.254	.746	.000
3.45	1375.8	8411.0	.217	609.3	3.80	6.11	4.160	3.160	.240	.760	.000	7957.4	.244	.756	.000

OUT.WPD
 MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 32 TIMES. AVERAGE NUMBER ITERATIONS = 1.0691
 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 12.60

RUNOFF VOLUME = .06120 INCHES = 2.4413 ACRE-Feet
 PEAK DISCHARGE RATE = 28.68 CFS AT 3.100 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 = .468260HR TP = .360270HR K/TP RATIO = 1.299748 SHAPE CONSTANT, N = 2.756692
 UNIT PEAK = 224.15 CFS UNIT VOLUME = .9998 B = 261.35 P60 = 1.0600
 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 = .06102 INCHES = 1.0055 ACRE-Feet
 PEAK DISCHARGE RATE = 13.67 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 = .06114 INCHES = 3.4468 ACRE-Feet
 PEAK DISCHARGE RATE = 29.88 CFS AT 3.100 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

OUT.WPD
PER A=99 PER B=1 PER C=0 PER D=0
TP=0.0 MASSRAIN=-1
TIME TO PEAK (hrs)= .4206
K = .546389HR TP = .420599HR K/TP RATIO = 1.299071 SHAPE CONSTANT, N = 2.757945
UNIT PEAK = 318.89 CFS UNIT VOLUME = .9999 B = 261.45 P60 = 1.0600
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 = .06102 INCHES = 1.6694 ACRE-FEET
PEAK DISCHARGE RATE = 19.42 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 = .06110 INCHES = 5.1162 ACRE-FEET
PEAK DISCHARGE RATE = 32.95 CFS AT 1.800 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 SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH 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= 336 TABLE PTS= 20
DT= .050000 QMED= 16.47 CKMED= 1.7541
WIDTH MED= 47.05 NREACH= 32 DX= 170.31

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	.95	.45	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.29	4.6	4.5	1.539	31.5	1.37	.98	1.450	.088	.931	.212	-.143	.7	.989	.033	-.022
.58	18.3	28.6	.970	62.9	2.17	1.56	2.295	.176	.899	.424	-.323	13.4	.904	.319	-.224
.87	41.3	84.4	.740	94.4	2.79	2.05	2.946	.269	.872	.526	-.398	52.7	.876	.470	-.347
1.17	73.4	181.8	.611	125.8	3.35	2.48	3.539	.362	.852	.592	-.444	128.7	.856	.557	-.413
1.46	114.6	329.7	.526	157.3	4.07	2.88	4.299	.432	.849	.651	-.500	250.9	.839	.615	-.454
1.75	163.2	558.3	.442	172.6	5.17	3.42	5.466	.525	.850	.714	-.564	437.9	.856	.692	-.548
2.04	215.1	849.1	.383	183.4	5.96	3.95	6.303	.651	.836	.749	-.585	697.8	.844	.734	-.577
2.33	270.1	1194.7	.342	194.3	6.59	4.42	6.969	.782	.821	.771	-.593	1016.3	.828	.760	-.588
2.62	328.4	1595.0	.312	205.2	7.16	4.86	7.570	.910	.808	.789	-.597	1389.4	.814	.781	-.594
2.92	389.8	2050.7	.288	216.1	7.68	5.26	8.121	1.036	.796	.803	-.599	1817.6	.801	.796	-.597
3.21	454.4	2562.3	.268	227.0	8.17	5.64	8.633	1.159	.785	.815	-.600	2301.3	.790	.809	-.599
3.50	522.1	3130.9	.252	237.9	8.62	6.00	9.114	1.280	.775	.824	-.600	2841.5	.780	.820	-.599
3.79	593.1	3757.6	.239	248.8	9.05	6.34	9.569	1.399	.766	.833	-.599	3439.2	.770	.829	-.599
4.08	667.2	4443.6	.227	259.7	9.46	6.66	10.003	1.516	.758	.840	-.598	4095.6	.761	.837	-.598
4.37	744.5	5190.0	.217	270.6	9.86	6.97	10.419	1.632	.750	.847	-.597	4811.8	.753	.844	-.597
4.66	825.0	5998.2	.208	281.5	10.24	7.27	10.820	1.746	.743	.853	-.595	5589.1	.746	.850	-.595
4.96	908.6	6869.5	.200	292.4	10.60	7.56	11.207	1.858	.736	.858	-.594	6428.9	.739	.855	-.594
5.25	995.4	7805.2	.193	303.3	10.96	7.84	11.582	1.970	.729	.863	-.592	7332.4	.732	.860	-.592
5.54	1085.4	8806.7	.187	314.2	11.15	8.11	11.789	2.108	.717	.866	-.583	8300.9	.726	.865	-.591

MAXIMUM NO. ITERATIONS FOR SOLUTION (KMAX) = 4 OCCURRED 32 TIMES. AVERAGE NUMBER ITERATIONS = 1.1548

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
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OUT.WPD

.00	.0	.0	2.108	.0	.95	.45	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.29	4.6	4.5	1.539	31.5	1.05	.98	1.114	.114	.898	.102	.000	.7	.963	.037	.000
.58	18.3	28.6	.970	62.9	1.24	1.56	1.308	.308	.764	.236	.000	13.4	.827	.173	.000
.87	41.3	84.4	.740	94.4	1.44	2.05	1.521	.521	.657	.343	.000	52.7	.705	.295	.000
1.17	73.4	181.8	.611	125.8	1.64	2.48	1.737	.737	.576	.424	.000	128.7	.612	.388	.000
1.46	114.6	329.7	.526	157.3	1.85	2.88	1.952	.952	.512	.488	.000	250.9	.541	.459	.000
1.75	163.2	558.3	.442	172.6	2.14	3.42	2.266	1.266	.441	.559	.000	437.9	.473	.527	.000
2.04	215.1	849.1	.383	183.4	2.45	3.95	2.586	1.586	.387	.613	.000	697.8	.412	.588	.000
2.33	270.1	1194.7	.342	194.3	2.73	4.42	2.887	1.887	.346	.654	.000	1016.3	.365	.635	.000
2.62	328.4	1595.0	.312	205.2	3.00	4.86	3.172	2.172	.315	.685	.000	1389.4	.330	.670	.000
2.92	389.8	2050.7	.288	216.1	3.26	5.26	3.443	2.443	.290	.710	.000	1817.6	.302	.698	.000
3.21	454.4	2562.3	.268	227.0	3.50	5.64	3.702	2.702	.270	.730	.000	2301.3	.280	.720	.000
3.50	522.1	3130.9	.252	237.9	3.74	6.00	3.952	2.952	.253	.747	.000	2841.5	.261	.739	.000
3.79	593.1	3757.6	.239	248.8	3.97	6.34	4.193	3.193	.238	.762	.000	3439.2	.245	.755	.000
4.08	667.2	4443.6	.227	259.7	4.19	6.66	4.427	3.427	.226	.774	.000	4095.6	.232	.768	.000
4.37	744.5	5190.0	.217	270.6	4.40	6.97	4.654	3.654	.215	.785	.000	4811.8	.220	.780	.000
4.66	825.0	5998.2	.208	281.5	4.61	7.27	4.875	3.875	.205	.795	.000	5589.1	.210	.790	.000
4.96	908.6	6869.5	.200	292.4	4.82	7.56	5.091	4.091	.196	.804	.000	6428.9	.201	.799	.000
5.25	995.4	7805.2	.193	303.3	5.02	7.84	5.302	4.302	.189	.811	.000	7332.4	.192	.808	.000
5.54	1085.4	8806.7	.187	314.2	5.21	8.11	5.510	4.510	.181	.819	.000	8300.9	.185	.815	.000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 89 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=6 CODE=1

OUTFLOW HYDROGRAPH REACH 15.60

RUNOFF VOLUME = .05983 INCHES = 5.0097 ACRE-Feet
 PEAK DISCHARGE RATE = 30.48 CFS AT 3.050 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 CENTROID 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 = .566064HR TP = .435001HR K/TP RATIO = 1.301294 SHAPE CONSTANT, N = 2.753822
 UNIT PEAK = 180.67 CFS UNIT VOLUME = .9998 B = 261.10 P60 = 1.0600
 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 = .06102 INCHES = .9795 ACRE-Feet
 PEAK DISCHARGE RATE = 11.01 CFS AT 1.850 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 = .06002 INCHES = 5.9891 ACRE-Feet
 PEAK DISCHARGE RATE = 32.12 CFS AT 3.050 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

OUT.WPD

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 CENTROID 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 = .530479HR TP = .408353HR K/TP RATIO = 1.299071 SHAPE CONSTANT, N = 2.757945
 UNIT PEAK = 341.26 CFS UNIT VOLUME = .9999 B = 261.45 P60 = 1.0600
 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 = .06102 INCHES = 1.7345 ACRE-Feet
 PEAK DISCHARGE RATE = 20.81 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= 306 TABLE PTS= 20
 DT= .050000 QMED= 10.41 CKMED= 2.4152
 WIDTH MED= 29.97 NREACH= 16 DX= 211.56

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	1.18	.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	1.607	.073	.945	.254	-.199	1.2	.962	.004	.034
.78	21.7	46.6	.437	55.6	2.99	2.15	2.544	.147	.920	.458	-.378	21.9	.924	.357	-.281
1.17	48.8	137.5	.334	83.4	3.84	2.82	3.265	.226	.900	.555	-.454	85.8	.902	.502	-.404
1.56	86.8	296.2	.276	111.2	4.61	3.41	3.923	.303	.884	.617	-.501	209.7	.887	.584	-.470
1.95	135.6	537.0	.237	139.0	5.42	3.96	4.610	.374	.875	.666	-.541	408.7	.874	.638	-.512
2.34	194.6	885.0	.207	162.2	6.35	4.55	5.402	.451	.868	.708	-.576	702.1	.871	.690	-.561
2.73	262.0	1339.5	.184	183.1	7.12	5.11	6.059	.539	.858	.737	-.595	1103.0	.862	.723	-.586
3.12	337.5	1901.0	.167	204.1	7.78	5.63	6.618	.629	.847	.757	-.605	1610.9	.851	.747	-.598
3.51	421.2	2576.6	.154	225.0	8.40	6.12	7.144	.716	.838	.774	-.613	2229.2	.841	.766	-.607
3.90	513.1	3373.4	.143	245.9	8.51	6.57	7.245	.846	.814	.780	-.594	2965.2	.833	.781	-.614
4.29	613.9	4198.9	.137	277.3	7.85	6.84	6.675	1.014	.767	.770	-.537	3778.5	.787	.773	-.560
4.68	731.3	5062.3	.136	324.4	7.68	6.92	6.532	1.067	.752	.767	-.519	4623.8	.736	.760	-.497
5.07	867.1	6142.5	.133	371.6	8.24	7.08	7.011	1.054	.768	.779	-.547	5593.7	.759	.773	-.532
5.46	1021.2	7451.0	.129	418.7	8.75	7.30	7.448	1.068	.776	.790	-.565	6786.3	.771	.784	-.555
5.85	1193.8	9001.8	.125	465.8	8.62	7.54	7.331	1.178	.752	.790	-.542	8214.5	.777	.794	-.571
6.24	1386.3	10565.1	.123	532.4	7.77	7.62	6.611	1.341	.700	.777	-.477	9774.0	.718	.780	-.498
6.63	1612.0	12217.5	.124	624.2	7.72	7.58	6.566	1.332	.701	.775	-.476	11382.0	.672	.768	-.440
7.02	1873.4	14324.0	.123	716.0	8.55	7.65	7.271	1.229	.741	.789	-.531	13257.9	.717	.781	-.498

OUT.WPD
 7.41 2170.3 16999.4 .120 800.0 8.83 7.83 7.514 1.264 .741 .795 -.537 15643.7 .757 .798 -.555
 MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 6 OCCURRED 2 TIMES. AVERAGE NUMBER ITERATIONS = 1.0650
 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 1.18 .62 1.000 .000 1.000 .000 .000 .0 1.000 .000 .000
 .39 5.4 7.3 .694 27.8 1.30 1.35 1.107 .107 .904 .096 .000 1.2 .962 .004 .034
 .78 21.7 46.6 .437 55.6 1.52 2.15 1.290 .290 .775 .225 .000 21.9 .836 .164 .000
 1.17 48.8 137.5 .334 83.4 1.76 2.82 1.493 .493 .670 .330 .000 85.8 .717 .283 .000
 1.56 86.8 296.2 .276 111.2 2.00 3.41 1.700 .700 .588 .412 .000 209.7 .624 .376 .000
 1.95 135.6 537.0 .237 139.0 2.24 3.96 1.906 .906 .525 .475 .000 408.7 .553 .447 .000
 2.34 194.6 885.0 .207 162.2 2.51 4.55 2.139 1.139 .467 .533 .000 702.1 .493 .507 .000
 2.73 262.0 1339.5 .184 183.1 2.79 5.11 2.376 1.376 .421 .579 .000 1103.0 .442 .558 .000
 3.12 337.5 1901.0 .167 204.1 3.06 5.63 2.601 1.601 .385 .615 .000 1610.9 .401 .599 .000
 3.51 421.2 2576.6 .154 225.0 3.31 6.12 2.817 1.817 .355 .645 .000 2229.2 .369 .631 .000
 3.90 513.1 3373.4 .143 245.9 3.56 6.57 3.026 2.026 .330 .670 .000 2965.2 .342 .658 .000
 4.29 613.9 4198.9 .137 277.3 3.70 6.84 3.149 2.149 .318 .682 .000 3778.5 .324 .676 .000
 4.68 731.3 5062.3 .136 324.4 3.75 6.92 3.187 2.187 .314 .686 .000 4623.8 .316 .684 .000
 5.07 867.1 6142.5 .133 371.6 3.84 7.08 3.263 2.263 .306 .694 .000 5593.7 .310 .690 .000
 5.46 1021.2 7451.0 .129 418.7 3.95 7.30 3.364 2.364 .297 .703 .000 6786.3 .302 .698 .000
 5.85 1193.8 9001.8 .125 465.8 4.09 7.54 3.481 2.481 .287 .713 .000 8214.5 .292 .708 .000
 6.24 1386.3 10565.1 .123 532.4 4.14 7.62 3.519 2.519 .284 .716 .000 9774.0 .286 .714 .000
 6.63 1612.0 12217.5 .124 624.2 4.11 7.58 3.499 2.499 .286 .714 .000 11382.0 .285 .715 .000
 7.02 1873.4 14324.0 .123 716.0 4.15 7.65 3.531 2.531 .283 .717 .000 13257.9 .284 .716 .000
 7.41 2170.3 16999.4 .120 800.0 4.26 7.83 3.622 2.622 .276 .724 .000 15643.7 .280 .720 .000
 MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 22 TIMES. AVERAGE NUMBER ITERATIONS = 1.0498
 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 = .06042 INCHES = 1.7175 ACRE-Feet
 PEAK DISCHARGE RATE = 20.28 CFS AT 2.500 HOURS BASIN AREA = .5330 SQ. MI.

*

*S*** SUB-BASIN 17 *****

*

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 CENTROID 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 = .577747HR TP = .441813HR K/TP RATIO = 1.307673 SHAPE CONSTANT, N = 2.742083
 UNIT PEAK = 157.76 CFS UNIT VOLUME = .9998 B = 260.07 P60 = 1.0600
 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 = .06102 INCHES = .8721 ACRE-Feet
 PEAK DISCHARGE RATE = 9.62 CFS AT 1.850 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 = .06062 INCHES = 2.5895 ACRE-Feet
 PEAK DISCHARGE RATE = 24.31 CFS AT 2.450 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

OUT.WPD OUTFLOW HYDROGRAPH REACH 17.40									
TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	3.750	17.6	7.500	2.1	11.250	.2	15.000	.0
.250	.0	4.000	12.5	7.750	1.8	11.500	.2	15.250	.0
.500	.0	4.250	28.3	8.000	1.5	11.750	.2	15.500	.0
.750	.0	4.500	30.7	8.250	1.3	12.000	.1	15.750	.0
1.000	.0	4.750	23.8	8.500	1.1	12.250	.1	16.000	.0
1.250	.0	5.000	17.8	8.750	1.0	12.500	.1	16.250	.0
1.500	6.1	5.250	13.0	9.000	.8	12.750	.1	16.500	.0
1.750	19.8	5.500	9.6	9.250	.7	13.000	.1	16.750	.0
2.000	18.7	5.750	7.1	9.500	.6	13.250	.1	17.000	.0
2.250	16.6	6.000	5.4	9.750	.5	13.500	.1	17.250	.0
2.500	28.5	6.250	4.4	10.000	.5	13.750	.0	17.500	.0
2.750	21.6	6.500	3.8	10.250	.4	14.000	.0	17.750	.0
3.000	44.0	6.750	3.2	10.500	.3	14.250	.0	18.000	.0
3.250	35.7	7.000	2.8	10.750	.3	14.500	.0	18.250	.0
3.500	25.4	7.250	2.4	11.000	.2	14.750	.0		

RUNOFF VOLUME = .06020 INCHES = 8.5786 ACRE-Feet
 PEAK DISCHARGE RATE = 43.97 CFS AT 3.000 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 SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH 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	10850.46	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= 368 TABLE PTS= 20
 DT= .050000 QMED= 21.98 CKMED= 2.2804
 WIDTH MED= 27.36 NREACH= 11 DX= 211.18

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	.388	.0	1.17	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	2.711	.103	.946	.476	-.421	7.4	.960	.256	-.216
1.41	83.0	300.3	.178	117.8	5.09	3.62	4.342	.204	.926	.639	-.566	141.0	.927	.558	-.485
2.11	186.4	899.3	.134	171.8	6.86	4.83	5.845	.312	.913	.721	-.633	558.9	.913	.679	-.592
2.82	319.3	1958.2	.105	205.4	8.83	6.13	7.523	.441	.902	.777	-.679	1384.8	.907	.755	-.662
3.52	475.9	3442.2	.089	239.0	10.21	7.23	8.705	.576	.888	.805	-.694	2656.9	.892	.791	-.683
4.23	656.1	5389.3	.079	272.4	11.52	8.21	9.821	.701	.878	.826	-.705	4372.0	.881	.816	-.696
4.93	858.9	7859.9	.071	303.2	12.80	9.15	10.913	.827	.870	.843	-.713	6579.4	.874	.835	-.709
5.64	1083.3	10850.5	.064	334.0	13.90	10.02	11.844	.954	.862	.855	-.717	9309.6	.865	.849	-.714
6.34	1329.5	14391.5	.060	364.8	14.92	10.82	12.720	1.079	.854	.865	-.719	12574.8	.857	.860	-.717
7.05	1597.4	18513.4	.056	395.6	15.90	11.59	13.552	1.202	.847	.873	-.720	16405.5	.850	.869	-.719
7.75	1886.9	23246.5	.052	426.4	16.88	12.32	14.391	1.318	.842	.880	-.723	20832.2	.844	.876	-.720
8.46	2198.0	28653.5	.049	456.3	17.88	13.04	15.244	1.433	.838	.887	-.725	25900.5	.840	.884	-.723
9.16	2529.8	34738.9	.047	485.8	18.80	13.73	16.024	1.553	.833	.892	-.725	31645.6	.835	.890	-.724
9.86	2882.5	41514.4	.045	515.3	19.66	14.40	16.757	1.673	.828	.897	-.725	38075.2	.830	.895	-.724
10.57	3255.9	49006.3	.043	544.8	20.50	15.05	17.470	1.792	.823	.901	-.724	45208.0	.825	.899	-.724
11.27	3650.1	57240.7	.041	574.3	21.31	15.68	18.163	1.909	.819	.905	-.724	53070.3	.820	.903	-.724
11.98	4065.1	66243.1	.040	603.8	21.51	16.30	18.332	2.082	.806	.907	-.712	61687.8	.816	.907	-.723
12.68	4503.6	75496.9	.038	641.0	21.45	16.76	18.287	2.241	.792	.907	-.699	70823.6	.792	.906	-.698
13.39	4968.5	85617.5	.037	678.6	21.60	17.23	18.408	2.385	.781	.908	-.689	80508.6	.790	.908	-.699

MAXIMUM NO. ITERATIONS FOR SOLUTION (KMAX) = 5 OCCURRED 1 TIMES. AVERAGE NUMBER ITERATIONS = 1.2214
 Equations solved using the Ponce correction to C2
 PRINT HYD ID=3 CODE=1

OUTFLOW HYDROGRAPH REACH 20.30

RUNOFF VOLUME = .06025 INCHES = 8.5858 ACRE-Feet
 PEAK DISCHARGE RATE = 43.77 CFS AT 3.150 HOURS BASIN AREA = 2.6720 SQ. MI.

*

OUT.WPD

*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

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 = .348695HR TP = .261891HR K/TP RATIO = 1.331449 SHAPE CONSTANT, N = 2.699559
 UNIT PEAK = 141.92 CFS UNIT VOLUME = .9995 B = 256.34 P60 = 1.0600
 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 = .06102 INCHES = .4719 ACRE-Feet
 PEAK DISCHARGE RATE = 8.64 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 SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH 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= 192 TABLE PTS= 20
 DT= .050000 QMED= 4.32 CKMED= 1.0373
 WIDTH MED= 26.40 NREACH= 50 DX= 146.24

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	3.029	.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

OUT.WPD

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME (HR)	WIDTH (FT)	CK (FPS)	VEL (FPS)	C	D	AVERAGE NUMBER	ITERATIONS =	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
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) = 3 OCCURRED 20 TIMES. AVERAGE NUMBER ITERATIONS = 1.0372

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME (HR)	WIDTH (FT)	CK (FPS)	VEL (FPS)	C	D	AVERAGE NUMBER	ITERATIONS =	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	3.029	.0	.81	.30	1.000	.000	1.000	.000	.000	.000	.000	.0	1.000	.000	.000
.43	56.8	58.9	1.958	360.0	.95	1.04	1.168	.168	.856	.144	.000	.000	.000	9.3	.945	.055	.000
.86	241.3	552.5	.887	466.4	1.46	2.29	1.794	.794	.557	.443	.000	.000	.000	248.2	.673	.327	.000
1.29	457.1	1456.6	.637	537.9	1.93	3.19	2.372	1.372	.421	.579	.000	.000	.000	958.0	.477	.523	.000
1.72	703.5	2750.3	.520	609.4	2.34	3.91	2.883	1.883	.347	.653	.000	.000	.000	2060.3	.379	.621	.000
2.15	980.7	4443.2	.448	680.9	2.72	4.53	3.345	2.345	.299	.701	.000	.000	.000	3555.3	.320	.680	.000
2.58	1286.2	6654.3	.393	731.7	3.12	5.17	3.844	2.844	.260	.740	.000	.000	.000	5504.3	.278	.722	.000
3.01	1608.0	9364.0	.349	766.0	3.55	5.82	4.366	3.366	.229	.771	.000	.000	.000	7964.1	.243	.757	.000
3.44	1944.5	12483.2	.316	800.3	3.95	6.42	4.859	3.859	.206	.794	.000	.000	.000	10880.6	.217	.783	.000
3.87	2295.8	16009.2	.291	834.6	4.33	6.97	5.328	4.328	.188	.812	.000	.000	.000	14204.7	.196	.804	.000
4.30	2661.7	19942.4	.271	868.9	4.69	7.49	5.777	4.777	.173	.827	.000	.000	.000	17935.5	.180	.820	.000
4.73	3042.4	24284.7	.254	903.2	5.04	7.98	6.208	5.208	.161	.839	.000	.000	.000	22074.2	.167	.833	.000
5.16	3437.9	29039.6	.240	937.4	5.38	8.45	6.623	5.623	.151	.849	.000	.000	.000	26623.6	.156	.844	.000
5.59	3848.0	34211.6	.228	971.7	5.71	8.89	7.026	6.026	.142	.858	.000	.000	.000	31587.6	.146	.854	.000
6.02	4272.8	39908.3	.217	1002.0	6.04	9.34	7.438	6.438	.134	.866	.000	.000	.000	37020.4	.138	.862	.000
6.45	4706.4	46441.3	.206	1016.4	6.44	9.87	7.929	6.929	.126	.874	.000	.000	.000	43127.9	.130	.870	.000
6.88	5146.2	53395.2	.196	1030.8	6.83	10.38	8.408	7.408	.119	.881	.000	.000	.000	49872.6	.122	.878	.000
7.30	5592.2	60736.7	.187	1045.9	7.21	10.86	8.871	7.871	.113	.887	.000	.000	.000	57021.9	.116	.884	.000
7.73	6058.3	66177.1	.186	1123.3	7.26	10.92	8.931	7.931	.112	.888	.000	.000	.000	63442.7	.112	.888	.000
8.16	6557.6	72264.0	.184	1200.0	7.33	11.02	9.024	8.024	.111	.889	.000	.000	.000	69203.7	.111	.889	.000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 2 OCCURRED 1043 TIMES. AVERAGE NUMBER ITERATIONS = 1.0365

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 22.50

RUNOFF VOLUME = .05931 INCHES = .4586 ACRE-Feet
 PEAK DISCHARGE RATE = 8.11 CFS AT 4.050 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 CENTROID 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 = .719476HR TP = .553839HR K/TP RATIO = 1.299071 SHAPE CONSTANT, N = 2.757945
 UNIT PEAK = 348.87 CFS UNIT VOLUME = .9999 B = 261.45 P60 = 1.0600
 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 = .06102 INCHES = 2.4049 ACRE-Feet
 PEAK DISCHARGE RATE = 21.28 CFS AT 1.950 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 HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	4.250	8.1	8.500	.3	12.750	.0	17.000	.0
.250	.0	4.500	5.1	8.750	.2	13.000	.0	17.250	.0
.500	.0	4.750	3.2	9.000	.2	13.250	.0	17.500	.0
.750	.0	5.000	2.1	9.250	.2	13.500	.0	17.750	.0
1.000	.0	5.250	1.7	9.500	.2	13.750	.0	18.000	.0
1.250	.0	5.500	1.5	9.750	.1	14.000	.0	18.250	.0


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                                OUT.WPD
1.500      4.5      5.750      1.3      10.000      .1      14.250      .0      18.500      .0
1.750      18.2      6.000      1.1      10.250      .1      14.500      .0      18.750      .0
2.000      21.2      6.250      .9      10.500      .1      14.750      .0      19.000      .0
2.250      17.6      6.500      .8      10.750      .1      15.000      .0      19.250      .0
2.500      12.7      6.750      .7      11.000      .1      15.250      .0      19.500      .0
2.750      9.0      7.000      .6      11.250      .1      15.500      .0      19.750      .0
3.000      6.3      7.250      .5      11.500      .1      15.750      .0      20.000      .0
3.250      4.5      7.500      .5      11.750      .1      16.000      .0      20.250      .0
3.500      3.2      7.750      .4      12.000      .0      16.250      .0
3.750      2.2      8.000      .3      12.250      .0      16.500      .0
4.000      9.4      8.250      .3      12.500      .0      16.750      .0

RUNOFF VOLUME = .06073 INCHES = 2.8634 ACRE-FEET
PEAK DISCHARGE RATE = 21.28 CFS AT 1.950 HOURS BASIN AREA = .8840 SQ. MI.

*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 = .560231HR      TP = .419064HR      K/TP RATIO = 1.336861      SHAPE CONSTANT, N = 2.690139
UNIT PEAK = 71.335 CFS      UNIT VOLUME = .9997      B = 255.50      P60 = 1.0600
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 = .06102 INCHES = .3807 ACRE-FEET
PEAK DISCHARGE RATE = 4.35 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      FLOW      TIME      FLOW      TIME      FLOW      TIME      FLOW      TIME      FLOW
HRS      CFS      HRS      CFS      HRS      CFS      HRS      CFS      HRS      CFS
.000      .0      4.250      8.3      8.500      .3      12.750      .0      17.000      .0
.250      .0      4.500      5.3      8.750      .2      13.000      .0      17.250      .0
.500      .0      4.750      3.4      9.000      .2      13.250      .0      17.500      .0
.750      .0      5.000      2.3      9.250      .2      13.500      .0      17.750      .0
1.000      .0      5.250      1.9      9.500      .2      13.750      .0      18.000      .0
1.250      .0      5.500      1.6      9.750      .1      14.000      .0      18.250      .0
1.500      6.0      5.750      1.4      10.000      .1      14.250      .0      18.500      .0
1.750      22.4      6.000      1.2      10.250      .1      14.500      .0      18.750      .0
2.000      25.0      6.250      1.0      10.500      .1      14.750      .0      19.000      .0
2.250      20.2      6.500      .9      10.750      .1      15.000      .0      19.250      .0
2.500      14.3      6.750      .7      11.000      .1      15.250      .0      19.500      .0
2.750      10.0      7.000      .6      11.250      .1      15.500      .0      19.750      .0
3.000      7.0      7.250      .6      11.500      .1      15.750      .0      20.000      .0
3.250      4.9      7.500      .5      11.750      .1      16.000      .0      20.250      .0
3.500      3.5      7.750      .4      12.000      .0      16.250      .0
3.750      2.5      8.000      .4      12.250      .0      16.500      .0
4.000      9.7      8.250      .3      12.500      .0      16.750      .0

RUNOFF VOLUME = .06077 INCHES = 3.2441 ACRE-FEET
PEAK DISCHARGE RATE = 25.34 CFS AT 1.950 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
                                           Page 12

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1000 5840.33

OUT.WPD

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= 406 TABLE PTS= 20
 DT= .050000 QMED= 12.67 CKMED= 2.7940
 WIDTH MED= 10.93 NREACH= 11 DX= 243.18

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	1.35	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	2.884	.087	.956	.496	-.452	8.6	.967	.282	-.249
1.66	78.0	345.9	.168	93.9	6.17	4.44	4.566	.175	.939	.652	-.591	162.4	.941	.576	-.516
2.49	175.5	1019.8	.128	140.9	7.96	5.81	5.889	.267	.925	.721	-.646	636.4	.926	.682	-.608
3.32	311.9	2208.2	.105	186.3	9.86	7.08	7.299	.353	.918	.769	-.687	1560.6	.917	.742	-.659
4.15	479.7	4073.4	.088	218.1	12.04	8.49	8.914	.455	.912	.807	-.719	3081.4	.916	.792	-.708
4.98	673.9	6555.1	.076	249.9	13.64	9.73	10.100	.565	.903	.829	-.732	5254.8	.906	.817	-.723
5.81	894.3	9727.3	.068	280.5	15.21	10.88	11.256	.670	.896	.845	-.742	8080.1	.899	.837	-.736
6.64	1139.4	13627.0	.062	309.8	16.63	11.96	12.312	.777	.890	.858	-.748	11614.8	.892	.852	-.744
7.47	1408.7	18271.9	.057	339.2	17.91	12.97	13.260	.883	.883	.868	-.751	15886.3	.886	.863	-.748
8.30	1702.5	23704.2	.053	368.6	19.13	13.92	14.158	.988	.878	.876	-.754	20923.9	.880	.872	-.752
9.13	2020.6	29965.4	.050	397.9	20.29	14.83	15.016	1.090	.873	.883	-.756	26769.5	.874	.880	-.754
9.96	2363.1	37096.6	.047	427.3	21.40	15.70	15.842	1.191	.868	.889	-.757	33464.4	.870	.886	-.756
10.79	2730.0	45138.1	.045	456.7	22.17	16.53	16.412	1.309	.860	.893	-.753	41049.4	.865	.892	-.757
11.62	3121.4	53874.4	.043	489.5	20.01	17.26	14.811	1.615	.815	.885	-.700	49442.3	.853	.894	-.747
12.45	3556.9	61250.5	.043	559.8	17.68	17.22	13.090	1.817	.772	.874	-.646	57528.9	.753	.870	-.623
13.28	4050.8	70307.0	.043	630.1	14.95	17.36	11.063	2.193	.692	.860	-.552	65733.9	.783	.877	-.660
14.11	4626.9	76752.7	.045	770.4	12.30	16.59	9.101	2.380	.619	.840	-.458	73500.0	.533	.833	-.366
14.94	5331.0	85980.9	.046	926.0	17.09	16.13	12.653	1.595	.791	.869	-.660	81323.3	.664	.844	-.508
15.77	6137.3	103302.8	.044	1000.0	21.54	16.83	15.944	1.409	.846	.891	-.738	94508.3	.855	.891	-.746

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 5 OCCURRED 4 TIMES. AVERAGE NUMBER ITERATIONS = 1.1480

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	1.35	1.28	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.83	19.5	54.5	.266	47.0	1.63	2.79	1.209	.209	.827	.173	.000	8.6	.931	.069	.000
1.66	78.0	345.9	.168	93.9	2.06	4.44	1.525	.525	.656	.344	.000	162.4	.732	.268	.000
2.49	175.5	1019.8	.128	140.9	2.50	5.81	1.850	.850	.540	.460	.000	636.4	.590	.410	.000
3.32	311.9	2208.2	.105	186.3	2.95	7.08	2.182	1.182	.458	.542	.000	1560.6	.494	.506	.000
4.15	479.7	4073.4	.088	218.1	3.48	8.49	2.576	1.576	.388	.612	.000	3081.4	.419	.581	.000
4.98	673.9	6555.1	.076	249.9	3.97	9.73	2.940	1.940	.340	.660	.000	5254.8	.362	.638	.000
5.81	894.3	9727.3	.068	280.5	4.45	10.88	3.291	2.291	.304	.696	.000	8080.1	.320	.680	.000
6.64	1139.4	13627.0	.062	309.8	4.91	11.96	3.632	2.632	.275	.725	.000	11614.8	.288	.712	.000
7.47	1408.7	18271.9	.057	339.2	5.35	12.97	3.959	2.959	.253	.747	.000	15886.3	.263	.737	.000
8.30	1702.5	23704.2	.053	368.6	5.77	13.92	4.273	3.273	.234	.766	.000	20923.9	.243	.757	.000
9.13	2020.6	29965.4	.050	397.9	6.18	14.83	4.577	3.577	.218	.782	.000	26769.5	.226	.774	.000
9.96	2363.1	37096.6	.047	427.3	6.58	15.70	4.873	3.873	.205	.795	.000	33464.4	.211	.789	.000
10.79	2730.0	45138.1	.045	456.7	6.97	16.53	5.163	4.163	.194	.806	.000	41049.4	.199	.801	.000
11.62	3121.4	53874.4	.043	489.5	7.32	17.26	5.417	4.417	.185	.815	.000	49442.3	.189	.811	.000
12.45	3556.9	61250.5	.043	559.8	7.30	17.22	5.403	4.403	.185	.815	.000	57528.9	.185	.815	.000
13.28	4050.8	70307.0	.043	630.1	7.36	17.36	5.451	4.451	.183	.817	.000	65733.9	.184	.816	.000
14.11	4626.9	76752.7	.045	770.4	7.00	16.59	5.181	4.181	.193	.807	.000	73500.0	.189	.811	.000
14.94	5331.0	85980.9	.046	926.0	6.78	16.13	5.021	4.021	.199	.801	.000	81323.3	.196	.804	.000
15.77	6137.3	103302.8	.044	1000.0	7.11	16.83	5.265	4.265	.190	.810	.000	94508.3	.194	.806	.000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 2 OCCURRED 730 TIMES. AVERAGE NUMBER ITERATIONS = 1.1160

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 23.60

RUNOFF VOLUME = .06045 INCHES = 3.2270 ACRE-Feet
 PEAK DISCHARGE RATE = 25.12 CFS AT 2.400 HOURS BASIN AREA = 1.0010 SQ. MI.

*

*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

OUT.WPD

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 CENTROID 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 = .543472HR TP = .414194HR K/TP RATIO = 1.312119 SHAPE CONSTANT, N = 2.733987
UNIT PEAK = 153.42 CFS UNIT VOLUME = .9998 B = 259.36 P60 = 1.0600
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 = .06102 INCHES = .7973 ACRE-Feet
PEAK DISCHARGE RATE = 9.35 CFS AT 1.800 HOURS BASIN AREA = .2450 SQ. MI.

