Spook Hill ADMP Update

Flood Control District of Maricopa County

Appendix B
Volume 4

Level I - Hydrology

(06/19/2000 - 07/17/2000)

Wood, Patel & Associates, Inc.
2051 West Northern Avenue
Suite 100
Phoenix, AZ 85021
Phone: (602) 335-8500
Fax: (602) 335-8580

Registered Professional Engineer (Civil)
CERTIFICATE NO.
28615
RICHARD L.
HINER
Date Signed 9-20-00
ARIZONA U.S.A.

Spook Hill Area Drainage Master Plan Update

Flood Control District of Maricopa County

List of Appendices

Property of
Flood Control District of MC Library
Please Return to
2801 W. Durango
Phoenix, AZ 85009

Appendix A

Volume 1	HEC-1 Modeling Input Data & Output Files – Level III
Volume 2	SCS TR-20 Hydrology Analysis
Volume 3	TR-20 Hydrology Analysis
Volume 4	Design Alternative Analysis – Level I
Volume 5	Design Alternative Analysis – Level II
Volume 6	No-Action/Non-Structural Alternative Analysis
Volume 7	Conveyance Material Analysis
Volume 8	Hydraulics
Volume 9	Red Mountain Freeway Crude Cost Estimates

Appendix B

Volume 1	Level I – Hydrology (1999 – 03/10/2000)
Volume 2	Level I – Hydrology (03/10/2000 – 05/11/2000)
Volume 3	Level I – Hydrology (05/11/2000 – 06/19/2000)
Volume 4	Level I – Hydrology (06/19/2000 – 07/17/2000)
Volume 5	Level I – Hydrology (07/18/2000 – 07/27/2000)
Volume 6	Level I – Hydrology (12/06/2000)
Volume 7A	HEC-1 Modeling Output Files (Level II)
Volume 7B	HEC-1 Modeling Output Files (Level II)
Volume 7C	HEC-1 Modeling Output Files (Level II)

Registered Professional Engineer (Civil)
CERTIFICATE NO.
28615
RICHARD L.
HINER
Date Signed 9-20-00
ARIZONA U.S.A.

FILE AND OPTION CROSS REFERENCE INDEX

McDowell Road alone

Option Name	Other Names Used	Description
MD1E	1A	This configuration is not modeled in HEC-1 as yet. Trapezoidal Earthen Channel with vertical drops. No storm drain system in Oak St. Two basins
MD1C	2A	This configuration is not modeled in HEC-1 as yet. Trapezoidal concrete channel with vertical drops. No basin at Oak St. & Hawes Rd. No storm drain system in Oak St. Two basins
MD2E	1B; S24CE17.dat Option 31	Based on S24CE10 a old 100Yr 24Hr Event since updated several times. Trapezoidal earthen channel with vertical drops. No storm drain in Oak St. west of Hawes Rd. Three basins
MD2C	2B	This configuration is not modeled in HEC-1 with concrete "n" values as of yet. Trapezoidal concrete channel with vertical drops. No storm drain in Oak St. west of Hawes Rd. Three basins
MD3E	1C; SPHFUAL2.dat Option 14	Based on obsolete 100Yr 24Hr event. More current Q's from combination with Pass Mtn. modeled but not applicable here. Trapezoidal earthen channel with vertical drops. Storm drain in Oak St. and McDowell Rd. Three basins
MD3C	2C	This configuration is not modeled in HEC-1 with concrete "n" values as of yet. Trapezoidal concrete channel with vertical drops. Storm drain in Oak St. & McDowell Rd. Three basins
MD4E	1D; Option 55; Option 56; S24CE46.dat S24CE47.dat	This configuration in not modeled in HEC-1 by itself; However, it was modeled with Pass Mtn. and again with Pass Mtn. & McKellips as a combination run. Trapezoidal earthen channel with verical drops. No storm drain in Oak St. west of Hawes Rd. No basin at 88th St. and McDowell. Two basins
MD4C	2D	This configuration is not modeled in HEC-1. Trapezoidal concrete channel with vertical drops. No storm drain in Oak St. west of Hawes Rd. No basin at 88th St. and McDowell. Two basins

FILE AND OPTION CROSS REFERENCE INDEX CONTINUED

McDowell Road alone

Option Name	Other Names Used	Description
MD5E	1E	This configuration is not modeled in HEC-1. Trapezoidal earthen channel with vertical drops. Storm drain in Oak St. & Hawes Rd. No basin at 88th St. and McDowell. Two basins.
MD5C	2E	This configuration is not modeled in HEC-1. Trapezoidal concrete channel with vertical drops. Storm drain in Oak St. & Hawes Rd. No basin at 88th St. and McDowell. Two basins.
MD6E	1F	This configuration is not modeled in HEC-1. Trapezoidal earthen channel with vertical drops. Southwest channel from Oak St. & Hawes Rd. to McDowell west of Sossaman. Two basins.
MD6C	2F	This configuration is not modeled in HEC-1. Trapezoidal concrete channel with vertical drops. Southwest channel from Oak St. & Hawes Rd. to McDowell west of Sossaman. Two basins.

FILE AND OPTION CROSS REFERENCE INDEX CONTINUED

McDowell Road with Pass Mountain

Option Name	Other Names Used	Description
MD2E PM4	1B; S24CE43.dat Option 52	Based on option 39 an outdated 100yr 24hr event since updated. Trapezoidal earthen channel with vertical drops. No storm drain in Oak St. west of Hawes Rd. three basins.
MD2C PM4	2B	This configuration is not modeled in HEC-1 with "n" values for concrete. Trapezoidal concrete channel with vertical drops. No storm drain in Oak St. west of Hawes Rd. Three basins
MD3E PM4	1C; S24CE45.dat Option 54	Based on option 39 an outdated 100yr 24hr event since updated. Trapezoidal earthen channel with vertical drops. Storm drain in Oak St. & McDowell Rd. Three basins.
MD3C PM4	2C	This configuration is not modeled in HEC-1 with concrete "n" values as of yet. Trapezoidal concrete channel with vertical drops. storm drain in Oak St. & McDowell Rd. Three basins.
MD4E PM4	1D; S24CE47.dat Option 56	Based on option 39 an outdated 100yr 24hr event since updated. Trapezoidal earthen channel with vertical drops. No storm drain in Oak St. west of Hawes Rd. No basin at 88th St. and McDowell. Two basins
MD4C PM4	2C	This configuration is not modeled in HEC-1 with concrete "n" values as of yet. Trapezoidal concrete channel with vertical drops. No Storm drain in Oak St. west of Hawes Rd. No basin at 88th & McDowell. Two basins.

FILE AND OPTION CROSS REFERENCE INDEX CONTINUED

McKellips Road alone

Option Name	Other Names Used	Description
MK1E	1A; S24CE24.dat Option 38	Based on option 24 an outdated 100yr 24hr event since updated. Trapezoidal earthen channel with vertical drops. Basin at the NE corner of Ellsworth Rd. & McKellips Rd. One basin.
MK1C	2A	This configuration is not modeled in HEC-1 with "n" values for concrete. Trapezoidal concrete channel with vertical drops. Basin at NE corner of Ellsworth & McKellips Rd. One basin.
MK2E	1B; S24CE15.dat Option 29	Based on option 24 an outdated 100yr 24hr event since updated. Trapezoidal earthen channel with vertical drops. Basins at Hawes & Ellsworth Rd. Two basins.
MK2C	2B	This configuration is not modeled in HEC-1 with concrete "n" values as of yet. Trapezoidal concrete channel with vertical drops. Basins at Hawes & Ellsworth Rd. Two basins.
MK3E	1C; S24CE23.dat Option 37	Based on option 24 an outdated 100yr 24hr event since updated. Trapezoidal earthen channel with vertical drops. Basin at Hawes Rd. One basin.
MK3C	2C	This configuration is not modeled in HEC-1 as of yet. Trapezoidal concrete channel with vertical drops. Basin at Hawes Rd. One basin.

FILE AND OPTION CROSS REFERENCE INDEX CONTINUED

McKellips Road with Pass Mountain

Option Name	Other Names Used	Description
MK2E PM4	1B; S24CE44.dat Option 53	Based on option 39 an outdated 100yr 24hr event since updated. Trapezoidal earthen channel with vertical drops. Basins at Hawes & Ellsworth Rd. Two basins.
MK2E PM4	2B	This configuration is not modeled in HEC-1 with "n" values for concrete. Trapezoidal concrete channel with vertical drops. Basins at Hawes & Ellsworth Rd. Two basins.
MK3E PM4	1B; S24CE46.dat Option 55	Based on option 39 an outdated 100yr 24hr event since updated. Trapezoidal earthen channel with vertical drops. Basins at Hawes & Ellsworth Rd. No channel across state land. Two basins.
MK3E PM4	2B	This configuration is not modeled in HEC-1 with concrete "n" values as of yet. Trapezoidal concrete channel with vertical drops. Basins at Hawes & Ellsworth Rd. No channel across state land. Two basins.

FILE AND OPTION CROSS REFERENCE INDEX CONTINUED

Culver Street alone

Option Name	Other Names Used	Description
C1E	1A; S24CE16.dat Option 30	Based on option 24 an outdated 100yr 24hr event since updated. Trapezoidal earthen channel with vertical drops. Basin at Hawes Rd. One basin.
C1C	2A	This configuration is not modeled in HEC-1 with "n" values for concrete. Trapezoidal concrete channel with vertical drops. Basin at Hawes Rd. One basin.
C1P	1B	This configuration is not modeled in HEC-1 with "n" values for pipe. Concrete Pipe along entire alignment. Basin at Hawes road. One basin.

FILE AND OPTION CROSS REFERENCE INDEX CONTINUED

Pass Mountain Diversion alone

Option Name	Other Names Used	Description
PM1	PM1; S24CE11.dat Option 25	Based on option 24 an outdated 100yr 24hr event. Earthen channel extending NW of current Pass Mtn. diversion. Additional levee placed upstream in sub-basin 350 to direct flow towards Pass Mtn. diversion.
PM2	PM2; S24CE20.dat Option 34	Based on option 24 an outdated 100yr 24hr event, and PM1 noted above. The removal of the levee placed upstream in sub-basin 350 is the only difference.
PM3	PM3; S24CE21.dat Option 35	Based on option 24 an outdated 100yr 24hr event, and PM2 noted above. Additional earthen channel added extending NW upstream into what was sub-basin 355.
PM4	PM4; S24CE22.dat Option 36; Pass Mountain full diversion.	Based on option 24 an outdated 100yr 24hr event, and PM3 noted above. Additional earthen channel added extending NW upstream into what was sub-basin 370. More current Q's are available in combination model runs mentioned earlier: options 49 - 56 being most current based on option 39 a recently outdated 100yr 24hr storm event model.

INDEX OF HEC-1 OPTIONS

1. Base 24-hr, 100-yr existing condition storm events:

Index Numbers:	3, 4, 5, 6, 7 are obsolete and modeled prior to county comments. 15 is an update of previous runs to reflect county comments dated 3-30-00. 24 includes all previous runs & updates with additional sub-basin re-delineation. 39 includes all previous model runs. The updates to this model are re-alignment of sub-basins 385 (reduced) & 415 (enlarged), and utilization of split flow analysis results obtained for sub-basins 350 & 385. Options 58 through 60 are variations of 57 which have all of the d-theta values for all sub-basins changed to "dry", "normal", or "wet" respectively.
Index Number:	57 is the current 100-yr 24-hr event model updated using: 1)No. of hydrograph ordinates increased to 2000; 2) SE, SV and SQ cards for three FRS's updated; 3) Sediment volumes subtracted from storage volumes; 4) Old elevation datum adjusted to NAVD 1988

2. Base 6-hr, 100-yr existing condition storm events:

Index Numbers:	1, 2 are obsolete and modeled prior to county comments. 16 is an update of previous runs to reflect county comments dated 3-30-00. 27 was an update based on sub-basin redelineation but is no longer current.
Index Number:	42 is the current 6-hr 100-yr existing condition model and includes all previous runs & updates with additional sub-basin re-delineation. 385 (Reduced) & 415 (Enlarged).

3. McDowell Road Options:

Index Numbers:	13, 14 are based on 4 an outdated 24-hr, 100-Yr existing condition model since updated several times. 31 utilizes 24, which is no longer the current 24-hr 100-yr existing condition model along with additional collector channels in that area.
Index Number:	40 and 41 are the latest Mcdowell options utilizing 40, the current 100yr 24hr storm, and RGRCP along certain routings.

INDEX OF HEC-1 OPTIONS

4. McKellips Road Option:

Index Number:	29 is not the current model for McKellips Rd and utilizes 24 which is not the current 24hr 100yr existing condition model.
Index Number:	37 and 38 are the current models for Mckellips Rd. and utilize 24 which is not the current 100-yr 24-hr model.

5. Culver Street Option:

Index Number:	30 is the current model for Culver St. and utilizes 24, which is the current 24-hr 100-yr existing condition model.

6. Pass Mountain Diversion Options:

Index Numbers:	18, 19 are based on 4 an outdated 24-hr, 100- yr existing condition model since updated. 20, 21, 22, 23 are based on 15 an outdated 24-hr 100-yr existing condition model since updated. 25, 34, 35, 36 are based on 24 the most current 24-hr 100-yr existing condition model.
Index Number:	28 is referred to as the current Pass Mountain Option utilizing 24 and 25 with additional levee and further division of sub-basins.

7. Eliminate Spook Hill FRS Options:

Index Numbers:	8, 9, 10, 11, 12 are obsolete and based on 4 an outdated 24-hr 100-yr existing condition model.
Index Number:	17 is the current Eliminate Spook Hill FRS Option utilizing 15 which is an outdated 24-hr 100-yr run that only reflects County comments dated 3-20-00. 17 has not been updated with the current 24-hr 100-yr run.

8. Combinations of various Options listed above:

Index Numbers:	48 through 56 utilize 39 the current 100-yr 24-hr model and are various combinations of Pass Mountain, Mcdowell Rd., and Mckellips Rd. options Options 26, 32, and 33 utilize 24 for their 100yr 24hr storm. Option 24 is no longer the current 100yr 24hr storm.

9. 24-hour, 10-year existing condition storm event

Index Number:	43 utilizes current sub-basin alignment

INDEX OF HEC-1 OPTIONS

10. 6-hour, 10-year existing condition storm event
    Index Number: 44 utilizes current sub-basin alignment

11. 24-hour, 100-year future conditions storm event.
    Index Number: 45 utilizes known future land use and development to reflect built out conditions.

12. 6-hour, 100-year future conditions storm event.
    Index Number: 46 utilizes known future land use and development to reflect built out conditions.

13. 24-hour, 100-year future conditions storm event.
    Index Number: 47 utilizes dummy detention basins within all sub-basins affected by future development.

HEC-1 alternatives within this book utilize updated 100-Year, 24-Hour Storm. The base model was further updated to reflect re-delineation of Sub-Basins 385 (reduced) and 415 (enlarged).

New File Structure: S24CE0.DAT

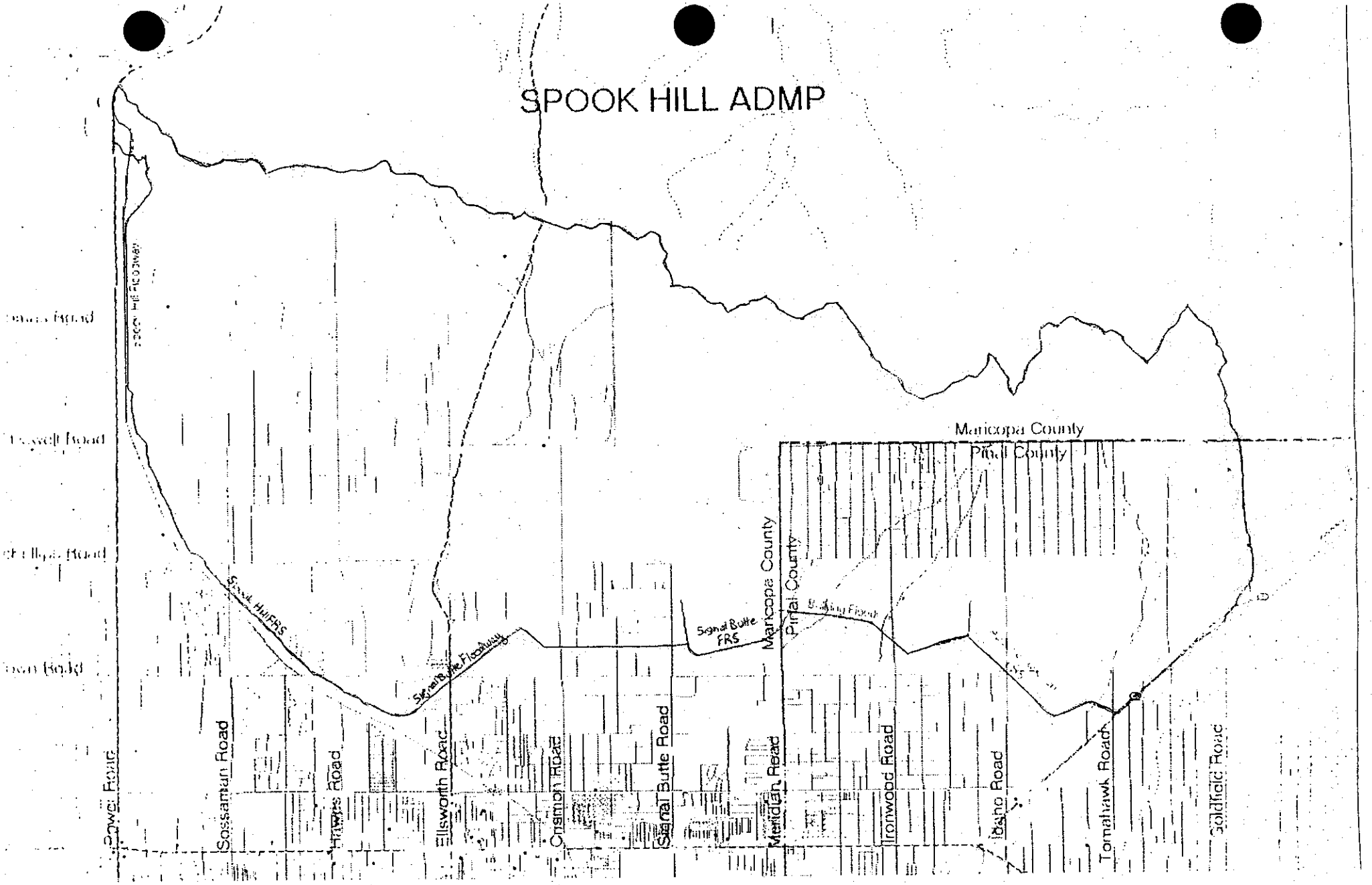
S	= Project Name Spook Hill
24	= Either 24 or 6. This indicates Storm duration evaluated 6-hr or 24-hr.
C	= Century indicating 100-year storm event used in evaluation of model.
E	= Existing condition model.
0	= This is the number of the alternative being analyzed. This number can be any two digit sequential number, with 0, 10, 20, etc. generally reserved for updates to the base 24-hr 100-Year storm event.

SPOOK HILL ADMP FILE INDEX

39.	6/19/00	S24CE30.DAT	HEC-1 Existing Condition 100-year, 24-hour Storm. Model update based on re-alignment of sub-basins 385 (reduced) & 415 (enlarged) based on 2' contour mapping. Split flows at sub-basin 350 and 385 further analyzed and updated with current results of split-flow analysis.
40.	6/28/00	S24CE31.DAT	HEC-1 Existing Condition 100-year, 24-hour Storm. Update to Mcdowell option using current 100yr 24hr storm File S24CE30.DAT. Mcdowell option also altered removing detention basin from sub-basin 455. Remaining detention basins from previous Mcdowell options will remain and be routed via channels along Mcdowell & Hawes to combine with sub-basin 390. This combination will then be routed below grade in a RGRCP that will outlet into natural channel where now removed detention basin was in sub-basin 455.
41.	6/28/00	S24CE32.DAT	HEC-1 Existing Condition 100-year, 24-hour Storm. Update to Mcdowell option using current 100 yr 24hr storm file S24CE30.DAT. Mcdowell option also altered removing detention basin from sub-basin 455. Remaining detention basins from previous Mcdowell options will remain. The detention basin located in sub-basins 385 & 411 will be routed west by RGRCP to channel at Sossaman Road. The detention basin located in sub-basin 370 & 395 will be routed by channel to combine with sub-basin 390 and then be routed by RGRCP to sub-basin 415.
42.	6/28/00	S6CE33.DAT	HEC-1 Existing Condition 100-year, 6-hour Storm. Update based on re-alignment of sub-basin boundaries for sub-basins 385 (Reduced) & 415 (Enlarged), and information from 2' contour mapping.
43.	6/29/00	S24XE34.DAT	HEC-1 Existing Condition 10-year, 24-hour storm. Model based on current alignment of sub-basin boundaries found in current 100-year, 24-hour model, and information from 2' contour mapping.
44.	6/29/00	S6XE35.DAT	HEC-1 Existing Condition 10-year, 6-hour storm. Model based on current alignment of sub-basin boundaries found in current 100-year, 6-hour model, and information from 2' contour mapping.
45.	7/05/00	S24CF36.DAT	HEC-1 Future Conditions 100-year, 24-hour storm. Model based on incorporating all future land use and development to show built out condition
46.	7/05/00	S6CF37.DAT	HEC-1 Future Conditions 100-year, 6-hour storm. Model based on incorporating all future land use and development to show built out condition
47.	7/11/00	S2CF38.DAT	HEC-1 Future Conditions 100-year, 24-hour storm. Model based on adding dummy detention basins to all sub-basins affected by future development These are: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 210, 220, 240, 355, 370, 385, 395, 415, 450, 451, 453, & 454. The dummy detention basins were sized for the 100-yr 2-hr rainfall over the future development sub-basins.

48.	7/12/00	S24CE39.DAT	HEC-1 Existing Conditions 100-year, 24-hour storm. Model based on combination of two previous options: Pass Mountain Diversion and Mcdowell Rd. The Pass Mountain option has levee extended north-west creating new sub-basin boundaries: 295, 300 & 305 from 300; 353 & 355 from 355; 365 & 370 from 370; 383 & 385 from 385; 393 & 395 from 395. Detention basins are added to sub-basins 300 & 305. The Mcdowell option has detention basins located at meeting of 370 & 395, and meeting of 385 & 411. The detention basin located at 385 & 411 will be routed via channel along Hawes to combine with flow from the other detention basin and sub-basin 390. All of the combined flow will then be routed west below grade in pipe that will outlet into a natural channel in sub-basin 455.
49.	7/13/00	S24CE40.DAT	HEC-1 Existing Conditions 100-year, 24-hour storm. Model based on combination of two previous options: Pass Mountain Diversion and Mcdowell Rd. The Pass Mountain option has levee extended north-west creating new sub-basin boundaries: 295, 300 & 305 from 300; 353 & 355 from 355; 365 & 370 from 370; 383 & 385 from 385; 393 & 395 from 395. Detention basins are added to sub-basins 300 & 305. The Mcdowell option has detention basins located at meeting of 370 & 395, and meeting of 385 & 411. The detention basin located at 385 & 411 will be routed via pipe to a channel at Sossaman which will route the flow to sub-basin 455 and into a natural channel. The detention basin located at 370 & 395 will be routed by channel to combine with sub-basin 390 and then be routed by pipe to outlet into natural channel located in sub-basin 455.

SPOOK HILL ADMP



HEC-1 Existing Condition 100-year, 24-hour Storm. Model update based on re-alignment of sub-basins 385 (reduced) & 415 (enlarged) based on 2' contour mapping. Split flows at sub-basin 350 and 385 further analyzed and updated with current results of split-flow analysis.

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*             JUN  1998                *
*           VERSION 4.1                *
*                                      *
*  RUN DATE   10JUL00  TIME  13:45:29  *
*                                      *
****************************************
```

```
****************************************
*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
*   HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET            *
*      DAVIS, CALIFORNIA 95616         *
*          (916) 756-1104              *
*                                      *
****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
1                                          HEC-1 INPUT                                                    PAGE  1

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

   1          ID   EXISTING LAND USE CALCULATIONS WERE BASED ON 1 YR. FROM 11/5/99
   2          ID   FOR LAS SENDAS       AND LANDISCOR JAN.1999 AERIAL PHOTOGPRAPHS
   3          ID
   4          ID   ALL DAMS WERE ANALYZED WITH NO STORAGE BELOW PRINCIPLE SPILLWAY ELEVATIONS
   5          ID
   6          ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
   7          ID   PRECIPITATION VALUES
   8          ID
   9          ID   ALL CHANNEL ROUTING INFORMATION WAS OBTAINED FROM MCFCD SPOOK HILL   SIGNAL
  10          ID   BUTTE        AND BULLDOG FLOODWAY PLANS
  11          ID
  12          ID   UPDATE TO EXISTING CONDITION 24-HR 100-YR MODEL RUN BASED ON RE-ALIGNMENT
  13          ID   OF SUB-BASIN BOUNDARIES FOR SUB-BASINS 385 (REDUCED) & 415 (ENLARGED)
  14          ID   UPDATE BASED ON INFORMATION FROM 2' CONTOUR MAPPING.
  15          ID
  16          ID   ANALYSIS PERFORMED BY WOOD/PATEL; MW;    06/19/2000    FILE: S24CE30.DAT
  17          ID
  18          ID   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
              *DIAGRAM
  19          IT       2                    1500
  20          IO       3
  21          IN      15
  22          JD    3.81    0.01
  23          PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
  24          PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
  25          PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
  26          PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
  27          PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
  28          PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
  29          PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
  30          PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
  31          PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
  32          PC    .983    .986    .989    .992    .995    .998   1.000
  33          JD    3.58   10.00
  34          JD    3.43   30.00
  35          JD    3.28   60.00
  36          JD    3.22   90.00
  37          JD    3.18  120.00
  38          JD    3.14  150.00
  39          JD    3.05  300.00
  40          JD    2.97  500.00
              * DDM   ***** Updated *****

  41          KK      10
  42          KM   SUB-BASIN 10
  43          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
  44          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
  45          KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
  46          BA    .702
  47          LG    .350    .320   7.600    .090  15.000
  48          UC    .421    .302
  49          UA       0       3       5       8      12      20      43      75      90      96
  50          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  51          KK     R10
  52          KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
  53          RS       4    FLOW      -1
  54          RC    .045     .03    .045    8700    .021
  55          RX       0       1       2      17      27      42      43      44
  56          RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****

  57          KK     R12
  58          KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
  59          RS       6    FLOW      -1
  60          RC    .045     .03    .045    4500     .01
  61          RX       0       1      30    37.5    57.5      65      94      95
  62          RY       3     2.5     2.5       0       0     2.5     2.5       3
              * DDM   ***** Updated *****
```

```
 63          KK      20
 64          KM   SUB-BASIN 20
 65          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 66          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 67          KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 68          BA   1.120
 69          LG    .350    .390   5.800    .190   1.000
 70          UC    .658    .454
 71          UA       0       3       5       8      12      20      43      75      90      96
 72          UA     100
             * DDM   ***** Preserved *****

 73          KK     C20
 74          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 75          HC       2
             * DDM   ***** Updated *****

 76          KK      40
 77          KM   SUB-BASIN 40
 78          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 79          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
 80          KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
 81          BA   2.233
 82          LG    .340    .340   4.900    .280   5.000
 83          UC    .496    .264
 84          UA       0       3       5       8      12      20      43      75      90      96
 85          UA     100
             * DDM   ***** Updated *****

 86          KK      60
 87          KM   SUB-BASIN 60
 88          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 89          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .990
 90          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 91          BA   1.746
 92          LG    .330    .350   5.800    .190   9.000
 93          UC    .596    .477
 94          UA       0       3       5       8      12      20      43      75      90      96
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 95          UA     100
             * DDM   ***** Preserved *****

 96          KK     60C
 97          KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1       2
 98          HC       3
             * DDM   ***** Preserved *****

 99          KK    SR60
100          KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
101          KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
102          KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
103          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
104          RS       1    STOR       0
105          SV       0       1     100     200     300     400
106          SQ       0      71      81      87    91.5      94
107          SE    83.5    93.5      96    97.7      99   99.77
             * DDM   ***** Preserved *****

108          KK     R60
109          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
110          RS       1    FLOW      -1
111          RC    .016    .016    .016    2850    .012
112          RX       0       1       2     2.1     5.6     5.7       6       7
113          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Preserved *****

114          KK    RR60
115          KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
116          RS       4    FLOW      -1
117          RC    .016    .016    .016    3500    .005
118          RX       0       1       2     2.1     7.1     7.2       8       9
119          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Updated *****

120          KK      80
121          KM   SUB-BASIN 80
122          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
123          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
124          KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
125          BA   1.475
126          LG    .330    .330   5.600    .210   4.000
127          UC    .433    .259
128          UA       0       3       5       8      12      20      43      75      90      96
129          UA     100
             * DDM   ***** Preserved *****

130          KK     80C
131          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
132          HC       2   1.475
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

133          KK     R80
134          KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
135          RS       1    FLOW      -1
136          RC    .025    .016    .025    1200    .003
137          RX       0       2       6     6.1    41.1    41.2    56.2    58.2
138          RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
             * DDM   ***** Updated *****

139          KK     100
140          KM   SUB-BASIN 100
141          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
142          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
143          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
144          BA    .484
```

```
145          LG    .320    .290   5.100    .260   3.000
146          UC    .533    .473
147          UA       0       5      16      30      65      77      84      90      94      97
148          UA     100
             * DDM   ***** Preserved *****

149          KK    100C
150          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
151          HC       2
             * DDM   ***** Preserved *****

152          KK    R100
153          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
154          RS       1    FLOW      -1
155          RC    .016    .016    .016     940    .005
156          RX       0       1       2     2.1    52.1    52.2      53      54
157          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****

158          KK     120
159          KM   SUB-BASIN 120
160          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
161          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
162          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
163          BA   2.202
164          LG    .330    .280   6.800    .130  11.000
165          UC    .429    .226
166          UA       0       3       5       8      12      20      43      75      90      96
167          UA     100
             * DDM   ***** Preserved *****

168          KK    120C
169          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
170          HC       2
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  5

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

171          KK    R120
172          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
173          RS       1    FLOW      -1
174          RC    .025    .016    .025    2100    .005
175          RX       0       6      10    10.1    60.1    60.2    74.2    80.2
176          RY       8       5       5       0       0       5       5       8
             * DDM   ***** Updated *****

177          KK     140
178          KM   SUB-BASIN 140
179          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
180          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
181          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
182          BA    .598
183          LG    .310    .280   4.200    .440   5.000
184          UC    .421    .278
185          UA       0       5      16      30      65      77      84      90      94      97
186          UA     100
             * DDM   ***** Updated *****

187          KK     150
188          KM   SUB-BASIN 150
189          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
190          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
191          KM     L = 1.50  Kb = .047  Adj. Slope =  314.6
192          BA    .408
193          LG    .350    .360   5.100    .260   7.000
194          UC    .296    .221
195          UA       0       3       5       8      12      20      43      75      90      96
196          UA     100
             * DDM   ***** Preserved *****

197          KK    R150
198          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
199          RS       2    FLOW      -1
200          RC    .045     .04    .045    3100    .032
201          RX       0       1       2      23      33      54      55      56
202          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

203          KK    R152
204          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
205          RS       4    FLOW      -1
206          RC    .045     .03    .045    5900    .019
207          RX       0       1       2       8      33      39      40      41
208          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****

209          KK     160
210          KM   SUB-BASIN 160
211          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
212          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
213          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
214          BA    .369
1                                        HEC-1 INPUT                                          PAGE  6

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

215          LG    .340    .330   4.150    .440   1.000
216          UC    .587    .655
217          UA       0       3       5       8      12      20      43      75      90      96
218          UA     100
             * DDM   ***** Updated *****

219          KK     180
220          KM   SUB-BASIN 180
221          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
222          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
223          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
224          BA   1.000
225          LG    .350    .350   4.150    .430    .000
226          UC    .571    .403
227          UA       0       3       5       8      12      20      43      75      90      96
```

```
228          UA     100
             * DDM   ***** Preserved *****

229          KK    180C
230          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
231          HC       5
             * DDM   ***** Updated *****

232          KK     210
233          KM   SUB-BASIN 210
234          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
235          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
236          KM     L = 1.84  Kb = .045  Adj. Slope =  315.0
237          BA    .583
238          LG    .350    .350   7.000    .120   5.000
239          UC    .321    .232
240          UA       0       3       5       8      12      20      43      75      90      96
241          UA     100
             * DDM   ***** Preserved *****

242          KK    R210
243          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
244          RS       2    FLOW      -1
245          RC    .045     .03    .045    5100    .022
246          RX       0       1       2      14      34      46      47      48
247          RY       4       4       4       0       0       4       4       4
             * DDM   ***** Updated *****

248          KK     240
249          KM   SUB-BASIN 240
250          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
251          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
252          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
253          BA   1.398
254          LG    .350    .370   5.200    .240   2.000
255          UC    .471    .361
256          UA       0       3       5       8      12      20      43      75      90      96
257          UA     100
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE  7

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

258          KK    240C
259          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
260          HC       2
             * DDM   ***** Preserved *****

261          KK   SR240
262          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
263          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
264          RS       1    STOR       0
265          SA    1.38    14.2    36.5
266          SE     1.7       5      11
267          SS       5      42       3     1.5
             * DDM   ***** Updated *****

268          KK     220
269          KM   SUB-BASIN 220
270          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
271          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
272          KM     L = 1.92  Kb = .043  Adj. Slope =  315.0
273          BA    .725
274          LG    .350    .350   7.000    .120   4.000
275          UC    .317    .209
276          UA       0       3       5       8      12      20      43      75      90      96
277          UA     100
             * DDM   ***** Preserved *****

278          KK    220C
279          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
280          HC       2
             * DDM   ***** Preserved *****

281          KK   SR220
282          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
283          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
284          RS       1    STOR       0
285          SA     .78     4.1    13.7
286          SE       1       3      10
287          SS       3      65       3     1.5
             * DDM   ***** Updated *****

288          KK     190
289          KM   SUB-BASIN 190
290          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
291          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
292          KM     L = 1.91  Kb = .042  Adj. Slope =  315.0
293          BA    .918
294          LG    .350    .390   5.800    .190   8.000
295          UC    .321    .185
296          UA       0       3       5       8      12      20      43      75      90      96
297          UA     100
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE  8

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

298          KK    R190
299          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
300          RS       2    FLOW      -1
301          RC    .045     .03    .045    4740     .03
302          RX       0       1       2      17      37      52      53      54
303          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

304          KK    R192
305          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
306          RS       2    FLOW      -1
307          RC    .045    .035    .045    2200    .018
308          RX       0       1      50      59      79      88     137     138
```

```
309          RY     3.5       3       3       0       0       3       3     3.5
             * DDM   ***** Updated *****

310          KK     200
311          KM   SUB-BASIN 200
312          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
313          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
314          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
315          BA    .535
316          LG    .350    .390   5.700    .200  10.000
317          UC    .300    .200
318          UA       0       3       5       8      12      20      43      75      90      96
319          UA     100
             * DDM   ***** Preserved *****

320          KK    200C
321          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
322          HC       3
             * DDM   ***** Preserved *****

323          KK   SR200
324          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
325          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
326          RS       1    STOR       0
327          SA    2.56     3.1     9.4
328          SE       0       3      10
329          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

330          KK   200SR
331          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
332          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
333          RS       1    STOR       0
334          SA       8     9.2     9.2
335          SE       0       7      10
336          SS       7     251       3     1.5
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

337          KK    C180
338          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             *      1       2
339          HC       2
             * DDM   ***** Preserved *****

340          KK   SR180
341          KM   SIGNAL BUTTE FRS DATED 1/28/85
342          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
343          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
344          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
345          RS       1    STOR       0
346          SV       0       1     250     500     750    1060
347          SQ       0   106.5   125.5   137.5     146     160
348          SE      90     101   104.5     107     109   112.4
             * DDM   ***** Preserved *****

349          KK    R180
350          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
351          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
352          RS       3    FLOW      -1
353          RC    .035    .025    .035    1500    .003
354          RX       0       1       2    22.6    38.6    59.2      60      61
355          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

356          KK     260
357          KM   SUB-BASIN 260
358          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
359          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
360          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
361          BA    .267
362          LG    .300    .170   6.800    .160  15.000
363          UC    .363    .215
364          UA       0       5      16      30      65      77      84      90      94      97
365          UA     100
             * DDM   ***** Preserved *****

366          KK    260C
367          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
368          HC       2    .267
             * DDM   ***** Preserved *****

369          KK    R260
370          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
371          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
372          RS       3    FLOW      -1
373          RC    .035    .025    .035    2300    .003
374          RX       0       1       2    23.4    43.4    64.8      65      66
375          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

376          KK     280
377          KM   SUB-BASIN 280
378          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
379          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
380          KM     L =  .77  Kb = .049  Adj. Slope =   84.0
381          BA    .304
382          LG    .300    .250   5.300    .290  15.000
383          UC    .333    .175
384          UA       0       5      16      30      65      77      84      90      94      97
385          UA     100
             * DDM   ***** Preserved *****

386          KK    280C
387          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
388          HC       2
```

```
            * DDM   ***** Preserved *****

389         KK    R280
390         KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
391         KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
392         RS       2    FLOW      -1
393         RC    .035    .025    .035    2500    .003
394         RX       0       1       2    23.4    43.4    64.8      65      66
395         RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
            * DDM   ***** Updated *****

396         KK     300
397         KM   SUB-BASIN 300
398         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
399         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
400         KM     L = 2.28  Kb = .041  Adj. Slope =  127.0
401         BA    .988
402         LG    .340    .320   4.500    .370   7.000
403         UC    .538    .362
404         UA       0       5      16      30      65      77      84      90      94      97
405         UA     100
            * DDM   ***** Preserved *****

406         KK    300C
407         KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
408         HC       2
            * DDM   ***** Preserved *****

409         KK    R300
410         KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
411         KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
412         RS       2    FLOW      -1
413         RC    .035    .025    .035    2200    .003
414         RX       0       1       2    23.4    55.4    76.8      77      78
415         RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 11

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

416         KK   RR300
417         KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
418         KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
419         RS       2    FLOW      -1
420         RC    .016    .016    .016    6050   .0146
421         RX       0       1       2     2.1    16.1    16.2      17      18
422         RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
            *      1       2
            * DDM   ***** Updated *****

423         KK     350
424         KM   SUB-BASIN 350
425         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
426         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
427         KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
428         BA    .970
429         LG    .350    .350   4.550    .340   4.000
430         UC    .367    .234
431         UA       0       3       5       8      12      20      43      75      90      96
432         UA     100
            * DDM   ***** Preserved *****

433         KK    D350
434         KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
435         KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
436         DT   SF350
437         DI       0    5000
438         DQ       0    2500
            * DDM   ***** Preserved *****

439         KK    350R
440         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
441         KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
442         RS       6    FLOW      -1
443         RC    .045    .035    .045    5150    .025
444         RX       0       1      40      46      56      62     102     103
445         RY       3       2       2       0       0       2       2       3
            * DDM   ***** Updated *****

446         KK     310
447         KM   SUB-BASIN 310
448         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
449         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
450         KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
451         BA    .555
452         LG    .350    .350   3.910    .480    .000
453         UC    .483    .511
454         UA       0       3       5       8      12      20      43      75      90      96
455         UA     100
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 12

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

456         KK    C310
457         KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
458         HC       2    .943
            * DDM   ***** Preserved *****

459         KK    R310
460         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
461         KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
462         RS      10    FLOW      -1
463         RC    .045    .035    .045   10050    .022
464         RX       0       1      40      46      56      62     102     103
465         RY       3       2       2       0       0       2       2       3
            * DDM   ***** Updated *****

466         KK     320
467         KM   SUB-BASIN 320
468         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
```

```
469          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
470          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
471          BA    .972
472          LG    .310    .300   4.550    .360  14.000
473          UC    .508    .333
474          UA       0       5      16      30      65      77      84      90      94      97
475          UA     100
             * DDM   ***** Preserved *****

476          KK    D320
477          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
478          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
479          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
480          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
481          DT   BS320   12.27
482          DI       0   10000
483          DQ       0   10000
             * DDM   ***** Preserved *****

484          KK   RT320
485          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
486          DR   BS320
             * DDM   ***** Preserved *****

487          KK   SR320
488          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
489          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
490          RS       1    STOR       0
491          SV       0     .01    12.3
492          SQ       0     4.2     4.2
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

493          KK    C320
494          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
495          HC       4
             * DDM   ***** Updated *****

496          KK     340
497          KM   SUB-BASIN 340
498          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
499          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
500          KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
501          BA   1.449
502          LG    .280    .280   4.150    .520  21.000
503          UC    .512    .287
504          UA       0       5      16      30      65      77      84      90      94      97
505          UA     100
             * DDM   ***** Preserved *****

506          KK    D340
507          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
508          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
509          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
510          KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *      1
511          DT   BS340      56
512          DI       0   10000
513          DQ       0   10000
             * DDM   ***** Preserved *****

514          KK   RT340
515          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
516          DR   BS340
             * DDM   ***** Preserved *****

517          KK   SR340
518          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
519          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
520          RS       1    STOR       0
521          SV       0     .01      56
522          SQ       0    18.9    18.9
             * DDM   ***** Preserved *****

523          KK    C340
524          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
525          HC       3
             * DDM   ***** Preserved *****

526          KK   RT350
527          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
528          DR   SF350
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

529          KK   RR350
530          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
531          KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
532          RS       8    FLOW      -1
533          RC    .045    .035    .045    6050    .025
534          RX       0       1      40      46      56      62     102     103
535          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

536          KK     355
537          KM   SUB-BASIN 355
538          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
539          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
540          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
541          BA    .659
542          LG    .340    .340   4.450    .370   4.000
543          UC    .488    .509
544          UA       0       3       5       8      12      20      43      75      90      96
545          UA     100
```

```
            * DDM   ***** Preserved *****

546         KK    C355
547         KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
548         HC       2    1.24
            * DDM   ***** Preserved *****

549         KK    R355
550         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
551         KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
552         RS       9    FLOW      -1
553         RC    .045    .035    .045   10100    .026
554         RX       0       1      40      46      56      62     102     103
555         RY       3       2       2       0       0       2       2       3
            * DDM   ***** Updated *****

556         KK     360
557         KM   SUB-BASIN 360
558         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
559         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
560         KM     L = 2.10  Kb = .048  Adj. Slope =  124.0
561         BA    .670
562         LG    .260    .270   4.100    .560  20.000
563         UC    .587    .466
564         UA       0       5      16      30      65      77      84      90      94      97
565         UA     100
            * DDM   ***** Preserved *****

566         KK    D360
567         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
568         KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
569         KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
            *      1
570         DT   BS360    28.6
571         DI       0   10000
1                                   HEC-1 INPUT                                          PAGE 15

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

572         DQ       0   10000
            * DDM   ***** Preserved *****

573         KK   RT360
574         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
575         DR   BS360
            * DDM   ***** Preserved *****

576         KK   SR360
577         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
578         KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
579         RS       1    STOR       0
580         SV       0     .01    28.6
581         SQ       0     9.6     9.6
            * DDM   ***** Preserved *****

582         KK    360C
583         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
584         HC       4
            * DDM   ***** Updated *****

585         KK     370
586         KM   SUB-BASIN 370
587         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
588         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
589         KM     L = 2.90  Kb = .044  Adj. Slope =  294.6
590         BA    .667
591         LG    .340    .320   4.650    .330   9.000
592         UC    .454    .455
593         UA       0       3       5       8      12      20      43      75      90      96
594         UA     100
            * DDM   ***** Updated *****

595         KK     395
596         KM   SUB-BASIN 395
597         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
598         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
599         KM     L = 1.60  Kb = .051  Adj. Slope =  215.8
600         BA    .198
601         LG    .330    .320   4.900    .300  10.000
602         UC    .383    .468
603         UA       0       3       5       8      12      20      43      75      90      96
604         UA     100
            * DDM   ***** Preserved *****

605         KK    370C
606         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
607         HC       2
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 16

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

608         KK    R370
609         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
610         KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
611         RS      11    FLOW      -1
612         RC    .045    .035    .045   10250    .023
613         RX       0       1      40      46      56      62     102     103
614         RY       3       2       2       0       0       2       2       3
            * DDM   ***** Updated *****

615         KK     380
616         KM   SUB-BASIN 380
617         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
618         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
619         KM     L = 2.20  Kb = .048  Adj. Slope =  114.0
620         BA    .972
621         LG    .300    .310   4.150    .500   7.000
622         UC    .658    .444
623         UA       0       5      16      30      65      77      84      90      94      97
624         UA     100
            * DDM   ***** Preserved *****
```

```
625          KK    D380
626          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
627          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
628          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
629          DT   BS380    28.6
630          DI       0   10000
631          DQ       0   10000
             * DDM   ***** Preserved *****

632          KK   RT380
633          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
634          DR   BS380
             * DDM   ***** Preserved *****

635          KK   SR380
636          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
637          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
638          RS       1    STOR       0
639          SV       0     .01    28.6
640          SQ       0     9.6     9.6
             * DDM   ***** Preserved *****

641          KK    380C
642          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
643          HC       4
             * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                          PAGE 17

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

644          KK     390
645          KM   SUB-BASIN 390
646          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
647          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
648          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
649          BA    .244
650          LG    .300    .250   4.700    .380  18.000
651          UC    .204    .107
652          UA       0       5      16      30      65      77      84      90      94      97
653          UA     100
             * DDM   ***** Preserved *****

654          KK    D390
655          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
656          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
657          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
658          DT   BS390     3.5
659          DI       0   10000
660          DQ       0   10000
             * DDM   ***** Preserved *****

661          KK   RT390
662          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
663          DR   BS390
             * DDM   ***** Preserved *****

664          KK   SR390
665          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
666          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
667          RS       1    STOR       0
668          SV       0     .01     3.5
669          SQ       0     1.2     1.2
             * DDM   ***** Preserved *****

670          KK    390C
671          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
672          HC       2
             * DDM   ***** Preserved *****

673          KK   RR390
674          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
675          KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
676          RS      14    FLOW      -1
677          RC    .045    .045    .045    8800    .020
678          RX       0       1      40      46      56      62     102     103
679          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                          PAGE 18

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

680          KK     400
681          KM   SUB-BASIN 400
682          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
683          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
684          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
685          BA    .616
686          LG    .320    .320   3.130    .930   6.000
687          UC    .592    .405
688          UA       0       5      16      30      65      77      84      90      94      97
689          UA     100
             * DDM   ***** Preserved *****

690          KK    D400
691          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
692          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
693          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
694          DT   BS400     5.6
695          DI       0   10000
696          DQ       0   10000
             * DDM   ***** Preserved *****

697          KK   RT400
698          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
699          DR   BS400
             * DDM   ***** Preserved *****
```

```
700          KK   SR400
701          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
702          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
703          RS      1    STOR       0
704          SV      0     .01     5.6
705          SQ      0       2       2
             * DDM   ***** Preserved *****

706          KK    C400
707          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
708          HC      2
             * DDM   ***** Preserved *****

709          KK    400C
710          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
711          HC      3
             * DDM   ***** Updated *****

712          KK     385
713          KM   SUB-BASIN 385
714          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
715          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
716          KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
717          BA    .523
718          LG    .340    .360   5.600    .220  13.000
719          UC    .383    .360
720          UA      0       3       5       8      12      20      43      75      90      96
1                                        HEC-1 INPUT                                          PAGE 19

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

721          UA     100
             * DDM   ***** Preserved *****

722          KK    D385
723          KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
724          DT   SF385
725          DI      0    5000
726          DQ      0    3000
             * DDM   ***** Preserved *****

727          KK    385R
728          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
729          KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385 INTO SUB-BASIN 420
730          RS     11    FLOW      -1
731          RC    .045     .04    .045   10250    .022
732          RX      0       1      40      46      56      62     102     103
733          RY      3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

734          KK     420
735          KM   SUB-BASIN 420
736          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
737          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
738          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
739          BA    .849
740          LG    .310    .270   3.880    .580  12.000
741          UC    .512    .325
742          UA      0       5      16      30      65      77      84      90      94      97
743          UA     100
             * DDM   ***** Preserved *****

744          KK    D420
745          KM       DIVERT FLOW INTO ONLINE  DETENTION BASIN
746          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
747          KM       MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
748          DT   BS420    8.65
749          DI      0   10000
750          DQ      0   10000
             * DDM   ***** Preserved *****

751          KK   RT420
752          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
753          DR   BS420
             * DDM   ***** Preserved *****

754          KK   SR420
755          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
756          KM   38.55 ACRE-FEETx43560/36x3600=13cfs
757          RS      1    STOR       0
758          SV      0     .01   38.55
759          SQ      0      13      13
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 20

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

760          KK    420C
761          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
762          HC      4   10.87
             * DDM   ***** Updated *****

763          KK     440
764          KM   SUB-BASIN 440
765          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
766          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
767          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
768          BA    .080
769          LG    .190    .380   6.400    .140  13.000
770          UC    .129    .077
771          UA      0       3       5       8      12      20      43      75      90      96
772          UA     100
             * DDM   ***** Preserved *****

773          KK     R70
774          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
775          RS      1    FLOW      -1
776          RC    .05    .035     .05    2250     .08
777          RX   1000    1025    1050    1070    1075    1095    1120    1145
778          RY     30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****
```

```
779          KK     441
780          KM   SUB-BASIN 441
781          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
782          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
783          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
784          BA    .010
785          LG    .300    .250   5.600    .220   5.000
786          UC    .150    .225
787          UA       0       5      16      30      65      77      84      90      94      97
788          UA     100
             * DDM   ***** Preserved *****

789          KK    C108
790          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
791          HC       2
             * DDM   ***** Preserved *****

792          KK    DIV4
793          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
             *      1
794          DT  SPLIT
795          DI       0      14      40      82     120     154     180
796          DQ       0       7      20      41      60      77      90
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 21

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

797          KK    R108
798          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
799          RS       2    FLOW      -1
800          RC     .05    .035     .05    3200      .1
801          RX    1000    1025    1050    1070    1075    1095    1120    1145
802          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

803          KK     442
804          KM   SUB-BASIN 442
805          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
806          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
807          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
808          BA    .100
809          LG    .300    .270   3.290    .770   5.000
810          UC    .258    .264
811          UA       0       5      16      30      65      77      84      90      94      97
812          UA     100
             * DDM   ***** Preserved *****

813          KK     C67
814          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
815          HC       2
             * DDM   ***** Preserved *****

816          KK    DIV6
817          KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
818          KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
             *      1
819          DT  BASIN4
820          DI       0      10      32      44    79.9   132.5     198   272.9   356.8
821          DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
             * DDM   ***** Preserved *****

822          KK  RTDIV6
823          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
824          DR  BASIN4
             * DDM   ***** Preserved *****

825          KK  RFDIV6
826          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
827          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
             *      1
828          RS       1    STOR       0
829          SV       0     .01     3.3
830          SQ       0     1.1     1.1
             * DDM   ***** Preserved *****

831          KK   CDIV6
832          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
833          HC       2
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE 22

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

834          KK     443
835          KM   SUB-BASIN 443
836          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
837          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
838          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
839          BA    .080
840          LG    .250    .190   8.000    .080  10.000
841          UC    .196    .194
842          UA       0       5      16      30      65      77      84      90      94      97
843          UA     100
             * DDM   ***** Preserved *****

844          KK   DIV66
845          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
846          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
847          DT   WSH66
848          DI       0      78     100     200
849          DQ       0      78      78      78
             * DDM   ***** Preserved *****

850          KK    R113
851          KM        ROUTE FLOW FROM C113 TO C114
852          RS       1    FLOW      -1
853          RC    .019    .019    .019    1300    .029
854          RX    1000    1004    1008    1012    1018    1022    1026    1030
855          RY      17   15.33   12.67      10      10   12.67   15.33      17
```

```
                * DDM   ***** Preserved *****

 856            KK    C114
 857            KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
 858            HC       2
                * DDM   ***** Updated *****

 859            KK     444
 860            KM   SUB-BASIN 444
 861            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 862            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 863            KM     L =  .33  Kb = .034  Adj. Slope =  315.0
 864            BA    .040
 865            LG    .130    .350   4.450    .320   1.000
 866            UC    .112    .084
 867            UA       0       3       5       8      12      20      43      75      90      96
 868            UA     100
                * DDM   ***** Preserved *****

 869            KK     R58
 870            KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
 871            RS       1    FLOW      -1
 872            RC     .05    .035     .05    2370   .0516
 873            RX    1000    1010    1020    1050    1055    1085    1095    1105
 874            RY      19      18      17      10      10      17      18      19
                * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 23

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 875            KK     445
 876            KM   SUB-BASIN 445
 877            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 878            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 879            KM     L =  .82  Kb = .036  Adj. Slope =  315.0
 880            BA    .190
 881            LG    .170    .320   3.470    .590   3.000
 882            UC    .192    .130
 883            UA       0       5      16      30      65      77      84      90      94      97
 884            UA     100
                * DDM   ***** Preserved *****

 885            KK    C107
 886            KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
 887            HC       2
                * DDM   ***** Preserved *****

 888            KK    R107
 889            KM        ROUTE FLOW FROM C107 TO C109
 890            RS       1    FLOW      -1
 891            RC     .05    .035     .05     700   .0516
 892            RX    1000    1010    1020    1050    1055    1085    1095    1105
 893            RY      19      18      17      10      10      17      18      19
                * DDM   ***** Preserved *****

 894            KK    RTB2
 895            KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
                *      1
 896            DR   SPLIT
                * DDM   ***** Preserved *****

 897            KK  RSPLIT
 898            KM        ROUTE FLOW FROM SPLIT TO C109
 899            RS       1    FLOW      -1
 900            RC     .05    .035     .05     800     .05
 901            RX    1000    1025    1050    1070    1075    1095    1120    1145
 902            RY      30    22.9    15.7      10      10    15.7    22.9      30
                * DDM   ***** Updated *****

 903            KK     446
 904            KM   SUB-BASIN 446
 905            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 906            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 907            KM     L =  .46  Kb = .061  Adj. Slope =  303.9
 908            BA    .040
 909            LG    .270    .250   4.500    .400  19.000
 910            UC    .183    .189
 911            UA       0       5      16      30      65      77      84      90      94      97
 912            UA     100
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 24

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 913            KK    C109
 914            KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
 915            HC       3
                * DDM   ***** Preserved *****

 916            KK    DIV5
 917            KM        DIVERT FLOW INTO WASHES TOWARDS WEST
 918            KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
                *      1
 919            DT  WSH404
 920            DI       0    40.7    71.2   121.6     190     276   379.4   500.6
 921            DQ       0      35      35      35      35      35      35      35
                * DDM   ***** Preserved *****

 922            KK    R109
 923            KM        ROUTE FLOW FROM C109 TO C110
 924            RS       1    FLOW      -1
 925            RC    .019    .019    .019    3080     .05
 926            RX    1000    1005    1010    1015    1025    1030    1035    1040
 927            RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
                * DDM   ***** Updated *****

 928            KK     447
 929            KM   SUB-BASIN 447
 930            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 931            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 932            KM     L =  .49  Kb = .056  Adj. Slope =  221.0
```

```
 933          BA    .090
 934          LG    .250    .270   3.350    .870  30.000
 935          UC    .208    .145
 936          UA       0       5      16      30      65      77      84      90      94      97
 937          UA     100
              * DDM   ***** Preserved *****

 938          KK   RT404
 939          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
 940          DR  WSH404
              * DDM   ***** Preserved *****

 941          KK    R404
 942          KM        ROUTE FLOW FROM C110 TO C110
 943          RS       5    FLOW      -1
 944          RC    .019    .019    .019    3540     .03
 945          RX    1000    1012    1016    1020    1025    1029    1033    1045
 946          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

 947          KK    C110
 948          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
 949          HC       3
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 25

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 950          KK    R110
 951          KM        ROUTE FLOW FROM C110 TO C115
 952          RS       1    FLOW      -1
 953          RC    .019    .019    .019     580   .0291
 954          RX    1000    1012    1016    1020    1035    1039    1043    1055
 955          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

 956          KK    C115
 957          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
 958          HC       2
              * DDM   ***** Preserved *****

 959          KK    R115
 960          KM        ROUTE FLOW FROM C115 TO C119
 961          RS       1    FLOW      -1
 962          RC    .019    .019    .019    2125    .029
 963          RC    .019    .019    .019     580   .0291
 964          RX    1000    1012    1016    1020    1035    1039    1043    1055
 965          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

 966          KK     448
 967          KM   SUB-BASIN 448
 968          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 969          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 970          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
 971          BA    .045
 972          LG    .170    .310   4.200    .390  11.000
 973          UC    .133    .102
 974          UA       0       5      16      30      65      77      84      90      94      97
 975          UA     100
              * DDM   ***** Updated *****

 976          KK     449
 977          KM   SUB-BASIN 449
 978          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 979          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 980          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
 981          BA    .050
 982          LG    .260    .280   3.500    .640   6.000
 983          UC    .167    .134
 984          UA       0       5      16      30      65      77      84      90      94      97
 985          UA     100
              * DDM   ***** Preserved *****

 986          KK   C6364
 987          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
 988          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 26

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 989          KK   R6364
 990          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
 991          RS       4    FLOW      -1
 992          RC     .05    .035     .05    4375   .0333
 993          RX    1000    1027    1053    1080    1090    1117    1143    1170
 994          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

 995          KK     450
 996          KM   SUB-BASIN 450
 997          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 998          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 999          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1000          BA    .070
1001          LG    .340    .350   3.630    .570   4.000
1002          UC    .296    .383
1003          UA       0       3       5       8      12      20      43      75      90      96
1004          UA     100
              * DDM   ***** Updated *****

1005          KK     451
1006          KM   SUB-BASIN 451
1007          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1008          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1009          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1010          BA    .025
1011          LG    .340    .340   3.290    .750   3.000
1012          UC    .271    .453
1013          UA       0       3       5       8      12      20      43      75      90      96
```

```
1014          UA     100
              * DDM   ***** Preserved *****

1015          KK    RT66
1016          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1017          DR   WSH66
              * DDM   ***** Updated *****

1018          KK     452
1019          KM   SUB-BASIN 452
1020          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1021          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1022          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1023          BA    .040
1024          LG    .260    .280   3.700    .550   9.000
1025          UC    .171    .166
1026          UA       0       5      16      30      65      77      84      90      94      97
1027          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 27

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1028          KK   C6465
1029          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1030          HC       2
              * DDM   ***** Preserved *****

1031          KK   R6566
1032          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1033          RS       2    FLOW      -1
1034          RC     .05    .035     .05    2435   .0282
1035          RX    1000    1045    1090    1150    1160    1220    1265    1310
1036          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1037          KK    C116
1038          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1039          HC       4
              * DDM   ***** Preserved *****

1040          KK  BASIN5
1041          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1042          KM        BASIN 5 FEET DEEP
1043          RS       1    ELEV       0
1044          SV       0     4.5     9.9
1045          SQ       0      69     190
1046          SE       0     2.5       5
              * DDM   ***** Preserved *****

1047          KK    R116
1048          KM   ROUTE FLOW FROM C116 TO C117
1049          RS       2    FLOW      -1
1050          RC     .05    .035     .05    1300   .0333
1051          RX    1000    1100    1200    1300    1320    1420    1520    1620
1052          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1053          KK     453
1054          KM   SUB-BASIN 453
1055          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1056          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1057          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1058          BA    .060
1059          LG    .290    .300   3.290    .820  18.000
1060          UC    .275    .284
1061          UA       0       5      16      30      65      77      84      90      94      97
1062          UA     100
              * DDM   ***** Preserved *****

1063          KK    C117
1064          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1065          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 28

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1066          KK    C118
1067          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1068          HC       2
              * DDM   ***** Preserved *****

1069          KK    R118
1070          KM        ROUTE FLOW FROM C118 TO  DIV7
1071          RS       1    FLOW      -1
1072          RC    .019    .019    .019    1500    .024
1073          RX    1000    1012    1016    1020    1035    1039    1043    1055
1074          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1075          KK    DIV7
1076          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1077          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
              *      1
1078          DT  BASIN6
1079          DI       0     363     487     563     645     844
1080          DQ       0       3      47      83     125     244
              * DDM   ***** Preserved *****

1081          KK  RTDIV7
1082          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1083          DR  BASIN6
              * DDM   ***** Preserved *****

1084          KK  RFDIV7
1085          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1086          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1087          RS       1    STOR       0
1088          SV       0     .01     3.6
1089          SQ       0     1.2     1.2
```

```
            * DDM   ***** Preserved *****

1090        KK   CDIV7
1091        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1092        HC       2
            * DDM   ***** Updated *****

1093        KK     454
1094        KM   SUB-BASIN 454
1095        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1096        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1097        KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1098        BA    .180
1099        LG    .300    .310   3.780    .560  14.000
1100        UC    .379    .395
1101        UA       0       5      16      30      65      77      84      90      94      97
1102        UA     100
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 29

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1103        KK    C119
1104        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
            *      1       2
1105        HC       2
            * DDM   ***** Preserved *****

1106        KK    R454
1107        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1108        KM   ROUTE FLOW FROM C119 TO 415C
1109        RS       2    FLOW      -1
1110        RC    .045    .035    .045    2200    .009
1111        RX       0      .5       1      33      42      67    67.5      68
1112        RY       5       4       4       0       0       6       6       6
            * DDM   ***** Updated *****

1113        KK     415
1114        KM   SUB-BASIN 415
1115        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1116        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1117        KM     L = 2.58  Kb = .044  Adj. Slope =  298.5
1118        BA    .606
1119        LG    .320    .290   4.500    .400  15.000
1120        UC    .421    .402
1121        UA       0       5      16      30      65      77      84      90      94      97
1122        UA     100
            * DDM   ***** Preserved *****

1123        KK   RT385
1124        KM   RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385 INTO SUB-BASIN 415
1125        DR   SF385
            * DDM   ***** Preserved *****

1126        KK   RR385
1127        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1128        KM   ROUTING OF SPLIT FLOW FROM SUB-BASIN 385 TO SUB-BASIN 415
1129        RS      11    FLOW      -1
1130        RC    .045     .04    .045    5878    .024
1131        RX       0       1      40      46      56      62     102     103
1132        RY       3       2       2       0       0       2       2       3
            * DDM   ***** Preserved *****

1133        KK    415C
1134        KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1135        HC       3    1.71
            * DDM   ***** Preserved *****

1136        KK    R415
1137        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1138        KM   ROUTING OF FLOW FROM 415C TO 455C
1139        RS       2    FLOW      -1
1140        RC    .045     .03    .045    4100    .024
1141        RX       0      .5       1       8      16      23    23.5      24
1142        RY       8       8       8       0       0       8       8       8
            * DDM   ***** Updated *****
1                                   HEC-1 INPUT                                          PAGE 30

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1143        KK     455
1144        KM   SUB-BASIN 455
1145        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1146        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1147        KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1148        BA   1.111
1149        LG    .270    .280   3.700    .640  24.000
1150        UC    .421    .204
1151        UA       0       5      16      30      65      77      84      90      94      97
1152        UA     100
            * DDM   ***** Preserved *****

1153        KK    D455
1154        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1155        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1156        KM   FOR BASIN #: 30      34      43      47&58
1157        KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
            *      1
1158        DT   BS455    74.1
1159        DI       0   10000
1160        DQ       0   10000
            * DDM   ***** Preserved *****

1161        KK   RT455
1162        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1163        DR   BS455
            * DDM   ***** Preserved *****

1164        KK   SR455
1165        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1166        KM    74.1 ACRE-FEETx43560/36x3600=25cfs
```

```
1167          RS       1    STOR       0
1168          SV       0     .01    74.1
1169          SQ       0      25      25
              * DDM   ***** Preserved *****

1170          KK    C455
1171          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1172          HC       2
              * DDM   ***** Preserved *****

1173          KK    455C
1174          KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
              *      1       2
1175          HC       3
              * DDM   ***** Preserved *****

1176          KK   SR440
1177          KM   SPOOK HILL FRS PLANS DATED 6/15/77
1178          KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1179          KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1180          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
1181          RS       1    STOR       0
1182          SV       0      10     100     300     500     680
1                                          HEC-1 INPUT                                                    PAGE 31

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1183          SQ       0     640     720     780     825     860
1184          SE      66    77.5      79    80.2    81.2      82
              * DDM   ***** Preserved *****

1185          KK   RR455
1186          KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 462
1187          RS       9    FLOW      -1
1188          RC    .035    .025    .035    9200    .002
1189          RX       0       1       2      28      58      84      85      86
1190          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1191          KK     456
1192          KM   SUB-BASIN 456
1193          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1194          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1195          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1196          BA    .260
1197          LG    .300    .380   5.600    .200  12.000
1198          UC    .217    .139
1199          UA       0       5      16      30      65      77      84      90      94      97
1200          UA     100
              * DDM   ***** Preserved *****

1201          KK    DIV1
1202          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1203          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *      1
1204          DT  BASIN1
1205          DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1206          DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
              * DDM   ***** Preserved *****

1207          KK    DIV2
1208          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1209          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1210          DT    WA30
1211          DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1212          DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
              * DDM   ***** Preserved *****

1213          KK    R456
1214          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1215          RS       2    FLOW      -1
1216          RC     .05    .035     .05    3800    .044
1217          RX    1000    1010    1020    1036    1041    1057    1067    1077
1218          RY   14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****

1219          KK     457
1220          KM   SUB-BASIN 457
1221          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1222          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1223          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1224          BA    .190
1                                          HEC-1 INPUT                                                    PAGE 32

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1225          LG    .270    .330   3.950    .460   6.000
1226          UC    .237    .195
1227          UA       0       5      16      30      65      77      84      90      94      97
1228          UA     100
              * DDM   ***** Preserved *****

1229          KK    C101
1230          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1231          HC       2
              * DDM   ***** Preserved *****

1232          KK    DIV3
1233          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1234          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *      1
1235          DT  BASIN2
1236          DI       0      36      70     110     180   313.5     402   500.9
1237          DQ       0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****

1238          KK  RTDIV3
1239          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1240          DR  BASIN2
              * DDM   ***** Preserved *****

1241          KK  RFDIV3
1242          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
```

```
1243        KM      5.0 ACRE-FEETx43560/36x3600=1.7cfs
1244        RS        1    STOR       0
1245        SV        0     .01       5
1246        SQ        0     1.7     1.7
            * DDM   ***** Preserved *****

1247        KK   CDIV3
1248        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1249        HC        2
            * DDM   ***** Preserved *****

1250        KK    R101
1251        KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1252        RS        1    FLOW      -1
1253        RC      .05    .035     .05    1450     .05
1254        RX     1000    1010    1020    1036    1041    1057    1067    1077
1255        RY       15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1256        KK     458
1257        KM   SUB-BASIN 458
1258        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1259        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1260        KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1261        BA    .190
1262        LG    .290    .330   5.800    .190   6.000
1263        UC    .204    .131
1264        UA       0       5      16      30      65      77      84      90      94      97
1                                        HEC-1 INPUT                                          PAGE 33

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1265        UA     100
            * DDM   ***** Preserved *****

1266        KK    C103
1267        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1268        HC        2
            * DDM   ***** Preserved *****

1269        KK    R103
1270        KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1271        RS        1    FLOW      -1
1272        RC      .05    .035     .05     900     .03
1273        RX     1000    1010    1020    1030    1050    1060    1070    1080
1274        RY    13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Preserved *****

1275        KK    RT30
1276        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1277        DR    WA30
            * DDM   ***** Preserved *****

1278        KK     R30
1279        KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1280        RS        1    FLOW      -1
1281        RC      .05    .035     .05    1630     .05
1282        RX     1000    1010    1020    1036    1041    1057    1067    1077
1283        RY       15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****

1284        KK    RTB1
1285        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *       1        2
1286        DR  BASIN1
            * DDM   ***** Preserved *****

1287        KK      B1
1288        KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1289        KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
            *       1        2
1290        RS        1    ELEV       0
1291        SV               .7     1.4     2.3     2.7     3.2
1292        SQ        0       5      16      28    32.5      37
1293        SE        0       1       2       3     3.5       4
            * DDM   ***** Preserved *****

1294        KK     RB1
1295        KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1296        RS        2    FLOW      -1
1297        RC      .05    .035     .05    1720     .05
1298        RX     1000    1010    1020    1036    1041    1057    1067    1077
1299        RY       15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 34

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1300        KK    CDIV
1301        KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1302        HC        2     .12
            * DDM   ***** Updated *****

1303        KK     459
1304        KM   SUB-BASIN 459
1305        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1306        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1307        KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1308        BA    .030
1309        LG    .220    .300   3.330    .710   8.000
1310        UC    .162    .157
1311        UA       0       5      16      30      65      77      84      90      94      97
1312        UA     100
            * DDM   ***** Preserved *****

1313        KK     C52
1314        KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1315        HC        2
            * DDM   ***** Preserved *****

1316        KK     R52
1317        KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
```

```
1318          RS       2    FLOW      -1
1319          RC     .05    .035     .05    2000     .05
1320          RX    1000    1010    1020    1036    1041    1057    1067    1077
1321          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1322          KK     460
1323          KM   SUB-BASIN 460
1324          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1325          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1326          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1327          BA    .140
1328          LG    .250    .260   3.740    .690  27.000
1329          UC    .242    .160
1330          UA       0       5      16      30      65      77      84      90      94      97
1331          UA     100
              * DDM   ***** Preserved *****

1332          KK    C102
1333          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1334          HC       2
              * DDM   ***** Preserved *****

1335          KK  BASIN3
1336          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1337          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1338          RS       1    ELEV       0
1339          SA       0       0       0       0     .34    1.59    1.81    1.96    2.13     2.3
              *      0       0       0       0    1.14    3.25    5.52    9.23
1340          SQ       0      22      45    47.4      48      51      57      62      67      73
1                                         HEC-1 INPUT                                          PAGE 35

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1341          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1342          KK      R3
1343          KM        ROUTE FLOW FROM C102 to C106
1344          RS       4    FLOW      -1
1345          RC     .05     .03     .05    2750   .0375
1346          RX    1000    1010    1020    1052    1086    1118    1128    1138
1347          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1348          KK     461
1349          KM   SUB-BASIN 461
1350          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1351          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1352          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1353          BA    .120
1354          LG    .270    .250   4.250    .450  21.000
1355          UC    .271    .250
1356          UA       0       5      16      30      65      77      84      90      94      97
1357          UA     100
              * DDM   ***** Preserved *****

1358          KK    C104
1359          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1360          HC       2
              * DDM   ***** Preserved *****

1361          KK    C106
1362          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1363          HC       2
              * DDM   ***** Preserved *****

1364          KK    R106
1365          KM        ROUTE FLOW FROM C106 TO C49
1366          RS       2    FLOW      -1
1367          RC     .05    .035     .05    3950    .033
1368          RX    1000    1010    1020    1030    1050    1060    1070    1080
1369          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Updated *****

1370          KK     462
1371          KM   SUB-BASIN 462
1372          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1373          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1374          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1375          BA    .301
1376          LG    .300    .330   5.300    .240  12.000
1377          UC    .225    .137
1378          UA       0       5      16      30      65      77      84      90      94      97
1379          UA     100
              * DDM   ***** Preserved *****
1                                         HEC-1 INPUT                                          PAGE 36

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1380          KK     C56
1381          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1382          HC       2
              * DDM   ***** Updated *****

1383          KK     480
1384          KM   SUB-BASIN 480
1385          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1386          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1387          KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1388          BA    .731
1389          LG    .270    .270   3.580    .730  27.000
1390          UC    .325    .148
1391          UA       0       5      16      30      65      77      84      90      94      97
1392          UA     100
              * DDM   ***** Preserved *****

1393          KK    D480
1394          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1395          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1396          KM   FOR BASIN #: 18 & 26
```

```
1397          KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
              *      1
1398          DT   BS480    16.5
1399          DI       0   10000
1400          DQ       0   10000
              * DDM   ***** Preserved *****

1401          KK   RT480
1402          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1403          DR   BS480
              * DDM   ***** Preserved *****

1404          KK   SR480
1405          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1406          KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1407          RS       1    STOR       0
1408          SV       0     .01    16.5
1409          SQ       0     5.6     5.6
              * DDM   ***** Preserved *****

1410          KK    C480
1411          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1412          HC       2
              * DDM   ***** Preserved *****

1413          KK    480C
1414          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1415          HC       3    2.09
              * DDM   ***** Preserved *****
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1416          KK   RR480
1417          KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUB-BASIN 500
1418          RS       1    FLOW      -1
1419          RC    .025    .025    .025    6500     .05
1420          RX       0       1       2      28      58      84      85      86
1421          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1422          KK     500
1423          KM   SUB-BASIN 500
1424          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1425          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1426          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1427          BA    .930
1428          LG    .350    .400   6.000    .170   9.000
1429          UC    .421    .333
1430          UA       0       3       5       8      12      20      43      75      90      96
1431          UA     100
              * DDM   ***** Preserved *****

1432          KK    500C
1433          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1434          HC       2    3.02
1435          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

  41          10
               V
               V
  51         R10
               V
               V
  57         R12
               .
               .
  63           .          20
               .           .
               .           .
  73         C20............
               .
               .
  76           .          40
               .           .
               .           .
  86           .           .          60
               .           .           .
               .           .           .
  96         60C........................
               V
               V
  99        SR60
               V
               V
 108         R60
               V
               V
 114        RR60
               .
               .
 120           .          80
               .           .
               .           .
 130         80C............
               V
               V
 133         R80
               .
               .
 139           .         100
               .           .
               .           .
 149        100C............
               V
               V
 152        R100
               .
               .
 158           .         120
               .           .
               .           .
 168        120C............
               V
               V
 171        R120
               .
               .
 177           .         140
               .           .
               .           .
 187           .           .         150
               .           .           V
               .           .           V
 197           .           .        R150
               .           .           V
               .           .           V
 203           .           .        R152
               .           .           .
               .           .           .
 209           .           .           .         160
               .           .           .           .
               .           .           .           .
 219           .           .           .           .         180
               .           .           .           .           .
               .           .           .           .           .
 229        180C..............................................
               .
               .
 232           .         210
               .           V
               .           V
 242           .        R210
               .           .
               .           .
 248           .           .         240
               .           .           .
               .           .           .
 258           .        240C............
               .           V
               .           V
 261           .       SR240
               .           .
               .           .
 268           .           .         220
               .           .           .
               .           .           .
 278           .        220C............
               .           V
               .           V
 281           .       SR220
               .           .
               .           .
 288           .           .         190
```

```
                .          .          V
                .          .          V
298             .          .       R190
                .          .          V
                .          .          V
304             .          .       R192
                .          .          .
                .          .          .
310             .          .          .        200
                .          .          .          .
                .          .          .          .
320             .      200C.......................
                .          V
                .          V
323             .      SR200
                .          V
                .          V
330             .      200SR
                .          .
                .          .
337          C180............
                V
                V
340         SR180
                V
                V
349          R180
                .
                .
356             .        260
                .          .
                .          .
366          260C............
                V
                V
369          R260
                .
                .
376             .        280
                .          .
                .          .
386          280C............
                V
                V
389          R280
                .
                .
396             .        300
                .          .
                .          .
406          300C............
                V
                V
409          R300
                V
                V
416         RR300
                .
                .
423             .        350
                .          .
                .          .
436             .          .-------->   SF350
433             .       D350
                .          V
                .          V
439             .       350R
                .          .
                .          .
446             .          .        310
                .          .          .
                .          .          .
456             .       C310............
                .          V
                .          V
459             .       R310
                .          .
                .          .
466             .          .        320
                .          .          .
                .          .          .
481             .          .          .-------->   BS320
476             .          .       D320
                .          .          .
                .          .          .
486             .          .          .          .<--------   BS320
484             .          .          .       RT320
                .          .          .          V
                .          .          .          V
487             .          .          .       SR320
                .          .          .          .
                .          .          .          .
493          C320.................................
                .
                .
496             .        340
                .          .
                .          .
511             .          .-------->   BS340
506             .       D340
                .          .
                .          .
516             .          .          .<--------   BS340
514             .          .       RT340
                .          .          V
                .          .          V
517             .          .       SR340
                .          .          .
                .          .          .
523          C340........................
                .
                .
528             .          .<--------   SF350
```

```
526          .      RT350
             .         V
             .         V
529          .      RR350
             .         .
             .         .
536          .         .        355
             .         .         .
             .         .         .
546          .      C355............
             .         V
             .         V
549          .      R355
             .         .
             .         .
556          .         .        360
             .         .         .
             .         .         .
570          .         .         .-------->   BS360
566          .         .      D360
             .         .         .
             .         .         .
575          .         .         .          .<-------   BS360
573          .         .         .      RT360
             .         .         .         V
             .         .         .         V
576          .         .         .      SR360
             .         .         .         .
             .         .         .         .
582       360C.......................................
             .
             .
585          .      370
             .         .
             .         .
595          .         .        395
             .         .         .
             .         .         .
605          .      370C............
             .         V
             .         V
608          .      R370
             .         .
             .         .
615          .         .        380
             .         .         .
             .         .         .
629          .         .         .-------->   BS380
625          .         .      D380
             .         .         .
             .         .         .
634          .         .         .          .<-------   BS380
632          .         .         .      RT380
             .         .         .         V
             .         .         .         V
635          .         .         .      SR380
             .         .         .         .
             .         .         .         .
641       380C.......................................
             .
             .
644          .      390
             .         .
             .         .
658          .         .-------->   BS390
654          .      D390
             .         .
             .         .
663          .         .         .<-------   BS390
661          .         .      RT390
             .         .         V
             .         .         V
664          .         .      SR390
             .         .         .
             .         .         .
670          .      390C............
             .         V
             .         V
673          .      RR390
             .         .
             .         .
680          .         .        400
             .         .         .
             .         .         .
694          .         .         .-------->   BS400
690          .         .      D400
             .         .         .
             .         .         .
699          .         .         .          .<-------   BS400
697          .         .         .      RT400
             .         .         .         V
             .         .         .         V
700          .         .         .      SR400
             .         .         .         .
             .         .         .         .
706          .         .      C400............
             .         .         .
             .         .         .
709       400C........................
             .
             .
712          .      385
             .         .
             .         .
724          .         .-------->   SF385
722          .      D385
             .         V
             .         V
727          .      385R
             .         .
             .         .
734          .         .        420
             .         .         .
```

```
748                                  .-------> BS420
744                            D420
                                  .
                                  .
753                                  .<-------  BS420
751                                  .      RT420
                                  .          V
                                  .          V
754                                  .      SR420
                                  .          .
                                  .          .
760                      420C.................................
                                  .
                                  .
763                          440
                               V
                               V
773                          R70
                                  .
                                  .
779                                  .       441
                                  .          .
                                  .          .
789                         C108............
                                  .
                                  .
794                                  .-------> SPLIT
792                         DIV4
                               V
                               V
797                         R108
                                  .
                                  .
803                                  .       442
                                  .          .
                                  .          .
813                          C67............
                                  .
                                  .
819                                  .-------> BASIN4
816                         DIV6
                                  .
                                  .
824                                  .<------- BASIN4
822                                  .   RTDIV6
                                  .          V
                                  .          V
825                                  .   RFDIV6
                                  .          .
                                  .          .
831                        CDIV6............
                                  .
                                  .
834                                  .       443
                                  .          .
                                  .          .
847                                  .-------> WSH66
844                                  .   DIV66
                                  .          V
                                  .          V
850                                  .    R113
                                  .          .
                                  .          .
856                         C114............
                                  .
                                  .
859                                  .       444
                                  .          V
                                  .          V
869                                  .     R58
                                  .          .
                                  .          .
875                                  .          .       445
                                  .          .          .
                                  .          .          .
885                                  .    C107............
                                  .          V
                                  .          V
888                                  .    R107
                                  .          .
                                  .          .
896                                  .          .<-------  SPLIT
894                                  .          .     RTB2
                                  .          .          V
                                  .          .          V
897                                  .          .   RSPLIT
                                  .          .          .
                                  .          .          .
903                                  .          .          .       446
                                  .          .          .          .
                                  .          .          .          .
913                                  .    C109........................
                                  .          .
                                  .          .
919                                  .-------> WSH404
916                                  .    DIV5
                                  .          V
                                  .          V
922                                  .    R109
                                  .          .
                                  .          .
928                                  .          .       447
                                  .          .          .
                                  .          .          .
940                                  .          .          .<-------  WSH404
938                                  .          .      RT404
                                  .          .          V
                                  .          .          V
941                                  .          .     R404
                                  .          .          .
                                  .          .          .
947                                  .    C110........................
```

```
                 .          .          V
                 .          .          V
950              .          .       R110
                 .          .          .
                 .          .          .
956              .       C115...........
                 .          V
                 .          V
959              .       R115
                 .          .
                 .          .
966              .          .       448
                 .          .          .
                 .          .          .
976              .          .          .        449
                 .          .          .          .
                 .          .          .          .
986              .          .     C6364...........
                 .          .          V
                 .          .          V
989              .          .     R6364
                 .          .          .
                 .          .          .
995              .          .          .        450
                 .          .          .          .
                 .          .          .          .
1005             .          .          .          .        451
                 .          .          .          .          .
                 .          .          .          .          .
1017             .          .          .          .          .          .<-------   WSH66
1015             .          .          .          .          .       RT66
                 .          .          .          .          .          .
                 .          .          .          .          .          .
1018             .          .          .          .          .          .        452
                 .          .          .          .          .          .          .
                 .          .          .          .          .          .          .
1028             .          .          .          .          .      C6465...........
                 .          .          .          .          .          V
                 .          .          .          .          .          V
1031             .          .          .          .          .      R6566
                 .          .          .          .          .          .
                 .          .          .          .          .          .
1037             .          .      C116...............................
                 .          .          V
                 .          .          V
1040             .          .    BASIN5
                 .          .          V
                 .          .          V
1047             .          .      R116
                 .          .          .
                 .          .          .
1053             .          .          .        453
                 .          .          .          .
                 .          .          .          .
1063             .          .      C117...........
                 .          .          .
                 .          .          .
1066             .       C118...........
                 .          V
                 .          V
1069             .       R118
                 .          .
                 .          .
1078             .          .-------> BASIN6
1075             .       DIV7
                 .          .
                 .          .
1083             .          .          .<-------  BASIN6
1081             .          .    RTDIV7
                 .          .          V
                 .          .          V
1084             .          .    RFDIV7
                 .          .          .
                 .          .          .
1090             .      CDIV7...........
                 .          .
                 .          .
1093             .          .       454
                 .          .          .
                 .          .          .
1103             .       C119...........
                 .          V
                 .          V
1106             .       R454
                 .          .
                 .          .
1113             .          .       415
                 .          .          .
                 .          .          .
1125             .          .          .          .<-------   SF385
1123             .          .          .     RT385
                 .          .          .          V
                 .          .          .          V
1126             .          .          .     RR385
                 .          .          .          .
                 .          .          .          .
1133             .       415C........................
                 .          V
                 .          V
1136             .       R415
                 .          .
                 .          .
1143             .          .       455
                 .          .          .
                 .          .          .
1158             .          .          .------->   BS455
1153             .          .      D455
                 .          .          .
                 .          .          .
1163             .          .          .          .<-------   BS455
1161             .          .          .     RT455
                 .          .          .          V
                 .          .          .          V
```

```
1164          .          .          .      SR455
              .          .          .          .
              .          .          .          .
1170          .          .       C455............
              .          .          .
              .          .          .
1173       455C.......................
              V
              V
1176      SR440
              V
              V
1185      RR455
              .
              .
1191          .        456
              .          .
              .          .
1204          .          .-------> BASIN1
1201          .       DIV1
              .          .
              .          .
1210          .          .------->   WA30
1207          .       DIV2
              .          V
              .          V
1213          .       R456
              .          .
              .          .
1219          .          .        457
              .          .          .
              .          .          .
1229          .       C101............
              .          .
              .          .
1235          .          .-------> BASIN2
1232          .       DIV3
              .          .
              .          .
1240          .          .          .<------- BASIN2
1238          .          .     RTDIV3
              .          .          V
              .          .          V
1241          .          .     RFDIV3
              .          .          .
              .          .          .
1247          .      CDIV3............
              .          V
              .          V
1250          .       R101
              .          .
              .          .
1256          .          .        458
              .          .          .
              .          .          .
1266          .       C103............
              .          V
              .          V
1269          .       R103
              .          .
              .          .
1277          .          .          .<-------   WA30
1275          .          .       RT30
              .          .          V
              .          .          V
1278          .          .       R30
              .          .          .
              .          .          .
1286          .          .          .          .<------- BASIN1
1284          .          .          .       RTB1
              .          .          .          V
              .          .          .          V
1287          .          .          .         B1
              .          .          .          V
              .          .          .          V
1294          .          .          .        RB1
              .          .          .          .
              .          .          .          .
1300          .          .       CDIV............
              .          .          .
              .          .          .
1303          .          .          .        459
              .          .          .          .
              .          .          .          .
1313          .          .       C52............
              .          .          V
              .          .          V
1316          .          .       R52
              .          .          .
              .          .          .
1322          .          .          .        460
              .          .          .          .
              .          .          .          .
1332          .          .       C102............
              .          .          V
              .          .          V
1335          .          .     BASIN3
              .          .          V
              .          .          V
1342          .          .         R3
              .          .          .
              .          .          .
1348          .          .          .        461
              .          .          .          .
              .          .          .          .
1358          .          .       C104............
              .          .          .
              .          .          .
1361          .       C106............
              .          V
              .          V
1364          .       R106
              .          .
```

```
1370          .          .        462
              .          .          .
              .          .          .
1380          .        C56...........
              .          .
              .          .
1383          .          .        480
              .          .          .
              .          .          .
1398          .          .          .-------->   BS480
1393          .          .       D480
              .          .          .
              .          .          .
1403          .          .          .          .<-------   BS480
1401          .          .          .      RT480
              .          .          .          V
              .          .          .          V
1404          .          .          .      SR480
              .          .          .          .
              .          .          .          .
1410          .          .       C480...........
              .          .          .
              .          .          .
1413       480C......................
              V
              V
1416      RR480
              .
              .
1422          .        500
              .          .
              .          .
1432       500C...........
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	10	951.	12.27	114.	31.	15.	.70		
+	ROUTED TO	R10	882.	12.40	114.	31.	15.	.70		
+	ROUTED TO	R12	833.	12.60	114.	31.	15.	.70		
+	HYDROGRAPH AT	20	959.	12.43	128.	32.	16.	1.12		
+	2 COMBINED AT	C20	1663.	12.53	240.	63.	30.	1.82		
+	HYDROGRAPH AT	40	2582.	12.30	252.	66.	32.	2.23		
+	HYDROGRAPH AT	60	1553.	12.40	228.	61.	29.	1.75		
+	3 COMBINED AT	60C	5274.	12.37	708.	188.	90.	5.80		
+	ROUTED TO	SR60	92.	14.40	92.	89.	70.	5.80		
+	ROUTED TO	R60	92.	14.40	92.	89.	70.	5.80		
+	ROUTED TO	RR60	92.	14.53	92.	89.	70.	5.80		
+	HYDROGRAPH AT	80	1868.	12.27	179.	46.	22.	1.48		
+	2 COMBINED AT	80C	1942.	12.27	266.	134.	92.	1.48		
+	ROUTED TO	R80	1919.	12.27	266.	134.	92.	1.48		
+	HYDROGRAPH AT	100	404.	12.20	58.	15.	7.	.48		
+	2 COMBINED AT	100C	2300.	12.27	321.	148.	99.	1.96		
+	ROUTED TO	R100	2292.	12.30	321.	148.	99.	1.96		
+	HYDROGRAPH AT	120	3232.	12.27	326.	88.	42.	2.20		
+	2 COMBINED AT	120C	5469.	12.27	636.	229.	141.	4.16		
+	ROUTED TO	R120	5397.	12.30	636.	229.	140.	4.16		
+	HYDROGRAPH AT	140	632.	12.13	64.	17.	8.	.60		
+	HYDROGRAPH AT	150	572.	12.17	49.	13.	6.	.41		
+	ROUTED TO	R150	546.	12.23	49.	13.	6.	.41		
+	ROUTED TO	R152	504.	12.37	49.	13.	6.	.41		
+	HYDROGRAPH AT	160	217.	12.40	35.	9.	4.	.37		
+	HYDROGRAPH AT	180	785.	12.37	90.	23.	11.	1.00		
+	5 COMBINED AT	180C	7163.	12.30	860.	285.	168.	6.54		
+	HYDROGRAPH AT	210	870.	12.20	80.	21.	10.	.58		
+	ROUTED TO	R210	815.	12.27	80.	21.	10.	.58		
+	HYDROGRAPH AT	240	1405.	12.30	155.	39.	19.	1.40		
+	2 COMBINED AT	240C	2185.	12.30	233.	60.	29.	1.98		
+	ROUTED TO	SR240	634.	12.77	186.	49.	23.	1.98		
+	HYDROGRAPH AT	220	1126.	12.17	98.	25.	12.	.73		
+	2 COMBINED AT	220C	1138.	12.20	279.	73.	35.	2.71		
+	ROUTED TO	SR220	914.	12.43	272.	71.	34.	2.71		

+	HYDROGRAPH AT	190	1403.	12.17	116.	31.	15.	.92
+	ROUTED TO	R190	1348.	12.23	116.	31.	15.	.92
	ROUTED TO	R192	1267.	12.30	116.	31.	15.	.92
+	HYDROGRAPH AT	200	806.	12.17	69.	19.	9.	.54
+	3 COMBINED AT	200C	2624.	12.27	447.	119.	57.	4.16
+	ROUTED TO	SR200	2493.	12.37	442.	115.	55.	4.16
+	ROUTED TO	200SR	1725.	12.60	320.	85.	41.	4.16
+	2 COMBINED AT	C180	7163.	12.30	1172.	369.	208.	10.69
+	ROUTED TO	SR180	138.	18.13	138.	137.	111.	10.69
+	ROUTED TO	R180	138.	18.20	138.	137.	110.	10.69
+	HYDROGRAPH AT	260	418.	12.10	43.	12.	6.	.27
+	2 COMBINED AT	260C	527.	12.10	176.	148.	117.	.27
+	ROUTED TO	R260	514.	12.20	175.	148.	117.	.27
+	HYDROGRAPH AT	280	478.	12.10	42.	12.	6.	.30
+	2 COMBINED AT	280C	945.	12.13	215.	158.	122.	.57
+	ROUTED TO	R280	909.	12.20	214.	158.	122.	.57
+	HYDROGRAPH AT	300	875.	12.20	109.	29.	14.	.99
+	2 COMBINED AT	300C	1769.	12.20	320.	185.	135.	1.56
	ROUTED TO	R300	1732.	12.27	320.	185.	135.	1.56
+	ROUTED TO	RR300	1699.	12.33	319.	185.	134.	1.56
+	HYDROGRAPH AT	350	1192.	12.20	103.	27.	13.	.97
+	DIVERSION TO	SF350	596.	12.20	51.	13.	6.	.97
+	HYDROGRAPH AT	D350	596.	12.20	51.	13.	6.	.97
+	ROUTED TO	350R	522.	12.40	51.	13.	6.	.97
+	HYDROGRAPH AT	310	376.	12.33	49.	12.	6.	.56
+	2 COMBINED AT	C310	871.	12.40	99.	25.	12.	.94
+	ROUTED TO	R310	767.	12.73	99.	25.	12.	.94
+	HYDROGRAPH AT	320	965.	12.20	123.	34.	17.	.97
+	DIVERSION TO	BS320	377.	11.97	21.	6.	3.	.97
+	HYDROGRAPH AT	D320	965.	12.20	109.	28.	14.	.97
+	HYDROGRAPH AT	RT320	377.	11.97	21.	6.	3.	.97
+	ROUTED TO	SR320	4.	4.13	4.	4.	3.	.97
+	4 COMBINED AT	C320	2634.	12.33	525.	240.	162.	3.47
+	HYDROGRAPH AT	340	1471.	12.17	186.	55.	26.	1.45
	DIVERSION TO	BS340	1471.	12.17	104.	28.	14.	1.45
+	HYDROGRAPH AT	D340	1199.	12.33	97.	27.	13.	1.45
+	HYDROGRAPH AT	RT340	1471.	12.17	104.	28.	14.	1.45
+	ROUTED TO	SR340	19.	9.00	19.	19.	14.	1.45

+	3 COMBINED AT	C340	3819.	12.33	634.	284.	188.	4.92
+	HYDROGRAPH AT	RT350	596.	12.20	51.	13.	6.	.97
	ROUTED TO	RR350	519.	12.47	51.	13.	6.	.97
+	HYDROGRAPH AT	355	500.	12.33	69.	18.	9.	.66
+	2 COMBINED AT	C355	957.	12.43	119.	31.	15.	1.24
+	ROUTED TO	R355	870.	12.73	119.	31.	15.	1.24
+	HYDROGRAPH AT	360	504.	12.23	84.	25.	12.	.67
+	DIVERSION TO	BS360	504.	12.23	53.	14.	7.	.67
+	HYDROGRAPH AT	D360	306.	12.63	38.	11.	5.	.67
+	HYDROGRAPH AT	RT360	504.	12.23	53.	14.	7.	.67
+	ROUTED TO	SR360	10.	9.83	10.	10.	7.	.67
+	4 COMBINED AT	360C	4036.	12.33	791.	332.	213.	6.83
+	HYDROGRAPH AT	370	588.	12.30	79.	21.	10.	.67
+	HYDROGRAPH AT	395	182.	12.23	25.	7.	3.	.20
+	2 COMBINED AT	370C	758.	12.30	103.	28.	13.	.87
+	ROUTED TO	R370	654.	12.67	103.	28.	13.	.87
+	HYDROGRAPH AT	380	666.	12.27	98.	26.	13.	.97
+	DIVERSION TO	BS380	666.	12.27	56.	14.	7.	.97
	HYDROGRAPH AT	D380	472.	12.57	46.	12.	6.	.97
+	HYDROGRAPH AT	RT380	666.	12.27	56.	14.	7.	.97
+	ROUTED TO	SR380	10.	11.33	10.	10.	7.	.97
+	4 COMBINED AT	380C	4538.	12.63	939.	378.	238.	8.67
+	HYDROGRAPH AT	390	463.	12.03	33.	10.	5.	.24
+	DIVERSION TO	BS390	95.	11.73	6.	2.	1.	.24
+	HYDROGRAPH AT	D390	463.	12.03	30.	8.	4.	.24
+	HYDROGRAPH AT	RT390	95.	11.73	6.	2.	1.	.24
+	ROUTED TO	SR390	1.	.90	1.	1.	1.	.24
+	2 COMBINED AT	390C	464.	12.03	31.	9.	5.	.24
+	ROUTED TO	RR390	324.	12.50	31.	9.	5.	.24
+	HYDROGRAPH AT	400	351.	12.23	47.	13.	6.	.62
+	DIVERSION TO	BS400	262.	12.10	10.	3.	1.	.62
+	HYDROGRAPH AT	D400	351.	12.23	39.	10.	5.	.62
+	HYDROGRAPH AT	RT400	262.	12.10	10.	3.	1.	.62
+	ROUTED TO	SR400	2.	8.70	2.	2.	1.	.62
	2 COMBINED AT	C400	353.	12.23	41.	12.	6.	.62
+	3 COMBINED AT	400C	4977.	12.63	1005.	398.	248.	9.53
+	HYDROGRAPH AT	385	582.	12.23	70.	19.	9.	.52
+	DIVERSION TO	SF385	349.	12.23	42.	12.	6.	.52

+ HYDROGRAPH AT	D385	233.	12.23	28.	8.	4.	.52
+ ROUTED TO	385R	199.	12.60	28.	8.	4.	.52
+ HYDROGRAPH AT	420	752.	12.20	92.	26.	12.	.85
+ DIVERSION TO	BS420	269.	11.97	15.	4.	2.	.85
+ HYDROGRAPH AT	D420	752.	12.20	83.	22.	10.	.85
+ HYDROGRAPH AT	RT420	269.	11.97	15.	4.	2.	.85
+ ROUTED TO	SR420	13.	11.03	12.	4.	2.	.85
+ 4 COMBINED AT	420C	5406.	12.63	1111.	425.	263.	10.87
+ HYDROGRAPH AT	440	180.	12.03	12.	3.	2.	.08
+ ROUTED TO	R70	176.	12.07	12.	3.	2.	.08
+ HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
+ 2 COMBINED AT	C108	191.	12.07	14.	4.	2.	.09
+ DIVERSION TO	SPLIT	96.	12.07	7.	2.	1.	.09
+ HYDROGRAPH AT	DIV4	96.	12.07	7.	2.	1.	.09
+ ROUTED TO	R108	88.	12.13	7.	2.	1.	.09
+ HYDROGRAPH AT	442	102.	12.10	9.	2.	1.	.10
+ 2 COMBINED AT	C67	187.	12.10	15.	4.	2.	.19
+ DIVERSION TO	BASIN4	115.	12.10	6.	1.	1.	.19
+ HYDROGRAPH AT	DIV6	72.	12.10	10.	3.	1.	.19
+ HYDROGRAPH AT	RTDIV6	115.	12.10	6.	1.	1.	.19
+ ROUTED TO	RFDIV6	1.	11.90	1.	1.	1.	.19
+ 2 COMBINED AT	CDIV6	74.	12.10	10.	4.	2.	.19
+ HYDROGRAPH AT	443	148.	12.07	14.	4.	2.	.08
+ DIVERSION TO	WSH66	78.	11.90	12.	3.	2.	.08
+ HYDROGRAPH AT	DIV66	70.	12.07	3.	1.	0.	.08
+ ROUTED TO	R113	69.	12.07	3.	1.	0.	.08
+ 2 COMBINED AT	C114	140.	12.07	13.	4.	2.	.27
+ HYDROGRAPH AT	444	82.	12.03	5.	1.	1.	.04
+ ROUTED TO	R58	75.	12.07	5.	1.	1.	.04
+ HYDROGRAPH AT	445	296.	12.03	18.	5.	2.	.19
+ 2 COMBINED AT	C107	365.	12.03	22.	6.	3.	.23
+ ROUTED TO	R107	365.	12.07	22.	6.	3.	.23
+ HYDROGRAPH AT	RTB2	96.	12.07	7.	2.	1.	.09
+ ROUTED TO	RSPLIT	95.	12.07	7.	2.	1.	.09
+ HYDROGRAPH AT	446	65.	12.03	6.	2.	1.	.04
+ 3 COMBINED AT	C109	520.	12.07	35.	9.	4.	.27
+ DIVERSION TO	WSH404	35.	11.73	8.	2.	1.	.27
+ HYDROGRAPH AT	DIV5	485.	12.07	27.	7.	3.	.27

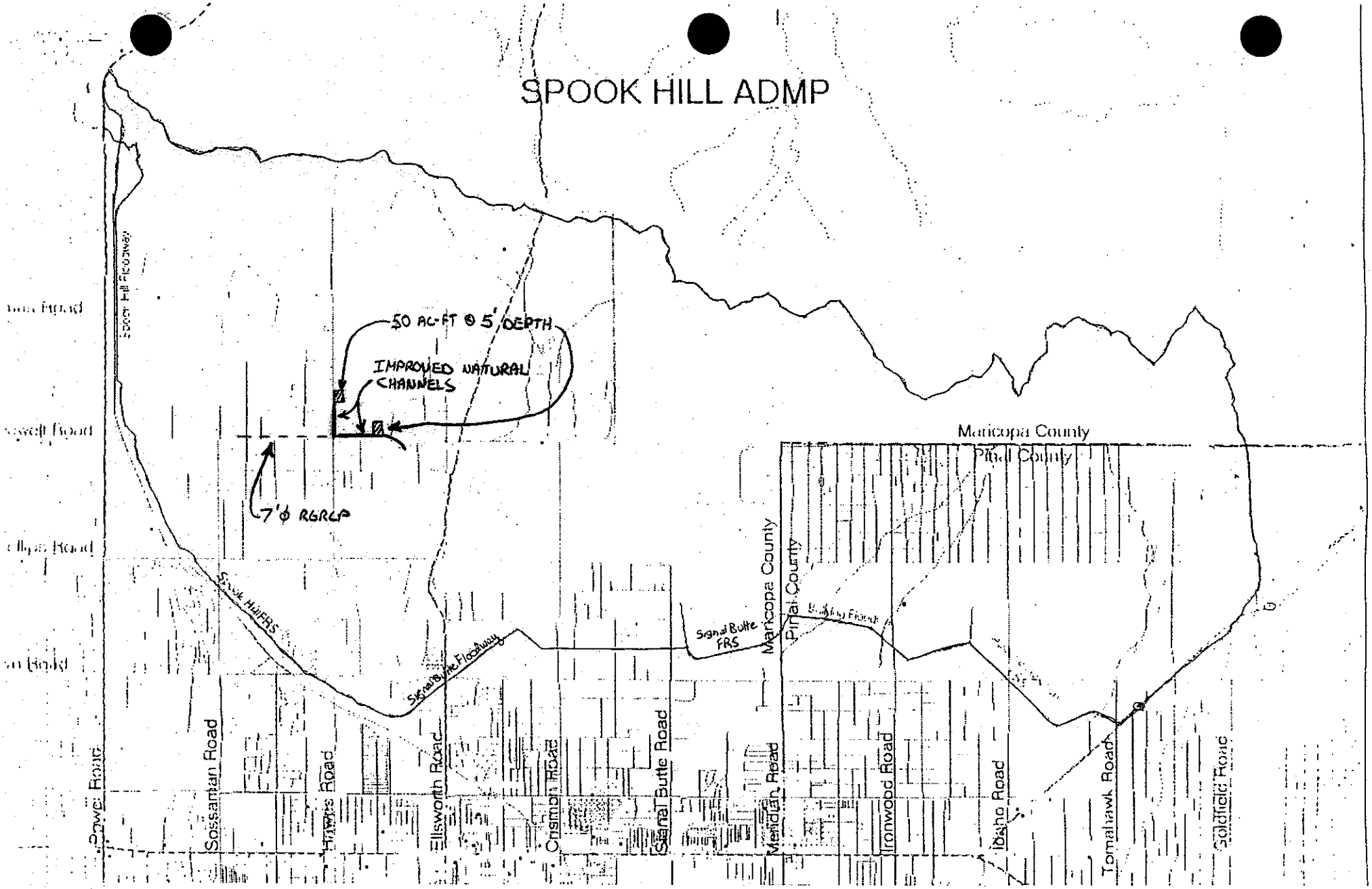
+	ROUTED TO	R109	469.	12.10	27.	7.	3.	.27
+	HYDROGRAPH AT	447	138.	12.07	12.	4.	2.	.09
+	HYDROGRAPH AT	RT404	35.	11.73	8.	2.	1.	.27
+	ROUTED TO	R404	35.	11.90	8.	2.	1.	.27
+	3 COMBINED AT	C110	635.	12.07	46.	13.	6.	.36
+	ROUTED TO	R110	632.	12.10	46.	13.	6.	.36
+	2 COMBINED AT	C115	764.	12.10	59.	17.	8.	.63
+	ROUTED TO	R115	767.	12.10	59.	17.	8.	.63
+	HYDROGRAPH AT	448	88.	12.03	6.	2.	1.	.05
+	HYDROGRAPH AT	449	80.	12.03	5.	1.	1.	.05
+	2 COMBINED AT	C6364	166.	12.03	11.	3.	1.	.09
+	ROUTED TO	R6364	137.	12.17	11.	3.	1.	.09
+	HYDROGRAPH AT	450	61.	12.20	6.	2.	1.	.07
+	HYDROGRAPH AT	451	18.	12.17	2.	1.	0.	.03
+	HYDROGRAPH AT	RT66	78.	11.90	12.	3.	2.	.08
+	HYDROGRAPH AT	452	62.	12.03	4.	1.	1.	.04
+	2 COMBINED AT	C6465	140.	12.03	16.	4.	2.	.04
+	ROUTED TO	R6566	135.	12.10	16.	4.	2.	.04
+	4 COMBINED AT	C116	341.	12.17	35.	9.	4.	.23
+	ROUTED TO	BASIN5	152.	12.47	35.	9.	4.	.23
+	ROUTED TO	R116	150.	12.53	35.	9.	4.	.23
+	HYDROGRAPH AT	453	62.	12.10	7.	2.	1.	.06
+	2 COMBINED AT	C117	169.	12.50	41.	11.	5.	.29
+	2 COMBINED AT	C118	852.	12.10	99.	28.	14.	.92
+	ROUTED TO	R118	842.	12.10	99.	28.	14.	.92
+	DIVERSION TO	BASIN6	243.	12.10	10.	2.	1.	.92
+	HYDROGRAPH AT	DIV7	599.	12.10	89.	25.	13.	.92
+	HYDROGRAPH AT	RTDIV7	243.	12.10	10.	2.	1.	.92
+	ROUTED TO	RFDIV7	1.	11.97	1.	1.	1.	.92
+	2 COMBINED AT	CDIV7	600.	12.10	90.	26.	13.	.92
+	HYDROGRAPH AT	454	157.	12.17	21.	6.	3.	.18
+	2 COMBINED AT	C119	748.	12.13	110.	32.	16.	1.10
+	ROUTED TO	R454	722.	12.20	110.	32.	16.	1.10
+	HYDROGRAPH AT	415	558.	12.17	76.	22.	10.	.61
+	HYDROGRAPH AT	RT385	349.	12.23	42.	12.	6.	.52
+	ROUTED TO	RR385	305.	12.60	42.	12.	6.	.52
+	3 COMBINED AT	415C	1418.	12.23	225.	64.	32.	1.71
+	ROUTED TO	R415	1404.	12.27	225.	64.	32.	1.71