*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	4.250	3.2	8.500	.4	12.750	.0	17.000	.0
.250	.0	4.500	9.0	8.750	.4	13.000	.0	17.250	.0
.500	.0	4.750	8.8	9.000	.3	13.250	.0	17.500	.0
.750	.0	5.000	5.8	9.250	.3	13.500	.0	17.750	.0
1.000	.0	5.250	3.8	9.500	.2	13.750	.0	18.000	.0
1.250	.0	5.500	2.6	9.750	.2	14.000	.0	18.250	.0
1.500	3.0	5.750	2.1	10.000	.2	14.250	.0	18.500	.0
1.750	9.2	6.000	1.8	10.250	.2	14.500	.0	18.750	.0
2.000	11.7	6.250	1.5	10.500	.1	14.750	.0	19.000	.0
2.250	28.4	6.500	1.3	10.750	.1	15.000	.0	19.250	.0
2.500	27.8	6.750	1.1	11.000	.1	15.250	.0	19.500	.0
2.750	21.7	7.000	1.0	11.250	.1	15.500	.0	19.750	.0
3.000	15.5	7.250	.8	11.500	.1	15.750	.0	20.000	.0
3.250	11.0	7.500	.7	11.750	.1	16.000	.0	20.250	.0
3.500	7.9	7.750	.6	12.000	.1	16.250	.0	20.500	.0
3.750	5.7	8.000	.5	12.250	.1	16.500	.0	20.750	.0
4.000	4.2	8.250	.5	12.500	.1	16.750	.0		

RUNOFF VOLUME = .06056 INCHES = 4.0242 ACRE-Feet
PEAK DISCHARGE RATE = 29.38 CFS AT 2.350 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 CENTROID 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 = .531179HR TP = .402079HR K/TP RATIO = 1.321080 SHAPE CONSTANT, N = 2.717875
UNIT PEAK = 101.36 CFS UNIT VOLUME = .9998 B = 257.95 P60 = 1.0600

OUT.WPD
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 = .06528 INCHES = .5501 ACRE-Feet
PEAK DISCHARGE RATE = 6.61 CFS AT 1.800 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	4.250	3.5	8.500	.4	12.750	.0	17.000	.0
.250	.0	4.500	9.3	8.750	.4	13.000	.0	17.250	.0
.500	.0	4.750	9.1	9.000	.3	13.250	.0	17.500	.0
.750	.0	5.000	6.0	9.250	.3	13.500	.0	17.750	.0
1.000	.0	5.250	4.0	9.500	.3	13.750	.0	18.000	.0
1.250	.0	5.500	2.8	9.750	.2	14.000	.0	18.250	.0
1.500	5.3	5.750	2.2	10.000	.2	14.250	.0	18.500	.0
1.750	15.7	6.000	1.9	10.250	.2	14.500	.0	18.750	.0
2.000	17.4	6.250	1.6	10.500	.2	14.750	.0	19.000	.0
2.250	32.0	6.500	1.4	10.750	.1	15.000	.0	19.250	.0
2.500	30.0	6.750	1.2	11.000	.1	15.250	.0	19.500	.0
2.750	23.1	7.000	1.0	11.250	.1	15.500	.0	19.750	.0
3.000	16.4	7.250	.9	11.500	.1	15.750	.0	20.000	.0
3.250	11.6	7.500	.8	11.750	.1	16.000	.0	20.250	.0
3.500	8.5	7.750	.7	12.000	.1	16.250	.0	20.500	.0
3.750	6.2	8.000	.6	12.250	.1	16.500	.0	20.750	.0
4.000	4.6	8.250	.5	12.500	.1	16.750	.0		

RUNOFF VOLUME = .06109 INCHES = 4.5743 ACRE-Feet
PEAK DISCHARGE RATE = 32.43 CFS AT 2.300 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	4.250	16.2	8.500	2.0	12.750	.2	17.000	.0
.250	.0	4.500	41.3	8.750	1.7	13.000	.1	17.250	.0
.500	.0	4.750	36.9	9.000	1.5	13.250	.1	17.500	.0
.750	.0	5.000	27.7	9.250	1.3	13.500	.1	17.750	.0
1.000	.0	5.250	20.8	9.500	1.1	13.750	.1	18.000	.0
1.250	.0	5.500	15.7	9.750	1.0	14.000	.1	18.250	.0
1.500	5.3	5.750	12.3	10.000	.8	14.250	.1	18.500	.0
1.750	15.7	6.000	9.7	10.250	.7	14.500	.1	18.750	.0
2.000	33.0	6.250	7.7	10.500	.6	14.750	.1	19.000	.0
2.250	48.8	6.500	6.3	10.750	.5	15.000	.0	19.250	.0
2.500	57.9	6.750	5.4	11.000	.5	15.250	.0	19.500	.0
2.750	48.9	7.000	4.6	11.250	.4	15.500	.0	19.750	.0
3.000	45.2	7.250	4.0	11.500	.3	15.750	.0	20.000	.0
3.250	54.4	7.500	3.5	11.750	.3	16.000	.0	20.250	.0
3.500	39.2	7.750	3.0	12.000	.3	16.250	.0	20.500	.0
3.750	28.5	8.000	2.6	12.250	.2	16.500	.0	20.750	.0
4.000	21.1	8.250	2.3	12.500	.2	16.750	.0		

RUNOFF VOLUME = .06054 INCHES = 13.1601 ACRE-Feet
PEAK DISCHARGE RATE = 60.50 CFS AT 2.550 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 SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH FT
5771.07	.00	.00	.00
5773.16	35.61	189.55	34.10
5775.25	142.45	1203.58	68.19

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5777.34 324.31 OUT.WPD 107.81
 5779.43 593.86 3495.74 150.27
 5781.51 955.54 7680.56 197.18
 5783.60 1418.04 14165.13 245.64
 5785.69 2002.20 23630.47 318.26
 5787.78 2748.75 35354.90 396.53
 5789.87 3658.81 51802.03 474.81
 5791.96 4732.38 74014.84 553.09
 5794.05 5929.20 102673.60 582.77
 5796.14 7164.33 144379.90 599.80
 5798.23 8463.46 194134.90 644.38
 5800.31 9856.36 244360.60 689.27
 5802.40 11342.23 301208.00 730.74
 5804.49 12899.79 366119.80 760.55
 5806.58 14519.62 441774.30 790.36
 5808.67 16201.71 524447.70 820.17
 5810.76 17946.07 614238.90 849.98
 711255.30

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= 417 TABLE PTS= 20
 DT= .050000 QMED= 30.25 CKMED= 5.3227
 WIDTH MED= 5.44 NREACH= 5 DX= 458.00

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	.164	.0	2.54	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	2.917	.109	.946	.503	-.449	29.9	.960	.290	-.250
4.18	142.4	1203.6	.075	68.2	11.58	8.45	4.552	.222	.923	.654	-.577	565.0	.927	.583	-.510
6.27	324.3	3495.7	.059	107.8	14.32	10.78	5.630	.330	.905	.713	-.618	2186.3	.904	.673	-.577
8.36	593.9	7680.6	.049	150.3	17.03	12.93	6.691	.437	.892	.754	-.646	5387.4	.894	.732	-.626
10.44	955.5	14165.1	.043	197.2	19.36	14.82	7.609	.540	.882	.781	-.663	10695.2	.881	.764	-.646
12.53	1418.0	23630.5	.038	245.6	20.81	16.66	8.179	.673	.863	.797	-.660	18636.6	.875	.792	-.667
14.62	2002.2	35354.9	.036	318.3	21.16	17.66	8.317	.764	.848	.802	-.650	29229.3	.840	.790	-.631
16.71	2748.8	51802.0	.034	396.5	23.32	18.85	9.166	.815	.851	.818	-.669	43248.5	.846	.808	-.654
18.80	3658.8	74014.8	.031	474.8	25.65	20.23	10.079	.885	.852	.833	-.685	62515.3	.850	.825	-.675
20.89	4732.4	102673.6	.029	553.1	30.11	21.70	11.832	.898	.869	.854	-.724	87896.7	.849	.839	-.688
22.98	5929.2	144379.9	.026	582.8	37.54	24.35	14.753	.961	.885	.880	-.765	122840.3	.886	.873	-.759
25.07	7164.3	194134.9	.023	599.8	40.22	27.10	15.806	1.171	.870	.889	-.758	168549.8	.885	.888	-.773
27.16	8463.5	244360.6	.022	644.4	39.80	28.87	15.643	1.387	.846	.889	-.735	218736.3	.849	.886	-.734
29.24	9856.4	301208.0	.021	689.3	42.27	30.56	16.614	1.505	.843	.895	-.738	272266.8	.842	.892	-.734
31.33	11342.2	366119.8	.020	730.7	45.96	32.28	18.064	1.587	.846	.903	-.749	333112.5	.842	.899	-.741
33.42	12899.8	441774.3	.019	760.6	49.86	34.25	19.595	1.696	.848	.910	-.758	403311.8	.851	.908	-.758
35.51	14519.6	524447.7	.018	790.4	52.26	36.12	20.538	1.848	.842	.914	-.756	482485.0	.845	.912	-.757
37.60	16201.7	614238.9	.017	820.2	54.54	37.91	21.436	1.999	.836	.918	-.755	568724.4	.839	.916	-.755
39.69	17946.1	711255.3	.016	850.0	56.02	39.63	22.016	2.174	.827	.921	-.748	662133.6	.833	.920	-.753

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 72 TIMES. AVERAGE NUMBER ITERATIONS = 1.2199
 Equations solved using the Ponce correction to C2
 PRINT HYD ID=7 CODE=5

OUTFLOW HYDROGRAPH REACH 20.70

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	4.250	19.2	8.500	2.3	12.750	.2	17.000	.0
.250	.0	4.500	19.8	8.750	2.0	13.000	.2	17.250	.0
.500	.0	4.750	42.2	9.000	1.7	13.250	.1	17.500	.0
.750	.0	5.000	32.4	9.250	1.5	13.500	.1	17.750	.0
1.000	.0	5.250	24.8	9.500	1.3	13.750	.1	18.000	.0
1.250	.0	5.500	19.0	9.750	1.1	14.000	.1	18.250	.0
1.500	.0	5.750	14.7	10.000	.9	14.250	.1	18.500	.0
1.750	7.5	6.000	11.7	10.250	.8	14.500	.1	18.750	.0
2.000	18.2	6.250	9.3	10.500	.7	14.750	.1	19.000	.0
2.250	52.5	6.500	7.5	10.750	.6	15.000	.1	19.250	.0
2.500	49.5	6.750	6.1	11.000	.5	15.250	.0	19.500	.0
2.750	52.2	7.000	5.3	11.250	.5	15.500	.0	19.750	.0
3.000	42.6	7.250	4.6	11.500	.4	15.750	.0	20.000	.0
3.250	57.4	7.500	4.0	11.750	.3	16.000	.0	20.250	.0
3.500	45.3	7.750	3.4	12.000	.3	16.250	.0	20.500	.0
3.750	33.7	8.000	3.0	12.250	.3	16.500	.0	20.750	.0
4.000	25.3	8.250	2.6	12.500	.2	16.750	.0	21.000	.0

RUNOFF VOLUME = .06053 INCHES = 13.1574 ACRE-Feet
 PEAK DISCHARGE RATE = 59.87 CFS AT 2.650 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

OUT.WPD

PER A=95 PER B=5 PER C=0 PER D=0
 TP=0.0 MASSRAIN=-1
 TIME TO PEAK (hrs)= .3536

K = .458032HR TP = .353595HR K/TP RATIO = 1.295356 SHAPE CONSTANT, N = 2.764877
 UNIT PEAK = 315.72 CFS UNIT VOLUME = .9998 B = 262.06 P60 = 1.0600
 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 = .06528 INCHES = 1.4832 ACRE-FEET
 PEAK DISCHARGE RATE = 20.59 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 = .06098 INCHES = 14.6406 ACRE-FEET
 PEAK DISCHARGE RATE = 63.55 CFS AT 2.650 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

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 = .634472HR TP = .488056HR K/TP RATIO = 1.300000 SHAPE CONSTANT, N = 2.756220
 UNIT PEAK = 247.89 CFS UNIT VOLUME = .9999 B = 261.30 P60 = 1.0600
 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 = .05996 INCHES = 1.4806 ACRE-FEET
 PEAK DISCHARGE RATE = 14.85 CFS AT 1.900 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

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OUT.WPD

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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 = .480419HR      TP = .369553HR      K/TP RATIO = 1.300000      SHAPE CONSTANT, N = 2.756220
UNIT PEAK = 246.06 CFS      UNIT VOLUME = .9998      B = 261.30      P60 = 1.0600
AREA = .348000 SQ MI      IA = .65000 INCHES      INF = 1.67000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

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

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PRINT HYD      ID=2  CODE=1
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OUTFLOW HYDROGRAPH REACH 26.00

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RUNOFF VOLUME = .05996 INCHES      = 1.1128 ACRE-FEET
PEAK DISCHARGE RATE = 14.72 CFS AT 1.750 HOURS      BASIN AREA = .3480 SQ. MI.

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*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

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OUTFLOW HYDROGRAPH REACH 25.60

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RUNOFF VOLUME = .05996 INCHES      = 2.5933 ACRE-FEET
PEAK DISCHARGE RATE = 29.06 CFS AT 1.800 HOURS      BASIN AREA = .8110 SQ. MI.

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*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 = .493796HR      TP = .379843HR      K/TP RATIO = 1.300000      SHAPE CONSTANT, N = 2.756220
UNIT PEAK = 258.66 CFS      UNIT VOLUME = .9998      B = 261.30      P60 = 1.0600
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 = .05996 INCHES      = 1.2024 ACRE-FEET
PEAK DISCHARGE RATE = 15.47 CFS AT 1.800 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 = .05996 INCHES      = 3.7956 ACRE-FEET
PEAK DISCHARGE RATE = 44.53 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 OUT.WPD
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= 348 TABLE PTS= 20
DT= .050000 QMED= 22.26 CKMED= 1.5023
WIDTH MED= 62.83 NREACH= 50 DX= 175.26

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	.97	.39	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.30	5.4	4.6	2.889	36.4	1.17	.84	1.207	.122	.895	.141	-.037	.7	.984	.022	-.006
.59	21.7	29.0	1.820	72.8	1.86	1.34	1.910	.244	.845	.366	-.211	13.6	.855	.257	-.112
.89	48.7	85.4	1.389	109.2	2.39	1.75	2.452	.374	.805	.477	-.282	53.3	.812	.419	-.230
1.19	86.6	183.9	1.147	145.6	2.87	2.12	2.945	.502	.774	.550	-.324	130.2	.780	.513	-.293
1.49	135.3	333.4	.988	182.1	3.31	2.46	3.403	.631	.749	.603	-.352	253.8	.755	.576	-.331
1.78	194.9	542.2	.875	218.5	3.67	2.78	3.771	.771	.722	.639	-.361	432.5	.734	.622	-.356
2.08	265.6	808.5	.800	260.1	3.90	3.04	4.002	.910	.692	.662	-.354	670.0	.699	.648	-.348
2.38	350.2	1143.7	.745	308.6	4.16	3.27	4.275	1.016	.677	.682	-.359	970.4	.674	.669	-.344
2.68	449.1	1572.2	.695	356.5	4.52	3.50	4.643	1.113	.671	.704	-.375	1351.5	.671	.693	-.364
2.97	562.2	2101.9	.651	404.5	4.86	3.74	4.995	1.219	.662	.723	-.385	1830.0	.663	.713	-.377
3.27	689.7	2741.7	.612	452.5	5.20	3.98	5.339	1.330	.653	.739	-.392	2414.2	.655	.731	-.386
3.57	831.4	3500.2	.578	500.5	5.53	4.21	5.676	1.444	.644	.754	-.398	3112.8	.646	.746	-.393
3.87	987.3	4385.7	.548	548.5	5.85	4.44	6.004	1.561	.636	.766	-.402	3934.3	.638	.760	-.398
4.16	1157.6	5406.3	.521	596.5	6.14	4.67	6.309	1.684	.626	.778	-.403	4886.9	.630	.772	-.402
4.46	1342.2	6563.1	.498	645.5	6.41	4.89	6.588	1.809	.615	.787	-.402	5975.2	.618	.782	-.400
4.76	1541.5	7867.6	.477	695.3	6.70	5.10	6.880	1.927	.607	.796	-.403	7205.5	.609	.791	-.400
5.06	1755.7	9332.2	.458	745.1	6.99	5.32	7.181	2.044	.600	.804	-.405	8589.6	.602	.800	-.402
5.35	1984.6	10964.5	.441	794.9	7.28	5.52	7.476	2.163	.593	.812	-.405	10137.6	.596	.808	-.404
5.65	2228.4	12771.9	.425	844.7	7.58	5.73	7.759	2.288	.572	.817	-.388	11857.1	.589	.815	-.405

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 57 TIMES. AVERAGE NUMBER ITERATIONS = 1.0960
C1 C2 C3 Q-M C1-M C2-M C3-M
(CFS) (CFS) (CFS) (CFS)

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	.97	.39	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.30	5.4	4.6	2.889	36.4	1.10	.84	1.130	.130	.885	.115	.000	.7	.958	.042	.000
.59	21.7	29.0	1.820	72.8	1.31	1.34	1.346	.346	.743	.257	.000	13.6	.809	.191	.000
.89	48.7	85.4	1.389	109.2	1.54	1.75	1.580	.580	.633	.367	.000	53.3	.681	.319	.000
1.19	86.6	183.9	1.147	145.6	1.77	2.12	1.815	.815	.551	.449	.000	130.2	.587	.413	.000
1.49	135.3	333.4	.988	182.1	1.99	2.46	2.048	1.048	.488	.512	.000	253.8	.516	.484	.000
1.78	194.9	542.2	.875	218.5	2.22	2.78	2.277	1.277	.439	.561	.000	432.5	.461	.539	.000
2.08	265.6	808.5	.800	260.1	2.41	3.04	2.643	1.473	.404	.596	.000	670.0	.420	.580	.000
2.38	350.2	1143.7	.745	308.6	2.57	3.27	2.743	1.643	.378	.622	.000	970.4	.390	.610	.000
2.68	449.1	1572.2	.695	356.5	2.75	3.50	2.828	1.828	.354	.646	.000	1351.5	.365	.635	.000
2.97	562.2	2101.9	.651	404.5	2.94	3.74	3.018	2.018	.331	.669	.000	1830.0	.342	.658	.000
3.27	689.7	2741.7	.612	452.5	3.13	3.98	3.211	2.211	.311	.689	.000	2414.2	.321	.679	.000
3.57	831.4	3500.2	.578	500.5	3.32	4.21	3.406	2.406	.294	.706	.000	3112.8	.302	.698	.000
3.87	987.3	4385.7	.548	548.5	3.51	4.44	3.602	2.602	.278	.722	.000	3934.3	.285	.715	.000
4.16	1157.6	5406.3	.521	596.5	3.70	4.67	3.797	2.797	.263	.737	.000	4886.9	.270	.730	.000
4.46	1342.2	6563.1	.498	645.5	3.88	4.89	3.988	2.988	.251	.749	.000	5975.2	.257	.743	.000
4.76	1541.5	7867.6	.477	695.3	4.07	5.10	4.176	3.176	.239	.761	.000	7205.5	.245	.755	.000
5.06	1755.7	9332.2	.458	745.1	4.25	5.32	4.364	3.364	.229	.771	.000	8589.6	.234	.766	.000
5.35	1984.6	10964.5	.441	794.9	4.43	5.52	4.552	3.552	.220	.780	.000	10137.6	.224	.776	.000
5.65	2228.4	12771.9	.425	844.7	4.61	5.73	4.739	3.739	.211	.789	.000	11857.1	.215	.785	.000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 169 TIMES. AVERAGE NUMBER ITERATIONS = 1.0900
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 HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	4.000	30.2	8.000	1.0	12.000	.1	16.000	.0
.250	.0	4.250	21.9	8.250	.8	12.250	.1	16.250	.0
.500	.0	4.500	15.9	8.500	.7	12.500	.1	16.500	.0
.750	.0	4.750	11.5	8.750	.6	12.750	.1	16.750	.0
1.000	.0	5.000	8.2	9.000	.5	13.000	.1	17.000	.0
1.250	.0	5.250	5.9	9.250	.5	13.250	.0	17.250	.0
1.500	.0	5.500	4.5	9.500	.4	13.500	.0	17.500	.0
1.750	.0	5.750	3.5	9.750	.4	13.750	.0	17.750	.0
2.000	.0	6.000	3.0	10.000	.3	14.000	.0	18.000	.0
2.250	.0	6.250	2.6	10.250	.3	14.250	.0	18.250	.0
2.500	.0	6.500	2.2	10.500	.2	14.500	.0	18.500	.0
2.750	.0	6.750	2.0	10.750	.2	14.750	.0	18.750	.0

3.000	.0	7.000	1.7	11.000	.2	15.000	.0	19.000	.0
3.250	.0	7.250	1.5	11.250	.1	15.250	.0	19.250	.0
3.500	8.8	7.500	1.3	11.500	.1	15.500	.0	19.500	.0
3.750	38.2	7.750	1.1	11.750	.1	15.750	.0	19.750	.0

RUNOFF VOLUME = .05726 INCHES = 3.6251 ACRE-Feet
 PEAK DISCHARGE RATE = 38.80 CFS AT 3.700 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 SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH 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= 398
 DT= .050000
 WIDTH MED= 11.41
 TABLE PTS= 20
 QMED= 19.40
 NREACH= 9
 CKMED= 3.7764
 DX= 322.56

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	.293	.0	1.79	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	2.939	.044	.978	.498	-.476	7.1	.984	.285	-.268
1.80	47.7	286.1	.135	53.0	8.37	5.99	4.673	.087	.970	.653	-.623	134.3	.970	.576	-.546
2.70	106.5	846.1	.102	77.5	10.83	7.94	6.046	.136	.962	.722	-.684	528.4	.964	.687	-.650
3.60	187.7	1792.6	.084	103.7	12.75	9.55	7.117	.183	.956	.759	-.715	1277.7	.957	.737	-.693
4.50	293.6	3224.4	.073	131.5	14.60	10.98	8.148	.226	.952	.787	-.738	2461.7	.952	.771	-.723
5.40	424.4	5245.5	.065	159.2	16.45	12.36	9.181	.270	.948	.809	-.757	4183.3	.949	.797	-.746
6.30	580.3	7937.1	.059	187.0	18.22	13.68	10.168	.314	.945	.826	-.771	6535.3	.946	.817	-.763
7.20	761.2	11375.6	.054	214.8	19.89	14.94	11.098	.359	.942	.839	-.782	9596.4	.943	.832	-.775
8.10	967.2	15621.1	.050	242.9	21.30	16.15	11.886	.407	.939	.850	-.788	13435.1	.940	.845	-.785
9.00	1199.5	20675.5	.047	273.3	22.56	17.24	12.591	.452	.936	.858	-.793	18083.4	.936	.852	-.788
9.90	1459.3	26718.6	.044	303.7	24.06	18.31	13.424	.493	.934	.866	-.800	23627.7	.934	.862	-.796
10.80	1746.4	33823.1	.042	334.1	25.51	19.37	14.238	.535	.932	.873	-.805	30197.3	.933	.869	-.802
11.71	2060.9	42059.2	.040	364.5	26.94	20.41	15.033	.577	.930	.880	-.810	37863.6	.931	.876	-.807
12.61	2402.8	51495.0	.038	394.9	28.33	21.43	15.811	.620	.929	.885	-.814	46695.8	.929	.882	-.812
13.51	2772.0	62196.7	.036	425.3	29.88	22.44	16.676	.660	.928	.891	-.819	56761.0	.928	.888	-.815
14.41	3168.3	74381.9	.034	454.1	31.69	23.48	17.684	.697	.928	.897	-.825	68197.8	.928	.894	-.822
15.31	3589.4	88114.9	.033	481.2	29.61	24.55	16.523	.734	.909	.891	-.800	81150.9	.928	.900	-.827
16.21	4038.9	99808.1	.033	536.2	20.93	24.71	11.679	1.199	.827	.856	-.683	93914.3	.880	.877	-.756
17.11	4572.0	108176.5	.034	648.0	14.71	23.66	8.206	1.530	.715	.814	-.529	103960.2	.731	.822	-.553

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 6 OCCURRED 2 TIMES. AVERAGE NUMBER ITERATIONS = 1.1292

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	.293	.0	1.79	1.74	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.90	11.9	45.1	.214	26.5	2.00	3.78	1.115	.115	.897	.103	.000	7.1	.963	.037	.000
1.80	47.7	286.1	.135	53.0	2.35	5.99	1.310	.310	.763	.237	.000	134.3	.826	.174	.000
2.70	106.5	846.1	.102	77.5	2.75	7.94	1.535	.535	.652	.348	.000	528.4	.701	.299	.000
3.60	187.7	1792.6	.084	103.7	3.13	9.55	1.745	.745	.573	.427	.000	1277.7	.608	.392	.000
4.50	293.6	3224.4	.073	131.5	3.49	10.98	1.947	.947	.513	.487	.000	2461.7	.540	.460	.000
5.40	424.4	5245.5	.065	159.2	3.86	12.36	2.152	1.152	.465	.535	.000	4183.3	.487	.513	.000
6.30	580.3	7937.1	.059	187.0	4.22	13.68	2.355	1.355	.425	.575	.000	6535.3	.443	.557	.000
7.20	761.2	11375.6	.054	214.8	4.58	14.94	2.558	1.558	.391	.609	.000	9596.4	.406	.594	.000
8.10	967.2	15621.1	.050	242.9	4.94	16.15	2.756	1.756	.363	.637	.000	13435.1	.376	.624	.000
9.00	1199.5	20675.5	.047	273.3	5.26	17.24	2.937	1.937	.340	.660	.000	18083.4	.351	.649	.000
9.90	1459.3	26718.6	.044	303.7	5.59	18.31	3.121	2.121	.320	.680	.000	23627.7	.330	.670	.000
10.80	1746.4	33823.1	.042	334.1	5.92	19.37	3.305	2.305	.303	.697	.000	30197.3	.311	.689	.000
11.71	2060.9	42059.2	.040	364.5	6.25	20.41	3.488	2.488	.287	.713	.000	37863.6	.294	.706	.000
12.61	2402.8	51495.0	.038	394.9	6.58	21.43	3.672	2.672	.272	.728	.000	46695.8	.279	.721	.000
13.51	2772.0	62196.7	.036	425.3	6.91	22.44	3.854	2.854	.259	.741	.000	56761.0	.266	.734	.000
14.41	3168.3	74381.9	.034	454.1	7.25	23.48	4.045	3.045	.247	.753	.000	68197.8	.253	.747	.000
15.31	3589.4	88114.9	.033	481.2	7.61	24.55	4.245	3.245	.236	.764	.000	81150.9	.241	.759	.000
16.21	4038.9	99808.1	.033	536.2	7.66	24.71	4.275	3.275	.234	.766	.000	93914.3	.235	.765	.000
17.11	4572.0	108176.5	.034	648.0	7.31	23.66	4.079	3.079	.245	.755	.000	103960.2	.240	.760	.000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 17 TIMES. AVERAGE NUMBER ITERATIONS = 1.0851
 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

OUT.WPD

OUTFLOW HYDROGRAPH REACH 30.50

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	4.250	35.5	8.500	.9	12.750	.1	17.000	.0
.250	.0	4.500	26.9	8.750	.8	13.000	.1	17.250	.0
.500	.0	4.750	19.6	9.000	.7	13.250	.1	17.500	.0
.750	.0	5.000	14.3	9.250	.6	13.500	.1	17.750	.0
1.000	.0	5.250	10.4	9.500	.5	13.750	.0	18.000	.0
1.250	.0	5.500	7.5	9.750	.5	14.000	.0	18.250	.0
1.500	.0	5.750	5.5	10.000	.4	14.250	.0	18.500	.0
1.750	.0	6.000	4.3	10.250	.3	14.500	.0	18.750	.0
2.000	.0	6.250	3.4	10.500	.3	14.750	.0	19.000	.0
2.250	.0	6.500	2.9	10.750	.3	15.000	.0	19.250	.0
2.500	.0	6.750	2.5	11.000	.2	15.250	.0	19.500	.0
2.750	.0	7.000	2.2	11.250	.2	15.500	.0	19.750	.0
3.000	.0	7.250	1.9	11.500	.2	15.750	.0	20.000	.0
3.250	.0	7.500	1.6	11.750	.1	16.000	.0	20.250	.0
3.500	.0	7.750	1.4	12.000	.1	16.250	.0		
3.750	.0	8.000	1.2	12.250	.1	16.500	.0		
4.000	30.5	8.250	1.1	12.500	.1	16.750	.0		

RUNOFF VOLUME = .05697 INCHES = 3.6063 ACRE-FEET
 PEAK DISCHARGE RATE = 38.23 CFS AT 4.100 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 CENTROID 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

K = .673216HR TP = .519715HR K/TP RATIO = 1.295356 SHAPE CONSTANT, N = 2.764877
 UNIT PEAK = 296.49 CFS UNIT VOLUME = .9999 B = 262.06 P60 = 1.0600
 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 = .06528 INCHES = 2.0472 ACRE-FEET
 PEAK DISCHARGE RATE = 19.33 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 = .05972 INCHES = 5.6534 ACRE-FEET
 PEAK DISCHARGE RATE = 39.73 CFS AT 4.100 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 = .06062 INCHES = 20.2940 ACRE-FEET
 PEAK DISCHARGE RATE = 76.30 CFS AT 2.250 HOURS BASIN AREA = 6.2770 SQ. MI.

OUT.WPD

*
 *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 92.89 52.77
 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= 422 TABLE PTS= 20 2.8911
 DT= .050000 QMED= 38.15 CKMED= 289.09
 WIDTH MED= 21.67 NREACH= 11 DX=

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	1.61	1.33	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
1.22	32.1	92.9	.306	52.8	4.03	2.89	2.510	.168	.909	.456	-.365	14.6	.933	.231	-.164
2.44	128.5	589.8	.192	105.5	6.38	4.59	3.975	.337	.873	.623	-.497	276.9	.877	.543	-.421
3.65	289.2	1739.0	.147	158.3	8.33	6.01	5.187	.507	.849	.701	-.550	1085.3	.847	.658	-.505
4.87	510.5	3811.3	.118	202.0	10.47	7.47	6.519	.693	.831	.756	-.588	2683.3	.837	.732	-.569
6.09	780.2	6872.6	.100	240.9	12.25	8.81	7.629	.895	.812	.790	-.602	5246.9	.818	.774	-.592
7.31	1097.1	10979.8	.088	279.7	13.77	10.01	8.573	1.096	.795	.813	-.607	8828.6	.800	.801	-.601
8.52	1461.4	16234.7	.080	318.5	15.16	11.11	9.439	1.292	.780	.830	-.609	13506.5	.784	.821	-.605
9.74	1872.9	22721.9	.073	357.7	16.32	12.13	10.159	1.496	.764	.842	-.605	19374.5	.770	.836	-.607
10.96	2334.7	30417.0	.068	400.7	17.31	13.03	10.777	1.686	.750	.851	-.601	26465.5	.752	.846	-.597
12.18	2848.8	39599.0	.064	443.6	18.48	13.90	11.508	1.856	.742	.861	-.602	34898.4	.744	.856	-.600
13.40	3415.2	50371.6	.060	486.6	19.62	14.75	12.217	2.028	.734	.869	-.603	44870.4	.736	.865	-.601
14.61	4033.8	62836.3	.057	529.5	20.73	15.58	12.908	2.200	.727	.876	-.603	56483.9	.729	.872	-.601
15.83	4704.8	77091.5	.054	572.5	22.63	16.39	14.088	2.287	.737	.885	-.622	69838.9	.722	.879	-.601
17.05	5423.3	94486.5	.051	601.9	25.56	17.42	15.912	2.361	.755	.896	-.651	85630.2	.750	.892	-.642
18.27	6168.2	114613.9	.048	621.5	27.80	18.58	17.309	2.550	.756	.904	-.660	104372.1	.760	.901	-.661
19.48	6937.0	136539.1	.045	641.1	29.25	19.68	18.214	2.798	.746	.909	-.655	125402.7	.750	.907	-.657
20.70	7729.7	160267.0	.043	660.7	30.63	20.73	19.071	3.044	.737	.913	-.650	148232.8	.741	.911	-.652
21.92	8546.2	185806.2	.041	680.3	31.94	21.74	19.886	3.287	.728	.917	-.645	172869.2	.732	.915	-.647
23.14	9386.7	213168.9	.039	700.0	32.86	22.71	20.463	3.562	.715	.920	-.635	199322.6	.724	.919	-.643

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 5 OCCURRED 1 TIMES. AVERAGE NUMBER ITERATIONS = 1.2591
 Equations solved using the Ponce correction to C2
 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	4.500	52.6	9.000	3.4	13.500	.3	18.000	.0
.250	.0	4.750	61.7	9.250	2.9	13.750	.2	18.250	.0
.500	.0	5.000	58.2	9.500	2.6	14.000	.2	18.500	.0
.750	.0	5.250	44.9	9.750	2.2	14.250	.2	18.750	.0
1.000	.0	5.500	35.5	10.000	1.9	14.500	.1	19.000	.0
1.250	.0	5.750	28.0	10.250	1.7	14.750	.1	19.250	.0
1.500	.0	6.000	22.3	10.500	1.5	15.000	.1	19.500	.0
1.750	.0	6.250	18.1	10.750	1.3	15.250	.1	19.750	.0
2.000	45.3	6.500	14.7	11.000	1.1	15.500	.1	20.000	.0
2.250	64.3	6.750	12.2	11.250	1.0	15.750	.1	20.250	.0
2.500	71.7	7.000	10.2	11.500	.8	16.000	.1	20.500	.0
2.750	66.4	7.250	8.8	11.750	.7	16.250	.1	20.750	.0
3.000	58.3	7.500	7.7	12.000	.6	16.500	.0	21.000	.0
3.250	49.5	7.750	6.7	12.250	.5	16.750	.0	21.250	.0
3.500	58.8	8.000	5.8	12.500	.5	17.000	.0	21.500	.0
3.750	45.5	8.250	5.1	12.750	.4	17.250	.0		
4.000	35.7	8.500	4.5	13.000	.3	17.500	.0		
4.250	65.9	8.750	3.9	13.250	.3	17.750	.0		

RUNOFF VOLUME = .06060 INCHES = 20.2884 ACRE-Feet
 PEAK DISCHARGE RATE = 71.71 CFS AT 2.500 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 = .389880HR  TP = .297051HR  K/TP RATIO = 1.312500  SHAPE CONSTANT, N = 2.733298
UNIT PEAK = 218.23  CFS  UNIT VOLUME = .9997  B = 259.30  P60 = 1.0600
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 = .05996 INCHES  = .7995 ACRE-FEET
PEAK DISCHARGE RATE = 13.08 CFS  AT 1.700 HOURS  BASIN AREA = .2500 SQ. MI.

*S
*****

*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 = .06058 INCHES  = 21.0878 ACRE-FEET
PEAK DISCHARGE RATE = 74.90 CFS  AT 2.300 HOURS  BASIN AREA = 6.5270 SQ. MI.

*S
*****

*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= 433  TABLE PTS= 20
DT= .050000  QMED= 37.45  CKMED= 4.7522
WIDTH MED= 37.96  NREACH= 5  DX= 360.00

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DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	OUT.WPD D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.267	.0	2.00	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	1.834	.041	.971	.304	-.276	5.1	.979	.053	-.032
1.34	49.4	207.9	.119	71.1	6.08	4.21	3.041	.083	.960	.515	-.475	97.6	.961	.417	-.378
2.01	103.9	607.1	.086	91.4	8.40	5.84	4.198	.137	.949	.625	-.574	383.5	.953	.580	-.532
2.68	172.1	1230.8	.070	111.8	10.04	7.15	5.021	.190	.939	.678	-.617	894.9	.941	.651	-.592
3.35	253.9	2108.3	.060	131.8	11.54	8.31	5.770	.241	.931	.715	-.646	1644.8	.933	.696	-.629
4.03	348.8	3267.3	.053	151.1	12.93	9.37	6.464	.290	.925	.742	-.667	2662.3	.927	.728	-.656
4.70	456.7	4724.9	.048	170.5	14.17	10.35	7.087	.340	.919	.763	-.682	3969.9	.921	.752	-.673
5.37	577.5	6504.6	.044	189.8	15.35	11.26	7.674	.388	.914	.779	-.694	5587.8	.916	.771	-.687
6.04	711.3	8629.3	.041	209.1	16.47	12.13	8.234	.435	.910	.793	-.703	7539.2	.911	.786	-.697
6.71	858.1	11121.4	.039	228.5	17.15	12.96	8.577	.493	.902	.801	-.704	9846.8	.907	.799	-.706
7.38	1018.8	13870.6	.037	251.9	17.42	13.61	8.709	.549	.893	.805	-.698	12469.6	.895	.801	-.696
8.05	1196.4	17001.3	.035	277.4	17.79	14.21	8.895	.598	.886	.809	-.695	15408.9	.889	.807	-.697
8.72	1392.2	20479.5	.034	306.6	18.21	14.71	9.106	.637	.881	.814	-.695	18713.8	.880	.809	-.690
9.39	1607.7	24488.7	.033	336.0	19.03	15.23	9.515	.665	.881	.821	-.702	22454.9	.881	.817	-.698
10.06	1843.1	29054.5	.032	365.9	19.57	15.76	9.785	.705	.877	.826	-.703	26740.1	.880	.824	-.704
10.73	2099.6	34081.4	.031	398.9	20.05	16.23	10.026	.740	.874	.830	-.704	31536.5	.873	.826	-.699
11.41	2378.3	39784.0	.030	432.0	20.91	16.73	10.454	.765	.875	.836	-.711	36898.3	.874	.833	-.707
12.08	2679.2	46195.9	.029	465.0	22.58	17.24	11.289	.764	.883	.847	-.730	42952.7	.874	.839	-.713
12.75	3001.2	53908.1	.028	489.9	24.08	17.96	12.041	.793	.885	.855	-.741	50002.1	.890	.855	-.745

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 1 TIMES. AVERAGE NUMBER ITERATIONS = 1.2538

DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME(HR)	WIDTH (FT)	ck (FPS)	VEL (FPS)	C	OUT.WPD D	C1	C2	C3	Q-M (CFS)	C1-M	C2-M	C3-M
.00	.0	.0	.267	.0	2.00	1.15	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.67	12.4	32.1	.193	36.9	2.14	2.59	1.070	.070	.934	.066	.000	5.1	.977	.023	.000
1.34	49.4	207.9	.119	71.1	2.42	4.21	1.210	.210	.827	.173	.000	97.6	.879	.121	.000
2.01	103.9	607.1	.086	91.4	2.82	5.84	1.409	.409	.710	.290	.000	383.5	.762	.238	.000
2.68	172.1	1230.8	.070	111.8	3.20	7.15	1.598	.598	.626	.374	.000	894.9	.663	.337	.000
3.35	253.9	2108.3	.060	131.8	3.56	8.31	1.780	.780	.562	.438	.000	1644.8	.591	.409	.000
4.03	348.8	3267.3	.053	151.1	3.92	9.37	1.958	.958	.511	.489	.000	2662.3	.534	.466	.000
4.70	456.7	4724.9	.048	170.5	4.26	10.35	2.130	1.130	.470	.530	.000	3969.9	.489	.511	.000
5.37	577.5	6504.6	.044	189.8	4.59	11.26	2.296	1.296	.436	.564	.000	5587.8	.451	.549	.000
6.04	711.3	8629.3	.041	209.1	4.91	12.13	2.457	1.457	.407	.593	.000	7539.2	.420	.580	.000
6.71	858.1	11121.4	.039	228.5	5.23	12.96	2.616	1.616	.382	.618	.000	9846.8	.394	.606	.000
7.38	1018.8	13870.6	.037	251.9	5.49	13.61	2.743	1.743	.365	.635	.000	12469.6	.373	.627	.000
8.05	1196.4	17001.3	.035	277.4	5.72	14.21	2.860	1.860	.350	.650	.000	15408.9	.357	.643	.000
8.72	1392.2	20479.5	.034	306.6	5.92	14.71	2.960	1.960	.338	.662	.000	18713.8	.344	.656	.000
9.39	1607.7	24488.7	.033	336.0	6.13	15.23	3.064	2.064	.326	.674	.000	22454.9	.332	.668	.000
10.06	1843.1	29054.5	.032	365.9	6.35	15.76	3.173	2.173	.315	.685	.000	26740.1	.321	.679	.000
10.73	2099.6	34081.4	.031	398.9	6.54	16.23	3.269	2.269	.306	.694	.000	31536.5	.310	.690	.000
11.41	2378.3	39784.0	.030	432.0	6.74	16.73	3.371	2.371	.297	.703	.000	36898.3	.301	.699	.000
12.08	2679.2	46195.9	.029	465.0	6.96	17.24	3.479	2.479	.287	.713	.000	42952.7	.292	.708	.000
12.75	3001.2	53908.1	.028	489.9	7.26	17.96	3.631	2.631	.275	.725	.000	50002.1	.281	.719	.000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 13 TIMES. AVERAGE NUMBER ITERATIONS = 1.2112

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 39.50

RUNOFF VOLUME = .06054 INCHES = 21.0732 ACRE-Feet
 PEAK DISCHARGE RATE = 74.29 CFS AT 2.550 HOURS BASIN AREA = 6.5270 SQ. MI.

*

*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 = .781683HR TP = .601295HR K/TP RATIO = 1.300000 SHAPE CONSTANT, N = 2.756220
 UNIT PEAK = 317.67 CFS UNIT VOLUME = .9999 B = 261.30 P60 = 1.0600
 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 = .05996 INCHES = 2.3376 ACRE-Feet
 PEAK DISCHARGE RATE = 19.05 CFS AT 2.000 HOURS BASIN AREA = .7310 SQ. MI.

*S

 *S*** SUB-BASIN 35 ***

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*
OUT.WPD
*
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

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 = .787153HR  TP = .605502HR  K/TP RATIO = 1.300000  SHAPE CONSTANT, N = 2.756220
UNIT PEAK = 265.84  CFS  UNIT VOLUME = .9999  B = 261.30  P60 = 1.0600
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 = .05996 INCHES = 1.9699 ACRE-FEET
PEAK DISCHARGE RATE = 15.94 CFS AT 2.000 HOURS  BASIN AREA = .6160 SQ. MI.

*S
*****
*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 = .05996 INCHES = 4.3073 ACRE-FEET
PEAK DISCHARGE RATE = 34.98 CFS AT 2.000 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= 433  TABLE PTS= 20
DT= .050000  QMED= 17.49  CKMED= 2.9803
WIDTH MED= 12.14  NREACH= 8  DX= 252.50

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)  C  D  C1  C2  C3  (CFS)  C1-M  C2-M  C3-M
.00  .0  .0  .251  .0  1.40  1.48  1.000  .000  1.000  .000  .000  .0  1.000  .000  .000

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OUT.WPD

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 6	OCURRED 1	TIMES. 1	AVERAGE NUMBER ITERATIONS = 1.1136	C1-M	C2-M	C3-M
DEPTH (FT)	AREA (SQ FT)	Q (CFS)	TRAVEL TIME (HR)	WIDTH (FT)	CK (FPS)	VEL (FPS)
.00	.0	.0	.251	.0	1.40	1.48
.67	34.0	101.4	.188	70.4	1.75	2.98
1.34	92.6	414.9	.125	103.9	2.18	4.48
2.02	173.7	982.3	.099	137.4	2.58	5.66
2.69	277.3	1852.0	.084	170.9	2.96	6.68
3.36	403.3	3070.0	.074	204.4	3.33	7.61
4.03	551.8	4689.7	.066	237.0	3.69	8.50
4.70	721.5	6752.3	.060	268.1	4.06	9.36
5.38	912.1	9274.8	.055	299.3	4.41	10.17
6.05	1123.6	12291.5	.051	330.4	4.75	10.94
6.72	1356.0	15835.3	.048	361.6	5.08	11.68
7.39	1609.4	19938.4	.045	392.7	5.41	12.39
8.06	1883.7	24632.1	.043	423.9	5.73	13.08
8.73	2179.0	29946.9	.041	455.0	6.05	13.74
9.41	2490.4	36738.5	.038	467.6	6.54	14.75
10.08	2814.3	43063.2	.037	500.2	6.81	15.30
10.75	3162.7	49894.7	.036	537.0	7.04	15.78
11.42	3535.8	57491.1	.035	573.7	7.28	16.26
12.09	3934.3	65250.7	.034	619.7	7.45	16.59
12.77	4377.5	71915.9	.034	699.5	7.37	16.43

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 2 OCURRED 412 TIMES. AVERAGE NUMBER ITERATIONS = 1.0900

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	4.500	3.3	9.000	.5	13.500	.1	18.000	.0
.250	.0	4.750	2.9	9.250	.4	13.750	.1	18.250	.0
.500	.0	5.000	2.6	9.500	.4	14.000	.1	18.500	.0
.750	.0	5.250	2.4	9.750	.4	14.250	.1	18.750	.0
1.000	.0	5.500	2.1	10.000	.3	14.500	.0	19.000	.0
1.250	.0	5.750	1.9	10.250	.3	14.750	.0	19.250	.0
1.500	.0	6.000	1.7	10.500	.3	15.000	.0	19.500	.0
1.750	.0	6.250	1.6	10.750	.2	15.250	.0	19.750	.0
2.000	19.7	6.500	1.4	11.000	.2	15.500	.0	20.000	.0
2.250	33.9	6.750	1.3	11.250	.2	15.750	.0	20.250	.0
2.500	33.1	7.000	1.1	11.500	.2	16.000	.0	20.500	.0
2.750	26.7	7.250	1.0	11.750	.2	16.250	.0	20.750	.0
3.000	19.8	7.500	.9	12.000	.1	16.500	.0	21.000	.0
3.250	14.6	7.750	.8	12.250	.1	16.750	.0	21.250	.0
3.500	10.7	8.000	.7	12.500	.1	17.000	.0	21.500	.0
3.750	7.8	8.250	.7	12.750	.1	17.250	.0	21.750	.0
4.000	5.7	8.500	.6	13.000	.1	17.500	.0	22.000	.0
4.250	4.2	8.750	.5	13.250	.1	17.750	.0		

RUNOFF VOLUME = .05980 INCHES = 4.2958 ACRE-Feet
 PEAK DISCHARGE RATE = 34.77 CFS AT 2.350 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

OUT.WPD
K = .274074HR TP = .391163HR K/TP RATIO = .700663 SHAPE CONSTANT, N = 5.214875
UNIT PEAK = 8.9352 CFS UNIT VOLUME = .9986 B = 429.38 P60 = 1.0600
AREA = .008140 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .508512HR TP = .391163HR K/TP RATIO = 1.300000 SHAPE CONSTANT, N = 2.756220
UNIT PEAK = 266.45 CFS UNIT VOLUME = .9998 B = 261.30 P60 = 1.0600
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 = .08952 INCHES = 1.9432 ACRE-FEET
PEAK DISCHARGE RATE = 22.67 CFS AT 1.800 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 = .06669 INCHES = 6.2388 ACRE-FEET
PEAK DISCHARGE RATE = 45.64 CFS AT 2.250 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= 536 TABLE PTS= 20
DT= .050000 QMED= 22.82 CKMED= 2.2975
WIDTH MED= 64.93 NREACH= 9 DX= 209.33

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	.963	.0	1.16	.34	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.11	1.0	.7	.703	18.2	1.15	.74	.989	.011	.989	.000	.011	.1	.998	.000	.002
.22	3.9	4.7	.443	36.3	1.64	1.18	1.414	.025	.980	.180	-.160	2.2	.981	.060	-.041
.33	8.9	13.7	.338	54.5	2.11	1.55	1.815	.038	.973	.299	-.272	8.6	.975	.231	-.205
.43	15.8	29.6	.279	72.7	2.53	1.88	2.180	.051	.968	.381	-.349	20.9	.969	.335	-.305
.54	24.6	53.6	.240	90.8	2.93	2.18	2.519	.064	.964	.442	-.406	40.8	.965	.409	-.374
.65	35.4	87.2	.213	109.0	3.30	2.46	2.837	.077	.961	.489	-.450	69.5	.962	.464	-.425
.76	48.2	131.5	.192	127.2	3.65	2.73	3.140	.090	.957	.527	-.485	108.4	.958	.507	-.465
.87	63.0	187.7	.176	145.3	3.57	2.98	3.071	.115	.945	.522	-.467	158.6	.955	.542	-.497
.98	80.6	242.4	.174	183.1	3.23	3.01	2.776	.131	.933	.488	-.421	214.3	.928	.469	-.397
1.08	102.8	315.8	.170	226.2	3.50	3.07	3.006	.127	.938	.516	-.455	278.2	.934	.496	-.429
1.19	129.6	414.0	.164	269.2	3.82	3.19	3.287	.128	.942	.547	-.489	363.7	.940	.531	-.471
1.30	161.1	539.0	.156	312.3	4.12	3.35	3.546	.133	.943	.573	-.516	475.0	.942	.559	-.501
1.41	197.3	693.2	.149	355.4	4.41	3.51	3.794	.141	.943	.595	-.538	614.4	.943	.583	-.525
1.52	238.2	878.9	.142	398.4	4.65	3.69	3.995	.151	.941	.611	-.553	784.1	.942	.604	-.546
1.63	283.6	1093.9	.136	444.0	4.60	3.86	3.957	.171	.934	.610	-.543	984.4	.939	.616	-.555
1.73	335.3	1319.7	.133	509.0	4.99	3.94	4.291	.165	.939	.633	-.573	1205.1	.925	.595	-.520

OUT.WPD
1.84 392.5 1649.7 .125 540.0 6.20 4.20 5.332 .157 .952 .692 -.643 1481.4 .950 .675 -.624
1.95 451.8 2048.1 .115 555.1 6.94 4.53 5.968 .169 .953 .720 -.672 1844.9 .954 .711 -.665
2.06 512.8 2484.5 .108 570.3 7.30 4.84 6.281 .190 .949 .732 -.681 2262.4 .951 .727 -.678
MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 2 TIMES. AVERAGE NUMBER ITERATIONS = 1.1300
Equations solved using the Ponce correction to C2
PRINT HYD ID=4 CODE=1

OUTFLOW HYDROGRAPH REACH 39.40

RUNOFF VOLUME = .06674 INCHES = 6.2432 ACRE-FEET
PEAK DISCHARGE RATE = 45.64 CFS AT 2.400 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 = .06185 INCHES = 27.3163 ACRE-FEET
PEAK DISCHARGE RATE = 118.26 CFS AT 2.550 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= 545
DT= .050000
WIDTH MED= 29.03
TABLE PTS= 20
QMED= 59.13
CKMED= 4.6815
NREACH= 6 DX= 430.50

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	.374	.0	2.39	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	1.531	.037	.971	.221	-.192	3.0	.995	.035	-.030
1.40	29.2	121.5	.172	41.8	5.80	4.17	2.424	.075	.957	.428	-.386	57.0	.960	.324	-.283
2.09	65.6	358.2	.131	62.6	7.44	5.46	3.111	.114	.946	.527	-.472	223.6	.948	.472	-.419
2.79	116.6	771.4	.108	83.5	8.94	6.62	3.737	.154	.937	.591	-.528	546.3	.939	.556	-.495
3.49	182.2	1398.7	.093	104.4	10.33	7.68	4.318	.193	.930	.637	-.567	1064.6	.931	.612	-.544
4.19	262.4	2274.4	.083	125.3	11.63	8.67	4.864	.232	.924	.672	-.596	1814.4	.925	.653	-.579
4.89	357.1	3430.8	.075	146.1	10.88	9.61	4.549	.321	.891	.659	-.550	2828.9	.920	.685	-.605
5.59	474.2	4452.4	.076	200.9	9.20	9.39	3.849	.359	.862	.616	-.478	3923.6	.836	.592	-.427
6.28	639.7	6020.0	.076	270.2	11.41	9.41	4.770	.291	.904	.670	-.574	5207.4	.869	.623	-.492
6.98	838.7	8821.6	.068	299.8	14.80	10.52	6.190	.296	.921	.733	-.654	7369.5	.923	.720	-.644
7.68	1058.4	12208.8	.062	329.4	16.09	11.54	6.726	.343	.915	.752	-.667	10463.7	.917	.742	-.660
8.38	1298.8	16214.0	.057	359.0	17.44	12.48	7.290	.386	.911	.769	-.681	14159.4	.912	.760	-.672
9.08	1559.7	20953.3	.053	386.3	19.78	13.43	8.271	.408	.916	.793	-.709	18528.5	.910	.778	-.688
9.78	1833.0	26943.0	.049	396.7	22.81	14.70	9.538	.443	.919	.818	-.737	23876.5	.922	.811	-.733
10.47	2113.6	33577.7	.045	407.0	24.48	15.89	10.235	.502	.914	.830	-.744	30191.5	.917	.824	-.741
11.17	2401.5	40847.3	.042	417.4	26.03	17.01	10.885	.560	.910	.839	-.749	37146.1	.912	.835	-.747
11.87	2696.6	48745.1	.040	427.8	25.20	18.08	10.536	.673	.890	.836	-.726	44731.8	.908	.843	-.751
12.57	3002.9	55782.7	.039	457.4	21.92	18.58	9.164	.829	.849	.818	-.667	52228.7	.863	.823	-.686
13.27	3337.1	62694.9	.038	499.8	20.17	18.79	8.432	.926	.821	.807	-.628	59212.1	.831	.810	-.641

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 60 TIMES. AVERAGE NUMBER ITERATIONS = 1.2689

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	.374	.0	2.39	1.21	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000

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                                OUT.WPD
.70   7.3   19.1   .273  20.9   2.52  2.63  1.054 .054 .949 .051 .000 3.0 .983 .017 .000
1.40  29.2  121.5 .172  41.8   2.77  4.17  1.157 .157 .865 .135 .000 57.0 .907 .093 .000
2.09  65.6  358.2 .131  62.6   3.06  5.46  1.279 .279 .782 .218 .000 223.6 .820 .180 .000
2.79  116.6  771.4 .108  83.5   3.37  6.62  1.408 .408 .710 .290 .000 546.3 .743 .257 .000
3.49  182.2  1398.7 .093  104.4  3.69  7.68  1.541 .541 .649 .351 .000 1064.6 .677 .323 .000
4.19  262.4  2274.4 .083  125.3  4.01  8.67  1.675 .675 .597 .403 .000 1814.4 .621 .379 .000
4.89  357.1  3430.8 .075  146.1  4.32  9.61  1.808 .808 .553 .447 .000 2828.9 .573 .427 .000
5.59  474.2  4452.4 .076  200.9  4.25  9.39  1.777 .777 .563 .437 .000 3923.6 .559 .441 .000
6.28  639.7  6020.0 .076  270.2  4.26  9.41  1.779 .779 .562 .438 .000 5207.4 .563 .437 .000
6.98  838.7  8821.6 .068  299.8  4.65  10.52  1.943 .943 .515 .485 .000 7369.5 .537 .463 .000
7.68  1058.4  12208.8 .062  329.4  5.02  11.54  2.099 1.099 .476 .524 .000 10463.7 .494 .506 .000
8.38  1298.8  16214.0 .057  359.0  5.38  12.48  2.250 1.250 .445 .555 .000 14159.4 .459 .541 .000
9.08  1559.7  20953.3 .053  386.3  5.75  13.43  2.405 1.405 .416 .584 .000 18528.5 .429 .571 .000
9.78  1833.0  26943.0 .049  396.7  6.26  14.70  2.616 1.616 .382 .618 .000 23876.5 .398 .602 .000
10.47 2113.6 33577.7 .045 407.0 6.75 15.89 2.821 1.821 .355 .645 .000 30191.5 .368 .632 .000
11.17 2401.5 40847.3 .042 417.4 7.22 17.01 3.018 2.018 .331 .669 .000 37146.1 .342 .658 .000
11.87 2696.6 48745.1 .040 427.8 7.68 18.08 3.210 2.210 .312 .688 .000 44731.8 .321 .679 .000
12.57 3002.9 55782.7 .039 457.4 7.89 18.58 3.301 2.301 .303 .697 .000 52228.7 .307 .693 .000
13.27 3337.1 62694.9 .038 499.8 7.99 18.79 3.339 2.339 .299 .701 .000 59212.1 .301 .699 .000
MAXIMUM NO. ITERATIONS FOR SOLUTION (KMAX) = 3 OCCURRED 14 TIMES. AVERAGE NUMBER ITERATIONS = 1.2123
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

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OUTFLOW HYDROGRAPH REACH 39.60

RUNOFF VOLUME = .06180 INCHES = 27.2937 ACRE-Feet
 PEAK DISCHARGE RATE = 116.79 CFS AT 2.800 HOURS BASIN AREA = 8.2810 SQ. MI.

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*S** SUB-BASIN 39 **

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*
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 CENTROID LENGTH (FT)= 3941.5

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

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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

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K = .391243HR TP = .558389HR K/TP RATIO = .700663 SHAPE CONSTANT, N = 5.214875
 UNIT PEAK = 2.6221 CFS UNIT VOLUME = .9950 B = 429.38 P60 = 1.0600
 AREA = .003410 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .725906HR TP = .558389HR K/TP RATIO = 1.300000 SHAPE CONSTANT, N = 2.756220
 UNIT PEAK = 157.98 CFS UNIT VOLUME = .9999 B = 261.30 P60 = 1.0600
 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 = .07474 INCHES = 1.3593 ACRE-Feet
 PEAK DISCHARGE RATE = 11.71 CFS AT 1.950 HOURS BASIN AREA = .3410 SQ. MI.

*S

*S ADD 39.6 TO 39 TO GET 39.8

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

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OUTFLOW HYDROGRAPH REACH 39.80

RUNOFF VOLUME = .06231 INCHES = 28.6529 ACRE-Feet
 PEAK DISCHARGE RATE = 121.22 CFS AT 2.800 HOURS BASIN AREA = 8.6220 SQ. MI.

*
 *S

*S*** SUB-BASIN 40A ****

OUT.WPD

*
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 = .368305HR TP = .285837HR K/TP RATIO = 1.288514 SHAPE CONSTANT, N = 2.777773
UNIT PEAK = 98.516 CFS UNIT VOLUME = .9997 B = 263.17 P60 = 1.0600
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 = .08408 INCHES = .4798 ACRE-FEET
PEAK DISCHARGE RATE = 8.20 CFS AT 1.700 HOURS BASIN AREA = .1070 SQ. MI.

*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 = .06258 INCHES = 29.1326 ACRE-FEET
PEAK DISCHARGE RATE = 121.91 CFS AT 2.800 HOURS BASIN AREA = 8.7290 SQ. MI.

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*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 SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH 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= 551
DT= .050000
WIDTH MED= 51.54

TABLE PTS= 20
QMED= 60.95
NREACH= 8

OUT.WPD
3.4832
298.75

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	.806	.0	1.66	.52	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.28	2.2	2.5	.588	15.8	1.60	1.13	.966	.034	.966	.000	.034	.4	.995	.000	.005
.56	8.9	15.9	.370	31.6	2.49	1.79	1.502	.070	.946	.222	-.168	7.5	.950	.104	-.054
.84	20.0	46.9	.283	47.4	3.20	2.35	1.928	.107	.930	.341	-.271	29.3	.933	.274	-.207
1.12	35.5	101.1	.233	63.3	3.84	2.84	2.316	.143	.917	.422	-.339	71.6	.920	.378	-.298
1.40	55.5	183.2	.201	79.1	4.44	3.30	2.676	.180	.907	.481	-.388	139.5	.909	.450	-.359
1.68	79.9	297.9	.178	94.9	5.00	3.73	3.014	.217	.898	.527	-.425	237.7	.900	.503	-.403
1.97	108.8	449.4	.161	110.7	5.54	4.13	3.335	.253	.890	.564	-.454	370.6	.892	.545	-.437
2.25	142.1	641.6	.147	126.5	6.04	4.52	3.642	.290	.883	.594	-.477	542.2	.885	.579	-.463
2.53	179.8	878.4	.136	142.3	6.53	4.88	3.937	.326	.876	.620	-.496	756.5	.878	.607	-.485
2.81	222.0	1163.4	.127	158.1	6.81	5.24	4.100	.373	.864	.635	-.498	1017.2	.872	.630	-.503
3.09	269.2	1480.2	.121	178.4	6.92	5.50	4.171	.414	.852	.642	-.494	1318.4	.852	.632	-.484
3.37	322.2	1856.5	.115	199.1	7.32	5.76	4.412	.440	.850	.658	-.508	1664.7	.849	.649	-.499
3.65	381.0	2298.4	.110	219.7	6.84	6.03	4.120	.528	.813	.646	-.459	2073.4	.848	.666	-.513
3.93	447.0	2691.6	.110	258.6	5.75	6.02	3.465	.625	.755	.607	-.362	2492.5	.760	.610	-.371
4.21	527.0	3130.7	.112	311.1	5.87	5.94	3.535	.592	.769	.610	-.379	2908.3	.739	.595	-.335
4.49	621.7	3716.5	.111	363.6	6.47	5.98	3.896	.545	.800	.632	-.432	3419.5	.786	.622	-.407
4.77	731.2	4451.1	.109	416.1	6.95	6.09	4.189	.531	.814	.650	-.465	4078.4	.807	.641	-.448
5.05	855.3	5341.0	.106	468.6	8.20	6.24	4.939	.480	.850	.688	-.539	4889.5	.818	.658	-.475
5.33	990.7	6629.1	.099	489.2	9.74	6.69	5.871	.480	.869	.728	-.597	5972.3	.876	.723	-.599

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 79 TIMES. AVERAGE NUMBER ITERATIONS = 1.2757

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	.806	.0	1.66	.52	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.28	2.2	2.5	.588	15.8	1.60	1.13	.966	.034	.966	.000	.034	.4	.995	.000	.005
.56	8.9	15.9	.370	31.6	1.82	1.79	1.095	.095	.913	.087	.000	7.5	.942	.058	.000
.84	20.0	46.9	.283	47.4	1.95	2.35	1.175	.175	.851	.149	.000	29.3	.881	.119	.000
1.12	35.5	101.1	.233	63.3	2.10	2.84	1.263	.263	.792	.208	.000	71.6	.819	.181	.000
1.40	55.5	183.2	.201	79.1	2.25	3.30	1.355	.355	.738	.262	.000	139.5	.763	.237	.000
1.68	79.9	297.9	.178	94.9	2.41	3.73	1.450	.450	.690	.310	.000	237.7	.712	.288	.000
1.97	108.8	449.4	.161	110.7	2.57	4.13	1.546	.546	.647	.353	.000	370.6	.667	.333	.000
2.25	142.1	641.6	.147	126.5	2.73	4.52	1.642	.642	.609	.391	.000	542.2	.627	.373	.000
2.53	179.8	878.4	.136	142.3	2.88	4.88	1.738	.738	.575	.425	.000	756.5	.591	.409	.000
2.81	222.0	1163.4	.127	158.1	3.04	5.24	1.834	.834	.545	.455	.000	1017.2	.559	.441	.000
3.09	269.2	1480.2	.121	178.4	3.16	5.50	1.905	.905	.525	.475	.000	1318.4	.535	.465	.000
3.37	322.2	1856.5	.115	199.1	3.29	5.76	1.980	.980	.505	.495	.000	1664.7	.515	.485	.000
3.65	381.0	2298.4	.110	219.7	3.41	6.03	2.057	1.057	.486	.514	.000	2073.4	.495	.505	.000
3.93	447.0	2691.6	.110	258.6	3.41	6.02	2.054	1.054	.487	.513	.000	2492.5	.487	.513	.000
4.21	527.0	3130.7	.112	311.1	3.37	5.94	2.030	1.030	.492	.508	.000	2908.3	.490	.510	.000
4.49	621.7	3716.5	.111	363.6	3.39	5.98	2.041	1.041	.490	.510	.000	3419.5	.491	.509	.000
4.77	731.2	4451.1	.109	416.1	3.44	6.09	2.073	1.073	.482	.518	.000	4078.4	.486	.514	.000
5.05	855.3	5341.0	.106	468.6	3.52	6.24	2.119	1.119	.472	.528	.000	4889.5	.477	.523	.000
5.33	990.7	6629.1	.099	489.2	3.74	6.69	2.251	1.251	.444	.556	.000	5972.3	.457	.543	.000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 12 TIMES. AVERAGE NUMBER ITERATIONS = 1.2391

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 40.60

RUNOFF VOLUME = .06251 INCHES = 29.1015 ACRE-Feet
PEAK DISCHARGE RATE = 120.47 CFS AT 3.150 HOURS BASIN AREA = 8.7290 SQ. MI.

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*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 = .306017HR TP = .240717HR K/TP RATIO = 1.271275 SHAPE CONSTANT, N = 2.811026
UNIT PEAK = 393.44 CFS UNIT VOLUME = .9997 B = 266.03 P60 = 1.0600
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

OUT.WPD
RUNOFF VOLUME = .08408 INCHES = 1.5964 ACRE-FEET
PEAK DISCHARGE RATE = 32.69 CFS AT 1.650 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 = .06336 INCHES = 30.6979 ACRE-FEET
PEAK DISCHARGE RATE = 121.91 CFS AT 3.150 HOURS BASIN AREA = 9.0850 SQ. MI.

*
*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
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= 559 TABLE PTS= 20
DT= .050000 QMED= 60.96 CKMED= 6.6384
WIDTH MED= 11.18 NREACH= 9 DX= 549.67

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	.299	.0	3.05	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	3.144	.032	.985	.521	-.506	31.0	.988	.297	-.285
3.29	102.5	1221.0	.115	51.6	17.58	11.92	5.757	.077	.978	.707	-.685	602.5	.980	.647	-.628
4.93	199.0	3124.5	.088	66.0	22.23	15.70	7.281	.121	.971	.762	-.733	2070.4	.973	.734	-.707
6.57	319.3	6011.9	.073	80.4	26.13	18.83	8.556	.163	.967	.794	-.761	4464.2	.968	.777	-.745
8.22	463.3	10004.5	.064	94.9	29.62	21.59	9.700	.202	.963	.817	-.779	7901.1	.964	.805	-.768
9.86	631.1	15222.1	.057	109.3	32.85	24.12	10.757	.241	.960	.833	-.793	12502.4	.961	.824	-.785
11.50	822.5	21781.3	.052	123.7	35.81	26.48	11.727	.279	.957	.846	-.803	18386.8	.958	.840	-.797
13.14	1037.7	29757.3	.048	138.5	38.48	28.68	12.600	.318	.954	.856	-.811	25651.2	.955	.851	-.806
14.79	1277.7	39263.7	.045	153.7	41.06	30.73	13.447	.354	.952	.865	-.817	34388.4	.953	.860	-.813
16.43	1542.6	50471.7	.042	168.8	43.70	32.72	14.312	.389	.950	.873	-.823	44740.3	.951	.869	-.819
18.07	1832.5	63491.7	.040	184.0	46.27	34.65	15.151	.424	.949	.879	-.828	56849.0	.949	.876	-.825
19.72	2147.3	78430.7	.038	199.2	48.76	36.52	15.969	.459	.947	.885	-.833	70823.5	.948	.882	-.830
21.36	2487.1	95392.9	.036	214.4	51.20	38.35	16.766	.494	.946	.890	-.836	86769.2	.946	.888	-.834
23.00	2851.9	114480.0	.034	229.6	50.02	40.14	16.381	.567	.937	.889	-.825	104789.0	.945	.893	-.838
24.65	3245.8	132907.5	.034	253.9	45.54	40.95	14.912	.654	.921	.879	-.800	123589.8	.925	.881	-.806
26.29	3688.6	152355.3	.033	285.2	43.88	41.30	14.369	.692	.914	.875	-.789	142533.5	.915	.875	-.790
27.93	4183.3	173934.7	.033	320.7	43.32	41.58	14.187	.712	.910	.874	-.785	163042.6	.911	.874	-.785
29.58	4749.4	197925.0	.033	363.5	45.68	41.67	14.959	.678	.919	.880	-.798	185816.9	.908	.872	-.780
31.22	5376.6	228588.4	.032	400.0	47.80	42.52	15.654	.680	.922	.885	-.806	213090.9	.926	.887	-.813

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 13 TIMES. AVERAGE NUMBER ITERATIONS = 1.3148

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	.299	.0	3.05	2.56	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
1.64	29.7	196.9	.207	36.1	3.34	6.64	1.093	.093	.915	.085	.000	31.0	.970	.030	.000
3.29	102.5	1221.0	.115	51.6	4.07	11.92	1.331	.331	.751	.249	.000	602.5	.826	.174	.000
4.93	199.0	3124.5	.088	66.0	4.78	15.70	1.564	.564	.640	.000	.000	2070.4	.689	.311	.000
6.57	319.3	6011.9	.073	80.4	5.44	18.83	1.781	.781	.561	.439	.000	4464.2	.596	.404	.000
8.22	463.3	10004.5	.064	94.9	6.07	21.59	1.988	.988	.503	.497	.000	7901.1	.529	.471	.000
9.86	631.1	15222.1	.057	109.3	6.68	24.12	2.186	1.186	.457	.543	.000	12502.4	.478	.522	.000
11.50	822.5	21781.3	.052	123.7	7.26	26.48	2.378	1.378	.421	.579	.000	18386.8	.478	.562	.000
13.14	1037.7	29757.3	.048	138.5	7.82	28.68	2.562	1.562	.390	.610	.000	25651.2	.404	.596	.000
14.79	1277.7	39263.7	.045	153.7	8.36	30.73	2.738	1.738	.365	.635	.000	34388.4	.377	.623	.000
16.43	1542.6	50471.7	.042	168.8	8.89	32.72	2.912	1.912	.343	.657	.000	44740.3	.354	.646	.000
18.07	1832.5	63491.7	.040	184.0	9.42	34.65	3.083	2.083	.324	.676	.000	56849.0	.333	.667	.000
19.72	2147.3	78430.7	.038	199.2	9.93	36.52	3.253	2.253	.307	.693	.000	70823.5	.315	.685	.000

OUT.WPD

21.36	2487.1	95392.9	.036	214.4	10.45	38.35	3.421	2.421	.292	.708	.000	86769.2	.299	.701	.000
23.00	2851.9	114480.0	.034	229.6	10.96	40.14	3.588	2.588	.279	.721	.000	104789.0	.285	.715	.000
24.65	3245.8	132907.5	.034	253.9	11.18	40.95	3.662	2.662	.273	.727	.000	123589.8	.276	.724	.000
26.29	3688.6	152355.3	.033	285.2	11.28	41.30	3.693	2.693	.271	.729	.000	142533.5	.272	.728	.000
27.93	4183.3	173934.7	.033	320.7	11.35	41.58	3.717	2.717	.269	.731	.000	163042.6	.270	.730	.000
29.58	4749.4	197925.0	.033	363.5	11.37	41.67	3.723	2.723	.269	.731	.000	185816.9	.269	.731	.000
31.22	5376.6	228588.4	.032	400.0	11.60	42.52	3.800	2.800	.263	.737	.000	213090.9	.266	.734	.000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 2 OCCURRED 1156 TIMES. AVERAGE NUMBER ITERATIONS = 1.2234
 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 = .06332 INCHES = 30.6782 ACRE-FEET
 PEAK DISCHARGE RATE = 121.46 CFS AT 3.550 HOURS BASIN AREA = 9.0850 SQ. MI.

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*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 SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH 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
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= 568 TABLE PTS= 20
 DT= .050000 QMED= 60.73 CKMED= 6.1255
 WIDTH MED= 8.13 NREACH= 3 DX= 567.33

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	.106	.0	3.15	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	2.710	.091	.952	.474	-.426	18.6	.965	.255	-.219
4.88	77.3	751.7	.049	31.7	13.52	9.72	4.291	.182	.934	.635	-.568	352.8	.935	.556	-.492
7.32	173.9	2216.2	.037	47.5	17.36	12.74	5.507	.278	.918	.705	-.623	1383.1	.919	.666	-.586
9.76	309.2	4772.8	.031	63.4	20.96	15.44	6.650	.373	.907	.751	-.658	3379.7	.908	.726	-.634
12.20	483.0	8694.6	.026	78.5	25.22	18.00	8.003	.455	.904	.789	-.692	6605.6	.900	.767	-.668
14.64	684.5	14462.3	.022	86.6	30.66	21.13	9.727	.565	.900	.823	-.723	11436.3	.905	.811	-.716
17.08	905.5	21604.9	.020	94.6	34.07	23.86	10.810	.695	.889	.840	-.729	17898.3	.893	.832	-.725
19.52	1146.1	30157.9	.018	102.6	37.12	26.31	11.778	.821	.879	.853	-.732	25749.9	.883	.847	-.730
21.96	1406.3	40167.8	.017	110.7	39.92	28.56	12.664	.943	.871	.863	-.734	35033.4	.874	.858	-.732
24.39	1686.1	51687.3	.015	118.7	42.52	30.66	13.491	1.062	.863	.871	-.735	45799.1	.866	.867	-.734
26.83	1985.5	64772.4	.014	126.7	42.96	32.62	13.632	1.233	.845	.874	-.718	58101.6	.859	.875	-.734
29.27	2307.7	78117.6	.014	138.9	41.40	33.85	13.136	1.408	.819	.871	-.690	71343.9	.824	.870	-.695
31.71	2664.2	92780.3	.014	153.3	40.46	34.82	12.837	1.551	.798	.870	-.668	85348.8	.810	.871	-.681
34.15	3061.0	108294.3	.013	172.6	40.09	35.38	12.719	1.623	.788	.870	-.658	100443.3	.781	.867	-.648
36.59	3506.3	126514.4	.013	192.5	42.09	36.08	13.355	1.619	.797	.875	-.672	117293.3	.791	.872	-.663
39.03	4000.1	147812.7	.013	212.4	44.23	36.95	14.034	1.631	.804	.880	-.684	137033.9	.800	.877	-.677
41.47	4542.5	172341.4	.012	232.3	34.09	37.94	10.816	2.256	.679	.858	-.537	159930.0	.806	.882	-.688
43.91	5171.5	186034.5	.013	290.6	15.63	35.97	4.959	4.246	.168	.804	.028	179102.8	.401	.820	-.220
46.35	5994.2	194576.6	.015	400.0	9.87	32.46	3.132	5.110	-.106	.784	.322	190096.5	.038	.794	-.168

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 2 TIMES. AVERAGE NUMBER ITERATIONS = 1.3239
 Equations solved using the Ponce correction to C2
 PRINT HYD ID=6 CODE=1

HYDROGRAPH FROM AREA 41A.6

RUNOFF VOLUME = .06332 INCHES = 30.6785 ACRE-FEET
 PEAK DISCHARGE RATE = 121.42 CFS AT 3.600 HOURS BASIN AREA = 9.0850 SQ. MI.

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*S*** SUB-BASIN 41A ****

OUT.WPD

*
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 = .400934HR TP = .328797HR K/TP RATIO = 1.219398 SHAPE CONSTANT, N = 2.918173
UNIT PEAK = 378.99 CFS UNIT VOLUME = .9999 B = 275.08 P60 = 1.0600
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 = .13000 INCHES = 3.1408 ACRE-Feet
PEAK DISCHARGE RATE = 48.98 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 = .06648 INCHES = 33.8192 ACRE-Feet
PEAK DISCHARGE RATE = 123.75 CFS AT 3.600 HOURS BASIN AREA = 9.5380 SQ. MI.

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*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 = .416766HR TP = .594816HR K/TP RATIO = .700663 SHAPE CONSTANT, N = 5.214875
UNIT PEAK = 29.813 CFS UNIT VOLUME = .9996 B = 429.38 P60 = 1.0600
AREA = .041300 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .769824HR TP = .594816HR K/TP RATIO = 1.294222 SHAPE CONSTANT, N = 2.767005
UNIT PEAK = 241.91 CFS UNIT VOLUME = .9999 B = 262.24 P60 = 1.0600
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

OUT.WPD

RUNOFF VOLUME = .16767 INCHES = 5.2760 ACRE-Feet
 PEAK DISCHARGE RATE = 41.50 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= 600 TABLE PTS= 20 1.4965
 DT= .050000 QMED= 20.75 CKMED= 166.96
 WIDTH MED= 39.40 NREACH= 24 DX=

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) = 6 OCCURRED 7 TIMES. AVERAGE NUMBER ITERATIONS = 1.1225
 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 1.36 1.50 1.464 .464 .683 .317 .000 15.0 .846 .154 .000
 .95 157.5 385.4 .455 213.9 1.95 2.45 2.105 1.105 .475 .525 .000 218.8 .556 .444 .000
 1.43 267.3 845.0 .352 247.3 2.47 3.16 2.660 1.660 .376 .624 .000 595.8 .418 .582 .000
 1.90 392.9 1476.3 .296 280.6 2.93 3.76 3.154 2.154 .317 .683 .000 1142.2 .343 .657 .000
 2.38 533.6 2314.0 .257 307.3 3.39 4.34 3.658 2.658 .273 .727 .000 1876.0 .293 .707 .000
 2.86 684.9 3357.7 .227 328.1 3.87 4.90 4.170 3.170 .240 .760 .000 2816.8 .255 .745 .000
 3.33 846.0 4583.5 .205 348.8 4.31 5.42 4.650 3.650 .215 .785 .000 3952.2 .226 .774 .000
 3.81 1017.0 5993.9 .189 369.6 4.73 5.89 5.104 4.104 .196 .804 .000 5270.8 .205 .795 .000
 4.28 1197.9 7592.3 .176 390.4 5.14 6.34 5.537 4.537 .181 .819 .000 6775.5 .188 .812 .000
 4.76 1388.7 9382.7 .165 411.1 5.52 6.76 5.952 4.952 .168 .832 .000 8470.1 .174 .826 .000
 5.24 1589.4 11369.7 .156 431.9 5.89 7.15 6.352 5.352 .157 .843 .000 10359.0 .162 .838 .000
 5.71 1799.9 13565.6 .148 452.3 6.26 7.54 6.744 5.744 .148 .852 .000 12450.4 .153 .847 .000
 6.19 2016.8 16235.7 .138 459.1 6.75 8.05 7.277 6.277 .137 .863 .000 14877.7 .143 .857 .000
 6.67 2237.0 19107.1 .130 465.9 7.23 8.54 7.795 6.795 .128 .872 .000 17649.2 .133 .867 .000
 7.14 2460.4 22176.3 .123 472.7 7.70 9.01 8.300 7.300 .120 .880 .000 20620.1 .124 .876 .000
 7.62 2687.1 25440.4 .118 479.5 8.16 9.47 8.793 7.793 .114 .886 .000 23787.3 .117 .883 .000
 8.09 2917.0 28897.2 .112 486.3 8.60 9.91 9.274 8.274 .108 .892 .000 27148.3 .111 .889 .000
 8.57 3150.1 32544.6 .108 493.1 9.04 10.33 9.746 8.746 .103 .897 .000 30700.8 .105 .895 .000
 9.05 3386.5 36381.0 .104 499.9 9.47 10.74 10.207 9.207 .098 .902 .000 34443.1 .100 .900 .000
 MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 58 TIMES. AVERAGE NUMBER ITERATIONS = 1.1024
 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 34.50

RUNOFF VOLUME = .16483 INCHES = 5.1867 ACRE-Feet
 PEAK DISCHARGE RATE = 39.98 CFS AT 2.850 HOURS BASIN AREA = .5900 SQ. MI.
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OUT.WPD

*

*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 = .288028HR TP = .491175HR K/TP RATIO = .586406 SHAPE CONSTANT, N = 6.476101
UNIT PEAK = 9.1166 CFS UNIT VOLUME = .9986 B = 495.89 P60 = 1.0600
AREA = .009030 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .651725HR TP = .491175HR K/TP RATIO = 1.326869 SHAPE CONSTANT, N = 2.707605
UNIT PEAK = 62.784 CFS UNIT VOLUME = .9997 B = 257.05 P60 = 1.0600
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 = .16767 INCHES = 1.1536 ACRE-Feet
PEAK DISCHARGE RATE = 11.17 CFS AT 1.900 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 = .16534 INCHES = 6.3402 ACRE-Feet
PEAK DISCHARGE RATE = 42.32 CFS AT 2.850 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

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5752.98 568.71 OUT.WPD 404.05
5753.16 648.19 3587.34 439.36
5753.35 734.33 4218.91 474.68
5753.54 826.77 4933.21 500.00
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 2.9443
DT= .050000 QMED= 21.16 CKMED= 267.80
WIDTH MED= 83.07 NREACH= 10 DX=

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	1.49	.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	1.505	.020	.984	.208	-.192	2.2	.991	.014	-.005
.38	26.8	61.1	.326	87.5	3.67	2.28	2.467	.051	.971	.431	-.403	34.1	.976	.338	-.315
.57	43.8	133.2	.244	92.8	4.80	3.04	3.227	.080	.963	.536	-.499	94.3	.967	.490	-.456
.75	61.8	227.9	.202	98.1	5.51	3.69	3.702	.113	.953	.585	-.538	178.0	.959	.568	-.527
.94	80.9	334.5	.180	108.4	5.50	4.13	3.694	.150	.938	.587	-.525	279.2	.945	.584	-.529
1.13	103.1	450.8	.170	126.9	5.48	4.37	3.684	.173	.929	.588	-.517	390.8	.928	.573	-.501
1.32	128.8	596.3	.161	145.5	5.89	4.63	3.962	.185	.928	.611	-.539	521.5	.927	.598	-.526
1.51	157.9	773.6	.152	164.0	6.17	4.90	4.146	.204	.924	.626	-.550	682.7	.926	.621	-.547
1.70	190.7	976.4	.145	185.2	6.19	5.12	4.161	.227	.916	.629	-.544	872.8	.919	.626	-.545
1.88	228.2	1204.3	.141	211.9	6.38	5.28	4.286	.238	.914	.638	-.552	1088.1	.910	.624	-.534
2.07	270.4	1485.6	.135	236.4	6.78	5.49	4.557	.247	.915	.655	-.570	1342.3	.916	.650	-.566
2.26	317.3	1807.4	.131	262.8	6.72	5.70	4.514	.273	.906	.654	-.560	1643.8	.912	.658	-.570
2.45	370.2	2148.1	.128	298.1	6.66	5.80	4.480	.288	.900	.653	-.553	1975.3	.896	.644	-.540
2.64	429.7	2555.9	.125	333.4	7.05	5.95	4.742	.290	.904	.668	-.572	2349.1	.902	.660	-.562
2.83	495.9	3034.4	.122	368.7	7.42	6.12	4.990	.296	.906	.682	-.588	2791.8	.904	.675	-.579
3.02	568.7	3587.3	.118	404.0	7.78	6.31	5.230	.304	.907	.694	-.601	3307.1	.906	.687	-.593
3.20	648.2	4218.9	.114	439.4	8.13	6.51	5.464	.315	.907	.705	-.612	3899.0	.907	.699	-.606
3.39	734.3	4933.2	.111	474.7	8.85	6.72	5.945	.313	.914	.724	-.638	4571.6	.907	.710	-.616
3.58	826.8	5806.4	.106	500.0	9.53	7.02	6.405	.325	.916	.741	-.657	5363.7	.920	.740	-.660

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 8 TIMES. AVERAGE NUMBER ITERATIONS = 1.1405

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	1.49	.51	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.19	10.8	14.0	.574	82.3	1.53	1.30	1.030	.030	.971	.029	.000	2.2	.991	.009	.000
.38	26.8	61.1	.326	87.5	1.66	2.28	1.112	.112	.899	.101	.000	34.1	.937	.063	.000
.57	43.8	133.2	.244	92.8	1.80	3.04	1.212	.212	.825	.175	.000	94.3	.861	.139	.000
.75	61.8	227.9	.202	98.1	1.96	3.69	1.317	.317	.760	.240	.000	178.0	.791	.209	.000
.94	80.9	334.5	.180	108.4	2.08	4.13	1.396	.396	.716	.284	.000	279.2	.737	.263	.000
1.13	103.1	450.8	.170	126.9	2.14	4.37	1.442	.442	.694	.306	.000	390.8	.705	.295	.000
1.32	128.8	596.3	.161	145.5	2.22	4.63	1.492	.492	.670	.330	.000	521.5	.681	.319	.000
1.51	157.9	773.6	.152	164.0	2.30	4.90	1.547	.547	.647	.353	.000	682.7	.658	.342	.000
1.70	190.7	976.4	.145	185.2	2.37	5.12	1.593	.593	.628	.372	.000	872.8	.637	.363	.000
1.88	228.2	1204.3	.141	211.9	2.42	5.28	1.627	.627	.615	.385	.000	1088.1	.621	.379	.000
2.07	270.4	1485.6	.135	236.4	2.49	5.49	1.673	.673	.598	.402	.000	1342.3	.606	.394	.000
2.26	317.3	1807.4	.131	262.8	2.56	5.70	1.718	.718	.582	.418	.000	1643.8	.590	.410	.000
2.45	370.2	2148.1	.128	298.1	2.59	5.80	1.742	.742	.574	.426	.000	1975.3	.578	.422	.000
2.64	429.7	2555.9	.125	333.4	2.64	5.95	1.774	.774	.564	.436	.000	2349.1	.569	.431	.000
2.83	495.9	3034.4	.122	368.7	2.70	6.12	1.814	.814	.551	.449	.000	2791.8	.557	.443	.000
3.02	568.7	3587.3	.118	404.0	2.76	6.31	1.857	.857	.538	.462	.000	3307.1	.545	.455	.000
3.20	648.2	4218.9	.114	439.4	2.83	6.51	1.904	.904	.525	.475	.000	3899.0	.532	.468	.000
3.39	734.3	4933.2	.111	474.7	2.91	6.72	1.954	.954	.512	.488	.000	4571.6	.518	.482	.000
3.58	826.8	5806.4	.106	500.0	3.02	7.02	2.027	1.027	.493	.507	.000	5363.7	.502	.498	.000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 2 OCCURRED 663 TIMES. AVERAGE NUMBER ITERATIONS = 1.1137

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 = .16506 INCHES = 6.3293 ACRE-Feet
PEAK DISCHARGE RATE = 42.11 CFS AT 3.300 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 = .334120HR TP = .247955HR K/TP RATIO = 1.347500 SHAPE CONSTANT, N = 2.671893
UNIT PEAK = 76.792 CFS UNIT VOLUME = .9993 B = 253.88 P60 = 1.0600
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
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OUT.WPD

RUNOFF VOLUME = .05996 INCHES = .2398 ACRE-FEET
PEAK DISCHARGE RATE = 4.60 CFS AT 1.650 HOURS BASIN AREA = .0750 SQ. MI.