+	HYDROGRAPH AT 455	1346.	12.13	142.	43.	21.	1.11
+	DIVERSION TO BS455	1346.	12.13	137.	37.	18.	1.11
+	HYDROGRAPH AT D455	55.	12.77	16.	6.	3.	1.11
+	HYDROGRAPH AT RT455	1346.	12.13	137.	37.	18.	1.11
+	ROUTED TO SR455	25.	10.47	25.	25.	18.	1.11
+	2 COMBINED AT C455	80.	12.77	41.	31.	21.	1.11
+	3 COMBINED AT 455C	6574.	12.37	1337.	507.	311.	13.69
+	ROUTED TO SR440	808.	13.80	791.	507.	310.	13.69
+	ROUTED TO RR455	808.	14.10	791.	507.	308.	13.69
+	HYDROGRAPH AT 456	468.	12.07	35.	10.	5.	.26
+	DIVERSION TO BASIN1	184.	12.07	8.	2.	1.	.26
+	HYDROGRAPH AT DIV1	284.	12.07	27.	8.	4.	.26
+	DIVERSION TO WA30	58.	12.07	10.	3.	2.	.26
+	HYDROGRAPH AT DIV2	226.	12.07	18.	4.	2.	.26
+	ROUTED TO R456	213.	12.13	18.	4.	2.	.26
+	HYDROGRAPH AT 457	264.	12.07	20.	5.	3.	.19
+	2 COMBINED AT C101	462.	12.10	38.	10.	5.	.45
+	DIVERSION TO BASIN2	165.	12.10	7.	2.	1.	.45
+	HYDROGRAPH AT DIV3	297.	12.10	30.	8.	4.	.45
+	HYDROGRAPH AT RTDIV3	165.	12.10	7.	2.	1.	.45
+	ROUTED TO RFDIV3	2.	11.90	2.	2.	1.	.45
+	2 COMBINED AT CDIV3	299.	12.10	32.	9.	5.	.45
+	ROUTED TO R101	297.	12.10	32.	9.	5.	.45
+	HYDROGRAPH AT 458	356.	12.03	25.	7.	3.	.19
+	2 COMBINED AT C103	635.	12.07	56.	16.	8.	.64
+	ROUTED TO R103	630.	12.07	56.	16.	8.	.64
+	HYDROGRAPH AT RT30	58.	12.07	10.	3.	2.	.26
+	ROUTED TO R30	57.	12.10	10.	3.	2.	.26
+	HYDROGRAPH AT RTB1	184.	12.07	8.	2.	1.	.26
+	ROUTED TO B1	37.	12.23	8.	2.	1.	.26
+	ROUTED TO RB1	37.	12.30	8.	2.	1.	.26
+	2 COMBINED AT CDIV	86.	12.20	17.	5.	3.	.12
+	HYDROGRAPH AT 459	44.	12.03	3.	1.	0.	.03
+	2 COMBINED AT C52	113.	12.10	20.	6.	3.	.15
+	ROUTED TO R52	112.	12.17	20.	6.	3.	.15
+	HYDROGRAPH AT 460	214.	12.07	19.	6.	3.	.14
+	2 COMBINED AT C102	313.	12.07	39.	12.	6.	.29
+	ROUTED TO BASIN3	71.	12.63	39.	12.	6.	.29

+	ROUTED TO	R3	71.	12.77	39.	12.	6.	.29
+	HYDROGRAPH AT	461	161.	12.10	17.	5.	2.	.12
+	2 COMBINED AT	C104	213.	12.10	55.	17.	8.	.41
+	2 COMBINED AT	C106	835.	12.07	110.	32.	16.	1.05
+	ROUTED TO	R106	797.	12.13	110.	32.	16.	1.05
+	HYDROGRAPH AT	462	538.	12.07	40.	11.	5.	.30
+	2 COMBINED AT	C56	1254.	12.10	149.	42.	21.	1.35
+	HYDROGRAPH AT	480	1050.	12.10	96.	29.	14.	.73
+	DIVERSION TO	BS480	455.	11.90	27.	8.	4.	.73
+	HYDROGRAPH AT	D480	1050.	12.10	78.	21.	10.	.73
+	HYDROGRAPH AT	RT480	455.	11.90	27.	8.	4.	.73
+	ROUTED TO	SR480	6.	3.90	6.	6.	4.	.73
+	2 COMBINED AT	C480	1056.	12.10	84.	27.	14.	.73
+	3 COMBINED AT	480C	2515.	12.10	969.	591.	352.	2.09
+	ROUTED TO	RR480	2353.	12.13	966.	591.	352.	2.09
+	HYDROGRAPH AT	500	1073.	12.27	122.	33.	16.	.93
+	2 COMBINED AT	500C	3242.	12.17	1077.	619.	366.	3.02

*** NORMAL END OF HEC-1 ***

SPOOK HILL ADMP



UPDATE TO MCDOWELL OPTION USING CURRENT 100YR 24HR STORM. FILE S24CE30.DAT.
MCDOWELL OPTION ALSO ALTERED REMOVING DETENTION BASIN FROM SUB-BASIN 455.
REMAINING DETENTION BASINS FROM PREVIOUS MCDOWELL OPTIONS WILL REMAIN AND
BE ROUTED VIA CHANNELS ALONG MCDOWELL & HAWES TO COMBINE WITH SUB-BASIN 390
THIS COMBINATION WILL THEN BE ROUTED BELOW GRADE IN A RGRCP THAT WILL OUTLET
INTO NATURAL CHANNEL WHERE NOW REMOVED DETENTION BASIN WAS IN SUB-BASIN 455
ANALYSIS PERFORMED BY WOOD/PATEL; MW; 06/30/00 FILE: S24CE31.DAT

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN   1998              *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   28JUN00  TIME  13:39:30  *
*                                      *
****************************************
```

```
****************************************
*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
*   HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET            *
*      DAVIS, CALIFORNIA 95616         *
*          (916) 756-1104              *
*                                      *
****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
1                                    HEC-1 INPUT                                    PAGE  1

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID   EXISTING LAND USE CALCULATIONS WERE BASED ON 1 YR. FROM 11/5/99
  2           ID   FOR LAS SENDAS       AND LANDISCOR JAN.1999 AERIAL PHOTOGPRAPHS
  3           ID
  4           ID   ALL DAMS WERE ANALYZED WITH NO STORAGE BELOW PRINCIPLE SPILLWAY ELEVATIONS
  5           ID
  6           ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
  7           ID   PRECIPITATION VALUES
  8           ID
  9           ID   ALL CHANNEL ROUTING INFORMATION WAS OBTAINED FROM MCFCD SPOOK HILL   SIGNAL
 10           ID   BUTTE        AND BULLDOG FLOODWAY PLANS
 11           ID
 12           ID   UPDATE TO MCDOWELL OPTION USING CURRENT 100YR 24HR STORM. FILE S24CE30.DAT.
 13           ID   MCDOWELL OPTION ALSO ALTERED REMOVING DETENTION BASIN FROM SUB-BASIN 455.
 14           ID   REMAINING DETENTION BASINS FROM PREVIOUS MCDOWELL OPTIONS WILL REMAIN AND
 15           ID   BE ROUTED VIA CHANNELS ALONG MCDOWELL & HAWES TO COMBINE WITH SUB-BASIN 390
 16           ID   THIS COMBINATION WILL THEN BE ROUTED BELOW GRADE IN A RGRCP THAT WILL OUTLET
 17           ID   INTO NATURAL CHANNEL WHERE NOW REMOVED DETENTION BASIN WAS IN SUB-BASIN 455
 18           ID   ANALYSIS PERFORMED BY WOOD/PATEL; MW;        06/30/00  FILE: S24CE31.DAT
 19           ID
 20           ID   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
              *DIAGRAM
 21           IT       2                    1500
 22           IO       3
 23           IN      15
 24           JD    3.81    0.01
 25           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
 26           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
 27           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
 28           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
 29           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
 30           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
 31           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
 32           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
 33           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
 34           PC    .983    .986    .989    .992    .995    .998   1.000
 35           JD    3.58   10.00
 36           JD    3.43   30.00
 37           JD    3.28   60.00
 38           JD    3.22   90.00
 39           JD    3.18  120.00
 40           JD    3.14  150.00
 41           JD    3.05  300.00
 42           JD    2.97  500.00
              * DDM   ***** Updated *****

 43           KK      10
 44           KM   SUB-BASIN 10
 45           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 46           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 47           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
 48           BA    .702
 49           LG    .350    .320   7.600    .090  15.000
 50           UC    .421    .302
 51           UA       0       3       5       8      12      20      43      75      90      96
 52           UA     100
              * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                    PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 53           KK     R10
 54           KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
 55           RS       4    FLOW      -1
 56           RC    .045     .03    .045    8700    .021
 57           RX       0       1       2      17      27      42      43      44
 58           RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****

 59           KK     R12
 60           KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
 61           RS       6    FLOW      -1
 62           RC    .045     .03    .045    4500     .01
 63           RX       0       1      30    37.5    57.5      65      94      95
 64           RY       3     2.5     2.5       0       0     2.5     2.5       3
```

```
            * DDM   ***** Updated *****

 65         KK      20
 66         KM   SUB-BASIN 20
 67         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 68         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 69         KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 70         BA   1.120
 71         LG    .350    .390   5.800    .190   1.000
 72         UC    .658    .454
 73         UA       0       3       5       8      12      20      43      75      90      96
 74         UA     100
            * DDM   ***** Preserved *****

 75         KK     C20
 76         KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 77         HC       2
            * DDM   ***** Updated *****

 78         KK      40
 79         KM   SUB-BASIN 40
 80         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 81         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
 82         KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
 83         BA   2.233
 84         LG    .340    .340   4.900    .280   5.000
 85         UC    .496    .264
 86         UA       0       3       5       8      12      20      43      75      90      96
 87         UA     100
            * DDM   ***** Updated *****

 88         KK      60
 89         KM   SUB-BASIN 60
 90         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 91         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .990
 92         KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 93         BA   1.746
 94         LG    .330    .350   5.800    .190   9.000
 95         UC    .596    .477
 96         UA       0       3       5       8      12      20      43      75      90      96
1                                        HEC-1 INPUT                                          PAGE  3

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 97         UA     100
            * DDM   ***** Preserved *****

 98         KK     60C
 99         KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
            *      1       2
100         HC       3
            * DDM   ***** Preserved *****

101         KK    SR60
102         KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
103         KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
104         KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
105         KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
106         RS       1    STOR       0
107         SV       0       1     100     200     300     400
108         SQ       0      71      81      87    91.5      94
109         SE    83.5    93.5      96    97.7      99   99.77
            * DDM   ***** Preserved *****

110         KK     R60
111         KM       ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
112         RS       1    FLOW      -1
113         RC    .016    .016    .016    2850    .012
114         RX       0       1       2     2.1     5.6     5.7       6       7
115         RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
            * DDM   ***** Preserved *****

116         KK    RR60
117         KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
118         RS       4    FLOW      -1
119         RC    .016    .016    .016    3500    .005
120         RX       0       1       2     2.1     7.1     7.2       8       9
121         RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
            * DDM   ***** Updated *****

122         KK      80
123         KM   SUB-BASIN 80
124         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
125         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
126         KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
127         BA   1.475
128         LG    .330    .330   5.600    .210   4.000
129         UC    .433    .259
130         UA       0       3       5       8      12      20      43      75      90      96
131         UA     100
            * DDM   ***** Preserved *****

132         KK     80C
133         KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
134         HC       2   1.475
            * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  4

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

135         KK     R80
136         KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
137         RS       1    FLOW      -1
138         RC    .025    .016    .025    1200    .003
139         RX       0       2       6     6.1    41.1    41.2    56.2    58.2
140         RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
            * DDM   ***** Updated *****

141         KK     100
142         KM   SUB-BASIN 100
143         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
144         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
```

```
145          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
146          BA    .484
147          LG    .320    .290   5.100    .260   3.000
148          UC    .533    .473
149          UA       0       5      16      30      65      77      84      90      94      97
150          UA     100
             * DDM   ***** Preserved *****

151          KK    100C
152          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
153          HC       2
             * DDM   ***** Preserved *****

154          KK    R100
155          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
156          RS       1    FLOW      -1
157          RC    .016    .016    .016     940    .005
158          RX       0       1       2     2.1    52.1    52.2      53      54
159          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****

160          KK     120
161          KM   SUB-BASIN 120
162          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
163          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
164          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
165          BA   2.202
166          LG    .330    .280   6.800    .130  11.000
167          UC    .429    .226
168          UA       0       3       5       8      12      20      43      75      90      96
169          UA     100
             * DDM   ***** Preserved *****

170          KK    120C
171          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
172          HC       2
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

173          KK    R120
174          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
175          RS       1    FLOW      -1
176          RC    .025    .016    .025    2100    .005
177          RX       0       6      10    10.1    60.1    60.2    74.2    80.2
178          RY       8       5       5       0       0       5       5       8
             * DDM   ***** Updated *****

179          KK     140
180          KM   SUB-BASIN 140
181          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
182          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
183          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
184          BA    .598
185          LG    .310    .280   4.200    .440   5.000
186          UC    .421    .278
187          UA       0       5      16      30      65      77      84      90      94      97
188          UA     100
             * DDM   ***** Updated *****

189          KK     150
190          KM   SUB-BASIN 150
191          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
192          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
193          KM     L = 1.50  Kb = .047  Adj. Slope =  315.0
194          BA    .408
195          LG    .350    .360   5.100    .260   7.000
196          UC   1.579   1.417
197          UA       0       3       5       8      12      20      43      75      90      96
198          UA     100
             * DDM   ***** Preserved *****

199          KK    R150
200          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
201          RS       3    FLOW      -1
202          RC    .045     .04    .045    3100    .032
203          RX       0       1       2      23      33      54      55      56
204          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

205          KK    R152
206          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
207          RS       6    FLOW      -1
208          RC    .045     .03    .045    5900    .019
209          RX       0       1       2       8      33      39      40      41
210          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****

211          KK     160
212          KM   SUB-BASIN 160
213          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
214          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
215          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
216          BA    .369
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

217          LG    .340    .330   4.150    .440   1.000
218          UC    .587    .655
219          UA       0       3       5       8      12      20      43      75      90      96
220          UA     100
             * DDM   ***** Updated *****

221          KK     180
222          KM   SUB-BASIN 180
223          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
224          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
225          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
226          BA   1.000
227          LG    .350    .350   4.150    .430    .000
```

```
228          UC    .571    .403
229          UA       0       3       5       8      12      20      43      75      90      96
230          UA     100
             * DDM   ***** Preserved *****

231          KK    180C
232          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
233          HC       5
             * DDM   ***** Updated *****

234          KK     210
235          KM   SUB-BASIN 210
236          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
237          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
238          KM     L = 1.84  Kb = .045  Adj. Slope =  315.0
239          BA    .583
240          LG    .350    .350   7.000    .120   5.000
241          UC    .321    .232
242          UA       0       3       5       8      12      20      43      75      90      96
243          UA     100
             * DDM   ***** Preserved *****

244          KK    R210
245          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
246          RS       2    FLOW      -1
247          RC    .045     .03    .045    5100    .022
248          RX       0       1       2      14      34      46      47      48
249          RY       4       4       4       0       0       4       4       4
             * DDM   ***** Updated *****

250          KK     240
251          KM   SUB-BASIN 240
252          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
253          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
254          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
255          BA   1.398
256          LG    .350    .370   5.200    .240   2.000
257          UC    .471    .361
258          UA       0       3       5       8      12      20      43      75      90      96
259          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  7

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

260          KK    240C
261          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
262          HC       2
             * DDM   ***** Preserved *****

263          KK   SR240
264          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
265          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
266          RS       1    STOR       0
267          SA    1.38    14.2    36.5
268          SE     1.7       5      11
269          SS       5      42       3     1.5
             * DDM   ***** Updated *****

270          KK     220
271          KM   SUB-BASIN 220
272          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
273          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
274          KM     L = 1.92  Kb = .043  Adj. Slope =  315.0
275          BA    .725
276          LG    .350    .350   7.000    .120   4.000
277          UC    .317    .209
278          UA       0       3       5       8      12      20      43      75      90      96
279          UA     100
             * DDM   ***** Preserved *****

280          KK    220C
281          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
282          HC       2
             * DDM   ***** Preserved *****

283          KK   SR220
284          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
285          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
286          RS       1    STOR       0
287          SA     .78     4.1    13.7
288          SE       1       3      10
289          SS       3      65       3     1.5
             * DDM   ***** Updated *****

290          KK     190
291          KM   SUB-BASIN 190
292          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
293          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
294          KM     L = 1.91  Kb = .042  Adj. Slope =  315.0
295          BA    .918
296          LG    .350    .390   5.800    .190   8.000
297          UC    .321    .185
298          UA       0       3       5       8      12      20      43      75      90      96
299          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  8

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

300          KK    R190
301          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
302          RS       2    FLOW      -1
303          RC    .045     .03    .045    4740     .03
304          RX       0       1       2      17      37      52      53      54
305          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

306          KK    R192
307          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
308          RS       2    FLOW      -1
```

```
309          RC    .045    .035    .045    2200    .018
310          RX       0       1      50      59      79      88     137     138
311          RY     3.5       3       3       0       0       3       3     3.5
             * DDM   ***** Updated *****

312          KK     200
313          KM   SUB-BASIN 200
314          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
315          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
316          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
317          BA    .535
318          LG    .350    .390   5.700    .200  10.000
319          UC    .300    .200
320          UA       0       3       5       8      12      20      43      75      90      96
321          UA     100
             * DDM   ***** Preserved *****

322          KK    200C
323          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
324          HC       3
             * DDM   ***** Preserved *****

325          KK   SR200
326          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
327          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
328          RS       1    STOR       0
329          SA    2.56     3.1     9.4
330          SE       0       3      10
331          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

332          KK   200SR
333          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
334          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
335          RS       1    STOR       0
336          SA       8     9.2     9.2
337          SE       0       7      10
338          SS       7     251       3     1.5
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

339          KK    C180
340          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             *      1       2
341          HC       2
             * DDM   ***** Preserved *****

342          KK   SR180
343          KM   SIGNAL BUTTE FRS DATED 1/28/85
344          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
345          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
346          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
347          RS       1    STOR       0
348          SV       0       1     250     500     750    1060
349          SQ       0   106.5   125.5   137.5     146     160
350          SE      90     101   104.5     107     109   112.4
             * DDM   ***** Preserved *****

351          KK    R180
352          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
353          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
354          RS       3    FLOW      -1
355          RC    .035    .025    .035    1500    .003
356          RX       0       1       2    22.6    38.6    59.2      60      61
357          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

358          KK     260
359          KM   SUB-BASIN 260
360          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
361          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
362          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
363          BA    .267
364          LG    .300    .170   6.800    .160  15.000
365          UC    .363    .215
366          UA       0       5      16      30      65      77      84      90      94      97
367          UA     100
             * DDM   ***** Preserved *****

368          KK    260C
369          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
370          HC       2    .267
             * DDM   ***** Preserved *****

371          KK    R260
372          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
373          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
374          RS       3    FLOW      -1
375          RC    .035    .025    .035    2300    .003
376          RX       0       1       2    23.4    43.4    64.8      65      66
377          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

378          KK     280
379          KM   SUB-BASIN 280
380          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
381          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
382          KM     L =  .77  Kb = .049  Adj. Slope =   84.0
383          BA    .304
384          LG    .300    .250   5.300    .290  15.000
385          UC    .333    .175
386          UA       0       5      16      30      65      77      84      90      94      97
387          UA     100
             * DDM   ***** Preserved *****

388          KK    280C
```

```
389          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
390          HC       2
             * DDM   ***** Preserved *****

391          KK    R280
392          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
393          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
394          RS       2    FLOW      -1
395          RC    .035    .025    .035    2500    .003
396          RX       0       1       2    23.4    43.4    64.8      65      66
397          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

398          KK     300
399          KM   SUB-BASIN 300
400          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
401          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
402          KM     L = 2.28  Kb = .041  Adj. Slope =  127.0
403          BA    .988
404          LG    .340    .320   4.500    .370   7.000
405          UC    .538    .362
406          UA       0       5      16      30      65      77      84      90      94      97
407          UA     100
             * DDM   ***** Preserved *****

408          KK    300C
409          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
410          HC       2
             * DDM   ***** Preserved *****

411          KK    R300
412          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
413          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
414          RS       2    FLOW      -1
415          RC    .035    .025    .035    2200    .003
416          RX       0       1       2    23.4    55.4    76.8      77      78
417          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

418          KK   RR300
419          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
420          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
421          RS       2    FLOW      -1
422          RC    .016    .016    .016    6050   .0146
423          RX       0       1       2     2.1    16.1    16.2      17      18
424          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
             *        1       2
             * DDM   ***** Updated *****

425          KK     350
426          KM   SUB-BASIN 350
427          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
428          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
429          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
430          BA    .970
431          LG    .350    .350   4.550    .340   4.000
432          UC    .367    .234
433          UA       0       3       5       8      12      20      43      75      90      96
434          UA     100
             * DDM   ***** Preserved *****

435          KK    D350
436          KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
437          KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
438          DT   SF350
439          DI       0    5000
440          DQ       0    2500
             * DDM   ***** Preserved *****

441          KK    350R
442          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
443          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
444          RS       6    FLOW      -1
445          RC    .045    .035    .045    5150    .025
446          RX       0       1      40      46      56      62     102     103
447          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

448          KK     310
449          KM   SUB-BASIN 310
450          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
451          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
452          KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
453          BA    .555
454          LG    .350    .350   3.910    .480    .000
455          UC    .483    .511
456          UA       0       3       5       8      12      20      43      75      90      96
457          UA     100
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

458          KK    C310
459          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
460          HC       2    .943
             * DDM   ***** Preserved *****

461          KK    R310
462          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
463          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
464          RS      10    FLOW      -1
465          RC    .045    .035    .045   10050    .022
466          RX       0       1      40      46      56      62     102     103
467          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

468          KK     320
```

```
469          KM   SUB-BASIN 320
470          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
471          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
472          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
473          BA    .972
474          LG    .310    .300   4.550    .360  14.000
475          UC    .508    .333
476          UA       0       5      16      30      65      77      84      90      94      97
477          UA     100
             * DDM   ***** Preserved *****

478          KK    D320
479          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
480          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
481          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
482          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
483          DT   BS320   12.27
484          DI       0   10000
485          DQ       0   10000
             * DDM   ***** Preserved *****

486          KK   RT320
487          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
488          DR   BS320
             * DDM   ***** Preserved *****

489          KK   SR320
490          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
491          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
492          RS       1    STOR       0
493          SV       0     .01    12.3
494          SQ       0     4.2     4.2
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

495          KK    C320
496          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
497          HC       4
             * DDM   ***** Updated *****

498          KK     340
499          KM   SUB-BASIN 340
500          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
501          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
502          KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
503          BA   1.449
504          LG    .280    .280   4.150    .520  21.000
505          UC    .512    .287
506          UA       0       5      16      30      65      77      84      90      94      97
507          UA     100
             * DDM   ***** Preserved *****

508          KK    D340
509          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
510          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
511          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
512          KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *      1
513          DT   BS340      56
514          DI       0   10000
515          DQ       0   10000
             * DDM   ***** Preserved *****

516          KK   RT340
517          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
518          DR   BS340
             * DDM   ***** Preserved *****

519          KK   SR340
520          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
521          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
522          RS       1    STOR       0
523          SV       0     .01      56
524          SQ       0    18.9    18.9
             * DDM   ***** Preserved *****

525          KK    C340
526          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
527          HC       3
             * DDM   ***** Preserved *****

528          KK   RT350
529          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
530          DR   SF350
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

531          KK   RR350
532          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
533          KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
534          RS       8    FLOW      -1
535          RC    .045    .035    .045    6050    .025
536          RX       0       1      40      46      56      62     102     103
537          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

538          KK     355
539          KM   SUB-BASIN 355
540          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
541          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
542          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
543          BA    .659
544          LG    .340    .340   4.450    .370   4.000
545          UC    .488    .509
```

```
546          UA       0       3       5       8      12      20      43      75      90      96
547          UA     100
             * DDM   ***** Preserved *****

548          KK    C355
549          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
550          HC       2    1.24
             * DDM   ***** Preserved *****

551          KK    R355
552          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
553          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
554          RS       9    FLOW      -1
555          RC    .045    .035    .045   10100    .026
556          RX       0       1      40      46      56      62     102     103
557          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

558          KK     360
559          KM   SUB-BASIN 360
560          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
561          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
562          KM     L = 2.10  Kb = .048  Adj. Slope =  124.0
563          BA    .670
564          LG    .260    .270   4.100    .560  20.000
565          UC    .587    .466
566          UA       0       5      16      30      65      77      84      90      94      97
567          UA     100
             * DDM   ***** Preserved *****

568          KK    D360
569          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
570          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
571          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
572          DT   BS360    28.6
573          DI       0   10000
1                                        HEC-1 INPUT                                          PAGE 15

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

574          DQ       0   10000
             * DDM   ***** Preserved *****

575          KK   RT360
576          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
577          DR   BS360
             * DDM   ***** Preserved *****

578          KK   SR360
579          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
580          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
581          RS       1    STOR       0
582          SV       0     .01    28.6
583          SQ       0     9.6     9.6
             * DDM   ***** Preserved *****

584          KK    360C
585          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
586          HC       4
             * DDM   ***** Updated *****

587          KK     380
588          KM   SUB-BASIN 380
589          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
590          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
591          KM     L = 2.20  Kb = .048  Adj. Slope =  114.0
592          BA    .972
593          LG    .300    .310   4.150    .500   7.000
594          UC    .658    .444
595          UA       0       5      16      30      65      77      84      90      94      97
596          UA     100
             * DDM   ***** Preserved *****

597          KK    D380
598          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
599          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
600          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
601          DT   BS380    28.6
602          DI       0   10000
603          DQ       0   10000
             * DDM   ***** Preserved *****

604          KK   RT380
605          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
606          DR   BS380
             * DDM   ***** Preserved *****

607          KK   SR380
608          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
609          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
610          RS       1    STOR       0
611          SV       0     .01    28.6
612          SQ       0     9.6     9.6
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 16

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

613          KK    380C
614          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
615          HC       3
             * DDM   ***** Updated *****

616          KK     400
617          KM   SUB-BASIN 400
618          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
619          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
620          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
621          BA    .616
622          LG    .320    .320   3.130    .930   6.000
```

```
623          UC    .592    .405
624          UA       0       5      16      30      65      77      84      90      94      97
625          UA     100
             * DDM   ***** Preserved *****

626          KK    D400
627          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
628          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
629          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
630          DT   BS400     5.6
631          DI       0   10000
632          DQ       0   10000
             * DDM   ***** Preserved *****

633          KK   RT400
634          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
635          DR   BS400
             * DDM   ***** Preserved *****

636          KK   SR400
637          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
638          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
639          RS       1    STOR       0
640          SV       0     .01     5.6
641          SQ       0       2       2
             * DDM   ***** Preserved *****

642          KK    C400
643          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
644          HC       2
             * DDM   ***** Preserved *****

645          KK    400C
646          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
647          HC       2
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 17

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

648          KK     420
649          KM   SUB-BASIN 420
650          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
651          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
652          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
653          BA    .849
654          LG    .310    .270   3.880    .580  12.000
655          UC    .512    .325
656          UA       0       5      16      30      65      77      84      90      94      97
657          UA     100
             * DDM   ***** Preserved *****

658          KK    D420
659          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
660          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
661          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
662          DT   BS420    8.65
663          DI       0   10000
664          DQ       0   10000
             * DDM   ***** Preserved *****

665          KK   RT420
666          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
667          DR   BS420
             * DDM   ***** Preserved *****

668          KK   SR420
669          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
670          KM   38.55 ACRE-FEETx43560/36x3600=13cfs
671          RS       1    STOR       0
672          SV       0     .01   38.55
673          SQ       0      13      13
             * DDM   ***** Preserved *****

674          KK    420C
675          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
676          HC       3
             * DDM   ***** Updated *****

677          KK     370
678          KM   SUB-BASIN 370
679          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
680          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
681          KM     L = 2.90  Kb = .044  Adj. Slope =  294.6
682          BA    .667
683          LG    .340    .320   4.650    .330   9.000
684          UC    .454    .455
685          UA       0       3       5       8      12      20      43      75      90      96
686          UA     100
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 18

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

687          KK     395
688          KM   SUB-BASIN 395
689          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
690          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
691          KM     L = 1.60  Kb = .051  Adj. Slope =  215.8
692          BA    .198
693          LG    .330    .320   4.900    .300  10.000
694          UC    .383    .468
695          UA       0       3       5       8      12      20      43      75      90      96
696          UA     100
             * DDM   ***** Preserved *****

697          KK    395C
698          KM   HYDROGRAPH COMBINATION
699          HC       2
```

```
            * DDM   ***** Preserved *****

 700        KK    D395
 701        KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN
 702        KM   SUB-BASINS 370 AND 395
            *      1
 703        DT   BS395
 704        DI       0      10    5000
 705        DQ       0       0    4990
            * DDM   ***** Preserved *****

 706        KK   RT395
 707        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
 708        DR   BS395
            * DDM   ***** Preserved *****

 709        KK   SR395
 710        KM   RETRIEVE FLOW INTO OFFLINE DETENTION BASIN AND BLEED OFF WITHIN 36 HOURS.
 711        KM      50 ACRE-FEETx43560/36x3600 = 17cfs
 712        RS       1    STOR       0
 713        SV       0     .01      50
 714        SQ       0      17      17
            * DDM   ***** Preserved *****

 715        KK    C395
 716        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 717        HC       2
            * DDM   ***** Preserved *****

 718        KK    R395
 719        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 720        KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 390
 721        RS       7    FLOW      -1
 722        RC    .045    .035    .045    2600    .023
 723        RX       0       1      40      46      56      62     102     103
 724        RY       3       2       2       0       0       2       2       3
            * DDM   ***** Updated *****
1                                   HEC-1 INPUT                                          PAGE 19

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 725        KK     385
 726        KM   SUB-BASIN 385
 727        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 728        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 729        KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
 730        BA    .523
 731        LG    .340    .360   5.600    .220  13.000
 732        UC    .383    .360
 733        UA       0       3       5       8      12      20      43      75      90      96
 734        UA     100
            * DDM   ***** Inserted *****

 735        KK     411
 736        KM   SUB-BASIN 411
 737        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 738        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 739        KM     L = 1.38  Kb = .048  Adj. Slope =  315.0
 740        BA    .361
 741        LG    .350    .360   5.200    .250  11.000
 742        UC    .283    .211
 743        UA       0       3       5       8      12      20      43      75      90      96
 744        UA     100

 745        KK    411C
 746        KM   HYDROGRAPH COMBINATION OF SUB-BASINS 385 & 411
 747        HC       2
            * DDM   ***** Preserved *****

 748        KK    D411
 749        KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 385 & 411
 750        DT   BS411
 751        DI       0      25    5000
 752        DQ       0       0    4975

 753        KK   RT411
 754        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
 755        DR   BS411
            * DDM   ***** Preserved *****

 756        KK   SR411
 757        KM   RETRIEVE FLOW TO BLEED OFF WITHIN 36 HOURS
 758        KM      50 ACRE-FEETx43560/36x3600 = 17cfs
 759        RS       1    STOR       0
 760        SV       0     .01      50
 761        SQ       0      17      17
            * DDM   ***** Preserved *****

 762        KK    C411
 763        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 764        HC       2
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 20

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 765        KK    R411
 766        KM   ROUTING OF FLOW FROM C411 TO 390C
 767        RS       7    FLOW      -1
 768        RC    .045    .035    .045    2600    .019
 769        RX       0       1      40      46      56      62     102     103
 770        RY       3       2       2       0       0       2       2       3
            * DDM   ***** Updated *****

 771        KK     390
 772        KM   SUB-BASIN 390
 773        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 774        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 775        KM     L =  .70  Kb = .050  Adj. Slope =  299.4
 776        BA    .244
 777        LG    .300    .250   4.700    .380  18.000
```

```
778          UC    .204    .107
779          UA      0       5      16      30      65      77      84      90      94      97
780          UA    100
             * DDM   ***** Preserved *****

781          KK    D390
782          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
783          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
784          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
785          DT   BS390     3.5
786          DI      0    5000
787          DQ      0    5000
             * DDM   ***** Preserved *****

788          KK   RT390
789          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
790          DR   BS390
             * DDM   ***** Preserved *****

791          KK   SR390
792          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
793          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
794          RS      1    STOR       0
795          SV      0     .01     3.5
796          SQ      0     1.2     1.2
             * DDM   ***** Preserved *****

797          KK    390C
798          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
799          HC      4
             * DDM   ***** Preserved *****

800          KK   RR390
801          KM   ATTEMPT TO SIMULATE PIPE FLOW ALONG THIS ROUTING FROM SUB-BASIN 390 TO 415
802          KM   ARTIFICIALLY ADJUSTING SLOPE TO MORE ACCURATELY DEPICT MODEL RESULTS.
803          KM   THE SLOPE WAS DECREASED FROM .02 TO .0034
804          RS      2    FLOW      -1
805          RK    5600   .0034    .016            CIRC       7
             *      0     .01     .02     .03    5.47    5.48    5.49     5.5
             *      7       0       0       0       0       0       0       7
             * DDM   ***** Updated *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

806          KK     440
807          KM   SUB-BASIN 440
808          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
809          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
810          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
811          BA    .080
812          LG    .190    .380   6.400    .140  13.000
813          UC    .129    .077
814          UA      0       3       5       8      12      20      43      75      90      96
815          UA    100
             * DDM   ***** Preserved *****

816          KK     R70
817          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
818          RS      1    FLOW      -1
819          RC     .05    .035     .05    2250     .08
820          RX    1000    1025    1050    1070    1075    1095    1120    1145
821          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

822          KK     441
823          KM   SUB-BASIN 441
824          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
825          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
826          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
827          BA    .010
828          LG    .300    .250   5.600    .220   5.000
829          UC    .150    .225
830          UA      0       5      16      30      65      77      84      90      94      97
831          UA    100
             * DDM   ***** Preserved *****

832          KK    C108
833          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
834          HC      2
             * DDM   ***** Preserved *****

835          KK    DIV4
836          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
             *      1
837          DT   SPLIT
838          DI      0      14      40      82     120     154     180
839          DQ      0       7      20      41      60      77      90
             * DDM   ***** Preserved *****

840          KK    R108
841          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
842          RS      2    FLOW      -1
843          RC     .05    .035     .05    3200      .1
844          RX    1000    1025    1050    1070    1075    1095    1120    1145
845          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

846          KK     442
847          KM   SUB-BASIN 442
848          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
849          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
850          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
851          BA    .100
852          LG    .300    .270   3.290    .770   5.000
853          UC    .258    .264
854          UA      0       5      16      30      65      77      84      90      94      97
```

```
855          UA     100
             * DDM   ***** Preserved *****

856          KK     C67
857          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
858          HC       2
             * DDM   ***** Preserved *****

859          KK    DIV6
860          KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
861          KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
             *      1
862          DT  BASIN4
863          DI       0      10      32      44    79.9   132.5     198   272.9   356.8
864          DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
             * DDM   ***** Preserved *****

865          KK  RTDIV6
866          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
867          DR  BASIN4
             * DDM   ***** Preserved *****

868          KK  RFDIV6
869          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
870          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
             *      1
871          RS       1    STOR       0
872          SV       0     .01     3.3
873          SQ       0     1.1     1.1
             * DDM   ***** Preserved *****

874          KK   CDIV6
875          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
876          HC       2
             * DDM   ***** Updated *****

877          KK     443
878          KM   SUB-BASIN 443
879          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
880          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
881          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
882          BA    .080
883          LG    .250    .190   8.000    .080  10.000
884          UC    .196    .194
885          UA       0       5      16      30      65      77      84      90      94      97
1                                        HEC-1 INPUT                                                PAGE 23

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

886          UA     100
             * DDM   ***** Preserved *****

887          KK   DIV66
888          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
889          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
890          DT   WSH66
891          DI       0      78     100     200
892          DQ       0      78      78      78
             * DDM   ***** Preserved *****

893          KK    R113
894          KM        ROUTE FLOW FROM C113 TO C114
895          RS       1    FLOW      -1
896          RC    .019    .019    .019    1300    .029
897          RX    1000    1004    1008    1012    1018    1022    1026    1030
898          RY      17   15.33   12.67      10      10   12.67   15.33      17
             * DDM   ***** Preserved *****

899          KK    C114
900          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
901          HC       2
             * DDM   ***** Updated *****

902          KK     444
903          KM   SUB-BASIN 444
904          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
905          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
906          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
907          BA    .040
908          LG    .130    .350   4.450    .320   1.000
909          UC    .112    .084
910          UA       0       3       5       8      12      20      43      75      90      96
911          UA     100
             * DDM   ***** Preserved *****

912          KK     R58
913          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
914          RS       1    FLOW      -1
915          RC     .05    .035     .05    2370   .0516
916          RX    1000    1010    1020    1050    1055    1085    1095    1105
917          RY      19      18      17      10      10      17      18      19
             * DDM   ***** Updated *****

918          KK     445
919          KM   SUB-BASIN 445
920          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
921          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
922          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
923          BA    .190
924          LG    .170    .320   3.470    .590   3.000
925          UC    .192    .130
926          UA       0       5      16      30      65      77      84      90      94      97
927          UA     100
             * DDM   ***** Preserved *****
                                         HEC-1 INPUT                                                PAGE 24

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

928          KK    C107
929          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
930          HC       2
             * DDM   ***** Preserved *****
```

```
931          KK    R107
932          KM        ROUTE FLOW FROM C107 TO C109
933          RS       1    FLOW      -1
934          RC     .05    .035     .05     700   .0516
935          RX    1000    1010    1020    1050    1055    1085    1095    1105
936          RY      19      18      17      10      10      17      18      19
             * DDM   ***** Preserved *****

937          KK    RTB2
938          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
             *      1
939          DR   SPLIT
             * DDM   ***** Preserved *****

940          KK  RSPLIT
941          KM        ROUTE FLOW FROM SPLIT TO C109
942          RS       1    FLOW      -1
943          RC     .05    .035     .05     800     .05
944          RX    1000    1025    1050    1070    1075    1095    1120    1145
945          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

946          KK     446
947          KM   SUB-BASIN 446
948          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
949          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
950          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
951          BA    .040
952          LG    .270    .250   4.500    .400  19.000
953          UC    .183    .189
954          UA       0       5      16      30      65      77      84      90      94      97
955          UA     100
             * DDM   ***** Preserved *****

956          KK    C109
957          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
958          HC       3
             * DDM   ***** Preserved *****

959          KK    DIV5
960          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
961          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
             *      1
962          DT  WSH404
963          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
964          DQ       0      35      35      35      35      35      35      35
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

965          KK    R109
966          KM        ROUTE FLOW FROM C109 TO C110
967          RS       1    FLOW      -1
968          RC    .019    .019    .019    3080     .05
969          RX    1000    1005    1010    1015    1025    1030    1035    1040
970          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
             * DDM   ***** Updated *****

971          KK     447
972          KM   SUB-BASIN 447
973          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
974          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
975          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
976          BA    .090
977          LG    .250    .270   3.350    .870  30.000
978          UC    .208    .145
979          UA       0       5      16      30      65      77      84      90      94      97
980          UA     100
             * DDM   ***** Preserved *****

981          KK   RT404
982          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
983          DR  WSH404
             * DDM   ***** Preserved *****

984          KK    R404
985          KM        ROUTE FLOW FROM C110 TO C110
986          RS       5    FLOW      -1
987          RC    .019    .019    .019    3540     .03
988          RX    1000    1012    1016    1020    1025    1029    1033    1045
989          RY      15      12      11      10      10      11      12      15
             * DDM   ***** Preserved *****

990          KK    C110
991          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
992          HC       3
             * DDM   ***** Preserved *****

993          KK    R110
994          KM        ROUTE FLOW FROM C110 TO C115
995          RS       1    FLOW      -1
996          RC    .019    .019    .019     580   .0291
997          RX    1000    1012    1016    1020    1035    1039    1043    1055
998          RY      15      12      11      10      10      11      12      15
             * DDM   ***** Preserved *****

999          KK    C115
1000         KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1001         HC       2
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1002         KK    R115
1003         KM        ROUTE FLOW FROM C115 TO C119
1004         RS       1    FLOW      -1
1005         RC    .019    .019    .019    2125    .029
1006         RC    .019    .019    .019     580   .0291
```

```
1007          RX    1000    1012    1016    1020    1035    1039    1043    1055
1008          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

1009          KK     448
1010          KM   SUB-BASIN 448
1011          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1012          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1013          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1014          BA    .045
1015          LG    .170    .310   4.200    .390  11.000
1016          UC    .133    .102
1017          UA       0       5      16      30      65      77      84      90      94      97
1018          UA     100
              * DDM   ***** Updated *****

1019          KK     449
1020          KM   SUB-BASIN 449
1021          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1022          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1023          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1024          BA    .050
1025          LG    .260    .280   3.500    .640   6.000
1026          UC    .167    .134
1027          UA       0       5      16      30      65      77      84      90      94      97
1028          UA     100
              * DDM   ***** Preserved *****

1029          KK   C6364
1030          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1031          HC       2
              * DDM   ***** Preserved *****

1032          KK   R6364
1033          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1034          RS       4    FLOW      -1
1035          RC     .05    .035     .05    4375   .0333
1036          RX    1000    1027    1053    1080    1090    1117    1143    1170
1037          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

1038          KK     450
1039          KM   SUB-BASIN 450
1040          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1041          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1042          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1043          BA    .070
1044          LG    .340    .350   3.630    .570   4.000
1045          UC    .296    .383
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1046          UA       0       3       5       8      12      20      43      75      90      96
1047          UA     100
              * DDM   ***** Updated *****

1048          KK     451
1049          KM   SUB-BASIN 451
1050          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1051          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1052          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1053          BA    .025
1054          LG    .340    .340   3.290    .750   3.000
1055          UC    .271    .453
1056          UA       0       3       5       8      12      20      43      75      90      96
1057          UA     100
              * DDM   ***** Preserved *****

1058          KK    RT66
1059          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1060          DR   WSH66
              * DDM   ***** Updated *****

1061          KK     452
1062          KM   SUB-BASIN 452
1063          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1064          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1065          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1066          BA    .040
1067          LG    .260    .280   3.700    .550   9.000
1068          UC    .171    .166
1069          UA       0       5      16      30      65      77      84      90      94      97
1070          UA     100
              * DDM   ***** Preserved *****

1071          KK   C6465
1072          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1073          HC       2
              * DDM   ***** Preserved *****

1074          KK   R6566
1075          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1076          RS       2    FLOW      -1
1077          RC     .05    .035     .05    2435   .0282
1078          RX    1000    1045    1090    1150    1160    1220    1265    1310
1079          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1080          KK    C116
1081          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1082          HC       4
              * DDM   ***** Preserved *****
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1083          KK  BASIN5
1084          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1085          KM        BASIN 5 FEET DEEP
1086          RS       1    ELEV       0
1087          SV       0     4.5     9.9
```

```
1088          SQ       0      69     190
1089          SE       0     2.5       5
              * DDM   ***** Preserved *****

1090          KK    R116
1091          KM   ROUTE FLOW FROM C116 TO C117
1092          RS       2    FLOW      -1
1093          RC     .05    .035     .05    1300   .0333
1094          RX    1000    1100    1200    1300    1320    1420    1520    1620
1095          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1096          KK     453
1097          KM   SUB-BASIN 453
1098          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1099          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1100          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1101          BA    .060
1102          LG    .290    .300   3.290    .820  18.000
1103          UC    .275    .284
1104          UA       0       5      16      30      65      77      84      90      94      97
1105          UA     100
              * DDM   ***** Preserved *****

1106          KK    C117
1107          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1108          HC       2
              * DDM   ***** Preserved *****

1109          KK    C118
1110          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1111          HC       2
              * DDM   ***** Preserved *****

1112          KK    R118
1113          KM        ROUTE FLOW FROM C118 TO  DIV7
1114          RS       1    FLOW      -1
1115          RC    .019    .019    .019    1500    .024
1116          RX    1000    1012    1016    1020    1035    1039    1043    1055
1117          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1118          KK    DIV7
1119          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1120          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
              *      1
1121          DT  BASIN6
1122          DI       0     363     487     563     645     844
1123          DQ       0       3      47      83     125     244
              * DDM   ***** Preserved *****
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1124          KK  RTDIV7
1125          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1126          DR  BASIN6
              * DDM   ***** Preserved *****

1127          KK  RFDIV7
1128          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1129          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1130          RS       1    STOR       0
1131          SV       0     .01     3.6
1132          SQ       0     1.2     1.2
              * DDM   ***** Preserved *****

1133          KK   CDIV7
1134          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1135          HC       2
              * DDM   ***** Updated *****

1136          KK     454
1137          KM   SUB-BASIN 454
1138          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1139          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1140          KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1141          BA    .180
1142          LG    .300    .310   3.780    .560  14.000
1143          UC    .379    .395
1144          UA       0       5      16      30      65      77      84      90      94      97
1145          UA     100
              * DDM   ***** Preserved *****

1146          KK    C119
1147          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
              *      1       2
1148          HC       2
              * DDM   ***** Preserved *****

1149          KK    R454
1150          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1151          KM   ROUTE FLOW FROM C119 TO 415C
1152          RS       2    FLOW      -1
1153          RC    .045    .035    .045    2200    .009
1154          RX       0      .5       1      33      42      67    67.5      68
1155          RY       5       4       4       0       0       6       6       6
              * DDM   ***** Updated *****

1156          KK     415
1157          KM   SUB-BASIN 415
1158          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1159          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1160          KM     L = 1.10  Kb = .049  Adj. Slope =  155.0
1161          BA    .281
1162          LG    .300    .260   3.630    .710  15.000
1163          UC    .358    .264
1164          UA       0       5      16      30      65      77      84      90      94      97
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
```

```
1165        UA     100
            * DDM   ***** Preserved *****

1166        KK    415C
1167        KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454, AND 390C
1168        HC       3
            * DDM   ***** Preserved *****

1169        KK    R415
1170        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1171        KM   ROUTING OF FLOW FROM 415C TO 455C
1172        RS       2    FLOW      -1
1173        RC    .045     .03    .045    4100    .024
1174        RX       0      .5       1       8      16      23    23.5      24
1175        RY       8       8       8       0       0       8       8       8
            * DDM   ***** Updated *****

1176        KK     455
1177        KM   SUB-BASIN 455
1178        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1179        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1180        KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1181        BA   1.111
1182        LG    .270    .280   3.700    .640  24.000
1183        UC    .421    .204
1184        UA       0       5      16      30      65      77      84      90      94      97
1185        UA     100
            * DDM   ***** Preserved *****

1186        KK    D455
1187        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1188        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1189        KM   FOR BASIN #: 30      34      43      47&58
1190        KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
            *      1
1191        DT   BS455    74.1
1192        DI       0   10000
1193        DQ       0   10000
            * DDM   ***** Preserved *****

1194        KK   RT455
1195        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1196        DR   BS455
            * DDM   ***** Preserved *****

1197        KK   SR455
1198        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1199        KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1200        RS       1    STOR       0
1201        SV       0     .01    74.1
1202        SQ       0      25      25
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1203        KK    C455
1204        KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1205        HC       2
            * DDM   ***** Preserved *****

1206        KK    455C
1207        KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
            *      1       2
1208        HC       3
            * DDM   ***** Preserved *****

1209        KK   SR440
1210        KM   SPOOK HILL FRS PLANS DATED 6/15/77
1211        KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1212        KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1213        KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
1214        RS       1    STOR       0
1215        SV       0      10     100     300     500     680
1216        SQ       0     640     720     780     825     860
1217        SE      66    77.5      79    80.2    81.2      82
            * DDM   ***** Preserved *****

1218        KK   RR455
1219        KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 462
1220        RS       9    FLOW      -1
1221        RC    .035    .025    .035    9200    .002
1222        RX       0       1       2      28      58      84      85      86
1223        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1224        KK     456
1225        KM   SUB-BASIN 456
1226        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1227        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1228        KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1229        BA    .260
1230        LG    .300    .380   5.600    .200  12.000
1231        UC    .217    .139
1232        UA       0       5      16      30      65      77      84      90      94      97
1233        UA     100
            * DDM   ***** Preserved *****

1234        KK    DIV1
1235        KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1236        KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
            *      1
1237        DT  BASIN1
1238        DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1239        DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1240        KK    DIV2
```

```
1241        KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1242        KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1243        DT    WA30
1244        DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1245        DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
            * DDM   ***** Preserved *****

1246        KK    R456
1247        KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1248        RS       2    FLOW      -1
1249        RC     .05    .035     .05    3800    .044
1250        RX    1000    1010    1020    1036    1041    1057    1067    1077
1251        RY   14.88   14.44      14      10      10      14   14.44   14.88
            * DDM   ***** Updated *****

1252        KK     457
1253        KM   SUB-BASIN 457
1254        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1255        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1256        KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1257        BA    .190
1258        LG    .270    .330   3.950    .460   6.000
1259        UC    .237    .195
1260        UA       0       5      16      30      65      77      84      90      94      97
1261        UA     100
            * DDM   ***** Preserved *****

1262        KK    C101
1263        KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1264        HC       2
            * DDM   ***** Preserved *****

1265        KK    DIV3
1266        KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1267        KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
            *      1
1268        DT  BASIN2
1269        DI       0      36      70     110     180   313.5     402   500.9
1270        DQ       0       0       0       0       0    67.5     124   190.9
            * DDM   ***** Preserved *****

1271        KK  RTDIV3
1272        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1273        DR  BASIN2
            * DDM   ***** Preserved *****

1274        KK  RFDIV3
1275        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1276        KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1277        RS       1    STOR       0
1278        SV       0     .01       5
1279        SQ       0     1.7     1.7
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1280        KK   CDIV3
1281        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1282        HC       2
            * DDM   ***** Preserved *****

1283        KK    R101
1284        KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1285        RS       1    FLOW      -1
1286        RC     .05    .035     .05    1450     .05
1287        RX    1000    1010    1020    1036    1041    1057    1067    1077
1288        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1289        KK     458
1290        KM   SUB-BASIN 458
1291        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1292        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1293        KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1294        BA    .190
1295        LG    .290    .330   5.800    .190   6.000
1296        UC    .204    .131
1297        UA       0       5      16      30      65      77      84      90      94      97
1298        UA     100
            * DDM   ***** Preserved *****

1299        KK    C103
1300        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1301        HC       2
            * DDM   ***** Preserved *****

1302        KK    R103
1303        KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1304        RS       1    FLOW      -1
1305        RC     .05    .035     .05     900     .03
1306        RX    1000    1010    1020    1030    1050    1060    1070    1080
1307        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Preserved *****

1308        KK    RT30
1309        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1310        DR    WA30
            * DDM   ***** Preserved *****

1311        KK     R30
1312        KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1313        RS       1    FLOW      -1
1314        RC     .05    .035     .05    1630     .05
1315        RX    1000    1010    1020    1036    1041    1057    1067    1077
1316        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
```

```
1317        KK    RTB1
1318        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1       2
1319        DR  BASIN1
            * DDM   ***** Preserved *****

1320        KK      B1
1321        KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1322        KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
            *      1       2
1323        RS       1    ELEV       0
1324        SV              .7     1.4     2.3     2.7     3.2
1325        SQ       0       5      16      28    32.5      37
1326        SE       0       1       2       3     3.5       4
            * DDM   ***** Preserved *****

1327        KK     RB1
1328        KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1329        RS       2    FLOW      -1
1330        RC     .05    .035     .05    1720     .05
1331        RX    1000    1010    1020    1036    1041    1057    1067    1077
1332        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****

1333        KK    CDIV
1334        KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1335        HC       2     .12
            * DDM   ***** Updated *****

1336        KK     459
1337        KM   SUB-BASIN 459
1338        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1339        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1340        KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1341        BA    .030
1342        LG    .220    .300   3.330    .710   8.000
1343        UC    .162    .157
1344        UA       0       5      16      30      65      77      84      90      94      97
1345        UA     100
            * DDM   ***** Preserved *****

1346        KK     C52
1347        KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1348        HC       2
            * DDM   ***** Preserved *****

1349        KK     R52
1350        KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1351        RS       2    FLOW      -1
1352        RC     .05    .035     .05    2000     .05
1353        RX    1000    1010    1020    1036    1041    1057    1067    1077
1354        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1355        KK     460
1356        KM   SUB-BASIN 460
1357        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1358        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1359        KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1360        BA    .140
1361        LG    .250    .260   3.740    .690  27.000
1362        UC    .242    .160
1363        UA       0       5      16      30      65      77      84      90      94      97
1364        UA     100
            * DDM   ***** Preserved *****

1365        KK    C102
1366        KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1367        HC       2
            * DDM   ***** Preserved *****

1368        KK  BASIN3
1369        KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1370        KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1371        RS       1    ELEV       0
1372        SA       0       0       0       0     .34    1.59    1.81    1.96    2.13     2.3
            *      0       0       0       0    1.14    3.25    5.52    9.23
1373        SQ       0      22      45    47.4      48      51      57      62      67      73
1374        SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
            * DDM   ***** Preserved *****

1375        KK      R3
1376        KM        ROUTE FLOW FROM C102 to C106
1377        RS       4    FLOW      -1
1378        RC     .05     .03     .05    2750   .0375
1379        RX    1000    1010    1020    1052    1086    1118    1128    1138
1380        RY    19.2    18.4      18      10      10      18    18.4    19.2
            * DDM   ***** Updated *****

1381        KK     461
1382        KM   SUB-BASIN 461
1383        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1384        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1385        KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1386        BA    .120
1387        LG    .270    .250   4.250    .450  21.000
1388        UC    .271    .250
1389        UA       0       5      16      30      65      77      84      90      94      97
1390        UA     100
            * DDM   ***** Preserved *****

1391        KK    C104
1392        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1393        HC       2
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10
```

```
1394        KK    C106
1395        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1396        HC       2
            * DDM   ***** Preserved *****

1397        KK    R106
1398        KM        ROUTE FLOW FROM C106 TO C49
1399        RS       2    FLOW      -1
1400        RC     .05    .035     .05    3950    .033
1401        RX    1000    1010    1020    1030    1050    1060    1070    1080
1402        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Updated *****

1403        KK     462
1404        KM   SUB-BASIN 462
1405        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1406        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1407        KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1408        BA    .301
1409        LG    .300    .330   5.300    .240  12.000
1410        UC    .225    .137
1411        UA       0       5      16      30      65      77      84      90      94      97
1412        UA     100
            * DDM   ***** Preserved *****

1413        KK     C56
1414        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
            *      1       2
1415        HC       2
            * DDM   ***** Updated *****

1416        KK     480
1417        KM   SUB-BASIN 480
1418        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1419        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1420        KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1421        BA    .731
1422        LG    .270    .270   3.580    .730  27.000
1423        UC    .325    .148
1424        UA       0       5      16      30      65      77      84      90      94      97
1425        UA     100
            * DDM   ***** Preserved *****

1426        KK    D480
1427        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1428        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1429        KM   FOR BASIN #: 18 & 26
1430        KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
            *      1
1431        DT   BS480    16.5
1432        DI       0   10000
1433        DQ       0   10000
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1434        KK   RT480
1435        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1436        DR   BS480
            * DDM   ***** Preserved *****

1437        KK   SR480
1438        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1439        KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1440        RS       1    STOR       0
1441        SV       0     .01    16.5
1442        SQ       0     5.6     5.6
            * DDM   ***** Preserved *****

1443        KK    C480
1444        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1445        HC       2
            * DDM   ***** Preserved *****

1446        KK    480C
1447        KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1448        HC       3    2.09
            * DDM   ***** Preserved *****

1449        KK   RR480
1450        KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUB-BASIN 500
1451        RS       1    FLOW      -1
1452        RC    .025    .025    .025    6500     .05
1453        RX       0       1       2      28      58      84      85      86
1454        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1455        KK     500
1456        KM   SUB-BASIN 500
1457        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1458        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1459        KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1460        BA    .930
1461        LG    .350    .400   6.000    .170   9.000
1462        UC    .421    .333
1463        UA       0       3       5       8      12      20      43      75      90      96
1464        UA     100
            * DDM   ***** Preserved *****

1465        KK    500C
1466        KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1467        HC       2    3.02
1468        ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

   43         10
              V
              V
   53        R10
              V
              V
   59        R12
              .
              .
   65          .          20
               .           .
               .           .
   75        C20............
              .
              .
   78          .          40
               .           .
               .           .
   88          .           .          60
               .           .           .
               .           .           .
   98        60C........................
              V
              V
  101       SR60
              V
              V
  110        R60
              V
              V
  116       RR60
              .
              .
  122          .          80
               .           .
               .           .
  132        80C............
              V
              V
  135        R80
              .
              .
  141          .         100
               .           .
               .           .
  151       100C............
              V
              V
  154       R100
              .
              .
  160          .         120
               .           .
               .           .
  170       120C............
              V
              V
  173       R120
              .
              .
  179          .         140
               .           .
               .           .
  189          .           .         150
               .           .           V
               .           .           V
  199          .           .        R150
               .           .           V
               .           .           V
  205          .           .        R152
               .           .           .
               .           .           .
  211          .           .           .         160
               .           .           .           .
               .           .           .           .
  221          .           .           .           .         180
               .           .           .           .           .
               .           .           .           .           .
  231       180C.............................................
              .
              .
  234          .         210
               .           V
               .           V
  244          .        R210
               .           .
               .           .
  250          .           .         240
               .           .           .
               .           .           .
  260          .        240C............
               .           V
               .           V
  263          .       SR240
               .           .
               .           .
  270          .           .         220
               .           .           .
               .           .           .
  280          .        220C............
               .           V
               .           V
  283          .       SR220
               .           .
               .           .
  290          .           .         190
```

```
            .          .          V
            .          .          V
300         .          .       R190
            .          .          V
            .          .          V
306         .          .       R192
            .          .          .
            .          .          .
312         .          .          .        200
            .          .          .          .
            .          .          .          .
322         .       200C.......................
            .          V
            .          V
325         .      SR200
            .          V
            .          V
332         .      200SR
            .          .
            .          .
339      C180............
            V
            V
342     SR180
            V
            V
351      R180
            .
            .
358         .        260
            .          .
            .          .
368      260C............
            V
            V
371      R260
            .
            .
378         .        280
            .          .
            .          .
388      280C............
            V
            V
391      R280
            .
            .
398         .        300
            .          .
            .          .
408      300C............
            V
            V
411      R300
            V
            V
418     RR300
            .
            .
425         .        350
            .          .
            .          .
438         .          .-------->   SF350
435         .       D350
            .          V
            .          V
441         .       350R
            .          .
            .          .
448         .          .        310
            .          .          .
            .          .          .
458         .       C310............
            .          V
            .          V
461         .       R310
            .          .
            .          .
468         .          .        320
            .          .          .
            .          .          .
483         .          .          .-------->   BS320
478         .          .       D320
            .          .          .
            .          .          .
488         .          .          .          .<--------   BS320
486         .          .          .      RT320
            .          .          .          V
            .          .          .          V
489         .          .          .      SR320
            .          .          .          .
            .          .          .          .
495      C320.................................
            .
            .
498         .        340
            .          .
            .          .
513         .          .-------->   BS340
508         .       D340
            .          .
            .          .
518         .          .          .<--------   BS340
516         .          .      RT340
            .          .          V
            .          .          V
519         .          .      SR340
            .          .          .
            .          .          .
525      C340........................
            .
            .
530         .          .<--------   SF350
```

```
528          .      RT350
             .         V
             .         V
531          .      RR350
             .         .
             .         .
538          .         .        355
             .         .          .
             .         .          .
548          .       C355............
             .         V
             .         V
551          .       R355
             .         .
             .         .
558          .         .        360
             .         .          .
             .         .          .
572          .         .          .-------->   BS360
568          .         .       D360
             .         .          .
             .         .          .
577          .         .          .          .<--------   BS360
575          .         .          .      RT360
             .         .          .          V
             .         .          .          V
578          .         .          .      SR360
             .         .          .          .
             .         .          .          .
584       360C...................................
             .
             .
587          .        380
             .          .
             .          .
601          .          .-------->   BS380
597          .       D380
             .          .
             .          .
606          .          .          .<--------   BS380
604          .         .       RT380
             .         .          V
             .         .          V
607          .         .       SR380
             .         .          .
             .         .          .
613       380C........................
             .
             .
616          .        400
             .          .
             .          .
630          .          .-------->   BS400
626          .       D400
             .          .
             .          .
635          .          .          .<--------   BS400
633          .         .       RT400
             .         .          V
             .         .          V
636          .         .       SR400
             .         .          .
             .         .          .
642          .       C400............
             .          .
             .          .
645       400C............
             .
             .
648          .        420
             .          .
             .          .
662          .          .-------->   BS420
658          .       D420
             .          .
             .          .
667          .          .          .<--------   BS420
665          .         .       RT420
             .         .          V
             .         .          V
668          .         .       SR420
             .         .          .
             .         .          .
674       420C........................
             .
             .
677          .        370
             .          .
             .          .
687          .         .        395
             .         .          .
             .         .          .
697          .       395C............
             .          .
             .          .
703          .          .-------->   BS395
700          .       D395
             .          .
             .          .
708          .          .          .<--------   BS395
706          .         .       RT395
             .         .          V
             .         .          V
709          .         .       SR395
             .         .          .
             .         .          .
715          .       C395............
             .         V
             .         V
718          .       R395
             .         .
             .         .
725          .         .        385
```

```
735                 411
                      .
                      .
745          411C............
                      .
                      .
750                   .-------> BS411
748          D411
                      .
                      .
755                   .<-------  BS411
753                RT411
                      V
                      V
756                SR411
                      .
                      .
762          C411............
                 V
                 V
765          R411
                      .
                      .
771                 390
                      .
                      .
785                   .-------> BS390
781                D390
                      .
                      .
790                   .          .<-------  BS390
788                   .       RT390
                      .          V
                      .          V
791                   .       SR390
                      .          .
                      .          .
797          390C...................................
                 V
                 V
800          RR390
                      .
                      .
806                440
                     V
                     V
816                R70
                      .
                      .
822                 441
                      .
                      .
832          C108............
                      .
                      .
837                   .-------> SPLIT
835          DIV4
                 V
                 V
840          R108
                      .
                      .
846                 442
                      .
                      .
856                C67............
                      .
                      .
862                   .-------> BASIN4
859          DIV6
                      .
                      .
867                   .<-------  BASIN4
865                RTDIV6
                      V
                      V
868                RFDIV6
                      .
                      .
874             CDIV6............
                      .
                      .
877                 443
                      .
                      .
890                   .-------> WSH66
887                DIV66
                      V
                      V
893                R113
                      .
                      .
899          C114............
                      .
                      .
902                 444
                      V
                      V
912                 R58
                      .
                      .
918                   .          445
                      .            .
                      .            .
928                C107............
                      V
                      V
931                R107
                      .
                      .
939                   .          .<-------  SPLIT
```

```
937                                  RTB2
                                       V
940                                    V
                                   RSPLIT
946                                                446
956                          C109.......................

962                                  .-------> WSH404
959                          DIV5
                               V
                               V
965                          R109

971                                     447

983                                                   .<-------  WSH404
981                                            RT404
                                                 V
                                                 V
984                                            R404

990                          C110.......................
                               V
                               V
993                          R110

999                     C115............
                          V
                          V
1002                    R115

1009                         448

1019                                    449

1029                       C6364............
                               V
                               V
1032                       R6364

1038                                    450

1048                                            451

1060                                                          .<-------   WSH66
1058                                                     RT66

1061                                                                     452

1071                                                  C6465............
                                                          V
                                                          V
1074                                                  R6566

1080                       C116.................................
                               V
                               V
1083                     BASIN5
                               V
                               V
1090                       R116

1096                                    453

1106                       C117............

1109                    C118............
                          V
                          V
1112                    R118

1121                    .-------> BASIN6
1118                    DIV7

1126                                 .<-------  BASIN6
1124                     RTDIV7
                               V
                               V
1127                     RFDIV7

1133                  CDIV7............

1136                         454

1146                    C119............
                          V
                          V
```

```
1149          .           .        R454
              .           .           .
              .           .           .
1156          .           .           .         415
              .           .           .           .
              .           .           .           .
1166          .       415C.......................
              .          V
              .          V
1169          .       R415
              .           .
              .           .
1176          .           .         455
              .           .           .
              .           .           .
1191          .           .           .-------->   BS455
1186          .           .        D455
              .           .           .
              .           .           .
1196          .           .           .          .<-------   BS455
1194          .           .           .       RT455
              .           .           .          V
              .           .           .          V
1197          .           .           .       SR455
              .           .           .           .
              .           .           .           .
1203          .           .        C455............
              .           .           .
              .           .           .
1206       455C.......................
              V
              V
1209      SR440
              V
              V
1218      RR455
              .
              .
1224          .         456
              .           .
              .           .
1237          .           .-------->  BASIN1
1234          .       DIV1
              .           .
              .           .
1243          .           .-------->    WA30
1240          .       DIV2
              .          V
              .          V
1246          .       R456
              .           .
              .           .
1252          .           .         457
              .           .           .
              .           .           .
1262          .       C101............
              .           .
              .           .
1268          .           .-------->  BASIN2
1265          .       DIV3
              .           .
              .           .
1273          .           .           .<-------  BASIN2
1271          .           .      RTDIV3
              .           .           V
              .           .           V
1274          .           .      RFDIV3
              .           .           .
              .           .           .
1280          .      CDIV3............
              .          V
              .          V
1283          .       R101
              .           .
              .           .
1289          .           .         458
              .           .           .
              .           .           .
1299          .       C103............
              .          V
              .          V
1302          .       R103
              .           .
              .           .
1310          .           .           .<-------    WA30
1308          .           .        RT30
              .           .           V
              .           .           V
1311          .           .         R30
              .           .           .
              .           .           .
1319          .           .           .          .<-------  BASIN1
1317          .           .           .       RTB1
              .           .           .          V
              .           .           .          V
1320          .           .           .         B1
              .           .           .          V
              .           .           .          V
1327          .           .           .        RB1
              .           .           .           .
              .           .           .           .
1333          .           .        CDIV............
              .           .           .
              .           .           .
1336          .           .           .         459
              .           .           .           .
              .           .           .           .
1346          .           .         C52............
              .           .           V
              .           .           V
1349          .           .         R52
              .           .           .
              .           .           .
```

```
1355          .          .          .        460
              .          .          .          .
              .          .          .          .
1365          .          .       C102............
              .          .          V
              .          .          V
1368          .          .     BASIN3
              .          .          V
              .          .          V
1375          .          .         R3
              .          .          .
              .          .          .
1381          .          .          .        461
              .          .          .          .
              .          .          .          .
1391          .          .       C104............
              .          .          .
              .          .          .
1394          .       C106............
              .          V
              .          V
1397          .       R106
              .          .
              .          .
1403          .          .        462
              .          .          .
              .          .          .
1413          .        CS6............
              .          .
              .          .
1416          .          .        480
              .          .          .
              .          .          .
1431          .          .          .-------->   BS480
1426          .          .       D480
              .          .          .
              .          .          .
1436          .          .          .          .<-------   BS480
1434          .          .          .      RT480
              .          .          .          V
              .          .          .          V
1437          .          .          .      SR480
              .          .          .          .
              .          .          .          .
1443          .          .       C480............
              .          .          .
              .          .          .
1446       480C........................
             V
             V
1449      RR480
             .
             .
1455         .        500
             .          .
             .          .
1465      500C............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	10	951.	12.27	114.	31.	15.	.70		
+	ROUTED TO	R10	882.	12.40	114.	31.	15.	.70		
+	ROUTED TO	R12	833.	12.60	114.	31.	15.	.70		
+	HYDROGRAPH AT	20	959.	12.43	128.	32.	16.	1.12		
+	2 COMBINED AT	C20	1663.	12.53	240.	63.	30.	1.82		
+	HYDROGRAPH AT	40	2582.	12.30	252.	66.	32.	2.23		
+	HYDROGRAPH AT	60	1553.	12.40	228.	61.	29.	1.75		
+	3 COMBINED AT	60C	5274.	12.37	708.	188.	90.	5.80		
+	ROUTED TO	SR60	92.	14.40	92.	89.	70.	5.80		
+	ROUTED TO	R60	92.	14.40	92.	89.	70.	5.80		
+	ROUTED TO	RR60	92.	14.53	92.	89.	70.	5.80		
+	HYDROGRAPH AT	80	1868.	12.27	179.	46.	22.	1.48		
+	2 COMBINED AT	80C	1942.	12.27	266.	134.	92.	1.48		
+	ROUTED TO	R80	1919.	12.27	266.	134.	92.	1.48		
+	HYDROGRAPH AT	100	404.	12.20	58.	15.	7.	.48		
+	2 COMBINED AT	100C	2300.	12.27	321.	148.	99.	1.96		
+	ROUTED TO	R100	2292.	12.30	321.	148.	99.	1.96		
+	HYDROGRAPH AT	120	3232.	12.27	326.	88.	42.	2.20		
+	2 COMBINED AT	120C	5469.	12.27	636.	229.	141.	4.16		
+	ROUTED TO	R120	5397.	12.30	636.	229.	140.	4.16		
+	HYDROGRAPH AT	140	632.	12.13	64.	17.	8.	.60		
+	HYDROGRAPH AT	150	135.	13.20	47.	13.	6.	.41		
+	ROUTED TO	R150	134.	13.30	47.	13.	6.	.41		
+	ROUTED TO	R152	133.	13.50	47.	13.	6.	.41		
+	HYDROGRAPH AT	160	217.	12.40	35.	9.	4.	.37		
+	HYDROGRAPH AT	180	785.	12.37	90.	23.	11.	1.00		
+	5 COMBINED AT	180C	6707.	12.30	857.	286.	168.	6.54		
+	HYDROGRAPH AT	210	870.	12.20	80.	21.	10.	.58		
+	ROUTED TO	R210	815.	12.27	80.	21.	10.	.58		
+	HYDROGRAPH AT	240	1405.	12.30	155.	39.	19.	1.40		
+	2 COMBINED AT	240C	2185.	12.30	233.	60.	29.	1.98		
+	ROUTED TO	SR240	634.	12.77	186.	49.	23.	1.98		
+	HYDROGRAPH AT	220	1126.	12.17	98.	25.	12.	.73		
+	2 COMBINED AT	220C	1138.	12.20	279.	73.	35.	2.71		
+	ROUTED TO	SR220	914.	12.43	272.	71.	34.	2.71		

+ HYDROGRAPH AT	190	1403.	12.17	116.	31.	15.	.92
+ ROUTED TO	R190	1348.	12.23	116.	31.	15.	.92
ROUTED TO	R192	1267.	12.30	116.	31.	15.	.92
+ HYDROGRAPH AT	200	806.	12.17	69.	19.	9.	.54
+ 3 COMBINED AT	200C	2624.	12.27	447.	119.	57.	4.16
+ ROUTED TO	SR200	2493.	12.37	442.	115.	55.	4.16
+ ROUTED TO	200SR	1725.	12.60	320.	85.	41.	4.16
+ 2 COMBINED AT	C180	6707.	12.30	1170.	369.	208.	10.69
+ ROUTED TO	SR180	138.	18.53	138.	137.	111.	10.69
+ ROUTED TO	R180	138.	18.50	138.	137.	110.	10.69
+ HYDROGRAPH AT	260	418.	12.10	43.	12.	6.	.27
+ 2 COMBINED AT	260C	527.	12.10	175.	148.	117.	.27
+ ROUTED TO	R260	514.	12.20	175.	148.	117.	.27
+ HYDROGRAPH AT	280	478.	12.10	42.	12.	6.	.30
+ 2 COMBINED AT	280C	945.	12.13	214.	158.	122.	.57
+ ROUTED TO	R280	909.	12.20	214.	158.	122.	.57
+ HYDROGRAPH AT	300	875.	12.20	109.	29.	14.	.99
+ 2 COMBINED AT	300C	1769.	12.20	319.	185.	135.	1.56
ROUTED TO	R300	1732.	12.27	319.	185.	135.	1.56
+ ROUTED TO	RR300	1699.	12.33	319.	184.	134.	1.56
+ HYDROGRAPH AT	350	1192.	12.20	103.	27.	13.	.97
+ DIVERSION TO	SF350	596.	12.20	51.	13.	6.	.97
+ HYDROGRAPH AT	D350	596.	12.20	51.	13.	6.	.97
+ ROUTED TO	350R	522.	12.40	51.	13.	6.	.97
+ HYDROGRAPH AT	310	376.	12.33	49.	12.	6.	.56
+ 2 COMBINED AT	C310	871.	12.40	99.	25.	12.	.94
+ ROUTED TO	R310	767.	12.73	99.	25.	12.	.94
+ HYDROGRAPH AT	320	965.	12.20	123.	34.	17.	.97
+ DIVERSION TO	BS320	377.	11.97	21.	6.	3.	.97
+ HYDROGRAPH AT	D320	965.	12.20	109.	28.	14.	.97
+ HYDROGRAPH AT	RT320	377.	11.97	21.	6.	3.	.97
+ ROUTED TO	SR320	4.	4.13	4.	4.	3.	.97
+ 4 COMBINED AT	C320	2634.	12.33	524.	240.	162.	3.47
+ HYDROGRAPH AT	340	1471.	12.17	186.	55.	26.	1.45
DIVERSION TO	BS340	1471.	12.17	104.	28.	14.	1.45
+ HYDROGRAPH AT	D340	1199.	12.33	97.	27.	13.	1.45
+ HYDROGRAPH AT	RT340	1471.	12.17	104.	28.	14.	1.45
+ ROUTED TO	SR340	19.	9.00	19.	19.	14.	1.45

+ 3 COMBINED AT	C340	3819.	12.33	634.	284.	188.	4.92
+ HYDROGRAPH AT	RT350	596.	12.20	51.	13.	6.	.97
ROUTED TO	RR350	519.	12.47	51.	13.	6.	.97
+ HYDROGRAPH AT	355	500.	12.33	69.	18.	9.	.66
+ 2 COMBINED AT	C355	957.	12.43	119.	31.	15.	1.24
+ ROUTED TO	R355	870.	12.73	119.	31.	15.	1.24
+ HYDROGRAPH AT	360	504.	12.23	84.	25.	12.	.67
+ DIVERSION TO	BS360	504.	12.23	53.	14.	7.	.67
+ HYDROGRAPH AT	D360	306.	12.63	38.	11.	5.	.67
+ HYDROGRAPH AT	RT360	504.	12.23	53.	14.	7.	.67
+ ROUTED TO	SR360	10.	9.83	10.	10.	7.	.67
+ 4 COMBINED AT	360C	4036.	12.33	791.	332.	213.	6.83
+ HYDROGRAPH AT	380	666.	12.27	98.	26.	13.	.97
+ DIVERSION TO	BS380	666.	12.27	56.	14.	7.	.97
+ HYDROGRAPH AT	D380	472.	12.57	46.	12.	6.	.97
+ HYDROGRAPH AT	RT380	666.	12.27	56.	14.	7.	.97
+ ROUTED TO	SR380	10.	11.33	10.	10.	7.	.97
+ 3 COMBINED AT	380C	4038.	12.33	841.	353.	225.	7.81
+ HYDROGRAPH AT	400	351.	12.23	47.	13.	6.	.62
+ DIVERSION TO	BS400	262.	12.10	10.	3.	1.	.62
+ HYDROGRAPH AT	D400	351.	12.23	39.	10.	5.	.62
+ HYDROGRAPH AT	RT400	262.	12.10	10.	3.	1.	.62
+ ROUTED TO	SR400	2.	8.70	2.	2.	1.	.62
+ 2 COMBINED AT	C400	353.	12.23	41.	12.	6.	.62
+ 2 COMBINED AT	400C	4348.	12.33	879.	364.	231.	8.42
+ HYDROGRAPH AT	420	752.	12.20	92.	26.	12.	.85
+ DIVERSION TO	BS420	269.	11.97	15.	4.	2.	.85
+ HYDROGRAPH AT	D420	752.	12.20	83.	22.	10.	.85
+ HYDROGRAPH AT	RT420	269.	11.97	15.	4.	2.	.85
+ ROUTED TO	SR420	13.	11.03	12.	4.	2.	.85
+ 3 COMBINED AT	420C	4966.	12.33	964.	386.	243.	9.27
+ HYDROGRAPH AT	370	588.	12.30	79.	21.	10.	.67
+ HYDROGRAPH AT	395	182.	12.23	25.	7.	3.	.20
+ 2 COMBINED AT	395C	758.	12.30	103.	28.	13.	.87
+ DIVERSION TO	BS395	748.	12.30	94.	24.	11.	.87
+ HYDROGRAPH AT	D395	10.	11.13	9.	4.	2.	.87
+ HYDROGRAPH AT	RT395	748.	12.30	94.	24.	11.	.87
+ ROUTED TO	SR395	17.	11.77	17.	17.	11.	.87

+	2 COMBINED AT	C395	27.	11.77	24.	20.	13.	.87
+	ROUTED TO	R395	27.	12.00	24.	20.	13.	.87
	HYDROGRAPH AT	385	582.	12.23	70.	19.	9.	.52
+	HYDROGRAPH AT	411	529.	12.17	46.	13.	6.	.36
+	2 COMBINED AT	411C	1055.	12.20	115.	32.	15.	.88
+	DIVERSION TO	BS411	1030.	12.20	98.	25.	12.	.88
+	HYDROGRAPH AT	D411	25.	11.60	16.	7.	3.	.88
+	HYDROGRAPH AT	RT411	1030.	12.20	98.	25.	12.	.88
+	ROUTED TO	SR411	17.	11.70	17.	17.	12.	.88
+	2 COMBINED AT	C411	42.	11.70	31.	22.	15.	.88
+	ROUTED TO	R411	42.	11.93	31.	22.	15.	.88
+	HYDROGRAPH AT	390	463.	12.03	33.	10.	5.	.24
+	DIVERSION TO	BS390	95.	11.73	6.	2.	1.	.24
+	HYDROGRAPH AT	D390	463.	12.03	30.	8.	4.	.24
+	HYDROGRAPH AT	RT390	95.	11.73	6.	2.	1.	.24
+	ROUTED TO	SR390	1.	.90	1.	1.	1.	.24
+	4 COMBINED AT	390C	521.	12.03	86.	50.	33.	1.99
+	ROUTED TO	RR390	512.	12.10	86.	50.	33.	1.99
	HYDROGRAPH AT	440	180.	12.03	12.	3.	2.	.08
+	ROUTED TO	R70	176.	12.07	12.	3.	2.	.08
+	HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
+	2 COMBINED AT	C108	191.	12.07	14.	4.	2.	.09
+	DIVERSION TO	SPLIT	96.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	DIV4	96.	12.07	7.	2.	1.	.09
+	ROUTED TO	R108	88.	12.13	7.	2.	1.	.09
+	HYDROGRAPH AT	442	102.	12.10	9.	2.	1.	.10
+	2 COMBINED AT	C67	187.	12.10	15.	4.	2.	.19
+	DIVERSION TO	BASIN4	115.	12.10	6.	1.	1.	.19
+	HYDROGRAPH AT	DIV6	72.	12.10	10.	3.	1.	.19
+	HYDROGRAPH AT	RTDIV6	115.	12.10	6.	1.	1.	.19
+	ROUTED TO	RFDIV6	1.	11.90	1.	1.	1.	.19
+	2 COMBINED AT	CDIV6	74.	12.10	10.	4.	2.	.19
+	HYDROGRAPH AT	443	148.	12.07	14.	4.	2.	.08
+	DIVERSION TO	WSH66	78.	11.90	12.	3.	2.	.08
	HYDROGRAPH AT	DIV66	70.	12.07	3.	1.	0.	.08
+	ROUTED TO	R113	69.	12.07	3.	1.	0.	.08
+	2 COMBINED AT	C114	140.	12.07	13.	4.	2.	.27
+	HYDROGRAPH AT	444	82.	12.03	5.	1.	1.	.04

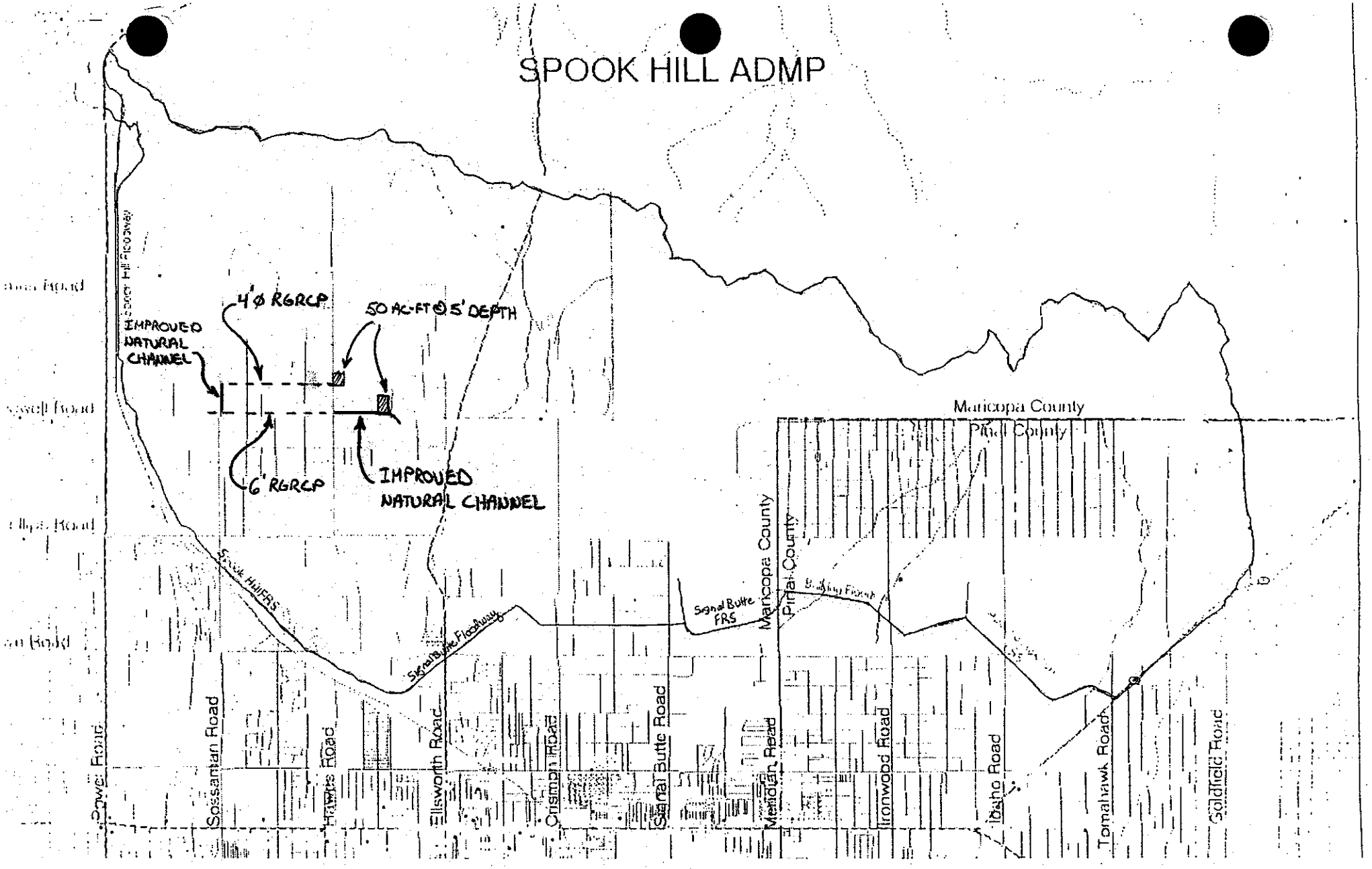
+	ROUTED TO	R58	75.	12.07	5.	1.	1.	.04
+	HYDROGRAPH AT	445	296.	12.03	18.	5.	2.	.19
+	2 COMBINED AT	C107	365.	12.03	22.	6.	3.	.23
+	ROUTED TO	R107	365.	12.07	22.	6.	3.	.23
+	HYDROGRAPH AT	RTB2	96.	12.07	7.	2.	1.	.09
+	ROUTED TO	RSPLIT	95.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	446	65.	12.03	6.	2.	1.	.04
+	3 COMBINED AT	C109	520.	12.07	35.	9.	4.	.27
+	DIVERSION TO	WSH404	35.	11.73	8.	2.	1.	.27
+	HYDROGRAPH AT	DIV5	485.	12.07	27.	7.	3.	.27
+	ROUTED TO	R109	469.	12.10	27.	7.	3.	.27
+	HYDROGRAPH AT	447	138.	12.07	12.	4.	2.	.09
+	HYDROGRAPH AT	RT404	35.	11.73	8.	2.	1.	.27
+	ROUTED TO	R404	35.	11.90	8.	2.	1.	.27
+	3 COMBINED AT	C110	635.	12.07	46.	13.	6.	.36
+	ROUTED TO	R110	632.	12.10	46.	13.	6.	.36
+	2 COMBINED AT	C115	764.	12.10	59.	17.	8.	.63
+	ROUTED TO	R115	767.	12.10	59.	17.	8.	.63
+	HYDROGRAPH AT	448	88.	12.03	6.	2.	1.	.05
+	HYDROGRAPH AT	449	80.	12.03	5.	1.	1.	.05
+	2 COMBINED AT	C6364	166.	12.03	11.	3.	1.	.09
+	ROUTED TO	R6364	137.	12.17	11.	3.	1.	.09
+	HYDROGRAPH AT	450	61.	12.20	6.	2.	1.	.07
+	HYDROGRAPH AT	451	18.	12.17	2.	1.	0.	.03
+	HYDROGRAPH AT	RT66	78.	11.90	12.	3.	2.	.08
+	HYDROGRAPH AT	452	62.	12.03	4.	1.	1.	.04
+	2 COMBINED AT	C6465	140.	12.03	16.	4.	2.	.04
+	ROUTED TO	R6566	135.	12.10	16.	4.	2.	.04
+	4 COMBINED AT	C116	341.	12.17	35.	9.	4.	.23
+	ROUTED TO	BASIN5	152.	12.47	35.	9.	4.	.23
+	ROUTED TO	R116	150.	12.53	35.	9.	4.	.23
+	HYDROGRAPH AT	453	62.	12.10	7.	2.	1.	.06
+	2 COMBINED AT	C117	169.	12.50	41.	11.	5.	.29
+	2 COMBINED AT	C118	852.	12.10	99.	28.	14.	.92
+	ROUTED TO	R118	842.	12.10	99.	28.	14.	.92
+	DIVERSION TO	BASIN6	243.	12.10	10.	2.	1.	.92
+	HYDROGRAPH AT	DIV7	599.	12.10	89.	25.	13.	.92
+	HYDROGRAPH AT	RTDIV7	243.	12.10	10.	2.	1.	.92

+	ROUTED TO	RFDIV7	1.	11.97	1.	1.	1.	.92
+	2 COMBINED AT	CDIV7	600.	12.10	90.	26.	13.	.92
	HYDROGRAPH AT	454	157.	12.17	21.	6.	3.	.18
+	2 COMBINED AT	C119	748.	12.13	110.	32.	16.	1.10
+	ROUTED TO	R454	722.	12.20	110.	32.	16.	1.10
+	HYDROGRAPH AT	415	294.	12.13	31.	9.	4.	.28
+	3 COMBINED AT	415C	1459.	12.13	221.	87.	53.	3.37
+	ROUTED TO	R415	1426.	12.20	221.	87.	53.	3.37
+	HYDROGRAPH AT	455	1346.	12.13	142.	43.	21.	1.11
+	DIVERSION TO	BS455	1346.	12.13	137.	37.	18.	1.11
+	HYDROGRAPH AT	D455	55.	12.77	16.	6.	3.	1.11
+	HYDROGRAPH AT	RT455	1346.	12.13	137.	37.	18.	1.11
+	ROUTED TO	SR455	25.	10.47	25.	25.	18.	1.11
+	2 COMBINED AT	C455	80.	12.77	41.	31.	21.	1.11
+	3 COMBINED AT	455C	5791.	12.37	1187.	494.	310.	13.76
+	ROUTED TO	SR440	790.	13.73	773.	494.	310.	13.76
+	ROUTED TO	RR455	790.	14.03	773.	494.	308.	13.76
+	HYDROGRAPH AT	456	468.	12.07	35.	10.	5.	.26
	DIVERSION TO	BASIN1	184.	12.07	8.	2.	1.	.26
+	HYDROGRAPH AT	DIV1	284.	12.07	27.	8.	4.	.26
+	DIVERSION TO	WA30	58.	12.07	10.	3.	2.	.26
+	HYDROGRAPH AT	DIV2	226.	12.07	18.	4.	2.	.26
+	ROUTED TO	R456	213.	12.13	18.	4.	2.	.26
+	HYDROGRAPH AT	457	264.	12.07	20.	5.	3.	.19
+	2 COMBINED AT	C101	462.	12.10	38.	10.	5.	.45
+	DIVERSION TO	BASIN2	165.	12.10	7.	2.	1.	.45
+	HYDROGRAPH AT	DIV3	297.	12.10	30.	8.	4.	.45
+	HYDROGRAPH AT	RTDIV3	165.	12.10	7.	2.	1.	.45
+	ROUTED TO	RFDIV3	2.	11.90	2.	2.	1.	.45
+	2 COMBINED AT	CDIV3	299.	12.10	32.	9.	5.	.45
+	ROUTED TO	R101	297.	12.10	32.	9.	5.	.45
+	HYDROGRAPH AT	458	356.	12.03	25.	7.	3.	.19
+	2 COMBINED AT	C103	635.	12.07	56.	16.	8.	.64
+	ROUTED TO	R103	630.	12.07	56.	16.	8.	.64
	HYDROGRAPH AT	RT30	58.	12.07	10.	3.	2.	.26
+	ROUTED TO	R30	57.	12.10	10.	3.	2.	.26
+	HYDROGRAPH AT	RTB1	184.	12.07	8.	2.	1.	.26
+	ROUTED TO	B1	37.	12.23	8.	2.	1.	.26

```
          ROUTED TO
+                        RB1      37.  12.30      8.      2.      1.     .26
          2 COMBINED AT
+                       CDIV      86.  12.20     17.      5.      3.     .12
          HYDROGRAPH AT
                        459      44.  12.03      3.      1.      0.     .03
          2 COMBINED AT
+                        C52     113.  12.10     20.      6.      3.     .15
          ROUTED TO
+                        R52     112.  12.17     20.      6.      3.     .15
          HYDROGRAPH AT
+                        460     214.  12.07     19.      6.      3.     .14
          2 COMBINED AT
+                       C102     313.  12.07     39.     12.      6.     .29
          ROUTED TO
+                     BASIN3      71.  12.63     39.     12.      6.     .29
          ROUTED TO
+                         R3      71.  12.77     39.     12.      6.     .29
          HYDROGRAPH AT
+                        461     161.  12.10     17.      5.      2.     .12
          2 COMBINED AT
+                       C104     213.  12.10     55.     17.      8.     .41
          2 COMBINED AT
+                       C106     835.  12.07    110.     32.     16.    1.05
          ROUTED TO
+                       R106     797.  12.13    110.     32.     16.    1.05
          HYDROGRAPH AT
+                        462     538.  12.07     40.     11.      5.     .30
          2 COMBINED AT
+                        C56    1254.  12.10    149.     42.     21.    1.35
          HYDROGRAPH AT
+                        480    1050.  12.10     96.     29.     14.     .73
          DIVERSION TO
+                      BS480     455.  11.90     27.      8.      4.     .73
          HYDROGRAPH AT
+                       D480    1050.  12.10     78.     21.     10.     .73
          HYDROGRAPH AT
                      RT480     455.  11.90     27.      8.      4.     .73
          ROUTED TO
+                      SR480       6.   3.90      6.      6.      4.     .73
          2 COMBINED AT
+                       C480    1056.  12.10     84.     27.     14.     .73
          3 COMBINED AT
+                       480C    2515.  12.10    954.    576.    352.    2.09
          ROUTED TO
+                      RR480    2353.  12.13    951.    575.    352.    2.09
          HYDROGRAPH AT
+                        500    1073.  12.27    122.     33.     16.     .93
          2 COMBINED AT
+                       500C    3241.  12.17   1062.    603.    366.    3.02
1
                          SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                              (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                  INTERPOLATED TO
                                                                COMPUTATION INTERVAL
   ISTAQ    ELEMENT      DT       PEAK    TIME TO     VOLUME      DT       PEAK    TIME TO     VOLUME
                                          PEAK                                              PEAK

                        (MIN)     (CFS)    (MIN)      (IN)     (MIN)     (CFS)     (MIN)      (IN)*

   FOR STORM = 1  STORM AREA (SQ MI) =       .01
      RR390  MANE        2.00    543.53   726.35      1.37      2.00    539.69    726.00      1.37

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1457E+03 EXCESS= .0000E+00 OUTFLOW= .1458E+03 BASIN STORAGE= .4607E-02 PERCENT ERROR=    .0

   FOR STORM = 2  STORM AREA (SQ MI) =      10.00
      RR390  MANE        2.43    504.28   725.96      1.25      2.00    504.21    726.00      1.25

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1328E+03 EXCESS= .0000E+00 OUTFLOW= .1329E+03 BASIN STORAGE= .6167E-05 PERCENT ERROR=    .0

   FOR STORM = 3  STORM AREA (SQ MI) =      30.00
      RR390  MANE        1.88    484.53   727.77      1.17      2.00    482.61    728.00      1.17

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1245E+03 EXCESS= .0000E+00 OUTFLOW= .1245E+03 BASIN STORAGE= .1273E-05 PERCENT ERROR=   -.1

   FOR STORM = 4  STORM AREA (SQ MI) =      60.00
      RR390  MANE        1.83    458.58   727.03      1.09      2.00    455.97    728.00      1.09

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1161E+03 EXCESS= .0000E+00 OUTFLOW= .1162E+03 BASIN STORAGE= .2839E-06 PERCENT ERROR=   -.1

   FOR STORM = 5  STORM AREA (SQ MI) =      90.00
```

```
          RR390  MANE         1.83    452.05    727.46      1.06      2.00    449.15    728.00        1.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1127E+03 EXCESS= .0000E+00 OUTFLOW= .1128E+03 BASIN STORAGE= .2319E-06 PERCENT ERROR=   -.1

        FOR STORM = 6  STORM AREA (SQ MI) =     120.00
          RR390  MANE         1.84    440.30    726.83      1.04      2.00    439.38    728.00        1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1105E+03 EXCESS= .0000E+00 OUTFLOW= .1106E+03 BASIN STORAGE= .1875E-06 PERCENT ERROR=   -.1

        FOR STORM = 7  STORM AREA (SQ MI) =     150.00
          RR390  MANE         1.83    434.31    728.41      1.02      2.00    433.82    728.00        1.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1082E+03 EXCESS= .0000E+00 OUTFLOW= .1083E+03 BASIN STORAGE= .1321E-06 PERCENT ERROR=   -.1

        FOR STORM = 8  STORM AREA (SQ MI) =     300.00
          RR390  MANE         1.83    422.94    727.33       .97      2.00    420.67    728.00         .97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .1031E+03 EXCESS= .0000E+00 OUTFLOW= .1032E+03 BASIN STORAGE= .6381E-07 PERCENT ERROR=   -.1

        FOR STORM = 9  STORM AREA (SQ MI) =     500.00
          RR390  MANE         1.88    407.54    727.24       .93      2.00    405.69    728.00         .93

CONTINUITY SUMMARY (AC-FT) - INFLOW= .9854E+02 EXCESS= .0000E+00 OUTFLOW= .9862E+02 BASIN STORAGE= .6750E-07 PERCENT ERROR=   -.1


*** NORMAL END OF HEC-1 ***
```

SPOOK HILL ADMP



UPDATE TO MCDOWELL OPTION USING CURRENT 100YR 24HR STORM. FILE S24CE30.DAT. MCDOWELL OPTION ALSO ALTERED REMOVING DETENTION BASIN FROM SUB-BASIN 455. REMAINING DETENTION BASINS FROM PREVIOUS MCDOWELL OPTIONS WILL REMAIN. THE DETENTION BASIN LOCATED IN SUB-BASINS 385 AND 411 WILL BE ROUTED WEST BY RGRCP TO CHANNEL AT SOSSAMAN ROAD. THE DETENTION BASIN LOCATED IN SUB-BASINS 370 & 395 WILL BE ROUTED BY CHANNEL TO COMBINE WITH SUB-BASIN 390 AND THEN BE ROUTED BY RGRCP TO SUB-BASIN 415.