*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
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= 173
DT= .050000
WIDTH MED= 5.68
TABLE PTS= 20
QMED= 2.30
CKMED= 1.8358
NREACH= 19
DX= 172.79

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	.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
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) = 3 OCCURRED 60 TIMES. AVERAGE NUMBER ITERATIONS = 1.0414
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)
.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) = 2 OCCURRED 312 TIMES. AVERAGE NUMBER ITERATIONS = 1.0287
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

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                                OUT.WPD
RUNOFF VOLUME = .05923 INCHES = .2369 ACRE-FEET
PEAK DISCHARGE RATE = 4.47 CFS AT 2.550 HOURS BASIN AREA = .0750 SQ. MI.

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*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 = .15506 INCHES = 6.5662 ACRE-FEET
PEAK DISCHARGE RATE = 42.81 CFS AT 3.300 HOURS BASIN AREA = .7940 SQ. MI.

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*S
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*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 = .332697HR TP = .250578HR K/TP RATIO = 1.327720 SHAPE CONSTANT, N = 2.706105
UNIT PEAK = 134.31 CFS UNIT VOLUME = .9995 B = 256.91 P60 = 1.0600
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 = .06421 INCHES = .4486 ACRE-FEET
PEAK DISCHARGE RATE = 8.61 CFS AT 1.650 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 = .14219 INCHES = 7.0148 ACRE-FEET
PEAK DISCHARGE RATE = 43.18 CFS AT 3.300 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 FLOW FLOW TOP
                                SURFACE AREA RATE WIDTH
                                ELEV SQ FT CFS FT
                                5692.77 .00 .00 .00
                                5693.35 4.73 15.17 16.33
                                Page 39

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5693.93 18.90 OUT.WPD 32.67
 5694.51 42.53 96.35 49.00
 5695.08 75.61 284.07 65.61
 5695.66 118.92 610.21 84.07
 5696.24 173.01 1100.15 103.24
 5696.82 238.47 1792.22 123.02
 5697.40 315.37 2722.26 142.80
 5697.98 403.71 3927.34 162.57
 5698.56 503.50 5436.44 182.35
 5699.13 614.74 7277.25 202.13
 5699.71 737.42 9476.35 221.91
 5700.29 871.97 12059.36 248.45
 5700.87 1033.45 14789.60 309.72
 5701.45 1229.08 16951.72 364.60
 5702.03 1455.16 20301.36 416.84
 5702.61 1711.32 24604.75 465.09
 5703.19 1985.49 29971.46 482.60
 5703.76 2269.80 37460.37 500.00
 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= 21.59 CKMED= 5.7263
 WIDTH MED= 17.62 NREACH= 9 DX= 514.00

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	.548	.0	2.86	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	1.568	.013	.990	.225	-.215	2.4	.998	.035	-.034
1.16	18.9	96.3	.252	32.7	7.09	5.10	2.483	.027	.985	.430	-.415	45.2	.985	.326	-.311
1.74	42.5	284.1	.192	49.0	9.08	6.68	3.179	.041	.980	.526	-.507	177.3	.981	.472	-.453
2.31	75.6	610.2	.159	65.6	10.77	8.07	3.772	.056	.977	.586	-.563	432.5	.978	.553	-.531
2.89	118.9	1100.1	.139	84.1	12.17	9.25	4.262	.070	.974	.625	-.599	838.9	.974	.601	-.575
3.47	173.0	1792.2	.124	103.2	13.59	10.36	4.759	.083	.972	.658	-.629	1428.3	.972	.639	-.611
4.05	238.5	2722.3	.113	123.0	15.01	11.42	5.256	.096	.970	.685	-.655	2237.5	.970	.670	-.640
4.63	315.4	3927.3	.103	142.8	16.44	12.45	5.757	.109	.968	.709	-.677	3303.2	.969	.696	-.665
5.21	403.7	5436.4	.095	162.6	17.82	13.47	6.240	.122	.967	.728	-.695	4658.7	.967	.718	-.685
5.79	503.5	7277.3	.089	182.4	19.16	14.45	6.709	.135	.966	.745	-.711	6332.1	.966	.736	-.702
6.36	614.7	9476.3	.083	202.1	20.46	15.42	7.164	.149	.964	.759	-.724	8350.7	.965	.752	-.716
6.94	737.4	12059.4	.079	221.9	20.80	16.35	7.284	.169	.960	.763	-.723	10740.4	.963	.765	-.729
7.52	872.0	14789.6	.076	248.4	17.21	16.96	6.025	.224	.938	.724	-.662	13401.5	.955	.756	-.711
8.10	1033.5	16951.7	.078	309.7	15.36	16.40	5.377	.231	.930	.697	-.627	15855.6	.907	.664	-.571
8.68	1229.1	20301.4	.078	364.6	18.12	16.52	6.347	.199	.947	.735	-.682	18601.2	.942	.723	-.665
9.26	1455.2	24604.8	.076	416.8	20.02	16.91	7.010	.191	.953	.756	-.710	22419.1	.950	.745	-.695
9.84	1711.3	29971.5	.073	465.1	23.67	17.51	8.291	.177	.963	.789	-.751	27244.2	.955	.766	-.721
10.42	1985.5	37460.4	.068	482.6	28.23	18.87	9.888	.178	.968	.819	-.787	33638.8	.969	.814	-.782
10.99	2269.8	45728.8	.064	500.0	29.60	20.15	10.366	.200	.965	.827	-.792	41519.4	.967	.824	-.791

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 47 TIMES. AVERAGE NUMBER ITERATIONS = 1.1598
 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

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	2.86	1.48	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.58	4.7	15.2	.400	16.3	2.91	3.21	1.021	.021	.980	.020	.000	2.4	.993	.007	.000
1.16	18.9	96.3	.252	32.7	3.04	5.10	1.063	.063	.941	.059	.000	45.2	.961	.039	.000
1.74	42.5	284.1	.192	49.0	3.19	6.68	1.118	.118	.895	.105	.000	177.3	.917	.083	.000
2.31	75.6	610.2	.159	65.6	3.37	8.07	1.179	.179	.848	.152	.000	432.5	.870	.130	.000
2.89	118.9	1100.1	.139	84.1	3.54	9.25	1.240	.240	.807	.193	.000	838.9	.826	.174	.000
3.47	173.0	1792.2	.124	103.2	3.72	10.36	1.303	.303	.768	.232	.000	1428.3	.786	.214	.000
4.05	238.5	2722.3	.113	123.0	3.90	11.42	1.368	.368	.731	.269	.000	2237.5	.748	.252	.000
4.63	315.4	3927.3	.103	142.8	4.10	12.45	1.435	.435	.697	.303	.000	3303.2	.713	.287	.000
5.21	403.7	5436.4	.095	162.6	4.30	13.47	1.505	.505	.665	.335	.000	4658.7	.680	.320	.000
5.79	503.5	7277.3	.089	182.4	4.50	14.45	1.575	.575	.635	.365	.000	6332.1	.649	.351	.000
6.36	614.7	9476.3	.083	202.1	4.70	15.42	1.647	.647	.607	.393	.000	8350.7	.620	.380	.000
6.94	737.4	12059.4	.079	221.9	4.91	16.35	1.718	.718	.582	.418	.000	10740.4	.594	.406	.000
7.52	872.0	14789.6	.076	248.4	5.04	16.96	1.766	.766	.566	.434	.000	13401.5	.574	.426	.000
8.10	1033.5	16951.7	.078	309.7	4.92	16.40	1.722	.722	.581	.419	.000	15855.6	.574	.426	.000
8.68	1229.1	20301.4	.078	364.6	4.94	16.52	1.731	.731	.578	.422	.000	18601.2	.579	.421	.000
9.26	1455.2	24604.8	.076	416.8	5.03	16.91	1.761	.761	.568	.432	.000	22419.1	.573	.427	.000
9.84	1711.3	29971.5	.073	465.1	5.17	17.51	1.809	.809	.553	.447	.000	27244.2	.560	.440	.000
10.42	1985.5	37460.4	.068	482.6	5.48	18.87	1.919	.919	.521	.479	.000	33638.8	.536	.464	.000
10.99	2269.8	45728.8	.064	500.0	5.78	20.15	2.025	1.025	.494	.506	.000	41519.4	.507	.493	.000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 2 OCCURRED 655 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=6 CODE=1

OUTFLOW HYDROGRAPH REACH 42.60

RUNOFF VOLUME = .14210 INCHES = 7.0101 ACRE-Feet
 PEAK DISCHARGE RATE = 43.06 CFS AT 3.750 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
 SHEET FLOW PORTION LENGTH (FT) SLOPE (FT/FT) COMPOSITE K
 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

OUT.WPD

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 = .371581HR TP = .291863HR K/TP RATIO = 1.273133 SHAPE CONSTANT, N = 2.807385
UNIT PEAK = 524.41 CFS UNIT VOLUME = .9998 B = 265.72 P60 = 1.0600
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 = .08181 INCHES = 2.5132 ACRE-Feet
PEAK DISCHARGE RATE = 42.59 CFS AT 1.700 HOURS BASIN AREA = .5760 SQ. MI.

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*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 = .11896 INCHES = 9.5233 ACRE-Feet
PEAK DISCHARGE RATE = 44.59 CFS AT 3.750 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

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 = .244177HR TP = .191793HR K/TP RATIO = 1.273133 SHAPE CONSTANT, N = 2.807385
UNIT PEAK = 439.19 CFS UNIT VOLUME = .9994 B = 265.72 P60 = 1.0600
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 = .08181 INCHES = 1.3832 ACRE-Feet
PEAK DISCHARGE RATE = 35.36 CFS AT 1.600 HOURS BASIN AREA = .3170 SQ. MI.

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*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 = .11248 INCHES = 10.9065 ACRE-Feet
Page 41

PEAK DISCHARGE RATE = 74.77 CFS AT 1.650 HOURS OUT.WPD BASIN AREA = 1.8180 SQ. MI.

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*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= 37.38 CKMED= 2.7586
WIDTH MED= 60.87 NREACH= 10 DX= 229.60

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	1.28	.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	1.691	.021	.984	.263	-.247	1.1	.989	.016	-.005
.53	17.7	43.4	.260	66.4	3.42	2.46	2.678	.043	.977	.462	-.439	20.4	.978	.361	-.339
.80	39.8	128.1	.198	99.5	4.38	3.22	3.437	.066	.971	.556	-.527	79.9	.972	.503	-.475
1.07	70.8	275.8	.164	132.7	5.27	3.90	4.128	.088	.966	.617	-.583	195.3	.967	.583	-.550
1.33	110.6	500.1	.141	165.9	6.08	4.52	4.770	.111	.962	.660	-.622	380.7	.963	.636	-.600
1.60	159.2	813.3	.125	199.1	6.94	5.11	5.443	.131	.960	.696	-.656	648.8	.960	.675	-.635
1.87	216.6	1238.1	.112	228.9	8.19	5.72	6.418	.148	.961	.736	-.697	1016.8	.959	.713	-.672
2.13	279.6	1817.8	.098	243.4	9.74	6.50	7.634	.171	.961	.773	-.734	1517.2	.963	.761	-.724
2.40	346.4	2499.6	.088	258.0	10.67	7.22	8.369	.203	.958	.791	-.749	2148.4	.959	.782	-.741
2.67	417.2	3284.2	.081	272.6	11.53	7.87	9.037	.233	.955	.805	-.760	2881.9	.956	.798	-.754
2.93	491.8	4172.9	.075	287.1	12.31	8.49	9.654	.264	.952	.817	-.769	3718.8	.953	.811	-.764
3.20	570.2	5167.7	.070	301.7	13.05	9.06	10.230	.293	.949	.826	-.776	4660.7	.950	.822	-.772
3.47	652.6	6270.5	.066	316.2	13.74	9.61	10.774	.322	.947	.835	-.781	5709.6	.948	.831	-.778
3.73	738.9	7483.6	.063	330.8	14.40	10.13	11.291	.351	.944	.842	-.786	6867.6	.945	.838	-.784
4.00	829.0	8809.4	.060	345.4	15.03	10.63	11.785	.379	.942	.848	-.790	8137.1	.943	.845	-.788
4.27	923.0	10250.4	.057	359.9	15.64	11.11	12.260	.407	.940	.854	-.794	9520.5	.941	.851	-.792
4.53	1020.9	11809.2	.055	374.5	16.22	11.57	12.718	.434	.939	.859	-.797	11020.5	.939	.856	-.796
4.80	1122.7	13488.3	.053	389.0	17.19	12.01	13.473	.451	.940	.866	-.806	12639.4	.938	.861	-.799
5.07	1228.0	15378.9	.051	399.8	18.14	12.52	14.220	.474	.940	.873	-.812	14422.8	.942	.871	-.813
MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 11 TIMES. AVERAGE NUMBER ITERATIONS = 1.1928															
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	1.28	.71	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.27	4.4	6.8	.412	33.2	1.32	1.55	1.035	.035	.966	.034	.000	1.1	.989	.011	.000
.53	17.7	43.4	.260	66.4	1.41	2.46	1.104	.104	.906	.094	.000	20.4	.937	.063	.000
.80	39.8	128.1	.198	99.5	1.52	3.22	1.189	.189	.841	.159	.000	79.9	.872	.128	.000
1.07	70.8	275.8	.164	132.7	1.64	3.90	1.284	.284	.779	.221	.000	195.3	.808	.192	.000
1.33	110.6	500.1	.141	165.9	1.76	4.52	1.382	.382	.724	.276	.000	380.7	.749	.251	.000
1.60	159.2	813.3	.125	199.1	1.89	5.11	1.483	.483	.675	.325	.000	648.8	.697	.303	.000
1.87	216.6	1238.1	.112	228.9	2.03	5.72	1.594	.594	.627	.373	.000	1016.8	.649	.351	.000
2.13	279.6	1817.8	.098	243.4	2.23	6.50	1.748	.748	.572	.428	.000	1517.2	.598	.402	.000
2.40	346.4	2499.6	.088	258.0	2.42	7.22	1.895	.895	.528	.472	.000	2148.4	.549	.451	.000
2.67	417.2	3284.2	.081	272.6	2.60	7.87	2.036	1.036	.491	.509	.000	2881.9	.508	.492	.000
2.93	491.8	4172.9	.075	287.1	2.77	8.49	2.172	1.172	.460	.540	.000	3718.8	.475	.525	.000
3.20	570.2	5167.7	.070	301.7	2.94	9.06	2.303	1.303	.434	.566	.000	4660.7	.447	.553	.000
3.47	652.6	6270.5	.066	316.2	3.10	9.61	2.429	1.429	.412	.588	.000	5709.6	.422	.578	.000
3.73	738.9	7483.6	.063	330.8	3.26	10.13	2.552	1.552	.392	.608	.000	6867.6	.401	.599	.000
4.00	829.0	8809.4	.060	345.4	3.41	10.63	2.672	1.672	.374	.626	.000	8137.1	.383	.617	.000
4.27	923.0	10250.4	.057	359.9	3.56	11.11	2.788	1.788	.359	.641	.000	9520.5	.366	.634	.000
4.53	1020.9	11809.2	.055	374.5	3.70	11.57	2.902	1.902	.345	.655	.000	11020.5	.351	.649	.000
4.80	1122.7	13488.3	.053	389.0	3.84	12.01	3.014	2.014	.332	.668	.000	12639.4	.338	.662	.000
5.07	1228.0	15378.9	.051	399.8	4.01	12.52	3.143	2.143	.318	.682	.000	14422.8	.325	.675	.000
MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 36 TIMES. AVERAGE NUMBER ITERATIONS = 1.1619															

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=1

HYDROGRAPH FROM AREA 41B.51

RUNOFF VOLUME = .11199 INCHES = 10.8587 ACRE-FEET
PEAK DISCHARGE RATE = 72.32 CFS AT 2.100 HOURS BASIN AREA = 1.8180 SQ. MI.

OUT.WPD

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*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 = .11199 INCHES = 10.8587 ACRE-FEET
PEAK DISCHARGE RATE = 72.32 CFS AT 2.100 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 2.3104
DT= .050000 QMED= 36.16 CKMED= 195.56
WIDTH MED= 55.45 NREACH= 9 DX=

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	1.09	.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	3.072	.062	.970	.516	-.486	6.6	.976	.292	-.268

OUT.WPD

1.13	67.9	270.3	.123	106.4	5.96	3.98	5.486	.136	.959	.698	-.657	129.3	.962	.630	-.592
1.69	136.1	749.4	.089	131.1	8.25	5.50	7.591	.221	.950	.773	-.723	482.6	.953	.742	-.694
2.26	214.7	1481.7	.071	147.4	10.25	6.90	9.436	.313	.942	.814	-.756	1089.7	.945	.797	-.742
2.82	302.5	2446.1	.060	163.6	11.78	8.09	10.839	.406	.934	.837	-.770	1939.5	.937	.826	-.762
3.39	399.4	3649.3	.054	179.8	13.11	9.14	12.066	.495	.927	.853	-.780	3024.0	.929	.845	-.774
3.95	505.5	5100.7	.048	196.0	14.31	10.09	13.174	.581	.921	.864	-.786	4351.6	.923	.858	-.782
4.52	620.7	6810.9	.045	212.2	15.43	10.97	14.199	.665	.916	.874	-.790	5932.6	.918	.869	-.787
5.08	745.0	8791.2	.041	228.4	16.47	11.80	15.159	.747	.912	.882	-.793	7777.8	.913	.878	-.791
5.64	878.5	11053.1	.039	244.6	18.20	12.58	16.751	.794	.914	.892	-.807	9898.8	.909	.885	-.794
6.21	1019.7	13836.6	.036	253.5	20.77	13.57	19.120	.840	.920	.905	-.824	12415.5	.920	.900	-.820
6.77	1164.4	17002.2	.033	259.3	22.60	14.60	20.805	.927	.918	.912	-.830	15388.5	.920	.909	-.829
7.34	1312.4	20448.9	.031	265.1	23.97	15.58	22.066	1.028	.915	.917	-.832	18695.7	.916	.915	-.831
7.90	1463.7	24173.4	.030	270.9	25.27	16.51	23.256	1.129	.911	.921	-.832	22282.2	.913	.919	-.832
8.47	1618.3	28173.1	.028	276.8	26.49	17.41	24.383	1.228	.908	.925	-.833	26145.0	.909	.923	-.832
9.03	1776.2	32446.4	.027	282.6	27.66	18.27	25.455	1.327	.904	.928	-.832	30282.2	.906	.926	-.832
9.60	1937.3	36992.2	.026	288.4	28.77	19.09	26.480	1.425	.901	.931	-.832	34692.3	.903	.929	-.832
10.16	2101.8	41809.8	.025	294.2	29.85	19.89	27.474	1.522	.899	.933	-.832	39374.5	.900	.932	-.832
10.72	2269.5	46903.8	.024	300.0	30.69	20.67	28.246	1.628	.895	.935	-.830	44330.6	.897	.934	-.832

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 6 OCCURRED 5 TIMES. AVERAGE NUMBER ITERATIONS = 1.2281

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	1.09	.94	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.56	18.1	41.7	.212	64.0	1.27	2.31	1.165	.165	.859	.141	.000	6.6	.946	.054	.000
1.13	67.9	270.3	.123	106.4	1.63	3.98	1.499	.499	.667	.333	.000	129.3	.749	.251	.000
1.69	136.1	749.4	.089	131.1	2.05	5.50	1.890	.890	.529	.471	.000	482.6	.587	.413	.000
2.26	214.7	1481.7	.071	147.4	2.49	6.90	2.291	1.291	.436	.564	.000	1089.7	.477	.523	.000
2.82	302.5	2446.1	.060	163.6	2.89	8.09	2.656	1.656	.376	.624	.000	1939.5	.403	.597	.000
3.39	399.4	3649.3	.054	179.8	3.25	9.14	2.994	1.994	.334	.666	.000	3024.0	.353	.647	.000
3.95	505.5	5100.7	.048	196.0	3.60	10.09	3.312	2.312	.302	.698	.000	4351.6	.317	.683	.000
4.52	620.7	6810.9	.045	212.2	3.93	10.97	3.613	2.613	.277	.723	.000	5932.6	.288	.712	.000
5.08	745.0	8791.2	.041	228.4	4.24	11.80	3.902	2.902	.256	.744	.000	7777.8	.266	.734	.000
5.64	878.5	11053.1	.039	244.6	4.54	12.58	4.180	3.180	.239	.761	.000	9898.8	.247	.753	.000
6.21	1019.7	13836.6	.036	253.5	4.93	13.57	4.538	3.538	.220	.780	.000	12415.5	.229	.771	.000
6.77	1164.4	17002.2	.033	259.3	5.35	14.60	4.920	3.920	.203	.797	.000	15388.5	.211	.789	.000
7.34	1312.4	20448.9	.031	265.1	5.75	15.58	5.290	4.290	.189	.811	.000	18695.7	.196	.804	.000
7.90	1463.7	24173.4	.030	270.9	6.14	16.51	5.647	4.647	.177	.823	.000	22282.2	.183	.817	.000
8.47	1618.3	28173.1	.028	276.8	6.51	17.41	5.995	4.995	.167	.833	.000	26145.0	.172	.828	.000
9.03	1776.2	32446.4	.027	282.6	6.88	18.27	6.333	5.333	.158	.842	.000	30282.2	.162	.838	.000
9.60	1937.3	36992.2	.026	288.4	7.24	19.09	6.663	5.663	.150	.850	.000	34692.3	.154	.846	.000
10.16	2101.8	41809.8	.025	294.2	7.59	19.89	6.985	5.985	.143	.857	.000	39374.5	.147	.853	.000
10.72	2269.5	46903.8	.024	300.0	7.93	20.67	7.300	6.300	.137	.863	.000	44330.6	.140	.860	.000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 31 TIMES. AVERAGE NUMBER ITERATIONS = 1.1689

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 = .11150 INCHES = 10.8112 ACRE-Feet
 PEAK DISCHARGE RATE = 69.52 CFS AT 2.450 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 CENTROID 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 = .285749HR TP = .238041HR K/TP RATIO = 1.200420 SHAPE CONSTANT, N = 2.960255
 UNIT PEAK = 160.32 CFS UNIT VOLUME = .9998 B = 278.57 P60 = 1.0600
 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 = .13000 INCHES = .9499 ACRE-Feet
 PEAK DISCHARGE RATE = 20.50 CFS AT 1.600 HOURS BASIN AREA = .1370 SQ. MI.

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 *S

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***** OUT.WPD *****
*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 = .11280 INCHES = 11.7610 ACRE-FEET
PEAK DISCHARGE RATE = 71.32 CFS AT 2.450 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
SHEET FLOW PORTION LENGTH (FT) SLOPE (FT/FT) COMPOSITE K
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 = .332883HR TP = .262593HR K/TP RATIO = 1.267675 SHAPE CONSTANT, N = 2.818112
UNIT PEAK = 188.87 CFS UNIT VOLUME = .9997 B = 266.64 P60 = 1.0600
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 = .09330 INCHES = .9255 ACRE-FEET
PEAK DISCHARGE RATE = 17.51 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 = .11110 INCHES = 12.6865 ACRE-FEET
PEAK DISCHARGE RATE = 73.35 CFS AT 2.450 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 = .07466 INCHES = 46.5058 ACRE-FEET
PEAK DISCHARGE RATE = 142.62 CFS AT 3.600 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

OUT.WPD

RATING CURVE VALLEY SECTION 1.0
WATER FLOW FLOW TOP
SURFACE AREA RATE WIDTH
ELEV SQ FT CFS FT
5412.00 .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= 71.31 CKMED= 3.0595
WIDTH MED= 35.18 NREACH= 14 DX= 300.00

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	1.67	1.35	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
1.33	44.0	134.5	.381	66.4	4.32	3.06	2.595	.174	.908	.469	-.377	21.2	.930	.241	-.172
2.65	173.2	863.9	.234	125.6	7.03	4.99	4.217	.362	.870	.642	-.512	407.5	.878	.568	-.447
3.98	377.0	2459.8	.179	182.7	8.91	6.52	5.348	.560	.838	.710	-.548	1557.6	.842	.673	-.515
5.30	657.5	5171.3	.148	240.7	10.63	7.86	6.380	.748	.816	.754	-.570	3698.3	.819	.731	-.550
6.63	1015.0	9232.2	.128	298.8	12.26	9.10	7.355	.933	.799	.785	-.584	7073.2	.802	.769	-.570
7.95	1449.3	14866.8	.114	356.3	14.04	10.26	8.422	1.101	.791	.810	-.601	11910.3	.788	.796	-.584
9.28	1956.4	22508.8	.101	404.8	16.18	11.51	9.706	1.273	.787	.833	-.620	18530.5	.789	.823	-.611
10.60	2519.2	32224.5	.091	444.6	18.10	12.79	10.863	1.483	.778	.850	-.628	27199.9	.784	.843	-.627
11.93	3134.7	43809.3	.083	484.4	20.41	13.98	12.244	1.642	.779	.866	-.645	37850.7	.769	.856	-.625
13.25	3795.1	58548.4	.076	505.5	23.93	15.43	14.356	1.793	.791	.883	-.674	50974.3	.790	.876	-.667
14.58	4472.0	75913.8	.069	516.0	26.79	16.98	16.074	2.034	.787	.895	-.682	67013.7	.793	.891	-.684
15.90	5162.8	95153.5	.063	526.5	28.91	18.43	17.344	2.316	.776	.903	-.679	85325.9	.781	.899	-.681
17.23	5867.5	116221.9	.059	537.0	30.88	19.81	18.531	2.595	.765	.910	-.675	105488.0	.770	.907	-.677
18.55	6586.1	139083.7	.055	547.5	32.74	21.12	19.646	2.873	.756	.915	-.671	127459.8	.760	.912	-.673
19.88	7318.6	163712.0	.052	558.0	34.50	22.37	20.701	3.150	.747	.920	-.666	151210.7	.751	.917	-.668
21.20	8065.0	190086.0	.049	568.5	36.17	23.57	21.702	3.424	.738	.923	-.661	176716.8	.742	.922	-.663
22.53	8825.4	218189.8	.047	579.0	37.76	24.72	22.656	3.696	.730	.927	-.657	203960.1	.734	.925	-.659
23.85	9599.6	248011.7	.045	589.5	39.28	25.84	23.568	3.967	.722	.930	-.652	232926.8	.726	.928	-.654
25.18	10387.7	279542.9	.043	600.0	40.49	26.91	24.296	4.262	.712	.932	-.644	263606.8	.718	.931	-.649

MAXIMUM NO. ITERATIONS FOR SOLUTION (KMAX) = 5 OCCURRED 12 TIMES. AVERAGE NUMBER ITERATIONS = 1.3633
Equations solved using the Ponce correction to C2
PRINT HYD ID=5 CODE=1

OUTFLOW HYDROGRAPH REACH 43.50

RUNOFF VOLUME = .07478 INCHES = 46.5799 ACRE-Feet
PEAK DISCHARGE RATE = 142.46 CFS AT 3.900 HOURS BASIN AREA = 11.6790 SQ. MI.

*

*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
SHEET FLOW PORTION LENGTH (FT) SLOPE (FT/FT) COMPOSITE K
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 CENTROID 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 = .411594HR TP = .324560HR K/TP RATIO = 1.268160 SHAPE CONSTANT, N = 2.817151
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UNIT PEAK = 139.62 CFS UNIT VOLUME = .9998 B = 266.56 P60 = 1.0600
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 = .09330 INCHES = .8459 ACRE-FEET
PEAK DISCHARGE RATE = 12.96 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 = .07505 INCHES = 47.4258 ACRE-FEET
PEAK DISCHARGE RATE = 142.96 CFS AT 3.900 HOURS BASIN AREA = 11.8490 SQ. MI.

*
*S
*****
*S
*****
*S*** SUB-BASIN 44 ****
*
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 = .498684HR TP = .391698HR K/TP RATIO = 1.273133 SHAPE CONSTANT, N = 2.807385
UNIT PEAK = 277.46 CFS UNIT VOLUME = .9999 B = 265.72 P60 = 1.0600
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 = .08181 INCHES = 1.7846 ACRE-FEET
PEAK DISCHARGE RATE = 22.60 CFS AT 1.800 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 = .07527 INCHES = 49.2103 ACRE-FEET
PEAK DISCHARGE RATE = 156.52 CFS AT 1.900 HOURS BASIN AREA = 12.2580 SQ. MI.

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*S*** SUB-BASIN 61 ****
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OUT.WPD
 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 = .289385HR TP = .227608HR K/TP RATIO = 1.271415 SHAPE CONSTANT, N = 2.810750
 UNIT PEAK = 56.636 CFS UNIT VOLUME = .9994 B = 266.01 P60 = 1.0600
 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 = .09330 INCHES = .2411 ACRE-FEET
 PEAK DISCHARGE RATE = 5.22 CFS AT 1.600 HOURS BASIN AREA = .0485 SQ. MI.

*

 *
 *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 = .07534 INCHES = 49.4515 ACRE-FEET
 PEAK DISCHARGE RATE = 159.03 CFS AT 1.900 HOURS BASIN AREA = 12.3065 SQ. MI.

*

 *
 *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 SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH 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
DT= .050000
WIDTH MED= 70.28

TABLE PTS= 20
QMED= 79.52
NREACH= 3

OUT.WPD
4.5217
401.67

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	.181	.0	2.23	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	2.054	.018	.988	.349	-.337	6.6	.994	.224	-.218
.63	40.0	145.8	.092	82.5	5.31	3.65	2.378	.043	.975	.415	-.390	86.2	.978	.344	-.322
.95	69.1	315.5	.073	101.8	6.46	4.57	2.897	.062	.969	.495	-.464	223.2	.971	.453	-.423
1.26	104.2	559.6	.062	120.4	7.50	5.37	3.360	.080	.964	.550	-.514	430.0	.966	.521	-.487
1.58	145.2	884.0	.055	138.9	8.41	6.09	3.768	.097	.960	.589	-.549	714.1	.961	.568	-.529
1.90	192.0	1295.7	.050	157.4	9.26	6.75	4.151	.114	.957	.620	-.577	1082.0	.958	.603	-.561
2.21	244.6	1803.6	.045	175.6	10.09	7.37	4.520	.131	.954	.646	-.600	1541.5	.955	.633	-.587
2.53	302.9	2413.1	.042	193.6	10.85	7.97	4.864	.147	.951	.667	-.618	2099.9	.952	.656	-.608
2.84	366.9	3130.0	.039	211.7	11.75	8.53	5.267	.161	.950	.689	-.639	2763.0	.949	.676	-.625
3.16	436.5	3986.3	.037	227.3	12.90	9.13	5.779	.175	.950	.712	-.662	3548.7	.950	.701	-.651
3.48	510.4	4982.6	.034	240.5	13.89	9.76	6.227	.191	.948	.730	-.679	4474.4	.950	.723	-.673
3.79	588.4	6095.6	.032	253.6	14.65	10.36	6.565	.211	.946	.743	-.689	5529.1	.947	.736	-.683
4.11	670.6	7328.4	.031	266.8	15.37	10.93	6.887	.229	.943	.754	-.697	6702.0	.944	.748	-.693
4.42	757.0	8684.4	.029	280.0	16.06	11.47	7.195	.248	.941	.763	-.704	7996.4	.942	.758	-.700
4.74	847.5	10166.9	.028	293.1	16.56	12.00	7.421	.269	.938	.770	-.708	9415.6	.940	.767	-.707
5.05	942.2	11747.5	.027	307.6	16.28	12.47	7.297	.301	.930	.767	-.697	10947.7	.936	.771	-.707
5.37	1042.6	13320.8	.026	328.1	15.95	12.78	7.147	.327	.923	.764	-.687	12526.7	.923	.760	-.683
5.69	1149.5	15052.2	.026	348.6	16.49	13.09	7.391	.336	.923	.771	-.694	14178.5	.923	.767	-.690
6.00	1262.9	16952.9	.025	369.0	16.62	13.42	7.447	.355	.919	.773	-.692	15994.1	.923	.774	-.697

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 4 TIMES. AVERAGE NUMBER ITERATIONS = 1.4120
Equations solved using the Ponce correction to C2
PRINT HYD ID=3 CODE=1

OUTFLOW HYDROGRAPH REACH 60.30

RUNOFF VOLUME = .07534 INCHES = 49.4494 ACRE-Feet
PEAK DISCHARGE RATE = 149.35 CFS AT 2.000 HOURS BASIN AREA = 12.3065 SQ. MI.

*

*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 = .264483HR TP = .197312HR K/TP RATIO = 1.340428 SHAPE CONSTANT, N = 2.683980
UNIT PEAK = 142.60 CFS UNIT VOLUME = .9991 B = 254.96 P60 = 1.0600
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 = .05996 INCHES = .3529 ACRE-Feet
PEAK DISCHARGE RATE = 8.55 CFS AT 1.600 HOURS BASIN AREA = .1104 SQ. MI.

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*S

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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 = .07520 INCHES = 49.8023 ACRE-Feet
PEAK DISCHARGE RATE = 151.71 CFS AT 2.000 HOURS BASIN AREA = 12.4168 SQ. MI.

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*S

*
*S ROUTE THRU 4-60" PIPES IN SCENIC BLVD - IP3 *****
Page 49

OUT.WPD
 *S ROUTE RESERVOIR COMMAND WAS USED TO ROUTE THRU MULTIPLE PIPES IN SCENIC
 *

ROUTE RESERVOIR	ID=19 HYD=60.19 OUTFLOW(CFS)	INFLOW ID=6 CODE=5 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

* * * * *

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	6.68	5340.08	.017	2.83
1.75	44.72	5341.14	.236	43.37
2.00	151.71	5342.07	.474	118.92
2.25	78.52	5341.60	.351	79.26
2.50	74.60	5341.57	.344	77.19
2.75	118.96	5342.04	.464	115.33
3.00	84.19	5341.73	.383	89.30
3.25	78.28	5341.56	.340	75.99
3.50	109.58	5341.88	.422	101.56
3.75	138.25	5342.22	.522	136.69
4.00	143.86	5342.28	.542	144.06
4.25	126.54	5342.16	.503	129.76
4.50	106.07	5341.98	.447	109.36
4.75	113.39	5341.98	.448	109.62
5.00	119.89	5342.08	.477	119.98
5.25	98.40	5341.89	.424	102.29
5.50	78.44	5341.62	.357	81.10
5.75	76.38	5341.54	.335	74.32
6.00	78.97	5341.63	.358	81.58
6.25	70.53	5341.49	.323	70.64
6.50	76.04	5341.57	.344	77.02
6.75	62.58	5341.41	.304	64.46
7.00	51.93	5341.27	.268	53.44
7.25	43.39	5341.16	.240	44.62
7.50	36.12	5341.07	.216	37.16
7.75	30.43	5340.98	.197	31.52
8.00	25.94	5340.85	.170	27.22
8.25	22.32	5340.73	.146	23.38
8.50	19.25	5340.63	.126	20.15
8.75	16.71	5340.54	.109	17.45
9.00	14.61	5340.47	.095	15.22
9.25	12.92	5340.41	.084	13.41
9.50	11.58	5340.37	.075	11.97
9.75	10.44	5340.33	.067	10.78
10.00	9.41	5340.30	.060	9.72
10.25	8.46	5340.27	.054	8.74
10.50	7.59	5340.24	.049	7.85
10.75	6.81	5340.21	.044	7.04
11.00	6.12	5340.19	.039	6.32
11.25	5.50	5340.17	.035	5.69
11.50	4.96	5340.15	.032	5.12
11.75	4.47	5340.14	.028	4.62
12.00	4.04	5340.12	.026	4.17
12.25	3.66	5340.11	.023	3.77
12.50	3.32	5340.10	.021	3.42
12.75	3.01	5340.09	.019	3.10
13.00	2.74	5340.08	.017	2.82
13.25	2.50	5340.07	.016	2.57
13.50	2.29	5340.07	.014	2.35
13.75	2.10	5340.06	.013	2.15

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
14.00	1.93	5340.06	.012	1.98
14.25	1.78	5340.05	.011	1.83
14.50	1.65	5340.05	.010	1.69
14.75	1.54	5340.04	.009	1.57
15.00	1.44	5340.04	.009	1.47
15.25	1.35	5340.04	.008	1.38
15.50	1.28	5340.03	.008	1.30
15.75	1.21	5340.03	.007	1.23
16.00	1.14	5340.03	.007	1.16
16.25	1.09	5340.03	.006	1.11
16.50	1.04	5340.03	.006	1.05
16.75	1.00	5340.02	.006	1.01
17.00	.96	5340.02	.006	.97
17.25	.92	5340.02	.005	.93
17.50	.89	5340.02	.005	.90
17.75	.86	5340.02	.005	.87
18.00	.83	5340.02	.005	.84
18.25	.81	5340.02	.005	.82
18.50	.79	5340.02	.005	.80
18.75	.77	5340.02	.004	.78
19.00	.75	5340.02	.004	.76
19.25	.73	5340.02	.004	.74
19.50	.72	5340.02	.004	.72
19.75	.70	5340.02	.004	.71

OUT.WPD

20.00	.69	5340.01	.004	.69
20.25	.68	5340.01	.004	.68
20.50	.67	5340.01	.004	.67
20.75	.66	5340.01	.004	.66
21.00	.65	5340.01	.004	.65
21.25	.64	5340.01	.004	.64
21.50	.63	5340.01	.004	.63
21.75	.62	5340.01	.003	.62
22.00	.61	5340.01	.003	.62
22.25	.61	5340.01	.003	.61
22.50	.60	5340.01	.003	.60
22.75	.59	5340.01	.003	.60
23.00	.59	5340.01	.003	.59
23.25	.58	5340.01	.003	.58
23.50	.57	5340.01	.003	.58
23.75	.57	5340.01	.003	.57
24.00	.56	5340.01	.003	.57
24.25	.56	5340.01	.003	.56
24.50	.55	5340.01	.003	.55
24.75	.55	5340.01	.003	.55
25.00	.54	5340.01	.003	.54
25.25	.54	5340.01	.003	.54
25.50	.53	5340.01	.003	.53
25.75	.53	5340.01	.003	.53
26.00	.52	5340.01	.003	.52
26.25	.51	5340.01	.003	.52
26.50	.50	5340.01	.003	.51
26.75	.49	5340.01	.003	.50
27.00	.46	5340.01	.002	.47
27.25	.41	5340.01	.002	.42
27.50	.38	5340.00	.002	.38
27.75	.36	5340.00	.002	.36

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
28.00	.35	5340.00	.002	.35
28.25	.32	5340.00	.002	.33
28.50	.24	5340.00	.001	.27
28.75	.16	5339.95	.001	.17
29.00	.10	5339.90	.000	.11
29.25	.07	5339.86	.000	.07
29.50	.05	5339.85	.000	.05
29.75	.04	5339.84	.000	.04

PEAK DISCHARGE = 144.057 CFS - PEAK OCCURS AT HOUR 4.00
 MAXIMUM WATER SURFACE ELEVATION = 5342.280
 MAXIMUM STORAGE = .5425 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	81.6	12.000	4.2	18.000	.8	24.000	.6
.250	.0	6.250	70.6	12.250	3.8	18.250	.8	24.250	.6
.500	.0	6.500	77.0	12.500	3.4	18.500	.8	24.500	.6
.750	.0	6.750	64.5	12.750	3.1	18.750	.8	24.750	.5
1.000	.0	7.000	53.4	13.000	2.8	19.000	.8	25.000	.5
1.250	.0	7.250	44.6	13.250	2.6	19.250	.7	25.250	.5
1.500	2.8	7.500	37.2	13.500	2.3	19.500	.7	25.500	.5
1.750	43.4	7.750	31.5	13.750	2.2	19.750	.7	25.750	.5
2.000	118.9	8.000	27.2	14.000	2.0	20.000	.7	26.000	.5
2.250	79.3	8.250	23.4	14.250	1.8	20.250	.7	26.250	.5
2.500	77.2	8.500	20.2	14.500	1.7	20.500	.7	26.500	.5
2.750	115.3	8.750	17.5	14.750	1.6	20.750	.7	26.750	.5
3.000	89.3	9.000	15.2	15.000	1.5	21.000	.7	27.000	.5
3.250	76.0	9.250	13.4	15.250	1.4	21.250	.6	27.250	.4
3.500	101.6	9.500	12.0	15.500	1.3	21.500	.6	27.500	.4
3.750	136.7	9.750	10.8	15.750	1.2	21.750	.6	27.750	.4
4.000	144.1	10.000	9.7	16.000	1.2	22.000	.6	28.000	.4
4.250	129.8	10.250	8.7	16.250	1.1	22.250	.6	28.250	.3
4.500	109.4	10.500	7.8	16.500	1.1	22.500	.6	28.500	.3
4.750	109.6	10.750	7.0	16.750	1.0	22.750	.6	28.750	.2
5.000	120.0	11.000	6.3	17.000	1.0	23.000	.6	29.000	.1
5.250	102.3	11.250	5.7	17.250	.9	23.250	.6	29.250	.1
5.500	81.1	11.500	5.1	17.500	.9	23.500	.6	29.500	.1
5.750	74.3	11.750	4.6	17.750	.9	23.750	.6	29.750	.0

RUNOFF VOLUME = .07520 INCHES = 49.8022 ACRE-Feet
 PEAK DISCHARGE RATE = 144.06 CFS AT 4.000 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

OUT.WPD

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 = .172994HR TP = .133333HR K/TP RATIO = 1.297455 SHAPE CONSTANT, N = 2.760959
UNIT PEAK = 4.9072 CFS UNIT VOLUME = .9948 B = 261.72 P60 = 1.0600
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 = .08181 INCHES = .0109 ACRE-Feet
PEAK DISCHARGE RATE = .39 CFS AT 1.550 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 SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	TOP WIDTH 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= .19 CKMED= .8252
WIDTH MED= 3.70 NREACH= 34 DX= 76.35

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	1.197	.0	.42	.38	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.13	1.0	.8	.874	16.1	1.15	.83	2.713	.040	.979	.467	-.446	.1	.984	.247	-.232
.25	4.1	5.3	.550	32.3	1.82	1.31	4.296	.079	.970	.628	-.598	2.5	.971	.548	-.520
.38	9.2	15.8	.420	48.4	2.47	1.72	5.823	.115	.967	.712	-.679	9.8	.964	.659	-.623
.51	15.8	35.9	.317	54.5	3.51	2.28	8.264	.164	.965	.788	-.753	25.0	.968	.763	-.731
.63	22.9	63.8	.259	58.7	4.24	2.78	9.992	.224	.960	.822	-.782	49.1	.962	.807	-.770
.76	30.6	98.6	.224	62.8	4.83	3.22	11.381	.284	.955	.842	-.797	80.4	.957	.832	-.790
.89	38.8	140.3	.200	67.0	5.34	3.61	12.600	.342	.951	.857	-.807	118.7	.953	.850	-.802
1.01	47.6	189.0	.181	71.2	5.81	3.97	13.698	.399	.947	.868	-.815	164.0	.949	.862	-.811
1.14	56.8	244.8	.167	75.4	6.24	4.31	14.705	.455	.944	.876	-.820	216.2	.945	.872	-.817
1.26	66.6	307.8	.156	79.5	6.64	4.62	15.643	.509	.941	.883	-.824	275.6	.942	.880	-.822
1.39	77.0	378.2	.147	83.7	6.22	4.91	14.673	.634	.922	.877	-.800	342.3	.939	.886	-.825
1.52	88.2	438.2	.145	94.4	5.47	4.97	12.884	.742	.899	.863	-.762	407.8	.895	.860	-.755
1.64	100.8	508.5	.143	105.5	5.73	5.04	13.516	.734	.904	.869	-.773	472.9	.900	.865	-.765
1.77	114.9	591.1	.140	116.6	6.04	5.15	14.227	.733	.908	.875	-.783	549.3	.906	.872	-.777
1.90	130.3	686.4	.137	127.7	6.32	5.27	14.899	.742	.911	.880	-.791	638.2	.909	.877	-.786
2.02	147.2	795.2	.133	138.9	6.59	5.40	15.547	.758	.912	.884	-.797	740.2	.911	.882	-.793
2.15	165.4	918.0	.130	150.0	6.86	5.55	16.178	.779	.913	.889	-.802	855.9	.913	.886	-.799
2.28	185.1	1055.5	.126	161.1	7.15	5.70	16.864	.800	.914	.893	-.807	986.0	.913	.890	-.804
2.40	206.2	1209.5	.123	172.0	7.24	5.87	17.067	.848	.910	.894	-.805	1131.7	.915	.895	-.810

MAXIMUM NO. ITERATIONS FOR SOLUTION (KMAX) = 3 OCCURRED 51 TIMES. AVERAGE NUMBER ITERATIONS = 1.0207

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	1.197	.0	.42	.38	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.13	1.0	.8	.874	16.1	.47	.83	1.098	.098	.911	.089	.000	.1	.968	.032	.000

OUT.WPD

.25	4.1	5.3	.550	32.3	.54	1.31	1.269	.269	.788	.212	.000	2.5	.847	.153	.000
.38	9.2	15.8	.420	48.4	.62	1.72	1.459	.459	.685	.315	.000	9.8	.731	.269	.000
.51	15.8	35.9	.317	54.5	.75	2.28	1.768	.768	.566	.434	.000	25.0	.618	.382	.000
.63	22.9	63.8	.259	58.7	.88	2.78	2.077	1.077	.481	.519	.000	49.1	.519	.481	.000
.76	30.6	98.6	.224	62.8	1.00	3.22	2.365	1.365	.423	.577	.000	80.4	.449	.551	.000
.89	38.8	140.3	.200	67.0	1.12	3.61	2.635	1.635	.379	.621	.000	118.7	.399	.601	.000
1.01	47.6	189.0	.181	71.2	1.23	3.97	2.891	1.891	.346	.654	.000	164.0	.362	.638	.000
1.14	56.8	244.8	.167	75.4	1.33	4.31	3.134	2.134	.319	.681	.000	216.2	.332	.668	.000
1.26	66.6	307.8	.156	79.5	1.43	4.62	3.366	2.366	.297	.703	.000	275.6	.307	.693	.000
1.39	77.0	378.2	.147	83.7	1.52	4.91	3.590	2.590	.279	.721	.000	342.3	.287	.713	.000
1.52	88.2	438.2	.145	94.4	1.54	4.97	3.632	2.632	.275	.725	.000	407.8	.277	.723	.000
1.64	100.8	508.5	.143	105.5	1.57	5.04	3.689	2.689	.271	.729	.000	472.9	.273	.727	.000
1.77	114.9	591.1	.140	116.6	1.60	5.15	3.769	2.769	.265	.735	.000	549.3	.268	.732	.000
1.90	130.3	686.4	.137	127.7	1.64	5.27	3.863	2.863	.259	.741	.000	638.2	.262	.738	.000
2.02	147.2	795.2	.133	138.9	1.68	5.40	3.969	2.969	.252	.748	.000	740.2	.255	.745	.000
2.15	165.4	918.0	.130	150.0	1.73	5.55	4.084	3.084	.245	.755	.000	855.9	.248	.752	.000
2.28	185.1	1055.5	.126	161.1	1.78	5.70	4.206	3.206	.238	.762	.000	986.0	.241	.759	.000
2.40	206.2	1209.5	.123	172.0	1.84	5.87	4.337	3.337	.231	.769	.000	1131.7	.234	.766	.000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 2 OCCURRED 136 TIMES. AVERAGE NUMBER ITERATIONS = 1.0070
 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 = .07671 INCHES = .0102 ACRE-Feet
 PEAK DISCHARGE RATE = .33 CFS AT 3.150 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

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 = .307465HR TP = .241856HR K/TP RATIO = 1.271272 SHAPE CONSTANT, N = 2.811030
 UNIT PEAK = 73.940 CFS UNIT VOLUME = .9995 B = 266.03 P60 = 1.0600
 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 = .09330 INCHES = .3345 ACRE-Feet
 PEAK DISCHARGE RATE = 6.81 CFS AT 1.650 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 = .09269 INCHES = .3447 ACRE-Feet
 PEAK DISCHARGE RATE = 6.81 CFS AT 1.650 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

OUT.WPD

*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

.0000	.0000	.0000	.0000	.0000
.0000	.0000	.0000	.0000	.0000
.0000	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
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	OUT.WPD	.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
 DT= .100000
 WIDTH MED= 2.93

TABLE PTS= 19
 QMED= 30.36
 NREACH= 1

CKMED= 15.9074
 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

OUT.WPD									
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 = .187797HR TP = .144742HR K/TP RATIO = 1.297455 SHAPE CONSTANT, N = 2.760959
 UNIT PEAK = 55.149 CFS UNIT VOLUME = .9981 B = 261.72 P60 = 1.0600
 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 = .08181 INCHES = .1331 ACRE-Feet
 PEAK DISCHARGE RATE = 4.42 CFS AT 1.550 HOURS BASIN AREA = .0305 SQ. MI.

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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 = .122264HR TP = .212101HR K/TP RATIO = .576444 SHAPE CONSTANT, N = 6.617491
 UNIT PEAK = 141.98 CFS UNIT VOLUME = .9998 B = 502.84 P60 = 1.0600
 AREA = .059890 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .208272HR TP = .212101HR K/TP RATIO = .981946 SHAPE CONSTANT, N = 3.596207
 UNIT PEAK = 81.952 CFS UNIT VOLUME = 1.000 B = 327.28 P60 = 1.0600
 AREA = .053110 SQ MI IA = .42021 INCHES INF = 1.02660 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

OUT.WPD

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

PRINT HYD ID=3 CODE=1

HYDROGRAPH FROM AREA APS

RUNOFF VOLUME = .94344 INCHES = 5.6857 ACRE-Feet
PEAK DISCHARGE RATE = 97.76 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 = .76030 INCHES = 5.8188 ACRE-Feet
PEAK DISCHARGE RATE = 101.66 CFS AT 1.600 HOURS BASIN AREA = .1435 SQ. MI.

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*
*S*** ROUTE -46B.6 THRU APS POND TO DISCHARGE 4.5 CFS TO UNIVERSE SD
*

ROUTE RESERVOIR	ID=4 HYD=46B.4 OUTFLOW(CFS)	INFLOW ID=6 CODE=5 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	.00	5375.00	.000	.01
1.00	2.22	5375.09	.010	.01
1.25	5.72	5375.84	.092	.03
1.50	86.03	5377.44	.750	4.45
1.75	64.80	5379.43	2.505	4.47
2.00	32.73	5380.06	3.353	4.48
2.25	15.12	5380.30	3.761	4.48
2.50	7.17	5380.37	3.880	4.48
2.75	4.39	5380.38	3.904	4.48
3.00	2.78	5380.37	3.884	4.48
3.25	1.87	5380.34	3.838	4.48
3.50	1.40	5380.31	3.779	4.48
3.75	1.13	5380.27	3.712	4.48
4.00	1.00	5380.23	3.642	4.48
4.25	.94	5380.18	3.569	4.48
4.50	.94	5380.14	3.496	4.48
4.75	.95	5380.10	3.422	4.48
5.00	1.00	5380.06	3.350	4.48
5.25	1.06	5380.01	3.279	4.48
5.50	1.13	5379.96	3.209	4.48
5.75	1.20	5379.91	3.140	4.48
6.00	1.29	5379.86	3.073	4.48
6.25	1.16	5379.81	3.007	4.48
6.50	1.05	5379.76	2.937	4.48
6.75	1.02	5379.70	2.866	4.48
7.00	.99	5379.65	2.794	4.48
7.25	.98	5379.59	2.722	4.48
7.50	.96	5379.54	2.649	4.48
7.75	.94	5379.48	2.577	4.47
8.00	.93	5379.42	2.503	4.47
8.25	.92	5379.37	2.430	4.47
8.50	.90	5379.31	2.356	4.47
8.75	.88	5379.25	2.282	4.47
9.00	.87	5379.20	2.208	4.47
9.25	.86	5379.14	2.133	4.47
9.50	.85	5379.08	2.059	4.47
9.75	.83	5379.03	1.984	4.47
10.00	.82	5378.95	1.909	4.47
10.25	.81	5378.86	1.833	4.47
10.50	.80	5378.78	1.757	4.47
10.75	.79	5378.69	1.682	4.47
11.00	.78	5378.60	1.606	4.47
11.25	.77	5378.51	1.529	4.47
11.50	.76	5378.42	1.453	4.46
11.75	.76	5378.33	1.376	4.46
12.00	.74	5378.24	1.299	4.46
12.25	.73	5378.15	1.222	4.46
12.50	.73	5378.06	1.145	4.46
12.75	.72	5377.96	1.068	4.46
13.00	.71	5377.83	.991	4.46

OUT.WPD

13.25	.70	5377.71	.913	4.46
13.50	.69	5377.58	.836	4.46
13.75	.68	5377.45	.758	4.45

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
14.00	.68	5377.32	.680	4.45
14.25	.67	5377.20	.602	4.45
14.50	.67	5377.07	.523	4.45
14.75	.66	5376.91	.447	4.03
15.00	.65	5376.74	.385	3.30
15.25	.64	5376.61	.337	2.72
15.50	.63	5376.51	.299	2.27
15.75	.63	5376.43	.269	1.91
16.00	.62	5376.36	.245	1.63
16.25	.62	5376.31	.226	1.41
16.50	.61	5376.27	.212	1.24
16.75	.60	5376.24	.200	1.10
17.00	.60	5376.22	.191	.99
17.25	.59	5376.20	.184	.91
17.50	.59	5376.18	.178	.84
17.75	.58	5376.17	.173	.78
18.00	.58	5376.16	.170	.74
18.25	.57	5376.15	.167	.70
18.50	.57	5376.15	.164	.67
18.75	.55	5376.14	.162	.65
19.00	.56	5376.14	.160	.63
19.25	.56	5376.13	.159	.61
19.50	.55	5376.13	.158	.60
19.75	.54	5376.13	.157	.59
20.00	.54	5376.12	.156	.58
20.25	.54	5376.12	.155	.57
20.50	.53	5376.12	.155	.56
20.75	.52	5376.12	.154	.55
21.00	.53	5376.12	.153	.55
21.25	.52	5376.12	.153	.54
21.50	.51	5376.11	.152	.54
21.75	.51	5376.11	.152	.53
22.00	.50	5376.11	.151	.52
22.25	.50	5376.11	.151	.52
22.50	.50	5376.11	.151	.52
22.75	.49	5376.11	.150	.51
23.00	.49	5376.11	.150	.51
23.25	.49	5376.11	.150	.50
23.50	.49	5376.11	.149	.50
23.75	.48	5376.10	.149	.49
24.00	.47	5376.10	.149	.49
24.25	.22	5376.10	.147	.47
24.50	.06	5376.08	.140	.39
24.75	.03	5376.06	.134	.32
25.00	.02	5376.05	.128	.25
25.25	.01	5376.04	.124	.20
25.50	.00	5376.03	.120	.16
25.75	.00	5376.02	.118	.12
26.00	.00	5376.02	.115	.10
26.25	.00	5376.01	.114	.08
26.50	.00	5376.01	.112	.06
26.75	.00	5376.00	.111	.05
27.00	.00	5376.00	.110	.04
27.25	.00	5376.00	.110	.03
27.50	.00	5375.99	.109	.03
27.75	.00	5375.99	.108	.03

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
28.00	.00	5375.98	.108	.03
28.25	.00	5375.98	.107	.03
28.50	.00	5375.97	.107	.03
28.75	.00	5375.97	.106	.03
29.00	.00	5375.96	.105	.03
29.25	.00	5375.95	.105	.03
29.50	.00	5375.95	.104	.03
29.75	.00	5375.94	.103	.03

PEAK DISCHARGE = 4.484 CFS - PEAK OCCURS AT HOUR 2.75
 MAXIMUM WATER SURFACE ELEVATION = 5380.383
 MAXIMUM STORAGE = 3.9039 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	.7	24.000	.5
.250	.0	6.250	4.5	12.250	4.5	18.250	.7	24.250	.5
.500	.0	6.500	4.5	12.500	4.5	18.500	.7	24.500	.4
.750	.0	6.750	4.5	12.750	4.5	18.750	.7	24.750	.3
1.000	.0	7.000	4.5	13.000	4.5	19.000	.6	25.000	.3
1.250	.0	7.250	4.5	13.250	4.5	19.250	.6	25.250	.2
1.500	4.5	7.500	4.5	13.500	4.5	19.500	.6	25.500	.2
1.750	4.5	7.750	4.5	13.750	4.5	19.750	.6	25.750	.1
2.000	4.5	8.000	4.5	14.000	4.5	20.000	.6	26.000	.1
2.250	4.5	8.250	4.5	14.250	4.5	20.250	.6	26.250	.1
2.500	4.5	8.500	4.5	14.500	4.5	20.500	.6	26.500	.1
2.750	4.5	8.750	4.5	14.750	4.0	20.750	.6	26.750	.0
3.000	4.5	9.000	4.5	15.000	3.3	21.000	.5	27.000	.0
3.250	4.5	9.250	4.5	15.250	2.7	21.250	.5	27.250	.0
3.500	4.5	9.500	4.5	15.500	2.3	21.500	.5	27.500	.0
3.750	4.5	9.750	4.5	15.750	1.9	21.750	.5	27.750	.0
4.000	4.5	10.000	4.5	16.000	1.6	22.000	.5	28.000	.0
4.250	4.5	10.250	4.5	16.250	1.4	22.250	.5	28.250	.0
4.500	4.5	10.500	4.5	16.500	1.2	22.500	.5	28.500	.0
4.750	4.5	10.750	4.5	16.750	1.1	22.750	.5	28.750	.0
5.000	4.5	11.000	4.5	17.000	1.0	23.000	.5	29.000	.0

5.250	4.5	11.250	4.5	17.250	.9	23.250	.5	29.250	.0
5.500	4.5	11.500	4.5	17.500	.8	23.500	.5	29.500	.0
5.750	4.5	11.750	4.5	17.750	.8	23.750	.5	29.750	.0

RUNOFF VOLUME = .74693 INCHES = 5.7164 ACRE-FEET
 PEAK DISCHARGE RATE = 4.48 CFS AT 2.750 HOURS BASIN AREA = .1435 SQ. MI.

*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 = 1.26294 INCHES = 80.6322 ACRE-FEET
 PEAK DISCHARGE RATE = 65.20 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= 32.60 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 = 1.7654
 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	29.3	24.000	9.6
.250	.0	6.250	62.4	12.250	43.2	18.250	29.0	24.250	7.7
.500	.0	6.500	62.2	12.500	42.6	18.500	28.6	24.500	5.3
.750	.0	6.750	61.9	12.750	42.1	18.750	28.0	24.750	4.6
1.000	.0	7.000	61.4	13.000	41.6	19.000	27.4	25.000	4.1
1.250	22.0	7.250	60.0	13.250	41.1	19.250	26.6	25.250	3.8
1.500	51.0	7.500	57.8	13.500	40.6	19.500	25.7	25.500	3.6
1.750	59.8	7.750	56.4	13.750	40.1	19.750	24.9	25.750	3.4
2.000	62.5	8.000	55.3	14.000	39.6	20.000	23.9	26.000	3.2

OUT.WPD									
2.250	63.6	8.250	54.4	14.250	39.1	20.250	23.0	26.250	3.1
2.500	64.4	8.500	53.6	14.500	38.6	20.500	22.3	26.500	2.9
2.750	64.9	8.750	52.8	14.750	37.9	20.750	21.5	26.750	2.8
3.000	65.1	9.000	52.0	15.000	36.7	21.000	20.7	27.000	2.7
3.250	65.1	9.250	51.3	15.250	35.6	21.250	19.8	27.250	2.6
3.500	65.1	9.500	50.6	15.500	34.7	21.500	18.8	27.500	2.6
3.750	64.9	9.750	49.9	15.750	33.9	21.750	18.0	27.750	2.5
4.000	64.7	10.000	49.3	16.000	33.2	22.000	17.3	28.000	2.4
4.250	64.5	10.250	48.6	16.250	32.6	22.250	16.6	28.250	2.4
4.500	64.3	10.500	47.9	16.500	32.0	22.500	15.5	28.500	2.3
4.750	64.1	10.750	47.1	16.750	31.5	22.750	14.3	28.750	2.2
5.000	63.9	11.000	46.4	17.000	31.0	23.000	13.1	29.000	2.2
5.250	63.6	11.250	45.7	17.250	30.6	23.250	12.0	29.250	2.1
5.500	63.3	11.500	45.0	17.500	30.1	23.500	10.9	29.500	2.1
5.750	63.0	11.750	44.4	17.750	29.7	23.750	10.2	29.750	2.0

RUNOFF VOLUME = 1.26259 INCHES = 80.6100 ACRE-FEET
PEAK DISCHARGE RATE = 65.15 CFS AT 3.150 HOURS BASIN AREA = 1.1971 SQ. MI.

*

*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 = 1.19820 INCHES = 80.9546 ACRE-FEET
PEAK DISCHARGE RATE = 65.78 CFS AT 1.800 HOURS BASIN AREA = 1.2668 SQ. MI.

*

*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= 32.89 CKMED= 11.4060
WIDTH MED= 4.74 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 6 TIMES. AVERAGE NUMBER ITERATIONS = 1.8047															
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	4.92	3.64	1.021	.021	.979	.021	.000	.3	.993	.007	.000

OUT.WPD

.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	1.989	1.479	.219	.472	.309	404.8	.474	.484	.041
5.63	27.5	420.0	.016	6.0	4.77	15.25	.309	1.989	.000	.497	.503	416.6	.108	.485	.407

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 3 TIMES. AVERAGE NUMBER ITERATIONS = 1.4958
 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 HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	62.8	12.000	43.9	18.000	29.4	24.000	9.7
.250	.0	6.250	62.5	12.250	43.3	18.250	29.0	24.250	8.4
.500	.0	6.500	62.2	12.500	42.7	18.500	28.7	24.500	5.6
.750	.0	6.750	61.9	12.750	42.2	18.750	28.2	24.750	4.7
1.000	.0	7.000	61.5	13.000	41.7	19.000	27.5	25.000	4.2
1.250	4.9	7.250	60.3	13.250	41.2	19.250	26.7	25.250	3.9
1.500	49.9	7.500	58.1	13.500	40.7	19.500	25.9	25.500	3.6
1.750	64.8	7.750	56.6	13.750	40.2	19.750	25.0	25.750	3.4
2.000	65.1	8.000	55.5	14.000	39.7	20.000	24.1	26.000	3.2
2.250	64.8	8.250	54.5	14.250	39.2	20.250	23.2	26.250	3.1
2.500	64.9	8.500	53.7	14.500	38.7	20.500	22.4	26.500	3.0
2.750	65.3	8.750	52.9	14.750	38.1	20.750	21.7	26.750	2.9
3.000	65.5	9.000	52.1	15.000	36.9	21.000	20.8	27.000	2.8
3.250	65.7	9.250	51.4	15.250	35.8	21.250	20.0	27.250	2.7
3.500	65.4	9.500	50.7	15.500	34.9	21.500	19.0	27.500	2.6
3.750	65.1	9.750	50.0	15.750	34.0	21.750	18.2	27.750	2.5
4.000	64.9	10.000	49.4	16.000	33.3	22.000	17.4	28.000	2.4
4.250	64.7	10.250	48.7	16.250	32.7	22.250	16.8	28.250	2.4
4.500	64.4	10.500	48.0	16.500	32.1	22.500	15.8	28.500	2.3
4.750	64.2	10.750	47.3	16.750	31.6	22.750	14.5	28.750	2.2
5.000	63.9	11.000	46.5	17.000	31.1	23.000	13.3	29.000	2.2
5.250	63.7	11.250	45.8	17.250	30.6	23.250	12.1	29.250	2.1
5.500	63.4	11.500	45.1	17.500	30.2	23.500	11.1	29.500	2.1
5.750	63.0	11.750	44.5	17.750	29.8	23.750	10.3	29.750	2.0

RUNOFF VOLUME = 1.19803 INCHES = 80.9426 ACRE-Feet
 PEAK DISCHARGE RATE = 65.77 CFS AT 3.200 HOURS BASIN AREA = 1.2668 SQ. MI.

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 *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 = .17915 INCHES = 130.7449 ACRE-Feet
 PEAK DISCHARGE RATE = 208.96 CFS AT 4.000 HOURS BASIN AREA = 13.6836 SQ. MI.

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 *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

OUT.WPD

K = .179345HR TP = .271529HR K/TP RATIO = .660502 SHAPE CONSTANT, N = 5.595094
UNIT PEAK = 16.453 CFS UNIT VOLUME = .9992 B = 450.35 P60 = 1.0600
AREA = .009920 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .345685HR TP = .271529HR K/TP RATIO = 1.273106 SHAPE CONSTANT, N = 2.807438
UNIT PEAK = 232.99 CFS UNIT VOLUME = .9997 B = 265.73 P60 = 1.0600
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	.3	10.500	.1	15.750	.1	21.000	.1
.250	.0	5.500	.3	10.750	.1	16.000	.1	21.250	.1
.500	.0	5.750	.3	11.000	.1	16.250	.1	21.500	.1
.750	.0	6.000	.3	11.250	.1	16.500	.1	21.750	.1
1.000	.2	6.250	.3	11.500	.1	16.750	.1	22.000	.1
1.250	.7	6.500	.2	11.750	.1	17.000	.1	22.250	.1
1.500	18.7	6.750	.2	12.000	.1	17.250	.1	22.500	.1
1.750	27.7	7.000	.2	12.250	.1	17.500	.1	22.750	.1
2.000	15.0	7.250	.2	12.500	.1	17.750	.1	23.000	.1
2.250	7.6	7.500	.2	12.750	.1	18.000	.1	23.250	.1
2.500	3.7	7.750	.2	13.000	.1	18.250	.1	23.500	.1
2.750	2.5	8.000	.2	13.250	.1	18.500	.1	23.750	.1
3.000	1.9	8.250	.2	13.500	.1	18.750	.1	24.000	.1
3.250	1.4	8.500	.2	13.750	.1	19.000	.1	24.250	.1
3.500	1.1	8.750	.2	14.000	.1	19.250	.1	24.500	.0
3.750	.8	9.000	.1	14.250	.1	19.500	.1	24.750	.0
4.000	.7	9.250	.1	14.500	.1	19.750	.1	25.000	.0
4.250	.6	9.500	.1	14.750	.1	20.000	.1	25.250	.0
4.500	.5	9.750	.1	15.000	.1	20.250	.1	25.500	.0
4.750	.4	10.000	.1	15.250	.1	20.500	.1	25.750	.0
5.000	.3	10.250	.1	15.500	.1	20.750	.1		

RUNOFF VOLUME = .14438 INCHES = 1.9097 ACRE-FEET
PEAK DISCHARGE RATE = 30.49 CFS AT 1.650 HOURS BASIN AREA = .2480 SQ. MI.

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*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
.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= 519 TABLE PTS= 19
DT= .050000 QMED= 15.24 CKMED= 13.3520
WIDTH MED= 3.09 NREACH= 3 DX= 873.33

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	4.85	2.01	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.21	.2	1.1	.171	1.8	7.02	4.27	1.447	.005	.996	.184	-.180	.2	.999	.029	-.028
.42	.7	4.6	.109	2.4	9.69	6.66	1.997	.011	.993	.335	-.328	2.5	.994	.249	-.243
.63	1.3	10.8	.085	2.9	12.26	8.57	2.528	.017	.990	.436	-.426	7.4	.991	.389	-.381
.83	1.9	19.3	.071	3.2	14.44	10.19	2.976	.024	.988	.500	-.488	14.8	.989	.471	-.460
1.04	2.6	30.2	.063	3.5	16.29	11.60	3.357	.030	.986	.544	-.530	24.6	.987	.524	-.511
1.25	3.4	43.1	.057	3.7	17.86	12.83	3.681	.037	.984	.576	-.560	36.5	.985	.562	-.547
1.46	4.1	57.7	.052	3.9	19.18	13.92	3.954	.045	.982	.600	-.582	50.2	.983	.589	-.573
1.67	5.0	73.8	.049	3.9	20.27	14.88	4.177	.053	.980	.618	-.597	65.6	.981	.610	-.591
1.88	5.8	91.0	.046	4.0	21.12	15.72	4.353	.062	.977	.631	-.608	82.3	.979	.625	-.604
2.08	6.6	108.9	.044	4.0	21.71	16.45	4.475	.072	.974	.639	-.614	99.8	.976	.636	-.612
2.29	7.5	127.1	.043	4.0	21.85	17.06	4.503	.083	.970	.642	-.612	117.9	.972	.642	-.614
2.50	8.3	145.2	.041	4.0	21.44	17.57	4.419	.097	.965	.637	-.602	136.1	.968	.641	-.609

OUT.WPD

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
2.71	9.1	162.8	.041	4.0	20.43	17.97	4.210	.114	.957	.624	-.581	154.0	.962	.633	-.594
2.92	9.8	179.2	.040	4.0	18.72	18.25	3.859	.137	.945	.600	-.545	171.0	.952	.614	-.566
3.13	10.5	193.9	.040	4.0	16.20	18.40	3.339	.171	.924	.557	-.481	186.6	.937	.582	-.519
3.34	11.2	206.2	.040	4.0	12.61	18.42	2.599	.234	.878	.478	-.356	200.1	.907	.526	-.433
3.54	11.8	214.9	.040	4.0	7.39	18.26	1.523	.416	.717	.319	-.036	210.6	.834	.420	-.254
3.75	12.2	218.5	.041	4.0	4.21	17.85	.868	.743	.431	.234	.335	216.7	.449	.233	.318

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 3 OCCURRED 11 TIMES. AVERAGE NUMBER ITERATIONS = 1.0938

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=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	.3	10.500	.1	15.750	.1	21.000	.1
.250	.0	5.500	.3	10.750	.1	16.000	.1	21.250	.1
.500	.0	5.750	.3	11.000	.1	16.250	.1	21.500	.1
.750	.0	6.000	.3	11.250	.1	16.500	.1	21.750	.1
1.000	.0	6.250	.3	11.500	.1	16.750	.1	22.000	.1
1.250	.5	6.500	.2	11.750	.1	17.000	.1	22.250	.1
1.500	1.9	6.750	.2	12.000	.1	17.250	.1	22.500	.1
1.750	29.5	7.000	.2	12.250	.1	17.500	.1	22.750	.1
2.000	21.6	7.250	.2	12.500	.1	17.750	.1	23.000	.1
2.250	11.4	7.500	.2	12.750	.1	18.000	.1	23.250	.1
2.500	5.6	7.750	.2	13.000	.1	18.250	.1	23.500	.1
2.750	3.0	8.000	.2	13.250	.1	18.500	.1	23.750	.1
3.000	2.2	8.250	.2	13.500	.1	18.750	.1	24.000	.1
3.250	1.7	8.500	.2	13.750	.1	19.000	.1	24.250	.1
3.500	1.3	8.750	.2	14.000	.1	19.250	.1	24.500	.0
3.750	1.0	9.000	.2	14.250	.1	19.500	.1	24.750	.0
4.000	.8	9.250	.1	14.500	.1	19.750	.1	25.000	.0
4.250	.6	9.500	.1	14.750	.1	20.000	.1	25.250	.0
4.500	.5	9.750	.1	15.000	.1	20.250	.1	25.500	.0
4.750	.4	10.000	.1	15.250	.1	20.500	.1	25.750	.0
5.000	.4	10.250	.1	15.500	.1	20.750	.1	26.000	.0

RUNOFF VOLUME = .14414 INCHES = 1.9064 ACRE-Feet
 PEAK DISCHARGE RATE = 30.27 CFS AT 1.800 HOURS BASIN AREA = .2480 SQ. MI.

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*S INFLOW POINT IPS
 *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 = .104558HR TP = .186130HR K/TP RATIO = .561749 SHAPE CONSTANT, N = 6.837248
 UNIT PEAK = 147.98 CFS UNIT VOLUME = 1.000 B = 513.49 P60 = 1.0600
 AREA = .053640 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .181388HR TP = .186130HR K/TP RATIO = .974523 SHAPE CONSTANT, N = 3.624192
 UNIT PEAK = 63.263 CFS UNIT VOLUME = 1.000 B = 329.28 P60 = 1.0600
 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

OUT.WPD

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	.9	10.500	.7	15.750	.6	21.000	.5
.250	.0	5.500	1.0	10.750	.7	16.000	.6	21.250	.5
.500	.0	5.750	1.1	11.000	.7	16.250	.6	21.500	.5
.750	.0	6.000	1.2	11.250	.7	16.500	.5	21.750	.5
1.000	2.6	6.250	1.0	11.500	.7	16.750	.5	22.000	.4
1.250	6.1	6.500	.9	11.750	.7	17.000	.5	22.250	.4
1.500	82.7	6.750	.9	12.000	.7	17.250	.5	22.500	.5
1.750	48.3	7.000	.9	12.250	.7	17.500	.5	22.750	.4
2.000	26.1	7.250	.9	12.500	.7	17.750	.5	23.000	.4
2.250	10.7	7.500	.9	12.750	.6	18.000	.5	23.250	.4
2.500	5.0	7.750	.8	13.000	.6	18.250	.5	23.500	.4
2.750	3.0	8.000	.8	13.250	.6	18.500	.5	23.750	.4
3.000	1.8	8.250	.8	13.500	.6	18.750	.5	24.000	.4
3.250	1.3	8.500	.8	13.750	.6	19.000	.5	24.250	.1
3.500	1.0	8.750	.8	14.000	.6	19.250	.5	24.500	.0
3.750	.8	9.000	.8	14.250	.6	19.500	.5	24.750	.0
4.000	.8	9.250	.8	14.500	.6	19.750	.5	25.000	.0
4.250	.8	9.500	.8	14.750	.6	20.000	.5	25.250	.0
4.500	.8	9.750	.7	15.000	.6	20.250	.5	25.500	.0
4.750	.8	10.000	.7	15.250	.6	20.500	.5		
5.000	.9	10.250	.7	15.500	.6	20.750	.5		

RUNOFF VOLUME = 1.02954 INCHES = 4.9088 ACRE-Feet
 PEAK DISCHARGE RATE = 91.01 CFS AT 1.550 HOURS BASIN AREA = .0894 SQ. MI.