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN   1998              *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   28JUN00  TIME  13:59:51  *
*                                      *
****************************************
```

```
****************************************
*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
*   HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET            *
*      DAVIS, CALIFORNIA 95616         *
*          (916) 756-1104              *
*                                      *
****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
1                                        HEC-1 INPUT                                                    PAGE  1

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID   EXISTING LAND USE CALCULATIONS WERE BASED ON 1 YR. FROM 11/5/99
  2           ID   FOR LAS SENDAS       AND LANDISCOR JAN.1999 AERIAL PHOTOGPRAPHS
  3           ID
  4           ID   ALL DAMS WERE ANALYZED WITH NO STORAGE BELOW PRINCIPLE SPILLWAY ELEVATIONS
  5           ID
  6           ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
  7           ID   PRECIPITATION VALUES
  8           ID
  9           ID   ALL CHANNEL ROUTING INFORMATION WAS OBTAINED FROM MCFCD SPOOK HILL   SIGNAL
 10           ID   BUTTE        AND BULLDOG FLOODWAY PLANS
 11           ID
 12           ID   UPDATE TO MCDOWELL OPTION USING CURRENT 100YR 24HR STORM. FILE S24CE30.DAT.
 13           ID   MCDOWELL OPTION ALSO ALTERED REMOVING DETENTION BASIN FROM SUB-BASIN 455.
 14           ID   REMAINING DETENTION BASINS FROM PREVIOUS MCDOWELL OPTIONS WILL REMAIN.
 15           ID   THE DETENTION BASIN LOCATED IN SUB-BASINS 385 AND 411 WILL BE ROUTED WEST
 16           ID   BY RGRCP TO CHANNEL AT SOSSAMAN ROAD. THE DETENTION BASIN LOCATED IN
 17           ID   SUB-BASINS 370 & 395 WILL BE ROUTED BY CHANNEL TO COMBINE WITH SUB-BASIN 390
 18           ID   AND THEN BE ROUTED BY RGRCP TO SUB-BASIN 415.
 19           ID   ANALYSIS PERFORMED BY WOOD/PATEL; MW;        06/30/00  FILE: S24CE31.DAT
 20           ID
 21           ID   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 24HR STORM
              *DIAGRAM
 22           IT       2                    1500
 23           IO       3
 24           IN      15
 25           JD    3.81    0.01
 26           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
 27           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
 28           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
 29           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
 30           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
 31           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
 32           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
 33           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
 34           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
 35           PC    .983    .986    .989    .992    .995    .998   1.000
 36           JD    3.58   10.00
 37           JD    3.43   30.00
 38           JD    3.28   60.00
 39           JD    3.22   90.00
 40           JD    3.18  120.00
 41           JD    3.14  150.00
 42           JD    3.05  300.00
 43           JD    2.97  500.00
              * DDM   ***** Updated *****

 44           KK      10
 45           KM   SUB-BASIN 10
 46           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 47           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 48           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
 49           BA    .702
 50           LG    .350    .320   7.600    .090  15.000
 51           UC    .421    .302
 52           UA       0       3       5       8      12      20      43      75      90      96
1                                        HEC-1 INPUT                                                    PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 53           UA     100
              * DDM   ***** Preserved *****

 54           KK     R10
 55           KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
 56           RS       4    FLOW      -1
 57           RC    .045     .03    .045    8700    .021
 58           RX       0       1       2      17      27      42      43      44
 59           RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****

 60           KK     R12
 61           KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
 62           RS       6    FLOW      -1
 63           RC    .045     .03    .045    4500     .01
 64           RX       0       1      30    37.5    57.5      65      94      95
```

```
65          RY       3     2.5     2.5       0       0     2.5     2.5       3
            * DDM   ***** Updated *****

66          KK      20
67          KM   SUB-BASIN 20
68          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
69          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
70          KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
71          BA   1.120
72          LG    .350    .390   5.800    .190   1.000
73          UC    .658    .454
74          UA       0       3       5       8      12      20      43      75      90      96
75          UA     100
            * DDM   ***** Preserved *****

76          KK     C20
77          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
78          HC       2
            * DDM   ***** Updated *****

79          KK      40
80          KM   SUB-BASIN 40
81          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
82          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
83          KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
84          BA   2.233
85          LG    .340    .340   4.900    .280   5.000
86          UC    .496    .264
87          UA       0       3       5       8      12      20      43      75      90      96
88          UA     100
            * DDM   ***** Updated *****

89          KK      60
90          KM   SUB-BASIN 60
91          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
92          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .990
93          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
94          BA   1.746
95          LG    .330    .350   5.800    .190   9.000
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

96          UC    .596    .477
97          UA       0       3       5       8      12      20      43      75      90      96
98          UA     100
            * DDM   ***** Preserved *****

99          KK     60C
100         KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
            *      1       2
101         HC       3
            * DDM   ***** Preserved *****

102         KK    SR60
103         KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
104         KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
105         KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
106         KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
107         RS       1    STOR       0
108         SV       0       1     100     200     300     400
109         SQ       0      71      81      87    91.5      94
110         SE    83.5    93.5      96    97.7      99   99.77
            * DDM   ***** Preserved *****

111         KK     R60
112         KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
113         RS       1    FLOW      -1
114         RC    .016    .016    .016    2850    .012
115         RX       0       1       2     2.1     5.6     5.7       6       7
116         RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
            * DDM   ***** Preserved *****

117         KK    RR60
118         KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
119         RS       4    FLOW      -1
120         RC    .016    .016    .016    3500    .005
121         RX       0       1       2     2.1     7.1     7.2       8       9
122         RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
            * DDM   ***** Updated *****

123         KK      80
124         KM   SUB-BASIN 80
125         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
126         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
127         KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
128         BA   1.475
129         LG    .330    .330   5.600    .210   4.000
130         UC    .433    .259
131         UA       0       3       5       8      12      20      43      75      90      96
132         UA     100
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

133         KK     80C
134         KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
135         HC       2   1.475
            * DDM   ***** Preserved *****

136         KK     R80
137         KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
138         RS       1    FLOW      -1
139         RC    .025    .016    .025    1200    .003
140         RX       0       2       6     6.1    41.1    41.2    56.2    58.2
141         RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
            * DDM   ***** Updated *****

142         KK     100
143         KM   SUB-BASIN 100
144         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
```

```
145          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
146          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
147          BA    .484
148          LG    .320    .290   5.100    .260   3.000
149          UC    .533    .473
150          UA       0       5      16      30      65      77      84      90      94      97
151          UA     100
             * DDM   ***** Preserved *****

152          KK    100C
153          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
154          HC       2
             * DDM   ***** Preserved *****

155          KK    R100
156          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
157          RS       1    FLOW      -1
158          RC    .016    .016    .016     940    .005
159          RX       0       1       2     2.1    52.1    52.2      53      54
160          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****

161          KK     120
162          KM   SUB-BASIN 120
163          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
164          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
165          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
166          BA   2.202
167          LG    .330    .280   6.800    .130  11.000
168          UC    .429    .226
169          UA       0       3       5       8      12      20      43      75      90      96
170          UA     100
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

171          KK    120C
172          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
173          HC       2
             * DDM   ***** Preserved *****

174          KK    R120
175          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
176          RS       1    FLOW      -1
177          RC    .025    .016    .025    2100    .005
178          RX       0       6      10    10.1    60.1    60.2    74.2    80.2
179          RY       8       5       5       0       0       5       5       8
             * DDM   ***** Updated *****

180          KK     140
181          KM   SUB-BASIN 140
182          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
183          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
184          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
185          BA    .598
186          LG    .310    .280   4.200    .440   5.000
187          UC    .421    .278
188          UA       0       5      16      30      65      77      84      90      94      97
189          UA     100
             * DDM   ***** Updated *****

190          KK     150
191          KM   SUB-BASIN 150
192          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
193          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
194          KM     L = 1.50  Kb = .047  Adj. Slope =  315.0
195          BA    .408
196          LG    .350    .360   5.100    .260   7.000
197          UC   1.579   1.417
198          UA       0       3       5       8      12      20      43      75      90      96
199          UA     100
             * DDM   ***** Preserved *****

200          KK    R150
201          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
202          RS       3    FLOW      -1
203          RC    .045     .04    .045    3100    .032
204          RX       0       1       2      23      33      54      55      56
205          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

206          KK    R152
207          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
208          RS       6    FLOW      -1
209          RC    .045     .03    .045    5900    .019
210          RX       0       1       2       8      33      39      40      41
211          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

212          KK     160
213          KM   SUB-BASIN 160
214          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
215          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
216          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
217          BA    .369
218          LG    .340    .330   4.150    .440   1.000
219          UC    .587    .655
220          UA       0       3       5       8      12      20      43      75      90      96
221          UA     100
             * DDM   ***** Updated *****

222          KK     180
223          KM   SUB-BASIN 180
224          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
225          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
226          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
227          BA   1.000
```

```
228          LG    .350    .350   4.150    .430    .000
229          UC    .571    .403
230          UA       0       3       5       8      12      20      43      75      90      96
231          UA     100
             * DDM   ***** Preserved *****

232          KK    180C
233          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
234          HC       5
             * DDM   ***** Updated *****

235          KK     210
236          KM   SUB-BASIN 210
237          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
238          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
239          KM     L = 1.84  Kb = .045  Adj. Slope =  315.0
240          BA    .583
241          LG    .350    .350   7.000    .120   5.000
242          UC    .321    .232
243          UA       0       3       5       8      12      20      43      75      90      96
244          UA     100
             * DDM   ***** Preserved *****

245          KK    R210
246          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
247          RS       2    FLOW      -1
248          RC    .045     .03    .045    5100    .022
249          RX       0       1       2      14      34      46      47      48
250          RY       4       4       4       0       0       4       4       4
             * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE  7

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

251          KK     240
252          KM   SUB-BASIN 240
253          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
254          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
255          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
256          BA   1.398
257          LG    .350    .370   5.200    .240   2.000
258          UC    .471    .361
259          UA       0       3       5       8      12      20      43      75      90      96
260          UA     100
             * DDM   ***** Preserved *****

261          KK    240C
262          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
263          HC       2
             * DDM   ***** Preserved *****

264          KK   SR240
265          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
266          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
267          RS       1    STOR       0
268          SA    1.38    14.2    36.5
269          SE     1.7       5      11
270          SS       5      42       3     1.5
             * DDM   ***** Updated *****

271          KK     220
272          KM   SUB-BASIN 220
273          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
274          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
275          KM     L = 1.92  Kb = .043  Adj. Slope =  315.0
276          BA    .725
277          LG    .350    .350   7.000    .120   4.000
278          UC    .317    .209
279          UA       0       3       5       8      12      20      43      75      90      96
280          UA     100
             * DDM   ***** Preserved *****

281          KK    220C
282          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
283          HC       2
             * DDM   ***** Preserved *****

284          KK   SR220
285          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
286          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
287          RS       1    STOR       0
288          SA     .78     4.1    13.7
289          SE       1       3      10
290          SS       3      65       3     1.5
             * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE  8

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

291          KK     190
292          KM   SUB-BASIN 190
293          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
294          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
295          KM     L = 1.91  Kb = .042  Adj. Slope =  315.0
296          BA    .918
297          LG    .350    .390   5.800    .190   8.000
298          UC    .321    .185
299          UA       0       3       5       8      12      20      43      75      90      96
300          UA     100
             * DDM   ***** Preserved *****

301          KK    R190
302          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
303          RS       2    FLOW      -1
304          RC    .045     .03    .045    4740     .03
305          RX       0       1       2      17      37      52      53      54
306          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

307          KK    R192
308          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
```

```
309          RS       2    FLOW      -1
310          RC    .045    .035    .045    2200    .018
311          RX       0       1      50      59      79      88     137     138
312          RY     3.5       3       3       0       0       3       3     3.5
             * DDM   ***** Updated *****

313          KK     200
314          KM   SUB-BASIN 200
315          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
316          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
317          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
318          BA    .535
319          LG    .350    .390   5.700    .200  10.000
320          UC    .300    .200
321          UA       0       3       5       8      12      20      43      75      90      96
322          UA     100
             * DDM   ***** Preserved *****

323          KK    200C
324          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
325          HC       3
             * DDM   ***** Preserved *****

326          KK   SR200
327          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
328          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
329          RS       1    STOR       0
330          SA    2.56     3.1     9.4
331          SE       0       3      10
332          SS       3     112       3     1.5
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE  9

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

333          KK   200SR
334          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
335          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
336          RS       1    STOR       0
337          SA       8     9.2     9.2
338          SE       0       7      10
339          SS       7     251       3     1.5
             * DDM   ***** Preserved *****

340          KK    C180
341          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             *      1       2
342          HC       2
             * DDM   ***** Preserved *****

343          KK   SR180
344          KM   SIGNAL BUTTE FRS DATED 1/28/85
345          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
346          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
347          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
348          RS       1    STOR       0
349          SV       0       1     250     500     750    1060
350          SQ       0   106.5   125.5   137.5     146     160
351          SE      90     101   104.5     107     109   112.4
             * DDM   ***** Preserved *****

352          KK    R180
353          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
354          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
355          RS       3    FLOW      -1
356          RC    .035    .025    .035    1500    .003
357          RX       0       1       2    22.6    38.6    59.2      60      61
358          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

359          KK     260
360          KM   SUB-BASIN 260
361          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
362          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
363          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
364          BA    .267
365          LG    .300    .170   6.800    .160  15.000
366          UC    .363    .215
367          UA       0       5      16      30      65      77      84      90      94      97
368          UA     100
             * DDM   ***** Preserved *****

369          KK    260C
370          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
371          HC       2    .267
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 10

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

372          KK    R260
373          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
374          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
375          RS       3    FLOW      -1
376          RC    .035    .025    .035    2300    .003
377          RX       0       1       2    23.4    43.4    64.8      65      66
378          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

379          KK     280
380          KM   SUB-BASIN 280
381          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
382          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
383          KM     L =  .77  Kb = .049  Adj. Slope =   84.0
384          BA    .304
385          LG    .300    .250   5.300    .290  15.000
386          UC    .333    .175
387          UA       0       5      16      30      65      77      84      90      94      97
388          UA     100
             * DDM   ***** Preserved *****
```

```
389          KK    280C
390          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
391          HC       2
             * DDM   ***** Preserved *****

392          KK    R280
393          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
394          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
395          RS       2    FLOW      -1
396          RC    .035    .025    .035    2500    .003
397          RX       0       1       2    23.4    43.4    64.8      65      66
398          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

399          KK     300
400          KM   SUB-BASIN 300
401          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
402          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
403          KM     L = 2.28  Kb = .041  Adj. Slope =  127.0
404          BA    .988
405          LG    .340    .320   4.500    .370   7.000
406          UC    .538    .362
407          UA       0       5      16      30      65      77      84      90      94      97
408          UA     100
             * DDM   ***** Preserved *****

409          KK    300C
410          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
411          HC       2
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 11

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


412          KK    R300
413          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
414          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
415          RS       2    FLOW      -1
416          RC    .035    .025    .035    2200    .003
417          RX       0       1       2    23.4    55.4    76.8      77      78
418          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Preserved *****

419          KK   RR300
420          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
421          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
422          RS       2    FLOW      -1
423          RC    .016    .016    .016    6050   .0146
424          RX       0       1       2     2.1    16.1    16.2      17      18
425          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
             *        1       2
             * DDM   ***** Updated *****

426          KK     350
427          KM   SUB-BASIN 350
428          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
429          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
430          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
431          BA    .970
432          LG    .350    .350   4.550    .340   4.000
433          UC    .367    .234
434          UA       0       3       5       8      12      20      43      75      90      96
435          UA     100
             * DDM   ***** Preserved *****

436          KK    D350
437          KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
438          KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
439          DT   SF350
440          DI       0    5000
441          DQ       0    2500
             * DDM   ***** Preserved *****

442          KK    350R
443          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
444          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
445          RS       6    FLOW      -1
446          RC    .045    .035    .045    5150    .025
447          RX       0       1      40      46      56      62     102     103
448          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

449          KK     310
450          KM   SUB-BASIN 310
451          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
452          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
453          KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
454          BA    .555
1                                    HEC-1 INPUT                                          PAGE 12

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

455          LG    .350    .350   3.910    .480    .000
456          UC    .483    .511
457          UA       0       3       5       8      12      20      43      75      90      96
458          UA     100
             * DDM   ***** Preserved *****

459          KK    C310
460          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
461          HC       2    .943
             * DDM   ***** Preserved *****

462          KK    R310
463          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
464          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
465          RS      10    FLOW      -1
466          RC    .045    .035    .045   10050    .022
467          RX       0       1      40      46      56      62     102     103
468          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
```

```
469          KK     320
470          KM   SUB-BASIN 320
471          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
472          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
473          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
474          BA    .972
475          LG    .310    .300   4.550    .360  14.000
476          UC    .508    .333
477          UA       0       5      16      30      65      77      84      90      94      97
478          UA     100
             * DDM   ***** Preserved *****

479          KK    D320
480          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
481          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
482          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
483          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
484          DT   BS320   12.27
485          DI       0   10000
486          DQ       0   10000
             * DDM   ***** Preserved *****

487          KK   RT320
488          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
489          DR   BS320
             * DDM   ***** Preserved *****

490          KK   SR320
491          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
492          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
493          RS       1    STOR       0
494          SV       0     .01    12.3
495          SQ       0     4.2     4.2
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

496          KK    C320
497          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
498          HC       4
             * DDM   ***** Updated *****

499          KK     340
500          KM   SUB-BASIN 340
501          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
502          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
503          KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
504          BA   1.449
505          LG    .280    .280   4.150    .520  21.000
506          UC    .512    .287
507          UA       0       5      16      30      65      77      84      90      94      97
508          UA     100
             * DDM   ***** Preserved *****

509          KK    D340
510          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
511          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
512          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
513          KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *      1
514          DT   BS340      56
515          DI       0   10000
516          DQ       0   10000
             * DDM   ***** Preserved *****

517          KK   RT340
518          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
519          DR   BS340
             * DDM   ***** Preserved *****

520          KK   SR340
521          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
522          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
523          RS       1    STOR       0
524          SV       0     .01      56
525          SQ       0    18.9    18.9
             * DDM   ***** Preserved *****

526          KK    C340
527          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
528          HC       3
             * DDM   ***** Preserved *****

529          KK   RT350
530          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
531          DR   SF350
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

532          KK   RR350
533          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
534          KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
535          RS       8    FLOW      -1
536          RC    .045    .035    .045    6050    .025
537          RX       0       1      40      46      56      62     102     103
538          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

539          KK     355
540          KM   SUB-BASIN 355
541          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
542          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
543          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
544          BA    .659
545          LG    .340    .340   4.450    .370   4.000
```

```
546          UC    .488    .509
547          UA       0       3       5       8      12      20      43      75      90      96
548          UA     100
             * DDM   ***** Preserved *****

549          KK    C355
550          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
551          HC       2    1.24
             * DDM   ***** Preserved *****

552          KK    R355
553          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
554          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
555          RS       9    FLOW      -1
556          RC    .045    .035    .045   10100    .026
557          RX       0       1      40      46      56      62     102     103
558          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

559          KK     360
560          KM   SUB-BASIN 360
561          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
562          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
563          KM     L = 2.10  Kb = .048  Adj. Slope =  124.0
564          BA    .670
565          LG    .260    .270   4.100    .560  20.000
566          UC    .587    .466
567          UA       0       5      16      30      65      77      84      90      94      97
568          UA     100
             * DDM   ***** Preserved *****

569          KK    D360
570          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
571          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
572          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
573          DT   BS360    28.6
574          DI       0   10000
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

575          DQ       0   10000
             * DDM   ***** Preserved *****

576          KK   RT360
577          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
578          DR   BS360
             * DDM   ***** Preserved *****

579          KK   SR360
580          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
581          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
582          RS       1    STOR       0
583          SV       0     .01    28.6
584          SQ       0     9.6     9.6
             * DDM   ***** Preserved *****

585          KK    360C
586          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
587          HC       4
             * DDM   ***** Updated *****

588          KK     380
589          KM   SUB-BASIN 380
590          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
591          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
592          KM     L = 2.20  Kb = .048  Adj. Slope =  114.0
593          BA    .972
594          LG    .300    .310   4.150    .500   7.000
595          UC    .658    .444
596          UA       0       5      16      30      65      77      84      90      94      97
597          UA     100
             * DDM   ***** Preserved *****

598          KK    D380
599          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
600          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
601          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
602          DT   BS380    28.6
603          DI       0   10000
604          DQ       0   10000
             * DDM   ***** Preserved *****

605          KK   RT380
606          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
607          DR   BS380
             * DDM   ***** Preserved *****

608          KK   SR380
609          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
610          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
611          RS       1    STOR       0
612          SV       0     .01    28.6
613          SQ       0     9.6     9.6
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

614          KK    380C
615          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
616          HC       3
             * DDM   ***** Updated *****

617          KK     400
618          KM   SUB-BASIN 400
619          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
620          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
621          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
622          BA    .616
```

```
623          LG    .320    .320   3.130    .930   6.000
624          UC    .592    .405
625          UA       0       5      16      30      65      77      84      90      94      97
626          UA     100
             * DDM   ***** Preserved *****

627          KK    D400
628          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
629          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
630          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
631          DT   BS400     5.6
632          DI       0   10000
633          DQ       0   10000
             * DDM   ***** Preserved *****

634          KK   RT400
635          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
636          DR   BS400
             * DDM   ***** Preserved *****

637          KK   SR400
638          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
639          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
640          RS       1    STOR       0
641          SV       0     .01     5.6
642          SQ       0       2       2
             * DDM   ***** Preserved *****

643          KK    C400
644          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
645          HC       2
             * DDM   ***** Preserved *****

646          KK    400C
647          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
648          HC       2
             * DDM   ***** Updated *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

649          KK     420
650          KM   SUB-BASIN 420
651          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
652          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
653          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
654          BA    .849
655          LG    .310    .270   3.880    .580  12.000
656          UC    .512    .325
657          UA       0       5      16      30      65      77      84      90      94      97
658          UA     100
             * DDM   ***** Preserved *****

659          KK    D420
660          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
661          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
662          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
663          DT   BS420    8.65
664          DI       0   10000
665          DQ       0   10000
             * DDM   ***** Preserved *****

666          KK   RT420
667          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
668          DR   BS420
             * DDM   ***** Preserved *****

669          KK   SR420
670          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
671          KM   38.55 ACRE-FEETx43560/36x3600=13cfs
672          RS       1    STOR       0
673          SV       0     .01   38.55
674          SQ       0      13      13
             * DDM   ***** Preserved *****

675          KK    420C
676          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
677          HC       3
             * DDM   ***** Updated *****

678          KK     370
679          KM   SUB-BASIN 370
680          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
681          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
682          KM     L = 2.90  Kb = .044  Adj. Slope =  294.6
683          BA    .667
684          LG    .340    .320   4.650    .330   9.000
685          UC    .454    .455
686          UA       0       3       5       8      12      20      43      75      90      96
687          UA     100
             * DDM   ***** Updated *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

688          KK     395
689          KM   SUB-BASIN 395
690          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
691          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
692          KM     L = 1.60  Kb = .051  Adj. Slope =  215.8
693          BA    .198
694          LG    .330    .320   4.900    .300  10.000
695          UC    .383    .468
696          UA       0       3       5       8      12      20      43      75      90      96
697          UA     100
             * DDM   ***** Preserved *****

698          KK    395C
699          KM   HYDROGRAPH COMBINATION
```

```
700          HC       2
             * DDM   ***** Preserved *****

701          KK    D395
702          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN
703          KM   SUB-BASINS 370 AND 395
             *      1
704          DT   BS395
705          DI       0      10    5000
706          DQ       0       0    4990
             * DDM   ***** Preserved *****

707          KK   RT395
708          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
709          DR   BS395
             * DDM   ***** Preserved *****

710          KK   SR395
711          KM   RETRIEVE FLOW INTO OFFLINE DETENTION BASIN AND BLEED OFF WITHIN 36 HOURS.
712          KM      50 ACRE-FEETx43560/36x3600 = 17cfs
713          RS       1    STOR       0
714          SV       0     .01      50
715          SQ       0      17      17
             * DDM   ***** Preserved *****

716          KK    C395
717          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
718          HC       2
             * DDM   ***** Preserved *****

719          KK    R395
720          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
721          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 390
722          RS       7    FLOW      -1
723          RC    .045    .035    .045    2600    .023
724          RX       0       1      40      46      56      62     102     103
725          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                          PAGE 19

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

726          KK     390
727          KM   SUB-BASIN 390
728          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
729          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
730          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
731          BA    .244
732          LG    .300    .250   4.700    .380  18.000
733          UC    .204    .107
734          UA       0       5      16      30      65      77      84      90      94      97
735          UA     100
             * DDM   ***** Preserved *****

736          KK    D390
737          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
738          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
739          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
740          DT   BS390     3.5
741          DI       0    5000
742          DQ       0    5000
             * DDM   ***** Preserved *****

743          KK   RT390
744          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
745          DR   BS390
             * DDM   ***** Preserved *****

746          KK   SR390
747          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
748          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
749          RS       1    STOR       0
750          SV       0     .01     3.5
751          SQ       0     1.2     1.2
             * DDM   ***** Preserved *****

752          KK    390C
753          KM   HYDROGRAPH COMBINATION
754          HC       5
             * DDM   ***** Preserved *****

755          KK   RR390
756          KM   ATTEMPT TO SIMULATE PIPE FLOW ALONG THIS ROUTING FROM SUB-BASIN 390 TO 415
757          KM   ARTIFICIALLY ADJUSTING SLOPE TO MORE ACCURATELY DEPICT MODEL RESULTS.
758          KM   THE SLOPE WAS DECREASED FROM .02 TO .01
759          RS       2    FLOW      -1
760          RK    5600     .01    .016            CIRC       6
             * DDM   ***** Updated *****

761          KK     440
762          KM   SUB-BASIN 440
763          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
764          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
765          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
766          BA    .080
1                                    HEC-1 INPUT                                          PAGE 20

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

767          LG    .190    .380   6.400    .140  13.000
768          UC    .129    .077
769          UA       0       3       5       8      12      20      43      75      90      96
770          UA     100
             * DDM   ***** Preserved *****

771          KK     R70
772          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
773          RS       1    FLOW      -1
774          RC     .05    .035     .05    2250     .08
775          RX    1000    1025    1050    1070    1075    1095    1120    1145
776          RY      30    22.9    15.7      10      10    15.7    22.9      30
```

```
            * DDM   ***** Updated *****

 777        KK     441
 778        KM   SUB-BASIN 441
 779        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 780        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 781        KM     L =  .28  Kb = .069  Adj. Slope =  315.0
 782        BA    .010
 783        LG    .300    .250   5.600    .220   5.000
 784        UC    .150    .225
 785        UA       0       5      16      30      65      77      84      90      94      97
 786        UA     100
            * DDM   ***** Preserved *****

 787        KK    C108
 788        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
 789        HC       2
            * DDM   ***** Preserved *****

 790        KK    DIV4
 791        KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
            *      1
 792        DT   SPLIT
 793        DI       0      14      40      82     120     154     180
 794        DQ       0       7      20      41      60      77      90
            * DDM   ***** Preserved *****

 795        KK    R108
 796        KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
 797        RS       2    FLOW      -1
 798        RC     .05    .035     .05    3200      .1
 799        RX    1000    1025    1050    1070    1075    1095    1120    1145
 800        RY      30    22.9    15.7      10      10    15.7    22.9      30
            * DDM   ***** Updated *****

 801        KK     442
 802        KM   SUB-BASIN 442
 803        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 804        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 805        KM     L =  .83  Kb = .055  Adj. Slope =  274.2
 806        BA    .100
 807        LG    .300    .270   3.290    .770   5.000
 808        UC    .258    .264
1                                   HEC-1 INPUT                                          PAGE 21

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 809        UA       0       5      16      30      65      77      84      90      94      97
 810        UA     100
            * DDM   ***** Preserved *****

 811        KK     C67
 812        KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
 813        HC       2
            * DDM   ***** Preserved *****

 814        KK    DIV6
 815        KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
 816        KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
            *      1
 817        DT  BASIN4
 818        DI       0      10      32      44    79.9   132.5     198   272.9   356.8
 819        DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
            * DDM   ***** Preserved *****

 820        KK  RTDIV6
 821        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
 822        DR  BASIN4
            * DDM   ***** Preserved *****

 823        KK  RFDIV6
 824        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 825        KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
            *      1
 826        RS       1    STOR       0
 827        SV       0     .01     3.3
 828        SQ       0     1.1     1.1
            * DDM   ***** Preserved *****

 829        KK   CDIV6
 830        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
 831        HC       2
            * DDM   ***** Updated *****

 832        KK     443
 833        KM   SUB-BASIN 443
 834        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 835        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 836        KM     L =  .71  Kb = .050  Adj. Slope =  315.0
 837        BA    .080
 838        LG    .250    .190   8.000    .080  10.000
 839        UC    .196    .194
 840        UA       0       5      16      30      65      77      84      90      94      97
 841        UA     100
            * DDM   ***** Preserved *****

 842        KK   DIV66
 843        KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
 844        KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
 845        DT   WSH66
 846        DI       0      78     100     200
 847        DQ       0      78      78      78
            * DDM   ***** Preserved *****
                                    HEC-1 INPUT                                          PAGE 22

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 848        KK    R113
 849        KM        ROUTE FLOW FROM C113 TO C114
 850        RS       1    FLOW      -1
 851        RC    .019    .019    .019    1300    .029
 852        RX    1000    1004    1008    1012    1018    1022    1026    1030
```

```
853          RY      17   15.33   12.67      10      10   12.67   15.33      17
             * DDM   ***** Preserved *****

854          KK    C114
855          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
856          HC       2
             * DDM   ***** Updated *****

857          KK     444
858          KM   SUB-BASIN 444
859          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
860          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
861          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
862          BA    .040
863          LG    .130    .350   4.450    .320   1.000
864          UC    .112    .084
865          UA       0       3       5       8      12      20      43      75      90      96
866          UA     100
             * DDM   ***** Preserved *****

867          KK     R58
868          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
869          RS       1    FLOW      -1
870          RC     .05    .035     .05    2370   .0516
871          RX    1000    1010    1020    1050    1055    1085    1095    1105
872          RY      19      18      17      10      10      17      18      19
             * DDM   ***** Updated *****

873          KK     445
874          KM   SUB-BASIN 445
875          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
876          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
877          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
878          BA    .190
879          LG    .170    .320   3.470    .590   3.000
880          UC    .192    .130
881          UA       0       5      16      30      65      77      84      90      94      97
882          UA     100
             * DDM   ***** Preserved *****

883          KK    C107
884          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
885          HC       2
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

886          KK    R107
887          KM        ROUTE FLOW FROM C107 TO C109
888          RS       1    FLOW      -1
889          RC     .05    .035     .05     700   .0516
890          RX    1000    1010    1020    1050    1055    1085    1095    1105
891          RY      19      18      17      10      10      17      18      19
             * DDM   ***** Preserved *****

892          KK    RTB2
893          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
             *      1
894          DR   SPLIT
             * DDM   ***** Preserved *****

895          KK  RSPLIT
896          KM        ROUTE FLOW FROM SPLIT TO C109
897          RS       1    FLOW      -1
898          RC     .05    .035     .05     800     .05
899          RX    1000    1025    1050    1070    1075    1095    1120    1145
900          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

901          KK     446
902          KM   SUB-BASIN 446
903          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
904          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
905          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
906          BA    .040
907          LG    .270    .250   4.500    .400  19.000
908          UC    .183    .189
909          UA       0       5      16      30      65      77      84      90      94      97
910          UA     100
             * DDM   ***** Preserved *****

911          KK    C109
912          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
913          HC       3
             * DDM   ***** Preserved *****

914          KK    DIV5
915          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
916          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
             *      1
917          DT  WSH404
918          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
919          DQ       0      35      35      35      35      35      35      35
             * DDM   ***** Preserved *****

920          KK    R109
921          KM        ROUTE FLOW FROM C109 TO C110
922          RS       1    FLOW      -1
923          RC    .019    .019    .019    3080     .05
924          RX    1000    1005    1010    1015    1025    1030    1035    1040
925          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
             * DDM   ***** Updated *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

926          KK     447
927          KM   SUB-BASIN 447
928          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
929          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
```

```
 930          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
 931          BA    .090
 932          LG    .250    .270   3.350    .870  30.000
 933          UC    .208    .145
 934          UA       0       5      16      30      65      77      84      90      94      97
 935          UA     100
              * DDM   ***** Preserved *****

 936          KK   RT404
 937          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
 938          DR  WSH404
              * DDM   ***** Preserved *****

 939          KK    R404
 940          KM        ROUTE FLOW FROM C110 TO C110
 941          RS       5    FLOW      -1
 942          RC    .019    .019    .019    3540     .03
 943          RX    1000    1012    1016    1020    1025    1029    1033    1045
 944          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

 945          KK    C110
 946          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
 947          HC       3
              * DDM   ***** Preserved *****

 948          KK    R110
 949          KM        ROUTE FLOW FROM C110 TO C115
 950          RS       1    FLOW      -1
 951          RC    .019    .019    .019     580   .0291
 952          RX    1000    1012    1016    1020    1035    1039    1043    1055
 953          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

 954          KK    C115
 955          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
 956          HC       2
              * DDM   ***** Preserved *****

 957          KK    R115
 958          KM        ROUTE FLOW FROM C115 TO C119
 959          RS       1    FLOW      -1
 960          RC    .019    .019    .019    2125    .029
 961          RC    .019    .019    .019     580   .0291
 962          RX    1000    1012    1016    1020    1035    1039    1043    1055
 963          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****
1                                   HEC-1 INPUT                                          PAGE 25

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 964          KK     448
 965          KM   SUB-BASIN 448
 966          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 967          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 968          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
 969          BA    .045
 970          LG    .170    .310   4.200    .390  11.000
 971          UC    .133    .102
 972          UA       0       5      16      30      65      77      84      90      94      97
 973          UA     100
              * DDM   ***** Updated *****

 974          KK     449
 975          KM   SUB-BASIN 449
 976          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 977          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 978          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
 979          BA    .050
 980          LG    .260    .280   3.500    .640   6.000
 981          UC    .167    .134
 982          UA       0       5      16      30      65      77      84      90      94      97
 983          UA     100
              * DDM   ***** Preserved *****

 984          KK   C6364
 985          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
 986          HC       2
              * DDM   ***** Preserved *****

 987          KK   R6364
 988          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
 989          RS       4    FLOW      -1
 990          RC     .05    .035     .05    4375   .0333
 991          RX    1000    1027    1053    1080    1090    1117    1143    1170
 992          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

 993          KK     450
 994          KM   SUB-BASIN 450
 995          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 996          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 997          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
 998          BA    .070
 999          LG    .340    .350   3.630    .570   4.000
1000          UC    .296    .383
1001          UA       0       3       5       8      12      20      43      75      90      96
1002          UA     100
              * DDM   ***** Updated *****
1                                   HEC-1 INPUT                                          PAGE 26

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1003          KK     451
1004          KM   SUB-BASIN 451
1005          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1006          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1007          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1008          BA    .025
1009          LG    .340    .340   3.290    .750   3.000
1010          UC    .271    .453
```

```
1011          UA       0       3       5       8      12      20      43      75      90      96
1012          UA     100
              * DDM   ***** Preserved *****

1013          KK    RT66
1014          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1015          DR   WSH66
              * DDM   ***** Updated *****

1016          KK     452
1017          KM   SUB-BASIN 452
1018          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1019          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1020          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1021          BA    .040
1022          LG    .260    .280   3.700    .550   9.000
1023          UC    .171    .166
1024          UA       0       5      16      30      65      77      84      90      94      97
1025          UA     100
              * DDM   ***** Preserved *****

1026          KK   C6465
1027          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1028          HC       2
              * DDM   ***** Preserved *****

1029          KK   R6566
1030          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1031          RS       2    FLOW      -1
1032          RC     .05    .035     .05    2435   .0282
1033          RX    1000    1045    1090    1150    1160    1220    1265    1310
1034          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1035          KK    C116
1036          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1037          HC       4
              * DDM   ***** Preserved *****

1038          KK  BASIN5
1039          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1040          KM        BASIN 5 FEET DEEP
1041          RS       1    ELEV       0
1042          SV       0     4.5     9.9
1043          SQ       0      69     190
1044          SE       0     2.5       5
              * DDM   ***** Preserved *****
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1045          KK    R116
1046          KM   ROUTE FLOW FROM C116 TO C117
1047          RS       2    FLOW      -1
1048          RC     .05    .035     .05    1300   .0333
1049          RX    1000    1100    1200    1300    1320    1420    1520    1620
1050          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1051          KK     453
1052          KM   SUB-BASIN 453
1053          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1054          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1055          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1056          BA    .060
1057          LG    .290    .300   3.290    .820  18.000
1058          UC    .275    .284
1059          UA       0       5      16      30      65      77      84      90      94      97
1060          UA     100
              * DDM   ***** Preserved *****

1061          KK    C117
1062          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1063          HC       2
              * DDM   ***** Preserved *****

1064          KK    C118
1065          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1066          HC       2
              * DDM   ***** Preserved *****

1067          KK    R118
1068          KM        ROUTE FLOW FROM C118 TO  DIV7
1069          RS       1    FLOW      -1
1070          RC    .019    .019    .019    1500    .024
1071          RX    1000    1012    1016    1020    1035    1039    1043    1055
1072          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1073          KK    DIV7
1074          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1075          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
              *      1
1076          DT  BASIN6
1077          DI       0     363     487     563     645     844
1078          DQ       0       3      47      83     125     244
              * DDM   ***** Preserved *****

1079          KK  RTDIV7
1080          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1081          DR  BASIN6
              * DDM   ***** Preserved *****
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1082          KK  RFDIV7
1083          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1084          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1085          RS       1    STOR       0
1086          SV       0     .01     3.6
```

```
1087        SQ       0     1.2     1.2
            * DDM   ***** Preserved *****

1088        KK   CDIV7
1089        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1090        HC       2
            * DDM   ***** Updated *****

1091        KK     454
1092        KM   SUB-BASIN 454
1093        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1094        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1095        KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1096        BA    .180
1097        LG    .300    .310   3.780    .560  14.000
1098        UC    .379    .395
1099        UA       0       5      16      30      65      77      84      90      94      97
1100        UA     100
            * DDM   ***** Updated *****

1101        KK     385
1102        KM   SUB-BASIN 385
1103        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1104        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
1105        KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
1106        BA    .523
1107        LG    .340    .360   5.600    .220  13.000
1108        UC    .383    .360
1109        UA       0       3       5       8      12      20      43      75      90      96
1110        UA     100
            * DDM   ***** Inserted *****

1111        KK     411
1112        KM   SUB-BASIN 411
1113        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1114        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1115        KM     L = 1.38  Kb = .048  Adj. Slope =  315.0
1116        BA    .361
1117        LG    .350    .360   5.200    .250  11.000
1118        UC    .283    .211
1119        UA       0       3       5       8      12      20      43      75      90      96
1120        UA     100

1121        KK    411C
1122        KM   HYDROGRAPH COMBINATION OF SUB-BASINS 385 & 411
1123        HC       2
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1124        KK    D411
1125        KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 385 & 411
1126        DT   BS411
1127        DI       0      25    5000
1128        DQ       0       0    4975

1129        KK   RT411
1130        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1131        DR   BS411
            * DDM   ***** Preserved *****

1132        KK   SR411
1133        KM   RETRIEVE FLOW TO BLEED OFF WITHIN 36 HOURS
1134        KM      50 ACRE-FEETx43560/36x3600 = 17cfs
1135        RS       1    STOR       0
1136        SV       0     .01      50
1137        SQ       0      17      17
            * DDM   ***** Preserved *****

1138        KK    C411
1139        KM   HYDROGRAPH COMBINATION
1140        HC       2
            * DDM   ***** Preserved *****

1141        KK    R411
1142        KM   ATTEMPT TO SIMULATE PIPE FLOW ALONG THIS ROUTING FROM C411 TO C119
1143        RS       2    FLOW      -1
1144        RK    5300    .025    .016            CIRC       4
            * DDM   ***** Preserved *****

1145        KK    C119
1146        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
            *      1       2
1147        HC       3
            * DDM   ***** Preserved *****

1148        KK    R454
1149        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1150        KM   ROUTE FLOW FROM C119 TO 415C
1151        RS       2    FLOW      -1
1152        RC    .045    .035    .045    2200    .009
1153        RX       0      .5       1      33      42      67    67.5      68
1154        RY       5       4       4       0       0       6       6       6
            * DDM   ***** Updated *****

1155        KK     415
1156        KM   SUB-BASIN 415
1157        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1158        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1159        KM     L = 1.10  Kb = .049  Adj. Slope =  155.0
1160        BA    .281
1161        LG    .300    .260   3.630    .710  15.000
1162        UC    .358    .264
1163        UA       0       5      16      30      65      77      84      90      94      97
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1164        UA     100
            * DDM   ***** Preserved *****
```

```
1165        KK    415C
1166        KM   HYDROGRAPH COMBINATION OF SUB-BASIN 415, C411, AND 390C
1167        HC       3    1.71
            * DDM   ***** Preserved *****

1168        KK    R415
1169        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1170        KM   ROUTING OF FLOW FROM 415C TO 455C
1171        RS       2    FLOW      -1
1172        RC    .045     .03    .045    4100    .024
1173        RX       0      .5       1       8      16      23    23.5      24
1174        RY       8       8       8       0       0       8       8       8
            * DDM   ***** Updated *****

1175        KK     455
1176        KM   SUB-BASIN 455
1177        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1178        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1179        KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1180        BA   1.111
1181        LG    .270    .280   3.700    .640  24.000
1182        UC    .421    .204
1183        UA       0       5      16      30      65      77      84      90      94      97
1184        UA     100
            * DDM   ***** Preserved *****

1185        KK    D455
1186        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN .
1187        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1188        KM   FOR BASIN #: 30      34      43      47&58
1189        KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
            *      1
1190        DT   BS455    74.1
1191        DI       0   10000
1192        DQ       0   10000
            * DDM   ***** Preserved *****

1193        KK   RT455
1194        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1195        DR   BS455
            * DDM   ***** Preserved *****

1196        KK   SR455
1197        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1198        KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1199        RS       1    STOR       0
1200        SV       0     .01    74.1
1201        SQ       0      25      25
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1202        KK    C455
1203        KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1204        HC       2
            * DDM   ***** Preserved *****

1205        KK    455C
1206        KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
            *      1       2
1207        HC       3
            * DDM   ***** Preserved *****

1208        KK   SR440
1209        KM   SPOOK HILL FRS PLANS DATED 6/15/77
1210        KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1211        KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1212        KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
1213        RS       1    STOR       0
1214        SV       0      10     100     300     500     680
1215        SQ       0     640     720     780     825     860
1216        SE      66    77.5      79    80.2    81.2      82
            * DDM   ***** Preserved *****

1217        KK   RR455
1218        KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 462
1219        RS       9    FLOW      -1
1220        RC    .035    .025    .035    9200    .002
1221        RX       0       1       2      28      58      84      85      86
1222        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1223        KK     456
1224        KM   SUB-BASIN 456
1225        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1226        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1227        KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1228        BA    .260
1229        LG    .300    .380   5.600    .200  12.000
1230        UC    .217    .139
1231        UA       0       5      16      30      65      77      84      90      94      97
1232        UA     100
            * DDM   ***** Preserved *****

1233        KK    DIV1
1234        KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1235        KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
            *      1
1236        DT  BASIN1
1237        DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1238        DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1239        KK    DIV2
1240        KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1241        KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1242        DT    WA30
```

```
1243        DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1244        DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
            * DDM   ***** Preserved *****

1245        KK    R456
1246        KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1247        RS       2    FLOW      -1
1248        RC     .05    .035     .05    3800    .044
1249        RX    1000    1010    1020    1036    1041    1057    1067    1077
1250        RY   14.88   14.44      14      10      10      14   14.44   14.88
            * DDM   ***** Updated *****

1251        KK     457
1252        KM   SUB-BASIN 457
1253        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1254        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1255        KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1256        BA    .190
1257        LG    .270    .330   3.950    .460   6.000
1258        UC    .237    .195
1259        UA       0       5      16      30      65      77      84      90      94      97
1260        UA     100
            * DDM   ***** Preserved *****

1261        KK    C101
1262        KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1263        HC       2
            * DDM   ***** Preserved *****

1264        KK    DIV3
1265        KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1266        KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
            *      1
1267        DT  BASIN2
1268        DI       0      36      70     110     180   313.5     402   500.9
1269        DQ       0       0       0       0       0    67.5     124   190.9
            * DDM   ***** Preserved *****

1270        KK  RTDIV3
1271        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1272        DR  BASIN2
            * DDM   ***** Preserved *****

1273        KK  RFDIV3
1274        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1275        KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1276        RS       1    STOR       0
1277        SV       0     .01       5
1278        SQ       0     1.7     1.7
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1279        KK   CDIV3
1280        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1281        HC       2
            * DDM   ***** Preserved *****

1282        KK    R101
1283        KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1284        RS       1    FLOW      -1
1285        RC     .05    .035     .05    1450     .05
1286        RX    1000    1010    1020    1036    1041    1057    1067    1077
1287        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1288        KK     458
1289        KM   SUB-BASIN 458
1290        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1291        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1292        KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1293        BA    .190
1294        LG    .290    .330   5.800    .190   6.000
1295        UC    .204    .131
1296        UA       0       5      16      30      65      77      84      90      94      97
1297        UA     100
            * DDM   ***** Preserved *****

1298        KK    C103
1299        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1300        HC       2
            * DDM   ***** Preserved *****

1301        KK    R103
1302        KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1303        RS       1    FLOW      -1
1304        RC     .05    .035     .05     900     .03
1305        RX    1000    1010    1020    1030    1050    1060    1070    1080
1306        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Preserved *****

1307        KK    RT30
1308        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1309        DR    WA30
            * DDM   ***** Preserved *****

1310        KK     R30
1311        KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1312        RS       1    FLOW      -1
1313        RC     .05    .035     .05    1630     .05
1314        RX    1000    1010    1020    1036    1041    1057    1067    1077
1315        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1316        KK    RTB1
1317        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1       2
```

```
1318        DR  BASIN1
            * DDM   ***** Preserved *****

1319        KK      B1
1320        KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1321        KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
            *      1        2
1322        RS       1    ELEV       0
1323        SV              .7      1.4      2.3      2.7      3.2
1324        SQ       0       5       16       28     32.5       37
1325        SE       0       1        2        3      3.5        4
            * DDM   ***** Preserved *****

1326        KK     RB1
1327        KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1328        RS       2    FLOW      -1
1329        RC     .05    .035     .05     1720     .05
1330        RX    1000    1010    1020     1036    1041    1057    1067    1077
1331        RY      15    14.5      14       10      10      14    14.5      15
            * DDM   ***** Preserved *****

1332        KK    CDIV
1333        KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1334        HC       2     .12
            * DDM   ***** Updated *****

1335        KK     459
1336        KM   SUB-BASIN 459
1337        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1338        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1339        KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1340        BA    .030
1341        LG    .220    .300   3.330    .710   8.000
1342        UC    .162    .157
1343        UA       0       5      16      30      65      77      84      90      94      97
1344        UA     100
            * DDM   ***** Preserved *****

1345        KK     C52
1346        KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1347        HC       2
            * DDM   ***** Preserved *****

1348        KK     R52
1349        KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1350        RS       2    FLOW      -1
1351        RC     .05    .035     .05     2000     .05
1352        RX    1000    1010    1020     1036    1041    1057    1067    1077
1353        RY      15    14.5      14       10      10      14    14.5      15
            * DDM   ***** Updated *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1354        KK     460
1355        KM   SUB-BASIN 460
1356        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1357        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1358        KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1359        BA    .140
1360        LG    .250    .260   3.740    .690  27.000
1361        UC    .242    .160
1362        UA       0       5      16      30      65      77      84      90      94      97
1363        UA     100
            * DDM   ***** Preserved *****

1364        KK    C102
1365        KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1366        HC       2
            * DDM   ***** Preserved *****

1367        KK  BASIN3
1368        KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1369        KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1370        RS       1    ELEV       0
1371        SA       0       0       0       0     .34    1.59    1.81    1.96    2.13     2.3
            *      0       0       0       0    1.14    3.25    5.52    9.23
1372        SQ       0      22      45    47.4      48      51      57      62      67      73
1373        SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
            * DDM   ***** Preserved *****

1374        KK      R3
1375        KM        ROUTE FLOW FROM C102 to C106
1376        RS       4    FLOW      -1
1377        RC     .05     .03     .05     2750   .0375
1378        RX    1000    1010    1020     1052    1086    1118    1128    1138
1379        RY    19.2    18.4      18       10      10      18    18.4    19.2
            * DDM   ***** Updated *****

1380        KK     461
1381        KM   SUB-BASIN 461
1382        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1383        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1384        KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1385        BA    .120
1386        LG    .270    .250   4.250    .450  21.000
1387        UC    .271    .250
1388        UA       0       5      16      30      65      77      84      90      94      97
1389        UA     100
            * DDM   ***** Preserved *****

1390        KK    C104
1391        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1392        HC       2
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1393        KK    C106
1394        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
```

```
1395        HC       2
            * DDM   ***** Preserved *****

1396        KK    R106
1397        KM        ROUTE FLOW FROM C106 TO C49
1398        RS       2    FLOW      -1
1399        RC     .05    .035     .05    3950    .033
1400        RX    1000    1010    1020    1030    1050    1060    1070    1080
1401        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Updated *****

1402        KK     462
1403        KM   SUB-BASIN 462
1404        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1405        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1406        KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1407        BA    .301
1408        LG    .300    .330   5.300    .240  12.000
1409        UC    .225    .137
1410        UA       0       5      16      30      65      77      84      90      94      97
1411        UA     100
            * DDM   ***** Preserved *****

1412        KK     C56
1413        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
            *      1       2
1414        HC       2
            * DDM   ***** Updated *****

1415        KK     480
1416        KM   SUB-BASIN 480
1417        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1418        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1419        KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1420        BA    .731
1421        LG    .270    .270   3.580    .730  27.000
1422        UC    .325    .148
1423        UA       0       5      16      30      65      77      84      90      94      97
1424        UA     100
            * DDM   ***** Preserved *****

1425        KK    D480
1426        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1427        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1428        KM   FOR BASIN #: 18 & 26
1429        KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
            *      1
1430        DT   BS480    16.5
1431        DI       0   10000
1432        DQ       0   10000
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1433        KK   RT480
1434        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1435        DR   BS480
            * DDM   ***** Preserved *****

1436        KK   SR480
1437        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1438        KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1439        RS       1    STOR       0
1440        SV       0     .01    16.5
1441        SQ       0     5.6     5.6
            * DDM   ***** Preserved *****

1442        KK    C480
1443        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1444        HC       2
            * DDM   ***** Preserved *****

1445        KK    480C
1446        KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1447        HC       3    2.09
            * DDM   ***** Preserved *****

1448        KK   RR480
1449        KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUB-BASIN 500
1450        RS       1    FLOW      -1
1451        RC    .025    .025    .025    6500     .05
1452        RX       0       1       2      28      58      84      85      86
1453        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1454        KK     500
1455        KM   SUB-BASIN 500
1456        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1457        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1458        KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1459        BA    .930
1460        LG    .350    .400   6.000    .170   9.000
1461        UC    .421    .333
1462        UA       0       3       5       8      12      20      43      75      90      96
1463        UA     100
            * DDM   ***** Preserved *****

1464        KK    500C
1465        KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1466        HC       2    3.02
1467        ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

  44          10
              V
              V
  54         R10
              V
              V
  60         R12
              .
              .
  66          .          20
              .           .
              .           .
  76         C20...........
              .
              .
  79          .          40
              .           .
              .           .
  89          .           .          60
              .           .           .
              .           .           .
  99         60C.......................
              V
              V
 102        SR60
              V
              V
 111         R60
              V
              V
 117        RR60
              .
              .
 123          .          80
              .           .
              .           .
 133         80C...........
              V
              V
 136         R80
              .
              .
 142          .         100
              .           .
              .           .
 152        100C...........
              V
              V
 155        R100
              .
              .
 161          .         120
              .           .
              .           .
 171        120C...........
              V
              V
 174        R120
              .
              .
 180          .         140
              .           .
              .           .
 190          .           .         150
              .           .           V
              .           .           V
 200          .           .        R150
              .           .           V
              .           .           V
 206          .           .        R152
              .           .           .
              .           .           .
 212          .           .           .         160
              .           .           .           .
              .           .           .           .
 222          .           .           .           .         180
              .           .           .           .           .
              .           .           .           .           .
 232        180C.............................................
              .
              .
 235          .         210
              .           V
              .           V
 245          .        R210
              .           .
              .           .
 251          .           .         240
              .           .           .
              .           .           .
 261          .        240C...........
              .           V
              .           V
 264          .       SR240
              .           .
              .           .
 271          .           .         220
              .           .           .
              .           .           .
 281          .        220C...........
              .           V
              .           V
 284          .       SR220
              .           .
              .           .
 291          .           .         190
```

```
              .          .          V
              .          .          V
301           .          .       R190
              .          .          V
              .          .          V
307           .          .       R192
              .          .          .
              .          .          .
313           .          .          .        200
              .          .          .          .
              .          .          .          .
323           .       200C.......................
              .          V
              .          V
326           .      SR200
              .          V
              .          V
333           .      200SR
              .          .
              .          .
340       C180............
             V
             V
343      SR180
             V
             V
352       R180
              .
              .
359           .        260
              .          .
              .          .
369       260C............
             V
             V
372       R260
              .
              .
379           .        280
              .          .
              .          .
389       280C............
             V
             V
392       R280
              .
              .
399           .        300
              .          .
              .          .
409       300C............
             V
             V
412       R300
             V
             V
419      RR300
              .
              .
426           .        350
              .          .
              .          .
439           .          .-------->   SF350
436           .       D350
              .          V
              .          V
442           .       350R
              .          .
              .          .
449           .          .        310
              .          .          .
              .          .          .
459           .       C310............
              .          V
              .          V
462           .       R310
              .          .
              .          .
469           .          .        320
              .          .          .
              .          .          .
484           .          .          .-------->   BS320
479           .          .       D320
              .          .          .
              .          .          .
489           .          .          .          .<-------   BS320
487           .          .          .      RT320
              .          .          .          V
              .          .          .          V
490           .          .          .      SR320
              .          .          .          .
              .          .          .          .
496       C320.................................
              .
              .
499           .        340
              .          .
              .          .
514           .          .-------->   BS340
509           .       D340
              .          .
              .          .
519           .          .          .<-------   BS340
517           .          .      RT340
              .          .          V
              .          .          V
520           .          .      SR340
              .          .          .
              .          .          .
526       C340........................
              .
              .
531           .          .<-------   SF350
```

```
529          .      RT350
             .         V
             .         V
532          .      RR350
             .         .
             .         .
539          .         .        355
             .         .          .
             .         .          .
549          .      C355............
             .         V
             .         V
552          .      R355
             .         .
             .         .
559          .         .        360
             .         .          .
             .         .          .
573          .         .          .-------->   BS360
569          .         .      D360
             .         .          .
             .         .          .
578          .         .          .          .<-------   BS360
576          .         .          .     RT360
             .         .          .         V
             .         .          .         V
579          .         .          .     SR360
             .         .          .          .
             .         .          .          .
585       360C...................................
             .
             .
588          .      380
             .         .
             .         .
602          .         .-------->   BS380
598          .      D380
             .         .
             .         .
607          .         .          .<-------   BS380
605          .         .     RT380
             .         .         V
             .         .         V
608          .         .     SR380
             .         .          .
             .         .          .
614       380C........................
             .
             .
617          .      400
             .         .
             .         .
631          .         .-------->   BS400
627          .      D400
             .         .
             .         .
636          .         .          .<-------   BS400
634          .         .     RT400
             .         .         V
             .         .         V
637          .         .     SR400
             .         .          .
             .         .          .
643          .      C400............
             .         .
             .         .
646       400C............
             .
             .
649          .      420
             .         .
             .         .
663          .         .-------->   BS420
659          .      D420
             .         .
             .         .
668          .         .          .<-------   BS420
666          .         .     RT420
             .         .         V
             .         .         V
669          .         .     SR420
             .         .          .
             .         .          .
675       420C........................
             .
             .
678          .      370
             .         .
             .         .
688          .         .        395
             .         .          .
             .         .          .
698          .      395C............
             .         .
             .         .
704          .         .-------->   BS395
701          .      D395
             .         .
             .         .
709          .         .          .<-------   BS395
707          .         .     RT395
             .         .         V
             .         .         V
710          .         .     SR395
             .         .          .
             .         .          .
716          .      C395............
             .         V
             .         V
719          .      R395
             .         .
             .         .
726          .         .        390
```

```
740                 .-------> BS390
736             D390
                    .
745                 .<-------  BS390
743                 .      RT390
                    .         V
                    .         V
746                 .      SR390
                    .         .
                    .         .
752         390C.......................
                V
                V
755         RR390
                .
                .
761             440
                  V
                  V
771             R70
                  .
                  .
777                 .        441
                    .          .
                    .          .
787             C108............
                  .
                  .
792                 .-------> SPLIT
790             DIV4
                  V
                  V
795             R108
                  .
                  .
801                 .        442
                    .          .
                    .          .
811             C67............
                  .
                  .
817                 .-------> BASIN4
814             DIV6
                  .
                  .
822                 .<-------  BASIN4
820                 .     RTDIV6
                    .         V
                    .         V
823                 .     RFDIV6
                    .         .
                    .         .
829             CDIV6...........
                  .
                  .
832                 .        443
                    .          .
                    .          .
845                 .<-------> WSH66
842                 .      DIV66
                    .         V
                    .         V
848                 .      R113
                    .         .
                    .         .
854             C114............
                  .
                  .
857                 .        444
                    .          V
                    .          V
867                 .        R58
                    .          .
                    .          .
873                 .          .        445
                    .          .          .
                    .          .          .
883                 .      C107............
                    .         V
                    .         V
886                 .      R107
                    .         .
                    .         .
894                 .          .<-------  SPLIT
892                 .        RTB2
                    .          V
                    .          V
895                 .      RSPLIT
                    .          .
                    .          .
901                 .          .         446
                    .          .           .
                    .          .           .
911                 .      C109........................
                    .         .
                    .         .
917                 .-------> WSH404
914                 .      DIV5
                    .         V
                    .         V
920                 .      R109
                    .         .
                    .         .
926                 .          .        447
                    .          .          .
                    .          .          .
938                 .          .          .<-------  WSH404
936                 .          .       RT404
                    .          .          V
                    .          .          V
```

```
939                                                   R404
945                                  C110.......................
                                        V
                                        V
948                                  R110
954                         C115............
                               V
                               V
957                         R115
964                                   448
974                                                449
984                                 C6364............
                                        V
                                        V
987                                 R6364
993                                                450
1003                                                         451
1015                                                                    .<-------   WSH66
1013                                                                RT66
1016                                                                                452
1026                                                                C6465............
                                                                        V
                                                                        V
1029                                                                R6566
1035                                 C116...................................
                                        V
                                        V
1038                                BASIN5
                                        V
                                        V
1045                                 R116
1051                                               453
1061                                 C117............
1064                        C118............
                               V
                               V
1067                        R118
1076                                .-------> BASIN6
1073                        DIV7
1081                                     .<-------  BASIN6
1079                                RTDIV7
                                        V
                                        V
1082                                RFDIV7
1088                       CDIV7............
1091                                  454
1101                                               385
1111                                                         411
1121                                               411C............
1126                                                .------->   BS411
1124                                               D411
1131                                                             .<-------   BS411
1129                                                         RT411
                                                                V
                                                                V
1132                                                         SR411
1138                                               C411............
                                                      V
                                                      V
1141                                               R411
1145                        C119........................
                               V
                               V
```

```
1148          .          .       R454
              .          .         .
              .          .         .
1155          .          .         .        415
              .          .         .          .
              .          .         .          .
1165          .       415C.......................
              .          V
              .          V
1168          .       R415
              .          .
              .          .
1175          .          .        455
              .          .         .
              .          .         .
1190          .          .         .-------->  BS455
1185          .          .       D455
              .          .         .
              .          .         .
1195          .          .         .          .<-------  BS455
1193          .          .         .      RT455
              .          .         .          V
              .          .         .          V
1196          .          .         .      SR455
              .          .         .          .
              .          .         .          .
1202          .          .       C455............
              .          .         .
              .          .         .
1205       455C.......................
              V
              V
1208      SR440
              V
              V
1217      RR455
              .
              .
1223          .        456
              .          .
              .          .
1236          .          .-------->  BASIN1
1233          .       DIV1
              .          .
              .          .
1242          .          .-------->   WA30
1239          .       DIV2
              .          V
              .          V
1245          .       R456
              .          .
              .          .
1251          .          .        457
              .          .         .
              .          .         .
1261          .       C101............
              .          .
              .          .
1267          .          .-------->  BASIN2
1264          .       DIV3
              .          .
              .          .
1272          .          .         .<-------  BASIN2
1270          .          .     RTDIV3
              .          .         V
              .          .         V
1273          .          .     RFDIV3
              .          .         .
              .          .         .
1279          .      CDIV3............
              .          V
              .          V
1282          .       R101
              .          .
              .          .
1288          .          .        458
              .          .         .
              .          .         .
1298          .       C103............
              .          V
              .          V
1301          .       R103
              .          .
              .          .
1309          .          .         .<-------   WA30
1307          .          .       RT30
              .          .         V
              .          .         V
1310          .          .        R30
              .          .         .
              .          .         .
1318          .          .         .          .<-------  BASIN1
1316          .          .         .       RTB1
              .          .         .          V
              .          .         .          V
1319          .          .         .         B1
              .          .         .          V
              .          .         .          V
1326          .          .         .        RB1
              .          .         .          .
              .          .         .          .
1332          .          .       CDIV............
              .          .         .
              .          .         .
1335          .          .         .        459
              .          .         .          .
              .          .         .          .
1345          .          .        C52............
              .          .         V
              .          .         V
1348          .          .        R52
              .          .         .
              .          .         .
```

```
1354          .          .          .        460
              .          .          .          .
              .          .          .          .
1364          .          .       C102...........
              .          .          V
              .          .          V
1367          .          .     BASIN3
              .          .          V
              .          .          V
1374          .          .         R3
              .          .          .
              .          .          .
1380          .          .          .        461
              .          .          .          .
              .          .          .          .
1390          .          .       C104...........
              .          .          .
              .          .          .
1393          .       C106...........
              .          V
              .          V
1396          .       R106
              .          .
              .          .
1402          .          .        462
              .          .          .
              .          .          .
1412          .        C56...........
              .          .
              .          .
1415          .          .        480
              .          .          .
              .          .          .
1430          .          .          .-------->   BS480
1425          .          .       D480
              .          .          .
              .          .          .
1435          .          .          .          .<-------   BS480
1433          .          .          .      RT480
              .          .          .          V
              .          .          .          V
1436          .          .          .      SR480
              .          .          .          .
              .          .          .          .
1442          .          .       C480...........
              .          .          .
              .          .          .
1445       480C........................
              V
              V
1448      RR480
              .
              .
1454          .        500
              .          .
              .          .
1464       500C............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	10	951.	12.27	114.	31.	15.	.70		
+	ROUTED TO	R10	882.	12.40	114.	31.	15.	.70		
+	ROUTED TO	R12	833.	12.60	114.	31.	15.	.70		
+	HYDROGRAPH AT	20	959.	12.43	128.	32.	16.	1.12		
+	2 COMBINED AT	C20	1663.	12.53	240.	63.	30.	1.82		
+	HYDROGRAPH AT	40	2582.	12.30	252.	66.	32.	2.23		
+	HYDROGRAPH AT	60	1553.	12.40	228.	61.	29.	1.75		
+	3 COMBINED AT	60C	5274.	12.37	708.	188.	90.	5.80		
+	ROUTED TO	SR60	92.	14.40	92.	89.	70.	5.80		
+	ROUTED TO	R60	92.	14.40	92.	89.	70.	5.80		
+	ROUTED TO	RR60	92.	14.53	92.	89.	70.	5.80		
+	HYDROGRAPH AT	80	1868.	12.27	179.	46.	22.	1.48		
+	2 COMBINED AT	80C	1942.	12.27	266.	134.	92.	1.48		
+	ROUTED TO	R80	1919.	12.27	266.	134.	92.	1.48		
+	HYDROGRAPH AT	100	404.	12.20	58.	15.	7.	.48		
+	2 COMBINED AT	100C	2300.	12.27	321.	148.	99.	1.96		
+	ROUTED TO	R100	2292.	12.30	321.	148.	99.	1.96		
+	HYDROGRAPH AT	120	3232.	12.27	326.	88.	42.	2.20		
+	2 COMBINED AT	120C	5469.	12.27	636.	229.	141.	4.16		
+	ROUTED TO	R120	5397.	12.30	636.	229.	140.	4.16		
+	HYDROGRAPH AT	140	632.	12.13	64.	17.	8.	.60		
+	HYDROGRAPH AT	150	135.	13.20	47.	13.	6.	.41		
+	ROUTED TO	R150	134.	13.30	47.	13.	6.	.41		
+	ROUTED TO	R152	133.	13.50	47.	13.	6.	.41		
+	HYDROGRAPH AT	160	217.	12.40	35.	9.	4.	.37		
+	HYDROGRAPH AT	180	785.	12.37	90.	23.	11.	1.00		
+	5 COMBINED AT	180C	6707.	12.30	857.	286.	168.	6.54		
+	HYDROGRAPH AT	210	870.	12.20	80.	21.	10.	.58		
+	ROUTED TO	R210	815.	12.27	80.	21.	10.	.58		
+	HYDROGRAPH AT	240	1405.	12.30	155.	39.	19.	1.40		
+	2 COMBINED AT	240C	2185.	12.30	233.	60.	29.	1.98		
+	ROUTED TO	SR240	634.	12.77	186.	49.	23.	1.98		
+	HYDROGRAPH AT	220	1126.	12.17	98.	25.	12.	.73		
+	2 COMBINED AT	220C	1138.	12.20	279.	73.	35.	2.71		
+	ROUTED TO	SR220	914.	12.43	272.	71.	34.	2.71		

+ HYDROGRAPH AT	190	1403.	12.17	116.	31.	15.	.92
+ ROUTED TO	R190	1348.	12.23	116.	31.	15.	.92
+ ROUTED TO	R192	1267.	12.30	116.	31.	15.	.92
+ HYDROGRAPH AT	200	806.	12.17	69.	19.	9.	.54
+ 3 COMBINED AT	200C	2624.	12.27	447.	119.	57.	4.16
+ ROUTED TO	SR200	2493.	12.37	442.	115.	55.	4.16
+ ROUTED TO	200SR	1725.	12.60	320.	85.	41.	4.16
+ 2 COMBINED AT	C180	6707.	12.30	1170.	369.	208.	10.69
+ ROUTED TO	SR180	138.	18.53	138.	137.	111.	10.69
+ ROUTED TO	R180	138.	18.50	138.	137.	110.	10.69
+ HYDROGRAPH AT	260	418.	12.10	43.	12.	6.	.27
+ 2 COMBINED AT	260C	527.	12.10	175.	148.	117.	.27
+ ROUTED TO	R260	514.	12.20	175.	148.	117.	.27
+ HYDROGRAPH AT	280	478.	12.10	42.	12.	6.	.30
+ 2 COMBINED AT	280C	945.	12.13	214.	158.	122.	.57
+ ROUTED TO	R280	909.	12.20	214.	158.	122.	.57
+ HYDROGRAPH AT	300	875.	12.20	109.	29.	14.	.99
+ 2 COMBINED AT	300C	1769.	12.20	319.	185.	135.	1.56
+ ROUTED TO	R300	1732.	12.27	319.	185.	135.	1.56
+ ROUTED TO	RR300	1699.	12.33	319.	184.	134.	1.56
+ HYDROGRAPH AT	350	1192.	12.20	103.	27.	13.	.97
+ DIVERSION TO	SF350	596.	12.20	51.	13.	6.	.97
+ HYDROGRAPH AT	D350	596.	12.20	51.	13.	6.	.97
+ ROUTED TO	350R	522.	12.40	51.	13.	6.	.97
+ HYDROGRAPH AT	310	376.	12.33	49.	12.	6.	.56
+ 2 COMBINED AT	C310	871.	12.40	99.	25.	12.	.94
+ ROUTED TO	R310	767.	12.73	99.	25.	12.	.94
+ HYDROGRAPH AT	320	965.	12.20	123.	34.	17.	.97
+ DIVERSION TO	BS320	377.	11.97	21.	6.	3.	.97
+ HYDROGRAPH AT	D320	965.	12.20	109.	28.	14.	.97
+ HYDROGRAPH AT	RT320	377.	11.97	21.	6.	3.	.97
+ ROUTED TO	SR320	4.	4.13	4.	4.	3.	.97
+ 4 COMBINED AT	C320	2634.	12.33	524.	240.	162.	3.47
+ HYDROGRAPH AT	340	1471.	12.17	186.	55.	26.	1.45
DIVERSION TO	BS340	1471.	12.17	104.	28.	14.	1.45
+ HYDROGRAPH AT	D340	1199.	12.33	97.	27.	13.	1.45
+ HYDROGRAPH AT	RT340	1471.	12.17	104.	28.	14.	1.45
+ ROUTED TO	SR340	19.	9.00	19.	19.	14.	1.45

+ 3 COMBINED AT	C340	3819.	12.33	634.	284.	188.	4.92
+ HYDROGRAPH AT	RT350	596.	12.20	51.	13.	6.	.97
ROUTED TO	RR350	519.	12.47	51.	13.	6.	.97
+ HYDROGRAPH AT	355	500.	12.33	69.	18.	9.	.66
+ 2 COMBINED AT	C355	957.	12.43	119.	31.	15.	1.24
+ ROUTED TO	R355	870.	12.73	119.	31.	15.	1.24
+ HYDROGRAPH AT	360	504.	12.23	84.	25.	12.	.67
+ DIVERSION TO	BS360	504.	12.23	53.	14.	7.	.67
+ HYDROGRAPH AT	D360	306.	12.63	38.	11.	5.	.67
+ HYDROGRAPH AT	RT360	504.	12.23	53.	14.	7.	.67
+ ROUTED TO	SR360	10.	9.83	10.	10.	7.	.67
+ 4 COMBINED AT	360C	4036.	12.33	791.	332.	213.	6.83
+ HYDROGRAPH AT	380	666.	12.27	98.	26.	13.	.97
+ DIVERSION TO	BS380	666.	12.27	56.	14.	7.	.97
+ HYDROGRAPH AT	D380	472.	12.57	46.	12.	6.	.97
+ HYDROGRAPH AT	RT380	666.	12.27	56.	14.	7.	.97
+ ROUTED TO	SR380	10.	11.33	10.	10.	7.	.97
+ 3 COMBINED AT	380C	4038.	12.33	841.	353.	225.	7.81
+ HYDROGRAPH AT	400	351.	12.23	47.	13.	6.	.62
+ DIVERSION TO	BS400	262.	12.10	10.	3.	1.	.62
+ HYDROGRAPH AT	D400	351.	12.23	39.	10.	5.	.62
+ HYDROGRAPH AT	RT400	262.	12.10	10.	3.	1.	.62
+ ROUTED TO	SR400	2.	8.70	2.	2.	1.	.62
+ 2 COMBINED AT	C400	353.	12.23	41.	12.	6.	.62
+ 2 COMBINED AT	400C	4348.	12.33	879.	364.	231.	8.42
+ HYDROGRAPH AT	420	752.	12.20	92.	26.	12.	.85
+ DIVERSION TO	BS420	269.	11.97	15.	4.	2.	.85
+ HYDROGRAPH AT	D420	752.	12.20	83.	22.	10.	.85
+ HYDROGRAPH AT	RT420	269.	11.97	15.	4.	2.	.85
+ ROUTED TO	SR420	13.	11.03	12.	4.	2.	.85
+ 3 COMBINED AT	420C	4966.	12.33	964.	386.	243.	9.27
+ HYDROGRAPH AT	370	588.	12.30	79.	21.	10.	.67
+ HYDROGRAPH AT	395	182.	12.23	25.	7.	3.	.20
+ 2 COMBINED AT	395C	758.	12.30	103.	28.	13.	.87
+ DIVERSION TO	BS395	748.	12.30	94.	24.	11.	.87
+ HYDROGRAPH AT	D395	10.	11.13	9.	4.	2.	.87
+ HYDROGRAPH AT	RT395	748.	12.30	94.	24.	11.	.87
+ ROUTED TO	SR395	17.	11.77	17.	17.	11.	.87

+	2 COMBINED AT	C395	27.	11.77	24.	20.	13.	.87
+	ROUTED TO	R395	27.	12.00	24.	20.	13.	.87
+	HYDROGRAPH AT	390	463.	12.03	33.	10.	5.	.24
+	DIVERSION TO	BS390	95.	11.73	6.	2.	1.	.24
+	HYDROGRAPH AT	D390	463.	12.03	30.	8.	4.	.24
+	HYDROGRAPH AT	RT390	95.	11.73	6.	2.	1.	.24
+	ROUTED TO	SR390	1.	.90	1.	1.	1.	.24
+	3 COMBINED AT	390C	482.	12.03	55.	29.	18.	1.11
+	ROUTED TO	RR390	474.	12.10	55.	29.	18.	1.11
+	HYDROGRAPH AT	440	180.	12.03	12.	3.	2.	.08
+	ROUTED TO	R70	176.	12.07	12.	3.	2.	.08
+	HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
+	2 COMBINED AT	C108	191.	12.07	14.	4.	2.	.09
+	DIVERSION TO	SPLIT	96.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	DIV4	96.	12.07	7.	2.	1.	.09
+	ROUTED TO	R108	88.	12.13	7.	2.	1.	.09
+	HYDROGRAPH AT	442	102.	12.10	9.	2.	1.	.10
+	2 COMBINED AT	C67	187.	12.10	15.	4.	2.	.19
+	DIVERSION TO	BASIN4	115.	12.10	6.	1.	1.	.19
+	HYDROGRAPH AT	DIV6	72.	12.10	10.	3.	1.	.19
+	HYDROGRAPH AT	RTDIV6	115.	12.10	6.	1.	1.	.19
+	ROUTED TO	RFDIV6	1.	11.90	1.	1.	1.	.19
+	2 COMBINED AT	CDIV6	74.	12.10	10.	4.	2.	.19
+	HYDROGRAPH AT	443	148.	12.07	14.	4.	2.	.08
+	DIVERSION TO	WSH66	78.	11.90	12.	3.	2.	.08
+	HYDROGRAPH AT	DIV66	70.	12.07	3.	1.	0.	.08
+	ROUTED TO	R113	69.	12.07	3.	1.	0.	.08
+	2 COMBINED AT	C114	140.	12.07	13.	4.	2.	.27
+	HYDROGRAPH AT	444	82.	12.03	5.	1.	1.	.04
+	ROUTED TO	R58	75.	12.07	5.	1.	1.	.04
+	HYDROGRAPH AT	445	296.	12.03	18.	5.	2.	.19
+	2 COMBINED AT	C107	365.	12.03	22.	6.	3.	.23
+	ROUTED TO	R107	365.	12.07	22.	6.	3.	.23
+	HYDROGRAPH AT	RTB2	96.	12.07	7.	2.	1.	.09
+	ROUTED TO	RSPLIT	95.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	446	65.	12.03	6.	2.	1.	.04
+	3 COMBINED AT	C109	520.	12.07	35.	9.	4.	.27
+	DIVERSION TO	WSH404	35.	11.73	8.	2.	1.	.27

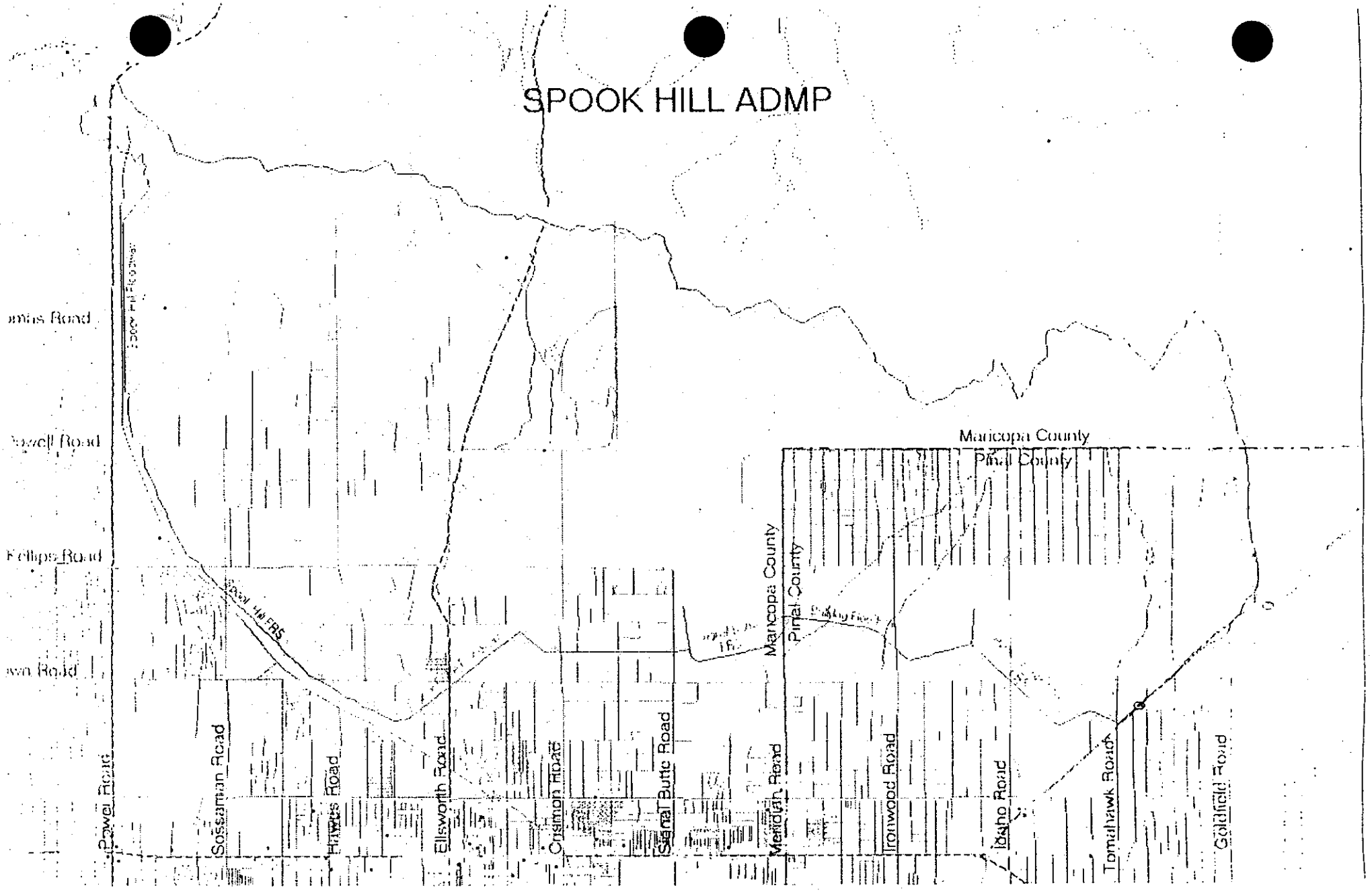
+	HYDROGRAPH AT	DIV5	485.	12.07	27.	7.	3.	.27
+	ROUTED TO	R109	469.	12.10	27.	7.	3.	.27
	HYDROGRAPH AT	447	138.	12.07	12.	4.	2.	.09
+	HYDROGRAPH AT	RT404	35.	11.73	8.	2.	1.	.27
+	ROUTED TO	R404	35.	11.90	8.	2.	1.	.27
+	3 COMBINED AT	C110	635.	12.07	46.	13.	6.	.36
+	ROUTED TO	R110	632.	12.10	46.	13.	6.	.36
+	2 COMBINED AT	C115	764.	12.10	59.	17.	8.	.63
+	ROUTED TO	R115	767.	12.10	59.	17.	8.	.63
+	HYDROGRAPH AT	448	88.	12.03	6.	2.	1.	.05
+	HYDROGRAPH AT	449	80.	12.03	5.	1.	1.	.05
+	2 COMBINED AT	C6364	166.	12.03	11.	3.	1.	.09
+	ROUTED TO	R6364	137.	12.17	11.	3.	1.	.09
+	HYDROGRAPH AT	450	61.	12.20	6.	2.	1.	.07
+	HYDROGRAPH AT	451	18.	12.17	2.	1.	0.	.03
+	HYDROGRAPH AT	RT66	78.	11.90	12.	3.	2.	.08
+	HYDROGRAPH AT	452	62.	12.03	4.	1.	1.	.04
+	2 COMBINED AT	C6465	140.	12.03	16.	4.	2.	.04
	ROUTED TO	R6566	135.	12.10	16.	4.	2.	.04
+	4 COMBINED AT	C116	341.	12.17	35.	9.	4.	.23
+	ROUTED TO	BASIN5	152.	12.47	35.	9.	4.	.23
+	ROUTED TO	R116	150.	12.53	35.	9.	4.	.23
+	HYDROGRAPH AT	453	62.	12.10	7.	2.	1.	.06
+	2 COMBINED AT	C117	169.	12.50	41.	11.	5.	.29
+	2 COMBINED AT	C118	852.	12.10	99.	28.	14.	.92
+	ROUTED TO	R118	842.	12.10	99.	28.	14.	.92
+	DIVERSION TO	BASIN6	243.	12.10	10.	2.	1.	.92
+	HYDROGRAPH AT	DIV7	599.	12.10	89.	25.	13.	.92
+	HYDROGRAPH AT	RTDIV7	243.	12.10	10.	2.	1.	.92
+	ROUTED TO	RFDIV7	1.	11.97	1.	1.	1.	.92
+	2 COMBINED AT	CDIV7	600.	12.10	90.	26.	13.	.92
+	HYDROGRAPH AT	454	157.	12.17	21.	6.	3.	.18
+	HYDROGRAPH AT	385	582.	12.23	70.	19.	9.	.52
+	HYDROGRAPH AT	411	529.	12.17	46.	13.	6.	.36
	2 COMBINED AT	411C	1055.	12.20	115.	32.	15.	.88
+	DIVERSION TO	BS411	1030.	12.20	98.	25.	12.	.88
+	HYDROGRAPH AT	D411	25.	11.60	16.	7.	3.	.88
+	HYDROGRAPH AT	RT411	1030.	12.20	98.	25.	12.	.88

+	ROUTED TO	SR411	17.	11.70	17.	17.	12.	.88
+	2 COMBINED AT	C411	42.	11.70	31.	22.	15.	.88
	ROUTED TO	R411	42.	11.80	31.	22.	15.	.88
+	3 COMBINED AT	C119	786.	12.13	139.	52.	31.	1.98
+	ROUTED TO	R454	761.	12.20	139.	52.	31.	1.98
+	HYDROGRAPH AT	415	294.	12.13	31.	9.	4.	.28
+	3 COMBINED AT	415C	1449.	12.13	223.	88.	53.	1.71
+	ROUTED TO	R415	1408.	12.20	222.	88.	53.	1.71
+	HYDROGRAPH AT	455	1346.	12.13	142.	43.	21.	1.11
+	DIVERSION TO	BS455	1346.	12.13	137.	37.	18.	1.11
+	HYDROGRAPH AT	D455	55.	12.77	16.	6.	3.	1.11
+	HYDROGRAPH AT	RT455	1346.	12.13	137.	37.	18.	1.11
+	ROUTED TO	SR455	25.	10.47	25.	25.	18.	1.11
+	2 COMBINED AT	C455	80.	12.77	41.	31.	21.	1.11
+	3 COMBINED AT	455C	5823.	12.33	1198.	497.	312.	12.09
+	ROUTED TO	SR440	791.	13.73	775.	497.	312.	12.09
+	ROUTED TO	RR455	791.	14.03	775.	497.	309.	12.09
+	HYDROGRAPH AT	456	468.	12.07	35.	10.	5.	.26
	DIVERSION TO	BASIN1	184.	12.07	8.	2.	1.	.26
+	HYDROGRAPH AT	DIV1	284.	12.07	27.	8.	4.	.26
+	DIVERSION TO	WA30	58.	12.07	10.	3.	2.	.26
+	HYDROGRAPH AT	DIV2	226.	12.07	18.	4.	2.	.26
+	ROUTED TO	R456	213.	12.13	18.	4.	2.	.26
+	HYDROGRAPH AT	457	264.	12.07	20.	5.	3.	.19
+	2 COMBINED AT	C101	462.	12.10	38.	10.	5.	.45
+	DIVERSION TO	BASIN2	165.	12.10	7.	2.	1.	.45
+	HYDROGRAPH AT	DIV3	297.	12.10	30.	8.	4.	.45
+	HYDROGRAPH AT	RTDIV3	165.	12.10	7.	2.	1.	.45
+	ROUTED TO	RFDIV3	2.	11.90	2.	2.	1.	.45
+	2 COMBINED AT	CDIV3	299.	12.10	32.	9.	5.	.45
+	ROUTED TO	R101	297.	12.10	32.	9.	5.	.45
+	HYDROGRAPH AT	458	356.	12.03	25.	7.	3.	.19
+	2 COMBINED AT	C103	635.	12.07	56.	16.	8.	.64
+	ROUTED TO	R103	630.	12.07	56.	16.	8.	.64
	HYDROGRAPH AT	RT30	58.	12.07	10.	3.	2.	.26
+	ROUTED TO	R30	57.	12.10	10.	3.	2.	.26
+	HYDROGRAPH AT	RTB1	184.	12.07	8.	2.	1.	.26
+	ROUTED TO	B1	37.	12.23	8.	2.	1.	.26

```
          ROUTED TO
+                        RB1      37.  12.30        8.        2.        1.      .26
          2 COMBINED AT
+                       CDIV      86.  12.20       17.        5.        3.      .12
          HYDROGRAPH AT
                        459      44.  12.03        3.        1.        0.      .03
          2 COMBINED AT
+                        C52     113.  12.10       20.        6.        3.      .15
          ROUTED TO
+                        R52     112.  12.17       20.        6.        3.      .15
          HYDROGRAPH AT
+                        460     214.  12.07       19.        6.        3.      .14
          2 COMBINED AT
+                       C102     313.  12.07       39.       12.        6.      .29
          ROUTED TO
+                     BASIN3      71.  12.63       39.       12.        6.      .29
          ROUTED TO
+                         R3      71.  12.77       39.       12.        6.      .29
          HYDROGRAPH AT
+                        461     161.  12.10       17.        5.        2.      .12
          2 COMBINED AT
+                       C104     213.  12.10       55.       17.        8.      .41
          2 COMBINED AT
+                       C106     835.  12.07      110.       32.       16.     1.05
          ROUTED TO
+                       R106     797.  12.13      110.       32.       16.     1.05
          HYDROGRAPH AT
+                        462     538.  12.07       40.       11.        5.      .30
          2 COMBINED AT
+                        C56    1254.  12.10      149.       42.       21.     1.35
          HYDROGRAPH AT
+                        480    1050.  12.10       96.       29.       14.      .73
          DIVERSION TO
+                      BS480     455.  11.90       27.        8.        4.      .73
          HYDROGRAPH AT
+                       D480    1050.  12.10       78.       21.       10.      .73
          HYDROGRAPH AT
                      RT480     455.  11.90       27.        8.        4.      .73
          ROUTED TO
+                      SR480       6.   3.90        6.        6.        4.      .73
          2 COMBINED AT
+                       C480    1056.  12.10       84.       27.       14.      .73
          3 COMBINED AT
+                       480C    2517.  12.10      954.      576.      352.     2.09
          ROUTED TO
+                      RR480    2355.  12.13      952.      575.      352.     2.09
          HYDROGRAPH AT
+                        500    1073.  12.27      122.       33.       16.      .93
          2 COMBINED AT
+                       500C    3244.  12.17     1063.      603.      366.     3.02
1
                                   SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                                       (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                   INTERPOLATED TO
                                                                 COMPUTATION INTERVAL
          ISTAQ    ELEMENT      DT       PEAK    TIME TO     VOLUME      DT       PEAK    TIME TO     VOLUME
                                                   PEAK                                     PEAK

                              (MIN)     (CFS)     (MIN)      (IN)    (MIN)     (CFS)     (MIN)       (IN)

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             RR390  MANE        1.55    504.45    724.70      1.33     2.00    500.29    726.00       1.33

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7884E+02 EXCESS= .0000E+00 OUTFLOW= .7889E+02 BASIN STORAGE= .1086E-04 PERCENT ERROR=   -.1

          FOR STORM = 2  STORM AREA (SQ MI) =      10.00
             RR390  MANE        1.71    466.89    725.16      1.22     2.00    461.51    726.00       1.22

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7192E+02 EXCESS= .0000E+00 OUTFLOW= .7196E+02 BASIN STORAGE= .2323E-06 PERCENT ERROR=   -.1

          FOR STORM = 3  STORM AREA (SQ MI) =      30.00
             RR390  MANE        1.74    441.66    725.78      1.14     2.00    439.70    726.00       1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6735E+02 EXCESS= .0000E+00 OUTFLOW= .6741E+02 BASIN STORAGE= .1179E-06 PERCENT ERROR=   -.1

          FOR STORM = 4  STORM AREA (SQ MI) =      60.00
             RR390  MANE        1.63    415.96    726.07      1.06     2.00    415.88    726.00       1.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6271E+02 EXCESS= .0000E+00 OUTFLOW= .6284E+02 BASIN STORAGE= .2757E-07 PERCENT ERROR=   -.2

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
```

```
RR390  MANE        1.66    406.38    726.01      1.03      2.00    406.36    726.00        1.03

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6085E+02 EXCESS= .0000E+00 OUTFLOW= .6102E+02 BASIN STORAGE= .1897E-07 PERCENT ERROR=   -.3

FOR STORM = 6  STORM AREA (SQ MI) =     120.00
RR390  MANE        1.70    398.17    724.68      1.01      2.00    397.50    726.00        1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5961E+02 EXCESS= .0000E+00 OUTFLOW= .5968E+02 BASIN STORAGE= .1916E-07 PERCENT ERROR=   -.1

FOR STORM = 7  STORM AREA (SQ MI) =     150.00
RR390  MANE        1.78    390.53    724.69       .99      2.00    389.68    726.00         .99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5836E+02 EXCESS= .0000E+00 OUTFLOW= .5843E+02 BASIN STORAGE= .1613E-07 PERCENT ERROR=   -.1

FOR STORM = 8  STORM AREA (SQ MI) =     300.00
RR390  MANE        1.79    376.36    724.83       .94      2.00    374.82    726.00         .94

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5553E+02 EXCESS= .0000E+00 OUTFLOW= .5567E+02 BASIN STORAGE= .7299E-08 PERCENT ERROR=   -.3

FOR STORM = 9  STORM AREA (SQ MI) =     500.00
RR390  MANE        1.67    366.26    725.01       .90      2.00    364.29    726.00         .90

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5303E+02 EXCESS= .0000E+00 OUTFLOW= .5316E+02 BASIN STORAGE= .8564E-08 PERCENT ERROR=   -.3

FOR STORM = 1  STORM AREA (SQ MI) =        .01
R411  MANE        1.89     42.00    755.47      1.42      2.00     42.00    756.00        1.42

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6690E+02 EXCESS= .0000E+00 OUTFLOW= .6691E+02 BASIN STORAGE= .2077E-04 PERCENT ERROR=    .0

FOR STORM = 2  STORM AREA (SQ MI) =      10.00
R411  MANE        1.88     42.00    741.54      1.29      2.00     42.00    742.00        1.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6090E+02 EXCESS= .0000E+00 OUTFLOW= .6091E+02 BASIN STORAGE= .7149E-07 PERCENT ERROR=    .0

FOR STORM = 3  STORM AREA (SQ MI) =      30.00
R411  MANE        1.78     42.00    765.66      1.21      2.00     42.00    766.00        1.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5711E+02 EXCESS= .0000E+00 OUTFLOW= .5712E+02 BASIN STORAGE= .2469E-07 PERCENT ERROR=    .0

FOR STORM = 4  STORM AREA (SQ MI) =      60.00
R411  MANE        1.85     42.00    733.85      1.13      2.00     42.00    734.00        1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5338E+02 EXCESS= .0000E+00 OUTFLOW= .5339E+02 BASIN STORAGE= .4815E-08 PERCENT ERROR=    .0

FOR STORM = 5  STORM AREA (SQ MI) =      90.00
R411  MANE        1.80     42.00    741.65      1.10      2.00     42.00    742.00        1.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5187E+02 EXCESS= .0000E+00 OUTFLOW= .5188E+02 BASIN STORAGE= .3358E-08 PERCENT ERROR=    .0

FOR STORM = 6  STORM AREA (SQ MI) =     120.00
R411  MANE        1.88     42.00    725.03      1.08      2.00     42.00    726.00        1.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5086E+02 EXCESS= .0000E+00 OUTFLOW= .5087E+02 BASIN STORAGE= .2730E-08 PERCENT ERROR=    .0

FOR STORM = 7  STORM AREA (SQ MI) =     150.00
R411  MANE        1.77     42.00    819.52      1.06      2.00     42.00    818.00        1.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4985E+02 EXCESS= .0000E+00 OUTFLOW= .4986E+02 BASIN STORAGE= .2506E-08 PERCENT ERROR=    .0

FOR STORM = 8  STORM AREA (SQ MI) =     300.00
R411  MANE        1.77     42.00    710.35      1.01      2.00     42.00    716.00        1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4756E+02 EXCESS= .0000E+00 OUTFLOW= .4757E+02 BASIN STORAGE= .1362E-08 PERCENT ERROR=    .0

FOR STORM = 9  STORM AREA (SQ MI) =     500.00
R411  MANE        1.83     42.00    775.00       .97      2.00     42.00    776.00         .97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4552E+02 EXCESS= .0000E+00 OUTFLOW= .4553E+02 BASIN STORAGE= .9714E-09 PERCENT ERROR=    .0


*** NORMAL END OF HEC-1 ***
```