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*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= 514 TABLE PTS= 19
 DT= .050000 QMED= 45.51 CKMED= 16.0733
 WIDTH MED= 3.80 NREACH= 2 DX= 1030.00

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	.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 25 TIMES. AVERAGE NUMBER ITERATIONS = 1.1081
 Equations solved using the Ponce correction to C2
 PRINT HYD ID=11 CODE=5

HYDROGRAPH FROM AREA IP5

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.250	.9	10.500	.7	15.750	.6	21.000	.5
.250	.0	5.500	1.0	10.750	.7	16.000	.6	21.250	.5
.500	.0	5.750	1.1	11.000	.7	16.250	.6	21.500	.5
.750	.0	6.000	1.1	11.250	.7	16.500	.5	21.750	.5

OUT.WPD

1.000	.5	6.250	1.1	11.500	.7	16.750	.5	22.000	.5
1.250	3.9	6.500	.9	11.750	.7	17.000	.5	22.250	.5
1.500	68.9	6.750	.9	12.000	.7	17.250	.5	22.500	.4
1.750	54.6	7.000	.9	12.250	.7	17.500	.5	22.750	.4
2.000	28.2	7.250	.9	12.500	.7	17.750	.5	23.000	.4
2.250	13.5	7.500	.9	12.750	.6	18.000	.5	23.250	.4
2.500	5.8	7.750	.8	13.000	.6	18.250	.5	23.500	.4
2.750	3.4	8.000	.8	13.250	.6	18.500	.5	23.750	.4
3.000	2.1	8.250	.8	13.500	.6	18.750	.5	24.000	.4
3.250	1.4	8.500	.8	13.750	.6	19.000	.5	24.250	.3
3.500	1.1	8.750	.8	14.000	.6	19.250	.5	24.500	.1
3.750	.9	9.000	.8	14.250	.6	19.500	.5	24.750	.0
4.000	.8	9.250	.8	14.500	.6	19.750	.5	25.000	.0
4.250	.8	9.500	.8	14.750	.6	20.000	.5	25.250	.0
4.500	.8	9.750	.7	15.000	.6	20.250	.5	25.500	.0
4.750	.8	10.000	.7	15.250	.6	20.500	.5	25.750	.0
5.000	.9	10.250	.7	15.500	.6	20.750	.5		

RUNOFF VOLUME = 1.02962 INCHES = 4.9092 ACRE-FEET
 PEAK DISCHARGE RATE = 90.28 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 CENTROID 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 = .321313HR TP = .458584HR K/TP RATIO = .700663 SHAPE CONSTANT, N = 5.214875
 UNIT PEAK = 5.0374 CFS UNIT VOLUME = .9974 B = 429.38 P60 = 1.0600
 AREA = .005380 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .583713HR TP = .458584HR K/TP RATIO = 1.272861 SHAPE CONSTANT, N = 2.807918
 UNIT PEAK = 308.68 CFS UNIT VOLUME = .9999 B = 265.77 P60 = 1.0600
 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 HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.500	.8	11.000	.1	16.500	.1	22.000	.0
.250	.0	5.750	.7	11.250	.1	16.750	.1	22.250	.0
.500	.0	6.000	.7	11.500	.1	17.000	.1	22.500	.0
.750	.0	6.250	.6	11.750	.1	17.250	.1	22.750	.0
1.000	.0	6.500	.5	12.000	.1	17.500	.1	23.000	.0
1.250	.2	6.750	.4	12.250	.1	17.750	.1	23.250	.0
1.500	8.9	7.000	.4	12.500	.1	18.000	.1	23.500	.0
1.750	27.8	7.250	.4	12.750	.1	18.250	.1	23.750	.0
2.000	27.0	7.500	.3	13.000	.1	18.500	.1	24.000	.0
2.250	18.8	7.750	.3	13.250	.1	18.750	.1	24.250	.0
2.500	12.1	8.000	.3	13.500	.1	19.000	.1	24.500	.0
2.750	7.7	8.250	.2	13.750	.1	19.250	.1	24.750	.0
3.000	5.0	8.500	.2	14.000	.1	19.500	.1	25.000	.0
3.250	3.3	8.750	.2	14.250	.1	19.750	.0	25.250	.0
3.500	2.6	9.000	.2	14.500	.1	20.000	.0	25.500	.0
3.750	2.2	9.250	.2	14.750	.1	20.250	.0	25.750	.0
4.000	1.9	9.500	.2	15.000	.1	20.500	.0	26.000	.0
4.250	1.7	9.750	.1	15.250	.1	20.750	.0	26.250	.0
4.500	1.4	10.000	.1	15.500	.1	21.000	.0	26.500	.0
4.750	1.2	10.250	.1	15.750	.1	21.250	.0	26.750	.0
5.000	1.1	10.500	.1	16.000	.1	21.500	.0		
5.250	1.0	10.750	.1	16.250	.1	21.750	.0		

RUNOFF VOLUME = .09660 INCHES = 2.7717 ACRE-FEET
 PEAK DISCHARGE RATE = 29.29 CFS AT 1.850 HOURS BASIN AREA = .5380 SQ. MI.

OUT.WPD

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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    CENTROID 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 = .117995HR TP = .199522HR K/TP RATIO = .591388 SHAPE CONSTANT, N = 6.407905
UNIT PEAK = 3.3817 CFS UNIT VOLUME = .9964 B = 492.50 P60 = 1.0600
AREA = .001370 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .257334HR TP = .199522HR K/TP RATIO = 1.289753 SHAPE CONSTANT, N = 2.775426
UNIT PEAK = 178.76 CFS UNIT VOLUME = .9993 B = 262.97 P60 = 1.0600
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 FLOW TIME FLOW TIME FLOW TIME FLOW TIME FLOW
HRS CFS HRS CFS HRS CFS HRS CFS HRS CFS
.000 .0 5.000 .1 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 .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 12.8 6.500 .0 11.500 .0 16.500 .0 21.500 .0
1.750 11.1 6.750 .0 11.750 .0 16.750 .0 21.750 .0
2.000 4.4 7.000 .0 12.000 .0 17.000 .0 22.000 .0
2.250 1.7 7.250 .0 12.250 .0 17.250 .0 22.250 .0
2.500 1.2 7.500 .0 12.500 .0 17.500 .0 22.500 .0
2.750 .8 7.750 .0 12.750 .0 17.750 .0 22.750 .0
3.000 .6 8.000 .0 13.000 .0 18.000 .0 23.000 .0
3.250 .4 8.250 .0 13.250 .0 18.250 .0 23.250 .0
3.500 .3 8.500 .0 13.500 .0 18.500 .0 23.500 .0
3.750 .2 8.750 .0 13.750 .0 18.750 .0 23.750 .0
4.000 .2 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 .1 9.500 .0 14.500 .0 19.500 .0 24.500 .0
4.750 .1 9.750 .0 14.750 .0 19.750 .0

RUNOFF VOLUME = .09660 INCHES = .7058 ACRE-FEET
PEAK DISCHARGE RATE = 16.27 CFS AT 1.600 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 = .09660 INCHES = 3.4775 ACRE-FEET
PEAK DISCHARGE RATE = 38.98 CFS AT 1.700 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
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Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

OUT.WPD

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 = 1.0600
 AREA = .022380 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .272676HR TP = .284905HR K/TP RATIO = .957076 SHAPE CONSTANT, N = 3.692136
 UNIT PEAK = 17.496 CFS UNIT VOLUME = .9993 B = 334.09 P60 = 1.0600
 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

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	.4	10.500	.3	15.750	.2	21.000	.2
.250	.0	5.500	.4	10.750	.3	16.000	.2	21.250	.2
.500	.0	5.750	.4	11.000	.3	16.250	.2	21.500	.2
.750	.0	6.000	.5	11.250	.3	16.500	.2	21.750	.2
1.000	.4	6.250	.5	11.500	.3	16.750	.2	22.000	.2
1.250	1.6	6.500	.4	11.750	.3	17.000	.2	22.250	.2
1.500	17.6	6.750	.4	12.000	.3	17.250	.2	22.500	.2
1.750	26.3	7.000	.4	12.250	.3	17.500	.2	22.750	.2
2.000	13.9	7.250	.4	12.500	.3	17.750	.2	23.000	.2
2.250	7.5	7.500	.4	12.750	.3	18.000	.2	23.250	.2
2.500	3.4	7.750	.4	13.000	.3	18.250	.2	23.500	.2
2.750	2.1	8.000	.3	13.250	.3	18.500	.2	23.750	.2
3.000	1.4	8.250	.3	13.500	.3	18.750	.2	24.000	.2
3.250	.9	8.500	.3	13.750	.3	19.000	.2	24.250	.1
3.500	.7	8.750	.3	14.000	.3	19.250	.2	24.500	.0
3.750	.5	9.000	.3	14.250	.3	19.500	.2	24.750	.0
4.000	.5	9.250	.3	14.500	.2	19.750	.2	25.000	.0
4.250	.4	9.500	.3	14.750	.2	20.000	.2	25.250	.0
4.500	.4	9.750	.3	15.000	.2	20.250	.2	25.500	.0
4.750	.4	10.000	.3	15.250	.2	20.500	.2	25.750	.0
5.000	.4	10.250	.3	15.500	.2	20.750	.2	26.000	.0

RUNOFF VOLUME = 1.02954 INCHES = 2.0481 ACRE-FEET
 PEAK DISCHARGE RATE = 29.99 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 = .14545 INCHES = 5.5255 ACRE-FEET
 PEAK DISCHARGE RATE = 67.93 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 OUT.WPD
 3.91 16.47 384.50
 4.17 17.49 416.05
 4.43 18.39 442.30
 4.69 19.13 461.08
 5.00 19.63 468.80
 5.00 468.80 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= 538 TABLE PTS= 19
 DT= .050000 QMED= 33.96 CKMED= 18.3323
 WIDTH MED= 3.89 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) = 3 OCCURRED 8 TIMES. AVERAGE NUMBER ITERATIONS = 1.1166
 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	7.98	5.86	1.003	.003	.997	.003	.000	.4	.999	.001	.000
.52	1.1	9.9	.087	3.1	8.04	9.14	1.010	.010	.990	.010	.000	5.5	.994	.006	.000
.78	2.0	23.1	.068	3.6	8.11	11.76	1.020	.020	.981	.019	.000	15.9	.986	.014	.000
1.04	3.0	41.5	.057	4.1	8.21	13.99	1.031	.031	.970	.030	.000	31.8	.975	.025	.000
1.30	4.1	64.8	.050	4.4	8.31	15.92	1.044	.044	.958	.042	.000	52.7	.964	.036	.000
1.56	5.2	92.4	.045	4.6	8.43	17.62	1.059	.059	.944	.056	.000	78.2	.951	.049	.000
1.82	6.5	123.8	.042	4.8	8.56	19.12	1.075	.075	.930	.070	.000	107.8	.937	.063	.000
2.08	7.7	158.3	.039	4.9	8.69	20.43	1.092	.092	.916	.084	.000	140.8	.923	.077	.000
2.35	9.0	195.2	.037	5.0	8.84	21.58	1.110	.110	.901	.099	.000	176.5	.908	.092	.000
2.61	10.3	233.6	.035	5.0	8.99	22.58	1.130	.130	.885	.115	.000	214.2	.893	.107	.000
2.87	11.6	272.7	.034	5.0	9.14	23.43	1.149	.149	.871	.129	.000	253.0	.878	.122	.000
3.13	12.9	311.6	.033	5.0	9.29	24.12	1.167	.167	.857	.143	.000	292.0	.864	.136	.000
3.39	14.2	349.2	.032	5.0	9.43	24.67	1.185	.185	.844	.156	.000	330.3	.850	.150	.000
3.65	15.3	384.5	.032	5.0	9.56	25.05	1.201	.201	.833	.167	.000	366.8	.838	.162	.000
3.91	16.5	416.1	.031	5.0	9.67	25.27	1.215	.215	.823	.177	.000	400.3	.828	.172	.000
4.17	17.5	442.3	.031	5.0	9.76	25.29	1.226	.226	.816	.184	.000	429.2	.819	.181	.000
4.43	18.4	461.1	.032	5.0	9.82	25.07	1.234	.234	.810	.190	.000	451.8	.813	.187	.000
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) = 2 OCCURRED 102 TIMES. AVERAGE NUMBER ITERATIONS = 1.0875
 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=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	1.3	11.000	.4	16.500	.3	22.000	.2
.250	.0	5.750	1.3	11.250	.4	16.750	.3	22.250	.2
.500	.0	6.000	1.2	11.500	.4	17.000	.3	22.500	.2
.750	.0	6.250	1.1	11.750	.4	17.250	.3	22.750	.2
1.000	.0	6.500	1.0	12.000	.4	17.500	.3	23.000	.2
1.250	1.5	6.750	.9	12.250	.4	17.750	.3	23.250	.2
1.500	9.7	7.000	.8	12.500	.4	18.000	.3	23.500	.2
1.750	67.9	7.250	.8	12.750	.4	18.250	.3	23.750	.2
2.000	52.8	7.500	.7	13.000	.4	18.500	.3	24.000	.2
2.250	34.7	7.750	.7	13.250	.4	18.750	.3	24.250	.2
2.500	20.2	8.000	.6	13.500	.4	19.000	.3	24.500	.1
2.750	12.6	8.250	.6	13.750	.3	19.250	.3	24.750	.0
3.000	8.3	8.500	.6	14.000	.3	19.500	.3	25.000	.0
3.250	5.5	8.750	.6	14.250	.3	19.750	.3	25.250	.0
3.500	3.9	9.000	.5	14.500	.3	20.000	.3	25.500	.0
3.750	3.2	9.250	.5	14.750	.3	20.250	.3	25.750	.0
4.000	2.7	9.500	.5	15.000	.3	20.500	.3	26.000	.0
4.250	2.3	9.750	.5	15.250	.3	20.750	.3	26.250	.0
4.500	2.0	10.000	.5	15.500	.3	21.000	.3	26.500	.0
4.750	1.8	10.250	.5	15.750	.3	21.250	.3	26.750	.0
5.000	1.6	10.500	.4	16.000	.3	21.500	.3		
5.250	1.4	10.750	.4	16.250	.3	21.750	.2		

RUNOFF VOLUME = .14539 INCHES = 5.5233 ACRE-Feet
 PEAK DISCHARGE RATE = 67.88 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 = .24399 INCHES = 10.4324 ACRE-Feet
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PEAK DISCHARGE RATE = 134.64 CFS AT 1.650 HOURS OUT.WPD BASIN AREA = .8017 SQ. MI.

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*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 = .22040 INCHES = 12.3388 ACRE-FEET
PEAK DISCHARGE RATE = 156.34 CFS AT 1.700 HOURS BASIN AREA = 1.0497 SQ. MI.

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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 = .18209 INCHES = 143.0837 ACRE-FEET
PEAK DISCHARGE RATE = 286.70 CFS AT 2.000 HOURS BASIN AREA = 14.7333 SQ. MI.

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*S

** 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
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	.01	5323.00	.000	.01
1.00	.56	5323.00	.002	.03
1.10	3.72	5323.02	.017	.36
1.20	5.80	5323.06	.052	1.09
1.30	30.96	5323.18	.156	3.27
1.40	76.40	5323.62	.532	11.14
1.50	133.16	5324.41	1.235	23.30
1.60	223.37	5325.57	2.467	36.11
1.70	258.12	5326.74	4.111	56.23
1.80	253.90	5327.59	5.652	87.78

OUT.WPD

1.90	238.35	5328.14	6.820	123.21
2.00	286.70	5328.51	7.751	167.74
2.10	247.62	5328.81	8.485	202.81
2.20	227.86	5328.90	8.728	214.45
2.30	195.49	5328.88	8.676	211.96
2.40	178.46	5328.81	8.496	203.32
2.50	173.66	5328.74	8.315	194.67
2.60	165.33	5328.67	8.134	186.04
2.70	189.00	5328.64	8.064	182.68
2.80	198.33	5328.68	8.161	187.33
2.90	183.75	5328.69	8.185	188.48
3.00	167.36	5328.65	8.093	184.09
3.10	155.30	5328.59	7.933	176.43
3.20	149.41	5328.52	7.764	168.33
3.30	153.52	5328.47	7.645	162.65
3.40	161.18	5328.46	7.611	161.03
3.50	173.13	5328.47	7.649	162.84
3.60	194.08	5328.53	7.795	169.84
3.70	204.21	5328.61	8.002	179.70
3.80	208.76	5328.69	8.187	188.57
3.90	211.92	5328.75	8.337	195.72
4.00	213.23	5328.79	8.454	201.33
4.10	209.81	5328.82	8.525	204.73
4.20	202.81	5328.83	8.536	205.26
4.30	193.31	5328.81	8.486	202.84
4.40	185.54	5328.77	8.391	198.34
4.50	177.09	5328.72	8.274	192.74
4.60	170.03	5328.67	8.140	186.30
4.70	172.43	5328.63	8.032	181.15
4.80	181.37	5328.62	8.004	179.82
4.90	185.85	5328.63	8.033	181.22
5.00	186.74	5328.64	8.069	182.93
5.10	183.12	5328.65	8.085	183.70
5.20	173.81	5328.63	8.049	181.96
5.30	163.74	5328.60	7.956	177.54
5.40	154.80	5328.55	7.829	171.47
5.50	147.08	5328.49	7.687	164.66

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
5.60	140.98	5328.43	7.544	157.82
5.70	138.49	5328.38	7.417	151.76
5.80	143.48	5328.35	7.341	148.11
5.90	150.25	5328.35	7.336	147.89
6.00	146.95	5328.35	7.344	148.28
6.10	140.74	5328.34	7.312	146.75
6.20	136.52	5328.32	7.255	144.01
6.30	136.10	5328.29	7.200	141.38
6.40	140.20	5328.29	7.178	140.31
6.50	141.42	5328.29	7.184	140.63
6.60	136.58	5328.28	7.174	140.13
6.70	131.00	5328.27	7.129	137.99
6.80	125.95	5328.24	7.063	134.83
6.90	121.26	5328.21	6.985	131.11
7.00	116.90	5328.18	6.902	127.13
7.10	112.68	5328.14	6.817	123.06
7.20	108.65	5328.11	6.731	118.97
7.30	104.81	5328.07	6.647	114.93
7.40	100.85	5328.04	6.563	110.94
7.50	97.03	5328.01	6.480	106.97
7.60	93.80	5327.97	6.396	104.55
7.70	90.91	5327.92	6.303	102.46
7.80	88.78	5327.87	6.208	100.31
7.90	86.57	5327.82	6.112	98.15
8.00	84.35	5327.77	6.016	95.99
8.10	82.34	5327.72	5.921	93.83
8.20	80.40	5327.68	5.826	91.70
8.30	78.63	5327.63	5.734	89.62
8.40	76.95	5327.58	5.645	87.60
8.50	75.39	5327.54	5.558	85.65
8.60	73.91	5327.50	5.475	83.78
8.70	72.52	5327.45	5.395	81.98
8.80	71.21	5327.42	5.319	80.25
8.90	69.98	5327.38	5.246	78.61
9.00	68.80	5327.34	5.176	77.03
9.10	67.74	5327.31	5.110	75.54
9.20	66.75	5327.28	5.047	74.12
9.30	65.79	5327.25	4.988	72.78
9.40	64.90	5327.22	4.932	71.52
9.50	64.09	5327.19	4.879	70.32
9.60	63.30	5327.16	4.829	69.19
9.70	62.54	5327.14	4.781	68.12
9.80	61.82	5327.12	4.736	67.11
9.90	61.12	5327.09	4.694	66.15
10.00	60.43	5327.07	4.653	65.23
10.10	59.77	5327.05	4.614	64.36
10.20	59.12	5327.03	4.577	63.52
10.30	58.46	5327.02	4.542	62.71
10.40	57.81	5327.00	4.507	61.96
10.50	57.15	5326.98	4.472	61.45
10.60	56.51	5326.95	4.436	60.93
10.70	55.90	5326.93	4.399	60.40
10.80	55.26	5326.90	4.362	59.85
10.90	54.67	5326.88	4.323	59.30
11.00	54.10	5326.85	4.285	58.74
11.10	53.56	5326.83	4.247	58.19

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
11.20	53.01	5326.80	4.208	57.64
11.30	52.46	5326.78	4.170	57.08
11.40	51.95	5326.75	4.132	56.53
11.50	51.44	5326.73	4.095	55.99
11.60	50.98	5326.70	4.057	55.45

OUT.WPD

11.70	50.52	5326.68	4.021	54.92
11.80	50.09	5326.65	3.985	54.40
11.90	49.65	5326.63	3.949	53.89
12.00	49.20	5326.61	3.915	53.38
12.10	48.80	5326.59	3.880	52.89
12.20	48.40	5326.56	3.847	52.40
12.30	48.00	5326.54	3.814	51.93
12.40	47.63	5326.52	3.782	51.46
12.50	47.27	5326.50	3.751	51.01
12.60	46.90	5326.48	3.720	50.57
12.70	46.56	5326.46	3.690	50.14
12.80	46.22	5326.44	3.661	49.71
12.90	45.91	5326.42	3.633	49.30
13.00	45.59	5326.40	3.605	48.90
13.10	45.27	5326.39	3.578	48.51
13.20	44.98	5326.37	3.551	48.13
13.30	44.67	5326.35	3.526	47.75
13.40	44.40	5326.34	3.501	47.39
13.50	44.15	5326.32	3.476	47.04
13.60	43.85	5326.30	3.453	46.70
13.70	43.54	5326.29	3.429	46.36
13.80	43.29	5326.27	3.406	46.03
13.90	43.03	5326.26	3.384	45.70
14.00	42.75	5326.24	3.362	45.39
14.10	42.48	5326.23	3.341	45.07
14.20	42.20	5326.22	3.319	44.77
14.30	41.93	5326.20	3.298	44.46
14.40	41.67	5326.19	3.277	44.16
14.50	41.42	5326.18	3.257	43.86
14.60	41.20	5326.16	3.237	43.58
14.70	40.95	5326.15	3.218	43.29
14.80	40.44	5326.14	3.198	43.00
14.90	39.87	5326.12	3.175	42.68
15.00	39.35	5326.11	3.151	42.33
15.10	38.86	5326.09	3.126	41.97
15.20	38.39	5326.07	3.100	41.59
15.30	37.97	5326.05	3.073	41.21
15.40	37.57	5326.04	3.046	40.82
15.50	37.16	5326.02	3.020	40.43
15.60	36.77	5326.00	2.993	40.04
15.70	36.41	5325.98	2.965	39.81
15.80	36.09	5325.96	2.936	39.60
15.90	35.78	5325.93	2.907	39.38
16.00	35.46	5325.91	2.877	39.16
16.10	35.17	5325.88	2.846	38.93
16.20	34.88	5325.85	2.815	38.70
16.30	34.60	5325.83	2.783	38.46
16.40	34.34	5325.80	2.751	38.22
16.50	34.10	5325.78	2.719	37.98
16.60	33.87	5325.75	2.687	37.74
16.70	33.64	5325.72	2.655	37.51

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
16.80	33.42	5325.70	2.623	37.27
16.90	33.20	5325.67	2.591	37.03
17.00	32.98	5325.64	2.560	36.80
17.10	32.78	5325.62	2.528	36.56
17.20	32.58	5325.59	2.497	36.33
17.30	32.39	5325.57	2.466	36.10
17.40	32.19	5325.54	2.436	35.88
17.50	32.00	5325.52	2.405	35.65
17.60	31.82	5325.49	2.375	35.43
17.70	31.65	5325.47	2.346	35.21
17.80	31.48	5325.44	2.316	34.99
17.90	31.31	5325.42	2.288	34.78
18.00	31.15	5325.40	2.259	34.56
18.10	30.97	5325.37	2.231	34.36
18.20	30.82	5325.35	2.203	34.15
18.30	30.68	5325.33	2.176	33.95
18.40	30.49	5325.31	2.149	33.75
18.50	30.33	5325.28	2.122	33.55
18.60	30.19	5325.26	2.096	33.35
18.70	29.95	5325.24	2.070	33.16
18.80	29.64	5325.22	2.043	32.96
18.90	29.38	5325.19	2.015	32.75
19.00	29.11	5325.17	1.987	32.54
19.10	28.82	5325.15	1.959	32.33
19.20	28.49	5325.12	1.929	32.11
19.30	28.17	5325.10	1.899	31.88
19.40	27.80	5325.07	1.868	31.65
19.50	27.44	5325.05	1.835	31.41
19.60	27.09	5325.02	1.802	31.16
19.70	26.75	5324.99	1.768	30.83
19.80	26.40	5324.95	1.735	30.36
19.90	26.00	5324.92	1.702	29.90
20.00	25.60	5324.88	1.670	29.45
20.10	25.22	5324.85	1.639	29.01
20.20	24.85	5324.81	1.608	28.57
20.30	24.53	5324.78	1.578	28.14
20.40	24.23	5324.75	1.548	27.72
20.50	23.93	5324.72	1.520	27.32
20.60	23.63	5324.69	1.492	26.93
20.70	23.31	5324.66	1.465	26.55
20.80	22.96	5324.63	1.438	26.17
20.90	22.61	5324.60	1.412	25.80
21.00	22.31	5324.57	1.386	25.43
21.10	22.02	5324.54	1.360	25.07
21.20	21.61	5324.52	1.335	24.71
21.30	21.19	5324.49	1.309	24.35
21.40	20.79	5324.46	1.283	23.98
21.50	20.40	5324.43	1.257	23.60
21.60	20.09	5324.40	1.230	23.23
21.70	19.74	5324.37	1.204	22.87
21.80	19.39	5324.35	1.179	22.50

OUT.WPD

21.90	19.09	5324.32	1.153	22.14
22.00	18.80	5324.29	1.128	21.79
22.10	18.52	5324.27	1.104	21.44
22.20	18.28	5324.24	1.080	21.11
22.30	18.02	5324.21	1.057	20.78

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
22.40	17.68	5324.19	1.034	20.46
22.50	17.14	5324.16	1.010	20.12
22.60	16.53	5324.14	.985	19.76
22.70	16.06	5324.11	.958	19.38
22.80	15.59	5324.08	.930	18.99
22.90	15.12	5324.04	.901	18.59
23.00	14.64	5324.01	.872	18.18
23.10	14.17	5323.98	.843	17.65
23.20	13.69	5323.95	.815	17.06
23.30	13.28	5323.92	.788	16.49
23.40	12.87	5323.89	.762	15.95
23.50	12.44	5323.86	.737	15.42
23.60	12.05	5323.83	.713	14.92
23.70	11.73	5323.80	.690	14.43
23.80	11.46	5323.78	.668	13.98
23.90	11.18	5323.75	.648	13.56
24.00	10.97	5323.73	.629	13.16
24.10	10.74	5323.71	.611	12.80
24.20	10.15	5323.69	.594	12.43
24.30	8.71	5323.66	.571	11.96
24.40	7.22	5323.63	.541	11.32
24.50	6.31	5323.59	.506	10.59
24.60	5.82	5323.55	.471	9.86
24.70	5.49	5323.51	.439	9.19
24.80	5.21	5323.48	.410	8.58
24.90	5.00	5323.45	.383	8.03
25.00	4.81	5323.42	.360	7.53
25.10	4.64	5323.39	.338	7.08
25.20	4.51	5323.37	.319	6.68
25.30	4.39	5323.35	.302	6.33
25.40	4.27	5323.33	.287	6.01
25.50	4.17	5323.32	.274	5.72
25.60	4.08	5323.30	.261	5.47
25.70	4.00	5323.29	.251	5.24
25.80	3.92	5323.28	.241	5.04
25.90	3.85	5323.27	.232	4.85
26.00	3.78	5323.26	.224	4.69
26.10	3.71	5323.25	.217	4.54
26.20	3.65	5323.24	.210	4.40
26.30	3.59	5323.24	.204	4.28
26.40	3.53	5323.23	.199	4.16
26.50	3.48	5323.23	.194	4.06
26.60	3.43	5323.22	.189	3.96
26.70	3.38	5323.22	.185	3.87
26.80	3.33	5323.21	.181	3.79
26.90	3.28	5323.21	.177	3.71
27.00	3.23	5323.20	.174	3.64
27.10	3.17	5323.20	.171	3.57
27.20	3.11	5323.19	.167	3.50
27.30	3.06	5323.19	.164	3.44
27.40	3.01	5323.19	.161	3.37
27.50	2.97	5323.18	.158	3.31
27.60	2.93	5323.18	.155	3.25
27.70	2.89	5323.18	.153	3.20
27.80	2.86	5323.17	.150	3.15
27.90	2.83	5323.17	.148	3.10

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
28.00	2.79	5323.17	.146	3.05
28.10	2.76	5323.17	.144	3.01
28.20	2.73	5323.17	.142	2.97
28.30	2.69	5323.16	.140	2.93
28.40	2.63	5323.16	.138	2.88
28.50	2.58	5323.16	.136	2.84
28.60	2.52	5323.16	.133	2.79
28.70	2.45	5323.15	.131	2.74
28.80	2.39	5323.15	.129	2.69
28.90	2.34	5323.15	.126	2.64
29.00	2.30	5323.14	.124	2.59
29.10	2.26	5323.14	.121	2.54
29.20	2.22	5323.14	.119	2.49
29.30	2.19	5323.14	.117	2.45
29.40	2.16	5323.13	.115	2.40
29.50	2.13	5323.13	.113	2.36
29.60	2.10	5323.13	.111	2.32
29.70	2.08	5323.13	.109	2.28
29.80	2.05	5323.13	.107	2.25
29.90	2.02	5323.12	.106	2.22

PEAK DISCHARGE = 214.683 CFS - PEAK OCCURS AT HOUR 2.25
 MAXIMUM WATER SURFACE ELEVATION = 5328.906
 MAXIMUM STORAGE = 8.7333 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	148.3	12.000	53.4	18.000	34.6	24.000	13.2
.050	.0	6.050	147.7	12.050	53.1	18.050	34.5	24.050	13.0
.100	.0	6.100	146.7	12.100	52.9	18.100	34.4	24.100	12.8
.150	.0	6.150	145.5	12.150	52.6	18.150	34.3	24.150	12.6
.200	.0	6.200	144.0	12.200	52.4	18.200	34.1	24.200	12.4
.250	.0	6.250	142.6	12.250	52.2	18.250	34.0	24.250	12.2
.300	.0	6.300	141.4	12.300	51.9	18.300	33.9	24.300	12.0

OUT.WPD									
.350	.0	6.350	140.6	12.350	51.7	18.350	33.8	24.350	11.7
.400	.0	6.400	140.3	12.400	51.5	18.400	33.7	24.400	11.3
.450	.0	6.450	140.4	12.450	51.2	18.450	33.6	24.450	11.0
.500	.0	6.500	140.6	12.500	51.0	18.500	33.5	24.500	10.6
.550	.0	6.550	140.6	12.550	50.8	18.550	33.4	24.550	10.2
.600	.0	6.600	140.1	12.600	50.6	18.600	33.4	24.600	9.9
.650	.0	6.650	139.2	12.650	50.4	18.650	33.3	24.650	9.5
.700	.0	6.700	138.0	12.700	50.1	18.700	33.2	24.700	9.2
.750	.0	6.750	136.5	12.750	49.9	18.750	33.1	24.750	8.9
.800	.0	6.800	134.8	12.800	49.7	18.800	33.0	24.800	8.6
.850	.0	6.850	133.0	12.850	49.5	18.850	32.9	24.850	8.3
.900	.0	6.900	131.1	12.900	49.3	18.900	32.7	24.900	8.0
.950	.0	6.950	129.1	12.950	49.1	18.950	32.6	24.950	7.8
1.000	.0	7.000	127.1	13.000	48.9	19.000	32.5	25.000	7.5
1.050	.1	7.050	125.1	13.050	48.7	19.050	32.4	25.050	7.3
1.100	.4	7.100	123.1	13.100	48.5	19.100	32.3	25.100	7.1
1.150	.7	7.150	121.0	13.150	48.3	19.150	32.2	25.150	6.9
1.200	1.1	7.200	119.0	13.200	48.1	19.200	32.1	25.200	6.7
1.250	1.7	7.250	116.9	13.250	47.9	19.250	32.0	25.250	6.5
1.300	3.3	7.300	114.9	13.300	47.8	19.300	31.9	25.300	6.3
1.350	6.4	7.350	112.9	13.350	47.6	19.350	31.8	25.350	6.2
1.400	11.1	7.400	110.9	13.400	47.4	19.400	31.7	25.400	6.0
1.450	17.5	7.450	108.9	13.450	47.2	19.450	31.5	25.450	5.9
1.500	23.3	7.500	107.0	13.500	47.0	19.500	31.4	25.500	5.7
1.550	30.9	7.550	105.5	13.550	46.9	19.550	31.3	25.550	5.6
1.600	36.1	7.600	104.5	13.600	46.7	19.600	31.2	25.600	5.5
1.650	44.1	7.650	103.5	13.650	46.5	19.650	31.0	25.650	5.4
1.700	56.2	7.700	102.5	13.700	46.4	19.700	30.8	25.700	5.2
1.750	71.2	7.750	101.4	13.750	46.2	19.750	30.6	25.750	5.1
1.800	87.8	7.800	100.3	13.800	46.0	19.800	30.4	25.800	5.0
1.850	102.1	7.850	99.2	13.850	45.9	19.850	30.1	25.850	4.9
1.900	123.2	7.900	98.2	13.900	45.7	19.900	29.9	25.900	4.9
1.950	145.3	7.950	97.1	13.950	45.5	19.950	29.7	25.950	4.8
2.000	167.7	8.000	96.0	14.000	45.4	20.000	29.5	26.000	4.7
2.050	188.9	8.050	94.9	14.050	45.2	20.050	29.2	26.050	4.6
2.100	202.8	8.100	93.8	14.100	45.1	20.100	29.0	26.100	4.5
2.150	210.2	8.150	92.8	14.150	44.9	20.150	28.8	26.150	4.5
2.200	214.5	8.200	91.7	14.200	44.8	20.200	28.6	26.200	4.4
2.250	214.7	8.250	90.7	14.250	44.6	20.250	28.4	26.250	4.3
2.300	212.0	8.300	89.6	14.300	44.5	20.300	28.1	26.300	4.3
2.350	208.1	8.350	88.6	14.350	44.3	20.350	27.9	26.350	4.2
2.400	203.3	8.400	87.6	14.400	44.2	20.400	27.7	26.400	4.2
2.450	198.8	8.450	86.6	14.450	44.0	20.450	27.5	26.450	4.1
2.500	194.7	8.500	85.7	14.500	43.9	20.500	27.3	26.500	4.1
2.550	190.3	8.550	84.7	14.550	43.7	20.550	27.1	26.550	4.0
2.600	186.0	8.600	83.8	14.600	43.6	20.600	26.9	26.600	4.0
2.650	183.0	8.650	82.9	14.650	43.4	20.650	26.7	26.650	3.9
2.700	182.7	8.700	82.0	14.700	43.3	20.700	26.5	26.700	3.9
2.750	184.8	8.750	81.1	14.750	43.2	20.750	26.4	26.750	3.8
2.800	187.3	8.800	80.3	14.800	43.0	20.800	26.2	26.800	3.8
2.850	188.7	8.850	79.4	14.850	42.8	20.850	26.0	26.850	3.8
2.900	188.5	8.900	78.6	14.900	42.7	20.900	25.8	26.900	3.7
2.950	186.9	8.950	77.8	14.950	42.5	20.950	25.6	26.950	3.7
3.000	184.1	9.000	77.0	15.000	42.3	21.000	25.4	27.000	3.6
3.050	180.5	9.050	76.3	15.050	42.2	21.050	25.3	27.050	3.6
3.100	176.4	9.100	75.5	15.100	42.0	21.100	25.1	27.100	3.6
3.150	172.3	9.150	74.8	15.150	41.8	21.150	24.9	27.150	3.5
3.200	168.3	9.200	74.1	15.200	41.6	21.200	24.7	27.200	3.5
3.250	165.0	9.250	73.4	15.250	41.4	21.250	24.5	27.250	3.5
3.300	162.6	9.300	72.8	15.300	41.2	21.300	24.3	27.300	3.4
3.350	161.4	9.350	72.1	15.350	41.0	21.350	24.2	27.350	3.4
3.400	161.0	9.400	71.5	15.400	40.8	21.400	24.0	27.400	3.4
3.450	161.4	9.450	70.9	15.450	40.6	21.450	23.8	27.450	3.3
3.500	162.8	9.500	70.3	15.500	40.4	21.500	23.6	27.500	3.3
3.550	165.7	9.550	69.7	15.550	40.2	21.550	23.4	27.550	3.3
3.600	169.8	9.600	69.2	15.600	40.0	21.600	23.2	27.600	3.3
3.650	174.8	9.650	68.6	15.650	39.9	21.650	23.0	27.650	3.2
3.700	179.7	9.700	68.1	15.700	39.8	21.700	22.9	27.700	3.2
3.750	184.3	9.750	67.6	15.750	39.7	21.750	22.7	27.750	3.2
3.800	188.6	9.800	67.1	15.800	39.6	21.800	22.5	27.800	3.1
3.850	192.3	9.850	66.6	15.850	39.5	21.850	22.3	27.850	3.1
3.900	195.7	9.900	66.1	15.900	39.4	21.900	22.1	27.900	3.1
3.950	198.7	9.950	65.7	15.950	39.3	21.950	22.0	27.950	3.1
4.000	201.3	10.000	65.2	16.000	39.2	22.000	21.8	28.000	3.1
4.050	203.4	10.050	64.8	16.050	39.0	22.050	21.6	28.050	3.0
4.100	204.7	10.100	64.4	16.100	38.9	22.100	21.4	28.100	3.0
4.150	205.4	10.150	63.9	16.150	38.8	22.150	21.3	28.150	3.0
4.200	205.3	10.200	63.5	16.200	38.7	22.200	21.1	28.200	3.0
4.250	204.4	10.250	63.1	16.250	38.6	22.250	20.9	28.250	2.9
4.300	202.8	10.300	62.7	16.300	38.5	22.300	20.8	28.300	2.9
4.350	200.8	10.350	62.3	16.350	38.3	22.350	20.6	28.350	2.9
4.400	198.3	10.400	62.0	16.400	38.2	22.400	20.5	28.400	2.9
4.450	195.7	10.450	61.7	16.450	38.1	22.450	20.3	28.450	2.9
4.500	192.7	10.500	61.5	16.500	38.0	22.500	20.1	28.500	2.8
4.550	189.6	10.550	61.2	16.550	37.9	22.550	19.9	28.550	2.8
4.600	186.3	10.600	60.9	16.600	37.7	22.600	19.8	28.600	2.8
4.650	183.4	10.650	60.7	16.650	37.6	22.650	19.6	28.650	2.8
4.700	181.2	10.700	60.4	16.700	37.5	22.700	19.4	28.700	2.7
4.750	180.0	10.750	60.1	16.750	37.4	22.750	19.2	28.750	2.7
4.800	179.8	10.800	59.9	16.800	37.3	22.800	19.0	28.800	2.7
4.850	180.4	10.850	59.6	16.850	37.2	22.850	18.8	28.850	2.7
4.900	181.2	10.900	59.3	16.900	37.0	22.900	18.6	28.900	2.6
4.950	182.1	10.950	59.0	16.950	36.9	22.950	18.4	28.950	2.6
5.000	182.9	11.000	58.7	17.000	36.8	23.000	18.2	29.000	2.6
5.050	183.5	11.050	58.5	17.050	36.7	23.050	18.0	29.050	2.6
5.100	183.7	11.100	58.2	17.100	36.6	23.100	17.7	29.100	2.5
5.150	183.2	11.150	57.9	17.150	36.4	23.150	17.4	29.150	2.5
5.200	182.0	11.200	57.6	17.200	36.3	23.200	17.1	29.200	2.5
5.250	180.0	11.250	57.4	17.250	36.2	23.250	16.8	29.250	2.5
5.300	177.5	11.300	57.1	17.300	36.1	23.300	16.5	29.300	2.4
5.350	174.6	11.350	56.8	17.350	36.0	23.350	16.2	29.350	2.4
5.400	171.5	11.400	56.5	17.400	35.9	23.400	15.9	29.400	2.4
5.450	168.1	11.450	56.3	17.450	35.8	23.450	15.7	29.450	2.4
5.500	164.7	11.500	56.0	17.500	35.7	23.500	15.4	29.500	2.4
5.550	161.2	11.550	55.7	17.550	35.5	23.550	15.2	29.550	2.3
5.600	157.8	11.600	55.4	17.600	35.4	23.600	14.9	29.600	2.3

OUT.WPD									
5.650	154.6	11.650	55.2	17.650	35.3	23.650	14.7	29.650	2.3
5.700	151.8	11.700	54.9	17.700	35.2	23.700	14.4	29.700	2.3
5.750	149.5	11.750	54.7	17.750	35.1	23.750	14.2	29.750	2.3
5.800	148.1	11.800	54.4	17.800	35.0	23.800	14.0	29.800	2.2
5.850	147.7	11.850	54.1	17.850	34.9	23.850	13.8	29.850	2.2
5.900	147.9	11.900	53.9	17.900	34.8	23.900	13.6	29.900	2.2
5.950	148.3	11.950	53.6	17.950	34.7	23.950	13.4	29.950	2.2

RUNOFF VOLUME = .18196 INCHES = 142.9789 ACRE-Feet
 PEAK DISCHARGE RATE = 214.68 CFS AT 2.250 HOURS BASIN AREA = 14.7333 SQ. MI.

*

 *

*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

HYDROGRAPH FROM AREA PIPE.80

RUNOFF VOLUME = .18196 INCHES = 142.9789 ACRE-Feet
 PEAK DISCHARGE RATE = 214.68 CFS AT 2.250 HOURS BASIN AREA = 14.7333 SQ. MI.

PRINT HYD ID=90 CODE=1

HYDROGRAPH FROM AREA SURF.90

RUNOFF VOLUME = .00000 INCHES = .0000 ACRE-Feet
 PEAK DISCHARGE RATE = .00 CFS AT .050 HOURS BASIN AREA = .0000 SQ. MI.

*

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

*

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

*S
 *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 N0=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 = .164282HR TP = .290419HR K/TP RATIO = .565672 SHAPE CONSTANT, N = 6.777136
 UNIT PEAK = 5.0476 CFS UNIT VOLUME = .9977 B = 510.60 P60 = 1.0600
 AREA = .002871 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .390137HR TP = .290419HR K/TP RATIO = 1.343360 SHAPE CONSTANT, N = 2.678951
 UNIT PEAK = 81.351 CFS UNIT VOLUME = .9995 B = 254.51 P60 = 1.0600
 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	.1	10.500	.0	15.750	.0	21.000	.0
.250	.0	5.500	.1	10.750	.0	16.000	.0	21.250	.0
.500	.0	5.750	.1	11.000	.0	16.250	.0	21.500	.0
.750	.0	6.000	.1	11.250	.0	16.500	.0	21.750	.0
1.000	.0	6.250	.1	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	4.3	6.750	.1	12.000	.0	17.250	.0	22.500	.0
1.750	7.6	7.000	.1	12.250	.0	17.500	.0	22.750	.0
2.000	4.4	7.250	.1	12.500	.0	17.750	.0	23.000	.0
2.250	2.4	7.500	.1	12.750	.0	18.000	.0	23.250	.0
2.500	1.2	7.750	.1	13.000	.0	18.250	.0	23.500	.0
2.750	.7	8.000	.0	13.250	.0	18.500	.0	23.750	.0
3.000	.5	8.250	.0	13.500	.0	18.750	.0	24.000	.0
3.250	.4	8.500	.0	13.750	.0	19.000	.0	24.250	.0
3.500	.3	8.750	.0	14.000	.0	19.250	.0	24.500	.0
3.750	.3	9.000	.0	14.250	.0	19.500	.0	24.750	.0
4.000	.2	9.250	.0	14.500	.0	19.750	.0	25.000	.0
4.250	.2	9.500	.0	14.750	.0	20.000	.0		
4.500	.1	9.750	.0	15.000	.0	20.250	.0		
4.750	.1	10.000	.0	15.250	.0	20.500	.0		
5.000	.1	10.250	.0	15.500	.0	20.750	.0		

RUNOFF VOLUME = .10430 INCHES = .5323 ACRE-FEET
 PEAK DISCHARGE RATE = 7.97 CFS AT 1.700 HOURS BASIN AREA = .0957 SQ. MI.

*
 *S ROUTE SUB-BASIN 3 THRU UNSER TEMP POND A
 *

ROUTE RESERVOIR	ID=1 HYD=4.9 INFLOW (CFS)	ID=3 CODE=2 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

* * * * *

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	.00	5337.00	.000	.00
1.00	.04	5337.00	.000	.01
1.10	.12	5337.01	.001	.03
1.20	.17	5337.01	.002	.06
1.30	.28	5337.02	.003	.10
1.40	.77	5337.05	.005	.21
1.50	4.33	5337.19	.022	.83
1.60	7.39	5337.51	.059	2.26
1.70	7.97	5337.86	.098	3.79
1.80	6.97	5338.03	.125	4.47
1.90	5.60	5338.07	.140	4.56
2.00	4.39	5338.08	.143	4.58
2.10	3.47	5338.06	.138	4.54
2.20	2.72	5338.03	.126	4.47
2.30	2.05	5337.96	.109	4.22
2.40	1.54	5337.81	.092	3.55
2.50	1.18	5337.67	.076	2.95
2.60	.92	5337.55	.063	2.43
2.70	.73	5337.45	.051	1.99
2.80	.65	5337.37	.042	1.63
2.90	.59	5337.31	.035	1.35
3.00	.52	5337.26	.029	1.14
3.10	.47	5337.22	.025	.96
3.20	.42	5337.19	.021	.82
3.30	.38	5337.16	.018	.71
3.40	.35	5337.14	.016	.61
3.50	.32	5337.12	.014	.54
3.60	.29	5337.11	.012	.47
3.70	.27	5337.10	.011	.42
3.80	.24	5337.08	.010	.37
3.90	.22	5337.08	.009	.34
4.00	.20	5337.07	.008	.30
4.10	.19	5337.06	.007	.27
4.20	.17	5337.06	.006	.25
4.30	.16	5337.05	.006	.23
4.40	.15	5337.05	.005	.21
4.50	.14	5337.04	.005	.19
4.60	.13	5337.04	.005	.18
4.70	.13	5337.04	.004	.16
4.80	.12	5337.03	.004	.15
4.90	.12	5337.03	.004	.14
5.00	.11	5337.03	.004	.14
5.10	.11	5337.03	.003	.13
5.20	.10	5337.03	.003	.12
5.30	.10	5337.03	.003	.12
5.40	.10	5337.03	.003	.11
5.50	.09	5337.02	.003	.11

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

5.60	.09	5337.02	.003	.10
5.70	.09	5337.02	.003	.10
5.80	.09	5337.02	.003	.10
5.90	.09	5337.02	.002	.10
6.00	.09	5337.02	.002	.09
6.10	.09	5337.02	.002	.09
6.20	.08	5337.02	.002	.09
6.30	.08	5337.02	.002	.09
6.40	.07	5337.02	.002	.08
6.50	.07	5337.02	.002	.08
6.60	.07	5337.02	.002	.08
6.70	.07	5337.02	.002	.07
6.80	.06	5337.02	.002	.07
6.90	.06	5337.02	.002	.07
7.00	.06	5337.02	.002	.07
7.10	.06	5337.01	.002	.06
7.20	.06	5337.01	.002	.06
7.30	.06	5337.01	.002	.06
7.40	.06	5337.01	.002	.06
7.50	.05	5337.01	.002	.06
7.60	.05	5337.01	.001	.06
7.70	.05	5337.01	.001	.06
7.80	.05	5337.01	.001	.05
7.90	.05	5337.01	.001	.05
8.00	.05	5337.01	.001	.05
8.10	.05	5337.01	.001	.05
8.20	.05	5337.01	.001	.05
8.30	.05	5337.01	.001	.05
8.40	.05	5337.01	.001	.05
8.50	.05	5337.01	.001	.05
8.60	.05	5337.01	.001	.05
8.70	.05	5337.01	.001	.05
8.80	.05	5337.01	.001	.05
8.90	.04	5337.01	.001	.05
9.00	.04	5337.01	.001	.05
9.10	.04	5337.01	.001	.05
9.20	.04	5337.01	.001	.04
9.30	.04	5337.01	.001	.04
9.40	.04	5337.01	.001	.04
9.50	.04	5337.01	.001	.04
9.60	.04	5337.01	.001	.04
9.70	.04	5337.01	.001	.04
9.80	.04	5337.01	.001	.04
9.90	.04	5337.01	.001	.04
10.00	.04	5337.01	.001	.04
10.10	.04	5337.01	.001	.04
10.20	.04	5337.01	.001	.04
10.30	.04	5337.01	.001	.04
10.40	.04	5337.01	.001	.04
10.50	.04	5337.01	.001	.04
10.60	.04	5337.01	.001	.04
10.70	.04	5337.01	.001	.04
10.80	.04	5337.01	.001	.04
10.90	.04	5337.01	.001	.04
11.00	.04	5337.01	.001	.04
11.10	.04	5337.01	.001	.04

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
11.20	.04	5337.01	.001	.04
11.30	.04	5337.01	.001	.04
11.40	.04	5337.01	.001	.04
11.50	.04	5337.01	.001	.04
11.60	.04	5337.01	.001	.04
11.70	.04	5337.01	.001	.04
11.80	.04	5337.01	.001	.04
11.90	.04	5337.01	.001	.04
12.00	.04	5337.01	.001	.04
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	.03	5337.01	.001	.04
12.80	.03	5337.01	.001	.04
12.90	.03	5337.01	.001	.03
13.00	.03	5337.01	.001	.03
13.10	.03	5337.01	.001	.03
13.20	.03	5337.01	.001	.03
13.30	.03	5337.01	.001	.03
13.40	.03	5337.01	.001	.03
13.50	.03	5337.01	.001	.03
13.60	.03	5337.01	.001	.03
13.70	.03	5337.01	.001	.03
13.80	.03	5337.01	.001	.03
13.90	.03	5337.01	.001	.03
14.00	.03	5337.01	.001	.03
14.10	.03	5337.01	.001	.03
14.20	.03	5337.01	.001	.03
14.30	.03	5337.01	.001	.03
14.40	.03	5337.01	.001	.03
14.50	.03	5337.01	.001	.03
14.60	.03	5337.01	.001	.03
14.70	.03	5337.01	.001	.03
14.80	.03	5337.01	.001	.03
14.90	.03	5337.01	.001	.03
15.00	.03	5337.01	.001	.03
15.10	.03	5337.01	.001	.03
15.20	.03	5337.01	.001	.03
15.30	.03	5337.01	.001	.03
15.40	.03	5337.01	.001	.03
15.50	.03	5337.01	.001	.03
15.60	.03	5337.01	.001	.03

OUT.WPD

15.70	.03	5337.01	.001	.03
15.80	.03	5337.01	.001	.03
15.90	.03	5337.01	.001	.03
16.00	.03	5337.01	.001	.03
16.10	.03	5337.01	.001	.03
16.20	.03	5337.01	.001	.03
16.30	.03	5337.01	.001	.03
16.40	.03	5337.01	.001	.03
16.50	.03	5337.01	.001	.03
16.60	.03	5337.01	.001	.03
16.70	.03	5337.01	.001	.03

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
16.80	.03	5337.01	.001	.03
16.90	.03	5337.01	.001	.03
17.00	.03	5337.01	.001	.03
17.10	.03	5337.01	.001	.03
17.20	.03	5337.01	.001	.03
17.30	.03	5337.01	.001	.03
17.40	.03	5337.01	.001	.03
17.50	.03	5337.01	.001	.03
17.60	.03	5337.01	.001	.03
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	.02	5337.01	.001	.03
21.30	.02	5337.01	.001	.03
21.40	.02	5337.01	.001	.03
21.50	.02	5337.01	.001	.02
21.60	.02	5337.01	.001	.02
21.70	.02	5337.01	.001	.02
21.80	.02	5337.01	.001	.02
21.90	.02	5337.01	.001	.02
22.00	.02	5337.01	.001	.02
22.10	.02	5337.01	.001	.02
22.20	.02	5337.01	.001	.02
22.30	.02	5337.01	.001	.02

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
22.40	.02	5337.01	.001	.02
22.50	.02	5337.01	.001	.02
22.60	.02	5337.01	.001	.02
22.70	.02	5337.01	.001	.02
22.80	.02	5337.01	.001	.02
22.90	.02	5337.01	.001	.02
23.00	.02	5337.01	.001	.02
23.10	.02	5337.01	.001	.02
23.20	.02	5337.01	.001	.02
23.30	.02	5337.01	.001	.02
23.40	.02	5337.01	.001	.02
23.50	.02	5337.01	.001	.02
23.60	.02	5337.01	.001	.02
23.70	.02	5337.01	.001	.02
23.80	.02	5337.01	.001	.02
23.90	.02	5337.01	.001	.02
24.00	.02	5337.01	.001	.02
24.10	.02	5337.01	.001	.02
24.20	.02	5337.00	.001	.02
24.30	.01	5337.00	.001	.02
24.40	.01	5337.00	.000	.02
24.50	.01	5337.00	.000	.01
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	.00

PEAK DISCHARGE = 4.577 CFS - PEAK OCCURS AT HOUR 2.00
 MAXIMUM WATER SURFACE ELEVATION = 5338.077
 MAXIMUM STORAGE = .1431 AC-FT INCREMENTAL TIME= .050000HRS

PRINT HYD

ID=1 CODE=5

OUT.WPD

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	.1	10.500	.0	15.750	.0	21.000	.0
.250	.0	5.500	.1	10.750	.0	16.000	.0	21.250	.0
.500	.0	5.750	.1	11.000	.0	16.250	.0	21.500	.0
.750	.0	6.000	.1	11.250	.0	16.500	.0	21.750	.0
1.000	.0	6.250	.1	11.500	.0	16.750	.0	22.000	.0
1.250	.1	6.500	.1	11.750	.0	17.000	.0	22.250	.0
1.500	.8	6.750	.1	12.000	.0	17.250	.0	22.500	.0
1.750	4.4	7.000	.1	12.250	.0	17.500	.0	22.750	.0
2.000	4.6	7.250	.1	12.500	.0	17.750	.0	23.000	.0
2.250	4.4	7.500	.1	12.750	.0	18.000	.0	23.250	.0
2.500	2.9	7.750	.1	13.000	.0	18.250	.0	23.500	.0
2.750	1.8	8.000	.1	13.250	.0	18.500	.0	23.750	.0
3.000	1.1	8.250	.1	13.500	.0	18.750	.0	24.000	.0
3.250	.8	8.500	.0	13.750	.0	19.000	.0	24.250	.0
3.500	.5	8.750	.0	14.000	.0	19.250	.0	24.500	.0
3.750	.4	9.000	.0	14.250	.0	19.500	.0	24.750	.0
4.000	.3	9.250	.0	14.500	.0	19.750	.0	25.000	.0
4.250	.2	9.500	.0	14.750	.0	20.000	.0	25.250	.0
4.500	.2	9.750	.0	15.000	.0	20.250	.0	25.500	.0
4.750	.2	10.000	.0	15.250	.0	20.500	.0		
5.000	.1	10.250	.0	15.500	.0	20.750	.0		

RUNOFF VOLUME = .10429 INCHES = .5323 ACRE-Feet
 PEAK DISCHARGE RATE = 4.58 CFS AT 2.000 HOURS BASIN AREA = .0957 SQ. MI.

 *
 * COMPUTE HYD FOR SUB-BASIN 4

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 = 1.0600
 AREA = .000564 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .210518HR TP = .155939HR K/TP RATIO = 1.350000 SHAPE CONSTANT, N = 2.667659
 UNIT PEAK = 44.927 CFS UNIT VOLUME = .9977 B = 253.50 P60 = 1.0600
 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 HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW 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	.0	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	3.2	6.500	.0	11.500	.0	16.500	.0	21.500	.0
1.750	1.7	6.750	.0	11.750	.0	16.750	.0	21.750	.0
2.000	.7	7.000	.0	12.000	.0	17.000	.0	22.000	.0
2.250	.3	7.250	.0	12.250	.0	17.250	.0	22.250	.0
2.500	.2	7.500	.0	12.500	.0	17.500	.0	22.500	.0
2.750	.1	7.750	.0	12.750	.0	17.750	.0	22.750	.0
3.000	.1	8.000	.0	13.000	.0	18.000	.0	23.000	.0
3.250	.1	8.250	.0	13.250	.0	18.250	.0	23.250	.0
3.500	.0	8.500	.0	13.500	.0	18.500	.0	23.500	.0
3.750	.0	8.750	.0	13.750	.0	18.750	.0	23.750	.0
4.000	.0	9.000	.0	14.000	.0	19.000	.0	24.000	.0
4.250	.0	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 = .08952 INCHES = .1346 ACRE-Feet
 PEAK DISCHARGE RATE = 3.53 CFS AT 1.550 HOURS BASIN AREA = .0282 SQ. MI.

*

*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 = .10092 INCHES = .6669 ACRE-Feet
 PEAK DISCHARGE RATE = 6.12 CFS AT 1.750 HOURS BASIN AREA = .1239 SQ. MI.

*

*

*S ROUTE THRU UNSER TEMP POND B

*

ROUTE RESERVOIR	ID=1 HYD=5.9 OUTFLOW(CFS)	INFLOW ID=2 STORAGE(AC FT)	CODE=2 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 (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (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	.00	5333.00	.000	.00
.90	.01	5333.00	.000	.00
1.00	.04	5333.00	.000	.00
1.10	.07	5333.00	.001	.00
1.20	.11	5333.01	.001	.00
1.30	.28	5333.02	.003	.00
1.40	.72	5333.04	.007	.00
1.50	4.04	5333.17	.026	.00
1.60	5.50	5333.42	.067	.00
1.70	5.96	5333.71	.114	.01
1.80	5.88	5334.01	.164	.04
1.90	5.51	5334.14	.209	.38
2.00	5.23	5334.26	.249	.69
2.10	4.99	5334.37	.284	.96
2.20	4.79	5334.46	.316	1.20
2.30	4.48	5334.54	.344	1.41
2.40	3.76	5334.60	.365	1.57
2.50	3.12	5334.65	.380	1.69
2.60	2.57	5334.67	.389	1.76
2.70	2.11	5334.69	.394	1.79
2.80	1.73	5334.69	.395	1.80
2.90	1.44	5334.69	.393	1.79
3.00	1.21	5334.68	.390	1.76
3.10	1.02	5334.66	.384	1.72
3.20	.87	5334.64	.378	1.67
3.30	.75	5334.62	.371	1.62
3.40	.65	5334.60	.364	1.56
3.50	.57	5334.58	.356	1.51
3.60	.50	5334.55	.349	1.45
3.70	.45	5334.53	.341	1.39
3.80	.40	5334.51	.333	1.33
3.90	.36	5334.49	.325	1.27
4.00	.32	5334.46	.318	1.21
4.10	.29	5334.44	.311	1.16
4.20	.26	5334.42	.304	1.10
4.30	.24	5334.40	.297	1.05
4.40	.22	5334.38	.290	1.00
4.50	.20	5334.36	.284	.95
4.60	.19	5334.35	.278	.91
4.70	.18	5334.33	.272	.86
4.80	.17	5334.31	.267	.82
4.90	.16	5334.30	.261	.78
5.00	.15	5334.28	.256	.74
5.10	.14	5334.27	.251	.71
5.20	.13	5334.26	.247	.67
5.30	.13	5334.24	.243	.64
5.40	.12	5334.23	.238	.61
5.50	.12	5334.22	.235	.58

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
5.60	.12	5334.21	.231	.55
5.70	.11	5334.20	.227	.52
5.80	.11	5334.19	.224	.50
5.90	.11	5334.18	.221	.47
6.00	.11	5334.17	.218	.45
6.10	.10	5334.16	.215	.43

OUT.WPD

6.20	.10	5334.15	.213	.41
6.30	.10	5334.15	.210	.39
6.40	.09	5334.14	.208	.37
6.50	.09	5334.13	.205	.36
6.60	.09	5334.13	.203	.34
6.70	.08	5334.12	.201	.32
6.80	.08	5334.12	.199	.31
6.90	.08	5334.11	.197	.30
7.00	.08	5334.10	.196	.28
7.10	.07	5334.10	.194	.27
7.20	.07	5334.10	.193	.26
7.30	.07	5334.09	.191	.25
7.40	.07	5334.09	.190	.24
7.50	.07	5334.08	.188	.23
7.60	.07	5334.08	.187	.22
7.70	.06	5334.08	.186	.21
7.80	.06	5334.07	.185	.20
7.90	.06	5334.07	.184	.19
8.00	.06	5334.07	.183	.18
8.10	.06	5334.06	.182	.17
8.20	.06	5334.06	.181	.17
8.30	.06	5334.06	.180	.16
8.40	.06	5334.06	.179	.15
8.50	.06	5334.05	.178	.15
8.60	.06	5334.05	.177	.14
8.70	.06	5334.05	.177	.14
8.80	.06	5334.05	.176	.13
8.90	.05	5334.05	.175	.13
9.00	.05	5334.04	.175	.12
9.10	.05	5334.04	.174	.12
9.20	.05	5334.04	.174	.12
9.30	.05	5334.04	.173	.11
9.40	.05	5334.04	.173	.11
9.50	.05	5334.04	.172	.10
9.60	.05	5334.04	.172	.10
9.70	.05	5334.03	.172	.10
9.80	.05	5334.03	.171	.10
9.90	.05	5334.03	.171	.09
10.00	.05	5334.03	.170	.09
10.10	.05	5334.03	.170	.09
10.20	.05	5334.03	.170	.08
10.30	.05	5334.03	.170	.08
10.40	.05	5334.03	.169	.08
10.50	.05	5334.03	.169	.08
10.60	.05	5334.03	.169	.08
10.70	.05	5334.02	.169	.07
10.80	.05	5334.02	.168	.07
10.90	.05	5334.02	.168	.07
11.00	.05	5334.02	.168	.07
11.10	.05	5334.02	.168	.07

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
11.20	.05	5334.02	.167	.07
11.30	.05	5334.02	.167	.07
11.40	.04	5334.02	.167	.06
11.50	.04	5334.02	.167	.06
11.60	.04	5334.02	.167	.06
11.70	.04	5334.02	.167	.06
11.80	.04	5334.02	.167	.06
11.90	.04	5334.02	.166	.06
12.00	.04	5334.02	.166	.06
12.10	.04	5334.02	.166	.06
12.20	.04	5334.02	.166	.06
12.30	.04	5334.02	.166	.06
12.40	.04	5334.02	.166	.05
12.50	.04	5334.02	.166	.05
12.60	.04	5334.02	.166	.05
12.70	.04	5334.02	.166	.05
12.80	.04	5334.02	.165	.05
12.90	.04	5334.02	.165	.05
13.00	.04	5334.02	.165	.05
13.10	.04	5334.02	.165	.05
13.20	.04	5334.02	.165	.05
13.30	.04	5334.02	.165	.05
13.40	.04	5334.01	.165	.05
13.50	.04	5334.01	.165	.05
13.60	.04	5334.01	.165	.05
13.70	.04	5334.01	.165	.05
13.80	.04	5334.01	.165	.05
13.90	.04	5334.01	.165	.05
14.00	.04	5334.01	.165	.05
14.10	.04	5334.01	.165	.05
14.20	.04	5334.01	.165	.05
14.30	.04	5334.01	.165	.04
14.40	.04	5334.01	.165	.04
14.50	.04	5334.01	.164	.04
14.60	.04	5334.01	.164	.04
14.70	.04	5334.01	.164	.04
14.80	.04	5334.01	.164	.04
14.90	.04	5334.01	.164	.04
15.00	.04	5334.01	.164	.04
15.10	.04	5334.01	.164	.04
15.20	.04	5334.01	.164	.04
15.30	.04	5334.01	.164	.04
15.40	.04	5334.01	.164	.04
15.50	.04	5334.01	.164	.04
15.60	.04	5334.01	.164	.04
15.70	.04	5334.01	.164	.04
15.80	.04	5334.01	.164	.04
15.90	.04	5334.01	.164	.04
16.00	.04	5334.01	.164	.04
16.10	.04	5334.01	.164	.04
16.20	.04	5334.01	.164	.04
16.30	.04	5334.01	.164	.04

OUT.WPD

16.40	.04	5334.01	.164	.04
16.50	.04	5334.01	.164	.04
16.60	.04	5334.01	.164	.04
16.70	.04	5334.01	.164	.04

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
16.80	.04	5334.01	.164	.04
16.90	.03	5334.01	.164	.04
17.00	.03	5334.01	.164	.04
17.10	.03	5334.01	.164	.04
17.20	.03	5334.01	.164	.04
17.30	.03	5334.01	.164	.04
17.40	.03	5334.01	.164	.04
17.50	.03	5334.01	.164	.04
17.60	.03	5334.01	.164	.04
17.70	.03	5334.01	.163	.04
17.80	.03	5334.01	.163	.04
17.90	.03	5334.01	.163	.04
18.00	.03	5334.01	.163	.04
18.10	.03	5334.01	.163	.04
18.20	.03	5334.01	.163	.04
18.30	.03	5334.01	.163	.04
18.40	.03	5334.01	.163	.04
18.50	.03	5334.01	.163	.04
18.60	.03	5334.01	.163	.04
18.70	.03	5334.01	.163	.04
18.80	.03	5334.01	.163	.03
18.90	.03	5334.01	.163	.03
19.00	.03	5334.01	.163	.03
19.10	.03	5334.01	.163	.03
19.20	.03	5334.01	.163	.03
19.30	.03	5334.01	.163	.03
19.40	.03	5334.01	.163	.03
19.50	.03	5334.01	.163	.03
19.60	.03	5334.01	.163	.03
19.70	.03	5334.01	.163	.03
19.80	.03	5334.01	.163	.03
19.90	.03	5334.01	.163	.03
20.00	.03	5334.01	.163	.03
20.10	.03	5334.01	.163	.03
20.20	.03	5334.01	.163	.03
20.30	.03	5334.01	.163	.03
20.40	.03	5334.01	.163	.03
20.50	.03	5334.01	.163	.03
20.60	.03	5334.01	.163	.03
20.70	.03	5334.01	.163	.03
20.80	.03	5334.01	.163	.03
20.90	.03	5334.01	.163	.03
21.00	.03	5334.01	.163	.03
21.10	.03	5334.01	.163	.03
21.20	.03	5334.01	.163	.03
21.30	.03	5334.01	.163	.03
21.40	.03	5334.01	.163	.03
21.50	.03	5334.01	.163	.03
21.60	.03	5334.01	.163	.03
21.70	.03	5334.01	.163	.03
21.80	.03	5334.01	.163	.03
21.90	.03	5334.01	.163	.03
22.00	.03	5334.01	.163	.03
22.10	.03	5334.01	.163	.03
22.20	.03	5334.01	.163	.03
22.30	.03	5334.01	.163	.03

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
22.40	.03	5334.01	.163	.03
22.50	.03	5334.01	.163	.03
22.60	.03	5334.01	.163	.03
22.70	.03	5334.01	.163	.03
22.80	.03	5334.01	.163	.03
22.90	.03	5334.01	.163	.03
23.00	.03	5334.01	.163	.03
23.10	.03	5334.01	.163	.03
23.20	.03	5334.01	.163	.03
23.30	.03	5334.01	.163	.03
23.40	.03	5334.01	.163	.03
23.50	.03	5334.01	.163	.03
23.60	.03	5334.01	.163	.03
23.70	.03	5334.01	.163	.03
23.80	.03	5334.01	.163	.03
23.90	.03	5334.01	.163	.03
24.00	.03	5334.01	.162	.03
24.10	.03	5334.01	.162	.03
24.20	.02	5334.01	.162	.03
24.30	.02	5334.01	.162	.03
24.40	.02	5334.01	.162	.03
24.50	.01	5334.01	.162	.03
24.60	.01	5334.01	.162	.03
24.70	.01	5334.01	.162	.03
24.80	.01	5334.01	.162	.02
24.90	.01	5334.00	.162	.02
25.00	.00	5334.00	.162	.02
25.10	.00	5334.00	.161	.02
25.20	.00	5334.00	.161	.02
25.30	.00	5334.00	.161	.02
25.40	.00	5334.00	.161	.02
25.50	.00	5334.00	.161	.02
25.60	.00	5334.00	.161	.02
25.70	.00	5334.00	.161	.01
25.80	.00	5334.00	.161	.01
25.90	.00	5334.00	.160	.01
26.00	.00	5334.00	.160	.01
26.10	.00	5334.00	.160	.01

OUT.WPD

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
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	.159	.01
27.10	.00	5334.00	.159	.01
27.20	.00	5334.00	.159	.01
27.30	.00	5334.00	.159	.01
27.40	.00	5333.99	.159	.01
27.50	.00	5333.99	.159	.01
27.60	.00	5333.99	.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	.158	.01
28.30	.00	5333.99	.158	.01
28.40	.00	5333.99	.158	.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	5333.98	.158	.01
29.40	.00	5333.98	.157	.01
29.50	.00	5333.98	.157	.01
29.60	.00	5333.98	.157	.01
29.70	.00	5333.98	.157	.01
29.80	.00	5333.98	.157	.01
29.90	.00	5333.98	.157	.01

PEAK DISCHARGE = 1.800 CFS - PEAK OCCURS AT HOUR 2.80
 MAXIMUM WATER SURFACE ELEVATION = 5334.691
 MAXIMUM STORAGE = .3950 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	.5	12.000	.1	18.000	.0	24.000	.0
.250	.0	6.250	.4	12.250	.1	18.250	.0	24.250	.0
.500	.0	6.500	.4	12.500	.1	18.500	.0	24.500	.0
.750	.0	6.750	.3	12.750	.1	18.750	.0	24.750	.0
1.000	.0	7.000	.3	13.000	.1	19.000	.0	25.000	.0
1.250	.0	7.250	.3	13.250	.0	19.250	.0	25.250	.0
1.500	.0	7.500	.2	13.500	.0	19.500	.0	25.500	.0
1.750	.0	7.750	.2	13.750	.0	19.750	.0	25.750	.0
2.000	.7	8.000	.2	14.000	.0	20.000	.0	26.000	.0
2.250	1.3	8.250	.2	14.250	.0	20.250	.0	26.250	.0
2.500	1.7	8.500	.1	14.500	.0	20.500	.0	26.500	.0
2.750	1.8	8.750	.1	14.750	.0	20.750	.0	26.750	.0
3.000	1.8	9.000	.1	15.000	.0	21.000	.0	27.000	.0
3.250	1.6	9.250	.1	15.250	.0	21.250	.0	27.250	.0
3.500	1.5	9.500	.1	15.500	.0	21.500	.0	27.500	.0
3.750	1.4	9.750	.1	15.750	.0	21.750	.0	27.750	.0
4.000	1.2	10.000	.1	16.000	.0	22.000	.0	28.000	.0
4.250	1.1	10.250	.1	16.250	.0	22.250	.0	28.250	.0
4.500	1.0	10.500	.1	16.500	.0	22.500	.0	28.500	.0
4.750	.8	10.750	.1	16.750	.0	22.750	.0	28.750	.0
5.000	.7	11.000	.1	17.000	.0	23.000	.0	29.000	.0
5.250	.7	11.250	.1	17.250	.0	23.250	.0	29.250	.0
5.500	.6	11.500	.1	17.500	.0	23.500	.0	29.500	.0
5.750	.5	11.750	.1	17.750	.0	23.750	.0	29.750	.0

RUNOFF VOLUME = .07716 INCHES = .5099 ACRE-FEET
 PEAK DISCHARGE RATE = 1.80 CFS AT 2.800 HOURS BASIN AREA = .1239 SQ. MI.

*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

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

				OUT.WPD	
		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	.5	12.000	.1	18.000	.0	24.000	.0
.250	.0	6.250	.4	12.250	.1	18.250	.0	24.250	.0
.500	.0	6.500	.4	12.500	.1	18.500	.0	24.500	.0
.750	.0	6.750	.3	12.750	.1	18.750	.0	24.750	.0
1.000	.0	7.000	.3	13.000	.1	19.000	.0	25.000	.0
1.250	.0	7.250	.3	13.250	.0	19.250	.0	25.250	.0
1.500	.0	7.500	.2	13.500	.0	19.500	.0	25.500	.0
1.750	.0	7.750	.2	13.750	.0	19.750	.0	25.750	.0
2.000	.7	8.000	.2	14.000	.0	20.000	.0	26.000	.0
2.250	1.3	8.250	.2	14.250	.0	20.250	.0	26.250	.0
2.500	1.7	8.500	.1	14.500	.0	20.500	.0	26.500	.0
2.750	1.8	8.750	.1	14.750	.0	20.750	.0	26.750	.0
3.000	1.8	9.000	.1	15.000	.0	21.000	.0	27.000	.0
3.250	1.6	9.250	.1	15.250	.0	21.250	.0	27.250	.0
3.500	1.5	9.500	.1	15.500	.0	21.500	.0	27.500	.0
3.750	1.4	9.750	.1	15.750	.0	21.750	.0	27.750	.0
4.000	1.2	10.000	.1	16.000	.0	22.000	.0	28.000	.0
4.250	1.1	10.250	.1	16.250	.0	22.250	.0	28.250	.0
4.500	1.0	10.500	.1	16.500	.0	22.500	.0	28.500	.0
4.750	.8	10.750	.1	16.750	.0	22.750	.0	28.750	.0
5.000	.7	11.000	.1	17.000	.0	23.000	.0	29.000	.0
5.250	.7	11.250	.1	17.250	.0	23.250	.0	29.250	.0
5.500	.6	11.500	.1	17.500	.0	23.500	.0	29.500	.0
5.750	.5	11.750	.1	17.750	.0	23.750	.0	29.750	.0

RUNOFF VOLUME = .07716 INCHES = .5099 ACRE-Feet
 PEAK DISCHARGE RATE = 1.80 CFS AT 2.800 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 = .163440HR TP = .289472HR K/TP RATIO = .564614 SHAPE CONSTANT, N = 6.793237
 UNIT PEAK = 3.3212 CFS UNIT VOLUME = .9966 B = 511.37 P60 = 1.0600
 AREA = .001880 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .388963HR TP = .289472HR K/TP RATIO = 1.343700 SHAPE CONSTANT, N = 2.678369
 UNIT PEAK = 80.977 CFS UNIT VOLUME = .9995 B = 254.46 P60 = 1.0600
 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 HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.1	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	.0	6.000	.1	11.000	.0	16.000	.0	21.000	.0

OUT.WPD									
1.250	.1	6.250	.1	11.250	.0	16.250	.0	21.250	.0
1.500	3.7	6.500	.1	11.500	.0	16.500	.0	21.500	.0
1.750	6.6	6.750	.0	11.750	.0	16.750	.0	21.750	.0
2.000	3.8	7.000	.0	12.000	.0	17.000	.0	22.000	.0
2.250	2.0	7.250	.0	12.250	.0	17.250	.0	22.250	.0
2.500	1.0	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	.5	8.000	.0	13.000	.0	18.000	.0	23.000	.0
3.250	.4	8.250	.0	13.250	.0	18.250	.0	23.250	.0
3.500	.3	8.500	.0	13.500	.0	18.500	.0	23.500	.0
3.750	.2	8.750	.0	13.750	.0	18.750	.0	23.750	.0
4.000	.2	9.000	.0	14.000	.0	19.000	.0	24.000	.0
4.250	.2	9.250	.0	14.250	.0	19.250	.0	24.250	.0
4.500	.1	9.500	.0	14.500	.0	19.500	.0	24.500	.0
4.750	.1	9.750	.0	14.750	.0	19.750	.0	24.750	.0

RUNOFF VOLUME = .08952 INCHES = .4488 ACRE-FEET
 PEAK DISCHARGE RATE = 6.88 CFS AT 1.700 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 = .08249 INCHES = .9586 ACRE-FEET
 PEAK DISCHARGE RATE = 6.89 CFS AT 1.700 HOURS BASIN AREA = .2179 SQ. MI.