SPOOK HILL ADMP



HEC-1 Existing Conditions 100-Year, 6hr Storm

```
1****************************************                    ****************************************
*                                      *                    *                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                    *   U.S. ARMY CORPS OF ENGINEERS       *
*             JUN  1998                *                    *   HYDROLOGIC ENGINEERING CENTER      *
*           VERSION 4.1                *                    *          609 SECOND STREET           *
*                                      *                    *       DAVIS, CALIFORNIA 95616        *
*  RUN DATE   10JUL00  TIME  08:04:52  *                    *          (916) 756-1104              *
*                                      *                    *                                      *
****************************************                    ****************************************

                                    X     X  XXXXXXX   XXXXX          X
                                    X     X  X        X     X        XX
                                    X     X  X        X              X
                                    XXXXXXX  XXXX     X        XXXXX X
                                    X     X  X        X              X
                                    X     X  X        X     X        X
                                    X     X  XXXXXXX   XXXXX        XXX

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL   LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1                                          HEC-1 INPUT                                                PAGE  1

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID   EXISTING LAND USE CALCULATIONS WERE BASED ON 1 YR. FROM 11/5/99
  2           ID   FOR LAS SENDAS       AND LANDISCOR JAN.1999 AERIAL PHOTOGPRAPHS
  3           ID
  4           ID   ALL DAMS WERE ANALYZED WITH NO STORAGE BELOW PRINCIPLE SPILLWAY ELEVATIONS
  5           ID
  6           ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
  7           ID   PRECIPITATION VALUES
  8           ID
  9           ID   ALL CHANNEL ROUTING INFORMATION WAS OBTAINED FROM MCFCD SPOOK HILL   SIGNAL
 10           ID   BUTTE        AND BULLDOG FLOODWAY PLANS
 11           ID
 12           ID   UPDATE TO EXISTING CONDITION 6-HR 100-YEAR STORM BASED ON RE-ALIGNMENT
 13           ID   OF SUB-BASIN BOUNDARIES FOR SUB-BASINS 385 (REDUCED) & 415 (ENLARGED)
 14           ID   UPDATE BASED ON INFORMATION FROM 2' CONTOUR MAPPING.
 15           ID
 16           ID   ANALYSIS PERFORMED BY WOOD/PATEL; MW;        06/28/00  FILE:  S6CE33.DAT
 17           ID
 18           ID   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 100YR, 6hr Storm
              *DIAGRAM
 19           IT       2                    1500
 20           IO       3
 21           IN      15
 22           JD    3.15    0.01
 23           PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .074
 24           PC    .087    .099    .118    .138    .216    .377    .834    .911    .931    .950
 25           PC    .962    .972    .983    .991   1.000
 26           JD    3.13    0.50
 27           JD    3.09    2.80
 28           PC    .000    .009    .016    .025    .034    .042    .051    .059    .067    .076
 29           PC    .087    .100    .120    .163    .252    .451    .694    .837    .900    .938
 30           PC    .950    .963    .975    .988   1.000
 31           JD    2.90    16.0
 32           PC    .000    .015    .020    .030    .048    .063    .076    .090    .105    .119
 33           PC    .135    .152    .175    .222    .304    .472    .670    .796    .868    .912
 34           PC    .946    .960    .973    .987   1.000
 35           JD    2.55    90.0
 36           PC    .000    .021    .035    .051    .071    .087    .105    .125    .143    .160
 37           PC    .179    .201    .232    .281    .364    .500    .658    .773    .841    .888
 38           PC    .927    .945    .964    .982   1.000
 39           JD    1.80   500.0
 40           PC    .000    .024    .043    .059    .078    .098    .119    .141    .162    .186
 41           PC    .212    .239    .271    .321    .408    .515    .627    .735    .814    .864
 42           PC    .907    .930    .954    .977   1.000
              * DDM   ***** Updated *****

 43           KK      10
 44           KM   SUB-BASIN 10
 45           KM   6-HOUR RAINFALL, PATTERN NO. 1.20 WAS USED TO FIND TC & R FOR THIS BASIN
 46           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
 47           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
 48           BA    .702
 49           LG    .350    .320   7.600    .090  15.000
 50           UC    .400    .285
 51           UA       0       3       5       8      12      20      43      75      90      96
 52           UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 53           KK     R10
 54           KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
 55           RS       4    FLOW      -1
 56           RC    .045     .03    .045    8700    .021
 57           RX       0       1       2      17      27      42      43      44
 58           RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****

 59           KK     R12
 60           KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
 61           RS       6    FLOW      -1
 62           RC    .045     .03    .045    4500     .01
 63           RX       0       1      30    37.5    57.5      65      94      95
 64           RY       5       5       5       0       0       5       5       5
```

```
            * DDM   ***** Updated *****

 65         KK      20
 66         KM   SUB-BASIN 20
 67         KM   6-HOUR RAINFALL, PATTERN NO. 1.47 WAS USED TO FIND TC & R FOR THIS BASIN
 68         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .986
 69         KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 70         BA   1.120
 71         LG    .350    .390   5.800    .190   1.000
 72         UC    .654    .451
 73         UA       0       3       5       8      12      20      43      75      90      96
 74         UA     100
            * DDM   ***** Preserved *****

 75         KK     C20
 76         KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 77         HC       2
            * DDM   ***** Updated *****

 78         KK      40
 79         KM   SUB-BASIN 40
 80         KM   6-HOUR RAINFALL, PATTERN NO. 1.87 WAS USED TO FIND TC & R FOR THIS BASIN
 81         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .979
 82         KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
 83         BA   2.233
 84         LG    .340    .340   4.900    .280   5.000
 85         UC    .554    .299
 86         UA       0       3       5       8      12      20      43      75      90      96
 87         UA     100
            * DDM   ***** Updated *****

 88         KK      60
 89         KM   SUB-BASIN 60
 90         KM   6-HOUR RAINFALL, PATTERN NO. 1.73 WAS USED TO FIND TC & R FOR THIS BASIN
 91         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .982
 92         KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 93         BA   1.746
 94         LG    .330    .350   5.800    .190   9.000
 95         UC    .621    .499
 96         UA       0       3       5       8      12      20      43      75      90      96
1                                        HEC-1 INPUT                                          PAGE  3

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 97         UA     100
            * DDM   ***** Preserved *****

 98         KK     60C
 99         KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
            *      1       2
100         HC       3
            * DDM   ***** Preserved *****

101         KK    SR60
102         KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
103         KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
104         KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
105         KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
106         RS       1    STOR       0
107         SV       0       1     100     200     300     400
108         SQ       0      71      81      87    91.5      94
109         SE    83.5    93.5      96    97.7      99   99.77
            * DDM   ***** Preserved *****

110         KK     R60
111         KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
112         RS       1    FLOW      -1
113         RC    .016    .016    .016    2850    .012
114         RX       0       1       2     2.1     5.6     5.7       6       7
115         RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
            * DDM   ***** Preserved *****

116         KK    RR60
117         KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
118         RS       3    FLOW      -1
119         RC    .016    .016    .016    3500    .005
120         RX       0       1       2     2.1     7.1     7.2       8       9
121         RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
            * DDM   ***** Updated *****

122         KK      80
123         KM   SUB-BASIN 80
124         KM   6-HOUR RAINFALL, PATTERN NO. 1.63 WAS USED TO FIND TC & R FOR THIS BASIN
125         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .984
126         KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
127         BA   1.475
128         LG    .330    .330   5.600    .210   4.000
129         UC    .458    .275
130         UA       0       3       5       8      12      20      43      75      90      96
131         UA     100
            * DDM   ***** Preserved *****

132         KK     80C
133         KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
134         HC       2   1.475
            * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  4

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

135         KK     R80
136         KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
137         RS       1    FLOW      -1
138         RC    .025    .016    .025    1200    .003
139         RX       0       2       6     6.1    41.1    41.2    56.2    58.2
140         RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
            * DDM   ***** Updated *****

141         KK     100
142         KM   SUB-BASIN 100
143         KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
144         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
```

```
145          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
146          BA    .484
147          LG    .320    .290   5.100    .260   3.000
148          UC    .496    .436
149          UA       0       5      16      30      65      77      84      90      94      97
150          UA     100
             * DDM   ***** Preserved *****

151          KK    100C
152          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
153          HC       2
             * DDM   ***** Preserved *****

154          KK    R100
155          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
156          RS       1    FLOW      -1
157          RC    .016    .016    .016     940    .005
158          RX       0       1       2     2.1    52.1    52.2      53      54
159          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****

160          KK     120
161          KM   SUB-BASIN 120
162          KM   6-HOUR RAINFALL, PATTERN NO. 1.86 WAS USED TO FIND TC & R FOR THIS BASIN
163          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .979
164          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
165          BA   2.202
166          LG    .330    .280   6.800    .130  11.000
167          UC    .471    .251
168          UA       0       3       5       8      12      20      43      75      90      96
169          UA     100
             * DDM   ***** Preserved *****

170          KK    120C
171          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
172          HC       2
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

173          KK    R120
174          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
175          RS       1    FLOW      -1
176          RC    .025    .016    .025    2100    .005
177          RX       0       6      10    10.1    60.1    60.2    74.2    80.2
178          RY       8       5       5       0       0       5       5       8
             * DDM   ***** Updated *****

179          KK     140
180          KM   SUB-BASIN 140
181          KM   6-HOUR RAINFALL, PATTERN NO. 1.10 WAS USED TO FIND TC & R FOR THIS BASIN
182          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
183          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
184          BA    .598
185          LG    .310    .280   4.200    .440   5.000
186          UC    .387    .253
187          UA       0       5      16      30      65      77      84      90      94      97
188          UA     100
             * DDM   ***** Updated *****

189          KK     150
190          KM   SUB-BASIN 150
191          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
192          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
193          KM     L = 1.50  Kb = .047  Adj. Slope =  315.0
194          BA    .408
195          LG    .350    .360   5.100    .260   7.000
196          UC    .267    .197
197          UA       0       3       5       8      12      20      43      75      90      96
198          UA     100
             * DDM   ***** Preserved *****

199          KK    R150
200          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
201          RS       2    FLOW      -1
202          RC    .045     .04    .045    3100    .032
203          RX       0       1       2      23      33      54      55      56
204          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

205          KK    R152
206          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
207          RS       4    FLOW      -1
208          RC    .045     .03    .045    5900    .019
209          RX       0       1       2       8      33      39      40      41
210          RY       4       2       2       0       0       2       2       4
             * DDM   ***** Updated *****

211          KK     160
212          KM   SUB-BASIN 160
213          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
214          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
215          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
216          BA    .369
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

217          LG    .340    .330   4.150    .440   1.000
218          UC    .538    .594
219          UA       0       3       5       8      12      20      43      75      90      96
220          UA     100
             * DDM   ***** Updated *****

221          KK     180
222          KM   SUB-BASIN 180
223          KM   6-HOUR RAINFALL, PATTERN NO. 1.40 WAS USED TO FIND TC & R FOR THIS BASIN
224          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
225          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
226          BA   1.000
227          LG    .350    .350   4.150    .430    .000
```

```
228          UC    .579    .409
229          UA       0       3       5       8      12      20      43      75      90      96
230          UA     100
             * DDM   ***** Preserved *****

231          KK    180C
232          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
233          HC       5
             * DDM   ***** Updated *****

234          KK     210
235          KM   SUB-BASIN 210
236          KM   6-HOUR RAINFALL, PATTERN NO. 1.09 WAS USED TO FIND TC & R FOR THIS BASIN
237          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
238          KM     L = 1.84  Kb = .045  Adj. Slope =  315.0
239          BA    .583
240          LG    .350    .350   7.000    .120   5.000
241          UC    .292    .209
242          UA       0       3       5       8      12      20      43      75      90      96
243          UA     100
             * DDM   ***** Preserved *****

244          KK    R210
245          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
246          RS       2    FLOW      -1
247          RC    .045     .03    .045    5100    .022
248          RX       0       1       2      14      34      46      47      48
249          RY       4       4       4       0       0       4       4       4
             * DDM   ***** Updated *****

250          KK     240
251          KM   SUB-BASIN 240
252          KM   6-HOUR RAINFALL, PATTERN NO. 1.60 WAS USED TO FIND TC & R FOR THIS BASIN
253          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .984
254          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
255          BA   1.398
256          LG    .350    .370   5.200    .240   2.000
257          UC    .500    .386
258          UA       0       3       5       8      12      20      43      75      90      96
259          UA     100
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

260          KK    240C
261          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
262          HC       2
             * DDM   ***** Preserved *****

263          KK   SR240
264          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
265          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
266          RS       1    STOR       0
267          SA    1.38    14.2    36.5
268          SE     1.7       5      11
269          SS       5      42       3     1.5
             * DDM   ***** Updated *****

270          KK     220
271          KM   SUB-BASIN 220
272          KM   6-HOUR RAINFALL, PATTERN NO. 1.22 WAS USED TO FIND TC & R FOR THIS BASIN
273          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
274          KM     L = 1.92  Kb = .043  Adj. Slope =  315.0
275          BA    .725
276          LG    .350    .350   7.000    .120   4.000
277          UC    .304    .200
278          UA       0       3       5       8      12      20      43      75      90      96
279          UA     100
             * DDM   ***** Preserved *****

280          KK    220C
281          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
282          HC       2
             * DDM   ***** Preserved *****

283          KK   SR220
284          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
285          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
286          RS       1    STOR       0
287          SA     .78     4.1    13.7
288          SE       1       3      10
289          SS       3      65       3     1.5
             * DDM   ***** Updated *****

290          KK     190
291          KM   SUB-BASIN 190
292          KM   6-HOUR RAINFALL, PATTERN NO. 1.35 WAS USED TO FIND TC & R FOR THIS BASIN
293          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .988
294          KM     L = 1.91  Kb = .042  Adj. Slope =  315.0
295          BA    .918
296          LG    .350    .390   5.800    .190   8.000
297          UC    .317    .182
298          UA       0       3       5       8      12      20      43      75      90      96
299          UA     100
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

300          KK    R190
301          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
302          RS       2    FLOW      -1
303          RC    .045     .03    .045    4740    .03
304          RX       0       1       2      17      37      52      53      54
305          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

306          KK    R192
307          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
308          RS       2    FLOW      -1
```

```
309          RC    .045    .035    .045    2200    .018
310          RX       0       1      50      59      79      88     137     138
311          RY       4       3       3       0       0       3       3       4
             * DDM   ***** Updated *****

312          KK     200
313          KM   SUB-BASIN 200
314          KM   6-HOUR RAINFALL, PATTERN NO. 1.04 WAS USED TO FIND TC & R FOR THIS BASIN
315          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
316          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
317          BA    .535
318          LG    .350    .390   5.700    .200  10.000
319          UC    .271    .179
320          UA       0       3       5       8      12      20      43      75      90      96
321          UA     100
             * DDM   ***** Preserved *****

322          KK    200C
323          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
324          HC       3
             * DDM   ***** Preserved *****

325          KK   SR200
326          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
327          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
328          RS       1    STOR       0
329          SA    2.56     3.1     9.4
330          SE       0       3      10
331          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

332          KK   200SR
333          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
334          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
335          RS       1    STOR       0
336          SA       8     9.2     9.2
337          SE       0       7      10
338          SS       7     251       3     1.5
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                                    PAGE  9

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

339          KK    C180
340          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             *      1       2
341          HC       2
             * DDM   ***** Preserved *****

342          KK   SR180
343          KM   SIGNAL BUTTE FRS DATED 1/28/85
344          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
345          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
346          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
347          RS       1    STOR       0
348          SV       0       1     250     500     750    1060
349          SQ       0   106.5   125.5   137.5     146     160
350          SE      90     101   104.5     107     109   112.4
             * DDM   ***** Preserved *****

351          KK    R180
352          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
353          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
354          RS       2    FLOW      -1
355          RC    .035    .025    .035    1500    .003
356          RX       0       1       2    22.6    38.6    59.2      60      61
357          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

358          KK     260
359          KM   SUB-BASIN 260
360          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
361          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
362          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
363          BA    .267
364          LG    .300    .170   6.800    .160  15.000
365          UC    .325    .191
366          UA       0       5      16      30      65      77      84      90      94      97
367          UA     100
             * DDM   ***** Preserved *****

368          KK    260C
369          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
370          HC       2    .267
             * DDM   ***** Preserved *****

371          KK    R260
372          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
373          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
374          RS       2    FLOW      -1
375          RC    .035    .025    .035    2300    .003
376          RX       0       1       2    23.4    43.4    64.8      65      66
377          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                                    PAGE 10

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

378          KK     280
379          KM   SUB-BASIN 280
380          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
381          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
382          KM     L =  .77  Kb = .049  Adj. Slope =   84.0
383          BA    .304
384          LG    .300    .250   5.300    .290  15.000
385          UC    .296    .153
386          UA       0       5      16      30      65      77      84      90      94      97
387          UA     100
             * DDM   ***** Preserved *****

388          KK    280C
```

```
389          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
390          HC       2
             * DDM   ***** Preserved *****

391          KK    R280
392          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
393          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
394          RS       2    FLOW      -1
395          RC    .035    .025    .035    2500    .003
396          RX       0       1       2    23.4    43.4    64.8      65      66
397          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

398          KK     300
399          KM   SUB-BASIN 300
400          KM   6-HOUR RAINFALL, PATTERN NO. 1.39 WAS USED TO FIND TC & R FOR THIS BASIN
401          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
402          KM     L = 2.28  Kb = .041  Adj. Slope =  127.0
403          BA    .988
404          LG    .340    .320   4.500    .370   7.000
405          UC    .542    .365
406          UA       0       5      16      30      65      77      84      90      94      97
407          UA     100
             * DDM   ***** Preserved *****

408          KK    300C
409          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
410          HC       2
             * DDM   ***** Preserved *****

411          KK    R300
412          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
413          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
414          RS       2    FLOW      -1
415          RC    .035    .025    .035    2200    .003
416          RX       0       1       2    23.4    55.4    76.8      77      78
417          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

418          KK   RR300
419          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
420          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
421          RS       2    FLOW      -1
422          RC    .016    .016    .016    6050   .0146
423          RX       0       1       2     2.1    16.1    16.2      17      18
424          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
             *        1       2
             * DDM   ***** Updated *****

425          KK     350
426          KM   SUB-BASIN 350
427          KM   6-HOUR RAINFALL, PATTERN NO. 1.38 WAS USED TO FIND TC & R FOR THIS BASIN
428          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
429          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
430          BA    .970
431          LG    .350    .350   4.550    .340   4.000
432          UC    .367    .234
433          UA       0       3       5       8      12      20      43      75      90      96
434          UA     100
             * DDM   ***** Preserved *****

435          KK    D350
436          KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
437          KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
438          DT   SF350
439          DI       0    5000
440          DQ       0    2500
             * DDM   ***** Preserved *****

441          KK    350R
442          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
443          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
444          RS       6    FLOW      -1
445          RC    .045    .035    .045    5150    .025
446          RX       0       1      40      46      56      62     102     103
447          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

448          KK     310
449          KM   SUB-BASIN 310
450          KM   6-HOUR RAINFALL, PATTERN NO. 1.06 WAS USED TO FIND TC & R FOR THIS BASIN
451          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
452          KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
453          BA    .555
454          LG    .350    .350   3.910    .480    .000
455          UC    .450    .472
456          UA       0       3       5       8      12      20      43      75      90      96
457          UA     100
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

458          KK    C310
459          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
460          HC       2    .943
             * DDM   ***** Preserved *****

461          KK    R310
462          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
463          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
464          RS      11    FLOW      -1
465          RC    .045    .035    .045   10050    .022
466          RX       0       1      40      46      56      62     102     103
467          RY     3.5       2       2       0       0       2       2     3.5
             * DDM   ***** Updated *****

468          KK     320
```

```
469          KM   SUB-BASIN 320
470          KM   6-HOUR RAINFALL, PATTERN NO. 1.39 WAS USED TO FIND TC & R FOR THIS BASIN
471          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
472          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
473          BA    .972
474          LG    .310    .300   4.550    .360  14.000
475          UC    .508    .333
476          UA       0       5      16      30      65      77      84      90      94      97
477          UA     100
             * DDM   ***** Preserved *****

478          KK    D320
479          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
480          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
481          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
482          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
483          DT   BS320   12.27
484          DI       0   10000
485          DQ       0   10000
             * DDM   ***** Preserved *****

486          KK   RT320
487          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
488          DR   BS320
             * DDM   ***** Preserved *****

489          KK   SR320
490          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
491          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
492          RS       1    STOR       0
493          SV       0     .01    12.3
494          SQ       0     4.2     4.2
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

495          KK    C320
496          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
497          HC       4
             * DDM   ***** Updated *****

498          KK     340
499          KM   SUB-BASIN 340
500          KM   6-HOUR RAINFALL, PATTERN NO. 1.62 WAS USED TO FIND TC & R FOR THIS BASIN
501          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .984
502          KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
503          BA   1.449
504          LG    .280    .280   4.150    .520  21.000
505          UC    .538    .303
506          UA       0       5      16      30      65      77      84      90      94      97
507          UA     100
             * DDM   ***** Preserved *****

508          KK    D340
509          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
510          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
511          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
512          KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *      1
513          DT   BS340      56
514          DI       0   10000
515          DQ       0   10000
             * DDM   ***** Preserved *****

516          KK   RT340
517          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
518          DR   BS340
             * DDM   ***** Preserved *****

519          KK   SR340
520          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
521          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
522          RS       1    STOR       0
523          SV       0     .01      56
524          SQ       0    18.9    18.9
             * DDM   ***** Preserved *****

525          KK    C340
526          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
527          HC       3
             * DDM   ***** Preserved *****

528          KK   RT350
529          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
530          DR   SF350
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

531          KK   RR350
532          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
533          KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
534          RS       6    FLOW      -1
535          RC    .045    .035    .045    6050    .025
536          RX       0       1      40      46      56      62     102     103
537          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

538          KK     355
539          KM   SUB-BASIN 355
540          KM   6-HOUR RAINFALL, PATTERN NO. 1.16 WAS USED TO FIND TC & R FOR THIS BASIN
541          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
542          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
543          BA    .659
544          LG    .340    .340   4.450    .370   4.000
545          UC    .467    .485
```

```
546          UA       0       3       5       8      12      20      43      75      90      96
547          UA     100
             * DDM   ***** Preserved *****

548          KK    C355
549          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
550          HC       2    1.24
             * DDM   ***** Preserved *****

551          KK    R355
552          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
553          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
554          RS      10    FLOW      -1
555          RC    .045    .035    .045   10100    .026
556          RX       0       1      40      46      56      62     102     103
557          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

558          KK     360
559          KM   SUB-BASIN 360
560          KM   6-HOUR RAINFALL, PATTERN NO. 1.17 WAS USED TO FIND TC & R FOR THIS BASIN
561          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
562          KM     L = 2.10  Kb = .048  Adj. Slope =  124.0
563          BA    .670
564          LG    .260    .270   4.100    .560  20.000
565          UC    .550    .433
566          UA       0       5      16      30      65      77      84      90      94      97
567          UA     100
             * DDM   ***** Preserved *****

568          KK    D360
569          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
570          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
571          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
572          DT   BS360    28.6
573          DI       0   10000
1                                    HEC-1 INPUT                                          PAGE 15

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

574          DQ       0   10000
             * DDM   ***** Preserved *****

575          KK   RT360
576          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
577          DR   BS360
             * DDM   ***** Preserved *****

578          KK   SR360
579          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
580          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
581          RS       1    STOR       0
582          SV       0     .01    28.6
583          SQ       0     9.6     9.6
             * DDM   ***** Preserved *****

584          KK    360C
585          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
586          HC       4
             * DDM   ***** Updated *****

587          KK     370
588          KM   SUB-BASIN 370
589          KM   6-HOUR RAINFALL, PATTERN NO. 1.17 WAS USED TO FIND TC & R FOR THIS BASIN
590          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
591          KM     L = 2.90  Kb = .044  Adj. Slope =  294.6
592          BA    .667
593          LG    .340    .320   4.650    .330   9.000
594          UC    .433    .432
595          UA       0       3       5       8      12      20      43      75      90      96
596          UA     100
             * DDM   ***** Updated *****

597          KK     395
598          KM   SUB-BASIN 395
599          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
600          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
601          KM     L = 1.60  Kb = .051  Adj. Slope =  215.8
602          BA    .198
603          LG    .330    .320   4.900    .300  10.000
604          UC    .346    .417
605          UA       0       3       5       8      12      20      43      75      90      96
606          UA     100
             * DDM   ***** Preserved *****

607          KK    370C
608          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
609          HC       2
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 16

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

610          KK    R370
611          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
612          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
613          RS      10    FLOW      -1
614          RC    .045    .035    .045   10250    .023
615          RX       0       1      40      46      56      62     102     103
616          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

617          KK     380
618          KM   SUB-BASIN 380
619          KM   6-HOUR RAINFALL, PATTERN NO. 1.39 WAS USED TO FIND TC & R FOR THIS BASIN
620          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
621          KM     L = 2.20  Kb = .048  Adj. Slope =  114.0
622          BA    .972
623          LG    .300    .310   4.150    .500   7.000
624          UC    .654    .441
625          UA       0       5      16      30      65      77      84      90      94      97
```

```
626          UA     100
             * DDM   ***** Preserved *****

627          KK    D380
628          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
629          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
630          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
631          DT   BS380    28.6
632          DI       0   10000
633          DQ       0   10000
             * DDM   ***** Preserved *****

634          KK   RT380
635          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
636          DR   BS380
             * DDM   ***** Preserved *****

637          KK   SR380
638          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
639          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
640          RS       1    STOR       0
641          SV       0     .01    28.6
642          SQ       0     9.6     9.6
             * DDM   ***** Preserved *****

643          KK    380C
644          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
645          HC       4
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 17

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

646          KK     390
647          KM   SUB-BASIN 390
648          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
649          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
650          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
651          BA    .244
652          LG    .300    .250   4.700    .380  18.000
653          UC    .188    .097
654          UA       0       5      16      30      65      77      84      90      94      97
655          UA     100
             * DDM   ***** Preserved *****

656          KK    D390
657          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
658          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
659          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
660          DT   BS390     3.5
661          DI       0   10000
662          DQ       0   10000
             * DDM   ***** Preserved *****

663          KK   RT390
664          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
665          DR   BS390
             * DDM   ***** Preserved *****

666          KK   SR390
667          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
668          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
669          RS       1    STOR       0
670          SV       0     .01     3.5
671          SQ       0     1.2     1.2
             * DDM   ***** Preserved *****

672          KK    390C
673          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
674          HC       2
             * DDM   ***** Preserved *****

675          KK   RR390
676          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
677          KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
678          RS      12    FLOW      -1
679          RC    .045    .045    .045    8800    .020
680          RX       0       1      40      46      56      62     102     103
681          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 18

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

682          KK     400
683          KM   SUB-BASIN 400
684          KM   6-HOUR RAINFALL, PATTERN NO. 1.12 WAS USED TO FIND TC & R FOR THIS BASIN
685          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
686          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
687          BA    .616
688          LG    .320    .320   3.130    .930   6.000
689          UC    .550    .373
690          UA       0       5      16      30      65      77      84      90      94      97
691          UA     100
             * DDM   ***** Preserved *****

692          KK    D400
693          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
694          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
695          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
696          DT   BS400     5.6
697          DI       0   10000
698          DQ       0   10000
             * DDM   ***** Preserved *****

699          KK   RT400
700          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
701          DR   BS400
```

```
            * DDM   ***** Preserved *****

 702        KK   SR400
 703        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 704        KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
 705        RS       1    STOR       0
 706        SV       0     .01     5.6
 707        SQ       0       2       2
            * DDM   ***** Preserved *****

 708        KK    C400
 709        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 710        HC       2
            * DDM   ***** Preserved *****

 711        KK    400C
 712        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 713        HC       3
            * DDM   ***** Updated *****

 714        KK     385
 715        KM   SUB-BASIN 385
 716        KM   6-HOUR RAINFALL, PATTERN NO. 1.03 WAS USED TO FIND TC & R FOR THIS BASIN
 717        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 718        KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
 719        BA    .523
 720        LG    .340    .360   5.600    .220  13.000
 721        UC    .350    .325
 722        UA       0       3       5       8      12      20      43      75      90      96
1                                        HEC-1 INPUT                                          PAGE 19

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 723        UA     100
            * DDM   ***** Preserved *****

 724        KK    D385
 725        KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
 726        DT   SF385
 727        DI       0    5000
 728        DQ       0    3000
            * DDM   ***** Preserved *****

 729        KK    385R
 730        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 731        KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385 INTO SUB-BASIN 420
 732        RS      18    FLOW      -1
 733        RC    .045     .04    .045   10250    .022
 734        RX       0       1      40      46      56      62     102     103
 735        RY       3       2       2       0       0       2       2       3
            * DDM   ***** Updated *****

 736        KK     420
 737        KM   SUB-BASIN 420
 738        KM   6-HOUR RAINFALL, PATTERN NO. 1.31 WAS USED TO FIND TC & R FOR THIS BASIN
 739        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .989
 740        KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
 741        BA    .849
 742        LG    .310    .270   3.880    .580  12.000
 743        UC    .504    .319
 744        UA       0       5      16      30      65      77      84      90      94      97
 745        UA     100
            * DDM   ***** Preserved *****

 746        KK    D420
 747        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 748        KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
 749        KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
            *      1
 750        DT   BS420    8.65
 751        DI       0   10000
 752        DQ       0   10000
            * DDM   ***** Preserved *****

 753        KK   RT420
 754        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 755        DR   BS420
            * DDM   ***** Preserved *****

 756        KK   SR420
 757        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 758        KM   38.55 ACRE-FEETx43560/36x3600=13cfs
 759        RS       1    STOR       0
 760        SV       0     .01   38.55
 761        SQ       0      13      13
            * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 20

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 762        KK    420C
 763        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 764        HC       4   10.87
            * DDM   ***** Updated *****

 765        KK     440
 766        KM   SUB-BASIN 440
 767        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 768        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 769        KM     L =  .40  Kb = .039  Adj. Slope =  315.0
 770        BA    .080
 771        LG    .190    .380   6.400    .140  13.000
 772        UC    .121    .072
 773        UA       0       3       5       8      12      20      43      75      90      96
 774        UA     100
            * DDM   ***** Preserved *****

 775        KK     R70
 776        KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
 777        RS       1    FLOW      -1
 778        RC     .05    .035     .05    2250     .08
 779        RX    1000    1025    1050    1070    1075    1095    1120    1145
```

```
780          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

781          KK     441
782          KM   SUB-BASIN 441
783          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
784          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
785          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
786          BA    .010
787          LG    .300    .250   5.600    .220   5.000
788          UC    .138    .204
789          UA       0       5      16      30      65      77      84      90      94      97
790          UA     100
             * DDM   ***** Preserved *****

791          KK    C108
792          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
793          HC       2
             * DDM   ***** Preserved *****

794          KK    DIV4
795          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
             *      1
796          DT   SPLIT
797          DI       0      14      40      82     120     154     180
798          DQ       0       7      20      41      60      77      90
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 21

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

799          KK    R108
800          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
801          RS       1    FLOW      -1
802          RC     .05    .035     .05    3200      .1
803          RX    1000    1025    1050    1070    1075    1095    1120    1145
804          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

805          KK     442
806          KM   SUB-BASIN 442
807          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
808          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
809          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
810          BA    .100
811          LG    .300    .270   3.290    .770   5.000
812          UC    .229    .231
813          UA       0       5      16      30      65      77      84      90      94      97
814          UA     100
             * DDM   ***** Preserved *****

815          KK     C67
816          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
817          HC       2
             * DDM   ***** Preserved *****

818          KK    DIV6
819          KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
820          KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
             *      1
821          DT  BASIN4
822          DI       0      10      32      44    79.9   132.5     198   272.9   356.8
823          DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
             * DDM   ***** Preserved *****

824          KK  RTDIV6
825          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
826          DR  BASIN4
             * DDM   ***** Preserved *****

827          KK  RFDIV6
828          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
829          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
             *      1
830          RS       1    STOR       0
831          SV       0     .01     3.3
832          SQ       0     1.1     1.1
             * DDM   ***** Preserved *****

833          KK   CDIV6
834          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
835          HC       2
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 22

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

836          KK     443
837          KM   SUB-BASIN 443
838          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
839          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
840          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
841          BA    .080
842          LG    .250    .190   8.000    .080  10.000
843          UC    .179    .176
844          UA       0       5      16      30      65      77      84      90      94      97
845          UA     100
             * DDM   ***** Preserved *****

846          KK   DIV66
847          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
848          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
849          DT   WSH66
850          DI       0      78     100     200
851          DQ       0      78      78      78
             * DDM   ***** Preserved *****

852          KK    R113
853          KM        ROUTE FLOW FROM C113 TO C114
854          RS       1    FLOW      -1
855          RC    .019    .019    .019    1300    .029
```

```
856          RX    1000    1004    1008    1012    1018    1022    1026    1030
857          RY      17   15.33   12.67      10      10   12.67   15.33      17
             * DDM   ***** Preserved *****

858          KK    C114
859          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
860          HC       2
             * DDM   ***** Updated *****

861          KK     444
862          KM   SUB-BASIN 444
863          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
864          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
865          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
866          BA    .040
867          LG    .130    .350   4.450    .320   1.000
868          UC    .104    .078
869          UA       0       3       5       8      12      20      43      75      90      96
870          UA     100
             * DDM   ***** Preserved *****

871          KK     R58
872          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
873          RS       1    FLOW      -1
874          RC     .05    .035     .05    2370   .0516
875          RX    1000    1010    1020    1050    1055    1085    1095    1105
876          RY      19      18      17      10      10      17      18      19
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 23

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

877          KK     445
878          KM   SUB-BASIN 445
879          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
880          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
881          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
882          BA    .190
883          LG    .170    .320   3.470    .590   3.000
884          UC    .171    .114
885          UA       0       5      16      30      65      77      84      90      94      97
886          UA     100
             * DDM   ***** Preserved *****

887          KK    C107
888          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
889          HC       2
             * DDM   ***** Preserved *****

890          KK    R107
891          KM        ROUTE FLOW FROM C107 TO C109
892          RS       1    FLOW      -1
893          RC     .05    .035     .05     700   .0516
894          RX    1000    1010    1020    1050    1055    1085    1095    1105
895          RY      19      18      17      10      10      17      18      19
             * DDM   ***** Preserved *****

896          KK    RTB2
897          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
             *      1
898          DR   SPLIT
             * DDM   ***** Preserved *****

899          KK  RSPLIT
900          KM        ROUTE FLOW FROM SPLIT TO C109
901          RS       1    FLOW      -1
902          RC     .05    .035     .05     800     .05
903          RX    1000    1025    1050    1070    1075    1095    1120    1145
904          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

905          KK     446
906          KM   SUB-BASIN 446
907          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
908          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
909          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
910          BA    .040
911          LG    .270    .250   4.500    .400  19.000
912          UC    .167    .170
913          UA       0       5      16      30      65      77      84      90      94      97
914          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 24

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

915          KK    C109
916          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
917          HC       3
             * DDM   ***** Preserved *****

918          KK    DIV5
919          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
920          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
             *      1
921          DT  WSH404
922          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
923          DQ       0      35      35      35      35      35      35      35
             * DDM   ***** Preserved *****

924          KK    R109
925          KM        ROUTE FLOW FROM C109 TO C110
926          RS       1    FLOW      -1
927          RC    .019    .019    .019    3080     .05
928          RX    1000    1005    1010    1015    1025    1030    1035    1040
929          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
             * DDM   ***** Updated *****

930          KK     447
931          KM   SUB-BASIN 447
932          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
```

```
933          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
934          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
935          BA    .090
936          LG    .250    .270   3.350    .870  30.000
937          UC    .188    .129
938          UA       0       5      16      30      65      77      84      90      94      97
939          UA     100
             * DDM   ***** Preserved *****

940          KK   RT404
941          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
942          DR  WSH404
             * DDM   ***** Preserved *****

943          KK    R404
944          KM        ROUTE FLOW FROM C110 TO C110
945          RS       6    FLOW      -1
946          RC    .019    .019    .019    3540     .03
947          RX    1000    1012    1016    1020    1025    1029    1033    1045
948          RY      15      12      11      10      10      11      12      15
             * DDM   ***** Preserved *****

949          KK    C110
950          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
951          HC       3
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

952          KK    R110
953          KM        ROUTE FLOW FROM C110 TO C115
954          RS       1    FLOW      -1
955          RC    .019    .019    .019     580   .0291
956          RX    1000    1012    1016    1020    1035    1039    1043    1055
957          RY      15      12      11      10      10      11      12      15
             * DDM   ***** Preserved *****

958          KK    C115
959          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
960          HC       2
             * DDM   ***** Preserved *****

961          KK    R115
962          KM        ROUTE FLOW FROM C115 TO C119
963          RS       1    FLOW      -1
964          RC    .019    .019    .019    2125    .029
965          RC    .019    .019    .019     580   .0291
966          RX    1000    1012    1016    1020    1035    1039    1043    1055
967          RY      15      12      11      10      10      11      12      15
             * DDM   ***** Updated *****

968          KK     448
969          KM   SUB-BASIN 448
970          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
971          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
972          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
973          BA    .045
974          LG    .170    .310   4.200    .390  11.000
975          UC    .121    .092
976          UA       0       5      16      30      65      77      84      90      94      97
977          UA     100
             * DDM   ***** Updated *****

978          KK     449
979          KM   SUB-BASIN 449
980          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
981          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
982          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
983          BA    .050
984          LG    .260    .280   3.500    .640   6.000
985          UC    .150    .119
986          UA       0       5      16      30      65      77      84      90      94      97
987          UA     100
             * DDM   ***** Preserved *****

988          KK   C6364
989          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
990          HC       2
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

991          KK   R6364
992          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
993          RS       3    FLOW      -1
994          RC     .05     .035     .05    4375   .0333
995          RX    1000    1027    1053    1080    1090    1117    1143    1170
996          RY      15   13.33   11.67      10      10   11.67   13.33      15
             * DDM   ***** Updated *****

997          KK     450
998          KM   SUB-BASIN 450
999          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1000         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1001         KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1002         BA    .070
1003         LG    .340    .350   3.630    .570   4.000
1004         UC    .258    .329
1005         UA       0       3       5       8      12      20      43      75      90      96
1006         UA     100
             * DDM   ***** Updated *****

1007         KK     451
1008         KM   SUB-BASIN 451
1009         KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1010         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1011         KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1012         BA    .025
1013         LG    .340    .340   3.290    .750   3.000
```

```
1014          UC    .237    .392
1015          UA       0       3       5       8      12      20      43      75      90      96
1016          UA     100
              * DDM   ***** Preserved *****

1017          KK    RT66
1018          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1019          DR   WSH66
              * DDM   ***** Updated *****

1020          KK     452
1021          KM   SUB-BASIN 452
1022          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1023          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1024          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1025          BA    .040
1026          LG    .260    .280   3.700    .550   9.000
1027          UC    .154    .148
1028          UA       0       5      16      30      65      77      84      90      94      97
1029          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 27

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1030          KK   C6465
1031          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1032          HC       2
              * DDM   ***** Preserved *****

1033          KK   R6566
1034          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1035          RS       2    FLOW      -1
1036          RC     .05    .035     .05    2435   .0282
1037          RX    1000    1045    1090    1150    1160    1220    1265    1310
1038          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1039          KK    C116
1040          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1041          HC       4
              * DDM   ***** Preserved *****

1042          KK  BASIN5
1043          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1044          KM        BASIN 5 FEET DEEP
1045          RS       1    ELEV       0
1046          SV       0     4.5     9.9
1047          SQ       0      69     190
1048          SE       0     2.5       5
              * DDM   ***** Preserved *****

1049          KK    R116
1050          KM   ROUTE FLOW FROM C116 TO C117
1051          RS       2    FLOW      -1
1052          RC     .05    .035     .05    1300   .0333
1053          RX    1000    1100    1200    1300    1320    1420    1520    1620
1054          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1055          KK     453
1056          KM   SUB-BASIN 453
1057          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1058          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1059          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1060          BA    .060
1061          LG    .290    .300   3.290    .820  18.000
1062          UC    .242    .246
1063          UA       0       5      16      30      65      77      84      90      94      97
1064          UA     100
              * DDM   ***** Preserved *****

1065          KK    C117
1066          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1067          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 28

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1068          KK    C118
1069          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1070          HC       2
              * DDM   ***** Preserved *****

1071          KK    R118
1072          KM        ROUTE FLOW FROM C118 TO  DIV7
1073          RS       1    FLOW      -1
1074          RC    .019    .019    .019    1500    .024
1075          RX    1000    1012    1016    1020    1035    1039    1043    1055
1076          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1077          KK    DIV7
1078          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1079          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
              *      1
1080          DT  BASIN6
1081          DI       0     363     487     563     645     844
1082          DQ       0       3      47      83     125     244
              * DDM   ***** Preserved *****

1083          KK  RTDIV7
1084          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1085          DR  BASIN6
              * DDM   ***** Preserved *****

1086          KK  RFDIV7
1087          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1088          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1089          RS       1    STOR       0
```

```
1090          SV       0     .01     3.6
1091          SQ       0     1.2     1.2
              * DDM   ***** Preserved *****

1092          KK   CDIV7
1093          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1094          HC       2
              * DDM   ***** Updated *****

1095          KK     454
1096          KM   SUB-BASIN 454
1097          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1098          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1099          KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1100          BA    .180
1101          LG    .300    .310   3.780    .560  14.000
1102          UC    .338    .348
1103          UA       0       5      16      30      65      77      84      90      94      97
1104          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 29

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1105          KK    C119
1106          KM         COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
              *      1       2
1107          HC       2
              * DDM   ***** Preserved *****

1108          KK    R454
1109          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1110          KM   ROUTE FLOW FROM C119 TO 415C
1111          RS       2    FLOW      -1
1112          RC    .045    .035    .045    2200    .009
1113          RX       0      .5       1      33      42      67    67.5      68
1114          RY       5       4       4       0       0       6       6       6
              * DDM   ***** Updated *****

1115          KK     415
1116          KM   SUB-BASIN 415
1117          KM   6-HOUR RAINFALL, PATTERN NO. 1.11 WAS USED TO FIND TC & R FOR THIS BASIN
1118          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
1119          KM     L = 2.58  Kb = .044  Adj. Slope =  298.5
1120          BA    .606
1121          LG    .320    .290   4.500    .400  15.000
1122          UC    .392    .371
1123          UA       0       5      16      30      65      77      84      90      94      97
1124          UA     100
              * DDM   ***** Preserved *****

1125          KK   RT385
1126          KM   RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385 INTO SUB-BASIN 415
1127          DR   SF385
              * DDM   ***** Preserved *****

1128          KK   RR385
1129          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1130          KM   ROUTING OF SPLIT FLOW FROM SUB-BASIN 385 TO SUB-BASIN 415
1131          RS       9    FLOW      -1
1132          RC    .045     .04    .045    5878    .024
1133          RX       0       1      40      46      56      62     102     103
1134          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Preserved *****

1135          KK    415C
1136          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1137          HC       3    1.71
              * DDM   ***** Preserved *****

1138          KK    R415
1139          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1140          KM   ROUTING OF FLOW FROM 415C TO 455C
1141          RS       2    FLOW      -1
1142          RC    .045     .03    .045    4100    .024
1143          RX       0      .5       1       8      16      23    23.5      24
1144          RY       8       8       8       0       0       8       8       8
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 30

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1145          KK     455
1146          KM   SUB-BASIN 455
1147          KM   6-HOUR RAINFALL, PATTERN NO. 1.46 WAS USED TO FIND TC & R FOR THIS BASIN
1148          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .986
1149          KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1150          BA   1.111
1151          LG    .270    .280   3.700    .640  24.000
1152          UC    .425    .206
1153          UA       0       5      16      30      65      77      84      90      94      97
1154          UA     100
              * DDM   ***** Preserved *****

1155          KK    D455
1156          KM         DIVERT FLOW INTO ONLINE  DETENTION BASIN
1157          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1158          KM   FOR BASIN #: 30      34      43      47&58
1159          KM         MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
              *      1
1160          DT   BS455    74.1
1161          DI       0   10000
1162          DQ       0   10000
              * DDM   ***** Preserved *****

1163          KK   RT455
1164          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1165          DR   BS455
              * DDM   ***** Preserved *****

1166          KK   SR455
```

```
1167        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1168        KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1169        RS       1    STOR       0
1170        SV       0     .01    74.1
1171        SQ       0      25      25
            * DDM   ***** Preserved *****

1172        KK    C455
1173        KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1174        HC       2
            * DDM   ***** Preserved *****

1175        KK    455C
1176        KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
            *      1       2
1177        HC       3
            * DDM   ***** Preserved *****

1178        KK   SR440
1179        KM   SPOOK HILL FRS PLANS DATED 6/15/77
1180        KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1181        KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1182        KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
1183        RS       1    STOR       0
1184        SV       0      10     100     300     500     680
1                                        HEC-1 INPUT                                          PAGE 31

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1185        SQ       0     640     720     780     825     860
1186        SE      66    77.5      79    80.2    81.2      82
            * DDM   ***** Preserved *****

1187        KK   RR455
1188        KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 462
1189        RS      10    FLOW      -1
1190        RC    .035    .025    .035    9200    .002
1191        RX       0       1       2      28      58      84      85      86
1192        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1193        KK     456
1194        KM   SUB-BASIN 456
1195        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1196        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
1197        KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1198        BA    .260
1199        LG    .300    .380   5.600    .200  12.000
1200        UC    .200    .127
1201        UA       0       5      16      30      65      77      84      90      94      97
1202        UA     100
            * DDM   ***** Preserved *****

1203        KK    DIV1
1204        KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1205        KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
            *      1
1206        DT  BASIN1
1207        DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1208        DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
            * DDM   ***** Preserved *****

1209        KK    DIV2
1210        KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1211        KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1212        DT    WA30
1213        DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1214        DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
            * DDM   ***** Preserved *****

1215        KK    R456
1216        KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1217        RS       2    FLOW      -1
1218        RC     .05    .035     .05    3800    .044
1219        RX    1000    1010    1020    1036    1041    1057    1067    1077
1220        RY   14.88   14.44      14      10      10      14   14.44   14.88
            * DDM   ***** Updated *****

1221        KK     457
1222        KM   SUB-BASIN 457
1223        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1224        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1225        KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1226        BA    .190
1                                        HEC-1 INPUT                                          PAGE 32

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1227        LG    .270    .330   3.950    .460   6.000
1228        UC    .213    .172
1229        UA       0       5      16      30      65      77      84      90      94      97
1230        UA     100
            * DDM   ***** Preserved *****

1231        KK    C101
1232        KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1233        HC       2
            * DDM   ***** Preserved *****

1234        KK    DIV3
1235        KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1236        KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
            *      1
1237        DT  BASIN2
1238        DI       0      36      70     110     180   313.5     402   500.9
1239        DQ       0       0       0       0       0    67.5     124   190.9
            * DDM   ***** Preserved *****

1240        KK  RTDIV3
1241        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1242        DR  BASIN2
            * DDM   ***** Preserved *****
```

```
1243        KK  RFDIV3
1244        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1245        KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1246        RS       1    STOR       0
1247        SV       0     .01       5
1248        SQ       0     1.7     1.7
            * DDM   ***** Preserved *****

1249        KK   CDIV3
1250        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1251        HC       2
            * DDM   ***** Preserved *****

1252        KK    R101
1253        KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1254        RS       1    FLOW      -1
1255        RC     .05    .035     .05    1450     .05
1256        RX    1000    1010    1020    1036    1041    1057    1067    1077
1257        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1258        KK     458
1259        KM   SUB-BASIN 458
1260        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1261        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1262        KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1263        BA    .190
1264        LG    .290    .330   5.800    .190   6.000
1265        UC    .188    .119
1266        UA       0       5      16      30      65      77      84      90      94      97
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1267        UA     100
            * DDM   ***** Preserved *****

1268        KK    C103
1269        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1270        HC       2
            * DDM   ***** Preserved *****

1271        KK    R103
1272        KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1273        RS       1    FLOW      -1
1274        RC     .05    .035     .05     900     .03
1275        RX    1000    1010    1020    1030    1050    1060    1070    1080
1276        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Preserved *****

1277        KK    RT30
1278        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1279        DR    WA30
            * DDM   ***** Preserved *****

1280        KK     R30
1281        KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1282        RS       1    FLOW      -1
1283        RC     .05    .035     .05    1630     .05
1284        RX    1000    1010    1020    1036    1041    1057    1067    1077
1285        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****

1286        KK    RTB1
1287        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1       2
1288        DR  BASIN1
            * DDM   ***** Preserved *****

1289        KK      B1
1290        KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1291        KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
            *      1       2
1292        RS       4    ELEV       0
1293        SV              .7     1.4     2.3     2.7     3.2
1294        SQ       0       5      16      28    32.5      37
1295        SE       0       1       2       3     3.5       4
            * DDM   ***** Preserved *****

1296        KK     RB1
1297        KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1298        RS       2    FLOW      -1
1299        RC     .05    .035     .05    1720     .05
1300        RX    1000    1010    1020    1036    1041    1057    1067    1077
1301        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1302        KK    CDIV
1303        KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1304        HC       2     .12
            * DDM   ***** Updated *****

1305        KK     459
1306        KM   SUB-BASIN 459
1307        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1308        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1309        KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1310        BA    .030
1311        LG    .220    .300   3.330    .710   8.000
1312        UC    .146    .139
1313        UA       0       5      16      30      65      77      84      90      94      97
1314        UA     100
            * DDM   ***** Preserved *****

1315        KK     C52
1316        KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1317        HC       2
            * DDM   ***** Preserved *****
```

```
1318        KK     R52
1319        KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1320        RS       2    FLOW      -1
1321        RC     .05    .035     .05    2000     .05
1322        RX    1000    1010    1020    1036    1041    1057    1067    1077
1323        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1324        KK     460
1325        KM   SUB-BASIN 460
1326        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1327        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1328        KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1329        BA    .140
1330        LG    .250    .260   3.740    .690  27.000
1331        UC    .221    .145
1332        UA       0       5      16      30      65      77      84      90      94      97
1333        UA     100
            * DDM   ***** Preserved *****

1334        KK    C102
1335        KM       COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1336        HC       2
            * DDM   ***** Preserved *****

1337        KK  BASIN3
1338        KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1339        KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1340        RS       1    ELEV       0
1341        SA       0       0       0       0     .34    1.59    1.81    1.96    2.13     2.3
            *      0       0       0       0    1.14    3.25    5.52    9.23
1342        SQ       0      22      45    47.4      48      51      57      62      67      73
1                                        HEC-1 INPUT                                                PAGE 35

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1343        SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
            * DDM   ***** Preserved *****

1344        KK      R3
1345        KM        ROUTE FLOW FROM C102 to C106
1346        RS       4    FLOW      -1
1347        RC     .05     .03     .05    2750   .0375
1348        RX    1000    1010    1020    1052    1086    1118    1128    1138
1349        RY    19.2    18.4      18      10      10      18    18.4    19.2
            * DDM   ***** Updated *****

1350        KK     461
1351        KM   SUB-BASIN 461
1352        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1353        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1354        KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1355        BA    .120
1356        LG    .270    .250   4.250    .450  21.000
1357        UC    .242    .221
1358        UA       0       5      16      30      65      77      84      90      94      97
1359        UA     100
            * DDM   ***** Preserved *****

1360        KK    C104
1361        KM       COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1362        HC       2
            * DDM   ***** Preserved *****

1363        KK    C106
1364        KM       COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1365        HC       2
            * DDM   ***** Preserved *****

1366        KK    R106
1367        KM       ROUTE FLOW FROM C106 TO C49
1368        RS       2    FLOW      -1
1369        RC     .05    .035     .05    3950    .033
1370        RX    1000    1010    1020    1030    1050    1060    1070    1080
1371        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Updated *****

1372        KK     462
1373        KM   SUB-BASIN 462
1374        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1375        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1376        KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1377        BA    .301
1378        LG    .300    .330   5.300    .240  12.000
1379        UC    .208    .126
1380        UA       0       5      16      30      65      77      84      90      94      97
1381        UA     100
            * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                PAGE 36

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1382        KK     C56
1383        KM       COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
            *      1       2
1384        HC       2
            * DDM   ***** Updated *****

1385        KK     480
1386        KM   SUB-BASIN 480
1387        KM   6-HOUR RAINFALL, PATTERN NO. 1.22 WAS USED TO FIND TC & R FOR THIS BASIN
1388        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .990
1389        KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1390        BA    .731
1391        LG    .270    .270   3.580    .730  27.000
1392        UC    .304    .137
1393        UA       0       5      16      30      65      77      84      90      94      97
1394        UA     100
            * DDM   ***** Preserved *****

1395        KK    D480
1396        KM       DIVERT FLOW INTO ONLINE  DETENTION BASIN
```

```
1397          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1398          KM   FOR BASIN #: 18 & 26
1399          KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
              *      1
1400          DT   BS480    16.5
1401          DI       0   10000
1402          DQ       0   10000
              * DDM   ***** Preserved *****

1403          KK   RT480
1404          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1405          DR   BS480
              * DDM   ***** Preserved *****

1406          KK   SR480
1407          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1408          KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1409          RS       1    STOR       0
1410          SV       0     .01    16.5
1411          SQ       0     5.6     5.6
              * DDM   ***** Preserved *****

1412          KK    C480
1413          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1414          HC       2
              * DDM   ***** Preserved *****

1415          KK    480C
1416          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1417          HC       3    2.09
              * DDM   ***** Preserved *****
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1418          KK   RR480
1419          KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUB-BASIN 500
1420          RS       2    FLOW      -1
1421          RC    .025    .025    .025    6500     .05
1422          RX       0       1       2      28      58      84      85      86
1423          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1424          KK     500
1425          KM   SUB-BASIN 500
1426          KM   6-HOUR RAINFALL, PATTERN NO. 1.36 WAS USED TO FIND TC & R FOR THIS BASIN
1427          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .988
1428          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1429          BA    .930
1430          LG    .350    .400   6.000    .170   9.000
1431          UC    .417    .330
1432          UA       0       3       5       8      12      20      43      75      90      96
1433          UA     100
              * DDM   ***** Preserved *****

1434          KK    500C
1435          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1436          HC       2    3.02
1437          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

  43          10
               V
               V
  53         R10
               V
               V
  59         R12
               .
               .
  65           .          20
               .           .
               .           .
  75         C20............
               .
               .
  78           .          40
               .           .
               .           .
  88           .           .          60
               .           .           .
               .           .           .
  98         60C........................
               V
               V
 101        SR60
               V
               V
 110         R60
               V
               V
 116        RR60
               .
               .
 122           .          80
               .           .
               .           .
 132         80C............
               V
               V
 135         R80
               .
               .
 141           .         100
               .           .
               .           .
 151        100C............
               V
               V
 154        R100
               .
               .
 160           .         120
               .           .
               .           .
 170        120C............
               V
               V
 173        R120
               .
               .
 179           .         140
               .           .
               .           .
 189           .           .        150
               .           .          V
               .           .          V
 199           .           .       R150
               .           .          V
               .           .          V
 205           .           .       R152
               .           .           .
               .           .           .
 211           .           .           .        160
               .           .           .          .
               .           .           .          .
 221           .           .           .          .         180
               .           .           .          .           .
               .           .           .          .           .
 231        180C...............................................
               .
               .
 234           .         210
               .           V
               .           V
 244           .        R210
               .           .
               .           .
 250           .           .        240
               .           .           .
               .           .           .
 260           .        240C............
               .           V
               .           V
 263           .       SR240
               .           .
               .           .
 270           .           .        220
               .           .           .
               .           .           .
 280           .        220C............
               .           V
               .           V
 283           .       SR220
               .           .
               .           .
 290           .           .        190
```

```
                .          .          V
                .          .          V
300             .          .       R190
                .          .          V
                .          .          V
306             .          .       R192
                .          .          .
                .          .          .
312             .          .          .        200
                .          .          .          .
                .          .          .          .
322             .       200C.......................
                .          V
                .          V
325             .      SR200
                .          V
                .          V
332             .      200SR
                .          .
                .          .
339          C180............
                V
                V
342         SR180
                V
                V
351          R180
                .
                .
358             .        260
                .          .
                .          .
368          260C............
                V
                V
371          R260
                .
                .
378             .        280
                .          .
                .          .
388          280C............
                V
                V
391          R280
                .
                .
398             .        300
                .          .
                .          .
408          300C............
                V
                V
411          R300
                V
                V
418         RR300
                .
                .
425             .        350
                .          .
                .          .
438             .          .-------> SF350
435             .       D350
                .          V
                .          V
441             .       350R
                .          .
                .          .
448             .          .        310
                .          .          .
                .          .          .
458             .       C310............
                .          V
                .          V
461             .       R310
                .          .
                .          .
468             .          .        320
                .          .          .
                .          .          .
483             .          .          .-------> BS320
478             .          .       D320
                .          .          .
                .          .          .
488             .          .          .        .<------- BS320
486             .          .          .     RT320
                .          .          .        V
                .          .          .        V
489             .          .          .     SR320
                .          .          .          .
                .          .          .          .
495          C320.................................
                .
                .
498             .        340
                .          .
                .          .
513             .          .-------> BS340
508             .       D340
                .          .
                .          .
518             .          .          .<------- BS340
516             .          .       RT340
                .          .          V
                .          .          V
519             .          .       SR340
                .          .          .
                .          .          .
525          C340........................
                .
                .
530             .          .<------- SF350
```

```
528          .      RT350
             .          V
             .          V
531          .      RR350
             .          .
             .          .
538          .          .        355
             .          .          .
             .          .          .
548          .       C355............
             .          V
             .          V
551          .       R355
             .          .
             .          .
558          .          .        360
             .          .          .
             .          .          .
572          .          .          .-------->   BS360
568          .          .       D360
             .          .          .
             .          .          .
577          .          .          .          .<-------   BS360
575          .          .          .      RT360
             .          .          .          V
             .          .          .          V
578          .          .          .      SR360
             .          .          .          .
             .          .          .          .
584       360C...................................
             .
             .
587          .        370
             .          .
             .          .
597          .          .        395
             .          .          .
             .          .          .
607          .       370C............
             .          V
             .          V
610          .       R370
             .          .
             .          .
617          .          .        380
             .          .          .
             .          .          .
631          .          .          .-------->   BS380
627          .          .       D380
             .          .          .
             .          .          .
636          .          .          .          .<-------   BS380
634          .          .          .      RT380
             .          .          .          V
             .          .          .          V
637          .          .          .      SR380
             .          .          .          .
             .          .          .          .
643       380C...................................
             .
             .
646          .        390
             .          .
             .          .
660          .          .-------->   BS390
656          .       D390
             .          .
             .          .
665          .          .          .<-------   BS390
663          .          .      RT390
             .          .          V
             .          .          V
666          .          .      SR390
             .          .          .
             .          .          .
672          .       390C............
             .          V
             .          V
675          .      RR390
             .          .
             .          .
682          .          .        400
             .          .          .
             .          .          .
696          .          .          .-------->   BS400
692          .          .       D400
             .          .          .
             .          .          .
701          .          .          .          .<-------   BS400
699          .          .          .      RT400
             .          .          .          V
             .          .          .          V
702          .          .          .      SR400
             .          .          .          .
             .          .          .          .
708          .          .       C400............
             .          .          .
             .          .          .
711       400C........................
             .
             .
714          .        385
             .          .
             .          .
726          .          .-------->   SF385
724          .       D385
             .          V
             .          V
729          .       385R
             .          .
             .          .
736          .          .        420
             .          .          .
```

```
750          .          .          .-------->  BS420
746          .          .       D420
             .          .          .
             .          .          .
755          .          .          .          .<-------  BS420
753          .          .          .      RT420
             .          .          .          V
             .          .          .          V
756          .          .          .      SR420
             .          .          .          .
             .          .          .          .
762       420C...................................
             .
             .
765          .       440
             .         V
             .         V
775          .       R70
             .          .
             .          .
781          .          .       441
             .          .          .
             .          .          .
791          .      C108............
             .          .
             .          .
796          .          .-------->  SPLIT
794          .      DIV4
             .         V
             .         V
799          .      R108
             .          .
             .          .
805          .          .       442
             .          .          .
             .          .          .
815          .       C67............
             .          .
             .          .
821          .          .-------->  BASIN4
818          .      DIV6
             .          .
             .          .
826          .          .          .<-------  BASIN4
824          .          .     RTDIV6
             .          .         V
             .          .         V
827          .          .     RFDIV6
             .          .          .
             .          .          .
833          .     CDIV6............
             .          .
             .          .
836          .          .       443
             .          .          .
             .          .          .
849          .          .          .-------->  WSH66
846          .          .      DIV66
             .          .         V
             .          .         V
852          .          .      R113
             .          .          .
             .          .          .
858          .      C114............
             .          .
             .          .
861          .          .       444
             .          .         V
             .          .         V
871          .          .       R58
             .          .          .
             .          .          .
877          .          .          .        445
             .          .          .          .
             .          .          .          .
887          .          .      C107............
             .          .         V
             .          .         V
890          .          .      R107
             .          .          .
             .          .          .
898          .          .          .          .<-------  SPLIT
896          .          .          .      RTB2
             .          .          .          V
             .          .          .          V
899          .          .          .     RSPLIT
             .          .          .          .
             .          .          .          .
905          .          .          .          .        446
             .          .          .          .          .
             .          .          .          .          .
915          .          .      C109........................
             .          .          .
             .          .          .
921          .          .          .-------->  WSH404
918          .          .      DIV5
             .          .         V
             .          .         V
924          .          .      R109
             .          .          .
             .          .          .
930          .          .          .        447
             .          .          .          .
             .          .          .          .
942          .          .          .          .          .<-------  WSH404
940          .          .          .          .      RT404
             .          .          .          .          V
             .          .          .          .          V
943          .          .          .          .      R404
             .          .          .          .          .
             .          .          .          .          .
949          .          .      C110........................
```

```
                 .          .          V
                 .          .          V
952              .          .       R110
                 .          .          .
                 .          .          .
958              .       C115...........
                 .          V
                 .          V
961              .       R115
                 .          .
                 .          .
968              .          .        448
                 .          .          .
                 .          .          .
978              .          .          .        449
                 .          .          .          .
                 .          .          .          .
988              .          .     C6364...........
                 .          .          V
                 .          .          V
991              .          .     R6364
                 .          .          .
                 .          .          .
997              .          .          .        450
                 .          .          .          .
                 .          .          .          .
1007             .          .          .          .        451
                 .          .          .          .          .
                 .          .          .          .          .
1019             .          .          .          .          .          .<-------   WSH66
1017             .          .          .          .          .     RT66
                 .          .          .          .          .          .
                 .          .          .          .          .          .
1020             .          .          .          .          .          .         452
                 .          .          .          .          .          .           .
                 .          .          .          .          .          .           .
1030             .          .          .          .          .     C6465...........
                 .          .          .          .          .          V
                 .          .          .          .          .          V
1033             .          .          .          .          .     R6566
                 .          .          .          .          .          .
                 .          .          .          .          .          .
1039             .          .     C116.................................
                 .          .          V
                 .          .          V
1042             .          .    BASIN5
                 .          .          V
                 .          .          V
1049             .          .     R116
                 .          .          .
                 .          .          .
1055             .          .          .        453
                 .          .          .          .
                 .          .          .          .
1065             .          .     C117...........
                 .          .          .
                 .          .          .
1068             .       C118...........
                 .          V
                 .          V
1071             .       R118
                 .          .
                 .          .
1080             .          .-------->  BASIN6
1077             .       DIV7
                 .          .
                 .          .
1085             .          .          .<-------  BASIN6
1083             .          .    RTDIV7
                 .          .          V
                 .          .          V
1086             .          .    RFDIV7
                 .          .          .
                 .          .          .
1092             .      CDIV7...........
                 .          .
                 .          .
1095             .          .        454
                 .          .          .
                 .          .          .
1105             .       C119...........
                 .          V
                 .          V
1108             .       R454
                 .          .
                 .          .
1115             .          .        415
                 .          .          .
                 .          .          .
1127             .          .          .          .<-------   SF385
1125             .          .          .     RT385
                 .          .          .          V
                 .          .          .          V
1128             .          .          .     RR385
                 .          .          .          .
                 .          .          .          .
1135             .       415C........................
                 .          V
                 .          V
1138             .       R415
                 .          .
                 .          .
1145             .          .        455
                 .          .          .
                 .          .          .
1160             .          .          .-------->   BS455
1155             .          .       D455
                 .          .          .
                 .          .          .
1165             .          .          .          .<-------   BS455
1163             .          .          .     RT455
                 .          .          .          V
                 .          .          .          V
```

```
1166          .           .           .       SR455
              .           .           .           .
              .           .           .           .
1172          .           .        C455............
              .           .           .
              .           .           .
1175       455C......................
              V
              V
1178      SR440
              V
              V
1187      RR455
              .
              .
1193          .        456
              .           .
              .           .
1206          .           .-------> BASIN1
1203          .       DIV1
              .           .
              .           .
1212          .           .------->   WA30
1209          .       DIV2
              .           V
              .           V
1215          .       R456
              .           .
              .           .
1221          .           .        457
              .           .           .
              .           .           .
1231          .       C101............
              .           .
              .           .
1237          .           .-------> BASIN2
1234          .       DIV3
              .           .
              .           .
1242          .           .           .<------- BASIN2
1240          .           .     RTDIV3
              .           .          V
              .           .          V
1243          .           .     RFDIV3
              .           .           .
              .           .           .
1249          .      CDIV3............
              .           V
              .           V
1252          .       R101
              .           .
              .           .
1258          .           .        458
              .           .           .
              .           .           .
1268          .       C103............
              .           V
              .           V
1271          .       R103
              .           .
              .           .
1279          .           .           .<-------   WA30
1277          .           .       RT30
              .           .          V
              .           .          V
1280          .           .       R30
              .           .           .
              .           .           .
1288          .           .           .           .<------- BASIN1
1286          .           .           .       RTB1
              .           .           .          V
              .           .           .          V
1289          .           .           .         B1
              .           .           .          V
              .           .           .          V
1296          .           .           .       RB1
              .           .           .           .
              .           .           .           .
1302          .           .       CDIV............
              .           .           .
              .           .           .
1305          .           .           .       459
              .           .           .           .
              .           .           .           .
1315          .           .       C52............
              .           .          V
              .           .          V
1318          .           .       R52
              .           .           .
              .           .           .
1324          .           .           .       460
              .           .           .           .
              .           .           .           .
1334          .           .       C102............
              .           .          V
              .           .          V
1337          .           .     BASIN3
              .           .          V
              .           .          V
1344          .           .       R3
              .           .           .
              .           .           .
1350          .           .           .       461
              .           .           .           .
              .           .           .           .
1360          .           .       C104............
              .           .           .
              .           .           .
1363          .       C106............
              .           V
              .           V
1366          .       R106
              .           .
```

```
1372          .          .        462
              .          .          .
              .          .          .
1382          .        C56...........
              .          .
              .          .
1385          .          .        480
              .          .          .
              .          .          .
1400          .          .          .-------->   BS480
1395          .          .       D480
              .          .          .
              .          .          .
1405          .          .          .         .<-------   BS480
1403          .          .          .      RT480
              .          .          .          V
              .          .          .          V
1406          .          .          .      SR480
              .          .          .          .
              .          .          .          .
1412          .          .       C480...........
              .          .          .
              .          .          .
1415       480C......................
              V
              V
1418      RR480
              .
              .
1424          .        500
              .          .
              .          .
1434       500C...........
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	10	1275.	4.23	147.	37.	18.	.70		
+	ROUTED TO	R10	1195.	4.37	147.	37.	18.	.70		
+	ROUTED TO	R12	1183.	4.47	147.	37.	18.	.70		
+	HYDROGRAPH AT	20	1150.	4.43	170.	42.	20.	1.12		
+	2 COMBINED AT	C20	1960.	4.47	302.	76.	36.	1.82		
+	HYDROGRAPH AT	40	2290.	4.37	309.	77.	37.	2.23		
+	HYDROGRAPH AT	60	1637.	4.43	287.	72.	35.	1.75		
+	3 COMBINED AT	60C	4607.	4.43	787.	198.	95.	5.80		
+	ROUTED TO	SR60	93.	6.50	93.	90.	82.	5.80		
+	ROUTED TO	R60	93.	6.50	93.	90.	81.	5.80		
+	ROUTED TO	RR60	93.	6.60	93.	90.	81.	5.80		
+	HYDROGRAPH AT	80	1946.	4.30	231.	58.	28.	1.48		
+	2 COMBINED AT	80C	2021.	4.30	318.	149.	111.	1.48		
+	ROUTED TO	R80	2013.	4.30	318.	149.	111.	1.48		
+	HYDROGRAPH AT	100	614.	4.20	82.	21.	10.	.48		
+	2 COMBINED AT	100C	2286.	4.30	382.	164.	119.	1.96		
+	ROUTED TO	R100	2278.	4.33	382.	164.	119.	1.96		
+	HYDROGRAPH AT	120	2962.	4.30	411.	103.	49.	2.20		
+	2 COMBINED AT	120C	4489.	4.30	734.	252.	161.	4.16		
+	ROUTED TO	R120	4469.	4.33	734.	252.	161.	4.16		
+	HYDROGRAPH AT	140	950.	4.13	89.	22.	11.	.60		
+	HYDROGRAPH AT	150	864.	4.13	68.	17.	8.	.41		
+	ROUTED TO	R150	838.	4.20	68.	17.	8.	.41		
+	ROUTED TO	R152	790.	4.30	68.	17.	8.	.41		
+	HYDROGRAPH AT	160	344.	4.37	50.	13.	6.	.37		
+	HYDROGRAPH AT	180	954.	4.40	120.	30.	14.	1.00		
+	5 COMBINED AT	180C	5630.	4.33	921.	298.	183.	6.54		
+	HYDROGRAPH AT	210	1248.	4.17	109.	27.	13.	.58		
+	ROUTED TO	R210	1173.	4.23	109.	27.	13.	.58		
+	HYDROGRAPH AT	240	1494.	4.33	200.	50.	24.	1.40		
+	2 COMBINED AT	240C	2123.	4.30	292.	73.	35.	1.98		
	ROUTED TO	SR240	806.	4.83	241.	62.	30.	1.98		
+	HYDROGRAPH AT	220	1478.	4.17	132.	33.	16.	.73		
+	2 COMBINED AT	220C	1142.	4.43	348.	90.	43.	2.71		
+	ROUTED TO	SR220	1063.	4.63	340.	87.	42.	2.71		

+	HYDROGRAPH AT	190	1711.	4.17	154.	38.	18.	.92
+	ROUTED TO	R190	1658.	4.23	154.	38.	18.	.92
	ROUTED TO	R192	1593.	4.30	154.	38.	18.	.92
+	HYDROGRAPH AT	200	1186.	4.13	95.	24.	11.	.54
+	3 COMBINED AT	200C	2327.	4.33	522.	134.	65.	4.16
+	ROUTED TO	SR200	2280.	4.40	510.	130.	63.	4.16
+	ROUTED TO	200SR	1911.	4.67	389.	100.	48.	4.16
+	2 COMBINED AT	C180	5485.	4.57	1206.	372.	218.	10.69
+	ROUTED TO	SR180	138.	8.77	138.	136.	128.	10.69
+	ROUTED TO	R180	138.	8.83	138.	136.	127.	10.69
+	HYDROGRAPH AT	260	628.	4.10	58.	14.	7.	.27
+	2 COMBINED AT	260C	738.	4.10	195.	159.	143.	.27
+	ROUTED TO	R260	708.	4.17	195.	158.	142.	.27
+	HYDROGRAPH AT	280	722.	4.07	58.	14.	7.	.30
+	2 COMBINED AT	280C	1337.	4.10	248.	171.	149.	.57
+	ROUTED TO	R280	1289.	4.17	248.	171.	148.	.57
+	HYDROGRAPH AT	300	1075.	4.20	143.	36.	17.	.99
+	2 COMBINED AT	300C	1948.	4.20	369.	200.	161.	1.56
	ROUTED TO	R300	1919.	4.27	369.	200.	161.	1.56
+	ROUTED TO	RR300	1898.	4.30	369.	200.	160.	1.56
+	HYDROGRAPH AT	350	1446.	4.23	136.	34.	16.	.97
+	DIVERSION TO	SF350	723.	4.23	68.	17.	8.	.97
+	HYDROGRAPH AT	D350	723.	4.23	68.	17.	8.	.97
+	ROUTED TO	350R	656.	4.40	68.	17.	8.	.97
+	HYDROGRAPH AT	310	581.	4.30	71.	18.	8.	.56
+	2 COMBINED AT	C310	1138.	4.37	133.	33.	16.	.94
+	ROUTED TO	R310	1020.	4.67	132.	33.	16.	.94
+	HYDROGRAPH AT	320	1203.	4.20	159.	40.	19.	.97
+	DIVERSION TO	BS320	562.	3.97	25.	6.	3.	.97
+	HYDROGRAPH AT	D320	1203.	4.20	135.	34.	16.	.97
+	HYDROGRAPH AT	RT320	562.	3.97	25.	6.	3.	.97
+	ROUTED TO	SR320	4.	.47	4.	4.	3.	.97
+	4 COMBINED AT	C320	2610.	4.33	570.	251.	185.	3.47
+	HYDROGRAPH AT	340	1605.	4.20	228.	57.	28.	1.45
	DIVERSION TO	BS340	1605.	4.20	113.	28.	14.	1.45
+	HYDROGRAPH AT	D340	1387.	4.37	116.	29.	14.	1.45
+	HYDROGRAPH AT	RT340	1605.	4.20	113.	28.	14.	1.45
+	ROUTED TO	SR340	19.	1.00	19.	19.	14.	1.45

+	3 COMBINED AT	C340	3298.	4.37	649.	284.	205.	4.92
+	HYDROGRAPH AT	RT350	723.	4.23	68.	17.	8.	.97
	ROUTED TO	RR350	634.	4.43	68.	17.	8.	.97
+	HYDROGRAPH AT	355	707.	4.30	95.	24.	11.	.66
+	2 COMBINED AT	C355	1146.	4.40	153.	38.	18.	1.24
+	ROUTED TO	R355	1067.	4.70	153.	38.	18.	1.24
+	HYDROGRAPH AT	360	740.	4.23	112.	28.	13.	.67
+	DIVERSION TO	BS360	740.	4.23	58.	14.	7.	.67
+	HYDROGRAPH AT	D360	557.	4.40	55.	14.	7.	.67
+	HYDROGRAPH AT	RT360	740.	4.23	58.	14.	7.	.67
+	ROUTED TO	SR360	10.	2.57	10.	10.	7.	.67
+	4 COMBINED AT	360C	3568.	4.57	768.	320.	224.	6.83
+	HYDROGRAPH AT	370	823.	4.30	107.	27.	13.	.67
+	HYDROGRAPH AT	395	281.	4.23	34.	9.	4.	.20
+	2 COMBINED AT	370C	1009.	4.27	137.	34.	16.	.87
+	ROUTED TO	R370	902.	4.60	137.	34.	16.	.87
+	HYDROGRAPH AT	380	853.	4.27	129.	32.	16.	.97
+	DIVERSION TO	BS380	853.	4.27	58.	14.	7.	.97
	HYDROGRAPH AT	D380	671.	4.53	72.	18.	9.	.97
+	HYDROGRAPH AT	RT380	853.	4.27	58.	14.	7.	.97
+	ROUTED TO	SR380	10.	3.43	10.	10.	7.	.97
+	4 COMBINED AT	380C	3972.	4.57	875.	353.	243.	8.67
+	HYDROGRAPH AT	390	688.	4.03	45.	11.	5.	.24
+	DIVERSION TO	BS390	147.	3.77	7.	2.	1.	.24
+	HYDROGRAPH AT	D390	688.	4.03	38.	10.	5.	.24
+	HYDROGRAPH AT	RT390	147.	3.77	7.	2.	1.	.24
+	ROUTED TO	SR390	1.	.23	1.	1.	1.	.24
+	2 COMBINED AT	390C	689.	4.03	39.	11.	5.	.24
+	ROUTED TO	RR390	485.	4.40	39.	11.	5.	.24
+	HYDROGRAPH AT	400	563.	4.20	69.	17.	8.	.62
+	DIVERSION TO	BS400	387.	4.07	11.	3.	1.	.62
+	HYDROGRAPH AT	D400	563.	4.20	58.	14.	7.	.62
+	HYDROGRAPH AT	RT400	387.	4.07	11.	3.	1.	.62
+	ROUTED TO	SR400	2.	.97	2.	2.	1.	.62
	2 COMBINED AT	C400	565.	4.20	60.	16.	8.	.62
	3 COMBINED AT	400C	4177.	4.57	904.	363.	248.	9.53
+	HYDROGRAPH AT	385	870.	4.23	95.	24.	11.	.52
+	DIVERSION TO	SF385	522.	4.23	57.	14.	7.	.52

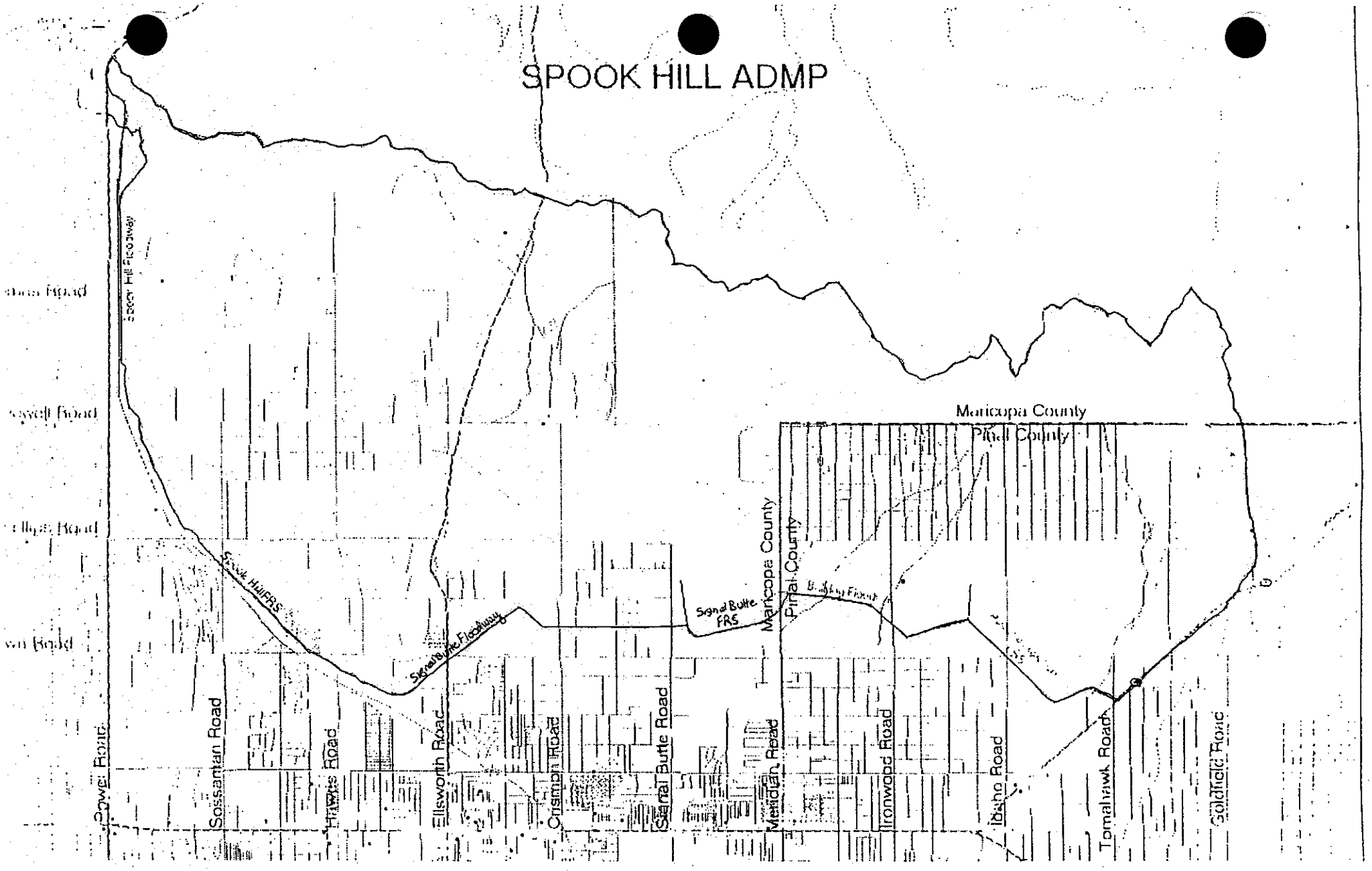
+	HYDROGRAPH AT	D385	348.	4.23	38.	10.	5.	.52
+	ROUTED TO	385R	281.	4.83	38.	10.	5.	.52
	HYDROGRAPH AT	420	997.	4.20	122.	31.	15.	.85
+	DIVERSION TO	BS420	411.	3.97	17.	4.	2.	.85
+	HYDROGRAPH AT	D420	997.	4.20	105.	26.	13.	.85
+	HYDROGRAPH AT	RT420	411.	3.97	17.	4.	2.	.85
+	ROUTED TO	SR420	13.	3.27	13.	4.	2.	.85
+	4 COMBINED AT	420C	4478.	4.57	981.	382.	257.	10.87
+	HYDROGRAPH AT	440	255.	4.03	16.	4.	2.	.08
+	ROUTED TO	R70	247.	4.07	16.	4.	2.	.08
+	HYDROGRAPH AT	441	24.	4.03	2.	0.	0.	.01
+	2 COMBINED AT	C108	270.	4.07	18.	5.	2.	.09
+	DIVERSION TO	SPLIT	135.	4.07	9.	2.	1.	.09
+	HYDROGRAPH AT	DIV4	135.	4.07	9.	2.	1.	.09
+	ROUTED TO	R108	126.	4.10	9.	2.	1.	.09
+	HYDROGRAPH AT	442	170.	4.07	13.	3.	2.	.10
+	2 COMBINED AT	C67	293.	4.10	22.	6.	3.	.19
+	DIVERSION TO	BASIN4	209.	4.10	11.	3.	1.	.19
	HYDROGRAPH AT	DIV6	84.	4.10	11.	3.	1.	.19
+	HYDROGRAPH AT	RTDIV6	209.	4.10	11.	3.	1.	.19
+	ROUTED TO	RFDIV6	1.	3.83	1.	1.	1.	.19
+	2 COMBINED AT	CDIV6	85.	4.10	12.	4.	2.	.19
+	HYDROGRAPH AT	443	213.	4.03	18.	5.	2.	.08
+	DIVERSION TO	WSH66	78.	3.83	12.	3.	1.	.08
+	HYDROGRAPH AT	DIV66	135.	4.03	6.	2.	1.	.08
+	ROUTED TO	R113	133.	4.07	6.	2.	1.	.08
+	2 COMBINED AT	C114	217.	4.07	18.	5.	3.	.27
+	HYDROGRAPH AT	444	119.	4.03	7.	2.	1.	.04
+	ROUTED TO	R58	110.	4.07	7.	2.	1.	.04
+	HYDROGRAPH AT	445	470.	4.03	27.	7.	3.	.19
+	2 COMBINED AT	C107	577.	4.03	33.	8.	4.	.23
+	ROUTED TO	R107	569.	4.03	33.	8.	4.	.23
+	HYDROGRAPH AT	RTB2	135.	4.07	9.	2.	1.	.09
+	ROUTED TO	RSPLIT	135.	4.07	9.	2.	1.	.09
	HYDROGRAPH AT	446	97.	4.03	8.	2.	1.	.04
+	3 COMBINED AT	C109	796.	4.03	50.	12.	6.	.27
+	DIVERSION TO	WSH404	35.	3.67	7.	2.	1.	.27
+	HYDROGRAPH AT	DIV5	761.	4.03	42.	11.	5.	.27

+	ROUTED TO	R109	749.	4.07	42.	11.	5.	.27
+	HYDROGRAPH AT	447	217.	4.03	16.	4.	2.	.09
+	HYDROGRAPH AT	RT404	35.	3.67	7.	2.	1.	.27
+	ROUTED TO	R404	35.	3.80	7.	2.	1.	.27
+	3 COMBINED AT	C110	994.	4.07	66.	16.	8.	.36
+	ROUTED TO	R110	994.	4.07	66.	16.	8.	.36
+	2 COMBINED AT	C115	1126.	4.07	81.	21.	11.	.63
+	ROUTED TO	R115	1123.	4.07	81.	21.	11.	.63
+	HYDROGRAPH AT	448	129.	4.00	8.	2.	1.	.05
+	HYDROGRAPH AT	449	123.	4.03	7.	2.	1.	.05
+	2 COMBINED AT	C6364	250.	4.03	15.	4.	2.	.09
+	ROUTED TO	R6364	205.	4.13	15.	4.	2.	.09
+	HYDROGRAPH AT	450	100.	4.17	9.	2.	1.	.07
+	HYDROGRAPH AT	451	30.	4.17	3.	1.	0.	.03
+	HYDROGRAPH AT	RT66	78.	3.83	12.	3.	1.	.08
+	HYDROGRAPH AT	452	95.	4.03	6.	2.	1.	.04
+	2 COMBINED AT	C6465	173.	4.03	18.	5.	2.	.04
+	ROUTED TO	R6566	165.	4.10	18.	5.	2.	.04
+	4 COMBINED AT	C116	493.	4.13	45.	11.	5.	.23
+	ROUTED TO	BASIN5	219.	4.43	45.	11.	5.	.23
+	ROUTED TO	R116	218.	4.50	45.	11.	5.	.23
+	HYDROGRAPH AT	453	101.	4.07	9.	2.	1.	.06
+	2 COMBINED AT	C117	247.	4.43	54.	14.	7.	.29
+	2 COMBINED AT	C118	1121.	4.07	128.	33.	16.	.92
+	ROUTED TO	R118	1108.	4.10	127.	33.	16.	.92
+	DIVERSION TO	BASIN6	402.	4.10	20.	5.	2.	.92
+	HYDROGRAPH AT	DIV7	706.	4.10	107.	28.	14.	.92
+	HYDROGRAPH AT	RTDIV7	402.	4.10	20.	5.	2.	.92
+	ROUTED TO	RFDIV7	1.	3.90	1.	1.	1.	.92
+	2 COMBINED AT	CDIV7	707.	4.10	108.	29.	15.	.92
+	HYDROGRAPH AT	454	255.	4.13	28.	7.	3.	.18
+	2 COMBINED AT	C119	879.	4.10	132.	35.	18.	1.10
+	ROUTED TO	R454	854.	4.17	132.	35.	18.	1.10
+	HYDROGRAPH AT	415	820.	4.17	102.	26.	12.	.61
+	HYDROGRAPH AT	RT385	522.	4.23	57.	14.	7.	.52
+	ROUTED TO	RR385	467.	4.47	57.	14.	7.	.52
+	3 COMBINED AT	415C	1584.	4.20	271.	70.	35.	1.71
+	ROUTED TO	R415	1570.	4.23	271.	70.	35.	1.71

+	HYDROGRAPH AT	455	1595.	4.13	179.	45.	22.	1.11
+	DIVERSION TO	BS455	1595.	4.13	149.	37.	18.	1.11
+	HYDROGRAPH AT	D455	531.	4.40	30.	8.	4.	1.11
+	HYDROGRAPH AT	RT455	1595.	4.13	149.	37.	18.	1.11
+	ROUTED TO	SR455	25.	2.83	25.	25.	18.	1.11
+	2 COMBINED AT	C455	556.	4.40	55.	33.	22.	1.11
+	3 COMBINED AT	455C	5058.	4.57	1164.	446.	292.	13.69
+	ROUTED TO	SR440	793.	5.80	772.	446.	292.	13.69
+	ROUTED TO	RR455	793.	6.13	772.	446.	290.	13.69
+	HYDROGRAPH AT	456	691.	4.03	48.	12.	6.	.26
+	DIVERSION TO	BASIN1	319.	4.03	15.	4.	2.	.26
+	HYDROGRAPH AT	DIV1	371.	4.03	33.	8.	4.	.26
+	DIVERSION TO	WA30	66.	4.03	10.	3.	1.	.26
+	HYDROGRAPH AT	DIV2	305.	4.03	23.	6.	3.	.26
+	ROUTED TO	R456	288.	4.10	23.	6.	3.	.26
+	HYDROGRAPH AT	457	410.	4.07	28.	7.	3.	.19
+	2 COMBINED AT	C101	686.	4.07	52.	13.	6.	.45
+	DIVERSION TO	BASIN2	316.	4.07	15.	4.	2.	.45
+	HYDROGRAPH AT	DIV3	370.	4.07	37.	9.	4.	.45
+	HYDROGRAPH AT	RTDIV3	316.	4.07	15.	4.	2.	.45
+	ROUTED TO	RFDIV3	2.	3.87	2.	2.	2.	.45
+	2 COMBINED AT	CDIV3	372.	4.07	38.	11.	6.	.45
+	ROUTED TO	R101	368.	4.10	38.	11.	6.	.45
+	HYDROGRAPH AT	458	522.	4.03	35.	9.	4.	.19
+	2 COMBINED AT	C103	819.	4.03	71.	19.	10.	.64
+	ROUTED TO	R103	819.	4.07	71.	19.	10.	.64
+	HYDROGRAPH AT	RT30	66.	4.03	10.	3.	1.	.26
+	ROUTED TO	R30	65.	4.07	10.	3.	1.	.26
+	HYDROGRAPH AT	RTB1	319.	4.03	15.	4.	2.	.26
+	ROUTED TO	B1	65.	5.00	15.	4.	2.	.26
+	ROUTED TO	RB1	65.	5.07	15.	4.	2.	.26
+	2 COMBINED AT	CDIV	69.	5.00	24.	6.	3.	.12
+	HYDROGRAPH AT	459	69.	4.03	4.	1.	1.	.03
+	2 COMBINED AT	C52	133.	4.03	29.	7.	4.	.15
+	ROUTED TO	R52	129.	4.07	29.	7.	4.	.15
+	HYDROGRAPH AT	460	329.	4.07	25.	6.	3.	.14
+	2 COMBINED AT	C102	457.	4.07	54.	14.	7.	.29
+	ROUTED TO	BASIN3	77.	4.67	53.	14.	7.	.29

	ROUTED TO							
+		R3	77.	4.83	53.	14.	7.	.29
	HYDROGRAPH AT							
+		461	249.	4.07	22.	6.	3.	.12
	2 COMBINED AT							
		C104	304.	4.07	75.	19.	9.	.41
	2 COMBINED AT							
+		C106	980.	4.07	139.	36.	18.	1.05
	ROUTED TO							
+		R106	942.	4.13	139.	36.	18.	1.05
	HYDROGRAPH AT							
+		462	792.	4.03	55.	14.	7.	.30
	2 COMBINED AT							
+		C56	1401.	4.07	186.	49.	24.	1.35
	HYDROGRAPH AT							
+		480	1452.	4.07	125.	31.	15.	.73
	DIVERSION TO							
+		BS480	727.	3.93	33.	8.	4.	.73
	HYDROGRAPH AT							
+		D480	1452.	4.07	92.	23.	11.	.73
	HYDROGRAPH AT							
+		RT480	727.	3.93	33.	8.	4.	.73
	ROUTED TO							
+		SR480	6.	.23	6.	6.	4.	.73
	2 COMBINED AT							
+		C480	1458.	4.07	98.	29.	15.	.73
	3 COMBINED AT							
+		480C	2406.	4.10	1015.	636.	389.	2.09
	ROUTED TO							
+		RR480	2368.	4.13	1014.	636.	389.	2.09
	HYDROGRAPH AT							
+		500	1324.	4.27	160.	40.	19.	.93
	2 COMBINED AT							
+		500C	2967.	4.23	1130.	645.	393.	3.02

*** NORMAL END OF HEC-1 ***



HEC-1 Existing Condition 10-Year, 24-Hour Storm

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              JUN   1998               *
*            VERSION 4.1                *
*                                       *
*  RUN DATE   29JUN00  TIME  08:25:49   *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
1                                    HEC-1 INPUT                                                    PAGE  1

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID   EXISTING LAND USE CALCULATIONS WERE BASED ON 1 YR. FROM 11/5/99
  2           ID   FOR LAS SENDAS       AND LANDISCOR JAN.1999 AERIAL PHOTOGPRAPHS
  3           ID
  4           ID   ALL DAMS WERE ANALYZED WITH NO STORAGE BELOW PRINCIPLE SPILLWAY ELEVATIONS
  5           ID
  6           ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
  7           ID   PRECIPITATION VALUES
  8           ID
  9           ID   ALL CHANNEL ROUTING INFORMATION WAS OBTAINED FROM MCFCD SPOOK HILL   SIGNAL
 10           ID   BUTTE        AND BULLDOG FLOODWAY PLANS
 11           ID
 12           ID   CURRENT 10-YEAR, 24-HOUR STORM EVENT MODEL UTILIZING CURRENT ALIGNMENT
 13           ID   OF SUB-BASIN BOUNDARIES FOR SUB-BASINS 385 (REDUCED) & 415 (ENLARGED)
 14           ID   AND 2' CONTOUR MAPPING FROM CURRENT 24-HOUR 100-YEAR MODEL.
 15           ID
 16           ID   ANALYSIS PERFORMED BY WOOD/PATEL; MW;        06/29/00  FILE: S24XE34.DAT
 17           ID
 18           ID   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 10YR, 24HR STORM
              *DIAGRAM
 19           IT       2                    1500
 20           IO       3
 21           IN      15
 22           JD    2.42    0.01
 23           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
 24           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
 25           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
 26           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
 27           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
 28           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
 29           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
 30           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
 31           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
 32           PC    .983    .986    .989    .992    .995    .998   1.000
 33           JD    2.27   10.00
 34           JD    2.18   30.00
 35           JD    2.08   60.00
 36           JD    2.05   90.00
 37           JD    2.02  120.00
 38           JD    2.00  150.00
 39           JD    1.94  300.00
 40           JD    1.89  500.00
              * DDM   ***** Updated *****

 41           KK      10
 42           KM   SUB-BASIN 10
 43           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 44           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 45           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
 46           BA    .702
 47           LG    .350    .320   7.600    .090  15.000
 48           UC    .550    .406
 49           UA       0       3       5       8      12      20      43      75      90      96
 50           UA     100
              * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                                    PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 51           KK     R10
 52           KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
 53           RS       6    FLOW      -1
 54           RC    .045     .03    .045    8700    .021
 55           RX       0       1       2      17      27      42      43      44
 56           RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****

 57           KK     R12
 58           KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
 59           RS       5    FLOW      -1
 60           RC    .045     .03    .045    4500    .01
 61           RX       0       1      30    37.5    57.5      65      94      95
 62           RY       3     2.5     2.5       0       0     2.5     2.5       3
              * DDM   ***** Updated *****
```

```
 63          KK      20
 64          KM   SUB-BASIN 20
 65          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 66          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 67          KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 68          BA   1.120
 69          LG    .350    .390   5.800    .190   1.000
 70          UC   1.017    .735
 71          UA       0       3       5       8      12      20      43      75      90      96
 72          UA     100
             * DDM   ***** Preserved *****

 73          KK     C20
 74          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 75          HC       2
             * DDM   ***** Updated *****

 76          KK      40
 77          KM   SUB-BASIN 40
 78          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 79          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
 80          KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
 81          BA   2.233
 82          LG    .340    .340   4.900    .280   5.000
 83          UC    .746    .416
 84          UA       0       3       5       8      12      20      43      75      90      96
 85          UA     100
             * DDM   ***** Updated *****

 86          KK      60
 87          KM   SUB-BASIN 60
 88          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 89          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .990
 90          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 91          BA   1.746
 92          LG    .330    .350   5.800    .190   9.000
 93          UC    .879    .734
 94          UA       0       3       5       8      12      20      43      75      90      96
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 95          UA     100
             * DDM   ***** Preserved *****

 96          KK     60C
 97          KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1       2
 98          HC       3
             * DDM   ***** Preserved *****

 99          KK    SR60
100          KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
101          KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
102          KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
103          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
104          RS       1    STOR       0
105          SV       0       1     100     200     300     400
106          SQ       0      71      81      87    91.5      94
107          SE    83.5    93.5      96    97.7      99   99.77
             * DDM   ***** Preserved *****

108          KK     R60
109          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
110          RS       2    FLOW      -1
111          RC    .016    .016    .016    2850    .012
112          RX       0       1       2     2.1     5.6     5.7       6       7
113          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Preserved *****

114          KK    RR60
115          KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
116          RS       3    FLOW      -1
117          RC    .016    .016    .016    3500    .005
118          RX       0       1       2     2.1     7.1     7.2       8       9
119          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Updated *****

120          KK      80
121          KM   SUB-BASIN 80
122          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
123          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
124          KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
125          BA   1.475
126          LG    .330    .330   5.600    .210   4.000
127          UC    .621    .385
128          UA       0       3       5       8      12      20      43      75      90      96
129          UA     100
             * DDM   ***** Preserved *****

130          KK     80C
131          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
132          HC       2   1.475
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

133          KK     R80
134          KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
135          RS       1    FLOW      -1
136          RC    .025    .016    .025    1200    .003
137          RX       0       2       6     6.1    41.1    41.2    56.2    58.2
138          RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
             * DDM   ***** Updated *****

139          KK     100
140          KM   SUB-BASIN 100
141          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
142          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
143          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
144          BA    .484
```

```
145          LG    .320    .290   5.100    .260   3.000
146          UC    .804    .746
147          UA       0       5      16      30      65      77      84      90      94      97
148          UA     100
             * DDM   ***** Preserved *****

149          KK    100C
150          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
151          HC       2
             * DDM   ***** Preserved *****

152          KK    R100
153          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
154          RS       1    FLOW      -1
155          RC    .016    .016    .016     940    .005
156          RX       0       1       2     2.1    52.1    52.2      53      54
157          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****

158          KK     120
159          KM   SUB-BASIN 120
160          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
161          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
162          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
163          BA   2.202
164          LG    .330    .280   6.800    .130  11.000
165          UC    .579    .316
166          UA       0       3       5       8      12      20      43      75      90      96
167          UA     100
             * DDM   ***** Preserved *****

168          KK    120C
169          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
170          HC       2
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE  5

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

171          KK    R120
172          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
173          RS       1    FLOW      -1
174          RC    .025    .016    .025    2100    .005
175          RX       0       6      10    10.1    60.1    60.2    74.2    80.2
176          RY       8       5       5       0       0       5       5       8
             * DDM   ***** Updated *****

177          KK     140
178          KM   SUB-BASIN 140
179          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
180          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
181          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
182          BA    .598
183          LG    .310    .280   4.200    .440   5.000
184          UC    .608    .418
185          UA       0       5      16      30      65      77      84      90      94      97
186          UA     100
             * DDM   ***** Updated *****

187          KK     150
188          KM   SUB-BASIN 150
189          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
190          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
191          KM     L = 1.50  Kb = .047  Adj. Slope =  315.0
192          BA    .408
193          LG    .350    .360   5.100    .260   7.000
194          UC    .412    .319
195          UA       0       3       5       8      12      20      43      75      90      96
196          UA     100
             * DDM   ***** Preserved *****

197          KK    R150
198          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
199          RS       2    FLOW      -1
200          RC    .045     .04    .045    3100    .032
201          RX       0       1       2      23      33      54      55      56
202          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

203          KK    R152
204          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
205          RS       6    FLOW      -1
206          RC    .045     .03    .045    5900    .019
207          RX       0       1       2       8      33      39      40      41
208          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****

209          KK     160
210          KM   SUB-BASIN 160
211          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
212          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
213          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
214          BA    .369
1                                    HEC-1 INPUT                                          PAGE  6

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

215          LG    .340    .330   4.150    .440   1.000
216          UC    .908   1.063
217          UA       0       3       5       8      12      20      43      75      90      96
218          UA     100
             * DDM   ***** Updated *****

219          KK     180
220          KM   SUB-BASIN 180
221          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
222          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
223          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
224          BA   1.000
225          LG    .350    .350   4.150    .430    .000
226          UC    .892    .661
227          UA       0       3       5       8      12      20      43      75      90      96
```

```
228          UA     100
             * DDM   ***** Preserved *****

229          KK    180C
230          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
231          HC       5
             * DDM   ***** Updated *****

232          KK     210
233          KM   SUB-BASIN 210
234          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
235          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
236          KM     L = 1.84  Kb = .045  Adj. Slope =  315.0
237          BA    .583
238          LG    .350    .350   7.000    .120   5.000
239          UC    .421    .314
240          UA       0       3       5       8      12      20      43      75      90      96
241          UA     100
             * DDM   ***** Preserved *****

242          KK    R210
243          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
244          RS       3    FLOW      -1
245          RC    .045     .03    .045    5100    .022
246          RX       0       1       2      14      34      46      47      48
247          RY       4       4       4       0       0       4       4       4
             * DDM   ***** Updated *****

248          KK     240
249          KM   SUB-BASIN 240
250          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
251          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
252          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
253          BA   1.398
254          LG    .350    .370   5.200    .240   2.000
255          UC    .704    .564
256          UA       0       3       5       8      12      20      43      75      90      96
257          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  7

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

258          KK    240C
259          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
260          HC       2
             * DDM   ***** Preserved *****

261          KK   SR240
262          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
263          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
264          RS       1    STOR       0
265          SA    1.38    14.2    36.5
266          SE     1.7       5      11
267          SS       5      42       3     1.5
             * DDM   ***** Updated *****

268          KK     220
269          KM   SUB-BASIN 220
270          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
271          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
272          KM     L = 1.92  Kb = .043  Adj. Slope =  315.0
273          BA    .725
274          LG    .350    .350   7.000    .120   4.000
275          UC    .421    .287
276          UA       0       3       5       8      12      20      43      75      90      96
277          UA     100
             * DDM   ***** Preserved *****

278          KK    220C
279          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
280          HC       2
             * DDM   ***** Preserved *****

281          KK   SR220
282          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
283          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
284          RS       1    STOR       0
285          SA     .78     4.1    13.7
286          SE       1       3      10
287          SS       3      65       3     1.5
             * DDM   ***** Updated *****

288          KK     190
289          KM   SUB-BASIN 190
290          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
291          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
292          KM     L = 1.91  Kb = .042  Adj. Slope =  315.0
293          BA    .918
294          LG    .350    .390   5.800    .190   8.000
295          UC    .438    .260
296          UA       0       3       5       8      12      20      43      75      90      96
297          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  8

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

298          KK    R190
299          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
300          RS       3    FLOW      -1
301          RC    .045     .03    .045    4740     .03
302          RX       0       1       2      17      37      52      53      54
303          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

304          KK    R192
305          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
306          RS       2    FLOW      -1
307          RC    .045    .035    .045    2200    .018
308          RX       0       1      50      59      79      88     137     138
```

```
309          RY     3.5       3       3       0       0       3       3     3.5
             * DDM   ***** Updated *****

310          KK     200
311          KM   SUB-BASIN 200
312          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
313          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
314          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
315          BA    .535
316          LG    .350    .390   5.700    .200  10.000
317          UC    .408    .282
318          UA       0       3       5       8      12      20      43      75      90      96
319          UA     100
             * DDM   ***** Preserved *****

320          KK    200C
321          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
322          HC       3
             * DDM   ***** Preserved *****

323          KK   SR200
324          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
325          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
326          RS       1    STOR       0
327          SA    2.56     3.1     9.4
328          SE       0       3      10
329          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

330          KK   200SR
331          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
332          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
333          RS       1    STOR       0
334          SA       8     9.2     9.2
335          SE       0       7      10
336          SS       7     251       3     1.5
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE  9

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

337          KK    C180
338          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             *      1       2
339          HC       2
             * DDM   ***** Preserved *****

340          KK   SR180
341          KM   SIGNAL BUTTE FRS DATED 1/28/85
342          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
343          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
344          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
345          RS       1    STOR       0
346          SV       0       1     250     500     750    1060
347          SQ       0   106.5   125.5   137.5     146     160
348          SE      90     101   104.5     107     109   112.4
             * DDM   ***** Preserved *****

349          KK    R180
350          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
351          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
352          RS       2    FLOW      -1
353          RC    .035    .025    .035    1500    .003
354          RX       0       1       2    22.6    38.6    59.2      60      61
355          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

356          KK     260
357          KM   SUB-BASIN 260
358          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
359          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
360          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
361          BA    .267
362          LG    .300    .170   6.800    .160  15.000
363          UC    .458    .279
364          UA       0       5      16      30      65      77      84      90      94      97
365          UA     100
             * DDM   ***** Preserved *****

366          KK    260C
367          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
368          HC       2     .267
             * DDM   ***** Preserved *****

369          KK    R260
370          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
371          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
372          RS       3    FLOW      -1
373          RC    .035    .025    .035    2300    .003
374          RX       0       1       2    23.4    43.4    64.8      65      66
375          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                          PAGE 10

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

376          KK     280
377          KM   SUB-BASIN 280
378          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
379          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
380          KM     L =  .77  Kb = .049  Adj. Slope =   84.0
381          BA    .304
382          LG    .300    .250   5.300    .290  15.000
383          UC    .446    .241
384          UA       0       5      16      30      65      77      84      90      94      97
385          UA     100
             * DDM   ***** Preserved *****

386          KK    280C
387          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
388          HC       2
```

```
* DDM   ***** Preserved *****

KK    R280
KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
RS       3    FLOW      -1
RC    .035    .025    .035    2500    .003
RX       0       1       2    23.4    43.4    64.8      65      66
RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
* DDM   ***** Updated *****

KK     300
KM   SUB-BASIN 300
KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
KM     L = 2.28  Kb = .041  Adj. Slope =  127.0
BA    .988
LG    .340    .320   4.500    .370   7.000
UC    .808    .569
UA       0       5      16      30      65      77      84      90      94      97
UA     100
* DDM   ***** Preserved *****

KK    300C
KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
HC       2
* DDM   ***** Preserved *****

KK    R300
KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
RS       3    FLOW      -1
RC    .035    .025    .035    2200    .003
RX       0       1       2    23.4    55.4    76.8      77      78
RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
* DDM   ***** Preserved *****
```



```
LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK   RR300
KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
RS       2    FLOW      -1
RC    .016    .016    .016    6050    .0146
RX       0       1       2     2.1    16.1    16.2      17      18
RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
*      1       2
* DDM   ***** Updated *****

KK     350
KM   SUB-BASIN 350
KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
BA    .970
LG    .350    .350   4.550    .340   4.000
UC    .525    .348
UA       0       3       5       8      12      20      43      75      90      96
UA     100
* DDM   ***** Preserved *****

KK    D350
KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
DT   SF350
DI       0    5000
DQ       0    2500
* DDM   ***** Preserved *****

KK    350R
KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
RS       5    FLOW      -1
RC    .045    .035    .045    5150    .025
RX       0       1      40      46      56      62     102     103
RY       3       2       2       0       0       2       2       3
* DDM   ***** Updated *****

KK     310
KM   SUB-BASIN 310
KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
BA    .555
LG    .350    .350   3.910    .480    .000
UC    .754    .838
UA       0       3       5       8      12      20      43      75      90      96
UA     100
* DDM   ***** Preserved *****
```



```
LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK    C310
KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
HC       2    .943
* DDM   ***** Preserved *****

KK    R310
KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
RS      11    FLOW      -1
RC    .045    .035    .045   10050    .022
RX       0       1      40      46      56      62     102     103
RY       3       2       2       0       0       2       2       3
* DDM   ***** Updated *****

KK     320
KM   SUB-BASIN 320
KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
```

```
469          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
470          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
471          BA    .972
472          LG    .310    .300   4.550    .360  14.000
473          UC    .742    .507
474          UA       0       5      16      30      65      77      84      90      94      97
475          UA     100
             * DDM   ***** Preserved *****

476          KK    D320
477          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
478          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
479          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
480          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
481          DT   BS320   12.27
482          DI       0   10000
483          DQ       0   10000
             * DDM   ***** Preserved *****

484          KK   RT320
485          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
486          DR   BS320
             * DDM   ***** Preserved *****

487          KK   SR320
488          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
489          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
490          RS       1    STOR       0
491          SV       0     .01    12.3
492          SQ       0     4.2     4.2
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

493          KK    C320
494          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
495          HC       4
             * DDM   ***** Updated *****

496          KK     340
497          KM   SUB-BASIN 340
498          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
499          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
500          KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
501          BA   1.449
502          LG    .280    .280   4.150    .520  21.000
503          UC    .729    .425
504          UA       0       5      16      30      65      77      84      90      94      97
505          UA     100
             * DDM   ***** Preserved *****

506          KK    D340
507          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
508          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
509          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 39% OF MESA HIGHLANDS
510          KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *      1
511          DT   BS340      56
512          DI       0   10000
513          DQ       0   10000
             * DDM   ***** Preserved *****

514          KK   RT340
515          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
516          DR   BS340
             * DDM   ***** Preserved *****

517          KK   SR340
518          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
519          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
520          RS       1    STOR       0
521          SV       0     .01      56
522          SQ       0    18.9    18.9
             * DDM   ***** Preserved *****

523          KK    C340
524          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
525          HC       3
             * DDM   ***** Preserved *****

526          KK   RT350
527          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
528          DR   SF350
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

529          KK   RR350
530          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
531          KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
532          RS       6    FLOW      -1
533          RC    .045    .035    .045    6050    .025
534          RX       0       1      40      46      56      62     102     103
535          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

536          KK     355
537          KM   SUB-BASIN 355
538          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
539          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
540          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
541          BA    .659
542          LG    .340    .340   4.450    .370   4.000
543          UC    .738    .806
544          UA       0       3       5       8      12      20      43      75      90      96
545          UA     100
```

```
            * DDM   ***** Preserved *****

546         KK    C355
547         KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
548         HC       2    1.24
            * DDM   ***** Preserved *****

549         KK    R355
550         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
551         KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
552         RS      13    FLOW      -1
553         RC    .045    .035    .045   10100    .026
554         RX       0       1      40      46      56      62     102     103
555         RY       3       2       2       0       0       2       2       3
            * DDM   ***** Updated *****

556         KK     360
557         KM   SUB-BASIN 360
558         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
559         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
560         KM     L = 2.10  Kb = .048  Adj. Slope =  124.0
561         BA    .670
562         LG    .260    .270   4.100    .560  20.000
563         UC    .837    .691
564         UA       0       5      16      30      65      77      84      90      94      97
565         UA     100
            * DDM   ***** Preserved *****

566         KK    D360
567         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
568         KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
569         KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
            *      1
570         DT   BS360    28.6
571         DI       0   10000
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

572         DQ       0   10000
            * DDM   ***** Preserved *****

573         KK   RT360
574         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
575         DR   BS360
            * DDM   ***** Preserved *****

576         KK   SR360
577         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
578         KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
579         RS       1    STOR       0
580         SV       0     .01    28.6
581         SQ       0     9.6     9.6
            * DDM   ***** Preserved *****

582         KK    360C
583         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
584         HC       4
            * DDM   ***** Updated *****

585         KK     370
586         KM   SUB-BASIN 370
587         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
588         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
589         KM     L = 2.90  Kb = .044  Adj. Slope =  294.6
590         BA    .667
591         LG    .340    .320   4.650    .330   9.000
592         UC    .667    .696
593         UA       0       3       5       8      12      20      43      75      90      96
594         UA     100
            * DDM   ***** Updated *****

595         KK     395
596         KM   SUB-BASIN 395
597         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
598         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
599         KM     L = 1.60  Kb = .051  Adj. Slope =  215.8
600         BA    .198
601         LG    .330    .320   4.900    .300  10.000
602         UC    .533    .675
603         UA       0       3       5       8      12      20      43      75      90      96
604         UA     100
            * DDM   ***** Preserved *****

605         KK    370C
606         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
607         HC       2
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

608         KK    R370
609         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
610         KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
611         RS       9    FLOW      -1
612         RC    .045    .035    .045   10250    .023
613         RX       0       1      40      46      56      62     102     103
614         RY       3       2       2       0       0       2       2       3
            * DDM   ***** Updated *****

615         KK     380
616         KM   SUB-BASIN 380
617         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
618         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
619         KM     L = 2.20  Kb = .048  Adj. Slope =  114.0
620         BA    .972
621         LG    .300    .310   4.150    .500   7.000
622         UC    .992    .700
623         UA       0       5      16      30      65      77      84      90      94      97
624         UA     100
            * DDM   ***** Preserved *****
```

```
625          KK    D380
626          KM         DIVERT FLOW INTO ONLINE  DETENTION BASIN
627          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
628          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
629          DT   BS380    28.6
630          DI       0   10000
631          DQ       0   10000
             * DDM   ***** Preserved *****

632          KK   RT380
633          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
634          DR   BS380
             * DDM   ***** Preserved *****

635          KK   SR380
636          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
637          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
638          RS       1    STOR       0
639          SV       0     .01    28.6
640          SQ       0     9.6     9.6
             * DDM   ***** Preserved *****

641          KK    380C
642          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
643          HC       4
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 17

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

644          KK     390
645          KM   SUB-BASIN 390
646          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
647          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
648          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
649          BA    .244
650          LG    .300    .250   4.700    .380  18.000
651          UC    .254    .136
652          UA       0       5      16      30      65      77      84      90      94      97
653          UA     100
             * DDM   ***** Preserved *****

654          KK    D390
655          KM         DIVERT FLOW INTO ONLINE  DETENTION BASIN
656          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
657          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
658          DT   BS390     3.5
659          DI       0   10000
660          DQ       0   10000
             * DDM   ***** Preserved *****

661          KK   RT390
662          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
663          DR   BS390
             * DDM   ***** Preserved *****

664          KK   SR390
665          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
666          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
667          RS       1    STOR       0
668          SV       0     .01     3.5
669          SQ       0     1.2     1.2
             * DDM   ***** Preserved *****

670          KK    390C
671          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
672          HC       2
             * DDM   ***** Preserved *****

673          KK   RR390
674          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
675          KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
676          RS      13    FLOW      -1
677          RC    .045    .045    .045    8800    .020
678          RX       0       1      40      46      56      62     102     103
679          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 18

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

680          KK     400
681          KM   SUB-BASIN 400
682          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
683          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
684          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
685          BA    .616
686          LG    .320    .320   3.130    .930   6.000
687          UC    .962    .694
688          UA       0       5      16      30      65      77      84      90      94      97
689          UA     100
             * DDM   ***** Preserved *****

690          KK    D400
691          KM         DIVERT FLOW INTO ONLINE  DETENTION BASIN
692          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
693          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
694          DT   BS400     5.6
695          DI       0   10000
696          DQ       0   10000
             * DDM   ***** Preserved *****

697          KK   RT400
698          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
699          DR   BS400
             * DDM   ***** Preserved *****
```

```
700          KK   SR400
701          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
702          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
703          RS       1    STOR       0
704          SV       0     .01     5.6
705          SQ       0       2       2
             * DDM   ***** Preserved *****

706          KK    C400
707          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
708          HC       2
             * DDM   ***** Preserved *****

709          KK    400C
710          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
711          HC       3
             * DDM   ***** Updated *****

712          KK     385
713          KM   SUB-BASIN 385
714          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
715          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
716          KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
717          BA    .523
718          LG    .340    .360   5.600    .220  13.000
719          UC    .529    .514
720          UA       0       3       5       8      12      20      43      75      90      96
1                                        HEC-1 INPUT                                          PAGE 19

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

721          UA     100