*

*S
 *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 (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (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	.00	5329.00	.000	.00
1.00	.03	5329.00	.000	.00
1.10	.08	5329.00	.001	.00
1.20	.11	5329.01	.001	.01
1.30	.18	5329.01	.002	.02
1.40	.52	5329.03	.005	.04
1.50	3.70	5329.12	.021	.15
1.60	6.36	5329.35	.061	.46
1.70	6.89	5329.64	.111	.84
1.80	6.10	5329.91	.157	1.18
1.90	5.27	5330.06	.193	1.56
2.00	4.50	5330.14	.219	1.90
2.10	3.96	5330.19	.237	2.13
2.20	3.54	5330.23	.249	2.30
2.30	3.18	5330.25	.258	2.41
2.40	2.92	5330.27	.263	2.47
2.50	2.72	5330.27	.265	2.51
2.60	2.56	5330.28	.266	2.52
2.70	2.43	5330.28	.266	2.52
2.80	2.37	5330.27	.265	2.51
2.90	2.30	5330.27	.264	2.49
3.00	2.22	5330.26	.262	2.47
3.10	2.14	5330.26	.260	2.44
3.20	2.05	5330.25	.257	2.40
3.30	1.96	5330.24	.254	2.36
3.40	1.88	5330.23	.251	2.32
3.50	1.79	5330.22	.247	2.27
3.60	1.71	5330.21	.243	2.21
3.70	1.63	5330.19	.238	2.16
3.80	1.55	5330.18	.234	2.10
3.90	1.47	5330.17	.229	2.04
4.00	1.40	5330.15	.225	1.98
4.10	1.33	5330.14	.220	1.91
4.20	1.26	5330.13	.215	1.85
4.30	1.20	5330.11	.210	1.79
4.40	1.14	5330.10	.205	1.72
4.50	1.08	5330.08	.200	1.66
4.60	1.03	5330.07	.196	1.60
4.70	.98	5330.05	.191	1.54
4.80	.93	5330.04	.186	1.48
4.90	.88	5330.03	.182	1.42

OUT.WPD

5.00	.84	5330.01	.178	1.36
5.10	.80	5330.00	.173	1.30
5.20	.76	5329.98	.169	1.27
5.30	.72	5329.95	.165	1.24
5.40	.69	5329.93	.161	1.21
5.50	.65	5329.90	.156	1.17

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
5.60	.62	5329.88	.152	1.14
5.70	.59	5329.85	.148	1.11
5.80	.57	5329.83	.143	1.08
5.90	.54	5329.80	.139	1.05
6.00	.52	5329.78	.135	1.02
6.10	.50	5329.76	.131	.98
6.20	.47	5329.73	.127	.95
6.30	.45	5329.71	.123	.92
6.40	.43	5329.69	.119	.90
6.50	.41	5329.67	.115	.87
6.60	.39	5329.65	.112	.84
6.70	.37	5329.62	.108	.81
6.80	.36	5329.60	.104	.78
6.90	.34	5329.58	.101	.76
7.00	.33	5329.56	.097	.73
7.10	.31	5329.54	.094	.71
7.20	.30	5329.53	.091	.68
7.30	.29	5329.51	.088	.66
7.40	.27	5329.49	.085	.64
7.50	.26	5329.47	.082	.61
7.60	.25	5329.46	.079	.59
7.70	.24	5329.44	.076	.57
7.80	.23	5329.42	.073	.55
7.90	.22	5329.41	.071	.53
8.00	.22	5329.40	.068	.51
8.10	.21	5329.38	.066	.50
8.20	.20	5329.37	.064	.48
8.30	.19	5329.35	.061	.46
8.40	.19	5329.34	.059	.44
8.50	.18	5329.33	.057	.43
8.60	.17	5329.32	.055	.41
8.70	.17	5329.31	.053	.40
8.80	.16	5329.30	.051	.39
8.90	.16	5329.29	.049	.37
9.00	.15	5329.28	.048	.36
9.10	.15	5329.27	.046	.35
9.20	.14	5329.26	.044	.33
9.30	.14	5329.25	.043	.32
9.40	.14	5329.24	.041	.31
9.50	.13	5329.23	.040	.30
9.60	.13	5329.22	.039	.29
9.70	.13	5329.22	.037	.28
9.80	.12	5329.21	.036	.27
9.90	.12	5329.20	.035	.26
10.00	.12	5329.20	.034	.25
10.10	.11	5329.19	.033	.25
10.20	.11	5329.18	.032	.24
10.30	.11	5329.18	.031	.23
10.40	.11	5329.17	.030	.22
10.50	.10	5329.17	.029	.22
10.60	.10	5329.16	.028	.21
10.70	.10	5329.16	.027	.20
10.80	.10	5329.15	.026	.20
10.90	.10	5329.15	.025	.19
11.00	.09	5329.14	.025	.18
11.10	.09	5329.14	.024	.18

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
11.20	.09	5329.13	.023	.17
11.30	.09	5329.13	.022	.17
11.40	.09	5329.13	.022	.16
11.50	.09	5329.12	.021	.16
11.60	.09	5329.12	.021	.15
11.70	.08	5329.12	.020	.15
11.80	.08	5329.11	.020	.15
11.90	.08	5329.11	.019	.14
12.00	.08	5329.11	.019	.14
12.10	.08	5329.10	.018	.14
12.20	.08	5329.10	.018	.13
12.30	.08	5329.10	.017	.13
12.40	.08	5329.10	.017	.13
12.50	.08	5329.09	.016	.12
12.60	.08	5329.09	.016	.12
12.70	.08	5329.09	.016	.12
12.80	.07	5329.09	.015	.12
12.90	.07	5329.09	.015	.11
13.00	.07	5329.08	.015	.11
13.10	.07	5329.08	.014	.11
13.20	.07	5329.08	.014	.11
13.30	.07	5329.08	.014	.10
13.40	.07	5329.08	.014	.10
13.50	.07	5329.08	.013	.10
13.60	.07	5329.08	.013	.10
13.70	.07	5329.07	.013	.10
13.80	.07	5329.07	.013	.09
13.90	.07	5329.07	.012	.09
14.00	.07	5329.07	.012	.09
14.10	.07	5329.07	.012	.09
14.20	.07	5329.07	.012	.09
14.30	.07	5329.07	.012	.09
14.40	.07	5329.07	.011	.09
14.50	.06	5329.06	.011	.08
14.60	.06	5329.06	.011	.08
14.70	.06	5329.06	.011	.08

OUT.WPD

14.80	.06	5329.06	.011	.08
14.90	.06	5329.06	.011	.08
15.00	.06	5329.06	.011	.08
15.10	.06	5329.06	.010	.08
15.20	.06	5329.06	.010	.08
15.30	.06	5329.06	.010	.08
15.40	.06	5329.06	.010	.08
15.50	.06	5329.06	.010	.07
15.60	.06	5329.06	.010	.07
15.70	.06	5329.06	.010	.07
15.80	.06	5329.06	.010	.07
15.90	.06	5329.05	.009	.07
16.00	.06	5329.05	.009	.07
16.10	.06	5329.05	.009	.07
16.20	.06	5329.05	.009	.07
16.30	.06	5329.05	.009	.07
16.40	.06	5329.05	.009	.07
16.50	.06	5329.05	.009	.07
16.60	.06	5329.05	.009	.07
16.70	.06	5329.05	.009	.07

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
16.80	.06	5329.05	.009	.07
16.90	.06	5329.05	.009	.07
17.00	.06	5329.05	.009	.06
17.10	.06	5329.05	.009	.06
17.20	.06	5329.05	.008	.06
17.30	.06	5329.05	.008	.06
17.40	.06	5329.05	.008	.06
17.50	.06	5329.05	.008	.06
17.60	.06	5329.05	.008	.06
17.70	.06	5329.05	.008	.06
17.80	.05	5329.05	.008	.06
17.90	.05	5329.05	.008	.06
18.00	.05	5329.05	.008	.06
18.10	.05	5329.05	.008	.06
18.20	.05	5329.05	.008	.06
18.30	.05	5329.05	.008	.06
18.40	.05	5329.05	.008	.06
18.50	.05	5329.04	.008	.06
18.60	.05	5329.04	.008	.06
18.70	.05	5329.04	.008	.06
18.80	.05	5329.04	.008	.06
18.90	.05	5329.04	.008	.06
19.00	.05	5329.04	.008	.06
19.10	.05	5329.04	.008	.06
19.20	.05	5329.04	.008	.06
19.30	.05	5329.04	.007	.06
19.40	.05	5329.04	.007	.06
19.50	.05	5329.04	.007	.06
19.60	.05	5329.04	.007	.06
19.70	.05	5329.04	.007	.06
19.80	.05	5329.04	.007	.05
19.90	.05	5329.04	.007	.05
20.00	.05	5329.04	.007	.05
20.10	.05	5329.04	.007	.05
20.20	.05	5329.04	.007	.05
20.30	.05	5329.04	.007	.05
20.40	.05	5329.04	.007	.05
20.50	.05	5329.04	.007	.05
20.60	.05	5329.04	.007	.05
20.70	.05	5329.04	.007	.05
20.80	.05	5329.04	.007	.05
20.90	.05	5329.04	.007	.05
21.00	.05	5329.04	.007	.05
21.10	.05	5329.04	.007	.05
21.20	.05	5329.04	.007	.05
21.30	.05	5329.04	.007	.05
21.40	.05	5329.04	.007	.05
21.50	.05	5329.04	.007	.05
21.60	.05	5329.04	.007	.05
21.70	.05	5329.04	.007	.05
21.80	.05	5329.04	.007	.05
21.90	.05	5329.04	.007	.05
22.00	.05	5329.04	.007	.05
22.10	.05	5329.04	.007	.05
22.20	.05	5329.04	.007	.05
22.30	.05	5329.04	.007	.05

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
22.40	.05	5329.04	.007	.05
22.50	.05	5329.04	.007	.05
22.60	.05	5329.04	.006	.05
22.70	.05	5329.04	.006	.05
22.80	.05	5329.04	.006	.05
22.90	.05	5329.04	.006	.05
23.00	.05	5329.04	.006	.05
23.10	.05	5329.04	.006	.05
23.20	.05	5329.04	.006	.05
23.30	.04	5329.04	.006	.05
23.40	.04	5329.04	.006	.05
23.50	.04	5329.04	.006	.05
23.60	.04	5329.04	.006	.05
23.70	.04	5329.04	.006	.05
23.80	.04	5329.04	.006	.05
23.90	.04	5329.04	.006	.05
24.00	.04	5329.04	.006	.05
24.10	.04	5329.04	.006	.05
24.20	.04	5329.04	.006	.05
24.30	.04	5329.04	.006	.05
24.40	.03	5329.03	.006	.05
24.50	.03	5329.03	.006	.04

OUT.WPD

24.60	.03	5329.03	.006	.04
24.70	.03	5329.03	.006	.04
24.80	.03	5329.03	.006	.04
24.90	.02	5329.03	.005	.04
25.00	.02	5329.03	.005	.04
25.10	.02	5329.03	.005	.04
25.20	.02	5329.03	.005	.04
25.30	.02	5329.03	.005	.04
25.40	.02	5329.03	.005	.04
25.50	.02	5329.03	.005	.03
25.60	.02	5329.03	.004	.03
25.70	.01	5329.02	.004	.03
25.80	.01	5329.02	.004	.03
25.90	.01	5329.02	.004	.03
26.00	.01	5329.02	.004	.03
26.10	.01	5329.02	.004	.03
26.20	.01	5329.02	.004	.03
26.30	.01	5329.02	.003	.03
26.40	.01	5329.02	.003	.02
26.50	.01	5329.02	.003	.02
26.60	.01	5329.02	.003	.02
26.70	.01	5329.02	.003	.02
26.80	.01	5329.02	.003	.02
26.90	.01	5329.02	.003	.02
27.00	.01	5329.02	.003	.02
27.10	.01	5329.02	.003	.02
27.20	.01	5329.01	.003	.02
27.30	.01	5329.01	.002	.02
27.40	.01	5329.01	.002	.02
27.50	.01	5329.01	.002	.02
27.60	.01	5329.01	.002	.02
27.70	.01	5329.01	.002	.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	.01
28.30	.01	5329.01	.002	.01
28.40	.01	5329.01	.002	.01
28.50	.01	5329.01	.002	.01
28.60	.01	5329.01	.002	.01
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 = 2.520 CFS - PEAK OCCURS AT HOUR 2.65
 MAXIMUM WATER SURFACE ELEVATION = 5330.277
 MAXIMUM STORAGE = .2662 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	1.0	12.000	.1	18.000	.1	24.000	.0
.250	.0	6.250	.9	12.250	.1	18.250	.1	24.250	.0
.500	.0	6.500	.9	12.500	.1	18.500	.1	24.500	.0
.750	.0	6.750	.8	12.750	.1	18.750	.1	24.750	.0
1.000	.0	7.000	.7	13.000	.1	19.000	.1	25.000	.0
1.250	.0	7.250	.7	13.250	.1	19.250	.1	25.250	.0
1.500	.2	7.500	.6	13.500	.1	19.500	.1	25.500	.0
1.750	1.0	7.750	.6	13.750	.1	19.750	.1	25.750	.0
2.000	1.9	8.000	.5	14.000	.1	20.000	.1	26.000	.0
2.250	2.4	8.250	.5	14.250	.1	20.250	.1	26.250	.0
2.500	2.5	8.500	.4	14.500	.1	20.500	.1	26.500	.0
2.750	2.5	8.750	.4	14.750	.1	20.750	.1	26.750	.0
3.000	2.5	9.000	.4	15.000	.1	21.000	.1	27.000	.0
3.250	2.4	9.250	.3	15.250	.1	21.250	.1	27.250	.0
3.500	2.3	9.500	.3	15.500	.1	21.500	.1	27.500	.0
3.750	2.1	9.750	.3	15.750	.1	21.750	.1	27.750	.0
4.000	2.0	10.000	.3	16.000	.1	22.000	.0	28.000	.0
4.250	1.8	10.250	.2	16.250	.1	22.250	.0	28.250	.0
4.500	1.7	10.500	.2	16.500	.1	22.500	.0	28.500	.0
4.750	1.5	10.750	.2	16.750	.1	22.750	.0	28.750	.0
5.000	1.4	11.000	.2	17.000	.1	23.000	.0	29.000	.0
5.250	1.3	11.250	.2	17.250	.1	23.250	.0	29.250	.0
5.500	1.2	11.500	.2	17.500	.1	23.500	.0	29.500	.0
5.750	1.1	11.750	.1	17.750	.1	23.750	.0	29.750	.0

RUNOFF VOLUME = .08236 INCHES = .9571 ACRE-Feet
 PEAK DISCHARGE RATE = 2.52 CFS AT 2.650 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

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*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

			OUT.WPD	
.032	.022	.016	.012	.009
.008	.007	.006	.005	.004
.004	.003	.003	.002	.002
.002	.001	.001		

*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 = .19685 INCHES = 2.5028 ACRE-Feet
 PEAK DISCHARGE RATE = 19.20 CFS AT 1.800 HOURS BASIN AREA = .2384 SQ. MI.

*S RECALL HYD FROM SAD 228 POND 5

*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

OUT.WPD				
.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
.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

*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 = .71602 INCHES = 14.7901 ACRE-FEET
 PEAK DISCHARGE RATE = 54.18 CFS AT 1.950 HOURS BASIN AREA = .3873 SQ. MI.

*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 SURFACE ELEV	FLOW AREA SQ FT	FLOW RATE CFS	MAX WIDTH 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= 27.09 CKMED= 12.4507
 WIDTH MED= 3.85 NREACH= 1 DX= 730.00

DEPTH	AREA	Q	TRAVEL	WIDTH	ck	VEL	C	D	C1	C2	C3	Q-M	C1-M	C2-M	C3-M
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PARTIAL HYDROGRAPH 102.70

RUNOFF VOLUME = .71601 INCHES = 14.7898 ACRE-FeET
PEAK DISCHARGE RATE = 54.06 CFS AT 1.950 HOURS BASIN AREA = .3873 SQ. MI.

Tc AND Tp COMPUTED BY UPLAND/LAG TIME PROCEDURE

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

TIME OF CONCENTRATION (HRS)= .3757 TIME TO PEAK (HRS)= .2505 LAG TIME (HRS)= .2818

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K = .206534HR    TP = 250481HR    K/TP RATIO = .824547    SHAPE CONSTANT, N = 4.329927
UNIT PEAK = 2.6296    CFS    UNIT VOLUME = .9948    B = 376.60    P60 = 1.0600
AREA = .001749 SQ MI    IA = .35000 INCHES    INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

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OUT.WPD
BULKING FACTOR APPLIED TO HYDROGRAPH. FACTOR = 1.05000 AT PEAK FLOW.
PRINT HYD ID=6 CODE=1

OUTFLOW HYDROGRAPH REACH 6.00

RUNOFF VOLUME = 1.36330 INCHES = .8478 ACRE-Feet
PEAK DISCHARGE RATE = 12.93 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 = .73493 INCHES = 15.6376 ACRE-Feet
PEAK DISCHARGE RATE = 59.81 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 = .19654 INCHES = 158.6166 ACRE-Feet
PEAK DISCHARGE RATE = 269.59 CFS AT 2.200 HOURS BASIN AREA = 15.1323 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	158.6	12.000	55.2	18.000	35.6	24.000	14.0
.250	.0	6.250	151.5	12.250	53.9	18.250	35.1	24.250	13.0
.500	.0	6.500	148.3	12.500	52.7	18.500	34.6	24.500	11.2
.750	.0	6.750	143.1	12.750	51.5	18.750	34.1	24.750	9.5
1.000	1.0	7.000	132.9	13.000	50.5	19.000	33.5	25.000	8.1
1.250	4.1	7.250	122.0	13.250	49.5	19.250	33.0	25.250	7.0
1.500	47.7	7.500	111.6	13.500	48.5	19.500	32.4	25.500	6.2
1.750	128.0	7.750	105.7	13.750	47.6	19.750	31.6	25.750	5.5
2.000	227.0	8.000	100.1	14.000	46.8	20.000	30.4	26.000	5.1
2.250	268.5	8.250	94.5	14.250	46.0	20.250	29.3	26.250	4.7
2.500	237.8	8.500	89.2	14.500	45.2	20.500	28.3	26.500	4.4
2.750	225.8	8.750	84.5	14.750	44.5	20.750	27.3	26.750	4.1
3.000	223.9	9.000	80.2	15.000	43.6	21.000	26.3	27.000	3.9
3.250	203.0	9.250	76.4	15.250	42.7	21.250	25.4	27.250	3.7
3.500	198.4	9.500	73.1	15.500	41.7	21.500	24.5	27.500	3.5
3.750	217.5	9.750	70.3	15.750	40.9	21.750	23.6	27.750	3.4
4.000	232.1	10.000	67.8	16.000	40.3	22.000	22.7	28.000	3.2

OUT.WPD									
4.250	232.1	10.250	65.5	16.250	39.7	22.250	21.8	28.250	3.1
4.500	217.6	10.500	63.7	16.500	39.1	22.500	21.0	28.500	3.0
4.750	202.4	10.750	62.3	16.750	38.5	22.750	20.0	28.750	2.8
5.000	202.4	11.000	60.8	17.000	37.9	23.000	19.0	29.000	2.7
5.250	196.5	11.250	59.4	17.250	37.3	23.250	17.6	29.250	2.6
5.500	178.6	11.500	57.9	17.500	36.7	23.500	16.3	29.500	2.5
5.750	161.5	11.750	56.5	17.750	36.2	23.750	15.0	29.750	2.3

RUNOFF VOLUME = .19654 INCHES = 158.6166 ACRE-Feet
 PEAK DISCHARGE RATE = 269.59 CFS AT 2.200 HOURS BASIN AREA = 15.1323 SQ. MI.

*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	158.6	12.000	55.2	18.000	35.6	24.000	14.0
.250	.0	6.250	151.5	12.250	53.9	18.250	35.1	24.250	13.0
.500	.0	6.500	148.3	12.500	52.7	18.500	34.6	24.500	11.2
.750	.0	6.750	143.1	12.750	51.5	18.750	34.1	24.750	9.5
1.000	1.0	7.000	132.9	13.000	50.5	19.000	33.5	25.000	8.1
1.250	4.1	7.250	122.0	13.250	49.5	19.250	33.0	25.250	7.0
1.500	47.7	7.500	111.6	13.500	48.5	19.500	32.4	25.500	6.2
1.750	128.0	7.750	105.7	13.750	47.6	19.750	31.6	25.750	5.5
2.000	227.0	8.000	100.1	14.000	46.8	20.000	30.4	26.000	5.1
2.250	268.5	8.250	94.5	14.250	46.0	20.250	29.3	26.250	4.7
2.500	237.8	8.500	89.2	14.500	45.2	20.500	28.3	26.500	4.4
2.750	225.8	8.750	84.5	14.750	44.5	20.750	27.3	26.750	4.1
3.000	223.9	9.000	80.2	15.000	43.6	21.000	26.3	27.000	3.9
3.250	203.0	9.250	76.4	15.250	42.7	21.250	25.4	27.250	3.7
3.500	198.4	9.500	73.1	15.500	41.7	21.500	24.5	27.500	3.5
3.750	217.5	9.750	70.3	15.750	40.9	21.750	23.6	27.750	3.4
4.000	232.1	10.000	67.8	16.000	40.3	22.000	22.7	28.000	3.2
4.250	232.1	10.250	65.5	16.250	39.7	22.250	21.8	28.250	3.1
4.500	217.6	10.500	63.7	16.500	39.1	22.500	21.0	28.500	3.0
4.750	202.4	10.750	62.3	16.750	38.5	22.750	20.0	28.750	2.8
5.000	202.4	11.000	60.8	17.000	37.9	23.000	19.0	29.000	2.7
5.250	196.5	11.250	59.4	17.250	37.3	23.250	17.6	29.250	2.6
5.500	178.6	11.500	57.9	17.500	36.7	23.500	16.3	29.500	2.5
5.750	161.5	11.750	56.5	17.750	36.2	23.750	15.0	29.750	2.3

RUNOFF VOLUME = .19654 INCHES = 158.6166 ACRE-Feet
 PEAK DISCHARGE RATE = 269.59 CFS AT 2.200 HOURS BASIN AREA = 15.1323 SQ. MI.

*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	

OUT.WPD

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= 134.80 CKMED= 24.0746
WIDTH MED= 4.93 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) = 3 OCCURRED 13 TIMES. AVERAGE NUMBER ITERATIONS = 1.9047
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	158.7	12.000	55.2	18.000	35.6	24.000	14.1
.250	.0	6.250	151.9	12.250	54.0	18.250	35.1	24.250	13.1
.500	.0	6.500	148.3	12.500	52.8	18.500	34.6	24.500	11.4
.750	.0	6.750	143.5	12.750	51.6	18.750	34.1	24.750	9.6
1.000	.6	7.000	133.4	13.000	50.5	19.000	33.6	25.000	8.2
1.250	3.5	7.250	122.4	13.250	49.5	19.250	33.0	25.250	7.1
1.500	44.1	7.500	112.1	13.500	48.6	19.500	32.4	25.500	6.2
1.750	123.9	7.750	106.0	13.750	47.7	19.750	31.6	25.750	5.6
2.000	222.0	8.000	100.3	14.000	46.8	20.000	30.5	26.000	5.1
2.250	269.2	8.250	94.7	14.250	46.0	20.250	29.4	26.250	4.7
2.500	238.9	8.500	89.5	14.500	45.3	20.500	28.3	26.500	4.4
2.750	225.4	8.750	84.7	14.750	44.5	20.750	27.3	26.750	4.1
3.000	224.6	9.000	80.4	15.000	43.7	21.000	26.4	27.000	3.9
3.250	203.8	9.250	76.6	15.250	42.7	21.250	25.5	27.250	3.7
3.500	198.1	9.500	73.3	15.500	41.7	21.500	24.6	27.500	3.5
3.750	216.7	9.750	70.4	15.750	41.0	21.750	23.6	27.750	3.4
4.000	231.7	10.000	67.9	16.000	40.4	22.000	22.7	28.000	3.2
4.250	232.4	10.250	65.6	16.250	39.8	22.250	21.9	28.250	3.1
4.500	218.4	10.500	63.8	16.500	39.2	22.500	21.0	28.500	3.0
4.750	202.6	10.750	62.4	16.750	38.6	22.750	20.1	28.750	2.9
5.000	202.4	11.000	60.9	17.000	37.9	23.000	19.1	29.000	2.7
5.250	197.0	11.250	59.5	17.250	37.4	23.250	17.7	29.250	2.6
5.500	179.4	11.500	58.0	17.500	36.8	23.500	16.4	29.500	2.5
5.750	162.0	11.750	56.6	17.750	36.2	23.750	15.1	29.750	2.4

RUNOFF VOLUME = .19653 INCHES = 158.6092 ACRE-Feet
PEAK DISCHARGE RATE = 269.24 CFS AT 2.250 HOURS BASIN AREA = 15.1323 SQ. MI.

*

*S APPLY SEDIMENT BULKING FACTOR
SEDIMENT BULK CODE=1 BULKING FACTOR = 1.09

*

*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
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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

OUT.WPD

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 = .267052HR TP = .214502HR K/TP RATIO = 1.244987 SHAPE CONSTANT, N = 2.863936
 UNIT PEAK = 96.799 CFS UNIT VOLUME = .9995 B = 270.53 P60 = 1.0600
 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 HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.750	7.6	3.500	.2	5.250	.0	7.000	.0
.250	.0	2.000	3.0	3.750	.2	5.500	.0	7.250	.0
.500	.0	2.250	1.2	4.000	.1	5.750	.0	7.500	.0
.750	.0	2.500	.8	4.250	.1	6.000	.0	7.750	.0
1.000	.0	2.750	.6	4.500	.1	6.250	.0		
1.250	.0	3.000	.4	4.750	.0	6.500	.0		
1.500	7.8	3.250	.3	5.000	.0	6.750	.0		

RUNOFF VOLUME = .10916 INCHES = .4468 ACRE-Feet
 PEAK DISCHARGE RATE = 10.46 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 = .10916 INCHES = .4468 ACRE-Feet
 PEAK DISCHARGE RATE = 10.46 CFS AT 1.600 HOURS BASIN AREA = .0768 SQ. MI.

*

*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 = .19609 INCHES = 159.0561 ACRE-Feet
 PEAK DISCHARGE RATE = 270.47 CFS AT 2.200 HOURS BASIN AREA = 15.2091 SQ. MI.

*

*S APPLY NO SEDIMENT BULKING FACTOR
 SEDIMENT BULK CODE=1 BULKING FACTOR = 1.00

*

 *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	.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

OUT.WPD				
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

*
 *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

OUT.WPD

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.

*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 = .165992HR TP = .133333HR K/TP RATIO = 1.244945 SHAPE CONSTANT, N = 2.864022
 UNIT PEAK = 140.29 CFS UNIT VOLUME = .9982 B = 270.54 P60 = 1.0600
 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 HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.250	.0	2.500	.5	3.750	.0	5.000	.0
.250	.0	1.500	14.6	2.750	.3	4.000	.0	5.250	.0
.500	.0	1.750	4.8	3.000	.2	4.250	.0	5.500	.0
.750	.0	2.000	1.3	3.250	.1	4.500	.0		
1.000	.0	2.250	.8	3.500	.1	4.750	.0		

RUNOFF VOLUME = .10916 INCHES = .4025 ACRE-Feet
 PEAK DISCHARGE RATE = 14.60 CFS AT 1.500 HOURS BASIN AREA = .0691 SQ. MI.

*

*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 = .37356 INCHES = 34.0509 ACRE-Feet
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PEAK DISCHARGE RATE = 378.24 CFS AT 2.300 HOURS OUT.WPD
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 = .21402 INCHES = 193.1070 ACRE-Feet
PEAK DISCHARGE RATE = 648.53 CFS AT 2.250 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
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= 324.26 CKMED= 4.8451
WIDTH MED= 117.68 NREACH= 4 DX= 451.25

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	1.029	.0	2.51	.27	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.16	.7	.5	.710	9.0	2.49	.71	.994	.006	.994	.000	.006	.1	.999	.000	.001
.32	2.7	3.4	.391	13.6	2.43	1.28	.971	.029	.971	.000	.029	1.6	.985	.000	.015
.48	5.0	8.9	.281	15.5	2.69	1.78	1.075	.059	.944	.063	.007	5.9	.959	.028	.013
.64	7.6	16.7	.229	17.4	3.22	2.19	1.284	.083	.930	.155	.085	12.6	.936	.110	.046
.80	10.6	26.8	.198	19.3	3.48	2.53	1.389	.110	.912	.200	.112	21.5	.923	.188	.111
.96	13.9	38.1	.183	22.5	3.34	2.74	1.332	.140	.886	.191	.077	32.3	.896	.187	.083
1.12	17.9	50.8	.177	27.6	2.16	2.84	.863	.236	.775	.047	.178	44.3	.871	.171	.043
1.29	23.6	57.3	.207	46.1	2.10	2.43	.836	.164	.836	.000	.164	53.7	.802	.026	.172
1.45	32.8	76.3	.215	68.2	2.37	2.33	.946	.131	.874	.037	.089	66.3	.854	.018	.129
1.61	45.5	109.4	.209	90.3	3.05	2.40	1.216	.110	.905	.140	.046	92.1	.884	.072	.044
1.77	60.8	166.1	.183	99.3	3.94	2.73	1.573	.117	.913	.257	.169	136.6	.917	.228	.145
1.93	77.4	235.0	.165	108.2	4.34	3.03	1.729	.139	.903	.303	.206	199.4	.907	.280	.187
2.09	95.5	316.5	.151	117.0	4.69	3.31	1.869	.160	.894	.340	.234	274.6	.898	.321	.219
2.25	115.0	410.9	.140	125.8	5.24	3.57	2.089	.173	.894	.387	.281	362.6	.890	.355	.245
2.41	135.7	529.2	.129	130.2	6.11	3.90	2.438	.184	.898	.448	.346	468.6	.898	.424	.322
2.57	156.8	667.0	.118	131.9	6.82	4.26	2.720	.205	.895	.491	.386	596.5	.899	.474	.373
2.73	178.1	817.9	.109	133.6	7.33	4.59	2.924	.231	.889	.519	.407	741.0	.892	.505	.397
2.89	199.7	981.4	.102	135.3	7.81	4.92	3.117	.257	.882	.543	.425	898.2	.885	.531	.416
3.05	221.5	1157.4	.096	137.0	8.24	5.22	3.286	.284	.876	.562	.438	1068.0	.879	.554	.433

MAXIMUM NO. ITERATIONS FOR SOLUTION (KMAX) = 5 OCCURRED 4 TIMES. AVERAGE NUMBER ITERATIONS = 1.8308

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	1.029	.0	2.51	.27	1.000	.000	1.000	.000	.000	.0	1.000	.000	.000
.16	.7	.5	.710	9.0	2.49	.71	.994	.006	.994	.000	.006	.1	.999	.000	.001
.32	2.7	3.4	.391	13.6	2.43	1.28	.971	.029	.971	.000	.029	1.6	.985	.000	.015
.48	5.0	8.9	.281	15.5	2.66	1.78	1.060	.060	.943	.057	.000	5.9	.959	.026	.016
.64	7.6	16.7	.229	17.4	2.75	2.19	1.097	.097	.912	.088	.000	12.6	.927	.073	.000
.80	10.6	26.8	.198	19.3	2.85	2.53	1.135	.135	.881	.119	.000	21.5	.896	.104	.000
.96	13.9	38.1	.183	22.5	2.91	2.74	1.161	.161	.861	.139	.000	32.3	.871	.129	.000
1.12	17.9	50.8	.177	27.6	2.16	2.84	.863	.236	.775	.047	.178	44.3	.857	.143	.000
1.29	23.6	57.3	.207	46.1	2.10	2.43	.836	.164	.836	.000	.164	53.7	.802	.026	.172
1.45	32.8	76.3	.215	68.2	2.37	2.33	.946	.131	.874	.037	.089	66.3	.854	.018	.129
1.61	45.5	109.4	.209	90.3	2.81	2.40	1.120	.120	.893	.107	.000	92.1	.884	.072	.044
1.77	60.8	166.1	.183	99.3	2.91	2.73	1.159	.159	.863	.137	.000	136.6	.877	.123	.000
1.93	77.4	235.0	.165	108.2	3.01	3.03	1.200	.200	.833	.167	.000	199.4	.847	.153	.000

OUT.WPD

2.09	95.5	316.5	.151	117.0	3.11	3.31	1.241	.241	.806	.194	.000	274.6	.819	.181	.000
2.25	115.0	410.9	.140	125.8	3.21	3.57	1.282	.282	.780	.220	.000	362.6	.793	.207	.000
2.41	135.7	529.2	.129	130.2	3.35	3.90	1.336	.336	.748	.252	.000	468.6	.764	.236	.000
2.57	156.8	667.0	.118	131.9	3.51	4.26	1.399	.399	.715	.285	.000	596.5	.731	.269	.000
2.73	178.1	817.9	.109	133.6	3.67	4.59	1.463	.463	.684	.316	.000	741.0	.699	.301	.000
2.89	199.7	981.4	.102	135.3	3.82	4.92	1.525	.525	.656	.344	.000	898.2	.669	.331	.000
3.05	221.5	1157.4	.096	137.0	3.98	5.22	1.588	.588	.630	.370	.000	1068.0	.642	.358	.000

MAXIMUM NO. ITERATIONS FOR SOLUTION (KKMAX) = 4 OCCURRED 4 TIMES. AVERAGE NUMBER ITERATIONS = 1.7064
 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 72.60

RUNOFF VOLUME = .21390 INCHES = 193.0034 ACRE-Feet
 PEAK DISCHARGE RATE = 642.69 CFS AT 2.400 HOURS BASIN AREA = 16.9182 SQ. MI.

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*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
.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

OUT.WPD				
.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

*S

*S*** SUB-BASIN 72 DOWNSTREAM OF CONFLUENCE WITH SOUTH BRANCH ***

*
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 = .230986HR TP = .185460HR K/TP RATIO = 1.245476 SHAPE CONSTANT, N = 2.862924
UNIT PEAK = 243.65 CFS UNIT VOLUME = .9994 B = 270.45 P60 = 1.0600
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 HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.750	15.6	3.500	.4	5.250	.0	7.000	.0
.250	.0	2.000	5.3	3.750	.3	5.500	.0	7.250	.0
.500	.0	2.250	2.3	4.000	.2	5.750	.0	7.500	.0
.750	.0	2.500	1.6	4.250	.1	6.000	.0		
1.000	.0	2.750	1.1	4.500	.1	6.250	.0		
1.250	.0	3.000	.8	4.750	.1	6.500	.0		
1.500	21.9	3.250	.5	5.000	.0	6.750	.0		

RUNOFF VOLUME = .10916 INCHES = .9728 ACRE-Feet
PEAK DISCHARGE RATE = 25.90 CFS AT 1.550 HOURS BASIN AREA = .1671 SQ. MI.

*

*

*S ADD OUTFLOW FROM POND 6 TO BASIN 72

OUT.WPD

*
 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 = .51415 INCHES = 6.3749 ACRE-Feet
 PEAK DISCHARGE RATE = 55.93 CFS AT 2.000 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 = .21797 INCHES = 199.3783 ACRE-Feet
 PEAK DISCHARGE RATE = 683.72 CFS AT 2.400 HOURS BASIN AREA = 17.1507 SQ. MI.

*

 *
 *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				TOP
WATER	FLOW	FLOW		WIDTH
SURFACE	AREA	RATE		FT
ELEV	SQ FT	CFS		
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= 341.86 CKMED= 6.1166
 WIDTH MED= 73.64 NREACH= 3 DX= 460.00

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	.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 (KMAX) = 4 OCCURRED 2 TIMES. AVERAGE NUMBER ITERATIONS = 1.5734
 Equations solved using the Ponce correction to C2

PRINT HYD ID=5 CODE=1

OUT.WPD

HYDROGRAPH FROM AREA 73.1.5

RUNOFF VOLUME = .21793 INCHES = 199.3436 ACRE-FEET
PEAK DISCHARGE RATE = 682.56 CFS AT 2.450 HOURS BASIN AREA = 17.1507 SQ. MI.

*

*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 = .108730HR TP = .185460HR K/TP RATIO = .586276 SHAPE CONSTANT, N = 6.478355
UNIT PEAK = 137.77 CFS UNIT VOLUME = 1.000 B = 495.99 P60 = 1.0600
AREA = .051516 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .192149HR TP = .185460HR K/TP RATIO = 1.036067 SHAPE CONSTANT, N = 3.407198
UNIT PEAK = 130.62 CFS UNIT VOLUME = 1.000 B = 313.49 P60 = 1.0600
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 HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.250	.9	10.500	.7	15.750	.6	21.000	.5
.250	.0	5.500	1.0	10.750	.7	16.000	.6	21.250	.5
.500	.0	5.750	1.1	11.000	.7	16.250	.6	21.500	.5
.750	.0	6.000	1.2	11.250	.7	16.500	.5	21.750	.5
1.000	2.6	6.250	1.0	11.500	.7	16.750	.5	22.000	.4
1.250	6.1	6.500	.9	11.750	.7	17.000	.5	22.250	.4
1.500	94.7	6.750	.9	12.000	.7	17.250	.5	22.500	.5
1.750	56.2	7.000	.9	12.250	.7	17.500	.5	22.750	.4
2.000	28.4	7.250	.9	12.500	.7	17.750	.5	23.000	.4
2.250	12.0	7.500	.9	12.750	.6	18.000	.5	23.250	.4
2.500	5.9	7.750	.8	13.000	.6	18.250	.5	23.500	.4
2.750	3.6	8.000	.8	13.250	.6	18.500	.5	23.750	.4
3.000	2.2	8.250	.8	13.500	.6	18.750	.5	24.000	.4
3.250	1.5	8.500	.8	13.750	.6	19.000	.5	24.250	.2
3.500	1.2	8.750	.8	14.000	.6	19.250	.5	24.500	.0
3.750	1.0	9.000	.8	14.250	.6	19.500	.5	24.750	.0
4.000	.9	9.250	.8	14.500	.6	19.750	.5	25.000	.0
4.250	.8	9.500	.8	14.750	.6	20.000	.5	25.250	.0
4.500	.8	9.750	.7	15.000	.6	20.250	.5	25.500	.0
4.750	.8	10.000	.7	15.250	.6	20.500	.5		
5.000	.9	10.250	.7	15.500	.6	20.750	.5		

RUNOFF VOLUME = .78732 INCHES = 5.4079 ACRE-FEET
PEAK DISCHARGE RATE = 104.69 CFS AT 1.550 HOURS BASIN AREA = .1288 SQ. MI.

*

*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 = .22218 INCHES = 204.7515 ACRE-FEET
PEAK DISCHARGE RATE = 689.19 CFS AT 2.450 HOURS BASIN AREA = 17.2795 SQ. MI.

*

*S ROUTE 73.1.2 THRU 73.2 TO GET 73.2.5

OUT.WPD

*

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 .00 149.00
 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= 344.59 CKMED= 12.1834
 WIDTH MED= 149.00 NREACH= 1 DX= 1060.00

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	.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 (KMAX) = 3 OCCURRED 26 TIMES. AVERAGE NUMBER ITERATIONS = 1.4593
 Equations solved using the Ponce correction to C2

PRINT HYD

ID=5 CODE=5

HYDROGRAPH FROM AREA 73.2.5

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	6.000	175.0	12.000	58.7	18.000	37.3	24.000	16.5
.250	.0	6.250	167.4	12.250	57.3	18.250	36.7	24.250	15.1
.500	.0	6.500	161.1	12.500	55.9	18.500	36.2	24.500	13.9
.750	.0	6.750	154.6	12.750	54.7	18.750	35.6	24.750	12.6
1.000	1.5	7.000	150.7	13.000	53.4	19.000	35.1	25.000	10.7
1.250	4.8	7.250	140.7	13.250	52.3	19.250	34.6	25.250	9.0
1.500	74.9	7.500	129.5	13.500	51.2	19.500	34.1	25.500	7.7
1.750	152.1	7.750	118.7	13.750	50.1	19.750	33.5	25.750	6.7
2.000	332.2	8.000	111.0	14.000	49.2	20.000	32.9	26.000	6.0
2.250	418.6	8.250	105.1	14.250	48.2	20.250	31.8	26.250	5.4
2.500	688.7	8.500	99.3	14.500	47.4	20.500	30.7	26.500	4.9
2.750	567.1	8.750	93.9	14.750	46.6	20.750	29.6	26.750	4.6
3.000	437.6	9.000	88.9	15.000	45.8	21.000	28.6	27.000	4.3
3.250	356.6	9.250	84.3	15.250	45.0	21.250	27.6	27.250	4.0
3.500	289.0	9.500	80.3	15.500	44.1	21.500	26.7	27.500	3.8
3.750	253.7	9.750	76.7	15.750	43.1	21.750	25.8	27.750	3.6
4.000	252.5	10.000	73.6	16.000	42.1	22.000	24.8	28.000	3.5
4.250	261.5	10.250	70.8	16.250	41.5	22.250	23.9	28.250	3.3
4.500	258.9	10.500	68.4	16.500	40.9	22.500	23.0	28.500	3.2
4.750	242.3	10.750	66.2	16.750	40.3	22.750	22.2	28.750	3.1
5.000	222.7	11.000	64.6	17.000	39.7	23.000	21.3	29.000	2.9
5.250	217.9	11.250	63.2	17.250	39.1	23.250	20.4	29.250	2.8
5.500	212.0	11.500	61.7	17.500	38.5	23.500	19.2	29.500	2.7
5.750	194.4	11.750	60.2	17.750	37.9	23.750	17.8	29.750	2.5

RUNOFF VOLUME = .22217 INCHES = 204.7414 ACRE-FEET
 PEAK DISCHARGE RATE = 688.65 CFS AT 2.500 HOURS BASIN AREA = 17.2795 SQ. MI.

OUT.WPD

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*S
*S*** SUB-BASIN 73.2
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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 = 1.0600
AREA = .020420 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .133396HR TP = .133333HR K/TP RATIO = 1.000475 SHAPE CONSTANT, N = 3.528607
UNIT PEAK = 74.066 CFS UNIT VOLUME = 1.001 B = 322.41 P60 = 1.0600
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 HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	5.000	.4	10.000	.3	15.000	.2	20.000	.2
.250	.0	5.250	.4	10.250	.3	15.250	.2	20.250	.2
.500	.0	5.500	.4	10.500	.3	15.500	.2	20.500	.2
.750	.0	5.750	.4	10.750	.3	15.750	.2	20.750	.2
1.000	1.7	6.000	.5	11.000	.3	16.000	.2	21.000	.2
1.250	4.3	6.250	.4	11.250	.3	16.250	.2	21.250	.2
1.500	51.5	6.500	.4	11.500	.3	16.500	.2	21.500	.2
1.750	17.4	6.750	.4	11.750	.3	16.750	.2	21.750	.2
2.000	9.6	7.000	.3	12.000	.3	17.000	.2	22.000	.2
2.250	3.0	7.250	.3	12.250	.3	17.250	.2	22.250	.2
2.500	1.4	7.500	.3	12.500	.3	17.500	.2	22.500	.2
2.750	.8	7.750	.3	12.750	.3	17.750	.2	22.750	.2
3.000	.5	8.000	.3	13.000	.2	18.000	.2	23.000	.2
3.250	.4	8.250	.3	13.250	.2	18.250	.2	23.250	.2
3.500	.3	8.500	.3	13.500	.2	18.500	.2	23.500	.2
3.750	.3	8.750	.3	13.750	.2	18.750	.2	23.750	.2
4.000	.3	9.000	.3	14.000	.2	19.000	.2	24.000	.2
4.250	.3	9.250	.3	14.250	.2	19.250	.2	24.250	.0
4.500	.3	9.500	.3	14.500	.2	19.500	.2	24.500	.0
4.750	.3	9.750	.3	14.750	.2	19.750	.2	24.750	.0

RUNOFF VOLUME = .78732 INCHES = 2.1436 ACRE-Feet
PEAK DISCHARGE RATE = 51.53 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 = .22383 INCHES = 206.8852 ACRE-Feet
PEAK DISCHARGE RATE = 690.09 CFS AT 2.500 HOURS BASIN AREA = 17.3305 SQ. MI.

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FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 10:32:47