             * DDM   ***** Preserved *****

722          KK    D385
723          KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
724          DT   SF385
725          DI       0    5000
726          DQ       0    3000
             * DDM   ***** Preserved *****

727          KK    385R
728          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
729          KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385 INTO SUB-BASIN 420
730          RS      13    FLOW      -1
731          RC    .045     .04    .045   10250    .022
732          RX       0       1      40      46      56      62     102     103
733          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

734          KK     420
735          KM   SUB-BASIN 420
736          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
737          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
738          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
739          BA    .849
740          LG    .310    .270   3.880    .580  12.000
741          UC    .754    .498
742          UA       0       5      16      30      65      77      84      90      94      97
743          UA     100
             * DDM   ***** Preserved *****

744          KK    D420
745          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
746          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
747          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
748          DT   BS420    8.65
749          DI       0   10000
750          DQ       0   10000
             * DDM   ***** Preserved *****

751          KK   RT420
752          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
753          DR   BS420
             * DDM   ***** Preserved *****

754          KK   SR420
755          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
756          KM   38.55 ACRE-FEETx43560/36x3600=13cfs
757          RS       1    STOR       0
758          SV       0     .01   38.55
759          SQ       0      13      13
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 20

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

760          KK    420C
761          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
762          HC       4   10.87
             * DDM   ***** Updated *****

763          KK     440
764          KM   SUB-BASIN 440
765          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
766          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
767          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
768          BA    .080
769          LG    .190    .380   6.400    .140  13.000
770          UC    .158    .097
771          UA       0       3       5       8      12      20      43      75      90      96
772          UA     100
             * DDM   ***** Preserved *****

773          KK     R70
774          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
775          RS       1    FLOW      -1
776          RC     .05    .035     .05    2250     .08
777          RX    1000    1025    1050    1070    1075    1095    1120    1145
778          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****
```

```
KK     441
KM   SUB-BASIN 441
KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
KM     L =  .28  Kb = .069  Adj. Slope =  315.0
BA    .010
LG    .300    .250   5.600    .220   5.000
UC    .179    .274
UA       0       5      16      30      65      77      84      90      94      97
UA     100
* DDM   ***** Preserved *****

KK    C108
KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
HC       2
* DDM   ***** Preserved *****

KK    DIV4
KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
*      1
DT   SPLIT
DI       0      14      40      82     120     154     180
DQ       0       7      20      41      60      77      90
* DDM   ***** Preserved *****
```



```
LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK    R108
KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
RS       2    FLOW      -1
RC     .05    .035     .05    3200      .1
RX    1000    1025    1050    1070    1075    1095    1120    1145
RY      30    22.9    15.7      10      10    15.7    22.9      30
* DDM   ***** Updated *****

KK     442
KM   SUB-BASIN 442
KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
KM     L =  .83  Kb = .055  Adj. Slope =  274.2
BA    .100
LG    .300    .270   3.290    .770   5.000
UC    .383    .409
UA       0       5      16      30      65      77      84      90      94      97
UA     100
* DDM   ***** Preserved *****

KK     C67
KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
HC       2
* DDM   ***** Preserved *****

KK    DIV6
KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
*      1
DT  BASIN4
DI       0      10      32      44    79.9   132.5     198   272.9   356.8
DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
* DDM   ***** Preserved *****

KK  RTDIV6
KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
DR  BASIN4
* DDM   ***** Preserved *****

KK  RFDIV6
KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
*      1
RS       1    STOR       0
SV       0     .01     3.3
SQ       0     1.1     1.1
* DDM   ***** Preserved *****

KK   CDIV6
KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
HC       2
* DDM   ***** Updated *****
```



```
LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK     443
KM   SUB-BASIN 443
KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
KM     L =  .71  Kb = .050  Adj. Slope =  315.0
BA    .080
LG    .250    .190   8.000    .080  10.000
UC    .229    .231
UA       0       5      16      30      65      77      84      90      94      97
UA     100
* DDM   ***** Preserved *****

KK   DIV66
KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
DT   WSH66
DI       0      78     100     200
DQ       0      78      78      78
* DDM   ***** Preserved *****

KK    R113
KM        ROUTE FLOW FROM C113 TO C114
RS       1    FLOW      -1
RC    .019    .019    .019    1300    .029
RX    1000    1004    1008    1012    1018    1022    1026    1030
RY      17   15.33   12.67      10      10   12.67   15.33      17
```

```
            * DDM   ***** Preserved *****

856         KK    C114
857         KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
858         HC       2
            * DDM   ***** Updated *****

859         KK     444
860         KM   SUB-BASIN 444
861         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
862         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
863         KM     L =  .33  Kb = .034  Adj. Slope =  315.0
864         BA    .040
865         LG    .130    .350   4.450    .320   1.000
866         UC    .142    .109
867         UA       0       3       5       8      12      20      43      75      90      96
868         UA     100
            * DDM   ***** Preserved *****

869         KK     R58
870         KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
871         RS       1    FLOW      -1
872         RC     .05    .035     .05    2370   .0516
873         RX    1000    1010    1020    1050    1055    1085    1095    1105
874         RY      19      18      17      10      10      17      18      19
            * DDM   ***** Updated *****
1                                   HEC-1 INPUT                                          PAGE 23

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

875         KK     445
876         KM   SUB-BASIN 445
877         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
878         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
879         KM     L =  .82  Kb = .036  Adj. Slope =  315.0
880         BA    .190
881         LG    .170    .320   3.470    .590   3.000
882         UC    .250    .175
883         UA       0       5      16      30      65      77      84      90      94      97
884         UA     100
            * DDM   ***** Preserved *****

885         KK    C107
886         KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
887         HC       2
            * DDM   ***** Preserved *****

888         KK    R107
889         KM        ROUTE FLOW FROM C107 TO C109
890         RS       1    FLOW      -1
891         RC     .05    .035     .05     700   .0516
892         RX    1000    1010    1020    1050    1055    1085    1095    1105
893         RY      19      18      17      10      10      17      18      19
            * DDM   ***** Preserved *****

894         KK    RTB2
895         KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1
896         DR   SPLIT
            * DDM   ***** Preserved *****

897         KK  RSPLIT
898         KM        ROUTE FLOW FROM SPLIT TO C109
899         RS       1    FLOW      -1
900         RC     .05    .035     .05     800     .05
901         RX    1000    1025    1050    1070    1075    1095    1120    1145
902         RY      30    22.9    15.7      10      10    15.7    22.9      30
            * DDM   ***** Updated *****

903         KK     446
904         KM   SUB-BASIN 446
905         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
906         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
907         KM     L =  .46  Kb = .061  Adj. Slope =  303.9
908         BA    .040
909         LG    .270    .250   4.500    .400  19.000
910         UC    .225    .238
911         UA       0       5      16      30      65      77      84      90      94      97
912         UA     100
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 24

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

913         KK    C109
914         KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
915         HC       3
            * DDM   ***** Preserved *****

916         KK    DIV5
917         KM        DIVERT FLOW INTO WASHES TOWARDS WEST
918         KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
            *      1
919         DT  WSH404
920         DI       0    40.7    71.2   121.6     190     276   379.4   500.6
921         DQ       0      35      35      35      35      35      35      35
            * DDM   ***** Preserved *****

922         KK    R109
923         KM        ROUTE FLOW FROM C109 TO C110
924         RS       1    FLOW      -1
925         RC    .019    .019    .019    3080     .05
926         RX    1000    1005    1010    1015    1025    1030    1035    1040
927         RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
            * DDM   ***** Updated *****

928         KK     447
929         KM   SUB-BASIN 447
930         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
931         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
932         KM     L =  .49  Kb = .056  Adj. Slope =  221.0
```

```
 933          BA    .090
 934          LG    .250    .270   3.350    .870  30.000
 935          UC    .271    .194
 936          UA       0       5      16      30      65      77      84      90      94      97
 937          UA     100
              * DDM   ***** Preserved *****

 938          KK   RT404
 939          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
 940          DR  WSH404
              * DDM   ***** Preserved *****

 941          KK    R404
 942          KM        ROUTE FLOW FROM C110 TO C110
 943          RS       6    FLOW      -1
 944          RC    .019    .019    .019    3540     .03
 945          RX    1000    1012    1016    1020    1025    1029    1033    1045
 946          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

 947          KK    C110
 948          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
 949          HC       3
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 25

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 950          KK    R110
 951          KM        ROUTE FLOW FROM C110 TO C115
 952          RS       1    FLOW      -1
 953          RC    .019    .019    .019     580   .0291
 954          RX    1000    1012    1016    1020    1035    1039    1043    1055
 955          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

 956          KK    C115
 957          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
 958          HC       2
              * DDM   ***** Preserved *****

 959          KK    R115
 960          KM        ROUTE FLOW FROM C115 TO C119
 961          RS       1    FLOW      -1
 962          RC    .019    .019    .019    2125    .029
 963          RC    .019    .019    .019     580   .0291
 964          RX    1000    1012    1016    1020    1035    1039    1043    1055
 965          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

 966          KK     448
 967          KM   SUB-BASIN 448
 968          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 969          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 970          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
 971          BA    .045
 972          LG    .170    .310   4.200    .390  11.000
 973          UC    .162    .127
 974          UA       0       5      16      30      65      77      84      90      94      97
 975          UA     100
              * DDM   ***** Updated *****

 976          KK     449
 977          KM   SUB-BASIN 449
 978          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 979          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 980          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
 981          BA    .050
 982          LG    .260    .280   3.500    .640   6.000
 983          UC    .217    .180
 984          UA       0       5      16      30      65      77      84      90      94      97
 985          UA     100
              * DDM   ***** Preserved *****

 986          KK   C6364
 987          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
 988          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 26

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 989          KK   R6364
 990          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
 991          RS       7    FLOW      -1
 992          RC     .05    .035     .05    4375   .0333
 993          RX    1000    1027    1053    1080    1090    1117    1143    1170
 994          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

 995          KK     450
 996          KM   SUB-BASIN 450
 997          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 998          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 999          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1000          BA    .070
1001          LG    .340    .350   3.630    .570   4.000
1002          UC    .438    .591
1003          UA       0       3       5       8      12      20      43      75      90      96
1004          UA     100
              * DDM   ***** Updated *****

1005          KK     451
1006          KM   SUB-BASIN 451
1007          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1008          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1009          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1010          BA    .025
1011          LG    .340    .340   3.290    .750   3.000
1012          UC    .425    .747
1013          UA       0       3       5       8      12      20      43      75      90      96
```

```
1014          UA     100
              * DDM   ***** Preserved *****

1015          KK    RT66
1016          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1017          DR   WSH66
              * DDM   ***** Updated *****

1018          KK     452
1019          KM   SUB-BASIN 452
1020          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1021          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1022          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1023          BA    .040
1024          LG    .260    .280   3.700    .550   9.000
1025          UC    .217    .216
1026          UA       0       5      16      30      65      77      84      90      94      97
1027          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 27

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1028          KK   C6465
1029          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1030          HC       2
              * DDM   ***** Preserved *****

1031          KK   R6566
1032          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1033          RS       3    FLOW      -1
1034          RC     .05    .035     .05    2435   .0282
1035          RX    1000    1045    1090    1150    1160    1220    1265    1310
1036          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1037          KK    C116
1038          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1039          HC       4
              * DDM   ***** Preserved *****

1040          KK  BASIN5
1041          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1042          KM        BASIN 5 FEET DEEP
1043          RS       1    ELEV       0
1044          SV       0     4.5     9.9
1045          SQ       0      69     190
1046          SE       0     2.5       5
              * DDM   ***** Preserved *****

1047          KK    R116
1048          KM   ROUTE FLOW FROM C116 TO C117
1049          RS       3    FLOW      -1
1050          RC     .05    .035     .05    1300   .0333
1051          RX    1000    1100    1200    1300    1320    1420    1520    1620
1052          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1053          KK     453
1054          KM   SUB-BASIN 453
1055          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1056          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1057          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1058          BA    .060
1059          LG    .290    .300   3.290    .820  18.000
1060          UC    .400    .430
1061          UA       0       5      16      30      65      77      84      90      94      97
1062          UA     100
              * DDM   ***** Preserved *****

1063          KK    C117
1064          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1065          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 28

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1066          KK    C118
1067          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1068          HC       2
              * DDM   ***** Preserved *****

1069          KK    R118
1070          KM        ROUTE FLOW FROM C118 TO  DIV7
1071          RS       1    FLOW      -1
1072          RC    .019    .019    .019    1500    .024
1073          RX    1000    1012    1016    1020    1035    1039    1043    1055
1074          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1075          KK    DIV7
1076          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1077          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
              *      1
1078          DT  BASIN6
1079          DI       0     363     487     563     645     844
1080          DQ       0       3      47      83     125     244
              * DDM   ***** Preserved *****

1081          KK  RTDIV7
1082          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1083          DR  BASIN6
              * DDM   ***** Preserved *****

1084          KK  RFDIV7
1085          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1086          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1087          RS       1    STOR       0
1088          SV       0     .01     3.6
1089          SQ       0     1.2     1.2
```

```
            * DDM   ***** Preserved *****

1090        KK   CDIV7
1091        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1092        HC       2
            * DDM   ***** Updated *****

1093        KK     454
1094        KM   SUB-BASIN 454
1095        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1096        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1097        KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1098        BA    .180
1099        LG    .300    .310   3.780    .560  14.000
1100        UC    .533    .578
1101        UA       0       5      16      30      65      77      84      90      94      97
1102        UA     100
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 29

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1103        KK    C119
1104        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
            *      1       2
1105        HC       2
            * DDM   ***** Preserved *****

1106        KK    R454
1107        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1108        KM   ROUTE FLOW FROM C119 TO 415C
1109        RS       3    FLOW      -1
1110        RC    .045    .035    .045    2200    .009
1111        RX       0      .5       1      33      42      67    67.5      68
1112        RY       5       4       4       0       0       6       6       6
            * DDM   ***** Updated *****

1113        KK     415
1114        KM   SUB-BASIN 415
1115        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1116        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1117        KM     L = 2.58  Kb = .044  Adj. Slope =  298.5
1118        BA    .606
1119        LG    .320    .290   4.500    .400  15.000
1120        UC    .592    .587
1121        UA       0       5      16      30      65      77      84      90      94      97
1122        UA     100
            * DDM   ***** Preserved *****

1123        KK   RT385
1124        KM   RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385 INTO SUB-BASIN 415
1125        DR   SF385
            * DDM   ***** Preserved *****

1126        KK   RR385
1127        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1128        KM   ROUTING OF SPLIT FLOW FROM SUB-BASIN 385 TO SUB-BASIN 415
1129        RS       6    FLOW      -1
1130        RC    .045     .04    .045    5878    .024
1131        RX       0       1      40      46      56      62     102     103
1132        RY       3       2       2       0       0       2       2       3
            * DDM   ***** Preserved *****

1133        KK    415C
1134        KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1135        HC       3    1.71
            * DDM   ***** Preserved *****

1136        KK    R415
1137        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1138        KM   ROUTING OF FLOW FROM 415C TO 455C
1139        RS       2    FLOW      -1
1140        RC    .045     .03    .045    4100    .024
1141        RX       0      .5       1       8      16      23    23.5      24
1142        RY       8       8       8       0       0       8       8       8
            * DDM   ***** Updated *****
1                                   HEC-1 INPUT                                          PAGE 30

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1143        KK     455
1144        KM   SUB-BASIN 455
1145        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1146        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1147        KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1148        BA   1.111
1149        LG    .270    .280   3.700    .640  24.000
1150        UC    .579    .291
1151        UA       0       5      16      30      65      77      84      90      94      97
1152        UA     100
            * DDM   ***** Preserved *****

1153        KK    D455
1154        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1155        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1156        KM   FOR BASIN #: 30      34      43      47&58
1157        KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
            *      1
1158        DT   BS455    74.1
1159        DI       0   10000
1160        DQ       0   10000
            * DDM   ***** Preserved *****

1161        KK   RT455
1162        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1163        DR   BS455
            * DDM   ***** Preserved *****

1164        KK   SR455
1165        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1166        KM    74.1 ACRE-FEETx43560/36x3600=25cfs
```

```
1167        RS       1    STOR       0
1168        SV       0     .01    74.1
1169        SQ       0      25      25
            * DDM   ***** Preserved *****

1170        KK    C455
1171        KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1172        HC       2
            * DDM   ***** Preserved *****

1173        KK    455C
1174        KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
            *      1       2
1175        HC       3
            * DDM   ***** Preserved *****

1176        KK   SR440
1177        KM   SPOOK HILL FRS PLANS DATED 6/15/77
1178        KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1179        KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1180        KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
1181        RS       1    STOR       0
1182        SV       0      10     100     300     500     680
1                                      HEC-1 INPUT                                          PAGE 31

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1183        SQ       0     640     720     780     825     860
1184        SE      66    77.5      79    80.2    81.2      82
            * DDM   ***** Preserved *****

1185        KK   RR455
1186        KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 462
1187        RS      10    FLOW      -1
1188        RC    .035    .025    .035    9200    .002
1189        RX       0       1       2      28      58      84      85      86
1190        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1191        KK     456
1192        KM   SUB-BASIN 456
1193        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1194        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1195        KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1196        BA    .260
1197        LG    .300    .380   5.600    .200  12.000
1198        UC    .275    .181
1199        UA       0       5      16      30      65      77      84      90      94      97
1200        UA     100
            * DDM   ***** Preserved *****

1201        KK    DIV1
1202        KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1203        KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
            *      1
1204        DT  BASIN1
1205        DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1206        DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
            * DDM   ***** Preserved *****

1207        KK    DIV2
1208        KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1209        KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1210        DT    WA30
1211        DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1212        DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
            * DDM   ***** Preserved *****

1213        KK    R456
1214        KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1215        RS       3    FLOW      -1
1216        RC     .05    .035     .05    3800    .044
1217        RX    1000    1010    1020    1036    1041    1057    1067    1077
1218        RY   14.88   14.44      14      10      10      14   14.44   14.88
            * DDM   ***** Updated *****

1219        KK     457
1220        KM   SUB-BASIN 457
1221        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1222        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1223        KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1224        BA    .190
1                                      HEC-1 INPUT                                          PAGE 32

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1225        LG    .270    .330   3.950    .460   6.000
1226        UC    .325    .276
1227        UA       0       5      16      30      65      77      84      90      94      97
1228        UA     100
            * DDM   ***** Preserved *****

1229        KK    C101
1230        KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1231        HC       2
            * DDM   ***** Preserved *****

1232        KK    DIV3
1233        KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1234        KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
            *      1
1235        DT  BASIN2
1236        DI       0      36      70     110     180   313.5     402   500.9
1237        DQ       0       0       0       0       0    67.5     124   190.9
            * DDM   ***** Preserved *****

1238        KK  RTDIV3
1239        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1240        DR  BASIN2
            * DDM   ***** Preserved *****

1241        KK  RFDIV3
1242        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
```

```
1243        KM      5.0 ACRE-FEETx43560/36x3600=1.7cfs
1244        RS        1    STOR       0
1245        SV        0     .01       5
1246        SQ        0     1.7     1.7
            * DDM   ***** Preserved *****

1247        KK   CDIV3
1248        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1249        HC        2
            * DDM   ***** Preserved *****

1250        KK    R101
1251        KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1252        RS        1    FLOW      -1
1253        RC      .05    .035     .05    1450     .05
1254        RX     1000    1010    1020    1036    1041    1057    1067    1077
1255        RY       15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1256        KK     458
1257        KM   SUB-BASIN 458
1258        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1259        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1260        KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1261        BA    .190
1262        LG    .290    .330   5.800    .190   6.000
1263        UC    .254    .167
1264        UA       0       5      16      30      65      77      84      90      94      97
1                                        HEC-1 INPUT                                          PAGE 33

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1265        UA     100
            * DDM   ***** Preserved *****

1266        KK    C103
1267        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1268        HC        2
            * DDM   ***** Preserved *****

1269        KK    R103
1270        KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1271        RS        1    FLOW      -1
1272        RC      .05    .035     .05     900     .03
1273        RX     1000    1010    1020    1030    1050    1060    1070    1080
1274        RY    13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Preserved *****

1275        KK    RT30
1276        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1277        DR    WA30
            * DDM   ***** Preserved *****

1278        KK     R30
1279        KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1280        RS        2    FLOW      -1
1281        RC      .05    .035     .05    1630     .05
1282        RX     1000    1010    1020    1036    1041    1057    1067    1077
1283        RY       15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****

1284        KK    RTB1
1285        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *       1        2
1286        DR  BASIN1
            * DDM   ***** Preserved *****

1287        KK      B1
1288        KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1289        KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
            *       1        2
1290        RS        1    ELEV       0
1291        SV               .7     1.4     2.3     2.7     3.2
1292        SQ        0       5      16      28    32.5      37
1293        SE        0       1       2       3     3.5       4
            * DDM   ***** Preserved *****

1294        KK     RB1
1295        KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1296        RS        2    FLOW      -1
1297        RC      .05    .035     .05    1720     .05
1298        RX     1000    1010    1020    1036    1041    1057    1067    1077
1299        RY       15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 34

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1300        KK    CDIV
1301        KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1302        HC        2     .12
            * DDM   ***** Updated *****

1303        KK     459
1304        KM   SUB-BASIN 459
1305        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1306        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1307        KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1308        BA    .030
1309        LG    .220    .300   3.330    .710   8.000
1310        UC    .217    .216
1311        UA       0       5      16      30      65      77      84      90      94      97
1312        UA     100
            * DDM   ***** Preserved *****

1313        KK     C52
1314        KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1315        HC        2
            * DDM   ***** Preserved *****

1316        KK     R52
1317        KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
```

```
1318          RS       2    FLOW      -1
1319          RC     .05    .035     .05    2000     .05
1320          RX    1000    1010    1020    1036    1041    1057    1067    1077
1321          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1322          KK     460
1323          KM   SUB-BASIN 460
1324          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1325          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1326          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1327          BA    .140
1328          LG    .250    .260   3.740    .690  27.000
1329          UC    .329    .226
1330          UA       0       5      16      30      65      77      84      90      94      97
1331          UA     100
              * DDM   ***** Preserved *****

1332          KK    C102
1333          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1334          HC       2
              * DDM   ***** Preserved *****

1335          KK  BASIN3
1336          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1337          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1338          RS       1    ELEV       0
1339          SA       0       0       0       0     .34    1.59    1.81    1.96    2.13     2.3
              *      0       0       0       0    1.14    3.25    5.52    9.23
1340          SQ       0      22      45    47.4      48      51      57      62      67      73
1                                         HEC-1 INPUT                                          PAGE 35

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1341          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1342          KK      R3
1343          KM        ROUTE FLOW FROM C102 to C106
1344          RS       4    FLOW      -1
1345          RC     .05     .03     .05    2750   .0375
1346          RX    1000    1010    1020    1052    1086    1118    1128    1138
1347          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1348          KK     461
1349          KM   SUB-BASIN 461
1350          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1351          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1352          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1353          BA    .120
1354          LG    .270    .250   4.250    .450  21.000
1355          UC    .363    .346
1356          UA       0       5      16      30      65      77      84      90      94      97
1357          UA     100
              * DDM   ***** Preserved *****

1358          KK    C104
1359          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1360          HC       2
              * DDM   ***** Preserved *****

1361          KK    C106
1362          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1363          HC       2
              * DDM   ***** Preserved *****

1364          KK    R106
1365          KM        ROUTE FLOW FROM C106 TO C49
1366          RS       3    FLOW      -1
1367          RC     .05    .035     .05    3950    .033
1368          RX    1000    1010    1020    1030    1050    1060    1070    1080
1369          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Updated *****

1370          KK     462
1371          KM   SUB-BASIN 462
1372          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1373          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1374          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1375          BA    .301
1376          LG    .300    .330   5.300    .240  12.000
1377          UC    .287    .179
1378          UA       0       5      16      30      65      77      84      90      94      97
1379          UA     100
              * DDM   ***** Preserved *****
1                                         HEC-1 INPUT                                          PAGE 36

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1380          KK     C56
1381          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1382          HC       2
              * DDM   ***** Updated *****

1383          KK     480
1384          KM   SUB-BASIN 480
1385          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1386          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1387          KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1388          BA    .731
1389          LG    .270    .270   3.580    .730  27.000
1390          UC    .442    .208
1391          UA       0       5      16      30      65      77      84      90      94      97
1392          UA     100
              * DDM   ***** Preserved *****

1393          KK    D480
1394          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1395          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1396          KM   FOR BASIN #: 18 & 26
```

```
1397        KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
            *      1
1398        DT   BS480    16.5
1399        DI       0   10000
1400        DQ       0   10000
            * DDM   ***** Preserved *****

1401        KK   RT480
1402        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1403        DR   BS480
            * DDM   ***** Preserved *****

1404        KK   SR480
1405        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1406        KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1407        RS       1    STOR       0
1408        SV       0     .01    16.5
1409        SQ       0     5.6     5.6
            * DDM   ***** Preserved *****

1410        KK    C480
1411        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1412        HC       2
            * DDM   ***** Preserved *****

1413        KK    480C
1414        KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1415        HC       3    2.09
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1416        KK   RR480
1417        KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUB-BASIN 500
1418        RS       2    FLOW      -1
1419        RC    .025    .025    .025    6500     .05
1420        RX       0       1       2      28      58      84      85      86
1421        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1422        KK     500
1423        KM   SUB-BASIN 500
1424        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1425        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1426        KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1427        BA    .930
1428        LG    .350    .400   6.000    .170   9.000
1429        UC    .592    .487
1430        UA       0       3       5       8      12      20      43      75      90      96
1431        UA     100
            * DDM   ***** Preserved *****

1432        KK    500C
1433        KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1434        HC       2    3.02
1435        ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

   41        10
              V
              V
   51       R10
              V
              V
   57       R12
              .
              .
   63         .          20
              .           .
              .           .
   73       C20............
              .
              .
   76         .          40
              .           .
              .           .
   86         .           .          60
              .           .           .
              .           .           .
   96       60C........................
              V
              V
   99      SR60
              V
              V
  108       R60
              V
              V
  114      RR60
              .
              .
  120         .          80
              .           .
              .           .
  130       80C............
              V
              V
  133       R80
              .
              .
  139         .         100
              .           .
              .           .
  149      100C............
              V
              V
  152      R100
              .
              .
  158         .         120
              .           .
              .           .
  168      120C............
              V
              V
  171      R120
              .
              .
  177         .         140
              .           .
              .           .
  187         .           .        150
              .           .          V
              .           .          V
  197         .           .       R150
              .           .          V
              .           .          V
  203         .           .       R152
              .           .          .
              .           .          .
  209         .           .          .        160
              .           .          .          .
              .           .          .          .
  219         .           .          .          .         180
              .           .          .          .           .
              .           .          .          .           .
  229      180C...............................................
              .
              .
  232         .         210
              .           V
              .           V
  242         .        R210
              .           .
              .           .
  248         .           .        240
              .           .          .
              .           .          .
  258         .        240C............
              .           V
              .           V
  261         .       SR240
              .           .
              .           .
  268         .           .        220
              .           .          .
              .           .          .
  278         .        220C............
              .           V
              .           V
  281         .       SR220
              .           .
              .           .
  288         .           .        190
```

```
            .           .           V
            .           .           V
298         .           .        R190
            .           .           V
            .           .           V
304         .           .        R192
            .           .           .
            .           .           .
310         .           .           .         200
            .           .           .           .
            .           .           .           .
320         .        200C.......................
            .           V
            .           V
323         .       SR200
            .           V
            .           V
330         .       200SR
            .           .
            .           .
337      C180............
            V
            V
340     SR180
            V
            V
349      R180
            .
            .
356         .         260
            .           .
            .           .
366      260C............
            V
            V
369      R260
            .
            .
376         .         280
            .           .
            .           .
386      280C............
            V
            V
389      R280
            .
            .
396         .         300
            .           .
            .           .
406      300C............
            V
            V
409      R300
            V
            V
416     RR300
            .
            .
423         .         350
            .           .
            .           .
436         .           .-------->   SF350
433         .        D350
            .           V
            .           V
439         .        350R
            .           .
            .           .
446         .           .         310
            .           .           .
            .           .           .
456         .        C310............
            .           V
            .           V
459         .        R310
            .           .
            .           .
466         .           .         320
            .           .           .
            .           .           .
481         .           .           .-------->   BS320
476         .           .        D320
            .           .           .
            .           .           .
486         .           .           .           .<-------   BS320
484         .           .           .       RT320
            .           .           .           V
            .           .           .           V
487         .           .           .       SR320
            .           .           .           .
            .           .           .           .
493      C320.................................
            .
            .
496         .         340
            .           .
            .           .
511         .           .-------->   BS340
506         .        D340
            .           .
            .           .
516         .           .           .<-------   BS340
514         .           .        RT340
            .           .           V
            .           .           V
517         .           .        SR340
            .           .           .
            .           .           .
523      C340........................
            .
            .
528         .           .<--------   SF350
```

```
526          .      RT350
             .         V
             .         V
529          .      RR350
             .         .
             .         .
536          .         .        355
             .         .          .
             .         .          .
546          .      C355............
             .         V
             .         V
549          .      R355
             .         .
             .         .
556          .         .        360
             .         .          .
             .         .          .
570          .         .          .-------->   BS360
566          .         .      D360
             .         .          .
             .         .          .
575          .         .          .          .<-------   BS360
573          .         .          .      RT360
             .         .          .          V
             .         .          .          V
576          .         .          .      SR360
             .         .          .          .
             .         .          .          .
582       360C...................................
             .
             .
585          .       370
             .         .
             .         .
595          .         .        395
             .         .          .
             .         .          .
605          .      370C............
             .         V
             .         V
608          .      R370
             .         .
             .         .
615          .         .        380
             .         .          .
             .         .          .
629          .         .          .-------->   BS380
625          .         .      D380
             .         .          .
             .         .          .
634          .         .          .          .<-------   BS380
632          .         .          .      RT380
             .         .          .          V
             .         .          .          V
635          .         .          .      SR380
             .         .          .          .
             .         .          .          .
641       380C...................................
             .
             .
644          .       390
             .         .
             .         .
658          .         .-------->   BS390
654          .      D390
             .         .
             .         .
663          .         .          .<-------   BS390
661          .         .      RT390
             .         .          V
             .         .          V
664          .         .      SR390
             .         .          .
             .         .          .
670          .      390C............
             .         V
             .         V
673          .      RR390
             .         .
             .         .
680          .         .        400
             .         .          .
             .         .          .
694          .         .          .-------->   BS400
690          .         .      D400
             .         .          .
             .         .          .
699          .         .          .          .<-------   BS400
697          .         .          .      RT400
             .         .          .          V
             .         .          .          V
700          .         .          .      SR400
             .         .          .          .
             .         .          .          .
706          .         .      C400............
             .         .          .
             .         .          .
709       400C........................
             .
             .
712          .       385
             .         .
             .         .
724          .         .-------->   SF385
722          .      D385
             .         V
             .         V
727          .      385R
             .         .
             .         .
734          .         .        420
             .         .          .
```

```
748                                  .-------> BS420
744                            D420
                                     .
                                     .
753                                  .          .<-------  BS420
751                                  .      RT420
                                     .          V
                                     .          V
754                                  .      SR420
                                     .          .
                                     .          .
760        420C.................................
                                     .
                                     .
763                     440
                         V
                         V
773                     R70
                                     .
                                     .
779                                  .      441
                                     .        .
                                     .        .
789                    C108............
                                     .
                                     .
794                                  .-------> SPLIT
792                    DIV4
                         V
                         V
797                    R108
                                     .
                                     .
803                                  .      442
                                     .        .
                                     .        .
813                     C67............
                                     .
                                     .
819                                  .-------> BASIN4
816                    DIV6
                                     .
                                     .
824                                  .          .<-------  BASIN4
822                                  .    RTDIV6
                                     .        V
                                     .        V
825                                  .    RFDIV6
                                     .        .
                                     .        .
831                   CDIV6............
                                     .
                                     .
834                                  .      443
                                     .        .
                                     .        .
847                                  .          .-------> WSH66
844                                  .     DIV66
                                     .        V
                                     .        V
850                                  .     R113
                                     .        .
                                     .        .
856                    C114............
                                     .
                                     .
859                                  .      444
                                     .        V
                                     .        V
869                                  .      R58
                                     .        .
                                     .        .
875                                  .          .      445
                                     .          .        .
                                     .          .        .
885                                  .     C107............
                                     .        V
                                     .        V
888                                  .     R107
                                     .        .
                                     .        .
896                                  .          .          .<-------  SPLIT
894                                  .          .     RTB2
                                     .          .        V
                                     .          .        V
897                                  .          .   RSPLIT
                                     .          .        .
                                     .          .        .
903                                  .          .        .      446
                                     .          .        .        .
                                     .          .        .        .
913                                  .     C109........................
                                     .        .
                                     .        .
919                                  .          .-------> WSH404
916                                  .     DIV5
                                     .        V
                                     .        V
922                                  .     R109
                                     .        .
                                     .        .
928                                  .          .      447
                                     .          .        .
                                     .          .        .
940                                  .          .        .          .<-------  WSH404
938                                  .          .        .     RT404
                                     .          .        .        V
                                     .          .        .        V
941                                  .          .        .     R404
                                     .          .        .        .
                                     .          .        .        .
947                                  .     C110........................
```

```
                 .          .          V
                 .          .          V
950              .          .       R110
                 .          .          .
                 .          .          .
956              .       C115............
                 .          V
                 .          V
959              .       R115
                 .          .
                 .          .
966              .          .        448
                 .          .          .
                 .          .          .
976              .          .          .        449
                 .          .          .          .
                 .          .          .          .
986              .          .      C6364............
                 .          .          V
                 .          .          V
989              .          .      R6364
                 .          .          .
                 .          .          .
995              .          .          .        450
                 .          .          .          .
                 .          .          .          .
1005             .          .          .          .        451
                 .          .          .          .          .
                 .          .          .          .          .
1017             .          .          .          .          .          .<-------   WSH66
1015             .          .          .          .          .       RT66
                 .          .          .          .          .          .
                 .          .          .          .          .          .
1018             .          .          .          .          .          .        452
                 .          .          .          .          .          .          .
                 .          .          .          .          .          .          .
1028             .          .          .          .          .      C6465............
                 .          .          .          .          .          V
                 .          .          .          .          .          V
1031             .          .          .          .          .      R6566
                 .          .          .          .          .          .
                 .          .          .          .          .          .
1037             .          .       C116................................
                 .          .          V
                 .          .          V
1040             .          .     BASIN5
                 .          .          V
                 .          .          V
1047             .          .       R116
                 .          .          .
                 .          .          .
1053             .          .          .        453
                 .          .          .          .
                 .          .          .          .
1063             .          .       C117............
                 .          .          .
                 .          .          .
1066             .       C118............
                 .          V
                 .          V
1069             .       R118
                 .          .
                 .          .
1078             .          .-------> BASIN6
1075             .       DIV7
                 .          .
                 .          .
1083             .          .          .<-------  BASIN6
1081             .          .     RTDIV7
                 .          .          V
                 .          .          V
1084             .          .     RFDIV7
                 .          .          .
                 .          .          .
1090             .      CDIV7............
                 .          .
                 .          .
1093             .          .        454
                 .          .          .
                 .          .          .
1103             .       C119............
                 .          V
                 .          V
1106             .       R454
                 .          .
                 .          .
1113             .          .        415
                 .          .          .
                 .          .          .
1125             .          .          .          .<-------   SF385
1123             .          .          .      RT385
                 .          .          .          V
                 .          .          .          V
1126             .          .          .      RR385
                 .          .          .          .
                 .          .          .          .
1133             .       415C........................
                 .          V
                 .          V
1136             .       R415
                 .          .
                 .          .
1143             .          .        455
                 .          .          .
                 .          .          .
1158             .          .          .-------> BS455
1153             .          .       D455
                 .          .          .
                 .          .          .
1163             .          .          .          .<-------   BS455
1161             .          .          .      RT455
                 .          .          .          V
                 .          .          .          V
```

```
1164          .           .           .       SR455
              .           .           .           .
              .           .           .           .
1170          .           .        C455............
              .           .           .
              .           .           .
1173       455C.......................
              V
              V
1176      SR440
              V
              V
1185      RR455
              .
              .
1191          .        456
              .           .
              .           .
1204          .           .-------> BASIN1
1201          .       DIV1
              .           .
              .           .
1210          .           .-------->   WA30
1207          .       DIV2
              .           V
              .           V
1213          .       R456
              .           .
              .           .
1219          .           .        457
              .           .           .
              .           .           .
1229          .       C101............
              .           .
              .           .
1235          .           .-------> BASIN2
1232          .       DIV3
              .           .
              .           .
1240          .           .           .<------- BASIN2
1238          .           .     RTDIV3
              .           .           V
              .           .           V
1241          .           .     RFDIV3
              .           .           .
              .           .           .
1247          .      CDIV3............
              .           V
              .           V
1250          .       R101
              .           .
              .           .
1256          .           .        458
              .           .           .
              .           .           .
1266          .       C103............
              .           V
              .           V
1269          .       R103
              .           .
              .           .
1277          .           .           .<-------   WA30
1275          .           .       RT30
              .           .           V
              .           .           V
1278          .           .        R30
              .           .           .
              .           .           .
1286          .           .           .           .<------- BASIN1
1284          .           .           .       RTB1
              .           .           .           V
              .           .           .           V
1287          .           .           .          B1
              .           .           .           V
              .           .           .           V
1294          .           .           .         RB1
              .           .           .           .
              .           .           .           .
1300          .           .       CDIV............
              .           .           .
              .           .           .
1303          .           .           .        459
              .           .           .           .
              .           .           .           .
1313          .           .        C52............
              .           .           V
              .           .           V
1316          .           .        R52
              .           .           .
              .           .           .
1322          .           .           .        460
              .           .           .           .
              .           .           .           .
1332          .           .       C102............
              .           .           V
              .           .           V
1335          .           .     BASIN3
              .           .           V
              .           .           V
1342          .           .          R3
              .           .           .
              .           .           .
1348          .           .           .        461
              .           .           .           .
              .           .           .           .
1358          .           .       C104............
              .           .           .
              .           .           .
1361          .       C106............
              .           V
              .           V
1364          .       R106
              .           .
```

```
1370          .          .        462
              .          .          .
              .          .          .
1380          .        C56...........
              .          .
              .          .
1383          .          .        480
              .          .          .
              .          .          .
1398          .          .          .-------->   BS480
1393          .          .       D480
              .          .          .
              .          .          .
1403          .          .          .          .<-------   BS480
1401          .          .          .      RT480
              .          .          .          V
              .          .          .          V
1404          .          .          .      SR480
              .          .          .          .
              .          .          .          .
1410          .          .       C480...........
              .          .          .
              .          .          .
1413        480C......................
              V
              V
1416       RR480
              .
              .
1422          .        S00
              .          .
              .          .
1432        500C...........
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	10	415.	12.37	57.	16.	8.	.70		
+	ROUTED TO	R10	387.	12.53	57.	16.	8.	.70		
+	ROUTED TO	R12	375.	12.70	57.	16.	8.	.70		
+	HYDROGRAPH AT	20	272.	12.73	53.	13.	6.	1.12		
+	2 COMBINED AT	C20	638.	12.70	108.	29.	14.	1.82		
+	HYDROGRAPH AT	40	817.	12.50	108.	29.	14.	2.23		
+	HYDROGRAPH AT	60	504.	12.63	103.	29.	14.	1.75		
+	3 COMBINED AT	60C	1785.	12.63	313.	85.	41.	5.80		
+	ROUTED TO	SR60	83.	14.73	82.	78.	41.	5.80		
+	ROUTED TO	R60	83.	14.80	82.	78.	41.	5.80		
+	ROUTED TO	RR60	83.	14.90	82.	78.	41.	5.80		
+	HYDROGRAPH AT	80	654.	12.40	77.	20.	10.	1.48		
+	2 COMBINED AT	80C	726.	12.40	156.	97.	52.	1.48		
+	ROUTED TO	R80	720.	12.43	156.	97.	52.	1.48		
+	HYDROGRAPH AT	100	119.	12.37	25.	6.	3.	.48		
+	2 COMBINED AT	100C	831.	12.43	179.	103.	54.	1.96		
+	ROUTED TO	R100	827.	12.47	179.	103.	54.	1.96		
+	HYDROGRAPH AT	120	1371.	12.37	158.	44.	21.	2.20		
+	2 COMBINED AT	120C	2119.	12.40	329.	142.	75.	4.16		
+	ROUTED TO	R120	2096.	12.43	329.	142.	75.	4.16		
+	HYDROGRAPH AT	140	194.	12.23	27.	7.	3.	.60		
+	HYDROGRAPH AT	150	208.	12.27	21.	6.	3.	.41		
+	ROUTED TO	R150	194.	12.33	21.	6.	3.	.41		
+	ROUTED TO	R152	179.	12.53	21.	6.	3.	.41		
+	HYDROGRAPH AT	160	54.	12.70	13.	3.	2.	.37		
+	HYDROGRAPH AT	180	191.	12.63	33.	8.	4.	1.00		
+	5 COMBINED AT	180C	2500.	12.47	415.	164.	85.	6.54		
+	HYDROGRAPH AT	210	365.	12.27	36.	10.	5.	.58		
+	ROUTED TO	R210	336.	12.37	36.	10.	5.	.58		
+	HYDROGRAPH AT	240	426.	12.50	64.	16.	8.	1.40		
+	2 COMBINED AT	240C	723.	12.43	99.	26.	12.	1.98		
	ROUTED TO	SR240	129.	13.40	52.	15.	7.	1.98		
	HYDROGRAPH AT	220	472.	12.27	44.	12.	6.	.73		
+	2 COMBINED AT	220C	461.	12.27	93.	25.	12.	2.71		
+	ROUTED TO	SR220	276.	12.47	85.	23.	11.	2.71		

+	HYDROGRAPH AT	190	551.	12.27	52.	14.	7.	.92
+	ROUTED TO	R190	523.	12.37	52.	14.	7.	.92
+	ROUTED TO	R192	510.	12.40	52.	14.	7.	.92
+	HYDROGRAPH AT	200	314.	12.27	31.	9.	4.	.54
+	3 COMBINED AT	200C	979.	12.40	162.	45.	22.	4.16
+	ROUTED TO	SR200	886.	12.50	153.	41.	20.	4.16
+	ROUTED TO	200SR	77.	15.13	34.	11.	5.	4.16
+	2 COMBINED AT	C180	2500.	12.47	441.	174.	90.	10.69
+	ROUTED TO	SR180	119.	17.67	118.	117.	89.	10.69
+	ROUTED TO	R180	119.	17.73	118.	117.	89.	10.69
+	HYDROGRAPH AT	260	196.	12.17	22.	6.	3.	.27
+	2 COMBINED AT	260C	303.	12.17	138.	124.	95.	.27
+	ROUTED TO	R260	294.	12.27	138.	124.	95.	.27
+	HYDROGRAPH AT	280	194.	12.17	20.	6.	3.	.30
+	2 COMBINED AT	280C	468.	12.20	156.	128.	97.	.57
+	ROUTED TO	R280	456.	12.30	155.	128.	97.	.57
+	HYDROGRAPH AT	300	252.	12.33	47.	13.	6.	.99
+	2 COMBINED AT	300C	698.	12.30	199.	139.	102.	1.56
+	ROUTED TO	R300	688.	12.40	199.	139.	102.	1.56
+	ROUTED TO	RR300	675.	12.47	199.	139.	102.	1.56
+	HYDROGRAPH AT	350	389.	12.33	42.	11.	5.	.97
+	DIVERSION TO	SF350	195.	12.33	21.	6.	3.	.97
+	HYDROGRAPH AT	D350	195.	12.33	21.	6.	3.	.97
+	ROUTED TO	350R	182.	12.50	21.	6.	3.	.97
+	HYDROGRAPH AT	310	88.	12.57	17.	4.	2.	.56
+	2 COMBINED AT	C310	267.	12.50	38.	10.	5.	.94
+	ROUTED TO	R310	236.	12.87	38.	10.	5.	.94
+	HYDROGRAPH AT	320	317.	12.30	58.	17.	8.	.97
+	DIVERSION TO	BS320	317.	12.30	22.	6.	3.	.97
+	HYDROGRAPH AT	D320	304.	12.40	40.	11.	5.	.97
+	HYDROGRAPH AT	RT320	317.	12.30	22.	6.	3.	.97
+	ROUTED TO	SR320	4.	8.50	4.	4.	3.	.97
+	4 COMBINED AT	C320	956.	12.43	276.	162.	114.	3.47
+	HYDROGRAPH AT	340	505.	12.30	91.	28.	14.	1.45
	DIVERSION TO	BS340	505.	12.30	91.	28.	13.	1.45
	HYDROGRAPH AT	D340	3.	17.40	2.	1.	0.	1.45
+	HYDROGRAPH AT	RT340	505.	12.30	91.	28.	13.	1.45
+	ROUTED TO	SR340	19.	10.80	19.	19.	13.	1.45

+ 3 COMBINED AT	C340	969.	12.43	294.	181.	127.	4.92
+ HYDROGRAPH AT	RT350	195.	12.33	21.	6.	3.	.97
ROUTED TO	RR350	180.	12.53	21.	6.	3.	.97
+ HYDROGRAPH AT	355	139.	12.53	28.	7.	4.	.66
+ 2 COMBINED AT	C355	317.	12.53	49.	13.	6.	1.24
+ ROUTED TO	R355	282.	12.97	49.	13.	6.	1.24
+ HYDROGRAPH AT	360	166.	12.37	41.	13.	6.	.67
+ DIVERSION TO	BS360	166.	12.37	41.	13.	6.	.67
+ HYDROGRAPH AT	D360	0.	.00	0.	0.	0.	.67
+ HYDROGRAPH AT	RT360	166.	12.37	41.	13.	6.	.67
+ ROUTED TO	SR360	10.	11.20	10.	10.	6.	.67
+ 4 COMBINED AT	360C	1206.	12.70	349.	202.	138.	6.83
+ HYDROGRAPH AT	370	186.	12.47	35.	10.	5.	.67
+ HYDROGRAPH AT	395	62.	12.37	11.	3.	2.	.20
+ 2 COMBINED AT	370C	242.	12.47	46.	13.	6.	.87
+ ROUTED TO	R370	224.	12.77	46.	13.	6.	.87
+ HYDROGRAPH AT	380	179.	12.43	41.	11.	5.	.97
+ DIVERSION TO	BS380	179.	12.43	41.	11.	5.	.97
HYDROGRAPH AT	D380	0.	.00	0.	0.	0.	.97
+ HYDROGRAPH AT	RT380	179.	12.43	41.	11.	5.	.97
+ ROUTED TO	SR380	10.	11.83	10.	10.	5.	.97
+ 4 COMBINED AT	380C	1428.	12.73	401.	223.	149.	8.67
+ HYDROGRAPH AT	390	213.	12.07	16.	5.	2.	.24
+ DIVERSION TO	BS390	161.	11.97	6.	2.	1.	.24
+ HYDROGRAPH AT	D390	213.	12.07	12.	3.	2.	.24
+ HYDROGRAPH AT	RT390	161.	11.97	6.	2.	1.	.24
+ ROUTED TO	SR390	1.	6.40	1.	1.	1.	.24
+ 2 COMBINED AT	390C	214.	12.07	13.	4.	2.	.24
+ ROUTED TO	RR390	133.	12.50	13.	4.	2.	.24
+ HYDROGRAPH AT	400	60.	12.43	14.	4.	2.	.62
+ DIVERSION TO	BS400	60.	12.43	10.	3.	1.	.62
+ HYDROGRAPH AT	D400	22.	13.50	5.	1.	1.	.62
+ HYDROGRAPH AT	RT400	60.	12.43	10.	3.	1.	.62
+ ROUTED TO	SR400	2.	10.80	2.	2.	1.	.62
2 COMBINED AT	C400	24.	13.50	7.	3.	2.	.62
3 COMBINED AT	400C	1491.	12.70	418.	230.	153.	9.53
+ HYDROGRAPH AT	385	211.	12.37	33.	9.	5.	.52
+ DIVERSION TO	SF385	127.	12.37	20.	6.	3.	.52

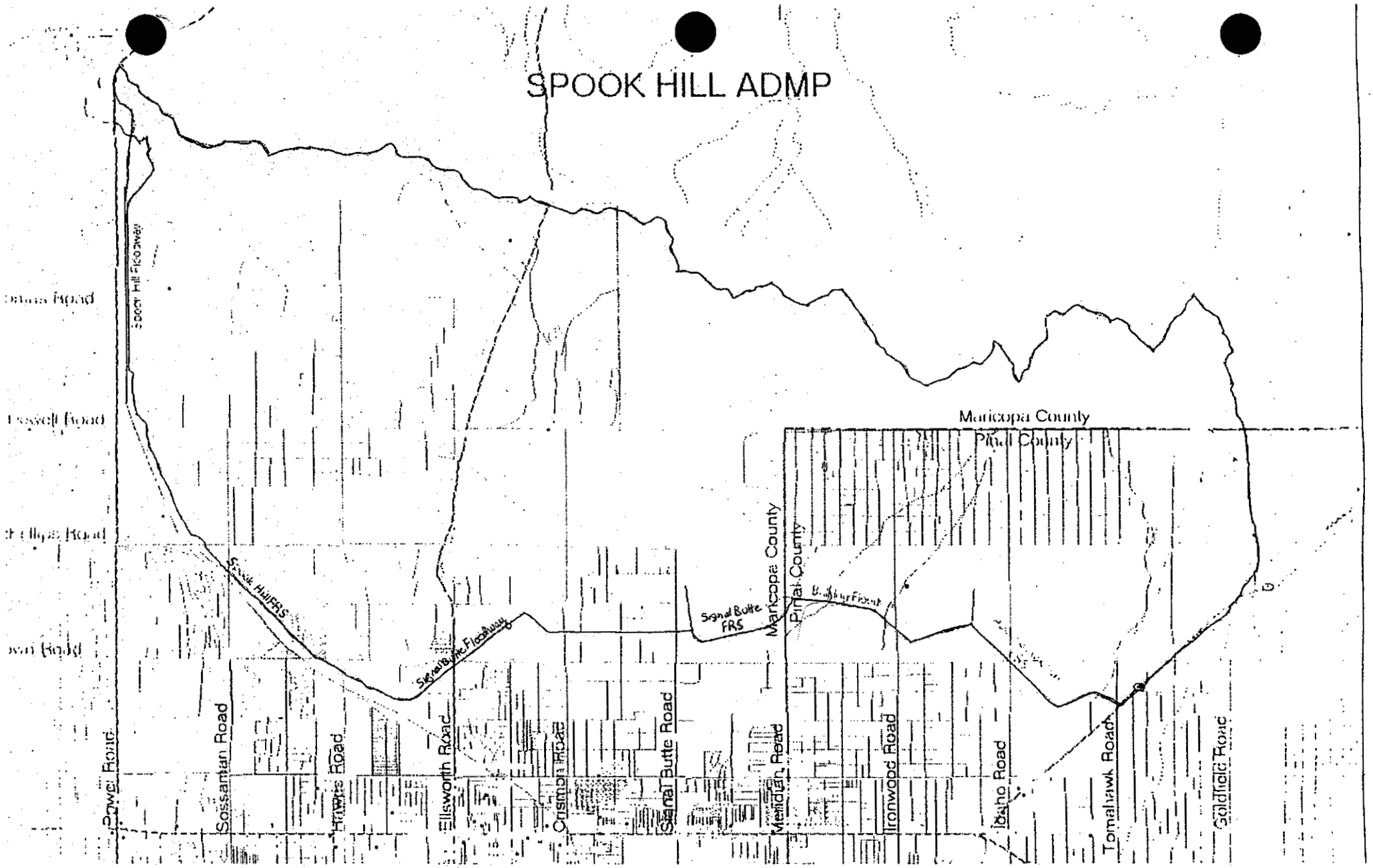
+	HYDROGRAPH AT	D385	85.	12.37	13.	4.	2.	.52
+	ROUTED TO	385R	74.	12.80	13.	4.	2.	.52
+	HYDROGRAPH AT	420	224.	12.30	41.	12.	6.	.85
+	DIVERSION TO	BS420	224.	12.30	16.	4.	2.	.85
+	HYDROGRAPH AT	D420	216.	12.40	29.	8.	4.	.85
+	HYDROGRAPH AT	RT420	224.	12.30	16.	4.	2.	.85
+	ROUTED TO	SR420	13.	11.73	12.	4.	2.	.85
+	4 COMBINED AT	420C	1697.	12.70	464.	242.	159.	10.87
+	HYDROGRAPH AT	440	95.	12.07	6.	2.	1.	.08
+	ROUTED TO	R70	88.	12.10	6.	2.	1.	.08
+	HYDROGRAPH AT	441	7.	12.07	1.	0.	0.	.01
+	2 COMBINED AT	C108	95.	12.10	7.	2.	1.	.09
+	DIVERSION TO	SPLIT	48.	12.10	3.	1.	0.	.09
+	HYDROGRAPH AT	DIV4	48.	12.10	3.	1.	0.	.09
+	ROUTED TO	R108	44.	12.17	3.	1.	0.	.09
+	HYDROGRAPH AT	442	27.	12.17	3.	1.	0.	.10
+	2 COMBINED AT	C67	70.	12.17	7.	2.	1.	.19
+	DIVERSION TO	BASIN4	17.	12.17	1.	0.	0.	.19
+	HYDROGRAPH AT	DIV6	53.	12.17	6.	2.	1.	.19
+	HYDROGRAPH AT	RTDIV6	17.	12.17	1.	0.	0.	.19
+	ROUTED TO	RFDIV6	1.	12.10	1.	0.	0.	.19
+	2 COMBINED AT	CDIV6	54.	12.17	7.	2.	1.	.19
+	HYDROGRAPH AT	443	80.	12.07	7.	2.	1.	.08
+	DIVERSION TO	WSH66	77.	12.07	7.	2.	1.	.08
+	HYDROGRAPH AT	DIV66	3.	12.07	0.	0.	0.	.08
+	ROUTED TO	R113	1.	12.10	0.	0.	0.	.08
+	2 COMBINED AT	C114	54.	12.17	7.	2.	1.	.27
+	HYDROGRAPH AT	444	39.	12.07	2.	0.	0.	.04
+	ROUTED TO	R58	32.	12.10	2.	0.	0.	.04
+	HYDROGRAPH AT	445	108.	12.07	7.	2.	1.	.19
+	2 COMBINED AT	C107	137.	12.10	9.	2.	1.	.23
+	ROUTED TO	R107	137.	12.10	9.	2.	1.	.23
+	HYDROGRAPH AT	RTB2	48.	12.10	3.	1.	0.	.09
+	ROUTED TO	RSPLIT	46.	12.13	3.	1.	0.	.09
+	HYDROGRAPH AT	446	29.	12.07	3.	1.	0.	.04
+	3 COMBINED AT	C109	208.	12.10	15.	4.	2.	.27
+	DIVERSION TO	WSH404	35.	11.90	6.	2.	1.	.27
+	HYDROGRAPH AT	DIV5	173.	12.10	9.	2.	1.	.27

+	ROUTED TO	R109	160.	12.13	9.	2.	1.	.27
+	HYDROGRAPH AT	447	54.	12.10	6.	2.	1.	.09
+	HYDROGRAPH AT	RT404	35.	11.90	6.	2.	1.	.27
+	ROUTED TO	R404	35.	12.07	6.	2.	1.	.27
+	3 COMBINED AT	C110	244.	12.13	21.	6.	3.	.36
+	ROUTED TO	R110	242.	12.13	21.	6.	3.	.36
+	2 COMBINED AT	C115	292.	12.13	27.	8.	4.	.63
+	ROUTED TO	R115	293.	12.17	27.	8.	4.	.63
+	HYDROGRAPH AT	448	42.	12.03	3.	1.	0.	.05
+	HYDROGRAPH AT	449	29.	12.07	2.	1.	0.	.05
+	2 COMBINED AT	C6364	68.	12.03	5.	1.	1.	.09
+	ROUTED TO	R6364	56.	12.27	5.	1.	1.	.09
+	HYDROGRAPH AT	450	16.	12.30	2.	1.	0.	.07
+	HYDROGRAPH AT	451	4.	12.30	1.	0.	0.	.03
+	HYDROGRAPH AT	RT66	77.	12.07	7.	2.	1.	.08
+	HYDROGRAPH AT	452	24.	12.07	2.	1.	0.	.04
+	2 COMBINED AT	C6465	102.	12.07	9.	3.	1.	.04
+	ROUTED TO	R6566	98.	12.13	9.	3.	1.	.04
+	4 COMBINED AT	C116	157.	12.23	17.	5.	2.	.23
+	ROUTED TO	BASIN5	62.	12.60	17.	5.	2.	.23
+	ROUTED TO	R116	61.	12.67	17.	5.	2.	.23
+	HYDROGRAPH AT	453	19.	12.17	3.	1.	0.	.06
+	2 COMBINED AT	C117	70.	12.63	20.	6.	3.	.29
+	2 COMBINED AT	C118	318.	12.17	46.	13.	6.	.92
+	ROUTED TO	R118	315.	12.20	46.	13.	6.	.92
+	DIVERSION TO	BASIN6	3.	12.20	0.	0.	0.	.92
+	HYDROGRAPH AT	DIV7	312.	12.20	46.	13.	6.	.92
+	HYDROGRAPH AT	RTDIV7	3.	12.20	0.	0.	0.	.92
+	ROUTED TO	RFDIV7	1.	12.13	0.	0.	0.	.92
+	2 COMBINED AT	CDIV7	313.	12.20	46.	13.	6.	.92
+	HYDROGRAPH AT	454	49.	12.23	9.	3.	1.	.18
+	2 COMBINED AT	C119	359.	12.20	55.	16.	8.	1.10
+	ROUTED TO	R454	344.	12.30	55.	16.	8.	1.10
+	HYDROGRAPH AT	415	186.	12.27	36.	11.	5.	.61
+	HYDROGRAPH AT	RT385	127.	12.37	20.	6.	3.	.52
+	ROUTED TO	RR385	117.	12.57	20.	6.	3.	.52
+	3 COMBINED AT	415C	551.	12.33	109.	32.	15.	1.71
+	ROUTED TO	R415	546.	12.40	109.	32.	15.	1.71

+	HYDROGRAPH AT	455	485.	12.20	71.	22.	11.	1.11
+	DIVERSION TO	BS455	485.	12.20	71.	22.	11.	1.11
	HYDROGRAPH AT	D455	0.	.00	0.	0.	0.	1.11
+	HYDROGRAPH AT	RT455	485.	12.20	71.	22.	11.	1.11
+	ROUTED TO	SR455	25.	11.23	25.	21.	11.	1.11
+	2 COMBINED AT	C455	25.	11.23	25.	21.	11.	1.11
+	3 COMBINED AT	455C	2106.	12.70	583.	284.	181.	13.69
+	ROUTED TO	SR440	715.	13.67	582.	284.	181.	13.69
+	ROUTED TO	RR455	715.	14.00	581.	284.	180.	13.69
+	HYDROGRAPH AT	456	207.	12.07	17.	5.	2.	.26
+	DIVERSION TO	BASIN1	36.	12.07	1.	0.	0.	.26
+	HYDROGRAPH AT	DIV1	172.	12.07	16.	4.	2.	.26
+	DIVERSION TO	WA30	45.	12.07	7.	2.	1.	.26
+	HYDROGRAPH AT	DIV2	126.	12.07	9.	2.	1.	.26
+	ROUTED TO	R456	119.	12.17	9.	2.	1.	.26
+	HYDROGRAPH AT	457	91.	12.13	9.	2.	1.	.19
+	2 COMBINED AT	C101	203.	12.17	17.	4.	2.	.45
+	DIVERSION TO	BASIN2	12.	12.17	0.	0.	0.	.45
	HYDROGRAPH AT	DIV3	191.	12.17	17.	4.	2.	.45
+	HYDROGRAPH AT	RTDIV3	12.	12.17	0.	0.	0.	.45
+	ROUTED TO	RFDIV3	2.	12.17	0.	0.	0.	.45
+	2 COMBINED AT	CDIV3	193.	12.17	17.	4.	2.	.45
+	ROUTED TO	R101	191.	12.20	17.	4.	2.	.45
+	HYDROGRAPH AT	458	164.	12.07	11.	3.	1.	.19
+	2 COMBINED AT	C103	320.	12.13	28.	7.	4.	.64
+	ROUTED TO	R103	316.	12.13	28.	7.	4.	.64
+	HYDROGRAPH AT	RT30	45.	12.07	7.	2.	1.	.26
+	ROUTED TO	R30	45.	12.13	7.	2.	1.	.26
+	HYDROGRAPH AT	RTB1	36.	12.07	1.	0.	0.	.26
+	ROUTED TO	B1	3.	12.23	1.	0.	0.	.26
+	ROUTED TO	RB1	3.	12.47	1.	0.	0.	.26
+	2 COMBINED AT	CDIV	46.	12.13	8.	3.	1.	.12
+	HYDROGRAPH AT	459	15.	12.07	1.	0.	0.	.03
+	2 COMBINED AT	C52	59.	12.10	9.	3.	1.	.15
	ROUTED TO	R52	58.	12.17	9.	3.	1.	.15
	HYDROGRAPH AT	460	83.	12.10	10.	3.	2.	.14
+	2 COMBINED AT	C102	138.	12.13	18.	6.	3.	.29
+	ROUTED TO	BASIN3	57.	12.50	18.	6.	3.	.29

	ROUTED TO							
+		R3	57.	12.63	18.	6.	3.	.29
	HYDROGRAPH AT							
+		461	63.	12.13	8.	3.	1.	.12
	2 COMBINED AT							
		C104	111.	12.17	27.	8.	4.	.41
	2 COMBINED AT							
+		C106	424.	12.17	54.	16.	8.	1.05
	ROUTED TO							
+		R106	408.	12.23	54.	16.	8.	1.05
	HYDROGRAPH AT							
+		462	236.	12.10	19.	5.	3.	.30
	2 COMBINED AT							
+		C56	564.	12.20	72.	21.	10.	1.35
	HYDROGRAPH AT							
+		480	391.	12.17	48.	16.	8.	.73
	DIVERSION TO							
+		BS480	391.	12.17	29.	8.	4.	.73
	HYDROGRAPH AT							
+		D480	295.	12.30	25.	7.	4.	.73
	HYDROGRAPH AT							
+		RT480	391.	12.17	29.	8.	4.	.73
	ROUTED TO							
+		SR480	6.	6.63	6.	6.	4.	.73
	2 COMBINED AT							
+		C480	301.	12.30	31.	13.	8.	.73
	3 COMBINED AT							
+		480C	963.	12.30	696.	324.	205.	2.09
	ROUTED TO							
+		RR480	895.	12.37	695.	324.	204.	2.09
	HYDROGRAPH AT							
+		500	379.	12.40	55.	15.	7.	.93
	2 COMBINED AT							
+		500C	1252.	12.37	743.	336.	211.	3.02

*** NORMAL END OF HEC-1 ***



HEC-1 Existing Condition 10-Year, 6-Hour Storm

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN   1998              *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   10JUL00  TIME  09:32:26  *
*                                      *
****************************************
```

```
****************************************
*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
*   HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET            *
*      DAVIS, CALIFORNIA 95616         *
*          (916) 756-1104              *
*                                      *
****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
1                                    HEC-1 INPUT                                                    PAGE  1

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID   EXISTING LAND USE CALCULATIONS WERE BASED ON 1 YR. FROM 11/5/99
  2           ID   FOR LAS SENDAS       AND LANDISCOR JAN.1999 AERIAL PHOTOGPRAPHS
  3           ID
  4           ID   ALL DAMS WERE ANALYZED WITH NO STORAGE BELOW PRINCIPLE SPILLWAY ELEVATIONS
  5           ID
  6           ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
  7           ID   PRECIPITATION VALUES
  8           ID
  9           ID   ALL CHANNEL ROUTING INFORMATION WAS OBTAINED FROM MCFCD SPOOK HILL   SIGNAL
 10           ID   BUTTE        AND BULLDOG FLOODWAY PLANS
 11           ID
 12           ID   CURRENT 10-YEAR,  6-HOUR STORM EVENT MODEL UTILIZING CURRENT ALIGNMENT
 13           ID   OF SUB-BASIN BOUNDARIES FOR SUB-BASINS 385 (REDUCED) & 415 (ENLARGED)
 14           ID   AND 2' CONTOUR MAPPING FROM CURRENT 24-HOUR 100-YEAR MODEL
 15           ID
 16           ID   ANALYSIS PERFORMED BY WOOD/PATEL; MW;        06/29/00  FILE:  S6XE35.DAT
 17           ID
 18           ID   DDM MCUHP1 SPOOK HILL AMDP - EXISTING CONDITIONS MODEL - 10 YEAR, 6 HOUR STOR
              *DIAGRAM
 19           IT       2                    1500
 20           IO       3
 21           IN      15
 22           JD    2.02    0.01
 23           PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .074
 24           PC    .087    .099    .118    .138    .216    .377    .834    .911    .931    .950
 25           PC    .962    .972    .983    .991   1.000
 26           JD    2.01    0.50
 27           JD    1.98    2.80
 28           PC    .000    .009    .016    .025    .034    .042    .051    .059    .067    .076
 29           PC    .087    .100    .120    .163    .252    .451    .694    .837    .900    .938
 30           PC    .950    .963    .975    .988   1.000
 31           JD    1.86    16.0
 32           PC    .000    .015    .020    .030    .048    .063    .076    .090    .105    .119
 33           PC    .135    .152    .175    .222    .304    .472    .670    .796    .868    .912
 34           PC    .946    .960    .973    .987   1.000
 35           JD    1.64    90.0
 36           PC    .000    .021    .035    .051    .071    .087    .105    .125    .143    .160
 37           PC    .179    .201    .232    .281    .364    .500    .658    .773    .841    .888
 38           PC    .927    .945    .964    .982   1.000
 39           JD    1.15   500.0
 40           PC    .000    .024    .043    .059    .078    .098    .119    .141    .162    .186
 41           PC    .212    .239    .271    .321    .408    .515    .627    .735    .814    .864
 42           PC    .907    .930    .954    .977   1.000
              * DDM   ***** Updated *****

 43           KK      10
 44           KM   SUB-BASIN 10
 45           KM   6-HOUR RAINFALL, PATTERN NO. 1.20 WAS USED TO FIND TC & R FOR THIS BASIN
 46           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
 47           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
 48           BA    .702
 49           LG    .350    .320   7.600    .090  15.000
 50           UC    .554    .409
 51           UA       0       3       5       8      12      20      43      75      90      96
 52           UA     100
              * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                                    PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 53           KK     R10
 54           KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
 55           RS       5    FLOW      -1
 56           RC    .045     .03    .045    8700    .021
 57           RX       0       1       2      17      27      42      43      44
 58           RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****

 59           KK     R12
 60           KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
 61           RS       5    FLOW      -1
 62           RC    .045     .03    .045    4500     .01
 63           RX       0       1      30    37.5    57.5      65      94      95
 64           RY       3     2.5     2.5       0       0     2.5     2.5       3
```

```
            * DDM   ***** Updated *****

 65         KK      20
 66         KM   SUB-BASIN 20
 67         KM   6-HOUR RAINFALL, PATTERN NO. 1.47 WAS USED TO FIND TC & R FOR THIS BASIN
 68         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .986
 69         KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 70         BA   1.120
 71         LG    .350    .390   5.800    .190   1.000
 72         UC   1.146    .840
 73         UA       0       3       5       8      12      20      43      75      90      96
 74         UA     100
            * DDM   ***** Preserved *****

 75         KK     C20
 76         KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 77         HC       2
            * DDM   ***** Updated *****

 78         KK      40
 79         KM   SUB-BASIN 40
 80         KM   6-HOUR RAINFALL, PATTERN NO. 1.87 WAS USED TO FIND TC & R FOR THIS BASIN
 81         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .979
 82         KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
 83         BA   2.233
 84         LG    .340    .340   4.900    .280   5.000
 85         UC    .967    .554
 86         UA       0       3       5       8      12      20      43      75      90      96
 87         UA     100
            * DDM   ***** Updated *****

 88         KK      60
 89         KM   SUB-BASIN 60
 90         KM   6-HOUR RAINFALL, PATTERN NO. 1.73 WAS USED TO FIND TC & R FOR THIS BASIN
 91         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .982
 92         KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 93         BA   1.746
 94         LG    .330    .350   5.800    .190   9.000
 95         UC    .992    .839
 96         UA       0       3       5       8      12      20      43      75      90      96
1                                        HEC-1 INPUT                                          PAGE  3

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 97         UA     100
            * DDM   ***** Preserved *****

 98         KK     60C
 99         KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
            *      1       2
100         HC       3
            * DDM   ***** Preserved *****

101         KK    SR60
102         KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
103         KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
104         KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
105         KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
106         RS       1    STOR       0
107         SV       0       1     100     200     300     400
108         SQ       0      71      81      87    91.5      94
109         SE    83.5    93.5      96    97.7      99   99.77
            * DDM   ***** Preserved *****

110         KK     R60
111         KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
112         RS       2    FLOW      -1
113         RC    .016    .016    .016    2850    .012
114         RX       0       1       2     2.1     5.6     5.7       6       7
115         RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
            * DDM   ***** Preserved *****

116         KK    RR60
117         KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
118         RS       3    FLOW      -1
119         RC    .016    .016    .016    3500    .005
120         RX       0       1       2     2.1     7.1     7.2       8       9
121         RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
            * DDM   ***** Updated *****

122         KK      80
123         KM   SUB-BASIN 80
124         KM   6-HOUR RAINFALL, PATTERN NO. 1.63 WAS USED TO FIND TC & R FOR THIS BASIN
125         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .984
126         KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
127         BA   1.475
128         LG    .330    .330   5.600    .210   4.000
129         UC    .708    .446
130         UA       0       3       5       8      12      20      43      75      90      96
131         UA     100
            * DDM   ***** Preserved *****

132         KK     80C
133         KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
134         HC       2   1.475
            * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  4

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

135         KK     R80
136         KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
137         RS       1    FLOW      -1
138         RC    .025    .016    .025    1200    .003
139         RX       0       2       6     6.1    41.1    41.2    56.2    58.2
140         RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
            * DDM   ***** Updated *****

141         KK     100
142         KM   SUB-BASIN 100
143         KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
144         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
```

```
145          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
146          BA    .484
147          LG    .320    .290   5.100    .260   3.000
148          UC    .775    .716
149          UA       0       5      16      30      65      77      84      90      94      97
150          UA     100
             * DDM   ***** Preserved *****

151          KK    100C
152          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
153          HC       2
             * DDM   ***** Preserved *****

154          KK    R100
155          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
156          RS       1    FLOW      -1
157          RC    .016    .016    .016     940    .005
158          RX       0       1       2     2.1    52.1    52.2      53      54
159          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****

160          KK     120
161          KM   SUB-BASIN 120
162          KM   6-HOUR RAINFALL, PATTERN NO. 1.86 WAS USED TO FIND TC & R FOR THIS BASIN
163          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .979
164          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
165          BA   2.202
166          LG    .330    .280   6.800    .130  11.000
167          UC    .654    .361
168          UA       0       3       5       8      12      20      43      75      90      96
169          UA     100
             * DDM   ***** Preserved *****

170          KK    120C
171          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
172          HC       2
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

173          KK    R120
174          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
175          RS       1    FLOW      -1
176          RC    .025    .016    .025    2100    .005
177          RX       0       6      10    10.1    60.1    60.2    74.2    80.2
178          RY       8       5       5       0       0       5       5       8
             * DDM   ***** Updated *****

179          KK     140
180          KM   SUB-BASIN 140
181          KM   6-HOUR RAINFALL, PATTERN NO. 1.10 WAS USED TO FIND TC & R FOR THIS BASIN
182          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
183          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
184          BA    .598
185          LG    .310    .280   4.200    .440   5.000
186          UC    .613    .421
187          UA       0       5      16      30      65      77      84      90      94      97
188          UA     100
             * DDM   ***** Updated *****

189          KK     150
190          KM   SUB-BASIN 150
191          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
192          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
193          KM     L = 1.50  Kb = .047  Adj. Slope =  315.0
194          BA    .408
195          LG    .350    .360   5.100    .260   7.000
196          UC    .387    .298
197          UA       0       3       5       8      12      20      43      75      90      96
198          UA     100
             * DDM   ***** Preserved *****

199          KK    R150
200          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
201          RS       3    FLOW      -1
202          RC    .045     .04    .045    3100    .032
203          RX       0       1       2      23      33      54      55      56
204          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

205          KK    R152
206          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
207          RS       4    FLOW      -1
208          RC    .045     .03    .045    5900    .019
209          RX       0       1       2       8      33      39      40      41
210          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****

211          KK     160
212          KM   SUB-BASIN 160
213          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
214          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
215          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
216          BA    .369
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

217          LG    .340    .330   4.150    .440   1.000
218          UC    .887   1.036
219          UA       0       3       5       8      12      20      43      75      90      96
220          UA     100
             * DDM   ***** Updated *****

221          KK     180
222          KM   SUB-BASIN 180
223          KM   6-HOUR RAINFALL, PATTERN NO. 1.40 WAS USED TO FIND TC & R FOR THIS BASIN
224          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
225          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
226          BA   1.000
227          LG    .350    .350   4.150    .430    .000
```

```
228          UC   1.079    .817
229          UA       0       3       5       8      12      20      43      75      90      96
230          UA     100
             * DDM   ***** Preserved *****

231          KK    180C
232          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
233          HC       5
             * DDM   ***** Updated *****

234          KK     210
235          KM   SUB-BASIN 210
236          KM   6-HOUR RAINFALL, PATTERN NO. 1.09 WAS USED TO FIND TC & R FOR THIS BASIN
237          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
238          KM     L = 1.84  Kb = .045  Adj. Slope =  315.0
239          BA    .583
240          LG    .350    .350   7.000    .120   5.000
241          UC    .412    .307
242          UA       0       3       5       8      12      20      43      75      90      96
243          UA     100
             * DDM   ***** Preserved *****

244          KK    R210
245          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
246          RS       3    FLOW      -1
247          RC    .045     .03    .045    5100    .022
248          RX       0       1       2      14      34      46      47      48
249          RY       4       4       4       0       0       4       4       4
             * DDM   ***** Updated *****

250          KK     240
251          KM   SUB-BASIN 240
252          KM   6-HOUR RAINFALL, PATTERN NO. 1.60 WAS USED TO FIND TC & R FOR THIS BASIN
253          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .984
254          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
255          BA   1.398
256          LG    .350    .370   5.200    .240   2.000
257          UC    .850    .695
258          UA       0       3       5       8      12      20      43      75      90      96
259          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  7

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

260          KK    240C
261          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
262          HC       2
             * DDM   ***** Preserved *****

263          KK   SR240
264          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
265          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
266          RS       1    STOR       0
267          SA    1.38    14.2    36.5
268          SE     1.7       5      11
269          SS       5      42       3     1.5
             * DDM   ***** Updated *****

270          KK     220
271          KM   SUB-BASIN 220
272          KM   6-HOUR RAINFALL, PATTERN NO. 1.22 WAS USED TO FIND TC & R FOR THIS BASIN
273          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
274          KM     L = 1.92  Kb = .043  Adj. Slope =  315.0
275          BA    .725
276          LG    .350    .350   7.000    .120   4.000
277          UC    .425    .290
278          UA       0       3       5       8      12      20      43      75      90      96
279          UA     100
             * DDM   ***** Preserved *****

280          KK    220C
281          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
282          HC       2
             * DDM   ***** Preserved *****

283          KK   SR220
284          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
285          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
286          RS       1    STOR       0
287          SA     .78     4.1    13.7
288          SE       1       3      10
289          SS       3      65       3     1.5
             * DDM   ***** Updated *****

290          KK     190
291          KM   SUB-BASIN 190
292          KM   6-HOUR RAINFALL, PATTERN NO. 1.35 WAS USED TO FIND TC & R FOR THIS BASIN
293          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .988
294          KM     L = 1.91  Kb = .042  Adj. Slope =  315.0
295          BA    .918
296          LG    .350    .390   5.800    .190   8.000
297          UC    .467    .280
298          UA       0       3       5       8      12      20      43      75      90      96
299          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  8

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

300          KK    R190
301          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
302          RS       2    FLOW      -1
303          RC    .045     .03    .045    4740     .03
304          RX       0       1       2      17      37      52      53      54
305          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

306          KK    R192
307          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
308          RS       2    FLOW      -1
```

```
309          RC    .045    .035    .045    2200    .018
310          RX       0       1      50      59      79      88     137     138
311          RY     3.5       3       3       0       0       3       3     3.5
             * DDM   ***** Updated *****

312          KK     200
313          KM   SUB-BASIN 200
314          KM   6-HOUR RAINFALL, PATTERN NO. 1.04 WAS USED TO FIND TC & R FOR THIS BASIN
315          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
316          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
317          BA    .535
318          LG    .350    .390   5.700    .200  10.000
319          UC    .387    .266
320          UA       0       3       5       8      12      20      43      75      90      96
321          UA     100
             * DDM   ***** Preserved *****

322          KK    200C
323          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
324          HC       3
             * DDM   ***** Preserved *****

325          KK   SR200
326          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
327          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
328          RS       1    STOR       0
329          SA    2.56     3.1     9.4
330          SE       0       3      10
331          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

332          KK   200SR
333          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
334          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
335          RS       1    STOR       0
336          SA       8     9.2     9.2
337          SE       0       7      10
338          SS       7     251       3     1.5
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

339          KK    C180
340          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             *      1       2
341          HC       2
             * DDM   ***** Preserved *****

342          KK   SR180
343          KM   SIGNAL BUTTE FRS DATED 1/28/85
344          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
345          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
346          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
347          RS       1    STOR       0
348          SV       0       1     250     500     750    1060
349          SQ       0   106.5   125.5   137.5     146     160
350          SE      90     101   104.5     107     109   112.4
             * DDM   ***** Preserved *****

351          KK    R180
352          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
353          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
354          RS       3    FLOW      -1
355          RC    .035    .025    .035    1500    .003
356          RX       0       1       2    22.6    38.6    59.2      60      61
357          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

358          KK     260
359          KM   SUB-BASIN 260
360          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
361          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
362          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
363          BA    .267
364          LG    .300    .170   6.800    .160  15.000
365          UC    .438    .265
366          UA       0       5      16      30      65      77      84      90      94      97
367          UA     100
             * DDM   ***** Preserved *****

368          KK    260C
369          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
370          HC       2    .267
             * DDM   ***** Preserved *****

371          KK    R260
372          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
373          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
374          RS       2    FLOW      -1
375          RC    .035    .025    .035    2300    .003
376          RX       0       1       2    23.4    43.4    64.8      65      66
377          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

378          KK     280
379          KM   SUB-BASIN 280
380          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
381          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
382          KM     L =  .77  Kb = .049  Adj. Slope =   84.0
383          BA    .304
384          LG    .300    .250   5.300    .290  15.000
385          UC    .421    .226
386          UA       0       5      16      30      65      77      84      90      94      97
387          UA     100
             * DDM   ***** Preserved *****

388          KK    280C
```

```
389          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
390          HC       2
             * DDM   ***** Preserved *****

391          KK    R280
392          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
393          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
394          RS       2    FLOW      -1
395          RC    .035    .025    .035    2500    .003
396          RX       0       1       2    23.4    43.4    64.8      65      66
397          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

398          KK     300
399          KM   SUB-BASIN 300
400          KM   6-HOUR RAINFALL, PATTERN NO. 1.39 WAS USED TO FIND TC & R FOR THIS BASIN
401          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
402          KM     L = 2.28  Kb = .041  Adj. Slope =  127.0
403          BA    .988
404          LG    .340    .320   4.500    .370   7.000
405          UC    .917    .654
406          UA       0       5      16      30      65      77      84      90      94      97
407          UA     100
             * DDM   ***** Preserved *****

408          KK    300C
409          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
410          HC       2
             * DDM   ***** Preserved *****

411          KK    R300
412          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
413          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
414          RS       2    FLOW      -1
415          RC    .035    .025    .035    2200    .003
416          RX       0       1       2    23.4    55.4    76.8      77      78
417          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 11

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

418          KK   RR300
419          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
420          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
421          RS       3    FLOW      -1
422          RC    .016    .016    .016    6050   .0146
423          RX       0       1       2     2.1    16.1    16.2      17      18
424          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
             *      1       2
             * DDM   ***** Updated *****

425          KK     350
426          KM   SUB-BASIN 350
427          KM   6-HOUR RAINFALL, PATTERN NO. 1.38 WAS USED TO FIND TC & R FOR THIS BASIN
428          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
429          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
430          BA    .970
431          LG    .350    .350   4.550    .340   4.000
432          UC    .604    .407
433          UA       0       3       5       8      12      20      43      75      90      96
434          UA     100
             * DDM   ***** Preserved *****

435          KK    D350
436          KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
437          KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
438          DT   SF350
439          DI       0    5000
440          DQ       0    2500
             * DDM   ***** Preserved *****

441          KK    350R
442          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
443          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
444          RS       7    FLOW      -1
445          RC    .045    .035    .045    5150    .025
446          RX       0       1      40      46      56      62     102     103
447          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

448          KK     310
449          KM   SUB-BASIN 310
450          KM   6-HOUR RAINFALL, PATTERN NO. 1.06 WAS USED TO FIND TC & R FOR THIS BASIN
451          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
452          KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
453          BA    .555
454          LG    .350    .350   3.910    .480    .000
455          UC    .762    .848
456          UA       0       3       5       8      12      20      43      75      90      96
457          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 12

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

458          KK    C310
459          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
460          HC       2    .943
             * DDM   ***** Preserved *****

461          KK    R310
462          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
463          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
464          RS      15    FLOW      -1
465          RC    .045    .035    .045   10050    .022
466          RX       0       1      40      46      56      62     102     103
467          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

468          KK     320
```

```
469          KM   SUB-BASIN 320
470          KM   6-HOUR RAINFALL, PATTERN NO. 1.39 WAS USED TO FIND TC & R FOR THIS BASIN
471          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
472          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
473          BA    .972
474          LG    .310    .300   4.550    .360  14.000
475          UC    .808    .558
476          UA       0       5      16      30      65      77      84      90      94      97
477          UA     100
             * DDM   ***** Preserved *****

478          KK    D320
479          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
480          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
481          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
482          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
483          DT   BS320   12.27
484          DI       0   10000
485          DQ       0   10000
             * DDM   ***** Preserved *****

486          KK   RT320
487          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
488          DR   BS320
             * DDM   ***** Preserved *****

489          KK   SR320
490          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
491          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
492          RS       1    STOR       0
493          SV       0     .01    12.3
494          SQ       0     4.2     4.2
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 13

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

495          KK    C320
496          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
497          HC       4
             * DDM   ***** Updated *****

498          KK     340
499          KM   SUB-BASIN 340
500          KM   6-HOUR RAINFALL, PATTERN NO. 1.62 WAS USED TO FIND TC & R FOR THIS BASIN
501          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .984
502          KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
503          BA   1.449
504          LG    .280    .280   4.150    .520  21.000
505          UC    .850    .504
506          UA       0       5      16      30      65      77      84      90      94      97
507          UA     100
             * DDM   ***** Preserved *****

508          KK    D340
509          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
510          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
511          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
512          KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *      1
513          DT   BS340      56
514          DI       0   10000
515          DQ       0   10000
             * DDM   ***** Preserved *****

516          KK   RT340
517          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
518          DR   BS340
             * DDM   ***** Preserved *****

519          KK   SR340
520          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
521          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
522          RS       1    STOR       0
523          SV       0     .01      56
524          SQ       0    18.9    18.9
             * DDM   ***** Preserved *****

525          KK    C340
526          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
527          HC       3
             * DDM   ***** Preserved *****

528          KK   RT350
529          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
530          DR   SF350
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 14

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

531          KK   RR350
532          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
533          KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
534          RS       8    FLOW      -1
535          RC    .045    .035    .045    6050    .025
536          RX       0       1      40      46      56      62     102     103
537          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

538          KK     355
539          KM   SUB-BASIN 355
540          KM   6-HOUR RAINFALL, PATTERN NO. 1.16 WAS USED TO FIND TC & R FOR THIS BASIN
541          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
542          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
543          BA    .659
544          LG    .340    .340   4.450    .370   4.000
545          UC    .762    .836
```

```
546          UA       0       3       5       8      12      20      43      75      90      96
547          UA     100
             * DDM   ***** Preserved *****

548          KK    C355
549          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
550          HC       2    1.24
             * DDM   ***** Preserved *****

551          KK    R355
552          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
553          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
554          RS      12    FLOW      -1
555          RC    .045    .035    .045   10100    .026
556          RX       0       1      40      46      56      62     102     103
557          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

558          KK     360
559          KM   SUB-BASIN 360
560          KM   6-HOUR RAINFALL, PATTERN NO. 1.17 WAS USED TO FIND TC & R FOR THIS BASIN
561          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
562          KM     L = 2.10  Kb = .048  Adj. Slope =  124.0
563          BA    .670
564          LG    .260    .270   4.100    .560  20.000
565          UC    .833    .687
566          UA       0       5      16      30      65      77      84      90      94      97
567          UA     100
             * DDM   ***** Preserved *****

568          KK    D360
569          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
570          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
571          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *       1
572          DT   BS360    28.6
573          DI       0   10000
1                                        HEC-1 INPUT                                          PAGE 15

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

574          DQ       0   10000
             * DDM   ***** Preserved *****

575          KK   RT360
576          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
577          DR   BS360
             * DDM   ***** Preserved *****

578          KK   SR360
579          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
580          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
581          RS       1    STOR       0
582          SV       0     .01    28.6
583          SQ       0     9.6     9.6
             * DDM   ***** Preserved *****

584          KK    360C
585          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
586          HC       4
             * DDM   ***** Updated *****

587          KK     370
588          KM   SUB-BASIN 370
589          KM   6-HOUR RAINFALL, PATTERN NO. 1.17 WAS USED TO FIND TC & R FOR THIS BASIN
590          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
591          KM     L = 2.90  Kb = .044  Adj. Slope =  294.6
592          BA    .667
593          LG    .340    .320   4.650    .330   9.000
594          UC    .679    .711
595          UA       0       3       5       8      12      20      43      75      90      96
596          UA     100
             * DDM   ***** Updated *****

597          KK     395
598          KM   SUB-BASIN 395
599          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
600          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
601          KM     L = 1.60  Kb = .051  Adj. Slope =  215.8
602          BA    .198
603          LG    .330    .320   4.900    .300  10.000
604          UC    .517    .652
605          UA       0       3       5       8      12      20      43      75      90      96
606          UA     100
             * DDM   ***** Preserved *****

607          KK    370C
608          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
609          HC       2
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 16

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

610          KK    R370
611          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
612          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
613          RS      18    FLOW      -1
614          RC    .045    .035    .045   10250    .023
615          RX       0       1      40      46      56      62     102     103
616          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

617          KK     380
618          KM   SUB-BASIN 380
619          KM   6-HOUR RAINFALL, PATTERN NO. 1.39 WAS USED TO FIND TC & R FOR THIS BASIN
620          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
621          KM     L = 2.20  Kb = .048  Adj. Slope =  114.0
622          BA    .972
623          LG    .300    .310   4.150    .500   7.000
624          UC   1.125    .805
625          UA       0       5      16      30      65      77      84      90      94      97
```

```
626          UA     100
             * DDM   ***** Preserved *****

627          KK    D380
628          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
629          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
630          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
631          DT   BS380    28.6
632          DI       0   10000
633          DQ       0   10000
             * DDM   ***** Preserved *****

634          KK   RT380
635          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
636          DR   BS380
             * DDM   ***** Preserved *****

637          KK   SR380
638          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
639          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
640          RS       1    STOR       0
641          SV       0     .01    28.6
642          SQ       0     9.6     9.6
             * DDM   ***** Preserved *****

643          KK    380C
644          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
645          HC       4
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 17

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

646          KK     390
647          KM   SUB-BASIN 390
648          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
649          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
650          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
651          BA    .244
652          LG    .300    .250   4.700    .380  18.000
653          UC    .233    .124
654          UA       0       5      16      30      65      77      84      90      94      97
655          UA     100
             * DDM   ***** Preserved *****

656          KK    D390
657          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
658          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
659          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
660          DT   BS390     3.5
661          DI       0   10000
662          DQ       0   10000
             * DDM   ***** Preserved *****

663          KK   RT390
664          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
665          DR   BS390
             * DDM   ***** Preserved *****

666          KK   SR390
667          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
668          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
669          RS       1    STOR       0
670          SV       0     .01     3.5
671          SQ       0     1.2     1.2
             * DDM   ***** Preserved *****

672          KK    390C
673          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
674          HC       2
             * DDM   ***** Preserved *****

675          KK   RR390
676          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
677          KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
678          RS      16    FLOW      -1
679          RC    .045    .045    .045    8800    .020
680          RX       0       1      40      46      56      62     102     103
681          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 18

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

682          KK     400
683          KM   SUB-BASIN 400
684          KM   6-HOUR RAINFALL, PATTERN NO. 1.12 WAS USED TO FIND TC & R FOR THIS BASIN
685          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
686          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
687          BA    .616
688          LG    .320    .320   3.130    .930   6.000
689          UC    .988    .714
690          UA       0       5      16      30      65      77      84      90      94      97
691          UA     100
             * DDM   ***** Preserved *****

692          KK    D400
693          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
694          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
695          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
696          DT   BS400     5.6
697          DI       0   10000
698          DQ       0   10000
             * DDM   ***** Preserved *****

699          KK   RT400
700          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
701          DR   BS400
```

```
            * DDM   ***** Preserved *****

 702        KK   SR400
 703        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 704        KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
 705        RS       1    STOR       0
 706        SV       0     .01     5.6
 707        SQ       0       2       2
            * DDM   ***** Preserved *****

 708        KK    C400
 709        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 710        HC       2
            * DDM   ***** Preserved *****

 711        KK    400C
 712        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 713        HC       3
            * DDM   ***** Updated *****

 714        KK     385
 715        KM   SUB-BASIN 385
 716        KM   6-HOUR RAINFALL, PATTERN NO. 1.03 WAS USED TO FIND TC & R FOR THIS BASIN
 717        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 718        KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
 719        BA    .523
 720        LG    .340    .360   5.600    .220  13.000
 721        UC    .512    .496
 722        UA       0       3       5       8      12      20      43      75      90      96
1                                        HEC-1 INPUT                                          PAGE 19

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 723        UA     100
            * DDM   ***** Preserved *****

 724        KK    D385
 725        KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
 726        DT   SF385
 727        DI       0    5000
 728        DQ       0    3000
            * DDM   ***** Preserved *****

 729        KK    385R
 730        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
 731        KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385 INTO SUB-BASIN 420
 732        RS      12    FLOW      -1
 733        RC    .045     .04    .045   10250    .022
 734        RX       0       1      40      46      56      62     102     103
 735        RY       3       2       2       0       0       2       2       3
            * DDM   ***** Updated *****

 736        KK     420
 737        KM   SUB-BASIN 420
 738        KM   6-HOUR RAINFALL, PATTERN NO. 1.31 WAS USED TO FIND TC & R FOR THIS BASIN
 739        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .989
 740        KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
 741        BA    .849
 742        LG    .310    .270   3.880    .580  12.000
 743        UC    .813    .541
 744        UA       0       5      16      30      65      77      84      90      94      97
 745        UA     100
            * DDM   ***** Preserved *****

 746        KK    D420
 747        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 748        KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
 749        KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
            *      1
 750        DT   BS420    8.65
 751        DI       0   10000
 752        DQ       0   10000
            * DDM   ***** Preserved *****

 753        KK   RT420
 754        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 755        DR   BS420
            * DDM   ***** Preserved *****

 756        KK   SR420
 757        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 758        KM   38.55 ACRE-FEETx43560/36x3600=13cfs
 759        RS       1    STOR       0
 760        SV       0     .01   38.55
 761        SQ       0      13      13
            * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 20

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 762        KK    420C
 763        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 764        HC       4   10.87
            * DDM   ***** Updated *****

 765        KK     440
 766        KM   SUB-BASIN 440
 767        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 768        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 769        KM     L =  .40  Kb = .039  Adj. Slope =  315.0
 770        BA    .080
 771        LG    .190    .380   6.400    .140  13.000
 772        UC    .146    .089
 773        UA       0       3       5       8      12      20      43      75      90      96
 774        UA     100
            * DDM   ***** Preserved *****

 775        KK     R70
 776        KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
 777        RS       1    FLOW      -1
 778        RC     .05    .035     .05    2250     .08
 779        RX    1000    1025    1050    1070    1075    1095    1120    1145
```

```
780          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

781          KK     441
782          KM   SUB-BASIN 441
783          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
784          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
785          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
786          BA    .010
787          LG    .300    .250   5.600    .220   5.000
788          UC    .167    .252
789          UA       0       5      16      30      65      77      84      90      94      97
790          UA     100
             * DDM   ***** Preserved *****

791          KK    C108
792          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
793          HC       2
             * DDM   ***** Preserved *****

794          KK    DIV4
795          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
             *      1
796          DT   SPLIT
797          DI       0      14      40      82     120     154     180
798          DQ       0       7      20      41      60      77      90
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 21

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

799          KK    R108
800          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
801          RS       2    FLOW      -1
802          RC     .05    .035     .05    3200      .1
803          RX    1000    1025    1050    1070    1075    1095    1120    1145
804          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

805          KK     442
806          KM   SUB-BASIN 442
807          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
808          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
809          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
810          BA    .100
811          LG    .300    .270   3.290    .770   5.000
812          UC    .350    .369
813          UA       0       5      16      30      65      77      84      90      94      97
814          UA     100
             * DDM   ***** Preserved *****

815          KK     C67
816          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
817          HC       2
             * DDM   ***** Preserved *****

818          KK    DIV6
819          KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
820          KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
             *      1
821          DT  BASIN4
822          DI       0      10      32      44    79.9   132.5     198   272.9   356.8
823          DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
             * DDM   ***** Preserved *****

824          KK  RTDIV6
825          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
826          DR  BASIN4
             * DDM   ***** Preserved *****

827          KK  RFDIV6
828          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
829          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
             *      1
830          RS       1    STOR       0
831          SV       0     .01     3.3
832          SQ       0     1.1     1.1
             * DDM   ***** Preserved *****

833          KK   CDIV6
834          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
835          HC       2
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE 22

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

836          KK     443
837          KM   SUB-BASIN 443
838          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
839          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
840          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
841          BA    .080
842          LG    .250    .190   8.000    .080  10.000
843          UC    .217    .217
844          UA       0       5      16      30      65      77      84      90      94      97
845          UA     100
             * DDM   ***** Preserved *****

846          KK   DIV66
847          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
848          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
849          DT   WSH66
850          DI       0      78     100     200
851          DQ       0      78      78      78
             * DDM   ***** Preserved *****

852          KK    R113
853          KM        ROUTE FLOW FROM C113 TO C114
854          RS       1    FLOW      -1
855          RC    .019    .019    .019    1300    .029
```

```
856          RX    1000    1004    1008    1012    1018    1022    1026    1030
857          RY      17   15.33   12.67      10      10   12.67   15.33      17
             * DDM   ***** Preserved *****

858          KK    C114
859          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
860          HC       2
             * DDM   ***** Updated *****

861          KK     444
862          KM   SUB-BASIN 444
863          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
864          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
865          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
866          BA    .040
867          LG    .130    .350   4.450    .320   1.000
868          UC    .129    .098
869          UA       0       3       5       8      12      20      43      75      90      96
870          UA     100
             * DDM   ***** Preserved *****

871          KK     R58
872          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
873          RS       2    FLOW      -1
874          RC     .05    .035     .05    2370   .0516
875          RX    1000    1010    1020    1050    1055    1085    1095    1105
876          RY      19      18      17      10      10      17      18      19
             * DDM   ***** Updated *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

877          KK     445
878          KM   SUB-BASIN 445
879          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
880          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
881          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
882          BA    .190
883          LG    .170    .320   3.470    .590   3.000
884          UC    .225    .155
885          UA       0       5      16      30      65      77      84      90      94      97
886          UA     100
             * DDM   ***** Preserved *****

887          KK    C107
888          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
889          HC       2
             * DDM   ***** Preserved *****

890          KK    R107
891          KM        ROUTE FLOW FROM C107 TO C109
892          RS       1    FLOW      -1
893          RC     .05    .035     .05     700   .0516
894          RX    1000    1010    1020    1050    1055    1085    1095    1105
895          RY      19      18      17      10      10      17      18      19
             * DDM   ***** Preserved *****

896          KK    RTB2
897          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
             *      1
898          DR   SPLIT
             * DDM   ***** Preserved *****

899          KK  RSPLIT
900          KM        ROUTE FLOW FROM SPLIT TO C109
901          RS       1    FLOW      -1
902          RC     .05    .035     .05     800     .05
903          RX    1000    1025    1050    1070    1075    1095    1120    1145
904          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

905          KK     446
906          KM   SUB-BASIN 446
907          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
908          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
909          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
910          BA    .040
911          LG    .270    .250   4.500    .400  19.000
912          UC    .208    .218
913          UA       0       5      16      30      65      77      84      90      94      97
914          UA     100
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

915          KK    C109
916          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
917          HC       3
             * DDM   ***** Preserved *****

918          KK    DIV5
919          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
920          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
             *      1
921          DT  WSH404
922          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
923          DQ       0      35      35      35      35      35      35      35
             * DDM   ***** Preserved *****

924          KK    R109
925          KM        ROUTE FLOW FROM C109 TO C110
926          RS       1    FLOW      -1
927          RC    .019    .019    .019    3080     .05
928          RX    1000    1005    1010    1015    1025    1030    1035    1040
929          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
             * DDM   ***** Updated *****

930          KK     447
931          KM   SUB-BASIN 447
932          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
```

```
933          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
934          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
935          BA    .090
936          LG    .250    .270   3.350    .870  30.000
937          UC    .242    .171
938          UA       0       5      16      30      65      77      84      90      94      97
939          UA     100
             * DDM   ***** Preserved *****

940          KK   RT404
941          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
942          DR  WSH404
             * DDM   ***** Preserved *****

943          KK    R404
944          KM        ROUTE FLOW FROM C110 TO C110
945          RS       6    FLOW      -1
946          RC    .019    .019    .019    3540     .03
947          RX    1000    1012    1016    1020    1025    1029    1033    1045
948          RY      15      12      11      10      10      11      12      15
             * DDM   ***** Preserved *****

949          KK    C110
950          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
951          HC       3
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 25

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

952          KK    R110
953          KM        ROUTE FLOW FROM C110 TO C115
954          RS       1    FLOW      -1
955          RC    .019    .019    .019     580   .0291
956          RX    1000    1012    1016    1020    1035    1039    1043    1055
957          RY      15      12      11      10      10      11      12      15
             * DDM   ***** Preserved *****

958          KK    C115
959          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
960          HC       2
             * DDM   ***** Preserved *****

961          KK    R115
962          KM        ROUTE FLOW FROM C115 TO C119
963          RS       1    FLOW      -1
964          RC    .019    .019    .019    2125    .029
965          RC    .019    .019    .019     580   .0291
966          RX    1000    1012    1016    1020    1035    1039    1043    1055
967          RY      15      12      11      10      10      11      12      15
             * DDM   ***** Updated *****

968          KK     448
969          KM   SUB-BASIN 448
970          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
971          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
972          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
973          BA    .045
974          LG    .170    .310   4.200    .390  11.000
975          UC    .150    .117
976          UA       0       5      16      30      65      77      84      90      94      97
977          UA     100
             * DDM   ***** Updated *****

978          KK     449
979          KM   SUB-BASIN 449
980          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
981          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
982          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
983          BA    .050
984          LG    .260    .280   3.500    .640   6.000
985          UC    .196    .160
986          UA       0       5      16      30      65      77      84      90      94      97
987          UA     100
             * DDM   ***** Preserved *****

988          KK   C6364
989          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
990          HC       2
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 26

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

991          KK   R6364
992          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
993          RS       6    FLOW      -1
994          RC     .05    .035     .05    4375   .0333
995          RX    1000    1027    1053    1080    1090    1117    1143    1170
996          RY      15   13.33   11.67      10      10   11.67   13.33      15
             * DDM   ***** Updated *****

997          KK     450
998          KM   SUB-BASIN 450
999          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1000         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1001         KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1002         BA    .070
1003         LG    .340    .350   3.630    .570   4.000
1004         UC    .417    .560
1005         UA       0       3       5       8      12      20      43      75      90      96
1006         UA     100
             * DDM   ***** Updated *****

1007         KK     451
1008         KM   SUB-BASIN 451
1009         KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1010         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1011         KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1012         BA    .025
1013         LG    .340    .340   3.290    .750   3.000
```

```
1014        UC    .396    .691
1015        UA       0       3       5       8      12      20      43      75      90      96
1016        UA     100
            * DDM   ***** Preserved *****

1017        KK    RT66
1018        KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1019        DR   WSH66
            * DDM   ***** Updated *****

1020        KK     452
1021        KM   SUB-BASIN 452
1022        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1023        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1024        KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1025        BA    .040
1026        LG    .260    .280   3.700    .550   9.000
1027        UC    .196    .193
1028        UA       0       5      16      30      65      77      84      90      94      97
1029        UA     100
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 27

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1030        KK   C6465
1031        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1032        HC       2
            * DDM   ***** Preserved *****

1033        KK   R6566
1034        KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1035        RS       2    FLOW      -1
1036        RC     .05    .035     .05    2435   .0282
1037        RX    1000    1045    1090    1150    1160    1220    1265    1310
1038        RY      25      23      20      10      10      20      23      25
            * DDM   ***** Preserved *****

1039        KK    C116
1040        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1041        HC       4
            * DDM   ***** Preserved *****

1042        KK  BASIN5
1043        KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1044        KM        BASIN 5 FEET DEEP
1045        RS       1    ELEV       0
1046        SV       0     4.5     9.9
1047        SQ       0      69     190
1048        SE       0     2.5       5
            * DDM   ***** Preserved *****

1049        KK    R116
1050        KM   ROUTE FLOW FROM C116 TO C117
1051        RS       3    FLOW      -1
1052        RC     .05    .035     .05    1300   .0333
1053        RX    1000    1100    1200    1300    1320    1420    1520    1620
1054        RY      13      12      11      10      10      11      12      13
            * DDM   ***** Updated *****

1055        KK     453
1056        KM   SUB-BASIN 453
1057        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1058        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1059        KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1060        BA    .060
1061        LG    .290    .300   3.290    .820  18.000
1062        UC    .367    .391
1063        UA       0       5      16      30      65      77      84      90      94      97
1064        UA     100
            * DDM   ***** Preserved *****

1065        KK    C117
1066        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1067        HC       2
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 28

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1068        KK    C118
1069        KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1070        HC       2
            * DDM   ***** Preserved *****

1071        KK    R118
1072        KM        ROUTE FLOW FROM C118 TO  DIV7
1073        RS       1    FLOW      -1
1074        RC    .019    .019    .019    1500    .024
1075        RX    1000    1012    1016    1020    1035    1039    1043    1055
1076        RY      15      12      11      10      10      11      12      15
            * DDM   ***** Preserved *****

1077        KK    DIV7
1078        KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1079        KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
            *      1
1080        DT  BASIN6
1081        DI       0     363     487     563     645     844
1082        DQ       0       3      47      83     125     244
            * DDM   ***** Preserved *****

1083        KK  RTDIV7
1084        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1085        DR  BASIN6
            * DDM   ***** Preserved *****

1086        KK  RFDIV7
1087        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1088        KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1089        RS       1    STOR       0
```

```
1090        SV       0     .01     3.6
1091        SQ       0     1.2     1.2
            * DDM   ***** Preserved *****

1092        KK   CDIV7
1093        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1094        HC       2
            * DDM   ***** Updated *****

1095        KK     454
1096        KM   SUB-BASIN 454
1097        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1098        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1099        KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1100        BA    .180
1101        LG    .300    .310   3.780    .560  14.000
1102        UC    .512    .553
1103        UA       0       5      16      30      65      77      84      90      94      97
1104        UA     100
            * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 29

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1105        KK    C119
1106        KM         COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
            *      1       2
1107        HC       2
            * DDM   ***** Preserved *****

1108        KK    R454
1109        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1110        KM   ROUTE FLOW FROM C119 TO 415C
1111        RS       3    FLOW      -1
1112        RC    .045    .035    .045    2200    .009
1113        RX       0      .5       1      33      42      67    67.5      68
1114        RY       5       4       4       0       0       6       6       6
            * DDM   ***** Updated *****

1115        KK     415
1116        KM   SUB-BASIN 415
1117        KM   6-HOUR RAINFALL, PATTERN NO. 1.11 WAS USED TO FIND TC & R FOR THIS BASIN
1118        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
1119        KM     L = 2.58  Kb = .044  Adj. Slope =  298.5
1120        BA    .606
1121        LG    .320    .290   4.500    .400  15.000
1122        UC    .592    .587
1123        UA       0       5      16      30      65      77      84      90      94      97
1124        UA     100
            * DDM   ***** Preserved *****

1125        KK   RT385
1126        KM   RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385 INTO SUB-BASIN 415
1127        DR   SF385
            * DDM   ***** Preserved *****

1128        KK   RR385
1129        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1130        KM   ROUTING OF SPLIT FLOW FROM SUB-BASIN 385 TO SUB-BASIN 415
1131        RS       7    FLOW      -1
1132        RC    .045     .04    .045    5878    .024
1133        RX       0       1      40      46      56      62     102     103
1134        RY       3       2       2       0       0       2       2       3
            * DDM   ***** Preserved *****

1135        KK    415C
1136        KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1137        HC       3    1.71
            * DDM   ***** Preserved *****

1138        KK    R415
1139        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1140        KM   ROUTING OF FLOW FROM 415C TO 455C
1141        RS       2    FLOW      -1
1142        RC    .045     .03    .045    4100    .024
1143        RX       0      .5       1       8      16      23    23.5      24
1144        RY       8       8       8       0       0       8       8       8
            * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 30

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1145        KK     455
1146        KM   SUB-BASIN 455
1147        KM   6-HOUR RAINFALL, PATTERN NO. 1.46 WAS USED TO FIND TC & R FOR THIS BASIN
1148        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .986
1149        KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1150        BA   1.111
1151        LG    .270    .280   3.700    .640  24.000
1152        UC    .646    .328
1153        UA       0       5      16      30      65      77      84      90      94      97
1154        UA     100
            * DDM   ***** Preserved *****

1155        KK    D455
1156        KM         DIVERT FLOW INTO ONLINE  DETENTION BASIN
1157        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1158        KM   FOR BASIN #: 30      34      43      47&58
1159        KM         MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
            *      1
1160        DT   BS455    74.1
1161        DI       0   10000
1162        DQ       0   10000
            * DDM   ***** Preserved *****

1163        KK   RT455
1164        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1165        DR   BS455
            * DDM   ***** Preserved *****

1166        KK   SR455
```

```
1167        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1168        KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1169        RS       1    STOR       0
1170        SV       0     .01    74.1
1171        SQ       0      25      25
            * DDM   ***** Preserved *****

1172        KK    C455
1173        KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1174        HC       2
            * DDM   ***** Preserved *****

1175        KK    455C
1176        KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
            *      1       2
1177        HC       3
            * DDM   ***** Preserved *****

1178        KK   SR440
1179        KM   SPOOK HILL FRS PLANS DATED 6/15/77
1180        KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1181        KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1182        KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
1183        RS       1    STOR       0
1184        SV       0      10     100     300     500     680
1                                        HEC-1 INPUT                                                    PAGE 31

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1185        SQ       0     640     720     780     825     860
1186        SE      66    77.5      79    80.2    81.2      82
            * DDM   ***** Preserved *****

1187        KK   RR455
1188        KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 462
1189        RS      10    FLOW      -1
1190        RC    .035    .025    .035    9200    .002
1191        RX       0       1       2      28      58      84      85      86
1192        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1193        KK     456
1194        KM   SUB-BASIN 456
1195        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1196        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
1197        KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1198        BA    .260
1199        LG    .300    .380   5.600    .200  12.000
1200        UC    .250    .163
1201        UA       0       5      16      30      65      77      84      90      94      97
1202        UA     100
            * DDM   ***** Preserved *****

1203        KK    DIV1
1204        KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1205        KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
            *      1
1206        DT  BASIN1
1207        DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1208        DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
            * DDM   ***** Preserved *****

1209        KK    DIV2
1210        KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1211        KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1212        DT    WA30
1213        DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1214        DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
            * DDM   ***** Preserved *****

1215        KK    R456
1216        KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1217        RS       3    FLOW      -1
1218        RC     .05    .035     .05    3800    .044
1219        RX    1000    1010    1020    1036    1041    1057    1067    1077
1220        RY   14.88   14.44      14      10      10      14   14.44   14.88
            * DDM   ***** Updated *****

1221        KK     457
1222        KM   SUB-BASIN 457
1223        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1224        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1225        KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1226        BA    .190
1                                        HEC-1 INPUT                                                    PAGE 32

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1227        LG    .270    .330   3.950    .460   6.000
1228        UC    .292    .245
1229        UA       0       5      16      30      65      77      84      90      94      97
1230        UA     100
            * DDM   ***** Preserved *****

1231        KK    C101
1232        KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1233        HC       2
            * DDM   ***** Preserved *****

1234        KK    DIV3
1235        KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1236        KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
            *      1
1237        DT  BASIN2
1238        DI       0      36      70     110     180   313.5     402   500.9
1239        DQ       0       0       0       0       0    67.5     124   190.9
            * DDM   ***** Preserved *****

1240        KK  RTDIV3
1241        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1242        DR  BASIN2
            * DDM   ***** Preserved *****
```

```
1243        KK  RFDIV3
1244        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1245        KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1246        RS       1    STOR       0
1247        SV       0     .01       5
1248        SQ       0     1.7     1.7
            * DDM   ***** Preserved *****

1249        KK   CDIV3
1250        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1251        HC       2
            * DDM   ***** Preserved *****

1252        KK    R101
1253        KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1254        RS       1    FLOW      -1
1255        RC     .05    .035     .05    1450     .05
1256        RX    1000    1010    1020    1036    1041    1057    1067    1077
1257        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1258        KK     458
1259        KM   SUB-BASIN 458
1260        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1261        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1262        KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1263        BA    .190
1264        LG    .290    .330   5.800    .190   6.000
1265        UC    .233    .152
1266        UA       0       5      16      30      65      77      84      90      94      97
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1267        UA     100
            * DDM   ***** Preserved *****

1268        KK    C103
1269        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1270        HC       2
            * DDM   ***** Preserved *****

1271        KK    R103
1272        KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1273        RS       1    FLOW      -1
1274        RC     .05    .035     .05     900     .03
1275        RX    1000    1010    1020    1030    1050    1060    1070    1080
1276        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Preserved *****

1277        KK    RT30
1278        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1279        DR    WA30
            * DDM   ***** Preserved *****

1280        KK     R30
1281        KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1282        RS       1    FLOW      -1
1283        RC     .05    .035     .05    1630     .05
1284        RX    1000    1010    1020    1036    1041    1057    1067    1077
1285        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****

1286        KK    RTB1
1287        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1       2
1288        DR  BASIN1
            * DDM   ***** Preserved *****

1289        KK      B1
1290        KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1291        KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
            *      1       2
1292        RS       1    ELEV       0
1293        SV              .7     1.4     2.3     2.7     3.2
1294        SQ       0       5      16      28    32.5      37
1295        SE       0       1       2       3     3.5       4
            * DDM   ***** Preserved *****

1296        KK     RB1
1297        KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1298        RS       3    FLOW      -1
1299        RC     .05    .035     .05    1720     .05
1300        RX    1000    1010    1020    1036    1041    1057    1067    1077
1301        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1302        KK    CDIV
1303        KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1304        HC       2     .12
            * DDM   ***** Updated *****

1305        KK     459
1306        KM   SUB-BASIN 459
1307        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1308        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1309        KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1310        BA    .030
1311        LG    .220    .300   3.330    .710   8.000
1312        UC    .192    .188
1313        UA       0       5      16      30      65      77      84      90      94      97
1314        UA     100
            * DDM   ***** Preserved *****

1315        KK     C52
1316        KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1317        HC       2
            * DDM   ***** Preserved *****
```

```
1318        KK     R52
1319        KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1320        RS       2    FLOW      -1
1321        RC     .05    .035     .05    2000     .05
1322        RX    1000    1010    1020    1036    1041    1057    1067    1077
1323        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1324        KK     460
1325        KM   SUB-BASIN 460
1326        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1327        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1328        KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1329        BA    .140
1330        LG    .250    .260   3.740    .690  27.000
1331        UC    .296    .200
1332        UA       0       5      16      30      65      77      84      90      94      97
1333        UA     100
            * DDM   ***** Preserved *****

1334        KK    C102
1335        KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1336        HC       2
            * DDM   ***** Preserved *****

1337        KK  BASIN3
1338        KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1339        KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1340        RS       1    ELEV       0
1341        SA       0       0       0       0     .34    1.59    1.81    1.96    2.13     2.3
            *      0       0       0       0    1.14    3.25    5.52    9.23
1342        SQ       0      22      45    47.4      48      51      57      62      67      73
1                                        HEC-1 INPUT                                                PAGE 35

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1343        SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
            * DDM   ***** Preserved *****

1344        KK      R3
1345        KM        ROUTE FLOW FROM C102 to C106
1346        RS       5    FLOW      -1
1347        RC     .05     .03     .05    2750   .0375
1348        RX    1000    1010    1020    1052    1086    1118    1128    1138
1349        RY    19.2    18.4      18      10      10      18    18.4    19.2
            * DDM   ***** Updated *****

1350        KK     461
1351        KM   SUB-BASIN 461
1352        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1353        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1354        KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1355        BA    .120
1356        LG    .270    .250   4.250    .450  21.000
1357        UC    .333    .315
1358        UA       0       5      16      30      65      77      84      90      94      97
1359        UA     100
            * DDM   ***** Preserved *****

1360        KK    C104
1361        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1362        HC       2
            * DDM   ***** Preserved *****

1363        KK    C106
1364        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1365        HC       2
            * DDM   ***** Preserved *****

1366        KK    R106
1367        KM        ROUTE FLOW FROM C106 TO C49
1368        RS       2    FLOW      -1
1369        RC     .05    .035     .05    3950    .033
1370        RX    1000    1010    1020    1030    1050    1060    1070    1080
1371        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Updated *****

1372        KK     462
1373        KM   SUB-BASIN 462
1374        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1375        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1376        KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1377        BA    .301
1378        LG    .300    .330   5.300    .240  12.000
1379        UC    .262    .162
1380        UA       0       5      16      30      65      77      84      90      94      97
1381        UA     100
            * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                PAGE 36

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1382        KK     C56
1383        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
            *      1       2
1384        HC       2
            * DDM   ***** Updated *****

1385        KK     480
1386        KM   SUB-BASIN 480
1387        KM   6-HOUR RAINFALL, PATTERN NO. 1.22 WAS USED TO FIND TC & R FOR THIS BASIN
1388        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .990
1389        KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1390        BA    .731
1391        LG    .270    .270   3.580    .730  27.000
1392        UC    .450    .212
1393        UA       0       5      16      30      65      77      84      90      94      97
1394        UA     100
            * DDM   ***** Preserved *****

1395        KK    D480
1396        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
```

```
1397        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1398        KM   FOR BASIN #: 18 & 26
1399        KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
            *      1
1400        DT   BS480    16.5
1401        DI       0   10000
1402        DQ       0'  10000
            * DDM   ***** Preserved *****

1403        KK   RT480
1404        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1405        DR   BS480
            * DDM   ***** Preserved *****

1406        KK   SR480
1407        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1408        KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1409        RS       1    STOR       0
1410        SV       0     .01    16.5
1411        SQ       0     5.6     5.6
            * DDM   ***** Preserved *****

1412        KK    C480
1413        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1414        HC       2
            * DDM   ***** Preserved *****

1415        KK    480C
1416        KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1417        HC       3    2.09
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1418        KK   RR480
1419        KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUB-BASIN 500
1420        RS       2    FLOW      -1
1421        RC    .025    .025    .025    6500     .05
1422        RX       0       1       2      28      58      84      85      86
1423        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1424        KK     500
1425        KM   SUB-BASIN 500
1426        KM   6-HOUR RAINFALL, PATTERN NO. 1.36 WAS USED TO FIND TC & R FOR THIS BASIN
1427        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .988
1428        KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1429        BA    .930
1430        LG    .350    .400   6.000    .170   9.000
1431        UC    .633    .525
1432        UA       0       3       5       8      12      20      43      75      90      96
1433        UA     100
            * DDM   ***** Preserved *****

1434        KK    500C
1435        KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1436        HC       2    3.02
1437        ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

   43         10
               V
               V
   53        R10
               V
               V
   59        R12
               .
               .
   65          .          20
               .           .
               .           .
   75        C20............
               .
               .
   78          .          40
               .           .
               .           .
   88          .           .          60
               .           .           .
               .           .           .
   98        60C........................
               V
               V
  101       SR60
               V
               V
  110        R60
               V
               V
  116       RR60
               .
               .
  122          .          80
               .           .
               .           .
  132        80C............
               V
               V
  135        R80
               .
               .
  141          .         100
               .           .
               .           .
  151       100C............
               V
               V
  154       R100
               .
               .
  160          .         120
               .           .
               .           .
  170       120C............
               V
               V
  173       R120
               .
               .
  179          .         140
               .           .
               .           .
  189          .           .        150
               .           .          V
               .           .          V
  199          .           .       R150
               .           .          V
               .           .          V
  205          .           .       R152
               .           .          .
               .           .          .
  211          .           .          .        160
               .           .          .          .
               .           .          .          .
  221          .           .          .          .         180
               .           .          .          .           .
               .           .          .          .           .
  231       180C...............................................
               .
               .
  234          .         210
               .           V
               .           V
  244          .        R210
               .           .
               .           .
  250          .           .        240
               .           .          .
               .           .          .
  260          .        240C............
               .           V
               .           V
  263          .       SR240
               .           .
               .           .
  270          .           .        220
               .           .          .
               .           .          .
  280          .       220C............
               .           V
               .           V
  283          .       SR220
               .           .
               .           .
  290          .           .        190
```

```
                .          .          V
                .          .          V
300             .          .       R190
                .          .          V
                .          .          V
306             .          .       R192
                .          .          .
                .          .          .
312             .          .          .        200
                .          .          .          .
                .          .          .          .
322             .       200C.......................
                .          V
                .          V
325             .      SR200
                .          V
                .          V
332             .      200SR
                .          .
                .          .
339          C180............
                V
                V
342         SR180
                V
                V
351          R180
                .
                .
358             .        260
                .          .
                .          .
368          260C............
                V
                V
371          R260
                .
                .
378             .        280
                .          .
                .          .
388          280C............
                V
                V
391          R280
                .
                .
398             .        300
                .          .
                .          .
408          300C............
                V
                V
411          R300
                V
                V
418         RR300
                .
                .
425             .        350
                .          .
                .          .
438             .          .-------->   SF350
435             .      D350
                .          V
                .          V
441             .      350R
                .          .
                .          .
448             .          .        310
                .          .          .
                .          .          .
458             .      C310............
                .          V
                .          V
461             .      R310
                .          .
                .          .
468             .          .        320
                .          .          .
                .          .          .
483             .          .          .-------->   BS320
478             .          .      D320
                .          .          .
                .          .          .
488             .          .          .          .<-------   BS320
486             .          .          .      RT320
                .          .          .          V
                .          .          .          V
489             .          .          .      SR320
                .          .          .          .
                .          .          .          .
495          C320.................................
                .
                .
498             .        340
                .          .
                .          .
513             .          .-------->   BS340
508             .      D340
                .          .
                .          .
518             .          .          .<-------   BS340
516             .          .      RT340
                .          .          V
                .          .          V
519             .          .      SR340
                .          .          .
                .          .          .
525          C340........................
                .
                .
530             .          .<-------   SF350
```

```
528          .      RT350
             .         V
             .         V
531          .      RR350
             .         .
             .         .
538          .         .         355
             .         .          .
             .         .          .
548          .      C355............
             .         V
             .         V
551          .      R355
             .         .
             .         .
558          .         .         360
             .         .          .
             .         .          .
572          .         .          .-------->   BS360
568          .         .       D360
             .         .          .
             .         .          .
577          .         .          .          .<-------   BS360
575          .         .          .      RT360
             .         .          .         V
             .         .          .         V
578          .         .          .      SR360
             .         .          .          .
             .         .          .          .
584       360C...................................
             .
             .
587          .      370
             .         .
             .         .
597          .         .         395
             .         .          .
             .         .          .
607          .      370C............
             .         V
             .         V
610          .      R370
             .         .
             .         .
617          .         .         380
             .         .          .
             .         .          .
631          .         .          .-------->   BS380
627          .         .       D380
             .         .          .
             .         .          .
636          .         .          .          .<-------   BS380
634          .         .          .      RT380
             .         .          .         V
             .         .          .         V
637          .         .          .      SR380
             .         .          .          .
             .         .          .          .
643       380C...................................
             .
             .
646          .      390
             .         .
             .         .
660          .         .-------->   BS390
656          .      D390
             .         .
             .         .
665          .         .          .<-------   BS390
663          .         .      RT390
             .         .         V
             .         .         V
666          .         .      SR390
             .         .          .
             .         .          .
672          .      390C............
             .         V
             .         V
675          .      RR390
             .         .
             .         .
682          .         .         400
             .         .          .
             .         .          .
696          .         .          .-------->   BS400
692          .         .       D400
             .         .          .
             .         .          .
701          .         .          .          .<-------   BS400
699          .         .          .      RT400
             .         .          .         V
             .         .          .         V
702          .         .          .      SR400
             .         .          .          .
             .         .          .          .
708          .         .       C400............
             .         .          .
             .         .          .
711       400C.......................
             .
             .
714          .      385
             .         .
             .         .
726          .         .-------->   SF385
724          .      D385
             .         V
             .         V
729          .      385R
             .         .
             .         .
736          .         .         420
             .         .          .
```

```
                .           .           V
                .           .           V
300             .           .        R190
                .           .           V
                .           .           V
306             .           .        R192
                .           .           .
                .           .           .
312             .           .           .        200
                .           .           .          .
                .           .           .          .
322             .       200C.......................
                .           V
                .           V
325             .      SR200
                .           V
                .           V
332             .      200SR
                .           .
                .           .
339         C180............
                V
                V
342        SR180
                V
                V
351         R180
                .
                .
358             .        260
                .           .
                .           .
368         260C............
                V
                V
371         R260
                .
                .
378             .        280
                .           .
                .           .
388         280C............
                V
                V
391         R280
                .
                .
398             .        300
                .           .
                .           .
408         300C............
                V
                V
411         R300
                V
                V
418        RR300
                .
                .
425             .        350
                .           .
                .           .
438             .           .-------->   SF350
435             .       D350
                .           V
                .           V
441             .       350R
                .           .
                .           .
448             .           .        310
                .           .           .
                .           .           .
458             .      C310............
                .           V
                .           V
461             .      R310
                .           .
                .           .
468             .           .        320
                .           .           .
                .           .           .
483             .           .           .-------->   BS320
478             .           .       D320
                .           .           .
                .           .           .
498             .           .           .          .<-------   BS320
486             .           .           .      RT320
                .           .           .          V
                .           .           .          V
489             .           .           .      SR320
                .           .           .          .
                .           .           .          .
495        C320.................................
                .
                .
498             .        340
                .           .
                .           .
513             .           .-------->   BS340
508             .       D340
                .           .
                .           .
518             .           .           .<-------   BS340
516             .           .       RT340
                .           .           V
                .           .           V
519             .           .       SR340
                .           .           .
                .           .           .
525        C340........................
                .
                .
530             .           .<-------   SF350
```

```
528          .      RT350
             .          V
             .          V
531          .      RR350
             .          .
             .          .
538          .          .        355
             .          .          .
             .          .          .
548          .      C355............
             .          V
             .          V
551          .      R355
             .          .
             .          .
558          .          .        360
             .          .          .
             .          .          .
572          .          .          .-------->   BS360
568          .          .      D360
             .          .          .
             .          .          .
577          .          .          .          .<--------   BS360
575          .          .          .      RT360
             .          .          .          V
             .          .          .          V
578          .          .          .      SR360
             .          .          .          .
             .          .          .          .
584       360C...................................
             .
             .
587          .       370
             .          .
             .          .
597          .          .        395
             .          .          .
             .          .          .
607          .      370C............
             .          V
             .          V
610          .      R370
             .          .
             .          .
617          .          .        380
             .          .          .
             .          .          .
631          .          .          .-------->   BS380
627          .          .      D380
             .          .          .
             .          .          .
636          .          .          .          .<-------   BS380
634          .          .          .      RT380
             .          .          .          V
             .          .          .          V
637          .          .          .      SR380
             .          .          .          .
             .          .          .          .
643       380C...................................
             .
             .
646          .       390
             .          .
             .          .
660          .          .-------->   BS390
656          .      D390
             .          .
             .          .
665          .          .          .<-------   BS390
663          .          .      RT390
             .          .          V
             .          .          V
666          .          .      SR390
             .          .          .
             .          .          .
672          .      390C............
             .          V
             .          V
675          .     RR390
             .          .
             .          .
682          .          .        400
             .          .          .
             .          .          .
696          .          .          .-------->   BS400
692          .          .      D400
             .          .          .
             .          .          .
701          .          .          .          .<-------   BS400
699          .          .          .      RT400
             .          .          .          V
             .          .          .          V
702          .          .          .      SR400
             .          .          .          .
             .          .          .          .
708          .          .      C400............
             .          .          .
             .          .          .
711       400C........................
             .
             .
714          .       385
             .          .
             .          .
726          .          .-------->   SF385
724          .      D385
             .          V
             .          V
729          .      385R
             .          .
             .          .
736          .          .        420
             .          .          .
```

```
750          .           .           .
             .           .           .-------> BS420
746          .           .       D420
             .           .           .
             .           .           .
755          .           .           .          .<-------  BS420
753          .           .           .      RT420
             .           .           .          V
             .           .           .          V
756          .           .           .      SR420
             .           .           .          .
             .           .           .          .
762       420C.................................
             .
             .
765          .        440
             .          V
             .          V
775          .        R70
             .           .
             .           .
781          .           .        441
             .           .          .
             .           .          .
791          .      C108............
             .           .
             .           .
796          .           .-------> SPLIT
794          .      DIV4
             .          V
             .          V
799          .      R108
             .           .
             .           .
805          .           .        442
             .           .          .
             .           .          .
815          .       C67............
             .           .
             .           .
821          .           .-------> BASIN4
818          .      DIV6
             .           .
             .           .
826          .           .          .<-------  BASIN4
824          .           .     RTDIV6
             .           .          V
             .           .          V
827          .           .     RFDIV6
             .           .          .
             .           .          .
833          .     CDIV6............
             .           .
             .           .
836          .           .        443
             .           .          .
             .           .          .
849          .           .          .-------> WSH66
846          .           .      DIV66
             .           .          V
             .           .          V
852          .           .      R113
             .           .          .
             .           .          .
858          .      C114............
             .           .
             .           .
861          .           .        444
             .           .          V
             .           .          V
871          .           .        R58
             .           .          .
             .           .          .
877          .           .          .        445
             .           .          .          .
             .           .          .          .
887          .           .      C107............
             .           .          V
             .           .          V
890          .           .      R107
             .           .          .
             .           .          .
898          .           .          .          .<-------  SPLIT
896          .           .          .      RTB2
             .           .          .          V
             .           .          .          V
899          .           .          .    RSPLIT
             .           .          .          .
             .           .          .          .
905          .           .          .          .        446
             .           .          .          .          .
             .           .          .          .          .
915          .           .      C109........................
             .           .          .
             .           .          .
921          .           .          .-------> WSH404
918          .           .      DIV5
             .           .          V
             .           .          V
924          .           .      R109
             .           .          .
             .           .          .
930          .           .          .        447
             .           .          .          .
             .           .          .          .
942          .           .          .          .          .<-------  WSH404
940          .           .          .          .     RT404
             .           .          .          .          V
             .           .          .          .          V
943          .           .          .          .      R404
             .           .          .          .          .
             .           .          .          .          .
949          .           .      C110........................
```

```
                    V
                    V
952              R110
                    .
                    .
958         C115............
                 V
                 V
961         R115
                    .
                    .
968              448
                    .
                    .
978                 .          449
                    .            .
                    .            .
988              C6364...........
                    V
                    V
991              R6364
                    .
                    .
997                 .          450
                    .            .
                    .            .
1007                .            .        451
                    .            .          .
                    .            .          .
1019                .            .          .          .<-------   WSH66
1017                .            .          .       RT66
                    .            .          .          .
1020                .            .          .          .          452
                    .            .          .          .            .
                    .            .          .          .            .
1030                .            .          .      C6465...........
                    .            .          .          V
                    .            .          .          V
1033                .            .          .      R6566
                    .            .          .          .
                    .            .          .          .
1039             C116.................................
                    V
                    V
1042            BASIN5
                    V
                    V
1049             R116
                    .
                    .
1055                .          453
                    .            .
                    .            .
1065             C117...........
                    .
                    .
1068        C118............
                 V
                 V
1071        R118
                    .
                    .
1080                .-------> BASIN6
1077        DIV7
                    .
                    .
1085                .<-------  BASIN6
1083            RTDIV7
                    V
                    V
1086            RFDIV7
                    .
                    .
1092       CDIV7............
                    .
                    .
1095             454
                    .
                    .
1105        C119............
                 V
                 V
1108        R454
                    .
                    .
1115             415
                    .
                    .
1127                .          .<-------   SF385
1125                .       RT385
                    .          V
                    .          V
1128                .       RR385
                    .          .
                    .          .
1135       415C........................
                 V
                 V
1138        R415
                    .
                    .
1145             455
                    .
                    .
1160                .-------> BS455
1155            D455
                    .
                    .
1165                .          .<-------   BS455
1163                .       RT455
                    .          V
                    .          V
```

```
1166          .          .          .      SR455
              .          .          .          .
              .          .          .          .
1172          .          .       C455............
              .          .          .
              .          .          .
1175       455C.......................
              V
              V
1178      SR440
              V
              V
1187      RR455
              .
              .
1193          .        456
              .          .
              .          .
1206          .          .-------> BASIN1
1203          .       DIV1
              .          .
              .          .
1212          .          .------->   WA30
1209          .       DIV2
              .          V
              .          V
1215          .       R456
              .          .
              .          .
1221          .          .        457
              .          .          .
              .          .          .
1231          .       C101............
              .          .
              .          .
1237          .          .-------> BASIN2
1234          .       DIV3
              .          .
              .          .
1242          .          .          .<-------  BASIN2
1240          .          .     RTDIV3
              .          .          V
              .          .          V
1243          .          .     RFDIV3
              .          .          .
              .          .          .
1249          .      CDIV3............
              .          V
              .          V
1252          .       R101
              .          .
              .          .
1258          .          .        458
              .          .          .
              .          .          .
1268          .       C103............
              .          V
              .          V
1271          .       R103
              .          .
              .          .
1279          .          .          .<-------   WA30
1277          .          .       RT30
              .          .          V
              .          .          V
1280          .          .        R30
              .          .          .
              .          .          .
1288          .          .          .          .<-------  BASIN1
1286          .          .          .       RTB1
              .          .          .          V
              .          .          .          V
1289          .          .          .         B1
              .          .          .          V
              .          .          .          V
1296          .          .          .        RB1
              .          .          .          .
              .          .          .          .
1302          .          .       CDIV............
              .          .          .
              .          .          .
1305          .          .          .        459
              .          .          .          .
              .          .          .          .
1315          .          .        C52............
              .          .          V
              .          .          V
1318          .          .        R52
              .          .          .
              .          .          .
1324          .          .          .        460
              .          .          .          .
              .          .          .          .
1334          .          .       C102............
              .          .          V
              .          .          V
1337          .          .     BASIN3
              .          .          V
              .          .          V
1344          .          .         R3
              .          .          .
              .          .          .
1350          .          .          .        461
              .          .          .          .
              .          .          .          .
1360          .          .       C104............
              .          .          .
              .          .          .
1363          .       C106............
              .          V
              .          V
1366          .       R106
              .          .
```

```
1372          .          .        462
              .          .          .
              .          .          .
1382          .        C56............
              .          .
              .          .
1385          .          .        480
              .          .          .
              .          .          .
1400          .          .          .-------->   BS480
1395          .          .       D480
              .          .          .
              .          .          .
1405          .          .          .          .<-------   BS480
1403          .          .          .      RT480
              .          .          .          V
              .          .          .          V
1406          .          .          .      SR480
              .          .          .          .
              .          .          .          .
1412          .          .       C480............
              .          .          .
              .          .          .
1415       480C........................
              V
              V
1418      RR480
              .
              .
1424          .        500
              .          .
              .          .
1434       500C............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	10	551.	4.37	75.	19.	9.	.70		
+	ROUTED TO	R10	516.	4.53	75.	19.	9.	.70		
+	ROUTED TO	R12	500.	4.70	75.	19.	9.	.70		
+	HYDROGRAPH AT	20	298.	4.87	67.	17.	8.	1.12		
+	2 COMBINED AT	C20	638.	4.77	127.	32.	15.	1.82		
+	HYDROGRAPH AT	40	584.	4.73	108.	27.	13.	2.23		
+	HYDROGRAPH AT	60	499.	4.77	120.	30.	15.	1.75		
+	3 COMBINED AT	60C	1259.	4.80	275.	70.	34.	5.80		
+	ROUTED TO	SR60	81.	6.97	80.	67.	34.	5.80		
+	ROUTED TO	R60	81.	7.03	80.	67.	34.	5.80		
+	ROUTED TO	RR60	81.	7.13	80.	67.	34.	5.80		
+	HYDROGRAPH AT	80	640.	4.50	93.	23.	11.	1.48		
+	2 COMBINED AT	80C	711.	4.50	172.	102.	57.	1.48		
+	ROUTED TO	R80	707.	4.53	171.	102.	57.	1.48		
+	HYDROGRAPH AT	100	190.	4.37	37.	9.	4.	.48		
+	2 COMBINED AT	100C	776.	4.53	192.	107.	57.	1.96		
+	ROUTED TO	R100	763.	4.53	191.	106.	57.	1.96		
+	HYDROGRAPH AT	120	1231.	4.43	190.	48.	23.	2.20		
+	2 COMBINED AT	120C	1648.	4.50	335.	136.	68.	4.16		
+	ROUTED TO	R120	1641.	4.53	335.	136.	68.	4.16		
+	HYDROGRAPH AT	140	298.	4.23	40.	10.	5.	.60		
+	HYDROGRAPH AT	150	340.	4.23	32.	8.	4.	.41		
+	ROUTED TO	R150	326.	4.33	32.	8.	4.	.41		
+	ROUTED TO	R152	294.	4.47	32.	8.	4.	.41		
+	HYDROGRAPH AT	160	94.	4.67	22.	6.	3.	.37		
+	HYDROGRAPH AT	180	199.	4.80	42.	10.	5.	1.00		
+	5 COMBINED AT	180C	1724.	4.57	360.	137.	68.	6.54		
+	HYDROGRAPH AT	210	522.	4.27	51.	13.	6.	.58		
+	ROUTED TO	R210	490.	4.37	51.	13.	6.	.58		
+	HYDROGRAPH AT	240	394.	4.63	75.	19.	9.	1.40		
+	2 COMBINED AT	240C	605.	4.57	108.	27.	13.	1.98		
+	ROUTED TO	SR240	141.	5.53	59.	16.	8.	1.98		
+	HYDROGRAPH AT	220	624.	4.27	60.	15.	7.	.73		
+	2 COMBINED AT	220C	383.	4.30	96.	26.	12.	2.71		
+	ROUTED TO	SR220	283.	4.57	87.	23.	11.	2.71		

+	HYDROGRAPH AT	190	664.	4.30	68.	17.	8.	.92
+	ROUTED TO	R190	628.	4.37	68.	17.	8.	.92
+	ROUTED TO	R192	616.	4.43	68.	17.	8.	.92
+	HYDROGRAPH AT	200	492.	4.23	45.	11.	5.	.54
+	3 COMBINED AT	200C	756.	4.47	147.	39.	19.	4.16
+	ROUTED TO	SR200	710.	4.60	134.	35.	17.	4.16
+	ROUTED TO	200SR	65.	7.03	25.	7.	4.	4.16
+	2 COMBINED AT	C180	1724.	4.57	374.	142.	71.	10.69
+	ROUTED TO	SR180	115.	7.03	115.	110.	61.	10.69
+	ROUTED TO	R180	115.	7.10	115.	110.	61.	10.69
+	HYDROGRAPH AT	260	290.	4.17	30.	8.	4.	.27
+	2 COMBINED AT	260C	397.	4.17	151.	133.	119.	.27
+	ROUTED TO	R260	381.	4.23	151.	133.	119.	.27
+	HYDROGRAPH AT	280	307.	4.13	29.	7.	3.	.30
+	2 COMBINED AT	280C	642.	4.20	175.	138.	120.	.57
+	ROUTED TO	R280	617.	4.27	174.	138.	119.	.57
+	HYDROGRAPH AT	300	285.	4.43	59.	15.	7.	.99
+	2 COMBINED AT	300C	843.	4.33	229.	150.	119.	1.56
+	ROUTED TO	R300	698.	4.40	211.	143.	108.	1.56
+	ROUTED TO	RR300	692.	4.47	211.	143.	108.	1.56
+	HYDROGRAPH AT	350	435.	4.40	54.	14.	7.	.97
+	DIVERSION TO	SF350	217.	4.40	27.	7.	3.	.97
+	HYDROGRAPH AT	D350	217.	4.40	27.	7.	3.	.97
+	ROUTED TO	350R	205.	4.63	27.	7.	3.	.97
+	HYDROGRAPH AT	310	149.	4.57	29.	7.	4.	.56
+	2 COMBINED AT	C310	319.	4.60	49.	12.	6.	.94
+	ROUTED TO	R310	283.	5.10	49.	12.	6.	.94
+	HYDROGRAPH AT	320	376.	4.37	73.	18.	9.	.97
+	DIVERSION TO	BS320	371.	4.30	25.	6.	3.	.97
+	HYDROGRAPH AT	D320	341.	4.57	48.	12.	6.	.97
+	HYDROGRAPH AT	RT320	371.	4.30	25.	6.	3.	.97
+	ROUTED TO	SR320	4.	1.10	4.	4.	3.	.97
+	4 COMBINED AT	C320	823.	4.57	255.	155.	108.	3.47
+	HYDROGRAPH AT	340	494.	4.37	102.	26.	12.	1.45
	DIVERSION TO	BS340	494.	4.37	95.	24.	11.	1.45
	HYDROGRAPH AT	D340	77.	5.27	8.	2.	1.	1.45
+	HYDROGRAPH AT	RT340	494.	4.37	95.	24.	11.	1.45
+	ROUTED TO	SR340	19.	3.17	19.	19.	11.	1.45

+ 3 COMBINED AT	C340	823.	4.57	271.	173.	116.	4.92
+ HYDROGRAPH AT	RT350	217.	4.40	27.	7.	3.	.97
ROUTED TO	RR350	203.	4.67	27.	7.	3.	.97
+ HYDROGRAPH AT	355	201.	4.57	41.	10.	5.	.66
+ 2 COMBINED AT	C355	331.	4.63	57.	14.	7.	1.24
+ ROUTED TO	R355	300.	5.03	57.	14.	7.	1.24
+ HYDROGRAPH AT	360	248.	4.37	55.	14.	7.	.67
+ DIVERSION TO	BS360	248.	4.37	54.	14.	7.	.67
+ HYDROGRAPH AT	D360	17.	6.53	2.	0.	0.	.67
+ HYDROGRAPH AT	RT360	248.	4.37	54.	14.	7.	.67
+ ROUTED TO	SR360	10.	3.40	10.	9.	7.	.67
+ 4 COMBINED AT	360C	873.	4.83	301.	184.	116.	6.83
+ HYDROGRAPH AT	370	263.	4.50	49.	12.	6.	.67
+ HYDROGRAPH AT	395	99.	4.37	16.	4.	2.	.20
+ 2 COMBINED AT	370C	317.	4.47	60.	15.	7.	.87
+ ROUTED TO	R370	284.	5.07	60.	15.	7.	.87
+ HYDROGRAPH AT	380	206.	4.50	51.	13.	6.	.97
+ DIVERSION TO	BS380	206.	4.50	46.	12.	6.	.97
HYDROGRAPH AT	D380	38.	6.03	5.	1.	1.	.97
+ HYDROGRAPH AT	RT380	206.	4.50	46.	12.	6.	.97
+ ROUTED TO	SR380	10.	3.80	10.	9.	6.	.97
+ 4 COMBINED AT	380C	953.	4.90	332.	193.	116.	8.67
+ HYDROGRAPH AT	390	342.	4.07	23.	6.	3.	.24
+ DIVERSION TO	BS390	224.	3.93	7.	2.	1.	.24
+ HYDROGRAPH AT	D390	342.	4.07	16.	4.	2.	.24
+ HYDROGRAPH AT	RT390	224.	3.93	7.	2.	1.	.24
+ ROUTED TO	SR390	1.	.37	1.	1.	1.	.24
+ 2 COMBINED AT	390C	343.	4.07	17.	5.	3.	.24
+ ROUTED TO	RR390	212.	4.60	17.	5.	3.	.24
+ HYDROGRAPH AT	400	120.	4.43	27.	7.	3.	.62
+ DIVERSION TO	BS400	120.	4.43	11.	3.	1.	.62
+ HYDROGRAPH AT	D400	110.	4.63	16.	4.	2.	.62
+ HYDROGRAPH AT	RT400	120.	4.43	11.	3.	1.	.62
+ ROUTED TO	SR400	2.	3.17	2.	2.	1.	.62
2 COMBINED AT	C400	112.	4.63	18.	6.	3.	.62
+ 3 COMBINED AT	400C	965.	4.90	337.	195.	116.	9.53
+ HYDROGRAPH AT	385	327.	4.33	46.	12.	6.	.52
+ DIVERSION TO	SF385	196.	4.33	28.	7.	3.	.52

+	HYDROGRAPH AT	D385	131.	4.33	18.	5.	2.	.52
+	ROUTED TO	385R	116.	4.73	18.	5.	2.	.52
	HYDROGRAPH AT	420	290.	4.33	54.	14.	7.	.85
+	DIVERSION TO	BS420	287.	4.30	17.	4.	2.	.85
+	HYDROGRAPH AT	D420	246.	4.37	37.	9.	4.	.85
+	HYDROGRAPH AT	RT420	287.	4.30	17.	4.	2.	.85
+	ROUTED TO	SR420	13.	3.63	13.	4.	2.	.85
+	4 COMBINED AT	420C	1025.	4.93	361.	200.	116.	10.87
+	HYDROGRAPH AT	440	142.	4.07	8.	2.	1.	.08
+	ROUTED TO	R70	136.	4.07	8.	2.	1.	.08
+	HYDROGRAPH AT	441	11.	4.07	1.	0.	0.	.01
+	2 COMBINED AT	C108	148.	4.07	9.	2.	1.	.09
+	DIVERSION TO	SPLIT	74.	4.07	5.	1.	1.	.09
+	HYDROGRAPH AT	DIV4	74.	4.07	5.	1.	1.	.09
+	ROUTED TO	R108	67.	4.13	5.	1.	1.	.09
+	HYDROGRAPH AT	442	53.	4.13	6.	1.	1.	.10
+	2 COMBINED AT	C67	120.	4.13	10.	3.	1.	.19
+	DIVERSION TO	BASIN4	57.	4.13	2.	1.	0.	.19
	HYDROGRAPH AT	DIV6	63.	4.13	8.	2.	1.	.19
+	HYDROGRAPH AT	RTDIV6	57.	4.13	2.	1.	0.	.19
+	ROUTED TO	RFDIV6	1.	4.00	1.	1.	0.	.19
+	2 COMBINED AT	CDIV6	64.	4.13	9.	3.	1.	.19
+	HYDROGRAPH AT	443	115.	4.07	10.	2.	1.	.08
+	DIVERSION TO	WSH66	78.	3.93	9.	2.	1.	.08
+	HYDROGRAPH AT	DIV66	37.	4.07	1.	0.	0.	.08
+	ROUTED TO	R113	34.	4.10	1.	0.	0.	.08
+	2 COMBINED AT	C114	97.	4.10	10.	3.	1.	.27
+	HYDROGRAPH AT	444	61.	4.03	3.	1.	0.	.04
+	ROUTED TO	R58	56.	4.10	3.	1.	0.	.04
+	HYDROGRAPH AT	445	200.	4.07	12.	3.	1.	.19
+	2 COMBINED AT	C107	253.	4.07	15.	4.	2.	.23
+	ROUTED TO	R107	249.	4.10	15.	4.	2.	.23
+	HYDROGRAPH AT	RTB2	74.	4.07	5.	1.	1.	.09
+	ROUTED TO	RSPLIT	73.	4.10	5.	1.	1.	.09
	HYDROGRAPH AT	446	46.	4.07	4.	1.	0.	.04
+	3 COMBINED AT	C109	366.	4.10	23.	6.	3.	.27
+	DIVERSION TO	WSH404	35.	3.87	6.	2.	1.	.27
+	HYDROGRAPH AT	DIV5	331.	4.10	17.	4.	2.	.27

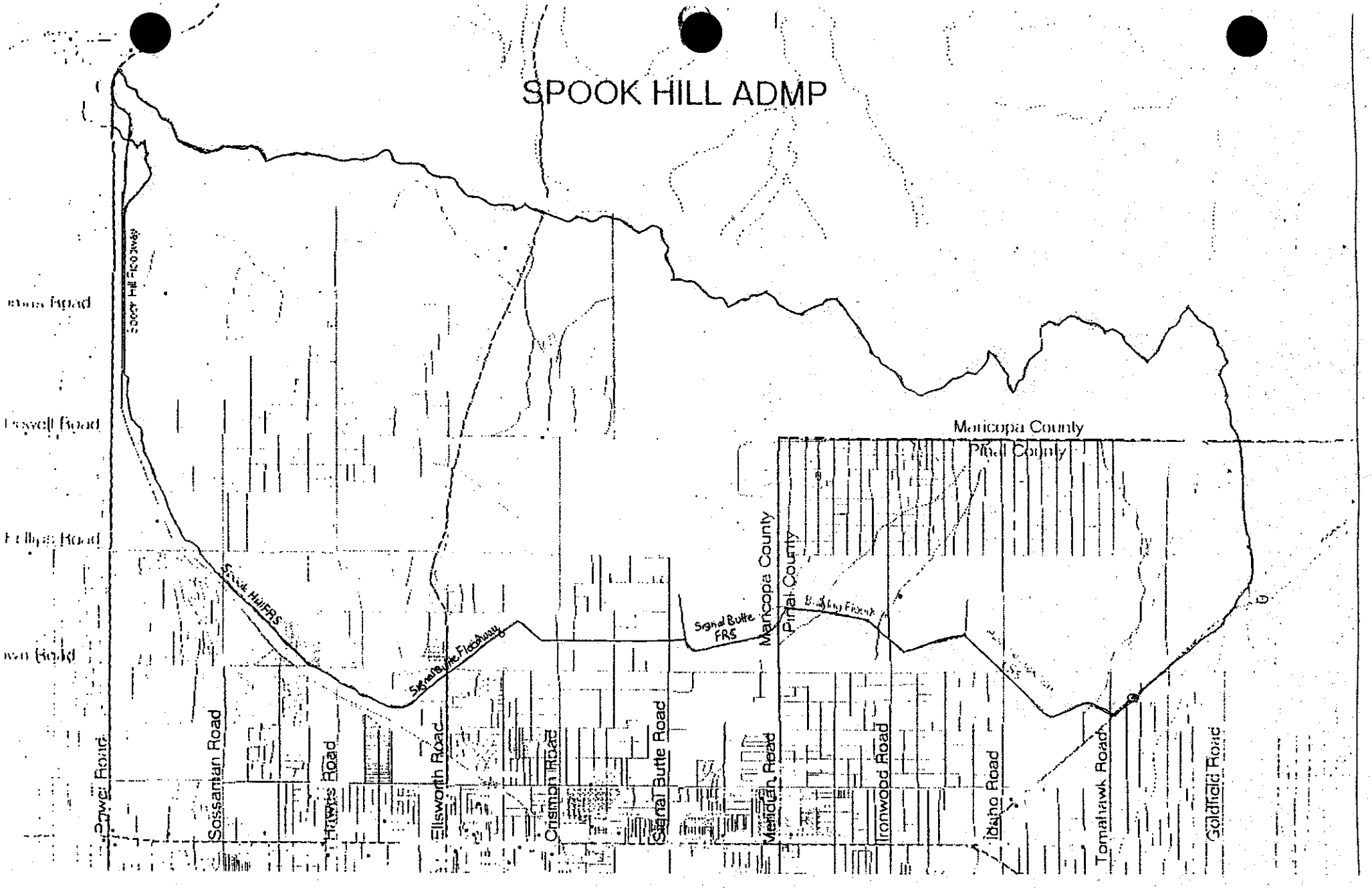
+	ROUTED TO	R109	316.	4.13	17.	4.	2.	.27
+	HYDROGRAPH AT	447	97.	4.07	9.	2.	1.	.09
	HYDROGRAPH AT	RT404	35.	3.87	6.	2.	1.	.27
+	ROUTED TO	R404	35.	4.00	6.	2.	1.	.27
+	3 COMBINED AT	C110	440.	4.10	32.	8.	4.	.36
+	ROUTED TO	R110	439.	4.13	32.	8.	4.	.36
+	2 COMBINED AT	C115	488.	4.13	39.	10.	5.	.63
+	ROUTED TO	R115	491.	4.13	39.	10.	5.	.63
+	HYDROGRAPH AT	448	66.	4.03	4.	1.	0.	.05
+	HYDROGRAPH AT	449	52.	4.07	3.	1.	0.	.05
+	2 COMBINED AT	C6364	117.	4.03	7.	2.	1.	.09
+	ROUTED TO	R6364	97.	4.20	7.	2.	1.	.09
+	HYDROGRAPH AT	450	29.	4.30	4.	1.	0.	.07
+	HYDROGRAPH AT	451	8.	4.30	1.	0.	0.	.03
+	HYDROGRAPH AT	RT66	78.	3.93	9.	2.	1.	.08
+	HYDROGRAPH AT	452	41.	4.07	3.	1.	0.	.04
+	2 COMBINED AT	C6465	119.	4.07	12.	3.	1.	.04
+	ROUTED TO	R6566	115.	4.13	12.	3.	1.	.04
	4 COMBINED AT	C116	239.	4.20	24.	6.	3.	.23
+	ROUTED TO	BASIN5	100.	4.53	24.	6.	3.	.23
+	ROUTED TO	R116	100.	4.63	24.	6.	3.	.23
+	HYDROGRAPH AT	453	34.	4.17	4.	1.	1.	.06
+	2 COMBINED AT	C117	114.	4.60	28.	7.	3.	.29
+	2 COMBINED AT	C118	489.	4.13	62.	16.	8.	.92
+	ROUTED TO	R118	449.	4.17	59.	15.	7.	.92
+	DIVERSION TO	BASIN6	58.	4.17	2.	1.	0.	.92
+	HYDROGRAPH AT	DIV7	391.	4.17	57.	15.	7.	.92
+	HYDROGRAPH AT	RTDIV7	58.	4.17	2.	1.	0.	.92
+	ROUTED TO	RFDIV7	1.	4.13	1.	1.	0.	.92
+	2 COMBINED AT	CDIV7	393.	4.17	58.	15.	7.	.92
+	HYDROGRAPH AT	454	85.	4.23	14.	4.	2.	.18
+	2 COMBINED AT	C119	424.	4.17	66.	17.	8.	1.10
+	ROUTED TO	R454	409.	4.27	66.	17.	8.	1.10
+	HYDROGRAPH AT	415	278.	4.27	50.	13.	6.	.61
	HYDROGRAPH AT	RT385	196.	4.33	28.	7.	3.	.52
+	ROUTED TO	RR385	186.	4.53	28.	7.	3.	.52
+	3 COMBINED AT	415C	576.	4.40	117.	30.	14.	1.71
+	ROUTED TO	R415	572.	4.43	117.	30.	14.	1.71

+	HYDROGRAPH AT 455	553.	4.23	86.	22.	10.	1.11
+	DIVERSION TO BS455	553.	4.23	86.	22.	10.	1.11
+	HYDROGRAPH AT D455	0.	.00	0.	0.	0.	1.11
+	HYDROGRAPH AT RT455	553.	4.23	86.	22.	10.	1.11
+	ROUTED TO SR455	25.	3.40	25.	21.	10.	1.11
+	2 COMBINED AT C455	25.	3.40	25.	21.	10.	1.11
+	3 COMBINED AT 455C	1081.	4.93	417.	217.	116.	13.69
+	ROUTED TO SR440	656.	5.50	403.	212.	111.	13.69
+	ROUTED TO RR455	656.	5.83	402.	212.	111.	13.69
+	HYDROGRAPH AT 456	336.	4.07	24.	6.	3.	.26
+	DIVERSION TO BASIN1	107.	4.07	4.	1.	0.	.26
+	HYDROGRAPH AT DIV1	229.	4.07	20.	5.	2.	.26
+	DIVERSION TO WA30	52.	4.07	7.	2.	1.	.26
+	HYDROGRAPH AT DIV2	177.	4.07	12.	3.	1.	.26
+	ROUTED TO R456	167.	4.17	12.	3.	1.	.26
+	HYDROGRAPH AT 457	162.	4.10	13.	3.	2.	.19
+	2 COMBINED AT C101	323.	4.13	26.	6.	3.	.45
+	DIVERSION TO BASIN2	74.	4.13	3.	1.	0.	.45
+	HYDROGRAPH AT DIV3	249.	4.13	23.	6.	3.	.45
+	HYDROGRAPH AT RTDIV3	74.	4.13	3.	1.	0.	.45
+	ROUTED TO RFDIV3	2.	4.00	2.	1.	0.	.45
+	2 COMBINED AT CDIV3	251.	4.13	24.	6.	3.	.45
+	ROUTED TO R101	249.	4.17	24.	6.	3.	.45
+	HYDROGRAPH AT 458	258.	4.07	16.	4.	2.	.19
+	2 COMBINED AT C103	447.	4.10	38.	10.	5.	.64
+	ROUTED TO R103	442.	4.10	38.	10.	5.	.64
+	HYDROGRAPH AT RT30	52.	4.07	7.	2.	1.	.26
+	ROUTED TO R30	51.	4.10	7.	2.	1.	.26
+	HYDROGRAPH AT RTB1	107.	4.07	4.	1.	0.	.26
+	ROUTED TO B1	19.	4.23	4.	1.	0.	.26
+	ROUTED TO RB1	18.	4.33	4.	1.	0.	.26
+	2 COMBINED AT CDIV	62.	4.23	10.	3.	1.	.12
+	HYDROGRAPH AT 459	28.	4.07	2.	0.	0.	.03
+	2 COMBINED AT C52	80.	4.10	12.	3.	2.	.15
+	ROUTED TO R52	79.	4.20	12.	3.	2.	.15
+	HYDROGRAPH AT 460	145.	4.10	14.	3.	2.	.14
+	2 COMBINED AT C102	220.	4.10	26.	7.	3.	.29
+	ROUTED TO BASIN3	64.	4.57	26.	7.	3.	.29

+	ROUTED TO	R3	64.	4.73	26.	7.	3.	.29
+	HYDROGRAPH AT	461	105.	4.13	12.	3.	1.	.12
+	2 COMBINED AT	C104	157.	4.13	37.	10.	5.	.41
+	2 COMBINED AT	C106	508.	4.13	67.	17.	8.	1.05
+	ROUTED TO	R106	481.	4.20	67.	17.	8.	1.05
+	HYDROGRAPH AT	462	382.	4.07	27.	7.	3.	.30
+	2 COMBINED AT	C56	644.	4.17	86.	22.	11.	1.35
+	HYDROGRAPH AT	480	566.	4.17	64.	16.	8.	.73
+	DIVERSION TO	BS480	562.	4.13	33.	8.	4.	.73
+	HYDROGRAPH AT	D480	487.	4.20	31.	8.	4.	.73
+	HYDROGRAPH AT	RT480	562.	4.13	33.	8.	4.	.73
+	ROUTED TO	SR480	6.	.47	6.	6.	4.	.73
+	2 COMBINED AT	C480	493.	4.20	37.	13.	8.	.73
+	3 COMBINED AT	480C	877.	4.73	651.	308.	192.	2.09
+	ROUTED TO	RR480	872.	4.80	650.	308.	192.	2.09
+	HYDROGRAPH AT	500	456.	4.43	71.	18.	9.	.93
+	2 COMBINED AT	500C	1152.	4.73	696.	310.	192.	3.02

*** NORMAL END OF HEC-1 ***

SPOOK HILL ADMP



HEC-1 Future Conditions 100-year, 24-hour storm

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN  1998               *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   11JUL00  TIME  14:30:16  *
*                                      *
****************************************
```

```
****************************************
*                                      *
*   U.S. ARMY CORPS OF ENGINEERS       *
*   HYDROLOGIC ENGINEERING CENTER      *
*         609 SECOND STREET            *
*      DAVIS, CALIFORNIA 95616         *
*          (916) 756-1104              *
*                                      *
****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
1                                          HEC-1 INPUT                                                    PAGE  1

  LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

    1           ID   EXISTING LAND USE CALCULATIONS WERE BASED ON 1 YR. FROM 11/5/99
    2           ID   FOR LAS SENDAS       AND LANDISCOR JAN.1999 AERIAL PHOTOGPRAPHS
    3           ID
    4           ID   ALL DAMS WERE ANALYZED WITH NO STORAGE BELOW PRINCIPLE SPILLWAY ELEVATIONS
    5           ID
    6           ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
    7           ID   PRECIPITATION VALUES
    8           ID
    9           ID   ALL CHANNEL ROUTING INFORMATION WAS OBTAINED FROM MCFCD SPOOK HILL   SIGNAL
   10           ID   BUTTE        AND BULLDOG FLOODWAY PLANS
   11           ID
   12           ID   FUTURE CONDITION 24-HOUR, 100-YEAR STORM MODEL.
   13           ID
   14           ID   ANALYSIS PERFORMED BY WOOD/PATEL; MW;        06/30/00  FILE: S24CF36.DAT
   15           ID
   16           ID   DDM MCUHP1 SPOOK HILL AMDP - FUTURE CONDITIONS MODEL - 100 YEAR, 24 HOUR
                *DIAGRAM
   17           IT       2                  1500
   18           IO       3
   19           IN      15
   20           JD    3.81    0.01
   21           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
   22           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
   23           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
   24           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
   25           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
   26           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
   27           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
   28           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
   29           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
   30           PC    .983    .986    .989    .992    .995    .998   1.000
   31           JD    3.58   10.00
   32           JD    3.43   30.00
   33           JD    3.28   60.00
   34           JD    3.22   90.00
   35           JD    3.18  120.00
   36           JD    3.14  150.00
   37           JD    3.05  300.00
   38           JD    2.97  500.00
                * DDM   ***** Updated *****

   39           KK      10
   40           KM   SUB-BASIN 10
   41           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
   42           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
   43           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
   44           BA    .702
   45           LG    .340    .290   7.600    .100  18.000
   46           UC    .421    .302
   47           UA       0       3       5       8      12      20      43      75      90      96
   48           UA     100
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE  2

  LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

   49           KK     R10
   50           KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
   51           RS       4    FLOW      -1
   52           RC    .045     .03    .045    8700    .021
   53           RX       0       1       2      17      27      42      43      44
   54           RY       5       5       5       0       0       5       5       5
                * DDM   ***** Preserved *****

   55           KK     R12
   56           KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
   57           RS       6    FLOW      -1
   58           RC    .045     .03    .045    4500     .01
   59           RX       0       1      30    37.5    57.5      65      94      95
   60           RY     3.5     2.5     2.5       0      .0     2.5     2.5     3.5
                * DDM   ***** Updated *****

   61           KK      20
   62           KM   SUB-BASIN 20
```

```
 63          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 64          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 65          KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 66          BA   1.120
 67          LG    .310    .280   5.800    .220  12.000
 68          UC    .637    .438
 69          UA      0       5      16      30      65      77      84      90      94      97
 70          UA    100
             * DDM   ***** Preserved *****

 71          KK     C20
 72          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 73          HC       2
             * DDM   ***** Updated *****

 74          KK      40
 75          KM   SUB-BASIN 40
 76          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 77          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
 78          KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
 79          BA   2.233
 80          LG    .310    .280   4.900    .320  14.000
 81          UC    .488    .259
 82          UA      0       5      16      30      65      77      84      90      94      97
 83          UA    100
             * DDM   ***** Updated *****

 84          KK      60
 85          KM   SUB-BASIN 60
 86          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 87          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .990
 88          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 89          BA   1.746
 90          LG    .320    .340   5.800    .200  13.000
 91          UC    .596    .477
 92          UA      0       3       5       8      12      20      43      75      90      96
1                                        HEC-1 INPUT                                          PAGE  3

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 93          UA    100
             * DDM   ***** Preserved *****

 94          KK     60C
 95          KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1       2
 96          HC       3
             * DDM   ***** Preserved *****

 97          KK    SR60
 98          KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
 99          KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
100          KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
101          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
102          RS       1    STOR       0
103          SV       0       1     100     200     300     400
104          SQ       0      71      81      87    91.5      94
105          SE    83.5    93.5      96    97.7      99   99.77
             * DDM   ***** Preserved *****

106          KK     R60
107          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
108          RS       2    FLOW      -1
109          RC    .016    .016    .016    2850    .012
110          RX       0       1       2     2.1     5.6     5.7       6       7
111          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Preserved *****

112          KK    RR60
113          KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
114          RS       3    FLOW      -1
115          RC    .016    .016    .016    3500    .005
116          RX       0       1       2     2.1     7.1     7.2       8       9
117          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Updated *****

118          KK      80
119          KM   SUB-BASIN 80
120          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
121          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
122          KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
123          BA   1.475
124          LG    .320    .300   5.600    .240  11.000
125          UC    .429    .256
126          UA      0       5      16      30      65      77      84      90      94      97
127          UA    100
             * DDM   ***** Preserved *****

128          KK     80C
129          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
130          HC       2   1.475
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  4

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

131          KK     R80
132          KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
133          RS       1    FLOW      -1
134          RC    .025    .016    .025    1200    .003
135          RX       0       2       6     6.1    41.1    41.2    56.2    58.2
136          RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
             * DDM   ***** Updated *****

137          KK     100
138          KM   SUB-BASIN 100
139          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
140          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
141          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
142          BA    .484
143          LG    .300    .260   5.100    .310  14.000
144          UC    .533    .473
```

```
145          UA       0       5      16      30      65      77      84      90      94      97
146          UA     100
             * DDM   ***** Preserved *****

147          KK    100C
148          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
149          HC       2
             * DDM   ***** Preserved *****

150          KK    R100
151          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
152          RS       1    FLOW      -1
153          RC    .016    .016    .016     940    .005
154          RX       0       1       2     2.1    52.1    52.2      53      54
155          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****

156          KK     120
157          KM   SUB-BASIN 120
158          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
159          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
160          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
161          BA   2.202
162          LG    .330    .270   6.800    .140  16.000
163          UC    .429    .226
164          UA       0       3       5       8      12      20      43      75      90      96
165          UA     100
             * DDM   ***** Preserved *****

166          KK    120C
167          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
168          HC       2
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE  5

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

169          KK    R120
170          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
171          RS       1    FLOW      -1
172          RC    .025    .016    .025    2100    .005
173          RX       0       6      10    10.1    60.1    60.2    74.2    80.2
174          RY       8       5       5       0       0       5       5       8
             * DDM   ***** Updated *****

175          KK     140
176          KM   SUB-BASIN 140
177          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
178          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
179          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
180          BA    .598
181          LG    .300    .250   4.200    .520  15.000
182          UC    .421    .278
183          UA       0       5      16      30      65      77      84      90      94      97
184          UA     100
             * DDM   ***** Updated *****

185          KK     150
186          KM   SUB-BASIN 150
187          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
188          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
189          KM     L = 1.50  Kb = .047  Adj. Slope =  314.6
190          BA    .408
191          LG    .350    .360   5.100    .260   7.000
192          UC    .296    .221
193          UA       0       3       5       8      12      20      43      75      90      96
194          UA     100
             * DDM   ***** Preserved *****

195          KK    R150
196          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
197          RS       2    FLOW      -1
198          RC    .045     .04    .045    3100    .032
199          RX       0       1       2      23      33      54      55      56
200          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

201          KK    R152
202          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
203          RS       4    FLOW      -1
204          RC    .045     .03    .045    5900    .019
205          RX       0       1       2       8      33      39      40      41
206          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****

207          KK     160
208          KM   SUB-BASIN 160
209          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
210          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
211          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
212          BA    .369
1                                    HEC-1 INPUT                                          PAGE  6

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

213          LG    .330    .320   4.150    .460   5.000
214          UC    .583    .650
215          UA       0       3       5       8      12      20      43      75      90      96
216          UA     100
             * DDM   ***** Updated *****

217          KK     180
218          KM   SUB-BASIN 180
219          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
220          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
221          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
222          BA   1.000
223          LG    .340    .330   4.150    .450   3.000
224          UC    .563    .396
225          UA       0       3       5       8      12      20      43      75      90      96
226          UA     100
             * DDM   ***** Preserved *****
```

```
227          KK    180C
228          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
229          HC       5
             * DDM   ***** Updated *****

230          KK     210
231          KM   SUB-BASIN 210
232          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
233          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
234          KM     L = 1.84  Kb = .045  Adj. Slope =  315.0
235          BA    .583
236          LG    .350    .340   7.000    .120   6.000
237          UC    .317    .229
238          UA       0       3       5       8      12      20      43      75      90      96
239          UA     100
             * DDM   ***** Preserved *****

240          KK    R210
241          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
242          RS       3    FLOW      -1
243          RC    .045     .03    .045    5100    .022
244          RX       0       1       2      14      34      46      47      48
245          RY       4       4       4       0       0       4       4       4
             * DDM   ***** Updated *****

246          KK     240
247          KM   SUB-BASIN 240
248          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
249          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
250          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
251          BA   1.398
252          LG    .340    .340   5.200    .260   5.000
253          UC    .467    .357
254          UA       0       3       5       8      12      20      43      75      90      96
255          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  7

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

256          KK    240C
257          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
258          HC       2
             * DDM   ***** Preserved *****

259          KK   SR240
260          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
261          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
262          RS       1    STOR       0
263          SA    1.38    14.2    36.5
264          SE     1.7       5      11
265          SS       5      42       3     1.5
             * DDM   ***** Updated *****

266          KK     220
267          KM   SUB-BASIN 220
268          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
269          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
270          KM     L = 1.92  Kb = .043  Adj. Slope =  315.0
271          BA    .725
272          LG    .340    .300   7.000    .120   7.000
273          UC    .317    .209
274          UA       0       3       5       8      12      20      43      75      90      96
275          UA     100
             * DDM   ***** Preserved *****

276          KK    220C
277          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
278          HC       2
             * DDM   ***** Preserved *****

279          KK   SR220
280          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
281          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
282          RS       1    STOR       0
283          SA     .78     4.1    13.7
284          SE       1       3      10
285          SS       3      65       3     1.5
             * DDM   ***** Updated *****

286          KK     190
287          KM   SUB-BASIN 190
288          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
289          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
290          KM     L = 1.91  Kb = .042  Adj. Slope =  315.0
291          BA    .918
292          LG    .350    .390   5.800    .190   8.000
293          UC    .321    .185
294          UA       0       3       5       8      12      20      43      75      90      96
295          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  8

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

296          KK    R190
297          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
298          RS       2    FLOW      -1
299          RC    .045     .03    .045    4740     .03
300          RX       0       1       2      17      37      52      53      54
301          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

302          KK    R192
303          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
304          RS       2    FLOW      -1
305          RC    .045    .035    .045    2200    .018
306          RX       0       1      50      59      79      88     137     138
307          RY     3.5       3       3       0       0       3       3     3.5
             * DDM   ***** Updated *****
```

```
308          KK     200
309          KM   SUB-BASIN 200
310          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
311          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
312          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
313          BA    .535
314          LG    .350    .380   5.700    .200  11.000
315          UC    .300    .200
316          UA       0       3       5       8      12      20      43      75      90      96
317          UA     100
             * DDM   ***** Preserved *****

318          KK    200C
319          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
320          HC       3
             * DDM   ***** Preserved *****

321          KK   SR200
322          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
323          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
324          RS       1    STOR       0
325          SA    2.56     3.1     9.4
326          SE       0       3      10
327          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

328          KK   200SR
329          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
330          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
331          RS       1    STOR       0
332          SA       8     9.2     9.2
333          SE       0       7      10
334          SS       7     251       3     1.5
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE  9

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

335          KK    C180
336          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             *      1       2
337          HC       2
             * DDM   ***** Preserved *****

338          KK   SR180
339          KM   SIGNAL BUTTE FRS DATED 1/28/85
340          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
341          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
342          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
343          RS       1    STOR       0
344          SV       0       1     250     500     750    1060
345          SQ       0   106.5   125.5   137.5     146     160
346          SE      90     101   104.5     107     109   112.4
             * DDM   ***** Preserved *****

347          KK    R180
348          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
349          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
350          RS       3    FLOW      -1
351          RC    .035    .025    .035    1500    .003
352          RX       0       1       2    22.6    38.6    59.2      60      61
353          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

354          KK     260
355          KM   SUB-BASIN 260
356          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
357          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
358          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
359          BA    .267
360          LG    .320    .240   6.800    .150   9.000
361          UC    .363    .215
362          UA       0       5      16      30      65      77      84      90      94      97
363          UA     100
             * DDM   ***** Preserved *****

364          KK    260C
365          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
366          HC       2    .267
             * DDM   ***** Preserved *****

367          KK    R260
368          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
369          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
370          RS       3    FLOW      -1
371          RC    .035    .025    .035    2300    .003
372          RX       0       1       2    23.4    43.4    64.8      65      66
373          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                          PAGE 10

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

374          KK     280
375          KM   SUB-BASIN 280
376          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
377          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
378          KM     L =  .77  Kb = .049  Adj. Slope =   84.0
379          BA    .304
380          LG    .300    .250   5.300    .290  15.000
381          UC    .333    .175
382          UA       0       5      16      30      65      77      84      90      94      97
383          UA     100
             * DDM   ***** Preserved *****

384          KK    280C
385          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
386          HC       2
             * DDM   ***** Preserved *****
```

```
387          KK    R280
388          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
389          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
390          RS       2    FLOW      -1
391          RC    .035    .025    .035    2500    .003
392          RX       0       1       2    23.4    43.4    64.8      65      66
393          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

394          KK     300
395          KM   SUB-BASIN 300
396          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
397          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
398          KM     L = 2.28  Kb = .041  Adj. Slope =  127.0
399          BA    .988
400          LG    .320    .290   4.500    .400  12.000
401          UC    .533    .359
402          UA       0       5      16      30      65      77      84      90      94      97
403          UA     100
             * DDM   ***** Preserved *****

404          KK    300C
405          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
406          HC       2
             * DDM   ***** Preserved *****

407          KK    R300
408          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
409          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
410          RS       2    FLOW      -1
411          RC    .035    .025    .035    2200    .003
412          RX       0       1       2    23.4    55.4    76.8      77      78
413          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

414          KK   RR300
415          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
416          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
417          RS       2    FLOW      -1
418          RC    .016    .016    .016    6050   .0146
419          RX       0       1       2     2.1    16.1    16.2      17      18
420          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
             *        1       2
             * DDM   ***** Updated *****

421          KK     350
422          KM   SUB-BASIN 350
423          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
424          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
425          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
426          BA    .970
427          LG    .350    .350   4.550    .340   4.000
428          UC    .367    .234
429          UA       0       3       5       8      12      20      43      75      90      96
430          UA     100
             * DDM   ***** Preserved *****

431          KK    D350
432          KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
433          KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
434          DT   SF350
435          DI       0    5000
436          DQ       0    2500
             * DDM   ***** Preserved *****

437          KK    350R
438          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
439          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
440          RS       6    FLOW      -1
441          RC    .045    .035    .045    5150    .025
442          RX       0       1      40      46      56      62     102     103
443          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

444          KK     310
445          KM   SUB-BASIN 310
446          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
447          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
448          KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
449          BA    .555
450          LG    .350    .340   3.910    .490   1.000
451          UC    .483    .511
452          UA       0       3       5       8      12      20      43      75      90      96
453          UA     100
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

454          KK    C310
455          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
456          HC       2    .943
             * DDM   ***** Preserved *****

457          KK    R310
458          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
459          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
460          RS      10    FLOW      -1
461          RC    .045    .035    .045   10050    .022
462          RX       0       1      40      46      56      62     102     103
463          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

464          KK     320
465          KM   SUB-BASIN 320
466          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
467          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
468          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
```

```
469          BA    .972
470          LG    .290    .260   4.550    .400  20.000
471          UC    .504    .330
472          UA      0       5      16      30      65      77      84      90      94      97
473          UA    100
             * DDM   ***** Preserved *****

474          KK    D320
475          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
476          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
477          KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
478          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
479          DT   BS320   12.27
480          DI       0   10000
481          DQ       0   10000
             * DDM   ***** Preserved *****

482          KK   RT320
483          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
484          DR   BS320
             * DDM   ***** Preserved *****

485          KK   SR320
486          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
487          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
488          RS       1    STOR       0
489          SV       0     .01    12.3
490          SQ       0     4.2     4.2
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

491          KK    C320
492          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
493          HC       4
             * DDM   ***** Updated *****

494          KK     340
495          KM   SUB-BASIN 340
496          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
497          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
498          KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
499          BA   1.449
500          LG    .280    .280   4.150    .520  21.000
501          UC    .512    .287
502          UA      0       5      16      30      65      77      84      90      94      97
503          UA    100
             * DDM   ***** Preserved *****

504          KK    D340
505          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
506          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
507          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
508          KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *      1
509          DT   BS340      56
510          DI       0   10000
511          DQ       0   10000
             * DDM   ***** Preserved *****

512          KK   RT340
513          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
514          DR   BS340
             * DDM   ***** Preserved *****

515          KK   SR340
516          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
517          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
518          RS       1    STOR       0
519          SV       0     .01      56
520          SQ       0    18.9    18.9
             * DDM   ***** Preserved *****

521          KK    C340
522          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
523          HC       3
             * DDM   ***** Preserved *****

524          KK   RT350
525          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
526          DR   SF350
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

527          KK   RR350
528          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
529          KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
530          RS       8    FLOW      -1
531          RC    .045    .035    .045    6050    .025
532          RX       0       1      40      46      56      62     102     103
533          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

534          KK     355
535          KM   SUB-BASIN 355
536          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
537          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
538          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
539          BA    .659
540          LG    .340    .330   4.450    .370   5.000
541          UC    .483    .504
542          UA      0       3       5       8      12      20      43      75      90      96
543          UA    100
             * DDM   ***** Preserved *****
```

```
544          KK    C355
545          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
546          HC       2    1.24
             * DDM   ***** Preserved *****

547          KK    R355
548          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
549          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
550          RS       9    FLOW      -1
551          RC    .045    .035    .045   10100    .026
552          RX       0       1      40      46      56      62     102     103
553          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

554          KK     360
555          KM   SUB-BASIN 360
556          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
557          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
558          KM     L = 2.10  Kb = .048  Adj. Slope =  124.0
559          BA    .670
560          LG    .260    .270   4.100    .560  20.000
561          UC    .587    .466
562          UA       0       5      16      30      65      77      84      90      94      97
563          UA     100
             * DDM   ***** Preserved *****

564          KK    D360
565          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
566          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
567          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
568          DT   BS360    28.6
569          DI       0   10000
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

570          DQ       0   10000
             * DDM   ***** Preserved *****

571          KK   RT360
572          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
573          DR   BS360
             * DDM   ***** Preserved *****

574          KK   SR360
575          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
576          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
577          RS       1    STOR       0
578          SV       0     .01    28.6
579          SQ       0     9.6     9.6
             * DDM   ***** Preserved *****

580          KK    360C
581          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
582          HC       4
             * DDM   ***** Updated *****

583          KK     370
584          KM   SUB-BASIN 370
585          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
586          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
587          KM     L = 2.90  Kb = .044  Adj. Slope =  294.6
588          BA    .667
589          LG    .330    .310   4.650    .340  11.000
590          UC    .454    .455
591          UA       0       3       5       8      12      20      43      75      90      96
592          UA     100
             * DDM   ***** Updated *****

593          KK     395
594          KM   SUB-BASIN 395
595          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
596          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
597          KM     L = 1.60  Kb = .051  Adj. Slope =  215.8
598          BA    .198
599          LG    .300    .250   4.900    .350  20.000
600          UC    .379    .462
601          UA       0       5      16      30      65      77      84      90      94      97
602          UA     100
             * DDM   ***** Preserved *****

603          KK    370C
604          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
605          HC       2
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

606          KK    R370
607          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
608          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
609          RS      11    FLOW      -1
610          RC    .045    .035    .045   10250    .023
611          RX       0       1      40      46      56      62     102     103
612          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

613          KK     380
614          KM   SUB-BASIN 380
615          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
616          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
617          KM     L = 2.20  Kb = .048  Adj. Slope =  114.0
618          BA    .972
619          LG    .300    .310   4.150    .500   7.000
620          UC    .658    .444
621          UA       0       5      16      30      65      77      84      90      94      97
622          UA     100
             * DDM   ***** Preserved *****

623          KK    D380
```

```
KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
*      1
DT   BS380    28.6
DI       0   10000
DQ       0   10000
* DDM   ***** Preserved *****

KK   RT380
KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
DR   BS380
* DDM   ***** Preserved *****

KK   SR380
KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
RS       1    STOR       0
SV       0     .01    28.6
SQ       0     9.6     9.6
* DDM   ***** Preserved *****

KK    380C
KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
HC       4
* DDM   ***** Updated *****
```



```
LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK     390
KM   SUB-BASIN 390
KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
KM     L =  .70  Kb = .050  Adj. Slope =  299.4
BA    .244
LG    .300     .250   4.700    .380  18.000
UC    .204     .107
UA       0        5      16      30      65      77      84      90      94      97
UA     100
* DDM   ***** Preserved *****

KK    D390
KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
*      1
DT   BS390     3.5
DI       0   10000
DQ       0   10000
* DDM   ***** Preserved *****

KK   RT390
KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
DR   BS390
* DDM   ***** Preserved *****

KK   SR390
KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
RS       1    STOR       0
SV       0     .01     3.5
SQ       0     1.2     1.2
* DDM   ***** Preserved *****

KK    390C
KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
HC       2
* DDM   ***** Preserved *****

KK   RR390
KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
RS      14    FLOW      -1
RC    .045     .045    .045    8800    .020
RX       0        1      40      46      56      62     102     103
RY       3        2       2       0       0       2       2       3
* DDM   ***** Updated *****
```



```
LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

KK     400
KM   SUB-BASIN 400
KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
BA    .616
LG    .320     .320   3.130    .930   6.000
UC    .592     .405
UA       0        5      16      30      65      77      84      90      94      97
UA     100
* DDM   ***** Preserved *****

KK    D400
KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
*      1
DT   BS400     5.6
DI       0   10000
DQ       0   10000
* DDM   ***** Preserved *****

KK   RT400
KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
DR   BS400
* DDM   ***** Preserved *****

KK   SR400
KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
```

```
700          KM      5.6 ACRE-FEETx43560/36x3600 = 2 cfs
701          RS        1    STOR       0
702          SV        0     .01     5.6
703          SQ        0       2       2
             * DDM   ***** Preserved *****

704          KK    C400
705          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
706          HC        2
             * DDM   ***** Preserved *****

707          KK    400C
708          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
709          HC        3
             * DDM   ***** Updated *****

710          KK     385
711          KM   SUB-BASIN 385
712          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
713          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
714          KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
715          BA    .523
716          LG    .310    .260   5.600    .250  24.000
717          UC    .375    .351
718          UA       0       5      16      30      65      77      84      90      94      97
1                                          HEC-1 INPUT                                          PAGE 19

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

719          UA     100
             * DDM   ***** Preserved *****

720          KK    D385
721          KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
722          DT   SF385
723          DI       0    5000
724          DQ       0    3000
             * DDM   ***** Preserved *****

725          KK    385R
726          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
727          KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385 INTO SUB-BASIN 420
728          RS      14    FLOW      -1
729          RC    .045     .04    .045   10250    .022
730          RX       0       1      40      46      56      62     102     103
731          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

732          KK     420
733          KM   SUB-BASIN 420
734          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
735          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
736          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
737          BA    .849
738          LG    .310    .270   3.880    .580  12.000
739          UC    .512    .325
740          UA       0       5      16      30      65      77      84      90      94      97
741          UA     100
             * DDM   ***** Preserved *****

742          KK    D420
743          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
744          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
745          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
746          DT   BS420    8.65
747          DI       0   10000
748          DQ       0   10000
             * DDM   ***** Preserved *****

749          KK   RT420
750          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
751          DR   BS420
             * DDM   ***** Preserved *****

752          KK   SR420
753          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
754          KM   38.55 ACRE-FEETx43560/36x3600=13cfs
755          RS       1    STOR       0
756          SV       0     .01   38.55
757          SQ       0      13      13
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 20

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

758          KK    420C
759          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
760          HC       4   10.87
             * DDM   ***** Updated *****

761          KK     440
762          KM   SUB-BASIN 440
763          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
764          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
765          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
766          BA    .080
767          LG    .190    .380   6.400    .140  13.000
768          UC    .129    .077
769          UA       0       3       5       8      12      20      43      75      90      96
770          UA     100
             * DDM   ***** Preserved *****

771          KK     R70
772          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
773          RS       1    FLOW      -1
774          RC     .05    .035     .05    2250     .08
775          RX    1000    1025    1050    1070    1075    1095    1120    1145
776          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

777          KK     441
```

```
778          KM   SUB-BASIN 441
779          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
780          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
781          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
782          BA    .010
783          LG    .300    .250   5.600    .220   5.000
784          UC    .150    .225
785          UA       0       5      16      30      65      77      84      90      94      97
786          UA     100
             * DDM   ***** Preserved *****

787          KK    C108
788          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
789          HC       2
             * DDM   ***** Preserved *****

790          KK    DIV4
791          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
             *      1
792          DT   SPLIT
793          DI       0      14      40      82     120     154     180
794          DQ       0       7      20      41      60      77      90
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 21

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

795          KK    R108
796          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
797          RS       2    FLOW      -1
798          RC     .05    .035     .05    3200      .1
799          RX    1000    1025    1050    1070    1075    1095    1120    1145
800          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

801          KK     442
802          KM   SUB-BASIN 442
803          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
804          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
805          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
806          BA    .100
807          LG    .300    .270   3.290    .770   5.000
808          UC    .258    .264
809          UA       0       5      16      30      65      77      84      90      94      97
810          UA     100
             * DDM   ***** Preserved *****

811          KK     C67
812          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
813          HC       2
             * DDM   ***** Preserved *****

814          KK    DIV6
815          KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
816          KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
             *      1
817          DT  BASIN4
818          DI       0      10      32      44    79.9   132.5     198   272.9   356.8
819          DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
             * DDM   ***** Preserved *****

820          KK  RTDIV6
821          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
822          DR  BASIN4
             * DDM   ***** Preserved *****

823          KK  RFDIV6
824          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
825          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
             *      1
826          RS       1    STOR       0
827          SV       0     .01     3.3
828          SQ       0     1.1     1.1
             * DDM   ***** Preserved *****

829          KK   CDIV6
830          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
831          HC       2
             * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 22

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

832          KK     443
833          KM   SUB-BASIN 443
834          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
835          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
836          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
837          BA    .080
838          LG    .250    .190   8.000    .080  10.000
839          UC    .196    .194
840          UA       0       5      16      30      65      77      84      90      94      97
841          UA     100
             * DDM   ***** Preserved *****

842          KK   DIV66
843          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
844          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
845          DT   WSH66
846          DI       0      78     100     200
847          DQ       0      78      78      78
             * DDM   ***** Preserved *****

848          KK    R113
849          KM        ROUTE FLOW FROM C113 TO C114
850          RS       1    FLOW      -1
851          RC    .019    .019    .019    1300    .029
852          RX    1000    1004    1008    1012    1018    1022    1026    1030
853          RY      17   15.33   12.67      10      10   12.67   15.33      17
             * DDM   ***** Preserved *****
```

```
854          KK    C114
855          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
856          HC       2
             * DDM   ***** Updated *****

857          KK     444
858          KM   SUB-BASIN 444
859          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
860          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
861          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
862          BA    .040
863          LG    .130    .350   4.450    .320   1.000
864          UC    .112    .084
865          UA       0       3       5       8      12      20      43      75      90      96
866          UA     100
             * DDM   ***** Preserved *****

867          KK     R58
868          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
869          RS       1    FLOW      -1
870          RC     .05    .035     .05    2370   .0516
871          RX    1000    1010    1020    1050    1055    1085    1095    1105
872          RY      19      18      17      10      10      17      18      19
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 23

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

873          KK     445
874          KM   SUB-BASIN 445
875          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
876          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
877          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
878          BA    .190
879          LG    .170    .320   3.470    .590   3.000
880          UC    .192    .130
881          UA       0       5      16      30      65      77      84      90      94      97
882          UA     100
             * DDM   ***** Preserved *****

883          KK    C107
884          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
885          HC       2
             * DDM   ***** Preserved *****

886          KK    R107
887          KM        ROUTE FLOW FROM C107 TO C109
888          RS       1    FLOW      -1
889          RC     .05    .035     .05     700   .0516
890          RX    1000    1010    1020    1050    1055    1085    1095    1105
891          RY      19      18      17      10      10      17      18      19
             * DDM   ***** Preserved *****

892          KK    RTB2
893          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
             *      1
894          DR   SPLIT
             * DDM   ***** Preserved *****

895          KK  RSPLIT
896          KM        ROUTE FLOW FROM SPLIT TO C109
897          RS       1    FLOW      -1
898          RC     .05    .035     .05     800     .05
899          RX    1000    1025    1050    1070    1075    1095    1120    1145
900          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****

901          KK     446
902          KM   SUB-BASIN 446
903          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
904          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
905          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
906          BA    .040
907          LG    .270    .250   4.500    .400  19.000
908          UC    .183    .189
909          UA       0       5      16      30      65      77      84      90      94      97
910          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 24

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

911          KK    C109
912          KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
913          HC       3
             * DDM   ***** Preserved *****

914          KK    DIV5
915          KM        DIVERT FLOW INTO WASHES TOWARDS WEST
916          KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
             *      1
917          DT  WSH404
918          DI       0    40.7    71.2   121.6     190     276   379.4   500.6
919          DQ       0      35      35      35      35      35      35      35
             * DDM   ***** Preserved *****

920          KK    R109
921          KM        ROUTE FLOW FROM C109 TO C110
922          RS       1    FLOW      -1
923          RC    .019    .019    .019    3080     .05
924          RX    1000    1005    1010    1015    1025    1030    1035    1040
925          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
             * DDM   ***** Updated *****

926          KK     447
927          KM   SUB-BASIN 447
928          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
929          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
930          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
931          BA    .090
932          LG    .250    .270   3.350    .870  30.000
```

```
 933          UC    .208    .145
 934          UA       0       5      16      30      65      77      84      90      94      97
 935          UA     100
              * DDM   ***** Preserved *****

 936          KK   RT404
 937          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
 938          DR  WSH404
              * DDM   ***** Preserved *****

 939          KK    R404
 940          KM        ROUTE FLOW FROM C110 TO C110
 941          RS       5    FLOW      -1
 942          RC    .019    .019    .019    3540     .03
 943          RX    1000    1012    1016    1020    1025    1029    1033    1045
 944          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

 945          KK    C110
 946          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
 947          HC       3
              * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 25

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 948          KK    R110
 949          KM        ROUTE FLOW FROM C110 TO C115
 950          RS       1    FLOW      -1
 951          RC    .019    .019    .019     580   .0291
 952          RX    1000    1012    1016    1020    1035    1039    1043    1055
 953          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

 954          KK    C115
 955          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
 956          HC       2
              * DDM   ***** Preserved *****

 957          KK    R115
 958          KM        ROUTE FLOW FROM C115 TO C119
 959          RS       1    FLOW      -1
 960          RC    .019    .019    .019    2125    .029
 961          RC    .019    .019    .019     580   .0291
 962          RX    1000    1012    1016    1020    1035    1039    1043    1055
 963          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

 964          KK     448
 965          KM   SUB-BASIN 448
 966          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 967          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 968          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
 969          BA    .045
 970          LG    .170    .310   4.200    .390  11.000
 971          UC    .133    .102
 972          UA       0       5      16      30      65      77      84      90      94      97
 973          UA     100
              * DDM   ***** Updated *****

 974          KK     449
 975          KM   SUB-BASIN 449
 976          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 977          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 978          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
 979          BA    .050
 980          LG    .260    .280   3.500    .640   6.000
 981          UC    .167    .134
 982          UA       0       5      16      30      65      77      84      90      94      97
 983          UA     100
              * DDM   ***** Preserved *****

 984          KK   C6364
 985          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
 986          HC       2
              * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 26

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 987          KK   R6364
 988          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
 989          RS       4    FLOW      -1
 990          RC     .05    .035     .05    4375   .0333
 991          RX    1000    1027    1053    1080    1090    1117    1143    1170
 992          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

 993          KK     450
 994          KM   SUB-BASIN 450
 995          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 996          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 997          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
 998          BA    .070
 999          LG    .300    .260   3.630    .710  18.000
1000          UC    .287    .371
1001          UA       0       5      16      30      65      77      84      90      94      97
1002          UA     100
              * DDM   ***** Updated *****

1003          KK     451
1004          KM   SUB-BASIN 451
1005          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1006          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1007          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1008          BA    .025
1009          LG    .300    .270   3.290    .910  16.000
1010          UC    .267    .446
1011          UA       0       5      16      30      65      77      84      90      94      97
1012          UA     100
              * DDM   ***** Preserved *****
```

```
1013          KK    RT66
1014          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1015          DR   WSH66
              * DDM   ***** Updated *****

1016          KK     452
1017          KM   SUB-BASIN 452
1018          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1019          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1020          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1021          BA    .040
1022          LG    .260    .280   3.700    .550   9.000
1023          UC    .171    .166
1024          UA       0       5      16      30      65      77      84      90      94      97
1025          UA     100
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 27

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1026          KK   C6465
1027          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1028          HC       2
              * DDM   ***** Preserved *****

1029          KK   R6566
1030          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1031          RS       2    FLOW      -1
1032          RC     .05    .035     .05    2435   .0282
1033          RX    1000    1045    1090    1150    1160    1220    1265    1310
1034          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1035          KK    C116
1036          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1037          HC       4
              * DDM   ***** Preserved *****

1038          KK  BASIN5
1039          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1040          KM        BASIN 5 FEET DEEP
1041          RS       1    ELEV       0
1042          SV       0     4.5     9.9
1043          SQ       0      69     190
1044          SE       0     2.5       5
              * DDM   ***** Preserved *****

1045          KK    R116
1046          KM   ROUTE FLOW FROM C116 TO C117
1047          RS       3    FLOW      -1
1048          RC     .05    .035     .05    1300   .0333
1049          RX    1000    1100    1200    1300    1320    1420    1520    1620
1050          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1051          KK     453
1052          KM   SUB-BASIN 453
1053          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1054          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1055          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1056          BA    .060
1057          LG    .270    .270   3.290    .910  24.000
1058          UC    .275    .284
1059          UA       0       5      16      30      65      77      84      90      94      97
1060          UA     100
              * DDM   ***** Preserved *****

1061          KK    C117
1062          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1063          HC       2
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 28

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1064          KK    C118
1065          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1066          HC       2
              * DDM   ***** Preserved *****

1067          KK    R118
1068          KM        ROUTE FLOW FROM C118 TO  DIV7
1069          RS       1    FLOW      -1
1070          RC    .019    .019    .019    1500    .024
1071          RX    1000    1012    1016    1020    1035    1039    1043    1055
1072          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1073          KK    DIV7
1074          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1075          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
              *      1
1076          DT  BASIN6
1077          DI       0     363     487     563     645     844
1078          DQ       0       3      47      83     125     244
              * DDM   ***** Preserved *****

1079          KK  RTDIV7
1080          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1081          DR  BASIN6
              * DDM   ***** Preserved *****

1082          KK  RFDIV7
1083          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1084          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1085          RS       1    STOR       0
1086          SV       0     .01     3.6
1087          SQ       0     1.2     1.2
              * DDM   ***** Preserved *****
```

```
1088          KK   CDIV7
1089          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1090          HC       2
              * DDM   ***** Updated *****

1091          KK     454
1092          KM   SUB-BASIN 454
1093          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1094          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1095          KM     L = 1.23  Kb = .052  Adj. Slope =  163.0
1096          BA    .180
1097          LG    .280    .260   3.780    .650  22.000
1098          UC    .383    .400
1099          UA       0       5      16      30      65      77      84      90      94      97
1100          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 29

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1101          KK    C119
1102          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
              *      1       2
1103          HC       2
              * DDM   ***** Preserved *****

1104          KK    R454
1105          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1106          KM   ROUTE FLOW FROM C119 TO 415C
1107          RS       2    FLOW      -1
1108          RC    .045    .035    .045    2200    .009
1109          RX       0      .5       1      33      42      67    67.5      68
1110          RY       5       4       4       0       0       6       6       6
              * DDM   ***** Updated *****

1111          KK     415
1112          KM   SUB-BASIN 415
1113          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1114          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1115          KM     L = 2.58  Kb = .044  Adj. Slope =  298.5
1116          BA    .606
1117          LG    .300    .250   4.500    .430  21.000
1118          UC    .417    .398
1119          UA       0       5      16      30      65      77      84      90      94      97
1120          UA     100
              * DDM   ***** Preserved *****

1121          KK   RT385
1122          KM   RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385 INTO SUB-BASIN 415
1123          DR   SF385
              * DDM   ***** Preserved *****

1124          KK   RR385
1125          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1126          KM   ROUTING OF SPLIT FLOW FROM SUB-BASIN 385 TO SUB-BASIN 415
1127          RS      11    FLOW      -1
1128          RC    .045     .04    .045    5878    .024
1129          RX       0       1      40      46      56      62     102     103
1130          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Preserved *****

1131          KK    415C
1132          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1133          HC       3    1.71
              * DDM   ***** Preserved *****

1134          KK    R415
1135          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1136          KM   ROUTING OF FLOW FROM 415C TO 455C
1137          RS       2    FLOW      -1
1138          RC    .045     .03    .045    4100    .024
1139          RX       0      .5       1       8      16      23    23.5      24
1140          RY       8       8       8       0       0       8       8       8
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 30

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1141          KK     455
1142          KM   SUB-BASIN 455
1143          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1144          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1145          KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1146          BA   1.111
1147          LG    .270    .280   3.700    .640  24.000
1148          UC    .421    .204
1149          UA       0       5      16      30      65      77      84      90      94      97
1150          UA     100
              * DDM   ***** Preserved *****

1151          KK    D455
1152          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1153          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1154          KM   FOR BASIN #: 30      34      43      47&58
1155          KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
              *      1
1156          DT   BS455    74.1
1157          DI       0   10000
1158          DQ       0   10000
              * DDM   ***** Preserved *****

1159          KK   RT455
1160          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1161          DR   BS455
              * DDM   ***** Preserved *****

1162          KK   SR455
1163          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1164          KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1165          RS       1    STOR       0
1166          SV       0     .01    74.1
```

```
1167          SQ       0      25      25
              * DDM   ***** Preserved *****

1168          KK    C455
1169          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1170          HC       2
              * DDM   ***** Preserved *****

1171          KK    455C
1172          KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
              *      1       2
1173          HC       3
              * DDM   ***** Preserved *****

1174          KK   SR440
1175          KM   SPOOK HILL FRS PLANS DATED 6/15/77
1176          KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1177          KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1178          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
1179          RS       1    STOR       0
1180          SV       0      10     100     300     500     680
1                                     HEC-1 INPUT                                                    PAGE 31

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1181          SQ       0     640     720     780     825     860
1182          SE      66    77.5      79    80.2    81.2      82
              * DDM   ***** Preserved *****

1183          KK   RR455
1184          KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 462
1185          RS       9    FLOW      -1
1186          RC    .035    .025    .035    9200    .002
1187          RX       0       1       2      28      58      84      85      86
1188          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1189          KK     456
1190          KM   SUB-BASIN 456
1191          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1192          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1193          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1194          BA    .260
1195          LG    .300    .380   5.600    .200  12.000
1196          UC    .217    .139
1197          UA       0       5      16      30      65      77      84      90      94      97
1198          UA     100
              * DDM   ***** Preserved *****

1199          KK    DIV1
1200          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1201          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *      1
1202          DT  BASIN1
1203          DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1204          DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
              * DDM   ***** Preserved *****

1205          KK    DIV2
1206          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1207          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1208          DT    WA30
1209          DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1210          DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
              * DDM   ***** Preserved *****

1211          KK    R456
1212          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1213          RS       2    FLOW      -1
1214          RC     .05    .035     .05    3800    .044
1215          RX    1000    1010    1020    1036    1041    1057    1067    1077
1216          RY   14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****

1217          KK     457
1218          KM   SUB-BASIN 457
1219          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1220          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1221          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1222          BA    .190
1                                     HEC-1 INPUT                                                    PAGE 32

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1223          LG    .270    .330   3.950    .460   6.000
1224          UC    .237    .195
1225          UA       0       5      16      30      65      77      84      90      94      97
1226          UA     100
              * DDM   ***** Preserved *****

1227          KK    C101
1228          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1229          HC       2
              * DDM   ***** Preserved *****

1230          KK    DIV3
1231          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1232          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *      1
1233          DT  BASIN2
1234          DI       0      36      70     110     180   313.5     402   500.9
1235          DQ       0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****

1236          KK  RTDIV3
1237          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1238          DR  BASIN2
              * DDM   ***** Preserved *****

1239          KK  RFDIV3
1240          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1241          KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1242          RS       1    STOR       0
```

```
1243        SV       0     .01       5
1244        SQ       0     1.7     1.7
            * DDM   ***** Preserved *****

1245        KK   CDIV3
1246        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1247        HC       2
            * DDM   ***** Preserved *****

1248        KK    R101
1249        KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1250        RS       1    FLOW      -1
1251        RC     .05    .035     .05    1450     .05
1252        RX    1000    1010    1020    1036    1041    1057    1067    1077
1253        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1254        KK     458
1255        KM   SUB-BASIN 458
1256        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1257        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1258        KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1259        BA    .190
1260        LG    .290    .330   5.800    .190   6.000
1261        UC    .204    .131
1262        UA       0       5      16      30      65      77      84      90      94      97
1                                        HEC-1 INPUT                                          PAGE 33

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1263        UA     100
            * DDM   ***** Preserved *****

1264        KK    C103
1265        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1266        HC       2
            * DDM   ***** Preserved *****

1267        KK    R103
1268        KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1269        RS       1    FLOW      -1
1270        RC     .05    .035     .05     900     .03
1271        RX    1000    1010    1020    1030    1050    1060    1070    1080
1272        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Preserved *****

1273        KK    RT30
1274        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1275        DR    WA30
            * DDM   ***** Preserved *****

1276        KK     R30
1277        KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1278        RS       1    FLOW      -1
1279        RC     .05    .035     .05    1630     .05
1280        RX    1000    1010    1020    1036    1041    1057    1067    1077
1281        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****

1282        KK    RTB1
1283        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1       2
1284        DR  BASIN1
            * DDM   ***** Preserved *****

1285        KK      B1
1286        KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1287        KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
            *      1       2
1288        RS       1    ELEV       0
1289        SV              .7     1.4     2.3     2.7     3.2
1290        SQ       0       5      16      28    32.5      37
1291        SE       0       1       2       3     3.5       4
            * DDM   ***** Preserved *****

1292        KK     RB1
1293        KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1294        RS       2    FLOW      -1
1295        RC     .05    .035     .05    1720     .05
1296        RX    1000    1010    1020    1036    1041    1057    1067    1077
1297        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 34

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1298        KK    CDIV
1299        KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1300        HC       2     .12
            * DDM   ***** Updated *****

1301        KK     459
1302        KM   SUB-BASIN 459
1303        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1304        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1305        KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1306        BA    .030
1307        LG    .220    .300   3.330    .710   8.000
1308        UC    .162    .157
1309        UA       0       5      16      30      65      77      84      90      94      97
1310        UA     100
            * DDM   ***** Preserved *****

1311        KK     C52
1312        KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1313        HC       2
            * DDM   ***** Preserved *****

1314        KK     R52
1315        KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1316        RS       2    FLOW      -1
1317        RC     .05    .035     .05    2000     .05
```

```
1318          RX    1000    1010    1020    1036    1041    1057    1067    1077
1319          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1320          KK     460
1321          KM   SUB-BASIN 460
1322          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1323          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1324          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1325          BA    .140
1326          LG    .250    .260   3.740    .690  27.000
1327          UC    .242    .160
1328          UA       0       5      16      30      65      77      84      90      94      97
1329          UA     100
              * DDM   ***** Preserved *****

1330          KK    C102
1331          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1332          HC       2
              * DDM   ***** Preserved *****

1333          KK  BASIN3
1334          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1335          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1336          RS       1    ELEV       0
1337          SA       0       0       0       0     .34    1.59    1.81    1.96    2.13     2.3
              *      0       0       0       0    1.14    3.25    5.52    9.23
1338          SQ       0      22      45    47.4      48      51      57      62      67      73
1                                         HEC-1 INPUT                                          PAGE 35

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1339          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1340          KK      R3
1341          KM        ROUTE FLOW FROM C102 to C106
1342          RS       4    FLOW      -1
1343          RC     .05     .03     .05    2750   .0375
1344          RX    1000    1010    1020    1052    1086    1118    1128    1138
1345          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1346          KK     461
1347          KM   SUB-BASIN 461
1348          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1349          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1350          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1351          BA    .120
1352          LG    .270    .250   4.250    .450  21.000
1353          UC    .271    .250
1354          UA       0       5      16      30      65      77      84      90      94      97
1355          UA     100
              * DDM   ***** Preserved *****

1356          KK    C104
1357          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1358          HC       2
              * DDM   ***** Preserved *****

1359          KK    C106
1360          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1361          HC       2
              * DDM   ***** Preserved *****

1362          KK    R106
1363          KM        ROUTE FLOW FROM C106 TO C49
1364          RS       2    FLOW      -1
1365          RC     .05    .035     .05    3950    .033
1366          RX    1000    1010    1020    1030    1050    1060    1070    1080
1367          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Updated *****

1368          KK     462
1369          KM   SUB-BASIN 462
1370          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1371          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1372          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1373          BA    .301
1374          LG    .300    .330   5.300    .240  12.000
1375          UC    .225    .137
1376          UA       0       5      16      30      65      77      84      90      94      97
1377          UA     100
              * DDM   ***** Preserved *****
1                                         HEC-1 INPUT                                          PAGE 36

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1378          KK     C56
1379          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1380          HC       2
              * DDM   ***** Updated *****

1381          KK     480
1382          KM   SUB-BASIN 480
1383          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1384          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1385          KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1386          BA    .731
1387          LG    .270    .270   3.580    .730  27.000
1388          UC    .325    .148
1389          UA       0       5      16      30      65      77      84      90      94      97
1390          UA     100
              * DDM   ***** Preserved *****

1391          KK    D480
1392          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1393          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1394          KM   FOR BASIN #: 18 & 26
1395          KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
              *      1
```

```
1396          DT   BS480    16.5
1397          DI       0   10000
1398          DQ       0   10000
              * DDM   ***** Preserved *****

1399          KK   RT480
1400          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1401          DR   BS480
              * DDM   ***** Preserved *****

1402          KK   SR480
1403          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1404          KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1405          RS       1    STOR       0
1406          SV       0     .01    16.5
1407          SQ       0     5.6     5.6
              * DDM   ***** Preserved *****

1408          KK    C480
1409          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1410          HC       2
              * DDM   ***** Preserved *****

1411          KK    480C
1412          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1413          HC       3    2.09
              * DDM   ***** Preserved *****
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1414          KK   RR480
1415          KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUB-BASIN 500
1416          RS       2    FLOW      -1
1417          RC    .025    .025    .025    6500     .05
1418          RX       0       1       2      28      58      84      85      86
1419          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1420          KK     500
1421          KM   SUB-BASIN 500
1422          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1423          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1424          KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1425          BA    .930
1426          LG    .350    .400   6.000    .170   9.000
1427          UC    .421    .333
1428          UA       0       3       5       8      12      20      43      75      90      96
1429          UA     100
              * DDM   ***** Preserved *****

1430          KK    500C
1431          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1432          HC       2    3.02
1433          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

  39          10
               V
               V
  49         R10
               V
               V
  55         R12
               .
               .
  61           .          20
               .           .
               .           .
  71         C20............
               .
               .
  74           .          40
               .           .
               .           .
  84           .           .          60
               .           .           .
               .           .           .
  94         60C........................
               V
               V
  97        SR60
               V
               V
 106         R60
               V
               V
 112        RR60
               .
               .
 118           .          80
               .           .
               .           .
 128         80C............
               V
               V
 131         R80
               .
               .
 137           .         100
               .           .
               .           .
 147        100C............
               V
               V
 150        R100
               .
               .
 156           .         120
               .           .
               .           .
 166        120C............
               V
               V
 169        R120
               .
               .
 175           .         140
               .           .
               .           .
 185           .           .         150
               .           .           V
               .           .           V
 195           .           .        R150
               .           .           V
               .           .           V
 201           .           .        R152
               .           .           .
               .           .           .
 207           .           .           .        160
               .           .           .          .
               .           .           .          .
 217           .           .           .          .         180
               .           .           .          .           .
               .           .           .          .           .
 227        180C..............................................
               .
               .
 230           .         210
               .           V
               .           V
 240           .        R210
               .           .
               .           .
 246           .           .         240
               .           .           .
               .           .           .
 256           .        240C............
               .           V
               .           V
 259           .       SR240
               .           .
               .           .
 266           .           .         220
               .           .           .
               .           .           .
 276           .        220C............
               .           V
               .           V
 279           .       SR220
               .           .
               .           .
 286           .           .         190
```

```
            .           .           V
            .           .           V
296         .           .        R190
            .           .           V
            .           .           V
302         .           .        R192
            .           .           .
            .           .           .
308         .           .           .         200
            .           .           .           .
            .           .           .           .
318         .        200C.......................
            .           V
            .           V
321         .       SR200
            .           V
            .           V
328         .       200SR
            .           .
            .           .
335      C180............
            V
            V
338     SR180
            V
            V
347      R180
            .
            .
354         .         260
            .           .
            .           .
364      260C............
            V
            V
367      R260
            .
            .
374         .         280
            .           .
            .           .
384      280C............
            V
            V
387      R280
            .
            .
394         .         300
            .           .
            .           .
404      300C............
            V
            V
407      R300
            V
            V
414     RR300
            .
            .
421         .         350
            .           .
            .           .
434         .           .-------->   SF350
431         .        D350
            .           V
            .           V
437         .        350R
            .           .
            .           .
444         .           .         310
            .           .           .
            .           .           .
454         .        C310............
            .           V
            .           V
457         .        R310
            .           .
            .           .
464         .           .         320
            .           .           .
            .           .           .
479         .           .           .-------->   BS320
474         .           .        D320
            .           .           .
            .           .           .
484         .           .           .           .<-------   BS320
482         .           .           .       RT320
            .           .           .           V
            .           .           .           V
485         .           .           .       SR320
            .           .           .           .
            .           .           .           .
491      C320.................................
            .
            .
494         .         340
            .           .
            .           .
509         .           .-------->   BS340
504         .        D340
            .           .
            .           .
514         .           .           .<-------   BS340
512         .           .      RT340
            .           .           V
            .           .           V
515         .           .      SR340
            .           .           .
            .           .           .
521      C340........................
            .
            .
526         .           .<-------   SF350
```

```
524          .      RT350
             .         V
             .         V
527          .      RR350
             .         .
             .         .
534          .         .        355
             .         .         .
             .         .         .
544          .      C355............
             .         V
             .         V
547          .      R355
             .         .
             .         .
554          .         .        360
             .         .         .
             .         .         .
568          .         .         .-------->   BS360
564          .         .      D360
             .         .         .
             .         .         .
573          .         .         .          .<-------   BS360
571          .         .         .      RT360
             .         .         .         V
             .         .         .         V
574          .         .         .      SR360
             .         .         .         .
             .         .         .         .
580       360C...................................
             .
             .
583          .      370
             .         .
             .         .
593          .         .        395
             .         .         .
             .         .         .
603          .      370C............
             .         V
             .         V
606          .      R370
             .         .
             .         .
613          .         .        380
             .         .         .
             .         .         .
627          .         .         .-------->   BS380
623          .         .      D380
             .         .         .
             .         .         .
632          .         .         .          .<-------   BS380
630          .         .         .      RT380
             .         .         .         V
             .         .         .         V
633          .         .         .      SR380
             .         .         .         .
             .         .         .         .
639       380C...................................
             .
             .
642          .      390
             .         .
             .         .
656          .         .-------->   BS390
652          .      D390
             .         .
             .         .
661          .         .         .<-------   BS390
659          .         .      RT390
             .         .         V
             .         .         V
662          .         .      SR390
             .         .         .
             .         .         .
668          .      390C............
             .         V
             .         V
671          .      RR390
             .         .
             .         .
678          .         .        400
             .         .         .
             .         .         .
692          .         .         .-------->   BS400
688          .         .      D400
             .         .         .
             .         .         .
697          .         .         .          .<-------   BS400
695          .         .         .      RT400
             .         .         .         V
             .         .         .         V
698          .         .         .      SR400
             .         .         .         .
             .         .         .         .
704          .         .      C400............
             .         .         .
             .         .         .
707       400C........................
             .
             .
710          .      385
             .         .
             .         .
722          .         .-------->   SF385
720          .      D385
             .         V
             .         V
725          .      385R
             .         .
             .         .
732          .         .        420
             .         .         .
```

```
746                                  .------->  BS420
742                             D420
                                     .
                                     .
751                                  .          .<-------  BS420
749                                  .      RT420
                                     .          V
                                     .          V
752                                  .      SR420
                                     .          .
                                     .          .
758                          420C.....................................
                                     .
                                     .
761                             440
                                  V
                                  V
771                             R70
                                     .
                                     .
777                                  .         441
                                     .          .
                                     .          .
787                            C108............
                                     .
                                     .
792                                  .------->  SPLIT
790                            DIV4
                                  V
                                  V
795                            R108
                                     .
                                     .
801                                  .         442
                                     .          .
                                     .          .
811                             C67............
                                     .
                                     .
817                                  .------->  BASIN4
814                            DIV6
                                     .
                                     .
822                                  .          .<-------  BASIN4
820                                  .     RTDIV6
                                     .          V
                                     .          V
823                                  .     RFDIV6
                                     .          .
                                     .          .
829                           CDIV6............
                                     .
                                     .
832                                  .         443
                                     .          .
                                     .          .
845                                  .          .------->  WSH66
842                                  .      DIV66
                                     .          V
                                     .          V
848                                  .      R113
                                     .          .
                                     .          .
854                            C114............
                                     .
                                     .
857                                  .         444
                                     .          V
                                     .          V
867                                  .         R58
                                     .          .
                                     .          .
873                                  .          .         445
                                     .          .          .
                                     .          .          .
883                                  .      C107............
                                     .          V
                                     .          V
886                                  .      R107
                                     .          .
                                     .          .
894                                  .          .          .<-------  SPLIT
892                                  .          .      RTB2
                                     .          .          V
                                     .          .          V
895                                  .          .     RSPLIT
                                     .          .          .
                                     .          .          .
901                                  .          .          .         446
                                     .          .          .          .
                                     .          .          .          .
911                                  .      C109.......................
                                     .          .
                                     .          .
917                                  .          .------->  WSH404
914                                  .      DIV5
                                     .          V
                                     .          V
920                                  .      R109
                                     .          .
                                     .          .
926                                  .          .         447
                                     .          .          .
                                     .          .          .
938                                  .          .          .          .<-------  WSH404
936                                  .          .          .     RT404
                                     .          .          .          V
                                     .          .          .          V
939                                  .          .          .     R404
                                     .          .          .          .
                                     .          .          .          .
945                                  .      C110.......................
```

```
                 .          .          V
                 .          .          V
948              .          .       R110
                 .          .          .
                 .          .          .
954              .       C115............
                 .          V
                 .          V
957              .       R115
                 .          .
                 .          .
964              .          .        448
                 .          .          .
                 .          .          .
974              .          .          .        449
                 .          .          .          .
                 .          .          .          .
984              .          .      C6364............
                 .          .          V
                 .          .          V
987              .          .      R6364
                 .          .          .
                 .          .          .
993              .          .          .        450
                 .          .          .          .
                 .          .          .          .
1003             .          .          .          .        451
                 .          .          .          .          .
                 .          .          .          .          .
1015             .          .          .          .          .          .<-------   WSH66
1013             .          .          .          .          .       RT66
                 .          .          .          .          .          .
                 .          .          .          .          .          .
1016             .          .          .          .          .          .        452
                 .          .          .          .          .          .          .
                 .          .          .          .          .          .          .
1026             .          .          .          .          .      C6465............
                 .          .          .          .          .          V
                 .          .          .          .          .          V
1029             .          .          .          .          .      R6566
                 .          .          .          .          .          .
                 .          .          .          .          .          .
1035             .          .      C116.................................
                 .          .          V
                 .          .          V
1038             .          .     BASIN5
                 .          .          V
                 .          .          V
1045             .          .      R116
                 .          .          .
                 .          .          .
1051             .          .          .        453
                 .          .          .          .
                 .          .          .          .
1061             .          .      C117............
                 .          .          .
                 .          .          .
1064             .       C118............
                 .          V
                 .          V
1067             .       R118
                 .          .
                 .          .
1076             .          .-------> BASIN6
1073             .       DIV7
                 .          .
                 .          .
1081             .          .          .<-------  BASIN6
1079             .          .     RTDIV7
                 .          .          V
                 .          .          V
1082             .          .     RFDIV7
                 .          .          .
                 .          .          .
1088             .      CDIV7............
                 .          .
                 .          .
1091             .          .        454
                 .          .          .
                 .          .          .
1101             .       C119............
                 .          V
                 .          V
1104             .       R454
                 .          .
                 .          .
1111             .          .        415
                 .          .          .
                 .          .          .
1123             .          .          .          .<-------   SF385
1121             .          .          .      RT385
                 .          .          .          V
                 .          .          .          V
1124             .          .          .      RR385
                 .          .          .          .
                 .          .          .          .
1131             .       415C........................
                 .          V
                 .          V
1134             .       R415
                 .          .
                 .          .
1141             .          .        455
                 .          .          .
                 .          .          .
1156             .          .          .------->   BS455
1151             .          .      D455
                 .          .          .
                 .          .          .
1161             .          .          .          .<-------   BS455
1159             .          .          .      RT455
                 .          .          .          V
                 .          .          .          V
```

```
1162                                  SR455
                                        .
1168                            C455............
                                        .
                                        .
1171                  455C......................
                        V
                        V
1174                SR440
                        V
                        V
1183                RR455
                        .
                        .
1189                    456
                        .
                        .
1202                    .-------> BASIN1
1199                DIV1
                        .
                        .
1208                    .------->   WA30
1205                DIV2
                        V
                        V
1211                R456
                        .
                        .
1217                    .       457
                        .         .
                        .         .
1227                C101............
                        .
                        .
1233                    .-------> BASIN2
1230                DIV3
                        .
                        .
1238                    .       .<------- BASIN2
1236                    .     RTDIV3
                        .         V
                        .         V
1239                    .     RFDIV3
                        .         .
                        .         .
1245               CDIV3............
                        V
                        V
1248                R101
                        .
                        .
1254                    .       458
                        .         .
                        .         .
1264                C103............
                        V
                        V
1267                R103
                        .
                        .
1275                    .       .<-------   WA30
1273                    .     RT30
                        .         V
                        .         V
1276                    .       R30
                        .         .
                        .         .
1284                    .         .         .<------- BASIN1
1282                    .         .       RTB1
                        .         .         V
                        .         .         V
1285                    .         .        B1
                        .         .         V
                        .         .         V
1292                    .         .       RB1
                        .         .         .
                        .         .         .
1298                    .     CDIV............
                        .         .
                        .         .
1301                    .         .       459
                        .         .         .
                        .         .         .
1311                    .      C52............
                        .         V
                        .         V
1314                    .      R52
                        .         .
                        .         .
1320                    .         .       460
                        .         .         .
                        .         .         .
1330                    .     C102............
                        .         V
                        .         V
1333                    .    BASIN3
                        .         V
                        .         V
1340                    .        R3
                        .         .
                        .         .
1346                    .         .       461
                        .         .         .
                        .         .         .
1356                    .     C104............
                        .         .
                        .         .
1359                C106............
                        V
                        V
1362                R106
                        .
```

```
1368          .          .        462
              .          .          .
              .          .          .
1378          .        C56............
              .          .
              .          .
1381          .          .        480
              .          .          .
              .          .          .
1396          .          .          .-------->   BS480
1391          .          .       D480
              .          .          .
              .          .          .
1401          .          .          .          .<-------   BS480
1399          .          .          .      RT480
              .          .          .          V
              .          .          .          V
1402          .          .          .      SR480
              .          .          .          .
              .          .          .          .
1408          .          .       C480............
              .          .          .
              .          .          .
1411       480C........................
              V
              V
1414      RR480
              .
              .
1420          .        500
              .          .
              .          .
1430       500C............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	10	954.	12.27	116.	33.	16.	.70		
+	ROUTED TO	R10	885.	12.40	116.	33.	16.	.70		
+	ROUTED TO	R12	836.	12.60	116.	33.	16.	.70		
+	HYDROGRAPH AT	20	993.	12.23	153.	42.	20.	1.12		
+	2 COMBINED AT	C20	1525.	12.53	266.	74.	36.	1.82		
+	HYDROGRAPH AT	40	2592.	12.17	287.	81.	39.	2.23		
+	HYDROGRAPH AT	60	1567.	12.40	237.	66.	32.	1.75		
+	3 COMBINED AT	60C	4793.	12.30	779.	217.	104.	5.80		
+	ROUTED TO	SR60	93.	14.60	93.	91.	76.	5.80		
+	ROUTED TO	R60	93.	14.67	93.	91.	75.	5.80		
+	ROUTED TO	RR60	93.	14.77	93.	91.	75.	5.80		
+	HYDROGRAPH AT	80	1824.	12.13	192.	53.	25.	1.48		
+	2 COMBINED AT	80C	1898.	12.13	278.	139.	101.	1.48		
+	ROUTED TO	R80	1887.	12.17	278.	139.	101.	1.48		
+	HYDROGRAPH AT	100	413.	12.20	64.	18.	9.	.48		
+	2 COMBINED AT	100C	2275.	12.17	340.	156.	109.	1.96		
+	ROUTED TO	R100	2263.	12.20	340.	156.	109.	1.96		
+	HYDROGRAPH AT	120	3241.	12.27	338.	94.	45.	2.20		
+	2 COMBINED AT	120C	5385.	12.23	670.	243.	153.	4.16		
+	ROUTED TO	R120	5328.	12.27	670.	243.	153.	4.16		
+	HYDROGRAPH AT	140	642.	12.13	72.	21.	10.	.60		
+	HYDROGRAPH AT	150	572.	12.17	49.	13.	6.	.41		
+	ROUTED TO	R150	546.	12.23	49.	13.	6.	.41		
+	ROUTED TO	R152	504.	12.37	49.	13.	6.	.41		
+	HYDROGRAPH AT	160	223.	12.40	37.	10.	5.	.37		
+	HYDROGRAPH AT	180	810.	12.37	96.	25.	12.	1.00		
+	5 COMBINED AT	180C	7054.	12.27	910.	305.	184.	6.54		
+	HYDROGRAPH AT	210	878.	12.17	82.	21.	10.	.58		
+	ROUTED TO	R210	842.	12.27	82.	21.	10.	.58		
+	HYDROGRAPH AT	240	1427.	12.30	161.	42.	20.	1.40		
+	2 COMBINED AT	240C	2229.	12.30	240.	63.	30.	1.98		
+	ROUTED TO	SR240	665.	12.77	196.	52.	25.	1.98		
+	HYDROGRAPH AT	220	1151.	12.17	105.	28.	13.	.73		
+	2 COMBINED AT	220C	1191.	12.20	295.	78.	38.	2.71		
+	ROUTED TO	SR220	973.	12.43	290.	76.	37.	2.71		

+	HYDROGRAPH AT	190	1403.	12.17	116.	31.	15.	.92
+	ROUTED TO	R190	1348.	12.23	116.	31.	15.	.92
+	ROUTED TO	R192	1267.	12.30	116.	31.	15.	.92
+	HYDROGRAPH AT	200	811.	12.17	70.	19.	9.	.54
+	3 COMBINED AT	200C	2679.	12.27	467.	124.	60.	4.16
+	ROUTED TO	SR200	2550.	12.37	462.	121.	58.	4.16
+	ROUTED TO	200SR	1829.	12.60	341.	90.	44.	4.16
+	2 COMBINED AT	C180	7054.	12.27	1237.	395.	227.	10.69
+	ROUTED TO	SR180	139.	19.73	139.	138.	119.	10.69
+	ROUTED TO	R180	139.	19.73	139.	138.	118.	10.69
+	HYDROGRAPH AT	260	406.	12.10	39.	11.	5.	.27
+	2 COMBINED AT	260C	516.	12.10	173.	149.	125.	.27
+	ROUTED TO	R260	504.	12.20	173.	148.	124.	.27
+	HYDROGRAPH AT	280	478.	12.10	42.	12.	6.	.30
+	2 COMBINED AT	280C	934.	12.13	213.	159.	130.	.57
+	ROUTED TO	R280	897.	12.20	213.	159.	129.	.57
+	HYDROGRAPH AT	300	903.	12.20	118.	33.	16.	.99
+	2 COMBINED AT	300C	1784.	12.20	326.	188.	144.	1.56
+	ROUTED TO	R300	1747.	12.27	326.	188.	144.	1.56
+	ROUTED TO	RR300	1715.	12.30	326.	188.	143.	1.56
+	HYDROGRAPH AT	350	1192.	12.20	103.	27.	13.	.97
+	DIVERSION TO	SF350	596.	12.20	51.	13.	6.	.97
+	HYDROGRAPH AT	D350	596.	12.20	51.	13.	6.	.97
+	ROUTED TO	350R	522.	12.40	51.	13.	6.	.97
+	HYDROGRAPH AT	310	378.	12.33	50.	13.	6.	.56
+	2 COMBINED AT	C310	873.	12.40	100.	26.	12.	.94
+	ROUTED TO	R310	769.	12.73	100.	26.	12.	.94
+	HYDROGRAPH AT	320	995.	12.17	132.	39.	19.	.97
+	DIVERSION TO	BS320	205.	11.83	19.	6.	3.	.97
+	HYDROGRAPH AT	D320	995.	12.17	123.	32.	16.	.97
+	HYDROGRAPH AT	RT320	205.	11.83	19.	6.	3.	.97
+	ROUTED TO	SR320	4.	.87	4.	4.	3.	.97
+	4 COMBINED AT	C320	2679.	12.33	546.	248.	173.	3.47
+	HYDROGRAPH AT	340	1471.	12.17	186.	55.	26.	1.45
+	DIVERSION TO	BS340	1471.	12.17	104.	28.	14.	1.45
+	HYDROGRAPH AT	D340	1199.	12.33	97.	27.	13.	1.45
+	HYDROGRAPH AT	RT340	1471.	12.17	104.	28.	14.	1.45
+	ROUTED TO	SR340	19.	9.00	19.	19.	14.	1.45

+	3 COMBINED AT	C340	3864.	12.33	656.	292.	199.	4.92
+	HYDROGRAPH AT	RT350	596.	12.20	51.	13.	6.	.97
+	ROUTED TO	RR350	519.	12.47	51.	13.	6.	.97
+	HYDROGRAPH AT	355	510.	12.33	71.	19.	9.	.66
+	2 COMBINED AT	C355	962.	12.43	121.	32.	15.	1.24
+	ROUTED TO	R355	877.	12.73	121.	32.	15.	1.24
+	HYDROGRAPH AT	360	504.	12.23	84.	25.	12.	.67
+	DIVERSION TO	BS360	504.	12.23	53.	14.	7.	.67
+	HYDROGRAPH AT	D360	306.	12.63	38.	11.	5.	.67
+	HYDROGRAPH AT	RT360	504.	12.23	53.	14.	7.	.67
+	ROUTED TO	SR360	10.	9.83	10.	10.	7.	.67
+	4 COMBINED AT	360C	4087.	12.33	814.	341.	225.	6.83
+	HYDROGRAPH AT	370	593.	12.30	81.	22.	11.	.67
+	HYDROGRAPH AT	395	186.	12.17	28.	8.	4.	.20
+	2 COMBINED AT	370C	748.	12.30	109.	30.	15.	.87
+	ROUTED TO	R370	661.	12.67	109.	30.	15.	.87
+	HYDROGRAPH AT	380	666.	12.27	98.	26.	13.	.97
+	DIVERSION TO	BS380	666.	12.27	56.	14.	7.	.97
+	HYDROGRAPH AT	D380	472.	12.57	46.	12.	6.	.97
+	HYDROGRAPH AT	RT380	666.	12.27	56.	14.	7.	.97
+	ROUTED TO	SR380	10.	11.33	10.	10.	7.	.97
+	4 COMBINED AT	380C	4601.	12.63	967.	388.	251.	8.67
+	HYDROGRAPH AT	390	463.	12.03	33.	10.	5.	.24
+	DIVERSION TO	BS390	95.	11.73	6.	2.	1.	.24
+	HYDROGRAPH AT	D390	463.	12.03	30.	8.	4.	.24
+	HYDROGRAPH AT	RT390	95.	11.73	6.	2.	1.	.24
+	ROUTED TO	SR390	1.	.90	1.	1.	1.	.24
+	2 COMBINED AT	390C	464.	12.03	31.	9.	5.	.24
+	ROUTED TO	RR390	324.	12.50	31.	9.	5.	.24
+	HYDROGRAPH AT	400	351.	12.23	47.	13.	6.	.62
+	DIVERSION TO	BS400	262.	12.10	10.	3.	1.	.62
+	HYDROGRAPH AT	D400	351.	12.23	39.	10.	5.	.62
+	HYDROGRAPH AT	RT400	262.	12.10	10.	3.	1.	.62
+	ROUTED TO	SR400	2.	8.70	2.	2.	1.	.62
+	2 COMBINED AT	C400	353.	12.23	41.	12.	6.	.62
+	3 COMBINED AT	400C	5040.	12.63	1033.	408.	261.	9.53
+	HYDROGRAPH AT	385	607.	12.13	81.	24.	11.	.52
+	DIVERSION TO	SF385	364.	12.13	49.	14.	7.	.52

+	HYDROGRAPH AT	D385	243.	12.13	32.	10.	5.	.52
+	ROUTED TO	385R	210.	12.60	32.	10.	5.	.52
	HYDROGRAPH AT	420	752.	12.20	92.	26.	12.	.85
	DIVERSION TO	BS420	269.	11.97	15.	4.	2.	.85
+	HYDROGRAPH AT	D420	752.	12.20	83.	22.	10.	.85
+	HYDROGRAPH AT	RT420	269.	11.97	15.	4.	2.	.85
+	ROUTED TO	SR420	13.	11.03	12.	4.	2.	.85
+	4 COMBINED AT	420C	5507.	12.33	1143.	438.	276.	10.87
+	HYDROGRAPH AT	440	180.	12.03	12.	3.	2.	.08
+	ROUTED TO	R70	176.	12.07	12.	3.	2.	.08
+	HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
+	2 COMBINED AT	C108	191.	12.07	14.	4.	2.	.09
+	DIVERSION TO	SPLIT	96.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	DIV4	96.	12.07	7.	2.	1.	.09
+	ROUTED TO	R108	88.	12.13	7.	2.	1.	.09
+	HYDROGRAPH AT	442	102.	12.10	9.	2.	1.	.10
+	2 COMBINED AT	C67	187.	12.10	15.	4.	2.	.19
+	DIVERSION TO	BASIN4	115.	12.10	6.	1.	1.	.19
	HYDROGRAPH AT	DIV6	72.	12.10	10.	3.	1.	.19
	HYDROGRAPH AT	RTDIV6	115.	12.10	6.	1.	1.	.19
+	ROUTED TO	RFDIV6	1.	11.90	1.	1.	1.	.19
+	2 COMBINED AT	CDIV6	74.	12.10	10.	4.	2.	.19
+	HYDROGRAPH AT	443	148.	12.07	14.	4.	2.	.08
+	DIVERSION TO	WSH66	78.	11.90	12.	3.	2.	.08
+	HYDROGRAPH AT	DIV66	70.	12.07	3.	1.	0.	.08
+	ROUTED TO	R113	69.	12.07	3.	1.	0.	.08
+	2 COMBINED AT	C114	140.	12.07	13.	4.	2.	.27
+	HYDROGRAPH AT	444	82.	12.03	5.	1.	1.	.04
+	ROUTED TO	R58	75.	12.07	5.	1.	1.	.04
+	HYDROGRAPH AT	445	296.	12.03	18.	5.	2.	.19
+	2 COMBINED AT	C107	365.	12.03	22.	6.	3.	.23
+	ROUTED TO	R107	365.	12.07	22.	6.	3.	.23
+	HYDROGRAPH AT	RTB2	96.	12.07	7.	2.	1.	.09
+	ROUTED TO	RSPLIT	95.	12.07	7.	2.	1.	.09
	HYDROGRAPH AT	446	65.	12.03	6.	2.	1.	.04
	3 COMBINED AT	C109	520.	12.07	35.	9.	4.	.27
+	DIVERSION TO	WSH404	35.	11.73	8.	2.	1.	.27
+	HYDROGRAPH AT	DIV5	485.	12.07	27.	7.	3.	.27

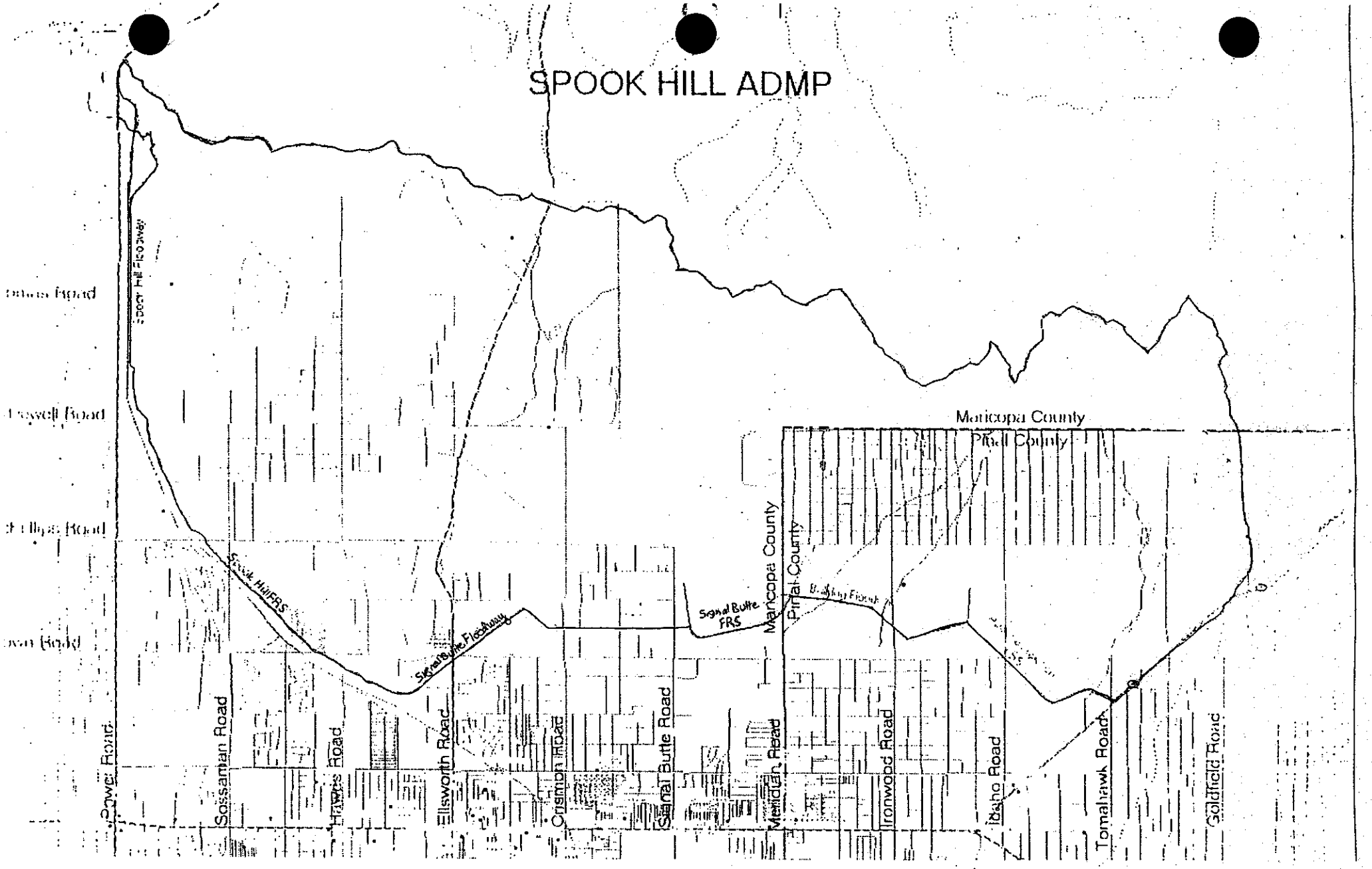
	ROUTED TO	R109	469.	12.10	27.	7.	3.	.27
+	HYDROGRAPH AT	447	138.	12.07	12.	4.	2.	.09
	HYDROGRAPH AT	RT404	35.	11.73	8.	2.	1.	.27
	ROUTED TO	R404	35.	11.90	8.	2.	1.	.27
+	3 COMBINED AT	C110	635.	12.07	46.	13.	6.	.36
+	ROUTED TO	R110	632.	12.10	46.	13.	6.	.36
+	2 COMBINED AT	C115	764.	12.10	59.	17.	8.	.63
+	ROUTED TO	R115	767.	12.10	59.	17.	8.	.63
+	HYDROGRAPH AT	448	88.	12.03	6.	2.	1.	.05
+	HYDROGRAPH AT	449	80.	12.03	5.	1.	1.	.05
+	2 COMBINED AT	C6364	166.	12.03	11.	3.	1.	.09
+	ROUTED TO	R6364	137.	12.17	11.	3.	1.	.09
+	HYDROGRAPH AT	450	65.	12.10	8.	2.	1.	.07
+	HYDROGRAPH AT	451	19.	12.10	3.	1.	0.	.03
+	HYDROGRAPH AT	RT66	78.	11.90	12.	3.	2.	.08
+	HYDROGRAPH AT	452	62.	12.03	4.	1.	1.	.04
+	2 COMBINED AT	C6465	140.	12.03	16.	4.	2.	.04
+	ROUTED TO	R6566	135.	12.10	16.	4.	2.	.04
	4 COMBINED AT	C116	345.	12.13	37.	10.	5.	.23
	ROUTED TO	BASIN5	159.	12.43	37.	10.	5.	.23
+	ROUTED TO	R116	158.	12.53	37.	10.	5.	.23
+	HYDROGRAPH AT	453	63.	12.10	7.	2.	1.	.06
+	2 COMBINED AT	C117	179.	12.47	44.	12.	6.	.29
+	2 COMBINED AT	C118	859.	12.10	102.	29.	14.	.92
+	ROUTED TO	R118	849.	12.10	102.	29.	14.	.92
+	DIVERSION TO	BASIN6	247.	12.10	10.	3.	1.	.92
+	HYDROGRAPH AT	DIV7	602.	12.10	91.	26.	13.	.92
+	HYDROGRAPH AT	RTDIV7	247.	12.10	10.	3.	1.	.92
+	ROUTED TO	RFDIV7	1.	11.97	1.	1.	1.	.92
+	2 COMBINED AT	CDIV7	603.	12.10	92.	27.	14.	.92
+	HYDROGRAPH AT	454	160.	12.17	23.	7.	3.	.18
+	2 COMBINED AT	C119	755.	12.13	115.	34.	17.	1.10
+	ROUTED TO	R454	730.	12.20	114.	34.	17.	1.10
+	HYDROGRAPH AT	415	583.	12.17	83.	24.	12.	.61
	HYDROGRAPH AT	RT385	364.	12.13	49.	14.	7.	.52
	ROUTED TO	RR385	324.	12.47	49.	14.	7.	.52
+	3 COMBINED AT	415C	1508.	12.20	243.	72.	35.	1.71
+	ROUTED TO	R415	1488.	12.23	243.	72.	35.	1.71

HYDROGRAPH AT	455	1346.	12.13	142.	43.	21.	1.11
DIVERSION TO	BS455	1346.	12.13	137.	37.	18.	1.11
HYDROGRAPH AT	D455	55.	12.77	16.	6.	3.	1.11
HYDROGRAPH AT	RT455	1346.	12.13	137.	37.	18.	1.11
ROUTED TO	SR455	25.	10.47	25.	25.	18.	1.11
2 COMBINED AT	C455	80.	12.77	41.	31.	21.	1.11
3 COMBINED AT	455C	6792.	12.37	1387.	527.	328.	13.69
ROUTED TO	SR440	812.	13.83	796.	527.	327.	13.69
ROUTED TO	RR455	812.	14.13	796.	527.	325.	13.69
HYDROGRAPH AT	456	468.	12.07	35.	10.	5.	.26
DIVERSION TO	BASIN1	184.	12.07	8.	2.	1.	.26
HYDROGRAPH AT	DIV1	284.	12.07	27.	8.	4.	.26
DIVERSION TO	WA30	58.	12.07	10.	3.	2.	.26
HYDROGRAPH AT	DIV2	226.	12.07	18.	4.	2.	.26
ROUTED TO	R456	213.	12.13	18.	4.	2.	.26
HYDROGRAPH AT	457	264.	12.07	20.	5.	3.	.19
2 COMBINED AT	C101	462.	12.10	38.	10.	5.	.45
DIVERSION TO	BASIN2	165.	12.10	7.	2.	1.	.45
HYDROGRAPH AT	DIV3	297.	12.10	30.	8.	4.	.45
HYDROGRAPH AT	RTDIV3	165.	12.10	7.	2.	1.	.45
ROUTED TO	RFDIV3	2.	11.90	2.	2.	1.	.45
2 COMBINED AT	CDIV3	299.	12.10	32.	9.	5.	.45
ROUTED TO	R101	297.	12.10	32.	9.	5.	.45
HYDROGRAPH AT	458	356.	12.03	25.	7.	3.	.19
2 COMBINED AT	C103	635.	12.07	56.	16.	8.	.64
ROUTED TO	R103	630.	12.07	56.	16.	8.	.64
HYDROGRAPH AT	RT30	58.	12.07	10.	3.	2.	.26
ROUTED TO	R30	57.	12.10	10.	3.	2.	.26
HYDROGRAPH AT	RTB1	184.	12.07	8.	2.	1.	.26
ROUTED TO	B1	37.	12.23	8.	2.	1.	.26
ROUTED TO	RB1	37.	12.30	8.	2.	1.	.26
2 COMBINED AT	CDIV	86.	12.20	17.	5.	3.	.12
HYDROGRAPH AT	459	44.	12.03	3.	1.	0.	.03
2 COMBINED AT	C52	113.	12.10	20.	6.	3.	.15
ROUTED TO	R52	112.	12.17	20.	6.	3.	.15
HYDROGRAPH AT	460	214.	12.07	19.	6.	3.	.14
2 COMBINED AT	C102	313.	12.07	39.	12.	6.	.29
ROUTED TO	BASIN3	71.	12.63	39.	12.	6.	.29

+	ROUTED TO	R3	71.	12.77	39.	12.	6.	.29
+	HYDROGRAPH AT	461	161.	12.10	17.	5.	2.	.12
+	2 COMBINED AT	C104	213.	12.10	55.	17.	8.	.41
+	2 COMBINED AT	C106	835.	12.07	110.	32.	16.	1.05
+	ROUTED TO	R106	797.	12.13	110.	32.	16.	1.05
+	HYDROGRAPH AT	462	538.	12.07	40.	11.	5.	.30
+	2 COMBINED AT	C56	1254.	12.10	149.	42.	21.	1.35
+	HYDROGRAPH AT	480	1050.	12.10	96.	29.	14.	.73
+	DIVERSION TO	BS480	455.	11.90	27.	8.	4.	.73
+	HYDROGRAPH AT	D480	1050.	12.10	78.	21.	10.	.73
+	HYDROGRAPH AT	RT480	455.	11.90	27.	8.	4.	.73
+	ROUTED TO	SR480	6.	3.90	6.	6.	4.	.73
+	2 COMBINED AT	C480	1056.	12.10	84.	27.	14.	.73
+	3 COMBINED AT	480C	2603.	12.10	982.	612.	369.	2.09
+	ROUTED TO	RR480	2519.	12.13	980.	612.	369.	2.09
+	HYDROGRAPH AT	500	1073.	12.27	122.	33.	16.	.93
+	2 COMBINED AT	500C	3408.	12.17	1091.	640.	383.	3.02

*** NORMAL END OF HEC-1 ***

SPOOK HILL ADMP



HEC-1 Future Conditions 100-year, 6-hour storm

```
1****************************************
*                                      *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *
*              JUN  1998               *
*            VERSION 4.1               *
*                                      *
*  RUN DATE   10JUL00  TIME  12:50:26  *
*                                      *
****************************************
```

```
****************************************
*                                      *
*    U.S. ARMY CORPS OF ENGINEERS      *
*    HYDROLOGIC ENGINEERING CENTER     *
*          609 SECOND STREET           *
*       DAVIS, CALIFORNIA 95616        *
*           (916) 756-1104             *
*                                      *
****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X              X
XXXXXXX  XXXX     X        XXXXX X
X     X  X        X              X
X     X  X        X     X        X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
1                                    HEC-1 INPUT                                                    PAGE  1

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID   EXISTING LAND USE CALCULATIONS WERE BASED ON 1 YR. FROM 11/5/99
  2           ID   FOR LAS SENDAS       AND LANDISCOR JAN.1999 AERIAL PHOTOGPRAPHS
  3           ID
  4           ID   ALL DAMS WERE ANALYZED WITH NO STORAGE BELOW PRINCIPLE SPILLWAY ELEVATIONS
  5           ID
  6           ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
  7           ID   PRECIPITATION VALUES
  8           ID
  9           ID   ALL CHANNEL ROUTING INFORMATION WAS OBTAINED FROM MCFCD SPOOK HILL   SIGNAL
 10           ID   BUTTE        AND BULLDOG FLOODWAY PLANS
 11           ID
 12           ID   FUTURE CONDITION  6-HOUR, 100-YEAR STORM MODEL.
 13           ID
 14           ID   ANALYSIS PERFORMED BY WOOD/PATEL; MW;        06/30/00  FILE:  S6CF37.DAT
 15           ID
 16           ID   DDM MCUHP1 SPOOK HILL AMDP - FUTURE CONDITIONS 100 YEAR, 6 HOUR STORM
              *DIAGRAM
 17           IT       2                    1500
 18           IO       3
 19           IN      15
 20           JD    3.15    0.01
 21           PC    .000    .008    .016    .025    .033    .041    .050    .058    .066    .074
 22           PC    .087    .099    .118    .138    .216    .377    .834    .911    .931    .950
 23           PC    .962    .972    .983    .991   1.000
 24           JD    3.13    0.50
 25           JD    3.09    2.80
 26           PC    .000    .009    .016    .025    .034    .042    .051    .059    .067    .076
 27           PC    .087    .100    .120    .163    .252    .451    .694    .837    .900    .938
 28           PC    .950    .963    .975    .988   1.000
 29           JD    2.90    16.0
 30           PC    .000    .015    .020    .030    .048    .063    .076    .090    .105    .119
 31           PC    .135    .152    .175    .222    .304    .472    .670    .796    .868    .912
 32           PC    .946    .960    .973    .987   1.000
 33           JD    2.55    90.0
 34           PC    .000    .021    .035    .051    .071    .087    .105    .125    .143    .160
 35           PC    .179    .201    .232    .281    .364    .500    .658    .773    .841    .888
 36           PC    .927    .945    .964    .982   1.000
 37           JD    1.80   500.0
 38           PC    .000    .024    .043    .059    .078    .098    .119    .141    .162    .186
 39           PC    .212    .239    .271    .321    .408    .515    .627    .735    .814    .864
 40           PC    .907    .930    .954    .977   1.000
              * DDM   ***** Updated *****

 41           KK      10
 42           KM   SUB-BASIN 10
 43           KM   6-HOUR RAINFALL, PATTERN NO. 1.20 WAS USED TO FIND TC & R FOR THIS BASIN
 44           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
 45           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
 46           BA    .702
 47           LG    .340    .290   7.600    .100  18.000
 48           UC    .400    .285
 49           UA       0       3       5       8      12      20      43      75      90      96
 50           UA     100
              * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                                    PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 51           KK     R10
 52           KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
 53           RS       4    FLOW      -1
 54           RC    .045     .03    .045    8700    .021
 55           RX       0       1       2      17      27      42      43      44
 56           RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****

 57           KK     R12
 58           KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
 59           RS       5    FLOW      -1
 60           RC    .045     .03    .045    4500     .01
 61           RX       0       1      30    37.5    57.5      65      94      95
 62           RY     3.5     2.5     2.5       0       0     2.5     2.5     3.5
              * DDM   ***** Updated *****
```

```
 63          KK      20
 64          KM   SUB-BASIN 20
 65          KM   6-HOUR RAINFALL, PATTERN NO. 1.47 WAS USED TO FIND TC & R FOR THIS BASIN
 66          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .986
 67          KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 68          BA   1.120
 69          LG    .310    .280   5.800    .220  12.000
 70          UC    .629    .432
 71          UA       0       5      16      30      65      77      84      90      94      97
 72          UA     100
             * DDM   ***** Preserved *****

 73          KK     C20
 74          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 75          HC       2
             * DDM   ***** Updated *****

 76          KK      40
 77          KM   SUB-BASIN 40
 78          KM   6-HOUR RAINFALL, PATTERN NO. 1.87 WAS USED TO FIND TC & R FOR THIS BASIN
 79          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .979
 80          KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
 81          BA   2.233
 82          LG    .310    .280   4.900    .320  14.000
 83          UC    .542    .291
 84          UA       0       5      16      30      65      77      84      90      94      97
 85          UA     100
             * DDM   ***** Updated *****

 86          KK      60
 87          KM   SUB-BASIN 60
 88          KM   6-HOUR RAINFALL, PATTERN NO. 1.73 WAS USED TO FIND TC & R FOR THIS BASIN
 89          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .982
 90          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
 91          BA   1.746
 92          LG    .320    .340   5.800    .200  13.000
 93          UC    .617    .495
 94          UA       0       3       5       8      12      20      43      75      90      96
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 95          UA     100
             * DDM   ***** Preserved *****

 96          KK     60C
 97          KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1       2
 98          HC       3
             * DDM   ***** Preserved *****

 99          KK    SR60
100          KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
101          KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
102          KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
103          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
104          RS       1    STOR       0
105          SV       0       1     100     200     300     400
106          SQ       0      71      81      87    91.5      94
107          SE    83.5    93.5      96    97.7      99   99.77
             * DDM   ***** Preserved *****

108          KK     R60
109          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
110          RS       3    FLOW      -1
111          RC    .016    .016    .016    2850    .012
112          RX       0       1       2     2.1     5.6     5.7       6       7
113          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Preserved *****

114          KK    RR60
115          KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
116          RS       3    FLOW      -1
117          RC    .016    .016    .016    3500    .005
118          RX       0       1       2     2.1     7.1     7.2       8       9
119          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Updated *****

120          KK      80
121          KM   SUB-BASIN 80
122          KM   6-HOUR RAINFALL, PATTERN NO. 1.63 WAS USED TO FIND TC & R FOR THIS BASIN
123          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .984
124          KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
125          BA   1.475
126          LG    .320    .300   5.600    .240  11.000
127          UC    .454    .272
128          UA       0       5      16      30      65      77      84      90      94      97
129          UA     100
             * DDM   ***** Preserved *****

130          KK     80C
131          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
132          HC       2   1.475
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

133          KK     R80
134          KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
135          RS       1    FLOW      -1
136          RC    .025    .016    .025    1200    .003
137          RX       0       2       6     6.1    41.1    41.2    56.2    58.2
138          RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
             * DDM   ***** Updated *****

139          KK     100
140          KM   SUB-BASIN 100
141          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
142          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
143          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
144          BA    .484
```

```
145          LG    .300    .260   5.100    .310  14.000
146          UC    .488    .428
147          UA       0       5      16      30      65      77      84      90      94      97
148          UA     100
             * DDM   ***** Preserved *****

149          KK    100C
150          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
151          HC       2
             * DDM   ***** Preserved *****

152          KK    R100
153          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
154          RS       1    FLOW      -1
155          RC    .016    .016    .016     940    .005
156          RX       0       1       2     2.1    52.1    52.2      53      54
157          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****

158          KK     120
159          KM   SUB-BASIN 120
160          KM   6-HOUR RAINFALL, PATTERN NO. 1.86 WAS USED TO FIND TC & R FOR THIS BASIN
161          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .979
162          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
163          BA   2.202
164          LG    .330    .270   6.800    .140  16.000
165          UC    .471    .251
166          UA       0       3       5       8      12      20      43      75      90      96
167          UA     100
             * DDM   ***** Preserved *****

168          KK    120C
169          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
170          HC       2
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE  5

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

171          KK    R120
172          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
173          RS       1    FLOW      -1
174          RC    .025    .016    .025    2100    .005
175          RX       0       6      10    10.1    60.1    60.2    74.2    80.2
176          RY       8       5       5       0       0       5       5       8
             * DDM   ***** Updated *****

177          KK     140
178          KM   SUB-BASIN 140
179          KM   6-HOUR RAINFALL, PATTERN NO. 1.10 WAS USED TO FIND TC & R FOR THIS BASIN
180          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
181          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
182          BA    .598
183          LG    .300    .250   4.200    .520  15.000
184          UC    .383    .250
185          UA       0       5      16      30      65      77      84      90      94      97
186          UA     100
             * DDM   ***** Updated *****

187          KK     150
188          KM   SUB-BASIN 150
189          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
190          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
191          KM     L = 1.50  Kb = .047  Adj. Slope =  315.0
192          BA    .408
193          LG    .350    .360   5.100    .260   7.000
194          UC    .267    .197
195          UA       0       3       5       8      12      20      43      75      90      96
196          UA     100
             * DDM   ***** Preserved *****

197          KK    R150
198          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
199          RS       2    FLOW      -1
200          RC    .045     .04    .045    3100    .032
201          RX       0       1       2      23      33      54      55      56
202          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

203          KK    R152
204          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
205          RS       3    FLOW      -1
206          RC    .045     .03    .045    5900    .019
207          RX       0       1       2       8      33      39      40      41
208          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

209          KK     160
210          KM   SUB-BASIN 160
211          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
212          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
213          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
214          BA    .369
1                                    HEC-1 INPUT                                          PAGE  6

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

215          LG    .330    .320   4.150    .460   5.000
216          UC    .533    .588
217          UA       0       3       5       8      12      20      43      75      90      96
218          UA     100
             * DDM   ***** Updated *****

219          KK     180
220          KM   SUB-BASIN 180
221          KM   6-HOUR RAINFALL, PATTERN NO. 1.40 WAS USED TO FIND TC & R FOR THIS BASIN
222          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
223          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
224          BA   1.000
225          LG    .340    .330   4.150    .450   3.000
226          UC    .571    .403
227          UA       0       3       5       8      12      20      43      75      90      96
```

```
228          UA     100
             * DDM   ***** Preserved *****

229          KK    180C
230          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
231          HC       5
             * DDM   ***** Updated *****

232          KK     210
233          KM   SUB-BASIN 210
234          KM   6-HOUR RAINFALL, PATTERN NO. 1.09 WAS USED TO FIND TC & R FOR THIS BASIN
235          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
236          KM     L = 1.84  Kb = .045  Adj. Slope =  315.0
237          BA    .583
238          LG    .350    .340   7.000    .120   6.000
239          UC    .292    .209
240          UA       0       3       5       8      12      20      43      75      90      96
241          UA     100
             * DDM   ***** Preserved *****

242          KK    R210
243          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
244          RS       2    FLOW      -1
245          RC    .045     .03    .045    5100    .022
246          RX       0       1       2      14      34      46      47      48
247          RY       4       4       4       0       0       4       4       4
             * DDM   ***** Updated *****

248          KK     240
249          KM   SUB-BASIN 240
250          KM   6-HOUR RAINFALL, PATTERN NO. 1.60 WAS USED TO FIND TC & R FOR THIS BASIN
251          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .984
252          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
253          BA   1.398
254          LG    .340    .340   5.200    .260   5.000
255          UC    .496    .382
256          UA       0       3       5       8      12      20      43      75      90      96
257          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  7

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

258          KK    240C
259          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
260          HC       2
             * DDM   ***** Preserved *****

261          KK   SR240
262          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
263          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
264          RS       1    STOR       0
265          SA    1.38    14.2    36.5
266          SE     1.7       5      11
267          SS       5      42       3     1.5
             * DDM   ***** Updated *****

268          KK     220
269          KM   SUB-BASIN 220
270          KM   6-HOUR RAINFALL, PATTERN NO. 1.22 WAS USED TO FIND TC & R FOR THIS BASIN
271          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
272          KM     L = 1.92  Kb = .043  Adj. Slope =  315.0
273          BA    .725
274          LG    .340    .300   7.000    .120   7.000
275          UC    .300    .197
276          UA       0       3       5       8      12      20      43      75      90      96
277          UA     100
             * DDM   ***** Preserved *****

278          KK    220C
279          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
280          HC       2
             * DDM   ***** Preserved *****

281          KK   SR220
282          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
283          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
284          RS       1    STOR       0
285          SA     .78     4.1    13.7
286          SE       1       3      10
287          SS       3      65       3     1.5
             * DDM   ***** Updated *****

288          KK     190
289          KM   SUB-BASIN 190
290          KM   6-HOUR RAINFALL, PATTERN NO. 1.35 WAS USED TO FIND TC & R FOR THIS BASIN
291          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .988
292          KM     L = 1.91  Kb = .042  Adj. Slope =  315.0
293          BA    .918
294          LG    .350    .390   5.800    .190   8.000
295          UC    .317    .182
296          UA       0       3       5       8      12      20      43      75      90      96
297          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE  8

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

298          KK    R190
299          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
300          RS       2    FLOW      -1
301          RC    .045     .03    .045    4740     .03
302          RX       0       1       2      17      37      52      53      54
303          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

304          KK    R192
305          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
306          RS       2    FLOW      -1
307          RC    .045    .035    .045    2200    .018
308          RX       0       1      50      59      79      88     137     138
```

```
309          RY       4       3       3       0       0       3       3       4
             * DDM   ***** Updated *****

310          KK     200
311          KM   SUB-BASIN 200
312          KM   6-HOUR RAINFALL, PATTERN NO. 1.04 WAS USED TO FIND TC & R FOR THIS BASIN
313          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
314          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
315          BA    .535
316          LG    .350    .380   5.700    .200  11.000
317          UC    .271    .179
318          UA       0       3       5       8      12      20      43      75      90      96
319          UA     100
             * DDM   ***** Preserved *****

320          KK    200C
321          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
322          HC       3
             * DDM   ***** Preserved *****

323          KK   SR200
324          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
325          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
326          RS       1    STOR       0
327          SA    2.56     3.1     9.4
328          SE       0       3      10
329          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

330          KK   200SR
331          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
332          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
333          RS       1    STOR       0
334          SA       8     9.2     9.2
335          SE       0       7      10
336          SS       7     251       3     1.5
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                                    PAGE  9

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

337          KK    C180
338          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             *      1       2
339          HC       2
             * DDM   ***** Preserved *****

340          KK   SR180
341          KM   SIGNAL BUTTE FRS DATED 1/28/85
342          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
343          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
344          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
345          RS       1    STOR       0
346          SV       0       1     250     500     750    1060
347          SQ       0   106.5   125.5   137.5     146     160
348          SE      90     101   104.5     107     109   112.4
             * DDM   ***** Preserved *****

349          KK    R180
350          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
351          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
352          RS       3    FLOW      -1
353          RC    .035    .025    .035    1500    .003
354          RX       0       1       2    22.6    38.6    59.2      60      61
355          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

356          KK     260
357          KM   SUB-BASIN 260
358          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
359          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
360          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
361          BA    .267
362          LG    .320    .240   6.800    .150   9.000
363          UC    .329    .193
364          UA       0       5      16      30      65      77      84      90      94      97
365          UA     100
             * DDM   ***** Preserved *****

366          KK    260C
367          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
368          HC       2    .267
             * DDM   ***** Preserved *****

369          KK    R260
370          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
371          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
372          RS       2    FLOW      -1
373          RC    .035    .025    .035    2300    .003
374          RX       0       1       2    23.4    43.4    64.8      65      66
375          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                                    PAGE 10

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

376          KK     280
377          KM   SUB-BASIN 280
378          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
379          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
380          KM     L =  .77  Kb = .049  Adj. Slope =   84.0
381          BA    .304
382          LG    .300    .250   5.300    .290  15.000
383          UC    .296    .153
384          UA       0       5      16      30      65      77      84      90      94      97
385          UA     100
             * DDM   ***** Preserved *****

386          KK    280C
387          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
388          HC       2
```

```
          * DDM   ***** Preserved *****

389       KK    R280
390       KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
391       KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
392       RS       2    FLOW      -1
393       RC    .035    .025    .035    2500    .003
394       RX       0       1       2    23.4    43.4    64.8      65      66
395       RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
          * DDM   ***** Updated *****

396       KK     300
397       KM   SUB-BASIN 300
398       KM   6-HOUR RAINFALL, PATTERN NO. 1.39 WAS USED TO FIND TC & R FOR THIS BASIN
399       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
400       KM     L = 2.28  Kb = .041  Adj. Slope =  127.0
401       BA    .988
402       LG    .320    .290   4.500    .400  12.000
403       UC    .533    .359
404       UA       0       5      16      30      65      77      84      90      94      97
405       UA     100
          * DDM   ***** Preserved *****

406       KK    300C
407       KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
408       HC       2
          * DDM   ***** Preserved *****

409       KK    R300
410       KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
411       KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
412       RS       2    FLOW      -1
413       RC    .035    .025    .035    2200    .003
414       RX       0       1       2    23.4    55.4    76.8      77      78
415       RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
          * DDM   ***** Preserved *****
```



```
LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

416       KK   RR300
417       KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
418       KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
419       RS       2    FLOW      -1
420       RC    .016    .016    .016    6050   .0146
421       RX       0       1       2     2.1    16.1    16.2      17      18
422       RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
          *        1       2
          * DDM   ***** Updated *****

423       KK     350
424       KM   SUB-BASIN 350
425       KM   6-HOUR RAINFALL, PATTERN NO. 1.38 WAS USED TO FIND TC & R FOR THIS BASIN
426       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
427       KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
428       BA    .970
429       LG    .350    .350   4.550    .340   4.000
430       UC    .367    .234
431       UA       0       3       5       8      12      20      43      75      90      96
432       UA     100
          * DDM   ***** Preserved *****

433       KK    D350
434       KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
435       KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
436       DT   SF350
437       DI       0    5000
438       DQ       0    2500
          * DDM   ***** Preserved *****

439       KK    350R
440       KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
441       KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
442       RS       5    FLOW      -1
443       RC    .045    .035    .045    5150    .025
444       RX       0       1      40      46      56      62     102     103
445       RY       3       2       2       0       0       2       2       3
          * DDM   ***** Updated *****

446       KK     310
447       KM   SUB-BASIN 310
448       KM   6-HOUR RAINFALL, PATTERN NO. 1.06 WAS USED TO FIND TC & R FOR THIS BASIN
449       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
450       KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
451       BA    .555
452       LG    .350    .340   3.910    .490   1.000
453       UC    .446    .467
454       UA       0       3       5       8      12      20      43      75      90      96
455       UA     100
          * DDM   ***** Preserved *****
```



```
LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

456       KK    C310
457       KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
458       HC       2    .943
          * DDM   ***** Preserved *****

459       KK    R310
460       KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
461       KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
462       RS       9    FLOW      -1
463       RC    .045    .035    .045   10050    .022
464       RX       0       1      40      46      56      62     102     103
465       RY     3.5       2       2       0       0       2       2     3.5
          * DDM   ***** Updated *****

466       KK     320
467       KM   SUB-BASIN 320
468       KM   6-HOUR RAINFALL, PATTERN NO. 1.39 WAS USED TO FIND TC & R FOR THIS BASIN
```

```
469          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
470          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
471          BA    .972
472          LG    .290    .260   4.550    .400  20.000
473          UC    .504    .330
474          UA       0       5      16      30      65      77      84      90      94      97
475          UA     100
             * DDM   ***** Preserved *****

476          KK    D320
477          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
478          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
479          KM   SIERRA HEIGHTS        FALCON RIDGE    & MARBLE CREEK
480          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
481          DT   BS320   12.27
482          DI       0   10000
483          DQ       0   10000
             * DDM   ***** Preserved *****

484          KK   RT320
485          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
486          DR   BS320
             * DDM   ***** Preserved *****

487          KK   SR320
488          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
489          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
490          RS       1    STOR       0
491          SV       0     .01    12.3
492          SQ       0     4.2     4.2
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 13

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

493          KK    C320
494          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
495          HC       4
             * DDM   ***** Updated *****

496          KK     340
497          KM   SUB-BASIN 340
498          KM   6-HOUR RAINFALL, PATTERN NO. 1.62 WAS USED TO FIND TC & R FOR THIS BASIN
499          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .984
500          KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
501          BA   1.449
502          LG    .280    .280   4.150    .520  21.000
503          UC    .538    .303
504          UA       0       5      16      30      65      77      84      90      94      97
505          UA     100
             * DDM   ***** Preserved *****

506          KK    D340
507          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
508          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
509          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
510          KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *      1
511          DT   BS340      56
512          DI       0   10000
513          DQ       0   10000
             * DDM   ***** Preserved *****

514          KK   RT340
515          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
516          DR   BS340
             * DDM   ***** Preserved *****

517          KK   SR340
518          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
519          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
520          RS       1    STOR       0
521          SV       0     .01      56
522          SQ       0    18.9    18.9
             * DDM   ***** Preserved *****

523          KK    C340
524          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
525          HC       3
             * DDM   ***** Preserved *****

526          KK   RT350
527          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
528          DR   SF350
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 14

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

529          KK   RR350
530          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
531          KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
532          RS       6    FLOW      -1
533          RC    .045    .035    .045    6050    .025
534          RX       0       1      40      46      56      62     102     103
535          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

536          KK     355
537          KM   SUB-BASIN 355
538          KM   6-HOUR RAINFALL, PATTERN NO. 1.16 WAS USED TO FIND TC & R FOR THIS BASIN
539          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
540          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
541          BA    .659
542          LG    .340    .330   4.450    .370   5.000
543          UC    .463    .480
544          UA       0       3       5       8      12      20      43      75      90      96
545          UA     100
```

```
          * DDM   ***** Preserved *****

546       KK    C355
547       KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
548       HC       2    1.24
          * DDM   ***** Preserved *****

549       KK    R355
550       KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
551       KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
552       RS       9    FLOW      -1
553       RC    .045    .035    .045   10100    .026
554       RX       0       1      40      46      56      62     102     103
555       RY       3       2       2       0       0       2       2       3
          * DDM   ***** Updated *****

556       KK     360
557       KM   SUB-BASIN 360
558       KM   6-HOUR RAINFALL, PATTERN NO. 1.17 WAS USED TO FIND TC & R FOR THIS BASIN
559       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
560       KM     L = 2.10  Kb = .048  Adj. Slope =  124.0
561       BA    .670
562       LG    .260    .270   4.100    .560  20.000
563       UC    .550    .433
564       UA       0       5      16      30      65      77      84      90      94      97
565       UA     100
          * DDM   ***** Preserved *****

566       KK    D360
567       KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
568       KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
569       KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
          *      1
570       DT   BS360    28.6
571       DI       0   10000
                                        HEC-1 INPUT                                                    PAGE 15
1

LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

572       DQ       0   10000
          * DDM   ***** Preserved *****

573       KK   RT360
574       KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
575       DR   BS360
          * DDM   ***** Preserved *****

576       KK   SR360
577       KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
578       KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
579       RS       1    STOR       0
580       SV       0     .01    28.6
581       SQ       0     9.6     9.6
          * DDM   ***** Preserved *****

582       KK    360C
583       KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
584       HC       4
          * DDM   ***** Updated *****

585       KK     370
586       KM   SUB-BASIN 370
587       KM   6-HOUR RAINFALL, PATTERN NO. 1.17 WAS USED TO FIND TC & R FOR THIS BASIN
588       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
589       KM     L = 2.90  Kb = .044  Adj. Slope =  294.6
590       BA    .667
591       LG    .330    .310   4.650    .340  11.000
592       UC    .433    .432
593       UA       0       3       5       8      12      20      43      75      90      96
594       UA     100
          * DDM   ***** Updated *****

595       KK     395
596       KM   SUB-BASIN 395
597       KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
598       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
599       KM     L = 1.60  Kb = .051  Adj. Slope =  215.8
600       BA    .198
601       LG    .300    .250   4.900    .350  20.000
602       UC    .342    .412
603       UA       0       5      16      30      65      77      84      90      94      97
604       UA     100
          * DDM   ***** Preserved *****

605       KK    370C
606       KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
607       HC       2
          * DDM   ***** Preserved *****
                                        HEC-1 INPUT                                                    PAGE 16
1

LINE      ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

608       KK    R370
609       KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
610       KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
611       RS      10    FLOW      -1
612       RC    .045    .035    .045   10250    .023
613       RX       0       1      40      46      56      62     102     103
614       RY       3       2       2       0       0       2       2       3
          * DDM   ***** Updated *****

615       KK     380
616       KM   SUB-BASIN 380
617       KM   6-HOUR RAINFALL, PATTERN NO. 1.39 WAS USED TO FIND TC & R FOR THIS BASIN
618       KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
619       KM     L = 2.20  Kb = .048  Adj. Slope =  114.0
620       BA    .972
621       LG    .300    .310   4.150    .500   7.000
622       UC    .654    .441
623       UA       0       5      16      30      65      77      84      90      94      97
624       UA     100
          * DDM   ***** Preserved *****
```

```
625          KK    D380
626          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
627          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
628          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
629          DT   BS380    28.6
630          DI       0   10000
631          DQ       0   10000
             * DDM   ***** Preserved *****

632          KK   RT380
633          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
634          DR   BS380
             * DDM   ***** Preserved *****

635          KK   SR380
636          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
637          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
638          RS       1    STOR       0
639          SV       0     .01    28.6
640          SQ       0     9.6     9.6
             * DDM   ***** Preserved *****

641          KK    380C
642          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
643          HC       4
             * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                    PAGE 17

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

644          KK     390
645          KM   SUB-BASIN 390
646          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
647          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
648          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
649          BA    .244
650          LG    .300    .250   4.700    .380  18.000
651          UC    .188    .097
652          UA       0       5      16      30      65      77      84      90      94      97
653          UA     100
             * DDM   ***** Preserved *****

654          KK    D390
655          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
656          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
657          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
658          DT   BS390     3.5
659          DI       0   10000
660          DQ       0   10000
             * DDM   ***** Preserved *****

661          KK   RT390
662          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
663          DR   BS390
             * DDM   ***** Preserved *****

664          KK   SR390
665          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
666          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
667          RS       1    STOR       0
668          SV       0     .01     3.5
669          SQ       0     1.2     1.2
             * DDM   ***** Preserved *****

670          KK    390C
671          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
672          HC       2
             * DDM   ***** Preserved *****

673          KK   RR390
674          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
675          KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
676          RS      11    FLOW      -1
677          RC    .045    .045    .045    8800    .020
678          RX       0       1      40      46      56      62     102     103
679          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                    PAGE 18

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

680          KK     400
681          KM   SUB-BASIN 400
682          KM   6-HOUR RAINFALL, PATTERN NO. 1.12 WAS USED TO FIND TC & R FOR THIS BASIN
683          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
684          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
685          BA    .616
686          LG    .320    .320   3.130    .930   6.000
687          UC    .550    .373
688          UA       0       5      16      30      65      77      84      90      94      97
689          UA     100
             * DDM   ***** Preserved *****

690          KK    D400
691          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
692          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
693          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
694          DT   BS400     5.6
695          DI       0   10000
696          DQ       0   10000
             * DDM   ***** Preserved *****

697          KK   RT400
698          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
699          DR   BS400
             * DDM   ***** Preserved *****
```

```
700          KK   SR400
701          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
702          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
703          RS       1    STOR       0
704          SV       0     .01     5.6
705          SQ       0       2       2
             * DDM   ***** Preserved *****

706          KK    C400
707          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
708          HC       2
             * DDM   ***** Preserved *****

709          KK    400C
710          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
711          HC       3
             * DDM   ***** Updated *****

712          KK     385
713          KM   SUB-BASIN 385
714          KM   6-HOUR RAINFALL, PATTERN NO. 1.03 WAS USED TO FIND TC & R FOR THIS BASIN
715          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
716          KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
717          BA    .523
718          LG    .310    .260   5.600    .250  24.000
719          UC    .342    .316
720          UA       0       5      16      30      65      77      84      90      94      97
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

721          UA     100
             * DDM   ***** Preserved *****

722          KK    D385
723          KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
724          DT   SF385
725          DI       0    5000
726          DQ       0    3000
             * DDM   ***** Preserved *****

727          KK    385R
728          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
729          KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385 INTO SUB-BASIN 420
730          RS      19    FLOW      -1
731          RC    .045     .04    .045   10250    .022
732          RX       0       1      40      46      56      62     102     103
733          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

734          KK     420
735          KM   SUB-BASIN 420
736          KM   6-HOUR RAINFALL, PATTERN NO. 1.31 WAS USED TO FIND TC & R FOR THIS BASIN
737          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .989
738          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
739          BA    .849
740          LG    .310    .270   3.880    .580  12.000
741          UC    .504    .319
742          UA       0       5      16      30      65      77      84      90      94      97
743          UA     100
             * DDM   ***** Preserved *****

744          KK    D420
745          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
746          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
747          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
748          DT   BS420    8.65
749          DI       0   10000
750          DQ       0   10000
             * DDM   ***** Preserved *****

751          KK   RT420
752          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
753          DR   BS420
             * DDM   ***** Preserved *****

754          KK   SR420
755          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
756          KM   38.55 ACRE-FEETx43560/36x3600=13cfs
757          RS       1    STOR       0
758          SV       0     .01   38.55
759          SQ       0      13      13
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

760          KK    420C
761          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
762          HC       4   10.87
             * DDM   ***** Updated *****

763          KK     440
764          KM   SUB-BASIN 440
765          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
766          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
767          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
768          BA    .080
769          LG    .190    .380   6.400    .140  13.000
770          UC    .121    .072
771          UA       0       3       5       8      12      20      43      75      90      96
772          UA     100
             * DDM   ***** Preserved *****

773          KK     R70
774          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
775          RS       1    FLOW      -1
776          RC     .05    .035     .05    2250     .08
777          RX    1000    1025    1050    1070    1075    1095    1120    1145
778          RY      30    22.9    15.7      10      10    15.7    22.9      30
             * DDM   ***** Updated *****
```

```
 779          KK     441
 780          KM   SUB-BASIN 441
 781          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 782          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 783          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
 784          BA    .010
 785          LG    .300    .250   5.600    .220   5.000
 786          UC    .138    .204
 787          UA       0       5      16      30      65      77      84      90      94      97
 788          UA     100
              * DDM   ***** Preserved *****

 789          KK    C108
 790          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
 791          HC       2
              * DDM   ***** Preserved *****

 792          KK    DIV4
 793          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
              *      1
 794          DT   SPLIT
 795          DI       0      14      40      82     120     154     180
 796          DQ       0       7      20      41      60      77      90
              * DDM   ***** Preserved *****
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 797          KK    R108
 798          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
 799          RS       2    FLOW      -1
 800          RC     .05    .035     .05    3200      .1
 801          RX    1000    1025    1050    1070    1075    1095    1120    1145
 802          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

 803          KK     442
 804          KM   SUB-BASIN 442
 805          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 806          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 807          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
 808          BA    .100
 809          LG    .300    .270   3.290    .770   5.000
 810          UC    .229    .231
 811          UA       0       5      16      30      65      77      84      90      94      97
 812          UA     100
              * DDM   ***** Preserved *****

 813          KK     C67
 814          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
 815          HC       2
              * DDM   ***** Preserved *****

 816          KK    DIV6
 817          KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
 818          KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
              *      1
 819          DT  BASIN4
 820          DI       0      10      32      44    79.9   132.5     198   272.9   356.8
 821          DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
              * DDM   ***** Preserved *****

 822          KK  RTDIV6
 823          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
 824          DR  BASIN4
              * DDM   ***** Preserved *****

 825          KK  RFDIV6
 826          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 827          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
              *      1
 828          RS       1    STOR       0
 829          SV       0     .01     3.3
 830          SQ       0     1.1     1.1
              * DDM   ***** Preserved *****

 831          KK   CDIV6
 832          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
 833          HC       2
              * DDM   ***** Updated *****
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 834          KK     443
 835          KM   SUB-BASIN 443
 836          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 837          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 838          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
 839          BA    .080
 840          LG    .250    .190   8.000    .080  10.000
 841          UC    .179    .176
 842          UA       0       5      16      30      65      77      84      90      94      97
 843          UA     100
              * DDM   ***** Preserved *****

 844          KK   DIV66
 845          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
 846          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
 847          DT   WSH66
 848          DI       0      78     100     200
 849          DQ       0      78      78      78
              * DDM   ***** Preserved *****

 850          KK    R113
 851          KM        ROUTE FLOW FROM C113 TO C114
 852          RS       1    FLOW      -1
 853          RC    .019    .019    .019    1300    .029
 854          RX    1000    1004    1008    1012    1018    1022    1026    1030
 855          RY      17   15.33   12.67      10      10   12.67   15.33      17
```

```
            * DDM   ***** Preserved *****

 856        KK    C114
 857        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
 858        HC       2
            * DDM   ***** Updated *****

 859        KK     444
 860        KM   SUB-BASIN 444
 861        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 862        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 863        KM     L =  .33  Kb = .034  Adj. Slope =  315.0
 864        BA    .040
 865        LG    .130    .350   4.450    .320   1.000
 866        UC    .104    .078
 867        UA       0       3       5       8      12      20      43      75      90      96
 868        UA     100
            * DDM   ***** Preserved *****

 869        KK     R58
 870        KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
 871        RS       2    FLOW      -1
 872        RC     .05    .035     .05    2370   .0516
 873        RX    1000    1010    1020    1050    1055    1085    1095    1105
 874        RY      19      18      17      10      10      17      18      19
            * DDM   ***** Updated *****
1                                       HEC-1 INPUT                                          PAGE 23

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 875        KK     445
 876        KM   SUB-BASIN 445
 877        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 878        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
 879        KM     L =  .82  Kb = .036  Adj. Slope =  315.0
 880        BA    .190
 881        LG    .170    .320   3.470    .590   3.000
 882        UC    .171    .114
 883        UA       0       5      16      30      65      77      84      90      94      97
 884        UA     100
            * DDM   ***** Preserved *****

 885        KK    C107
 886        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
 887        HC       2
            * DDM   ***** Preserved *****

 888        KK    R107
 889        KM        ROUTE FLOW FROM C107 TO C109
 890        RS       1    FLOW      -1
 891        RC     .05    .035     .05     700   .0516
 892        RX    1000    1010    1020    1050    1055    1085    1095    1105
 893        RY      19      18      17      10      10      17      18      19
            * DDM   ***** Preserved *****

 894        KK    RTB2
 895        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1
 896        DR   SPLIT
            * DDM   ***** Preserved *****

 897        KK  RSPLIT
 898        KM        ROUTE FLOW FROM SPLIT TO C109
 899        RS       1    FLOW      -1
 900        RC     .05    .035     .05     800     .05
 901        RX    1000    1025    1050    1070    1075    1095    1120    1145
 902        RY      30    22.9    15.7      10      10    15.7    22.9      30
            * DDM   ***** Updated *****

 903        KK     446
 904        KM   SUB-BASIN 446
 905        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 906        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 907        KM     L =  .46  Kb = .061  Adj. Slope =  303.9
 908        BA    .040
 909        LG    .270    .250   4.500    .400  19.000
 910        UC    .167    .170
 911        UA       0       5      16      30      65      77      84      90      94      97
 912        UA     100
            * DDM   ***** Preserved *****
1                                       HEC-1 INPUT                                          PAGE 24

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 913        KK    C109
 914        KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
 915        HC       3
            * DDM   ***** Preserved *****

 916        KK    DIV5
 917        KM        DIVERT FLOW INTO WASHES TOWARDS WEST
 918        KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
            *      1
 919        DT  WSH404
 920        DI       0    40.7    71.2   121.6     190     276   379.4   500.6
 921        DQ       0      35      35      35      35      35      35      35
            * DDM   ***** Preserved *****

 922        KK    R109
 923        KM        ROUTE FLOW FROM C109 TO C110
 924        RS       1    FLOW      -1
 925        RC    .019    .019    .019    3080     .05
 926        RX    1000    1005    1010    1015    1025    1030    1035    1040
 927        RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
            * DDM   ***** Updated *****

 928        KK     447
 929        KM   SUB-BASIN 447
 930        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 931        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 932        KM     L =  .49  Kb = .056  Adj. Slope =  221.0
```

```
 933          BA    .090
 934          LG    .250    .270   3.350    .870  30.000
 935          UC    .188    .129
 936          UA      0       5      16      30      65      77      84      90      94      97
 937          UA     100
              * DDM   ***** Preserved *****

 938          KK   RT404
 939          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
 940          DR  WSH404
              * DDM   ***** Preserved *****

 941          KK    R404
 942          KM        ROUTE FLOW FROM C110 TO C110
 943          RS       6    FLOW      -1
 944          RC    .019    .019    .019    3540     .03
 945          RX    1000    1012    1016    1020    1025    1029    1033    1045
 946          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

 947          KK    C110
 948          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
 949          HC       3
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                PAGE 25

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 950          KK    R110
 951          KM        ROUTE FLOW FROM C110 TO C115
 952          RS       1    FLOW      -1
 953          RC    .019    .019    .019     580   .0291
 954          RX    1000    1012    1016    1020    1035    1039    1043    1055
 955          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

 956          KK    C115
 957          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
 958          HC       2
              * DDM   ***** Preserved *****

 959          KK    R115
 960          KM        ROUTE FLOW FROM C115 TO C119
 961          RS       1    FLOW      -1
 962          RC    .019    .019    .019    2125    .029
 963          RC    .019    .019    .019     580   .0291
 964          RX    1000    1012    1016    1020    1035    1039    1043    1055
 965          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

 966          KK     448
 967          KM   SUB-BASIN 448
 968          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 969          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 970          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
 971          BA    .045
 972          LG    .170    .310   4.200    .390  11.000
 973          UC    .121    .092
 974          UA      0       5      16      30      65      77      84      90      94      97
 975          UA     100
              * DDM   ***** Updated *****

 976          KK     449
 977          KM   SUB-BASIN 449
 978          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 979          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 980          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
 981          BA    .050
 982          LG    .260    .280   3.500    .640   6.000
 983          UC    .150    .119
 984          UA      0       5      16      30      65      77      84      90      94      97
 985          UA     100
              * DDM   ***** Preserved *****

 986          KK   C6364
 987          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
 988          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                PAGE 26

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 989          KK   R6364
 990          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
 991          RS       3    FLOW      -1
 992          RC     .05     .035     .05    4375   .0333
 993          RX    1000    1027    1053    1080    1090    1117    1143    1170
 994          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

 995          KK     450
 996          KM   SUB-BASIN 450
 997          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
 998          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 999          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1000          BA    .070
1001          LG    .300    .260   3.630    .710  18.000
1002          UC    .254    .323
1003          UA      0       3       5       8      12      20      43      75      90      96
1004          UA     100
              * DDM   ***** Updated *****

1005          KK     451
1006          KM   SUB-BASIN 451
1007          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1008          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1009          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1010          BA    .025
1011          LG    .300    .270   3.290    .910  16.000
1012          UC    .237    .392
1013          UA      0       3       5       8      12      20      43      75      90      96
```

```
1014          UA     100
              * DDM   ***** Preserved *****

1015          KK    RT66
1016          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1017          DR   WSH66
              * DDM   ***** Updated *****

1018          KK     452
1019          KM   SUB-BASIN 452
1020          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1021          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1022          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1023          BA    .040
1024          LG    .260    .280   3.700    .550   9.000
1025          UC    .154    .148
1026          UA       0       5      16      30      65      77      84      90      94      97
1027          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 27

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1028          KK   C6465
1029          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1030          HC       2
              * DDM   ***** Preserved *****

1031          KK   R6566
1032          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1033          RS       2    FLOW      -1
1034          RC     .05    .035     .05    2435   .0282
1035          RX    1000    1045    1090    1150    1160    1220    1265    1310
1036          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1037          KK    C116
1038          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1039          HC       4
              * DDM   ***** Preserved *****

1040          KK  BASIN5
1041          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1042          KM        BASIN 5 FEET DEEP
1043          RS       1    ELEV       0
1044          SV       0     4.5     9.9
1045          SQ       0      69     190
1046          SE       0     2.5       5
              * DDM   ***** Preserved *****

1047          KK    R116
1048          KM   ROUTE FLOW FROM C116 TO C117
1049          RS       2    FLOW      -1
1050          RC     .05    .035     .05    1300   .0333
1051          RX    1000    1100    1200    1300    1320    1420    1520    1620
1052          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1053          KK     453
1054          KM   SUB-BASIN 453
1055          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1056          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1057          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1058          BA    .060
1059          LG    .270    .270   3.290    .910  24.000
1060          UC    .242    .246
1061          UA       0       5      16      30      65      77      84      90      94      97
1062          UA     100
              * DDM   ***** Preserved *****

1063          KK    C117
1064          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1065          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 28

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1066          KK    C118
1067          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1068          HC       2
              * DDM   ***** Preserved *****

1069          KK    R118
1070          KM        ROUTE FLOW FROM C118 TO  DIV7
1071          RS       1    FLOW      -1
1072          RC    .019    .019    .019    1500    .024
1073          RX    1000    1012    1016    1020    1035    1039    1043    1055
1074          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1075          KK    DIV7
1076          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1077          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
              *      1
1078          DT  BASIN6
1079          DI       0     363     487     563     645     844
1080          DQ       0       3      47      83     125     244
              * DDM   ***** Preserved *****

1081          KK  RTDIV7
1082          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1083          DR  BASIN6
              * DDM   ***** Preserved *****

1084          KK  RFDIV7
1085          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1086          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1087          RS       1    STOR       0
1088          SV       0     .01     3.6
1089          SQ       0     1.2     1.2
```

```
                * DDM   ***** Preserved *****

1090            KK   CDIV7
1091            KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1092            HC       2
                * DDM   ***** Updated *****

1093            KK     454
1094            KM   SUB-BASIN 454
1095            KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1096            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1097            KM     L = 1.23  Kb = .052  Adj. Slope =  163.0
1098            BA    .180
1099            LG    .280    .260   3.780    .650  22.000
1100            UC    .338    .348
1101            UA       0       5      16      30      65      77      84      90      94      97
1102            UA     100
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 29

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1103            KK    C119
1104            KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
                *      1       2
1105            HC       2
                * DDM   ***** Preserved *****

1106            KK    R454
1107            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1108            KM   ROUTE FLOW FROM C119 TO 415C
1109            RS       2    FLOW      -1
1110            RC    .045    .035    .045    2200    .009
1111            RX       0      .5       1      33      42      67    67.5      68
1112            RY       5       4       4       0       0       6       6       6
                * DDM   ***** Updated *****

1113            KK     415
1114            KM   SUB-BASIN 415
1115            KM   6-HOUR RAINFALL, PATTERN NO. 1.11 WAS USED TO FIND TC & R FOR THIS BASIN
1116            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
1117            KM     L = 2.58  Kb = .044  Adj. Slope =  298.5
1118            BA    .606
1119            LG    .300    .250   4.500    .430  21.000
1120            UC    .383    .362
1121            UA       0       5      16      30      65      77      84      90      94      97
1122            UA     100
                * DDM   ***** Preserved *****

1123            KK   RT385
1124            KM   RETRIEVE FLOW FROM DIVERSION OF SUB-BASIN 385 INTO SUB-BASIN 415
1125            DR   SF385
                * DDM   ***** Preserved *****

1126            KK   RR385
1127            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1128            KM   ROUTING OF SPLIT FLOW FROM SUB-BASIN 385 TO SUB-BASIN 415
1129            RS       8    FLOW      -1
1130            RC    .045     .04    .045    5878    .024
1131            RX       0       1      40      46      56      62     102     103
1132            RY       3       2       2       0       0       2       2       3
                * DDM   ***** Preserved *****

1133            KK    415C
1134            KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1135            HC       3    1.71
                * DDM   ***** Preserved *****

1136            KK    R415
1137            KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1138            KM   ROUTING OF FLOW FROM 415C TO 455C
1139            RS       2    FLOW      -1
1140            RC    .045     .03    .045    4100    .024
1141            RX       0      .5       1       8      16      23    23.5      24
1142            RY       8       8       8       0       0       8       8       8
                * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                          PAGE 30

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1143            KK     455
1144            KM   SUB-BASIN 455
1145            KM   6-HOUR RAINFALL, PATTERN NO. 1.46 WAS USED TO FIND TC & R FOR THIS BASIN
1146            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .986
1147            KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1148            BA   1.111
1149            LG    .270    .280   3.700    .640  24.000
1150            UC    .425    .206
1151            UA       0       5      16      30      65      77      84      90      94      97
1152            UA     100
                * DDM   ***** Preserved *****

1153            KK    D455
1154            KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1155            KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1156            KM   FOR BASIN #: 30      34      43      47&58
1157            KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
                *      1
1158            DT   BS455    74.1
1159            DI       0   10000
1160            DQ       0   10000
                * DDM   ***** Preserved *****

1161            KK   RT455
1162            KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1163            DR   BS455
                * DDM   ***** Preserved *****

1164            KK   SR455
1165            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1166            KM    74.1 ACRE-FEETx43560/36x3600=25cfs
```

```
1167          RS       1    STOR       0
1168          SV       0     .01    74.1
1169          SQ       0      25      25
              * DDM   ***** Preserved *****

1170          KK    C455
1171          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1172          HC       2
              * DDM   ***** Preserved *****

1173          KK    455C
1174          KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
              *      1       2
1175          HC       3
              * DDM   ***** Preserved *****

1176          KK   SR440
1177          KM   SPOOK HILL FRS PLANS DATED 6/15/77
1178          KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1179          KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1180          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
1181          RS       1    STOR       0
1182          SV       0      10     100     300     500     680
1             HEC-1 INPUT                                                                PAGE 31

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1183          SQ       0     640     720     780     825     860
1184          SE      66    77.5      79    80.2    81.2      82
              * DDM   ***** Preserved *****

1185          KK   RR455
1186          KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 462
1187          RS      10    FLOW      -1
1188          RC    .035    .025    .035    9200    .002
1189          RX       0       1       2      28      58      84      85      86
1190          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1191          KK     456
1192          KM   SUB-BASIN 456
1193          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1194          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
1195          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1196          BA    .260
1197          LG    .300    .380   5.600    .200  12.000
1198          UC    .200    .127
1199          UA       0       5      16      30      65      77      84      90      94      97
1200          UA     100
              * DDM   ***** Preserved *****

1201          KK    DIV1
1202          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1203          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *      1
1204          DT  BASIN1
1205          DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1206          DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
              * DDM   ***** Preserved *****

1207          KK    DIV2
1208          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1209          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1210          DT    WA30
1211          DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1212          DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
              * DDM   ***** Preserved *****

1213          KK    R456
1214          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1215          RS       2    FLOW      -1
1216          RC     .05    .035     .05    3800    .044
1217          RX    1000    1010    1020    1036    1041    1057    1067    1077
1218          RY   14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****

1219          KK     457
1220          KM   SUB-BASIN 457
1221          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1222          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1223          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1224          BA    .190
1             HEC-1 INPUT                                                                PAGE 32

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1225          LG    .270    .330   3.950    .460   6.000
1226          UC    .213    .172
1227          UA       0       5      16      30      65      77      84      90      94      97
1228          UA     100
              * DDM   ***** Preserved *****

1229          KK    C101
1230          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1231          HC       2
              * DDM   ***** Preserved *****

1232          KK    DIV3
1233          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1234          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *      1
1235          DT  BASIN2
1236          DI       0      36      70     110     180   313.5     402   500.9
1237          DQ       0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****

1238          KK  RTDIV3
1239          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1240          DR  BASIN2
              * DDM   ***** Preserved *****

1241          KK  RFDIV3
1242          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
```

```
1243        KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1244        RS       1    STOR       0
1245        SV       0     .01       5
1246        SQ       0     1.7     1.7
            * DDM   ***** Preserved *****

1247        KK   CDIV3
1248        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1249        HC       2
            * DDM   ***** Preserved *****

1250        KK    R101
1251        KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1252        RS       1    FLOW      -1
1253        RC     .05    .035     .05    1450     .05
1254        RX    1000    1010    1020    1036    1041    1057    1067    1077
1255        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1256        KK     458
1257        KM   SUB-BASIN 458
1258        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1259        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1260        KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1261        BA    .190
1262        LG    .290    .330   5.800    .190   6.000
1263        UC    .188    .119
1264        UA       0       5      16      30      65      77      84      90      94      97
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1265        UA     100
            * DDM   ***** Preserved *****

1266        KK    C103
1267        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1268        HC       2
            * DDM   ***** Preserved *****

1269        KK    R103
1270        KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1271        RS       1    FLOW      -1
1272        RC     .05    .035     .05     900     .03
1273        RX    1000    1010    1020    1030    1050    1060    1070    1080
1274        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Preserved *****

1275        KK    RT30
1276        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1277        DR    WA30
            * DDM   ***** Preserved *****

1278        KK     R30
1279        KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1280        RS       1    FLOW      -1
1281        RC     .05    .035     .05    1630     .05
1282        RX    1000    1010    1020    1036    1041    1057    1067    1077
1283        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****

1284        KK    RTB1
1285        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1       2
1286        DR  BASIN1
            * DDM   ***** Preserved *****

1287        KK      B1
1288        KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1289        KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
            *      1       2
1290        RS       1    ELEV       0
1291        SV              .7     1.4     2.3     2.7     3.2
1292        SQ       0       5      16      28    32.5      37
1293        SE       0       1       2       3     3.5       4
            * DDM   ***** Preserved *****

1294        KK     RB1
1295        KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1296        RS       2    FLOW      -1
1297        RC     .05    .035     .05    1720     .05
1298        RX    1000    1010    1020    1036    1041    1057    1067    1077
1299        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1300        KK    CDIV
1301        KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1302        HC       2     .12
            * DDM   ***** Updated *****

1303        KK     459
1304        KM   SUB-BASIN 459
1305        KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1306        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1307        KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1308        BA    .030
1309        LG    .220    .300   3.330    .710   8.000
1310        UC    .146    .139
1311        UA       0       5      16      30      65      77      84      90      94      97
1312        UA     100
            * DDM   ***** Preserved *****

1313        KK     C52
1314        KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1315        HC       2
            * DDM   ***** Preserved *****

1316        KK     R52
1317        KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
```

```
1318          RS       2    FLOW      -1
1319          RC     .05    .035     .05    2000     .05
1320          RX    1000    1010    1020    1036    1041    1057    1067    1077
1321          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1322          KK     460
1323          KM   SUB-BASIN 460
1324          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1325          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1326          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1327          BA    .140
1328          LG    .250    .260   3.740    .690  27.000
1329          UC    .221    .145
1330          UA       0       5      16      30      65      77      84      90      94      97
1331          UA     100
              * DDM   ***** Preserved *****

1332          KK    C102
1333          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1334          HC       2
              * DDM   ***** Preserved *****

1335          KK  BASIN3
1336          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1337          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1338          RS       1    ELEV       0
1339          SA       0       0       0       0     .34    1.59    1.81    1.96    2.13     2.3
              *      0       0       0       0    1.14    3.25    5.52    9.23
1340          SQ       0      22      45    47.4      48      51      57      62      67      73
1                                         HEC-1 INPUT                                          PAGE 35

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1341          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1342          KK      R3
1343          KM        ROUTE FLOW FROM C102 to C106
1344          RS       4    FLOW      -1
1345          RC     .05     .03     .05    2750   .0375
1346          RX    1000    1010    1020    1052    1086    1118    1128    1138
1347          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1348          KK     461
1349          KM   SUB-BASIN 461
1350          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1351          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1352          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1353          BA    .120
1354          LG    .270    .250   4.250    .450  21.000
1355          UC    .242    .221
1356          UA       0       5      16      30      65      77      84      90      94      97
1357          UA     100
              * DDM   ***** Preserved *****

1358          KK    C104
1359          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1360          HC       2
              * DDM   ***** Preserved *****

1361          KK    C106
1362          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1363          HC       2
              * DDM   ***** Preserved *****

1364          KK    R106
1365          KM        ROUTE FLOW FROM C106 TO C49
1366          RS       2    FLOW      -1
1367          RC     .05    .035     .05    3950    .033
1368          RX    1000    1010    1020    1030    1050    1060    1070    1080
1369          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Updated *****

1370          KK     462
1371          KM   SUB-BASIN 462
1372          KM   6-HOUR RAINFALL, PATTERN NO. 1.00 WAS USED TO FIND TC & R FOR THIS BASIN
1373          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1374          KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1375          BA    .301
1376          LG    .300    .330   5.300    .240  12.000
1377          UC    .208    .126
1378          UA       0       5      16      30      65      77      84      90      94      97
1379          UA     100
              * DDM   ***** Preserved *****
1                                         HEC-1 INPUT                                          PAGE 36

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1380          KK     C56
1381          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
              *      1       2
1382          HC       2
              * DDM   ***** Updated *****

1383          KK     480
1384          KM   SUB-BASIN 480
1385          KM   6-HOUR RAINFALL, PATTERN NO. 1.22 WAS USED TO FIND TC & R FOR THIS BASIN
1386          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .990
1387          KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1388          BA    .731
1389          LG    .270    .270   3.580    .730  27.000
1390          UC    .304    .137
1391          UA       0       5      16      30      65      77      84      90      94      97
1392          UA     100
              * DDM   ***** Preserved *****

1393          KK    D480
1394          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1395          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1396          KM   FOR BASIN #: 18 & 26
```

```
1397        KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
            *      1
1398        DT   BS480    16.5
1399        DI       0   10000
1400        DQ       0   10000
            * DDM   ***** Preserved *****

1401        KK   RT480
1402        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1403        DR   BS480
            * DDM   ***** Preserved *****

1404        KK   SR480
1405        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1406        KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1407        RS       1    STOR       0
1408        SV       0     .01    16.5
1409        SQ       0     5.6     5.6
            * DDM   ***** Preserved *****

1410        KK    C480
1411        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1412        HC       2
            * DDM   ***** Preserved *****

1413        KK    480C
1414        KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1415        HC       3    2.09
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1416        KK   RR480
1417        KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUB-BASIN 500
1418        RS       2    FLOW      -1
1419        RC    .025    .025    .025    6500     .05
1420        RX       0       1       2      28      58      84      85      86
1421        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1422        KK     500
1423        KM   SUB-BASIN 500
1424        KM   6-HOUR RAINFALL, PATTERN NO. 1.36 WAS USED TO FIND TC & R FOR THIS BASIN
1425        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .988
1426        KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1427        BA    .930
1428        LG    .350    .400   6.000    .170   9.000
1429        UC    .417    .330
1430        UA       0       3       5       8      12      20      43      75      90      96
1431        UA     100
            * DDM   ***** Preserved *****

1432        KK    500C
1433        KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1434        HC       2    3.02
1435        ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

   41        10
             V
             V
   51       R10
             V
             V
   57       R12
             .
             .
   63        .          20
             .           .
             .           .
   73       C20...........
             .
             .
   76        .          40
             .           .
             .           .
   86        .           .          60
             .           .           .
             .           .           .
   96       60C......................
             V
             V
   99      SR60
             V
             V
  108       R60
             V
             V
  114      RR60
             .
             .
  120        .          80
             .           .
             .           .
  130       80C...........
             V
             V
  133       R80
             .
             .
  139        .         100
             .           .
             .           .
  149      100C...........
             V
             V
  152      R100
             .
             .
  158        .         120
             .           .
             .           .
  168      120C...........
             V
             V
  171      R120
             .
             .
  177        .         140
             .           .
             .           .
  187        .           .         150
             .           .           V
             .           .           V
  197        .           .        R150
             .           .           V
             .           .           V
  203        .           .        R152
             .           .           .
             .           .           .
  209        .           .           .         160
             .           .           .           .
             .           .           .           .
  219        .           .           .           .         180
             .           .           .           .           .
             .           .           .           .           .
  229      180C..............................................
             .
             .
  232        .         210
             .           V
             .           V
  242        .        R210
             .           .
             .           .
  248        .           .         240
             .           .           .
             .           .           .
  258        .        240C...........
             .           V
             .           V
  261        .       SR240
             .           .
             .           .
  268        .           .         220
             .           .           .
             .           .           .
  278        .        220C...........
             .           V
             .           V
  281        .       SR220
             .           .
             .           .
  288        .           .         190
```

```
                .          .          V
                .          .          V
298             .          .       R190
                .          .          V
                .          .          V
304             .          .       R192
                .          .          .
                .          .          .
310             .          .          .        200
                .          .          .          .
                .          .          .          .
320             .       200C.......................
                .          V
                .          V
323             .      SR200
                .          V
                .          V
330             .      200SR
                .          .
                .          .
337          C180............
                V
                V
340         SR180
                V
                V
349          R180
                .
                .
356             .        260
                .          .
                .          .
366          260C............
                V
                V
369          R260
                .
                .
376             .        280
                .          .
                .          .
386          280C............
                V
                V
389          R280
                .
                .
396             .        300
                .          .
                .          .
406          300C............
                V
                V
409          R300
                V
                V
416         RR300
                .
                .
423             .        350
                .          .
                .          .
436             .          .-------->   SF350
433             .       D350
                .          V
                .          V
439             .       350R
                .          .
                .          .
446             .          .        310
                .          .          .
                .          .          .
456             .       C310............
                .          V
                .          V
459             .       R310
                .          .
                .          .
466             .          .        320
                .          .          .
                .          .          .
481             .          .          .-------->   BS320
476             .          .       D320
                .          .          .
                .          .          .
486             .          .          .          .<-------   BS320
484             .          .          .      RT320
                .          .          .          V
                .          .          .          V
487             .          .          .      SR320
                .          .          .          .
                .          .          .          .
493          C320.................................
                .
                .
496             .        340
                .          .
                .          .
511             .          .-------->   BS340
506             .       D340
                .          .
                .          .
516             .          .          .<--------   BS340
514             .          .      RT340
                .          .          V
                .          .          V
517             .          .      SR340
                .          .          .
                .          .          .
523          C340......................
                .
                .
528             .          .<-------   SF350
```

```
526          .       RT350
             .          V
             .          V
529          .       RR350
             .          .
             .          .
536          .          .         355
             .          .           .
             .          .           .
546          .       C355............
             .          V
             .          V
549          .       R355
             .          .
             .          .
556          .          .         360
             .          .           .
             .          .           .
570          .          .           .-------->   BS360
566          .          .       D360
             .          .           .
             .          .           .
575          .          .           .          .<-------   BS360
573          .          .           .      RT360
             .          .           .          V
             .          .           .          V
576          .          .           .      SR360
             .          .           .          .
             .          .           .          .
582       360C...................................
             .
             .
585          .        370
             .          .
             .          .
595          .          .         395
             .          .           .
             .          .           .
605          .       370C............
             .          V
             .          V
608          .       R370
             .          .
             .          .
615          .          .         380
             .          .           .
             .          .           .
629          .          .           .-------->   BS380
625          .          .       D380
             .          .           .
             .          .           .
634          .          .           .          .<-------   BS380
632          .          .           .      RT380
             .          .           .          V
             .          .           .          V
635          .          .           .      SR380
             .          .           .          .
             .          .           .          .
641       380C...................................
             .
             .
644          .        390
             .          .
             .          .
658          .          .-------->   BS390
654          .       D390
             .          .
             .          .
663          .          .           .<-------   BS390
661          .          .       RT390
             .          .           V
             .          .           V
664          .          .       SR390
             .          .           .
             .          .           .
670          .       390C............
             .          V
             .          V
673          .       RR390
             .          .
             .          .
680          .          .         400
             .          .           .
             .          .           .
694          .          .           .-------->   BS400
690          .          .       D400
             .          .           .
             .          .           .
699          .          .           .          .<-------   BS400
697          .          .           .      RT400
             .          .           .          V
             .          .           .          V
700          .          .           .      SR400
             .          .           .          .
             .          .           .          .
706          .          .       C400............
             .          .           .
             .          .           .
709       400C........................
             .
             .
712          .        385
             .          .
             .          .
724          .          .-------->   SF385
722          .       D385
             .          V
             .          V
727          .       385R
             .          .
             .          .
734          .          .         420
             .          .           .
```

```
748          .          .          .
744          .          .       D420
             .          .          .
             .          .          .
753          .          .          .          .<-------   BS420
751          .          .          .      RT420
             .          .          .          V
             .          .          .          V
754          .          .          .      SR420
             .          .          .          .
             .          .          .          .
760       420C..................................
             .
             .
763          .       440
             .         V
             .         V
773          .       R70
             .          .
             .          .
779          .          .        441
             .          .          .
             .          .          .
789          .      C108............
             .          .
             .          .
794          .          .------->   SPLIT
792          .      DIV4
             .         V
             .         V
797          .      R108
             .          .
             .          .
803          .          .        442
             .          .          .
             .          .          .
813          .       C67............
             .          .
             .          .
819          .          .-------> BASIN4
816          .      DIV6
             .          .
             .          .
824          .          .          .<-------  BASIN4
822          .          .     RTDIV6
             .          .         V
             .          .         V
825          .          .     RFDIV6
             .          .          .
             .          .          .
831          .     CDIV6............
             .          .
             .          .
834          .          .        443
             .          .          .
             .          .          .
847          .          .          .------->   WSH66
844          .          .      DIV66
             .          .         V
             .          .         V
850          .          .       R113
             .          .          .
             .          .          .
856          .      C114............
             .          .
             .          .
859          .          .        444
             .          .         V
             .          .         V
869          .          .        R58
             .          .          .
             .          .          .
875          .          .          .        445
             .          .          .          .
             .          .          .          .
885          .          .      C107............
             .          .         V
             .          .         V
888          .          .      R107
             .          .          .
             .          .          .
896          .          .          .          .<-------   SPLIT
894          .          .          .       RTB2
             .          .          .          V
             .          .          .          V
897          .          .          .     RSPLIT
             .          .          .          .
             .          .          .          .
903          .          .          .          .         446
             .          .          .          .           .
             .          .          .          .           .
913          .          .      C109........................
             .          .          .
             .          .          .
919          .          .          .-------> WSH404
916          .          .      DIV5
             .          .         V
             .          .         V
922          .          .      R109
             .          .          .
             .          .          .
928          .          .          .        447
             .          .          .          .
             .          .          .          .
940          .          .          .          .          .<-------  WSH404
938          .          .          .          .      RT404
             .          .          .          .         V
             .          .          .          .         V
941          .          .          .          .      R404
             .          .          .          .          .
             .          .          .          .          .
947          .          .      C110........................
```

```
                 .          .          V
                 .          .          V
950              .          .       R110
                 .          .          .
                 .          .          .
956              .       C115...........
                 .          V
                 .          V
959              .       R115
                 .          .
                 .          .
966              .          .       448
                 .          .          .
                 .          .          .
976              .          .          .        449
                 .          .          .          .
                 .          .          .          .
986              .          .      C6364...........
                 .          .          V
                 .          .          V
989              .          .      R6364
                 .          .          .
                 .          .          .
995              .          .          .        450
                 .          .          .          .
                 .          .          .          .
1005             .          .          .          .        451
                 .          .          .          .          .
                 .          .          .          .          .
1017             .          .          .          .          .          .<-------   WSH66
1015             .          .          .          .          .       RT66
                 .          .          .          .          .          .
                 .          .          .          .          .          .
1018             .          .          .          .          .          .        452
                 .          .          .          .          .          .          .
                 .          .          .          .          .          .          .
1028             .          .          .          .          .      C6465...........
                 .          .          .          .          .          V
                 .          .          .          .          .          V
1031             .          .          .          .          .      R6566
                 .          .          .          .          .          .
                 .          .          .          .          .          .
1037             .          .      C116.................................
                 .          .          V
                 .          .          V
1040             .          .     BASIN5
                 .          .          V
                 .          .          V
1047             .          .      R116
                 .          .          .
                 .          .          .
1053             .          .          .        453
                 .          .          .          .
                 .          .          .          .
1063             .          .      C117...........
                 .          .          .
                 .          .          .
1066             .       C118...........
                 .          V
                 .          V
1069             .       R118
                 .          .
                 .          .
1078             .          .-------> BASIN6
1075             .       DIV7
                 .          .
                 .          .
1083             .          .          .<-------  BASIN6
1081             .          .     RTDIV7
                 .          .          V
                 .          .          V
1084             .          .     RFDIV7
                 .          .          .
                 .          .          .
1090             .      CDIV7...........
                 .          .
                 .          .
1093             .          .        454
                 .          .          .
                 .          .          .
1103             .       C119...........
                 .          V
                 .          V
1106             .       R454
                 .          .
                 .          .
1113             .          .        415
                 .          .          .
                 .          .          .
1125             .          .          .          .<-------   SF385
1123             .          .          .      RT385
                 .          .          .          V
                 .          .          .          V
1126             .          .          .      RR385
                 .          .          .          .
                 .          .          .          .
1133             .       415C........................
                 .          V
                 .          V
1136             .       R415
                 .          .
                 .          .
1143             .          .        455
                 .          .          .
                 .          .          .
1158             .          .          .-------> BS455
1153             .          .       D455
                 .          .          .
                 .          .          .
1163             .          .          .          .<-------   BS455
1161             .          .          .      RT455
                 .          .          .          V
                 .          .          .          V
```

```
1164          .          .          .       SR455
              .          .          .          .
              .          .          .          .
1170          .          .       C455............
              .          .          .
              .          .          .
1173       455C.......................
              V
              V
1176       SR440
              V
              V
1185       RR455
              .
              .
1191          .        456
              .          .
              .          .
1204          .          .-------> BASIN1
1201          .       DIV1
              .          .
              .          .
1210          .          .-------->   WA30
1207          .       DIV2
              .          V
              .          V
1213          .       R456
              .          .
              .          .
1219          .          .        457
              .          .          .
              .          .          .
1229          .       C101............
              .          .
              .          .
1235          .          .-------> BASIN2
1232          .       DIV3
              .          .
              .          .
1240          .          .          .<------- BASIN2
1238          .          .     RTDIV3
              .          .          V
              .          .          V
1241          .          .     RFDIV3
              .          .          .
              .          .          .
1247          .      CDIV3............
              .          V
              .          V
1250          .       R101
              .          .
              .          .
1256          .          .        458
              .          .          .
              .          .          .
1266          .       C103............
              .          V
              .          V
1269          .       R103
              .          .
              .          .
1277          .          .          .<-------   WA30
1275          .          .       RT30
              .          .          V
              .          .          V
1278          .          .        R30
              .          .          .
              .          .          .
1286          .          .          .          .<------- BASIN1
1284          .          .          .       RTB1
              .          .          .          V
              .          .          .          V
1287          .          .          .         B1
              .          .          .          V
              .          .          .          V
1294          .          .          .        RB1
              .          .          .          .
              .          .          .          .
1300          .          .       CDIV............
              .          .          .
              .          .          .
1303          .          .          .        459
              .          .          .          .
              .          .          .          .
1313          .          .        C52............
              .          .          V
              .          .          V
1316          .          .        R52
              .          .          .
              .          .          .
1322          .          .          .        460
              .          .          .          .
              .          .          .          .
1332          .          .       C102............
              .          .          V
              .          .          V
1335          .          .     BASIN3
              .          .          V
              .          .          V
1342          .          .         R3
              .          .          .
              .          .          .
1348          .          .          .        461
              .          .          .          .
              .          .          .          .
1358          .          .       C104............
              .          .          .
              .          .          .
1361          .       C106............
              .          V
              .          V
1364          .       R106
              .          .
```

```
                .          .
1370            .          .        462
                .          .          .
                .          .          .
1380            .        C56...........
                .          .
                .          .
1383            .          .        480
                .          .          .
                .          .          .
1398            .          .          .-------->   BS480
1393            .          .       D480
                .          .          .
                .          .          .
1403            .          .          .          .<--------   BS480
1401            .          .          .      RT480
                .          .          .          V
                .          .          .          V
1404            .          .          .      SR480
                .          .          .          .
                .          .          .          .
1410            .          .       C480...........
                .          .          .
                .          .          .
1413        480C......................
               V
               V
1416       RR480
                .
                .
1422            .        500
                .          .
                .          .
1432        500C...........
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
	HYDROGRAPH AT	10	1281.	4.23	150.	38.	18.	.70		
+	ROUTED TO	R10	1202.	4.37	150.	38.	18.	.70		
+	ROUTED TO	R12	1150.	4.53	150.	38.	18.	.70		
+	HYDROGRAPH AT	20	1222.	4.27	199.	50.	24.	1.12		
+	2 COMBINED AT	C20	1877.	4.50	334.	84.	40.	1.82		
+	HYDROGRAPH AT	40	2371.	4.20	351.	88.	42.	2.23		
+	HYDROGRAPH AT	60	1669.	4.43	298.	75.	36.	1.75		
+	3 COMBINED AT	60C	4567.	4.40	875.	220.	106.	5.80		
+	ROUTED TO	SR60	94.	6.50	94.	92.	85.	5.80		
+	ROUTED TO	R60	94.	6.57	94.	92.	85.	5.80		
+	ROUTED TO	RR60	94.	6.70	94.	92.	85.	5.80		
+	HYDROGRAPH AT	80	1924.	4.17	245.	61.	29.	1.48		
+	2 COMBINED AT	80C	2000.	4.17	330.	153.	116.	1.48		
+	ROUTED TO	R80	1987.	4.20	330.	153.	116.	1.48		
+	HYDROGRAPH AT	100	639.	4.20	89.	22.	11.	.48		
+	2 COMBINED AT	100C	2295.	4.20	400.	170.	124.	1.96		
	ROUTED TO	R100	2291.	4.20	400.	170.	124.	1.96		
+	HYDROGRAPH AT	120	2982.	4.30	424.	106.	51.	2.20		
+	2 COMBINED AT	120C	4505.	4.27	768.	261.	169.	4.16		
+	ROUTED TO	R120	4492.	4.30	768.	261.	168.	4.16		
+	HYDROGRAPH AT	140	976.	4.13	97.	24.	12.	.60		
+	HYDROGRAPH AT	150	864.	4.13	68.	17.	8.	.41		
+	ROUTED TO	R150	838.	4.20	68.	17.	8.	.41		
+	ROUTED TO	R152	774.	4.30	68.	17.	8.	.41		
+	HYDROGRAPH AT	160	354.	4.37	53.	13.	6.	.37		
+	HYDROGRAPH AT	180	987.	4.37	126.	31.	15.	1.00		
+	5 COMBINED AT	180C	5679.	4.33	977.	313.	193.	6.54		
+	HYDROGRAPH AT	210	1254.	4.17	110.	28.	13.	.58		
+	ROUTED TO	R210	1179.	4.23	110.	28.	13.	.58		
+	HYDROGRAPH AT	240	1521.	4.33	207.	52.	25.	1.40		
+	2 COMBINED AT	240C	2158.	4.30	301.	75.	36.	1.98		
+	ROUTED TO	SR240	833.	4.83	249.	64.	31.	1.98		
	HYDROGRAPH AT	220	1524.	4.17	139.	35.	17.	.73		
+	2 COMBINED AT	220C	1195.	4.43	365.	94.	45.	2.71		
+	ROUTED TO	SR220	1114.	4.60	357.	92.	44.	2.71		

+	HYDROGRAPH AT	190	1711.	4.17	154.	38.	18.	.92
+	ROUTED TO	R190	1658.	4.23	154.	38.	18.	.92
+	ROUTED TO	R192	1593.	4.30	154.	38.	18.	.92
	HYDROGRAPH AT	200	1193.	4.13	96.	24.	12.	.54
+	3 COMBINED AT	200C	2389.	4.33	541.	139.	67.	4.16
+	ROUTED TO	SR200	2343.	4.40	530.	135.	65.	4.16
+	ROUTED TO	200SR	2014.	4.63	408.	105.	50.	4.16
+	2 COMBINED AT	C180	5562.	4.57	1266.	391.	230.	10.69
+	ROUTED TO	SR180	139.	8.83	139.	138.	131.	10.69
+	ROUTED TO	R180	139.	8.90	139.	138.	131.	10.69
+	HYDROGRAPH AT	260	608.	4.10	53.	13.	6.	.27
+	2 COMBINED AT	260C	718.	4.10	194.	159.	146.	.27
+	ROUTED TO	R260	688.	4.17	194.	159.	145.	.27
+	HYDROGRAPH AT	280	722.	4.07	58.	14.	7.	.30
+	2 COMBINED AT	280C	1312.	4.10	247.	172.	152.	.57
+	ROUTED TO	R280	1265.	4.17	246.	172.	151.	.57
+	HYDROGRAPH AT	300	1121.	4.20	153.	38.	18.	.99
+	2 COMBINED AT	300C	1972.	4.20	376.	202.	165.	1.56
+	ROUTED TO	R300	1943.	4.27	376.	202.	165.	1.56
	ROUTED TO	RR300	1923.	4.30	376.	202.	164.	1.56
+	HYDROGRAPH AT	350	1446.	4.23	136.	34.	16.	.97
+	DIVERSION TO	SF350	723.	4.23	68.	17.	8.	.97
+	HYDROGRAPH AT	D350	723.	4.23	68.	17.	8.	.97
+	ROUTED TO	350R	646.	4.40	68.	17.	8.	.97
+	HYDROGRAPH AT	310	589.	4.30	72.	18.	9.	.56
+	2 COMBINED AT	C310	1132.	4.37	134.	33.	16.	.94
+	ROUTED TO	R310	1002.	4.67	134.	33.	16.	.94
+	HYDROGRAPH AT	320	1245.	4.20	170.	43.	21.	.97
+	DIVERSION TO	BS320	461.	3.90	25.	6.	3.	.97
+	HYDROGRAPH AT	D320	1245.	4.20	146.	37.	18.	.97
+	HYDROGRAPH AT	RT320	461.	3.90	25.	6.	3.	.97
+	ROUTED TO	SR320	4.	.37	4.	4.	3.	.97
+	4 COMBINED AT	C320	2668.	4.33	590.	257.	191.	3.47
+	HYDROGRAPH AT	340	1605.	4.20	228.	57.	28.	1.45
+	DIVERSION TO	BS340	1605.	4.20	113.	28.	14.	1.45
	HYDROGRAPH AT	D340	1387.	4.37	116.	29.	14.	1.45
+	HYDROGRAPH AT	RT340	1605.	4.20	113.	28.	14.	1.45
+	ROUTED TO	SR340	19.	1.00	19.	19.	14.	1.45

+	3 COMBINED AT	C340	3352.	4.37	669.	290.	211.	4.92
+	HYDROGRAPH AT	RT350	723.	4.23	68.	17.	8.	.97
+	ROUTED TO	RR350	634.	4.43	68.	17.	8.	.97
+	HYDROGRAPH AT	355	722.	4.30	97.	24.	12.	.66
+	2 COMBINED AT	C355	1156.	4.40	155.	39.	19.	1.24
+	ROUTED TO	R355	1071.	4.70	155.	39.	19.	1.24
+	HYDROGRAPH AT	360	740.	4.23	112.	28.	13.	.67
+	DIVERSION TO	BS360	740.	4.23	58.	14.	7.	.67
+	HYDROGRAPH AT	D360	557.	4.40	55.	14.	7.	.67
+	HYDROGRAPH AT	RT360	740.	4.23	58.	14.	7.	.67
+	ROUTED TO	SR360	10.	2.57	10.	10.	7.	.67
+	4 COMBINED AT	360C	3628.	4.57	791.	327.	230.	6.83
+	HYDROGRAPH AT	370	830.	4.30	110.	28.	13.	.67
+	HYDROGRAPH AT	395	289.	4.13	38.	10.	5.	.20
+	2 COMBINED AT	370C	1005.	4.27	143.	36.	17.	.87
+	ROUTED TO	R370	911.	4.60	143.	36.	17.	.87
+	HYDROGRAPH AT	380	853.	4.27	129.	32.	16.	.97
+	DIVERSION TO	BS380	853.	4.27	58.	14.	7.	.97
+	HYDROGRAPH AT	D380	671.	4.53	72.	18.	9.	.97
+	HYDROGRAPH AT	RT380	853.	4.27	58.	14.	7.	.97
+	ROUTED TO	SR380	10.	3.43	10.	10.	7.	.97
+	4 COMBINED AT	380C	4069.	4.57	904.	362.	250.	8.67
+	HYDROGRAPH AT	390	688.	4.03	45.	11.	5.	.24
+	DIVERSION TO	BS390	147.	3.77	7.	2.	1.	.24
+	HYDROGRAPH AT	D390	688.	4.03	38.	10.	5.	.24
+	HYDROGRAPH AT	RT390	147.	3.77	7.	2.	1.	.24
+	ROUTED TO	SR390	1.	.23	1.	1.	1.	.24
+	2 COMBINED AT	390C	689.	4.03	39.	11.	5.	.24
+	ROUTED TO	RR390	472.	4.40	39.	11.	5.	.24
+	HYDROGRAPH AT	400	563.	4.20	69.	17.	8.	.62
+	DIVERSION TO	BS400	387.	4.07	11.	3.	1.	.62
+	HYDROGRAPH AT	D400	563.	4.20	58.	14.	7.	.62
+	HYDROGRAPH AT	RT400	387.	4.07	11.	3.	1.	.62
+	ROUTED TO	SR400	2.	.97	2.	2.	1.	.62
+	2 COMBINED AT	C400	565.	4.20	60.	16.	8.	.62
+	3 COMBINED AT	400C	4270.	4.57	933.	371.	255.	9.53
+	HYDROGRAPH AT	385	916.	4.13	108.	27.	13.	.52
+	DIVERSION TO	SF385	550.	4.13	65.	16.	8.	.52

+ HYDROGRAPH AT	D385	366.	4.13	43.	11.	5.	.52
+ ROUTED TO	385R	302.	4.77	43.	11.	5.	.52
+ HYDROGRAPH AT	420	997.	4.20	122.	31.	15.	.85
DIVERSION TO	BS420	411.	3.97	17.	4.	2.	.85
+ HYDROGRAPH AT	D420	997.	4.20	105.	26.	13.	.85
+ HYDROGRAPH AT	RT420	411.	3.97	17.	4.	2.	.85
+ ROUTED TO	SR420	13.	3.27	13.	4.	2.	.85
+ 4 COMBINED AT	420C	4583.	4.57	1017.	393.	265.	10.87
+ HYDROGRAPH AT	440	255.	4.03	16.	4.	2.	.08
+ ROUTED TO	R70	247.	4.07	16.	4.	2.	.08
+ HYDROGRAPH AT	441	24.	4.03	2.	0.	0.	.01
+ 2 COMBINED AT	C108	270.	4.07	18.	5.	2.	.09
+ DIVERSION TO	SPLIT	135.	4.07	9.	2.	1.	.09
+ HYDROGRAPH AT	DIV4	135.	4.07	9.	2.	1.	.09
+ ROUTED TO	R108	131.	4.10	9.	2.	1.	.09
+ HYDROGRAPH AT	442	170.	4.07	13.	3.	2.	.10
+ 2 COMBINED AT	C67	298.	4.10	22.	6.	3.	.19
+ DIVERSION TO	BASIN4	213.	4.10	11.	3.	1.	.19
+ HYDROGRAPH AT	DIV6	84.	4.10	11.	3.	1.	.19
+ HYDROGRAPH AT	RTDIV6	213.	4.10	11.	3.	1.	.19
+ ROUTED TO	RFDIV6	1.	3.83	1.	1.	1.	.19
+ 2 COMBINED AT	CDIV6	85.	4.10	11.	4.	2.	.19
+ HYDROGRAPH AT	443	213.	4.03	18.	5.	2.	.08
+ DIVERSION TO	WSH66	78.	3.83	12.	3.	1.	.08
+ HYDROGRAPH AT	DIV66	135.	4.03	6.	2.	1.	.08
+ ROUTED TO	R113	133.	4.07	6.	2.	1.	.08
+ 2 COMBINED AT	C114	218.	4.07	18.	5.	3.	.27
+ HYDROGRAPH AT	444	119.	4.03	7.	2.	1.	.04
+ ROUTED TO	R58	114.	4.07	7.	2.	1.	.04
+ HYDROGRAPH AT	445	470.	4.03	27.	7.	3.	.19
+ 2 COMBINED AT	C107	580.	4.03	33.	8.	4.	.23
+ ROUTED TO	R107	572.	4.03	33.	8.	4.	.23
+ HYDROGRAPH AT	RTB2	135.	4.07	9.	2.	1.	.09
+ ROUTED TO	RSPLIT	135.	4.07	9.	2.	1.	.09
+ HYDROGRAPH AT	446	97.	4.03	8.	2.	1.	.04
3 COMBINED AT	C109	799.	4.03	50.	12.	6.	.27
+ DIVERSION TO	WSH404	35.	3.67	7.	2.	1.	.27
+ HYDROGRAPH AT	DIV5	764.	4.03	42.	11.	5.	.27

+	ROUTED TO R109	752.	4.07	42.	11.	5.	.27
+	HYDROGRAPH AT 447	217.	4.03	16.	4.	2.	.09
+	HYDROGRAPH AT RT404	35.	3.67	7.	2.	1.	.27
	ROUTED TO R404	35.	3.80	7.	2.	1.	.27
+	3 COMBINED AT C110	997.	4.07	66.	16.	8.	.36
+	ROUTED TO R110	997.	4.07	66.	16.	8.	.36
+	2 COMBINED AT C115	1129.	4.07	81.	21.	11.	.63
+	ROUTED TO R115	1126.	4.07	81.	21.	11.	.63
+	HYDROGRAPH AT 448	129.	4.00	8.	2.	1.	.05
+	HYDROGRAPH AT 449	123.	4.03	7.	2.	1.	.05
+	2 COMBINED AT C6364	250.	4.03	15.	4.	2.	.09
+	ROUTED TO R6364	205.	4.13	15.	4.	2.	.09
+	HYDROGRAPH AT 450	108.	4.17	11.	3.	1.	.07
+	HYDROGRAPH AT 451	32.	4.17	4.	1.	0.	.03
+	HYDROGRAPH AT RT66	78.	3.83	12.	3.	1.	.08
+	HYDROGRAPH AT 452	95.	4.03	6.	2.	1.	.04
+	2 COMBINED AT C6465	173.	4.03	18.	5.	2.	.04
+	ROUTED TO R6566	165.	4.10	18.	5.	2.	.04
+	4 COMBINED AT C116	504.	4.13	48.	12.	6.	.23
	ROUTED TO BASIN5	228.	4.43	47.	12.	6.	.23
+	ROUTED TO R116	226.	4.50	47.	12.	6.	.23
+	HYDROGRAPH AT 453	103.	4.07	10.	2.	1.	.06
+	2 COMBINED AT C117	258.	4.43	57.	14.	7.	.29
+	2 COMBINED AT C118	1124.	4.07	130.	34.	17.	.92
+	ROUTED TO R118	1119.	4.10	130.	34.	17.	.92
+	DIVERSION TO BASIN6	408.	4.10	20.	5.	2.	.92
+	HYDROGRAPH AT DIV7	711.	4.10	110.	29.	14.	.92
+	HYDROGRAPH AT RTDIV7	408.	4.10	20.	5.	2.	.92
+	ROUTED TO RFDIV7	1.	3.90	1.	1.	1.	.92
+	2 COMBINED AT CDIV7	712.	4.10	111.	30.	15.	.92
+	HYDROGRAPH AT 454	263.	4.13	31.	8.	4.	.18
+	2 COMBINED AT C119	892.	4.10	138.	37.	19.	1.10
+	ROUTED TO R454	868.	4.17	138.	37.	19.	1.10
+	HYDROGRAPH AT 415	865.	4.13	110.	28.	13.	.61
+	HYDROGRAPH AT RT385	550.	4.13	65.	16.	8.	.52
	ROUTED TO RR385	493.	4.40	65.	16.	8.	.52
+	3 COMBINED AT 415C	1671.	4.20	293.	76.	37.	1.71
+	ROUTED TO R415	1662.	4.23	293.	76.	37.	1.71

+	HYDROGRAPH AT	D385	366.	4.13	43.	11.	5.	.52
+	ROUTED TO	385R	302.	4.77	43.	11.	5.	.52
+	HYDROGRAPH AT	420	997.	4.20	122.	31.	15.	.85
+	DIVERSION TO	BS420	411.	3.97	17.	4.	2.	.85
+	HYDROGRAPH AT	D420	997.	4.20	105.	26.	13.	.85
+	HYDROGRAPH AT	RT420	411.	3.97	17.	4.	2.	.85
+	ROUTED TO	SR420	13.	3.27	13.	4.	2.	.85
+	4 COMBINED AT	420C	4583.	4.57	1017.	393.	265.	10.87
+	HYDROGRAPH AT	440	255.	4.03	16.	4.	2.	.08
+	ROUTED TO	R70	247.	4.07	16.	4.	2.	.08
+	HYDROGRAPH AT	441	24.	4.03	2.	0.	0.	.01
+	2 COMBINED AT	C108	270.	4.07	18.	5.	2.	.09
+	DIVERSION TO	SPLIT	135.	4.07	9.	2.	1.	.09
+	HYDROGRAPH AT	DIV4	135.	4.07	9.	2.	1.	.09
+	ROUTED TO	R108	131.	4.10	9.	2.	1.	.09
+	HYDROGRAPH AT	442	170.	4.07	13.	3.	2.	.10
+	2 COMBINED AT	C67	298.	4.10	22.	6.	3.	.19
+	DIVERSION TO	BASIN4	213.	4.10	11.	3.	1.	.19
+	HYDROGRAPH AT	DIV6	84.	4.10	11.	3.	1.	.19
+	HYDROGRAPH AT	RTDIV6	213.	4.10	11.	3.	1.	.19
+	ROUTED TO	RFDIV6	1.	3.83	1.	1.	1.	.19
+	2 COMBINED AT	CDIV6	85.	4.10	11.	4.	2.	.19
+	HYDROGRAPH AT	443	213.	4.03	18.	5.	2.	.08
+	DIVERSION TO	WSH66	78.	3.83	12.	3.	1.	.08
+	HYDROGRAPH AT	DIV66	135.	4.03	6.	2.	1.	.08
+	ROUTED TO	R113	133.	4.07	6.	2.	1.	.08
+	2 COMBINED AT	C114	218.	4.07	18.	5.	3.	.27
+	HYDROGRAPH AT	444	119.	4.03	7.	2.	1.	.04
+	ROUTED TO	R58	114.	4.07	7.	2.	1.	.04
+	HYDROGRAPH AT	445	470.	4.03	27.	7.	3.	.19
+	2 COMBINED AT	C107	580.	4.03	33.	8.	4.	.23
+	ROUTED TO	R107	572.	4.03	33.	8.	4.	.23
+	HYDROGRAPH AT	RTB2	135.	4.07	9.	2.	1.	.09
+	ROUTED TO	RSPLIT	135.	4.07	9.	2.	1.	.09
+	HYDROGRAPH AT	446	97.	4.03	8.	2.	1.	.04
+	3 COMBINED AT	C109	799.	4.03	50.	12.	6.	.27
+	DIVERSION TO	WSH404	35.	3.67	7.	2.	1.	.27
+	HYDROGRAPH AT	DIV5	764.	4.03	42.	11.	5.	.27

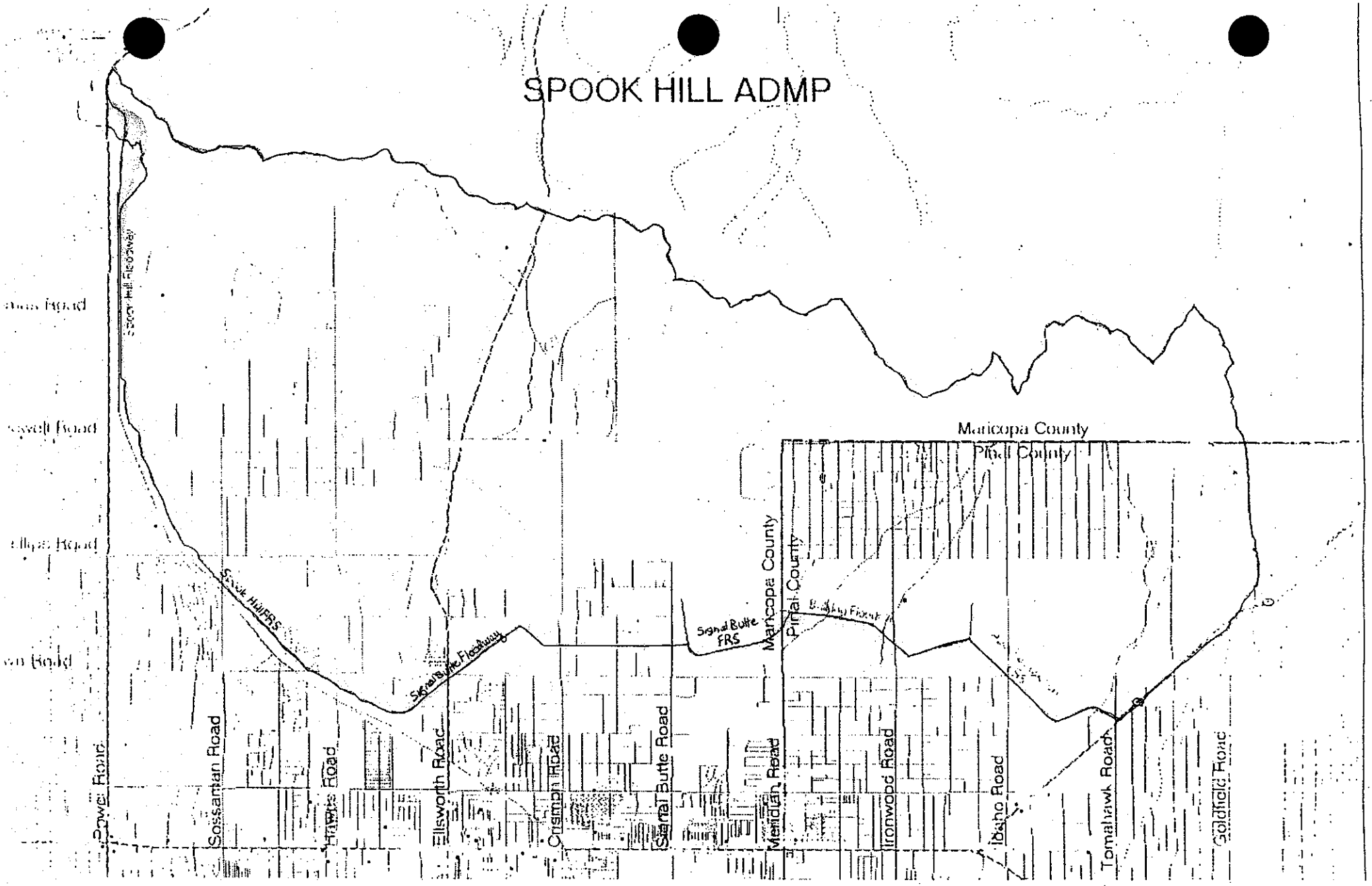
+	ROUTED TO	R109	752.	4.07	42.	11.	5.	.27
+	HYDROGRAPH AT	447	217.	4.03	16.	4.	2.	.09
+	HYDROGRAPH AT	RT404	35.	3.67	7.	2.	1.	.27
+	ROUTED TO	R404	35.	3.80	7.	2.	1.	.27
+	3 COMBINED AT	C110	997.	4.07	66.	16.	8.	.36
+	ROUTED TO	R110	997.	4.07	66.	16.	8.	.36
+	2 COMBINED AT	C115	1129.	4.07	81.	21.	11.	.63
+	ROUTED TO	R115	1126.	4.07	81.	21.	11.	.63
+	HYDROGRAPH AT	448	129.	4.00	8.	2.	1.	.05
+	HYDROGRAPH AT	449	123.	4.03	7.	2.	1.	.05
+	2 COMBINED AT	C6364	250.	4.03	15.	4.	2.	.09
+	ROUTED TO	R6364	205.	4.13	15.	4.	2.	.09
+	HYDROGRAPH AT	450	108.	4.17	11.	3.	1.	.07
+	HYDROGRAPH AT	451	32.	4.17	4.	1.	0.	.03
+	HYDROGRAPH AT	RT66	78.	3.83	12.	3.	1.	.08
+	HYDROGRAPH AT	452	95.	4.03	6.	2.	1.	.04
+	2 COMBINED AT	C6465	173.	4.03	18.	5.	2.	.04
+	ROUTED TO	R6566	165.	4.10	18.	5.	2.	.04
+	4 COMBINED AT	C116	504.	4.13	48.	12.	6.	.23
+	ROUTED TO	BASIN5	228.	4.43	47.	12.	6.	.23
+	ROUTED TO	R116	226.	4.50	47.	12.	6.	.23
+	HYDROGRAPH AT	453	103.	4.07	10.	2.	1.	.06
+	2 COMBINED AT	C117	258.	4.43	57.	14.	7.	.29
+	2 COMBINED AT	C118	1124.	4.07	130.	34.	17.	.92
+	ROUTED TO	R118	1119.	4.10	130.	34.	17.	.92
+	DIVERSION TO	BASIN6	408.	4.10	20.	5.	2.	.92
+	HYDROGRAPH AT	DIV7	711.	4.10	110.	29.	14.	.92
+	HYDROGRAPH AT	RTDIV7	408.	4.10	20.	5.	2.	.92
+	ROUTED TO	RFDIV7	1.	3.90	1.	1.	1.	.92
+	2 COMBINED AT	CDIV7	712.	4.10	111.	30.	15.	.92
+	HYDROGRAPH AT	454	263.	4.13	31.	8.	4.	.18
+	2 COMBINED AT	C119	892.	4.10	138.	37.	19.	1.10
+	ROUTED TO	R454	868.	4.17	138.	37.	19.	1.10
+	HYDROGRAPH AT	415	865.	4.13	110.	28.	13.	.61
+	HYDROGRAPH AT	RT385	550.	4.13	65.	16.	8.	.52
+	ROUTED TO	RR385	493.	4.40	65.	16.	8.	.52
+	3 COMBINED AT	415C	1671.	4.20	293.	76.	37.	1.71
+	ROUTED TO	R415	1662.	4.23	293.	76.	37.	1.71

+	HYDROGRAPH AT	455	1595.	4.13	179.	45.	22.	1.11
+	DIVERSION TO	BS455	1595.	4.13	149.	37.	18.	1.11
+	HYDROGRAPH AT	D455	531.	4.40	30.	8.	4.	1.11
+	HYDROGRAPH AT	RT455	1595.	4.13	149.	37.	18.	1.11
+	ROUTED TO	SR455	25.	2.83	25.	25.	18.	1.11
+	2 COMBINED AT	C455	556.	4.40	55.	33.	22.	1.11
+	3 COMBINED AT	455C	5222.	4.57	1226.	465.	303.	13.69
+	ROUTED TO	SR440	798.	5.83	778.	464.	303.	13.69
+	ROUTED TO	RR455	797.	6.17	778.	464.	301.	13.69
+	HYDROGRAPH AT	456	691.	4.03	48.	12.	6.	.26
+	DIVERSION TO	BASIN1	319.	4.03	15.	4.	2.	.26
+	HYDROGRAPH AT	DIV1	371.	4.03	33.	8.	4.	.26
+	DIVERSION TO	WA30	66.	4.03	10.	3.	1.	.26
+	HYDROGRAPH AT	DIV2	305.	4.03	23.	6.	3.	.26
+	ROUTED TO	R456	288.	4.10	23.	6.	3.	.26
+	HYDROGRAPH AT	457	410.	4.07	28.	7.	3.	.19
+	2 COMBINED AT	C101	686.	4.07	52.	13.	6.	.45
+	DIVERSION TO	BASIN2	316.	4.07	15.	4.	2.	.45
+	HYDROGRAPH AT	DIV3	370.	4.07	37.	9.	4.	.45
+	HYDROGRAPH AT	RTDIV3	316.	4.07	15.	4.	2.	.45
+	ROUTED TO	RFDIV3	2.	3.87	2.	2.	2.	.45
+	2 COMBINED AT	CDIV3	372.	4.07	38.	11.	6.	.45
+	ROUTED TO	R101	368.	4.10	38.	11.	6.	.45
+	HYDROGRAPH AT	458	522.	4.03	35.	9.	4.	.19
+	2 COMBINED AT	C103	819.	4.03	71.	19.	10.	.64
+	ROUTED TO	R103	819.	4.07	71.	19.	10.	.64
+	HYDROGRAPH AT	RT30	66.	4.03	10.	3.	1.	.26
+	ROUTED TO	R30	65.	4.07	10.	3.	1.	.26
+	HYDROGRAPH AT	RTB1	319.	4.03	15.	4.	2.	.26
+	ROUTED TO	B1	62.	4.23	15.	4.	2.	.26
+	ROUTED TO	RB1	61.	4.30	15.	4.	2.	.26
+	2 COMBINED AT	CDIV	114.	4.20	24.	6.	3.	.12
+	HYDROGRAPH AT	459	69.	4.03	4.	1.	1.	.03
+	2 COMBINED AT	C52	161.	4.07	28.	7.	4.	.15
	ROUTED TO	R52	158.	4.13	28.	7.	4.	.15
	HYDROGRAPH AT	460	329.	4.07	25.	6.	3.	.14
+	2 COMBINED AT	C102	476.	4.07	53.	14.	7.	.29
+	ROUTED TO	BASIN3	80.	4.70	53.	14.	7.	.29

	ROUTED TO							
+		R3	80.	4.83	52.	14.	7.	.29
	HYDROGRAPH AT							
+		461	249.	4.07	22.	6.	3.	.12
	2 COMBINED AT							
		C104	304.	4.07	74.	19.	9.	.41
	2 COMBINED AT							
+		C106	981.	4.07	138.	36.	18.	1.05
	ROUTED TO							
+		R106	942.	4.13	138.	36.	18.	1.05
	HYDROGRAPH AT							
+		462	792.	4.03	55.	14.	7.	.30
	2 COMBINED AT							
+		C56	1401.	4.07	186.	49.	24.	1.35
	HYDROGRAPH AT							
+		480	1452.	4.07	125.	31.	15.	.73
	DIVERSION TO							
+		BS480	727.	3.93	33.	8.	4.	.73
	HYDROGRAPH AT							
+		D480	1452.	4.07	92.	23.	11.	.73
	HYDROGRAPH AT							
+		RT480	727.	3.93	33.	8.	4.	.73
	ROUTED TO							
+		SR480	6.	.23	6.	6.	4.	.73
	2 COMBINED AT							
+		C480	1458.	4.07	98.	29.	15.	.73
	3 COMBINED AT							
+		480C	2533.	4.10	1028.	654.	399.	2.09
	ROUTED TO							
+		RR480	2490.	4.13	1027.	654.	399.	2.09
	HYDROGRAPH AT							
+		500	1324.	4.27	160.	40.	19.	.93
	2 COMBINED AT							
+		500C	3100.	4.20	1145.	663.	403.	3.02

*** NORMAL END OF HEC-1 ***

SPOOK HILL ADMP



FUTURE CONDITIONS 100-YEAR, 24-HOUR STORM MODEL
THIS FUTURE CONDITIONS MODEL HAS BEEN UPDATED WITH DUMMY DETENTION BASINS ADDED TO THE SUB-BASINS WHICH HAVE FUTURE DEVELOPMENT TAKING PLACE. THESE DETENTION BASINS ARE ADDED TO MANAGE THE INCREASED RUNOFF VOLUME ASSOCIATED WITH THE FUTURE DEVELOPMENT AREAS. THE SIZE OF EACH DUMMY DETENTION BASIN IS EQUAL TO THE VOLUME GENERATED BY FUTURE DEVELOPMENT FOR THE 100-YEAR, 2-HOUR STORM EVENT ONLY.
THE SUB-BASINS AFFECTED ARE: 20, 40, 60, 80, 100, 120, 140, 160, 180, 200, 210, 220, 240, 355, 370, 385, 395, 415, 450, 451, 453, & 454

```
1*****************************************
*                                       *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)   *
*              JUN  1998                *
*            VERSION 4.1                *
*                                       *
*  RUN DATE   11JUL00  TIME  10:59:26   *
*                                       *
*****************************************
```

```
*****************************************
*                                       *
*    U.S. ARMY CORPS OF ENGINEERS       *
*    HYDROLOGIC ENGINEERING CENTER      *
*          609 SECOND STREET            *
*       DAVIS, CALIFORNIA 95616         *
*           (916) 756-1104              *
*                                       *
*****************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
1                                   HEC-1 INPUT                                                    PAGE  1

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID   EXISTING LAND USE CALCULATIONS WERE BASED ON 1 YR. FROM 11/5/99
  2           ID   FOR LAS SENDAS       AND LANDISCOR JAN.1999 AERIAL PHOTOGPRAPHS
  3           ID
  4           ID   ALL DAMS WERE ANALYZED WITH NO STORAGE BELOW PRINCIPLE SPILLWAY ELEVATIONS
  5           ID
  6           ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
  7           ID   PRECIPITATION VALUES
  8           ID
  9           ID   ALL CHANNEL ROUTING INFORMATION WAS OBTAINED FROM MCFCD SPOOK HILL   SIGNAL
 10           ID   BUTTE         AND BULLDOG FLOODWAY PLANS
 11           ID
 12           ID   FUTURE CONDITIONS 100-YEAR, 24-HOUR STORM MODEL
 13           ID   THIS FUTURE CONDITIONS MODEL HAS BEEN UPDATED WITH DUMMY DETENTION BASINS
 14           ID   ADDED TO THE SUB-BASINS WHICH HAVE FUTURE DEVELOPMENT TAKING PLACE.  THESE
 15           ID   DETENTION BASINS ARE ADDED TO MANAGE THE INCREASED RUNOFF VOLUME
 16           ID   ASSOCIATED WITH THE FUTURE DEVELOPMENT AREAS.  THE SIZE OF EACH DUMMY
 17           ID   DETENTION BASIN IS EQUAL TO THE VOLUME GENERATED BY FUTURE DEVELOPMENT
 18           ID   FOR THE 100-YEAR, 2-HOUR STORM EVENT ONLY.
 19           ID   THE SUB-BASINS AFFECTED ARE: 20, 40, 60, 80, 100, 120, 140, 160, 180,
 20           ID   200, 210, 220, 240, 355, 370, 385, 395, 415, 450, 451, 453, & 454
 21           ID   ANALYSIS PERFORMED BY WOOD/PATEL; MW;        07/11/00  FILE: S24CF38.DAT
 22           ID
 23           ID   DDM MCUHP1 SPOOK HILL AMDP - FUTURE CONDITIONS 100 YEAR, 24 HOUR EVENT
              *DIAGRAM
 24           IT       2                    1500
 25           IO       3
 26           IN      15
 27           JD    3.81    0.01
 28           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
 29           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
 30           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
 31           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
 32           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
 33           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
 34           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
 35           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
 36           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
 37           PC    .983    .986    .989    .992    .995    .998   1.000
 38           JD    3.58   10.00
 39           JD    3.43   30.00
 40           JD    3.28   60.00
 41           JD    3.22   90.00
 42           JD    3.18  120.00
 43           JD    3.14  150.00
 44           JD    3.05  300.00
 45           JD    2.97  500.00
              * DDM   ***** Updated *****

 46           KK      10
 47           KM   SUB-BASIN 10
 48           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 49           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 50           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
 51           BA    .702
 52           LG    .340    .290   7.600    .100  18.000
                                   HEC-1 INPUT                                                    PAGE  2
1

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 53           UC    .421    .302
 54           UA       0       3       5       8      12      20      43      75      90      96
 55           UA     100
              * DDM   ***** Preserved *****

 56           KK     R10
 57           KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
 58           RS       4    FLOW      -1
 59           RC    .045     .03    .045    8700    .021
 60           RX       0       1       2      17      27      42      43      44
 61           RY       5       5       5       0       0       5       5       5
              * DDM   ***** Preserved *****

 62           KK     R12
 63           KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
 64           RS       6    FLOW      -1
```

```
 65          RC    .045     .03    .045    4500     .01
 66          RX       0       1      30    37.5    57.5      65      94      95
 67          RY     3.5     2.5     2.5       0       0     2.5     2.5     3.5
             * DDM   ***** Updated *****

 68          KK      20
 69          KM   SUB-BASIN 20
 70          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 71          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 72          KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 73          BA   1.120
 74          LG    .310    .280   5.800    .220  12.000
 75          UC    .637    .438
 76          UA       0       5      16      30      65      77      84      90      94      97
 77          UA     100
             * DDM   ***** Preserved *****

 78          KK     D20
 79          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
 80          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
 81          KM        MAXIMUM VOLUME DIVERSION IS 59.8 AC-FT
             *      1
 82          DT    BS20    59.8
 83          DI       0    5000
 84          DQ       0    5000
             * DDM   ***** Preserved *****

 85          KK    RT20
 86          KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
 87          DR    BS20
             * DDM   ***** Preserved *****

 88          KK    SR20
 89          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 90          KM    59.8 ACRE-FEETx43560/36x3600 = 20.1cfs
             *      1
 91          RS       1    STOR       0
 92          SV       0     .01    59.8
 93          SQ       0    20.1    20.1
             * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE  3

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 94          KK     C20
 95          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 96          HC       3
             * DDM   ***** Updated *****

 97          KK      40
 98          KM   SUB-BASIN 40
 99          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
100          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
101          KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
102          BA   2.233
103          LG    .310    .280   4.900    .320  14.000
104          UC    .488    .259
105          UA       0       5      16      30      65      77      84      90      94      97
106          UA     100
             * DDM   ***** Preserved *****

107          KK     D40
108          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
109          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
110          KM        MAXIMUM VOLUME DIVERSION IS 48.1 AC-FT
             *      1
111          DT    BS40    48.1
112          DI       0    5000
113          DQ       0    5000
             * DDM   ***** Preserved *****

114          KK    RT40
115          KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
116          DR    BS40
             * DDM   ***** Preserved *****

117          KK    SR40
118          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
119          KM    48.1 ACRE-FEETx43560/36x3600 = 16.2cfs
             *      1
120          RS       1    STOR       0
121          SV       0     .01    48.1
122          SQ       0    16.2    16.2
             * DDM   ***** Preserved *****

123          KK     C40
124          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 40
125          HC       3
             * DDM   ***** Updated *****

126          KK      60
127          KM   SUB-BASIN 60
128          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
129          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .990
130          KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
131          BA   1.746
132          LG    .320    .340   5.800    .200  13.000
133          UC    .596    .477
1                                   HEC-1 INPUT                                          PAGE  4

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

134          UA       0       3       5       8      12      20      43      75      90      96
135          UA     100
             * DDM   ***** Preserved *****

136          KK     D60
137          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
138          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
139          KM        MAXIMUM VOLUME DIVERSION IS 12.3 AC-FT
             *      1
140          DT    BS60    12.3
```

```
141          DI       0   10000
142          DQ       0   10000
             * DDM   ***** Preserved *****

143          KK    RT60
144          KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
145          DR    BS60
             * DDM   ***** Preserved *****

146          KK    60SR
147          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
148          KM    12.3 ACRE-FEETx43560/36x3600 = 4.1 cfs
             *      1
149          RS       1    STOR       0
150          SV       0     .01    12.3
151          SQ       0     4.1     4.1
             * DDM   ***** Preserved *****

152          KK     60C
153          KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
             *      1       2
154          HC       3
             * DDM   ***** Updated *****

155          KK    SR60
156          KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
157          KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
158          KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
159          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
160          RS       1    STOR       0
161          SV       0       1     100     200     300     400
162          SQ       0      71      81      87    91.5      94
163          SE    83.5    93.5      96    97.7      99   99.77
             * DDM   ***** Preserved *****

164          KK     R60
165          KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
166          RS       1    FLOW      -1
167          RC    .016    .016    .016    2850    .012
168          RX       0       1       2     2.1     5.6     5.7       6       7
169          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE  5

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

170          KK    RR60
171          KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
172          RS       1    FLOW      -1
173          RC    .016    .016    .016    3500    .005
174          RX       0       1       2     2.1     7.1     7.2       8       9
175          RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
             * DDM   ***** Updated *****

176          KK      80
177          KM   SUB-BASIN 80
178          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
179          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
180          KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
181          BA   1.475
182          LG    .320    .300   5.600    .240  11.000
183          UC    .429    .256
184          UA       0       5      16      30      65      77      84      90      94      97
185          UA     100
             * DDM   ***** Preserved *****

186          KK     D80
187          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
188          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
189          KM        MAXIMUM VOLUME DIVERSION IS 24.8 AC-FT
             *      1
190          DT    BS80    24.8
191          DI       0    5000
192          DQ       0    5000
             * DDM   ***** Preserved *****

193          KK    RT80
194          KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
195          DR    BS80
             * DDM   ***** Preserved *****

196          KK    SR80
197          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
198          KM    24.8 ACRE-FEETx43560/36x3600  = 8.3cfs
             *      1
199          RS       1    STOR       0
200          SV       0     .01    24.8
201          SQ       0     8.3     8.3
             * DDM   ***** Preserved *****

202          KK     80C
203          KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
204          HC       3   1.475
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE  6

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

205          KK     R80
206          KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
207          RS       1    FLOW      -1
208          RC    .025    .016    .025    1200    .003
209          RX       0       2       6     6.1    41.1    41.2    56.2    58.2
210          RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
             * DDM   ***** Updated *****

211          KK     100
212          KM   SUB-BASIN 100
213          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
214          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
215          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
```

```
216          BA    .484
217          LG    .300    .260   5.100    .310  14.000
218          UC    .533    .473
219          UA       0       5      16      30      65      77      84      90      94      97
220          UA     100
             * DDM   ***** Preserved *****

221          KK    D100
222          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
223          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
224          KM        MAXIMUM VOLUME DIVERSION IS 13.3 AC-FT
             *      1
225          DT   BS100    13.3
226          DI       0    5000
227          DQ       0    5000
             * DDM   ***** Preserved *****

228          KK   RT100
229          KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
230          DR   BS100
             * DDM   ***** Preserved *****

231          KK   SR100
232          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
233          KM    13.3 ACRE-FEETx43560/36x3600  = 4.5cfs
             *      1
234          RS       1    STOR       0
235          SV       0     .01    13.3
236          SQ       0     4.5     4.5
             * DDM   ***** Preserved *****

237          KK    100C
238          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
239          HC       3
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE  7

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


240          KK    R100
241          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
242          RS       1    FLOW      -1
243          RC    .016    .016    .016     940    .005
244          RX       0       1       2     2.1    52.1    52.2      53      54
245          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****

246          KK     120
247          KM   SUB-BASIN 120
248          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
249          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
250          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
251          BA   2.202
252          LG    .330    .270   6.800    .140  16.000
253          UC    .429    .226
254          UA       0       3       5       8      12      20      43      75      90      96
255          UA     100
             * DDM   ***** Preserved *****

256          KK    D120
257          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
258          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
259          KM        MAXIMUM VOLUME DIVERSION  IS 8.1 AC-FT
             *      1
260          DT   BS120     8.1
261          DI       0    5000
262          DQ       0    5000
             * DDM   ***** Preserved *****

263          KK   RT120
264          KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
265          DR   BS120
             * DDM   ***** Preserved *****

266          KK   SR120
267          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
268          KM     8.1 ACRE-FEETx43560/36x3600  = 2.7cfs
             *      1
269          RS       1    STOR       0
270          SV       0     .01     8.1
271          SQ       0     2.7     2.7
             * DDM   ***** Preserved *****

272          KK    120C
273          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
274          HC       3
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE  8

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


275          KK    R120
276          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
277          RS       1    FLOW      -1
278          RC    .025    .016    .025    2100    .005
279          RX       0       6      10    10.1    60.1    60.2    74.2    80.2
280          RY       8       5       5       0       0       5       5       8
             * DDM   ***** Updated *****

281          KK     140
282          KM   SUB-BASIN 140
283          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
284          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
285          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
286          BA    .598
287          LG    .300    .250   4.200    .520  15.000
288          UC    .421    .278
289          UA       0       5      16      30      65      77      84      90      94      97
290          UA     100
             * DDM   ***** Preserved *****
```

```
291          KK    D140
292          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
293          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
294          KM        MAXIMUM VOLUME DIVERSION IS 12.8 AC-FT
             *       1
295          DT   BS140    12.8
296          DI       0    5000
297          DQ       0    5000
             * DDM   ***** Preserved *****

298          KK   RT140
299          KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
300          DR   BS140
             * DDM   ***** Preserved *****

301          KK   SR140
302          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
303          KM    12.8 ACRE-FEETx43560/36x3600  = 4.3cfs
             *      1
304          RS       1    STOR       0
305          SV       0     .01    12.8
306          SQ       0     4.3     4.3
             * DDM   ***** Preserved *****

307          KK    C140
308          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 140
309          HC       2
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE  9

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

310          KK     150
311          KM   SUB-BASIN 150
312          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
313          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
314          KM     L = 1.50  Kb = .047  Adj. Slope =  314.6
315          BA    .408
316          LG    .350    .360   5.100    .260   7.000
317          UC    .296    .221
318          UA       0       3       5       8      12      20      43      75      90      96
319          UA     100
             * DDM   ***** Preserved *****

320          KK    R150
321          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
322          RS       2    FLOW      -1
323          RC    .045     .04    .045    3100    .032
324          RX       0       1       2      23      33      54      55      56
325          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

326          KK    R152
327          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
328          RS       4    FLOW      -1
329          RC    .045     .03    .045    5900    .019
330          RX       0       1       2       8      33      39      40      41
331          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****

332          KK     160
333          KM   SUB-BASIN 160
334          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
335          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
336          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
337          BA    .369
338          LG    .330    .320   4.150    .460   5.000
339          UC    .583    .650
340          UA       0       3       5       8      12      20      43      75      90      96
341          UA     100
             * DDM   ***** Preserved *****

342          KK    D160
343          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
344          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
345          KM        MAXIMUM VOLUME DIVERSION IS 11.8 AC-FT
             *       1
346          DT   BS160    11.8
347          DI       0    5000
348          DQ       0    5000
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 10

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

349          KK   RT160
350          KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
351          DR   BS160
             * DDM   ***** Preserved *****

352          KK   SR160
353          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
354          KM    11.8 ACRE-FEETx43560/36x3600    = 4cfs
             *      1
355          RS       1    STOR       0
356          SV       0     .01    11.8
357          SQ       0       4       4
             * DDM   ***** Preserved *****

358          KK    C160
359          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 160
360          HC       2
             * DDM   ***** Updated *****

361          KK     180
362          KM   SUB-BASIN 180
363          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
364          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
365          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
366          BA   1.000
367          LG    .340    .330   4.150    .450   3.000
```

```
368          UC    .563    .396
369          UA       0       3       5       8      12      20      43      75      90      96
370          UA     100
             * DDM   ***** Preserved *****

371          KK    D180
372          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
373          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
374          KM        MAXIMUM VOLUME DIVERSION IS 15.8 AC-FT
             *      1
375          DT   BS180    15.8
376          DI       0    5000
377          DQ       0    5000
             * DDM   ***** Preserved *****

378          KK   RT180
379          KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
380          DR   BS180
             * DDM   ***** Preserved *****

381          KK   180SR
382          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
383          KM    11.8 ACRE-FEETx43560/36x3600     = 4cfs
             *      1
384          RS       1    STOR       0
385          SV       0     .01    11.8
386          SQ       0       4       4
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 11

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

387          KK    180C
388          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
389          HC       6
             * DDM   ***** Updated *****

390          KK     210
391          KM   SUB-BASIN 210
392          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
393          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
394          KM     L = 1.84  Kb = .045  Adj. Slope =  315.0
395          BA    .583
396          LG    .350    .340   7.000    .120   6.000
397          UC    .317    .229
398          UA       0       3       5       8      12      20      43      75      90      96
399          UA     100
             * DDM   ***** Preserved *****

400          KK    D210
401          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
402          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
403          KM        MAXIMUM VOLUME DIVERSION  IS 2.7 AC-FT
             *      1
404          DT   BS210     2.7
405          DI       0    5000
406          DQ       0    5000
             * DDM   ***** Preserved *****

407          KK   RT210
408          KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
409          DR   BS210
             * DDM   ***** Preserved *****

410          KK   SR210
411          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
412          KM     2.7 ACRE-FEETx43560/36x3600     = 1cfs
             *      1
413          RS       1    STOR       0
414          SV       0     .01     2.7
415          SQ       0       1       1
             * DDM   ***** Preserved *****

416          KK    C210
417          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 210
418          HC       2
             * DDM   ***** Preserved *****

419          KK    R210
420          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
421          RS       3    FLOW      -1
422          RC    .045     .03    .045    5100    .022
423          RX       0       1       2      14      34      46      47      48
424          RY       4       4       4       0       0       4       4       4
             * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                          PAGE 12

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

425          KK     240
426          KM   SUB-BASIN 240
427          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
428          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
429          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
430          BA   1.398
431          LG    .340    .340   5.200    .260   5.000
432          UC    .467    .357
433          UA       0       3       5       8      12      20      43      75      90      96
434          UA     100
             * DDM   ***** Preserved *****

435          KK    D240
436          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
437          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
438          KM        MAXIMUM VOLUME DIVERSION IS 27.8 AC-FT
             *      1
439          DT   BS240    27.8
440          DI       0    5000
441          DQ       0    5000
             * DDM   ***** Preserved *****
```

```
442          KK   RT240
443          KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
444          DR   BS240
             * DDM   ***** Preserved *****

445          KK   240SR
446          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
447          KM    27.8 ACRE-FEETx43560/36x3600 = 9.4 cfs
             *      1
448          RS       1    STOR       0
449          SV       0     .01    27.8
450          SQ       0     9.4     9.4
             * DDM   ***** Preserved *****

451          KK    240C
452          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240
453          HC       3
             * DDM   ***** Preserved *****

454          KK   SR240
455          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
456          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
457          RS       1    STOR       0
458          SA    1.38    14.2    36.5
459          SE     1.7       5      11
460          SS       5      42       3     1.5
             * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                          PAGE 13

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

461          KK     220
462          KM   SUB-BASIN 220
463          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
464          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
465          KM     L = 1.92  Kb = .043  Adj. Slope =  315.0
466          BA    .725
467          LG    .340    .300   7.000    .120   7.000
468          UC    .317    .209
469          UA       0       3       5       8      12      20      43      75      90      96
470          UA     100
             * DDM   ***** Preserved *****

471          KK    D220
472          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
473          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
474          KM        MAXIMUM VOLUME DIVERSION IS 15.7 AC-FT
             *      1
475          DT   BS220    15.7
476          DI       0    5000
477          DQ       0    5000
             * DDM   ***** Preserved *****

478          KK   RT220
479          KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
480          DR   BS220
             * DDM   ***** Preserved *****

481          KK   220SR
482          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
483          KM    15.7 ACRE-FEETx43560/36x3600 = 5.3 cfs
             *      1
484          RS       1    STOR       0
485          SV       0     .01    15.7
486          SQ       0     5.3     5.3
             * DDM   ***** Preserved *****

487          KK    220C
488          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
489          HC       3
             * DDM   ***** Preserved *****

490          KK   SR220
491          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
492          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
493          RS       1    STOR       0
494          SA     .78     4.1    13.7
495          SE       1       3      10
496          SS       3      65       3     1.5
             * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                          PAGE 14

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

497          KK     190
498          KM   SUB-BASIN 190
499          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
500          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
501          KM     L = 1.91  Kb = .042  Adj. Slope =  315.0
502          BA    .918
503          LG    .350    .390   5.800    .190   8.000
504          UC    .321    .185
505          UA       0       3       5       8      12      20      43      75      90      96
506          UA     100
             * DDM   ***** Preserved *****

507          KK    R190
508          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
509          RS       2    FLOW      -1
510          RC    .045     .03    .045    4740     .03
511          RX       0       1       2      17      37      52      53      54
512          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

513          KK    R192
514          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
515          RS       2    FLOW      -1
516          RC    .045    .035    .045    2200    .018
517          RX       0       1      50      59      79      88     137     138
518          RY     3.5       3       3       0       0       3       3     3.5
             * DDM   ***** Updated *****
```

```
519          KK     200
520          KM   SUB-BASIN 200
521          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
522          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
523          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
524          BA    .535
525          LG    .350    .380   5.700    .200  11.000
526          UC    .300    .200
527          UA       0       3       5       8      12      20      43      75      90      96
528          UA     100
             * DDM   ***** Preserved *****

529          KK    D200
530          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
531          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
532          KM        MAXIMUM VOLUME DIVERSION    IS 4 AC-FT
             *      1
533          DT   BS200       4
534          DI       0    5000
535          DQ       0    5000
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 15

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

536          KK   RT200
537          KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
538          DR   BS200
             *      1
             * DDM   ***** Preserved *****

539          KK    S200
540          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
541          KM       4 ACRE-FEETx43560/36x3600 = 1.4 cfs
             *      1
542          RS       1    STOR       0
543          SV       0     .01       4
544          SQ       0     1.4     1.4
             * DDM   ***** Preserved *****

545          KK    200C
546          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
547          HC       4
             * DDM   ***** Preserved *****

548          KK   SR200
549          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
550          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
551          RS       1    STOR       0
552          SA    2.56     3.1     9.4
553          SE       0       3      10
554          SS       3     112       3     1.5
             * DDM   ***** Preserved *****

555          KK   200SR
556          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
557          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
558          RS       1    STOR       0
559          SA       8     9.2     9.2
560          SE       0       7      10
561          SS       7     251       3     1.5
             * DDM   ***** Preserved *****

562          KK    C180
563          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             *      1       2
564          HC       2
             * DDM   ***** Preserved *****

565          KK   SR180
566          KM   SIGNAL BUTTE FRS DATED 1/28/85
567          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
568          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
569          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
570          RS       1    STOR       0
571          SV       0       1     250     500     750    1060
572          SQ       0   106.5   125.5   137.5     146     160
573          SE      90     101   104.5     107     109   112.4
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 16

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

574          KK    R180
575          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
576          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
577          RS       3    FLOW      -1
578          RC    .035    .025    .035    1500    .003
579          RX       0       1       2    22.6    38.6    59.2      60      61
580          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

581          KK     260
582          KM   SUB-BASIN 260
583          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
584          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
585          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
586          BA    .267
587          LG    .320    .240   6.800    .150   9.000
588          UC    .363    .215
589          UA       0       5      16      30      65      77      84      90      94      97
590          UA     100
             * DDM   ***** Preserved *****

591          KK    260C
592          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
593          HC       2    .267
             * DDM   ***** Preserved *****

594          KK    R260
```

```
595          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
596          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
597          RS       3    FLOW      -1
598          RC    .035    .025    .035    2300    .003
599          RX       0       1       2    23.4    43.4    64.8      65      66
600          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

601          KK     280
602          KM   SUB-BASIN 280
603          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
604          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
605          KM     L =  .77  Kb = .049  Adj. Slope =   84.0
606          BA    .304
607          LG    .300    .250   5.300    .290  15.000
608          UC    .333    .175
609          UA       0       5      16      30      65      77      84      90      94      97
610          UA     100
             * DDM   ***** Preserved *****

611          KK    280C
612          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
613          HC       2
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 17

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

614          KK    R280
615          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
616          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
617          RS       2    FLOW      -1
618          RC    .035    .025    .035    2500    .003
619          RX       0       1       2    23.4    43.4    64.8      65      66
620          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

621          KK     300
622          KM   SUB-BASIN 300
623          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
624          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
625          KM     L = 2.28  Kb = .041  Adj. Slope =  127.0
626          BA    .988
627          LG    .320    .290   4.500    .400  12.000
628          UC    .533    .359
629          UA       0       5      16      30      65      77      84      90      94      97
630          UA     100
             * DDM   ***** Preserved *****

631          KK    300C
632          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
633          HC       2
             * DDM   ***** Preserved *****

634          KK    R300
635          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
636          KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
637          RS       2    FLOW      -1
638          RC    .035    .025    .035    2200    .003
639          RX       0       1       2    23.4    55.4    76.8      77      78
640          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Preserved *****

641          KK   RR300
642          KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
643          KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
644          RS       2    FLOW      -1
645          RC    .016    .016    .016    6050   .0146
646          RX       0       1       2     2.1    16.1    16.2      17      18
647          RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
             *        1       2
             * DDM   ***** Updated *****

648          KK     350
649          KM   SUB-BASIN 350
650          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
651          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
652          KM     L = 2.22  Kb = .042  Adj. Slope =  315.0
653          BA    .970
654          LG    .350    .350   4.550    .340   4.000
655          UC    .367    .234
656          UA       0       3       5       8      12      20      43      75      90      96
1                                    HEC-1 INPUT                                          PAGE 18

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

657          UA     100
             * DDM   ***** Preserved *****

658          KK    D350
659          KM   DIVERT FLOW FROM SUB-BASIN 350. FOR MODELING PURPOSES THE SPLIT FLOW WILL
660          KM   BE ROUTED BETWEEN SUB-BASINS 355 & 310. THE MAIN FLOW WILL ROUTED TO 310
661          DT   SF350
662          DI       0    5000
663          DQ       0    2500
             * DDM   ***** Preserved *****

664          KK    350R
665          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING
666          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
667          RS       6    FLOW      -1
668          RC    .045    .035    .045    5150    .025
669          RX       0       1      40      46      56      62     102     103
670          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

671          KK     310
672          KM   SUB-BASIN 310
673          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
674          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
675          KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
676          BA    .555
```

```
677          LG    .350    .340   3.910    .490   1.000
678          UC    .483    .511
679          UA       0       3       5       8      12      20      43      75      90      96
680          UA     100
             * DDM   ***** Preserved *****

681          KK    C310
682          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
683          HC       2    .943
             * DDM   ***** Preserved *****

684          KK    R310
685          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
686          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
687          RS      10    FLOW      -1
688          RC    .045    .035    .045   10050    .022
689          RX       0       1      40      46      56      62     102     103
690          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

691          KK     320
692          KM   SUB-BASIN 320
693          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
694          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
695          KM     L = 2.20  Kb = .042  Adj. Slope =  132.0
696          BA    .972
697          LG    .290    .260   4.550    .400  20.000
698          UC    .504    .330
699          UA       0       5      16      30      65      77      84      90      94      97
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

700          UA     100
             * DDM   ***** Preserved *****

701          KK    D320
702          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
703          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
704          KM   SIERRA HEIGHTS        FALCON RIDGE    & MARBLE CREEK
705          KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
             *      1
706          DT   BS320   12.27
707          DI       0   10000
708          DQ       0   10000
             * DDM   ***** Preserved *****

709          KK   RT320
710          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
711          DR   BS320
             * DDM   ***** Preserved *****

712          KK   SR320
713          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
714          KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
             *      1
715          RS       1    STOR       0
716          SV       0     .01    12.3
717          SQ       0     4.2     4.2
             * DDM   ***** Preserved *****

718          KK    C320
719          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
720          HC       4
             * DDM   ***** Updated *****

721          KK     340
722          KM   SUB-BASIN 340
723          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
724          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
725          KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
726          BA   1.449
727          LG    .280    .280   4.150    .520  21.000
728          UC    .512    .287
729          UA       0       5      16      30      65      77      84      90      94      97
730          UA     100
             * DDM   ***** Preserved *****

731          KK    D340
732          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
733          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
734          KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
735          KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
             *      1
736          DT   BS340      56
737          DI       0   10000
738          DQ       0   10000
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

739          KK   RT340
740          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
741          DR   BS340
             * DDM   ***** Preserved *****

742          KK   SR340
743          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
744          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
745          RS       1    STOR       0
746          SV       0     .01      56
747          SQ       0    18.9    18.9
             * DDM   ***** Preserved *****

748          KK    C340
749          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
750          HC       3
             * DDM   ***** Preserved *****

751          KK   RT350
```

```
752          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 350
753          DR   SF350
             * DDM   ***** Preserved *****

754          KK   RR350
755          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
756          KM   ROUTING OF FLOW FROM SPLIT OF SUB-BASIN 350 TO 355
757          RS       8    FLOW      -1
758          RC    .045    .035    .045    6050    .025
759          RX       0       1      40      46      56      62     102     103
760          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

761          KK     355
762          KM   SUB-BASIN 355
763          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
764          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
765          KM     L = 3.00  Kb = .044  Adj. Slope =  284.0
766          BA    .659
767          LG    .340    .330   4.450    .370   5.000
768          UC    .483    .504
769          UA       0       3       5       8      12      20      43      75      90      96
770          UA     100
             * DDM   ***** Preserved *****

771          KK    D355
772          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
773          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
774          KM        MAXIMUM VOLUME DIVERSION IS 12.4 AC-FT
             *      1
775          DT   BS355    12.4
776          DI       0    5000
777          DQ       0    5000
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 21

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

778          KK   RT355
779          KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
780          DR   BS355
             * DDM   ***** Preserved *****

781          KK   SR355
782          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
783          KM    12.4 ACRE-FEETx43560/36x3600  = 4.2cfs
             *      1
784          RS       1    STOR       0
785          SV       0     .01    12.4
786          SQ       0     4.2     4.2
             * DDM   ***** Preserved *****

787          KK    C355
788          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 355 AND THE SPLIT FLOW FROM SUB-BASIN 350
789          HC       3    1.24
             * DDM   ***** Preserved *****

790          KK    R355
791          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
792          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
793          RS      11    FLOW      -1
794          RC    .045    .035    .045   10100    .026
795          RX       0       1      40      46      56      62     102     103
796          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

797          KK     360
798          KM   SUB-BASIN 360
799          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
800          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
801          KM     L = 2.10  Kb = .048  Adj. Slope =  124.0
802          BA    .670
803          LG    .260    .270   4.100    .560  20.000
804          UC    .587    .466
805          UA       0       5      16      30      65      77      84      90      94      97
806          UA     100
             * DDM   ***** Preserved *****

807          KK    D360
808          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
809          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
810          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
811          DT   BS360    28.6
812          DI       0   10000
813          DQ       0   10000
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 22

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

814          KK   RT360
815          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
816          DR   BS360
             * DDM   ***** Preserved *****

817          KK   SR360
818          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
819          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
820          RS       1    STOR       0
821          SV       0     .01    28.6
822          SQ       0     9.6     9.6
             * DDM   ***** Preserved *****

823          KK    360C
824          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
825          HC       4
             * DDM   ***** Updated *****

826          KK     370
827          KM   SUB-BASIN 370
```

```
828          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
829          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
830          KM     L = 2.90  Kb = .044  Adj. Slope =  294.6
831          BA    .667
832          LG    .330    .310   4.650    .340  11.000
833          UC    .454    .455
834          UA       0       3       5       8      12      20      43      75      90      96
835          UA     100
             * DDM   ***** Preserved *****

836          KK    D370
837          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
838          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
839          KM        MAXIMUM VOLUME DIVERSION IS 18.3 AC-FT
             *      1
840          DT   BS370    18.3
841          DI       0    5000
842          DQ       0    5000
             * DDM   ***** Preserved *****

843          KK   RT370
844          KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
845          DR   BS370
             * DDM   ***** Preserved *****

846          KK   SR370
847          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
848          KM    18.3 ACRE-FEETx43560/36x3600  = 6.2cfs
             *      1
849          RS       1    STOR       0
850          SV       0     .01    18.3
851          SQ       0     6.2     6.2
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 23

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

852          KK    C370
853          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 370
854          HC       2
             * DDM   ***** Updated *****

855          KK     395
856          KM   SUB-BASIN 395
857          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
858          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
859          KM     L = 1.60  Kb = .051  Adj. Slope =  215.8
860          BA    .198
861          LG    .300    .250   4.900    .350  20.000
862          UC    .379    .462
863          UA       0       5      16      30      65      77      84      90      94      97
864          UA     100
             * DDM   ***** Preserved *****

865          KK    D395
866          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
867          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
868          KM        MAXIMUM VOLUME DIVERSION IS 18.3 AC-FT
             *      1
869          DT   BS395    18.3
870          DI       0    5000
871          DQ       0    5000
             * DDM   ***** Preserved *****

872          KK   RT395
873          KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
874          DR   BS395
             * DDM   ***** Preserved *****

875          KK   SR395
876          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
877          KM    18.3 ACRE-FEETx43560/36x3600  = 6.2cfs
             *      1
878          RS       1    STOR       0
879          SV       0     .01    18.3
880          SQ       0     6.2     6.2
             * DDM   ***** Preserved *****

881          KK    C395
882          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 395
883          HC       2
             * DDM   ***** Preserved *****

884          KK    370C
885          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
886          HC       2
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 24

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

887          KK    R370
888          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
889          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 380.
890          RS      18    FLOW      -1
891          RC    .045    .035    .045   10250    .023
892          RX       0       1      40      46      56      62     102     103
893          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

894          KK     380
895          KM   SUB-BASIN 380
896          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
897          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
898          KM     L = 2.20  Kb = .048  Adj. Slope =  114.0
899          BA    .972
900          LG    .300    .310   4.150    .500   7.000
901          UC    .658    .444
902          UA       0       5      16      30      65      77      84      90      94      97
903          UA     100
             * DDM   ***** Preserved *****
```

```
904          KK    D380
905          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
906          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
907          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
908          DT   BS380    28.6
909          DI       0   10000
910          DQ       0   10000
             * DDM   ***** Preserved *****

911          KK   RT380
912          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
913          DR   BS380
             * DDM   ***** Preserved *****

914          KK   SR380
915          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
916          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
917          RS       1    STOR       0
918          SV       0     .01    28.6
919          SQ       0     9.6     9.6
             * DDM   ***** Preserved *****

920          KK    380C
921          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
922          HC       4
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 25

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

923          KK     390
924          KM   SUB-BASIN 390
925          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
926          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
927          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
928          BA    .244
929          LG    .300    .250   4.700    .380  18.000
930          UC    .204    .107
931          UA       0       5      16      30      65      77      84      90      94      97
932          UA     100
             * DDM   ***** Preserved *****

933          KK    D390
934          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
935          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
936          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
937          DT   BS390     3.5
938          DI       0   10000
939          DQ       0   10000
             * DDM   ***** Preserved *****

940          KK   RT390
941          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
942          DR   BS390
             * DDM   ***** Preserved *****

943          KK   SR390
944          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
945          KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
946          RS       1    STOR       0
947          SV       0     .01     3.5
948          SQ       0     1.2     1.2
             * DDM   ***** Preserved *****

949          KK    390C
950          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
951          HC       2
             * DDM   ***** Preserved *****

952          KK   RR390
953          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
954          KM   FROM SUB-BASIN 390 TO SUB-BASIN 400
955          RS      14    FLOW      -1
956          RC    .045    .045    .045    8800    .020
957          RX       0       1      40      46      56      62     102     103
958          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 26

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

959          KK     400
960          KM   SUB-BASIN 400
961          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
962          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
963          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
964          BA    .616
965          LG    .320    .320   3.130    .930   6.000
966          UC    .592    .405
967          UA       0       5      16      30      65      77      84      90      94      97
968          UA     100
             * DDM   ***** Preserved *****

969          KK    D400
970          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
971          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
972          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
973          DT   BS400     5.6
974          DI       0   10000
975          DQ       0   10000
             * DDM   ***** Preserved *****

976          KK   RT400
977          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
978          DR   BS400
             * DDM   ***** Preserved *****
```

```
 979          KK   SR400
 980          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 981          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
 982          RS       1    STOR       0
 983          SV       0     .01     5.6
 984          SQ       0       2       2
              * DDM   ***** Preserved *****

 985          KK    C400
 986          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 987          HC       2
              * DDM   ***** Preserved *****

 988          KK    400C
 989          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 990          HC       3
              * DDM   ***** Updated *****

 991          KK     385
 992          KM   SUB-BASIN 385
 993          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 994          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
 995          KM     L = 2.30  Kb = .045  Adj. Slope =  303.0
 996          BA    .523
 997          LG    .310    .260   5.600    .250  24.000
 998          UC    .375    .351
 999          UA       0       5      16      30      65      77      84      90      94      97
1                                          HEC-1 INPUT                                          PAGE 27

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1000          UA     100
              * DDM   ***** Preserved *****

1001          KK   DD385
1002          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
1003          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
1004          KM        MAXIMUM VOLUME DIVERSION IS 28.9 AC-FT
              *      1
1005          DT   BS385    28.9
1006          DI       0    5000
1007          DQ       0    5000
              * DDM   ***** Updated *****

1008          KK   RT385
1009          KM   RETRIIEVE FLOW FOR DUMMY BASIN
1010          DR   BS385
              * DDM   ***** Preserved *****

1011          KK   SR385
1012          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1013          KM    28.9 ACRE-FEETx43560/36x3600  = 9.7cfs
              *      1
1014          RS       1    STOR       0
1015          SV       0     .01    28.9
1016          SQ       0     9.7     9.7
              * DDM   ***** Preserved *****

1017          KK    C385
1018          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 385
1019          HC       2
              * DDM   ***** Preserved *****

1020          KK    D385
1021          KM   DIVERT FLOW INTO SUB-BASINS 415 & 420
1022          DT   SF385
1023          DI       0    5000
1024          DQ       0    3000
              * DDM   ***** Preserved *****

1025          KK    385R
1026          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1027          KM   ROUTING OF FLOW DIVERSION FROM SUB-BASIN 385 INTO SUB-BASIN 420
1028          RS      15    FLOW      -1
1029          RC    .045     .04    .045   10250    .022
1030          RX       0       1      40      46      56      62     102     103
1031          RY       3       2       2       0       0       2       2       3
              * DDM   ***** Updated *****

1032          KK     420
1033          KM   SUB-BASIN 420
1034          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1035          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
1036          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
1037          BA    .849
1038          LG    .310    .270   3.880    .580  12.000
1                                          HEC-1 INPUT                                          PAGE 28

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1039          UC    .512    .325
1040          UA       0       5      16      30      65      77      84      90      94      97
1041          UA     100
              * DDM   ***** Preserved *****

1042          KK    D420
1043          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1044          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
1045          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
              *      1
1046          DT   BS420    8.65
1047          DI       0   10000
1048          DQ       0   10000
              * DDM   ***** Preserved *****

1049          KK   RT420
1050          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1051          DR   BS420
              * DDM   ***** Preserved *****

1052          KK   SR420
1053          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1054          KM   38.55 ACRE-FEETx43560/36x3600=13cfs
```

```
1055          RS       1    STOR       0
1056          SV       0     .01   38.55
1057          SQ       0      13      13
              * DDM   ***** Preserved *****

1058          KK    420C
1059          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1060          HC       4   10.87
              * DDM   ***** Updated *****

1061          KK     440
1062          KM   SUB-BASIN 440
1063          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1064          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1065          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
1066          BA    .080
1067          LG    .190    .380   6.400    .140  13.000
1068          UC    .129    .077
1069          UA       0       3       5       8      12      20      43      75      90      96
1070          UA     100
              * DDM   ***** Preserved *****

1071          KK     R70
1072          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
1073          RS       1    FLOW      -1
1074          RC     .05    .035     .05    2250     .08
1075          RX    1000    1025    1050    1070    1075    1095    1120    1145
1076          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE 29

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1077          KK     441
1078          KM   SUB-BASIN 441
1079          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1080          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1081          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
1082          BA    .010
1083          LG    .300    .250   5.600    .220   5.000
1084          UC    .150    .225
1085          UA       0       5      16      30      65      77      84      90      94      97
1086          UA     100
              * DDM   ***** Preserved *****

1087          KK    C108
1088          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
1089          HC       2
              * DDM   ***** Preserved *****

1090          KK    DIV4
1091          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
              *      1
1092          DT   SPLIT
1093          DI       0      14      40      82     120     154     180
1094          DQ       0       7      20      41      60      77      90
              * DDM   ***** Preserved *****

1095          KK    R108
1096          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
1097          RS       2    FLOW      -1
1098          RC     .05    .035     .05    3200      .1
1099          RX    1000    1025    1050    1070    1075    1095    1120    1145
1100          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1101          KK     442
1102          KM   SUB-BASIN 442
1103          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1104          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1105          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
1106          BA    .100
1107          LG    .300    .270   3.290    .770   5.000
1108          UC    .258    .264
1109          UA       0       5      16      30      65      77      84      90      94      97
1110          UA     100
              * DDM   ***** Preserved *****

1111          KK     C67
1112          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
1113          HC       2
              * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 30

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1114          KK    DIV6
1115          KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
1116          KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
              *      1
1117          DT  BASIN4
1118          DI       0      10      32      44    79.9   132.5     198   272.9   356.8
1119          DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
              * DDM   ***** Preserved *****

1120          KK  RTDIV6
1121          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1122          DR  BASIN4
              * DDM   ***** Preserved *****

1123          KK  RFDIV6
1124          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1125          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
              *      1
1126          RS       1    STOR       0
1127          SV       0     .01     3.3
1128          SQ       0     1.1     1.1
              * DDM   ***** Preserved *****

1129          KK   CDIV6
1130          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
```

```
1131          HC       2
              * DDM   ***** Updated *****

1132          KK     443
1133          KM   SUB-BASIN 443
1134          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1135          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1136          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
1137          BA    .080
1138          LG    .250    .190   8.000    .080  10.000
1139          UC    .196    .194
1140          UA       0       5      16      30      65      77      84      90      94      97
1141          UA     100
              * DDM   ***** Preserved *****

1142          KK   DIV66
1143          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
1144          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
1145          DT   WSH66
1146          DI       0      78     100     200
1147          DQ       0      78      78      78
              * DDM   ***** Preserved *****

1148          KK    R113
1149          KM        ROUTE FLOW FROM C113 TO C114
1150          RS       1    FLOW      -1
1151          RC    .019    .019    .019    1300    .029
1152          RX    1000    1004    1008    1012    1018    1022    1026    1030
1153          RY      17   15.33   12.67      10      10   12.67   15.33      17
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 31

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1154          KK    C114
1155          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1156          HC       2
              * DDM   ***** Updated *****

1157          KK     444
1158          KM   SUB-BASIN 444
1159          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1160          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1161          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
1162          BA    .040
1163          LG    .130    .350   4.450    .320   1.000
1164          UC    .112    .084
1165          UA       0       3       5       8      12      20      43      75      90      96
1166          UA     100
              * DDM   ***** Preserved *****

1167          KK     R58
1168          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1169          RS       1    FLOW      -1
1170          RC     .05    .035     .05    2370   .0516
1171          RX    1000    1010    1020    1050    1055    1085    1095    1105
1172          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Updated *****

1173          KK     445
1174          KM   SUB-BASIN 445
1175          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1176          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1177          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
1178          BA    .190
1179          LG    .170    .320   3.470    .590   3.000
1180          UC    .192    .130
1181          UA       0       5      16      30      65      77      84      90      94      97
1182          UA     100
              * DDM   ***** Preserved *****

1183          KK    C107
1184          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1185          HC       2
              * DDM   ***** Preserved *****

1186          KK    R107
1187          KM        ROUTE FLOW FROM C107 TO C109
1188          RS       1    FLOW      -1
1189          RC     .05    .035     .05     700   .0516
1190          RX    1000    1010    1020    1050    1055    1085    1095    1105
1191          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 32

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1192          KK    RTB2
1193          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1
1194          DR   SPLIT
              * DDM   ***** Preserved *****

1195          KK  RSPLIT
1196          KM        ROUTE FLOW FROM SPLIT TO C109
1197          RS       1    FLOW      -1
1198          RC     .05    .035     .05     800     .05
1199          RX    1000    1025    1050    1070    1075    1095    1120    1145
1200          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

1201          KK     446
1202          KM   SUB-BASIN 446
1203          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1204          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1205          KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1206          BA    .040
1207          LG    .270    .250   4.500    .400  19.000
1208          UC    .183    .189
1209          UA       0       5      16      30      65      77      84      90      94      97
1210          UA     100
```

```
            * DDM   ***** Preserved *****

1211        KK    C109
1212        KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1213        HC       3
            * DDM   ***** Preserved *****

1214        KK    DIV5
1215        KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1216        KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
            *      1
1217        DT  WSH404
1218        DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1219        DQ       0      35      35      35      35      35      35      35
            * DDM   ***** Preserved *****

1220        KK    R109
1221        KM        ROUTE FLOW FROM C109 TO C110
1222        RS       1    FLOW      -1
1223        RC    .019    .019    .019    3080     .05
1224        RX    1000    1005    1010    1015    1025    1030    1035    1040
1225        RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
            * DDM   ***** Updated *****

1226        KK     447
1227        KM   SUB-BASIN 447
1228        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1229        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1230        KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1231        BA    .090
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1232        LG    .250    .270   3.350    .870  30.000
1233        UC    .208    .145
1234        UA       0       5      16      30      65      77      84      90      94      97
1235        UA     100
            * DDM   ***** Preserved *****

1236        KK   RT404
1237        KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1238        DR  WSH404
            * DDM   ***** Preserved *****

1239        KK    R404
1240        KM        ROUTE FLOW FROM C110 TO C110
1241        RS       5    FLOW      -1
1242        RC    .019    .019    .019    3540     .03
1243        RX    1000    1012    1016    1020    1025    1029    1033    1045
1244        RY      15      12      11      10      10      11      12      15
            * DDM   ***** Preserved *****

1245        KK    C110
1246        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1247        HC       3
            * DDM   ***** Preserved *****

1248        KK    R110
1249        KM        ROUTE FLOW FROM C110 TO C115
1250        RS       1    FLOW      -1
1251        RC    .019    .019    .019     580   .0291
1252        RX    1000    1012    1016    1020    1035    1039    1043    1055
1253        RY      15      12      11      10      10      11      12      15
            * DDM   ***** Preserved *****

1254        KK    C115
1255        KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1256        HC       2
            * DDM   ***** Preserved *****

1257        KK    R115
1258        KM        ROUTE FLOW FROM C115 TO C119
1259        RS       1    FLOW      -1
1260        RC    .019    .019    .019    2125    .029
1261        RC    .019    .019    .019     580   .0291
1262        RX    1000    1012    1016    1020    1035    1039    1043    1055
1263        RY      15      12      11      10      10      11      12      15
            * DDM   ***** Updated *****

1264        KK     448
1265        KM   SUB-BASIN 448
1266        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1267        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1268        KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1269        BA    .045
1270        LG    .170    .310   4.200    .390  11.000
1271        UC    .133    .102
1272        UA       0       5      16      30      65      77      84      90      94      97
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1273        UA     100
            * DDM   ***** Updated *****

1274        KK     449
1275        KM   SUB-BASIN 449
1276        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1277        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1278        KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1279        BA    .050
1280        LG    .260    .280   3.500    .640   6.000
1281        UC    .167    .134
1282        UA       0       5      16      30      65      77      84      90      94      97
1283        UA     100
            * DDM   ***** Preserved *****

1284        KK   C6364
1285        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1286        HC       2
            * DDM   ***** Preserved *****
```

```
1287        KK   R6364
1288        KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1289        RS       4    FLOW      -1
1290        RC     .05    .035     .05    4375   .0333
1291        RX    1000    1027    1053    1080    1090    1117    1143    1170
1292        RY      15   13.33   11.67      10      10   11.67   13.33      15
            * DDM   ***** Updated *****

1293        KK     450
1294        KM   SUB-BASIN 450
1295        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1296        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1297        KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1298        BA    .070
1299        LG    .300    .260   3.630    .710  18.000
1300        UC    .287    .371
1301        UA       0       5      16      30      65      77      84      90      94      97
1302        UA     100
            * DDM   ***** Preserved *****

1303        KK    D450
1304        KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
1305        KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
1306        KM        MAXIMUM VOLUME DIVERSION  IS 6.4 AC-FT
            *      1
1307        DT   BS450     6.4
1308        DI       0    5000
1309        DQ       0    5000
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1310        KK   RT450
1311        KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
1312        DR   BS450
            * DDM   ***** Preserved *****

1313        KK   SR450
1314        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1315        KM     6.4 ACRE-FEETx43560/36x3600  = 2.2cfs
            *      1
1316        RS       1    STOR       0
1317        SV       0     .01     6.4
1318        SQ       0     2.2     2.2
            * DDM   ***** Preserved *****

1319        KK    C450
1320        KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 450
1321        HC       2
            * DDM   ***** Updated *****

1322        KK     451
1323        KM   SUB-BASIN 451
1324        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1325        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1326        KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1327        BA    .025
1328        LG    .300    .270   3.290    .910  16.000
1329        UC    .267    .446
1330        UA       0       5      16      30      65      77      84      90      94      97
1331        UA     100
            * DDM   ***** Preserved *****

1332        KK    D451
1333        KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
1334        KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
1335        KM        MAXIMUM VOLUME DIVERSION  IS 2.1 AC-FT
            *      1
1336        DT   BS451     2.1
1337        DI       0    5000
1338        DQ       0    5000
            * DDM   ***** Preserved *****

1339        KK   RT451
1340        KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
1341        DR   BS451
            * DDM   ***** Preserved *****

1342        KK   SR451
1343        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1344        KM     2.1 ACRE-FEETx43560/36x3600    = 1cfs
            *      1
1345        RS       1    STOR       0
1346        SV       0     .01     2.1
1347        SQ       0       1       1
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1348        KK    C451
1349        KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 451
1350        HC       2
            * DDM   ***** Preserved *****

1351        KK    RT66
1352        KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1353        DR   WSH66
            * DDM   ***** Updated *****

1354        KK     452
1355        KM   SUB-BASIN 452
1356        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1357        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1358        KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1359        BA    .040
1360        LG    .260    .280   3.700    .550   9.000
1361        UC    .171    .166
1362        UA       0       5      16      30      65      77      84      90      94      97
1363        UA     100
```

```
            * DDM   ***** Preserved *****

1364        KK   C6465
1365        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1366        HC       2
            * DDM   ***** Preserved *****

1367        KK   R6566
1368        KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1369        RS       2    FLOW      -1
1370        RC     .05    .035     .05    2435   .0282
1371        RX    1000    1045    1090    1150    1160    1220    1265    1310
1372        RY      25      23      20      10      10      20      23      25
            * DDM   ***** Preserved *****

1373        KK    C116
1374        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1375        HC       4
            * DDM   ***** Preserved *****

1376        KK  BASIN5
1377        KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1378        KM        BASIN 5 FEET DEEP
1379        RS       1    ELEV       0
1380        SV       0     4.5     9.9
1381        SQ       0      69     190
1382        SE       0     2.5       5
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 37

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1383        KK    R116
1384        KM   ROUTE FLOW FROM C116 TO C117
1385        RS       3    FLOW      -1
1386        RC     .05    .035     .05    1300   .0333
1387        RX    1000    1100    1200    1300    1320    1420    1520    1620
1388        RY      13      12      11      10      10      11      12      13
            * DDM   ***** Updated *****

1389        KK     453
1390        KM   SUB-BASIN 453
1391        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1392        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1393        KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1394        BA    .060
1395        LG    .270    .270   3.290    .910  24.000
1396        UC    .275    .284
1397        UA       0       5      16      30      65      77      84      90      94      97
1398        UA     100
            * DDM   ***** Preserved *****

1399        KK    D453
1400        KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
1401        KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
1402        KM        MAXIMUM VOLUME DIVERSION  IS 2.3 AC-FT
            *      1
1403        DT   BS453     2.3
1404        DI       0    5000
1405        DQ       0    5000
            * DDM   ***** Preserved *****

1406        KK   RT453
1407        KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
1408        DR   BS453
            * DDM   ***** Preserved *****

1409        KK   SR453
1410        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1411        KM     2.3 ACRE-FEETx43560/36x3600    = 1cfs
            *      1
1412        RS       1    STOR       0
1413        SV       0     .01     2.3
1414        SQ       0       1       1
            * DDM   ***** Preserved *****

1415        KK    C117
1416        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1417        HC       3
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 38

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1418        KK    C118
1419        KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1420        HC       2
            * DDM   ***** Preserved *****

1421        KK    R118
1422        KM        ROUTE FLOW FROM C118 TO  DIV7
1423        RS       1    FLOW      -1
1424        RC    .019    .019    .019    1500    .024
1425        RX    1000    1012    1016    1020    1035    1039    1043    1055
1426        RY      15      12      11      10      10      11      12      15
            * DDM   ***** Preserved *****

1427        KK    DIV7
1428        KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1429        KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
            *      1
1430        DT  BASIN6
1431        DI       0     363     487     563     645     844
1432        DQ       0       3      47      83     125     244
            * DDM   ***** Preserved *****

1433        KK  RTDIV7
1434        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1435        DR  BASIN6
            * DDM   ***** Preserved *****
```

```
1436          KK  RFDIV7
1437          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1438          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1439          RS       1    STOR       0
1440          SV       0     .01     3.6
1441          SQ       0     1.2     1.2
              * DDM   ***** Preserved *****

1442          KK   CDIV7
1443          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1444          HC       2
              * DDM   ***** Updated *****

1445          KK     454
1446          KM   SUB-BASIN 454
1447          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1448          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1449          KM     L = 1.23  Kb = .052  Adj. Slope =  163.0
1450          BA    .180
1451          LG    .280    .260   3.780    .650  22.000
1452          UC    .383    .400
1453          UA       0       5      16      30      65      77      84      90      94      97
1454          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 39

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1455          KK    D454
1456          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
1457          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
1458          KM        MAXIMUM VOLUME DIVERSION  IS 9.7 AC-FT
              *      1
1459          DT   BS454     9.7
1460          DI       0    5000
1461          DQ       0    5000
              * DDM   ***** Preserved *****

1462          KK   RT454
1463          KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
1464          DR   BS454
              * DDM   ***** Preserved *****

1465          KK   SR454
1466          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1467          KM     9.7 ACRE-FEETx43560/36x3600  = 3.3cfs
              *      1
1468          RS       1    STOR       0
1469          SV       0     .01     9.7
1470          SQ       0     3.3     3.3
              * DDM   ***** Preserved *****

1471          KK    C454
1472          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 454
1473          HC       2
              * DDM   ***** Preserved *****

1474          KK    C119
1475          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
              *      1       2
1476          HC       2
              * DDM   ***** Preserved *****

1477          KK    R454
1478          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1479          KM   ROUTE FLOW FROM C119 TO 415C
1480          RS       3    FLOW      -1
1481          RC    .045    .035    .045    2200    .009
1482          RX       0      .5       1      33      42      67    67.5      68
1483          RY       5       4       4       0       0       6       6       6
              * DDM   ***** Updated *****

1484          KK     415
1485          KM   SUB-BASIN 415
1486          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1487          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1488          KM     L = 2.58  Kb = .044  Adj. Slope =  298.5
1489          BA    .606
1490          LG    .300    .250   4.500    .430  21.000
1491          UC    .417    .398
1492          UA       0       5      16      30      65      77      84      90      94      97
1493          UA     100
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 40

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1494          KK   385RT
1495          KM   RETRIEVE SPLIT FLOW FROM DIVERSION OF SUB-BASIN 385
1496          DR   SF385
              * DDM   ***** Preserved *****

1497          KK   CC415
1498          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 415 AND 385 SPLIT FLOW
1499          HC       2
              * DDM   ***** Preserved *****

1500          KK    D415
1501          KM        DIVERT FLOW INTO  DUMMY  DETENTION BASIN
1502          KM   DETENTION/RETENTION BASINS LOCATED WITHIN FUTURE DEVELOPMENT
1503          KM        MAXIMUM VOLUME DIVERSION IS 23.8 AC-FT
              *      1
1504          DT   BS415    23.8
1505          DI       0    5000
1506          DQ       0    5000
              * DDM   ***** Preserved *****

1507          KK   RT415
1508          KM   RETRIEVE FLOW FROM DIVERSION INTO DETENTION BASIN
1509          DR   BS415
              * DDM   ***** Preserved *****
```

```
1510        KK   SR415
1511        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1512        KM    23.8 ACRE-FEETx43560/36x3600    = 8cfs
            *      1
1513        RS       1    STOR       0
1514        SV       0     .01    23.8
1515        SQ       0       8       8
            * DDM   ***** Preserved *****

1516        KK    415C
1517        KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454 & SPLIT FLOW FROM 385
1518        HC       3    1.71
            * DDM   ***** Preserved *****

1519        KK    R415
1520        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1521        KM   ROUTING OF FLOW FROM 415C TO 455C
1522        RS       3    FLOW      -1
1523        RC    .045     .03    .045    4100    .024
1524        RX       0      .5       1       8      16      23    23.5      24
1525        RY       8       8       8       0       0       8       8       8
            * DDM   ***** Updated *****

1526        KK     455
1527        KM   SUB-BASIN 455
1528        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1529        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1530        KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1531        BA   1.111
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1532        LG    .270    .280   3.700    .640  24.000
1533        UC    .421    .204
1534        UA       0       5      16      30      65      77      84      90      94      97
1535        UA     100
            * DDM   ***** Preserved *****

1536        KK    D455
1537        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1538        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1539        KM   FOR BASIN #: 30      34      43      47&58
1540        KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
            *      1
1541        DT   BS455    74.1
1542        DI       0   10000
1543        DQ       0   10000
            * DDM   ***** Preserved *****

1544        KK   RT455
1545        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1546        DR   BS455
            * DDM   ***** Preserved *****

1547        KK   SR455
1548        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1549        KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1550        RS       1    STOR       0
1551        SV       0     .01    74.1
1552        SQ       0      25      25
            * DDM   ***** Preserved *****

1553        KK    C455
1554        KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1555        HC       2
            * DDM   ***** Preserved *****

1556        KK    455C
1557        KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
            *      1       2
1558        HC       3
            * DDM   ***** Preserved *****

1559        KK   SR440
1560        KM   SPOOK HILL FRS PLANS DATED 6/15/77
1561        KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1562        KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1563        KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
1564        RS       1    STOR       0
1565        SV       0      10     100     300     500     680
1566        SQ       0     640     720     780     825     860
1567        SE      66    77.5      79    80.2    81.2      82
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1568        KK   RR455
1569        KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 462
1570        RS      10    FLOW      -1
1571        RC    .035    .025    .035    9200    .002
1572        RX       0       1       2      28      58      84      85      86
1573        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1574        KK     456
1575        KM   SUB-BASIN 456
1576        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1577        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1578        KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1579        BA    .260
1580        LG    .300    .380   5.600    .200  12.000
1581        UC    .217    .139
1582        UA       0       5      16      30      65      77      84      90      94      97
1583        UA     100
            * DDM   ***** Preserved *****

1584        KK    DIV1
1585        KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1586        KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
```

```
                *      1
1587            DT  BASIN1
1588            DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1589            DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
                * DDM   ***** Preserved *****

1590            KK    DIV2
1591            KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1592            KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1593            DT    WA30
1594            DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1595            DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
                * DDM   ***** Preserved *****

1596            KK    R456
1597            KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1598            RS       2    FLOW      -1
1599            RC     .05    .035     .05    3800    .044
1600            RX    1000    1010    1020    1036    1041    1057    1067    1077
1601            RY   14.88   14.44      14      10      10      14   14.44   14.88
                * DDM   ***** Updated *****

1602            KK     457
1603            KM   SUB-BASIN 457
1604            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1605            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1606            KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1607            BA    .190
1608            LG    .270    .330   3.950    .460   6.000
1609            UC    .237    .195
1610            UA       0       5      16      30      65      77      84      90      94      97
1                                          HEC-1 INPUT                                          PAGE 43

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1611            UA     100
                * DDM   ***** Preserved *****

1612            KK    C101
1613            KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1614            HC       2
                * DDM   ***** Preserved *****

1615            KK    DIV3
1616            KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1617            KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
                *      1
1618            DT  BASIN2
1619            DI       0      36      70     110     180   313.5     402   500.9
1620            DQ       0       0       0       0       0    67.5     124   190.9
                * DDM   ***** Preserved *****

1621            KK  RTDIV3
1622            KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1623            DR  BASIN2
                * DDM   ***** Preserved *****

1624            KK  RFDIV3
1625            KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1626            KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1627            RS       1    STOR       0
1628            SV       0     .01       5
1629            SQ       0     1.7     1.7
                * DDM   ***** Preserved *****

1630            KK   CDIV3
1631            KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1632            HC       2
                * DDM   ***** Preserved *****

1633            KK    R101
1634            KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1635            RS       1    FLOW      -1
1636            RC     .05    .035     .05    1450     .05
1637            RX    1000    1010    1020    1036    1041    1057    1067    1077
1638            RY      15    14.5      14      10      10      14    14.5      15
                * DDM   ***** Updated *****

1639            KK     458
1640            KM   SUB-BASIN 458
1641            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1642            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1643            KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1644            BA    .190
1645            LG    .290    .330   5.800    .190   6.000
1646            UC    .204    .131
1647            UA       0       5      16      30      65      77      84      90      94      97
1648            UA     100
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 44

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1649            KK    C103
1650            KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1651            HC       2
                * DDM   ***** Preserved *****

1652            KK    R103
1653            KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1654            RS       1    FLOW      -1
1655            RC     .05    .035     .05     900     .03
1656            RX    1000    1010    1020    1030    1050    1060    1070    1080
1657            RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
                * DDM   ***** Preserved *****

1658            KK    RT30
1659            KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1660            DR    WA30
                * DDM   ***** Preserved *****

1661            KK     R30
```

```
1662        KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1663        RS       1    FLOW      -1
1664        RC     .05    .035     .05    1630     .05
1665        RX    1000    1010    1020    1036    1041    1057    1067    1077
1666        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****

1667        KK    RTB1
1668        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1       2
1669        DR  BASIN1
            * DDM   ***** Preserved *****

1670        KK      B1
1671        KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1672        KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
            *      1       2
1673        RS       1    ELEV       0
1674        SV              .7     1.4     2.3     2.7     3.2
1675        SQ       0       5      16      28    32.5      37
1676        SE       0       1       2       3     3.5       4
            * DDM   ***** Preserved *****

1677        KK     RB1
1678        KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1679        RS       2    FLOW      -1
1680        RC     .05    .035     .05    1720     .05
1681        RX    1000    1010    1020    1036    1041    1057    1067    1077
1682        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1683        KK    CDIV
1684        KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1685        HC       2     .12
            * DDM   ***** Updated *****

1686        KK     459
1687        KM   SUB-BASIN 459
1688        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1689        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1690        KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1691        BA    .030
1692        LG    .220    .300   3.330    .710   8.000
1693        UC    .162    .157
1694        UA       0       5      16      30      65      77      84      90      94      97
1695        UA     100
            * DDM   ***** Preserved *****

1696        KK     C52
1697        KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1698        HC       2
            * DDM   ***** Preserved *****

1699        KK     R52
1700        KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1701        RS       2    FLOW      -1
1702        RC     .05    .035     .05    2000     .05
1703        RX    1000    1010    1020    1036    1041    1057    1067    1077
1704        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1705        KK     460
1706        KM   SUB-BASIN 460
1707        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1708        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1709        KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1710        BA    .140
1711        LG    .250    .260   3.740    .690  27.000
1712        UC    .242    .160
1713        UA       0       5      16      30      65      77      84      90      94      97
1714        UA     100
            * DDM   ***** Preserved *****

1715        KK    C102
1716        KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1717        HC       2
            * DDM   ***** Preserved *****

1718        KK  BASIN3
1719        KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1720        KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1721        RS       1    ELEV       0
1722        SA       0       0       0       0     .34    1.59    1.81    1.96    2.13     2.3
            *      0       0       0       0    1.14    3.25    5.52    9.23
1723        SQ       0      22      45    47.4      48      51      57      62      67      73
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1724        SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
            * DDM   ***** Preserved *****

1725        KK      R3
1726        KM        ROUTE FLOW FROM C102 to C106
1727        RS       4    FLOW      -1
1728        RC     .05     .03     .05    2750   .0375
1729        RX    1000    1010    1020    1052    1086    1118    1128    1138
1730        RY    19.2    18.4      18      10      10      18    18.4    19.2
            * DDM   ***** Updated *****

1731        KK     461
1732        KM   SUB-BASIN 461
1733        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1734        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1735        KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1736        BA    .120
1737        LG    .270    .250   4.250    .450  21.000
1738        UC    .271    .250
1739        UA       0       5      16      30      65      77      84      90      94      97
```

```
1740        UA     100
            * DDM   ***** Preserved *****

1741        KK    C104
1742        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1743        HC       2
            * DDM   ***** Preserved *****

1744        KK    C106
1745        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1746        HC       2
            * DDM   ***** Preserved *****

1747        KK    R106
1748        KM        ROUTE FLOW FROM C106 TO C49
1749        RS       2    FLOW      -1
1750        RC     .05    .035     .05    3950    .033
1751        RX    1000    1010    1020    1030    1050    1060    1070    1080
1752        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Updated *****

1753        KK     462
1754        KM   SUB-BASIN 462
1755        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1756        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1757        KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1758        BA    .301
1759        LG    .300    .330   5.300    .240  12.000
1760        UC    .225    .137
1761        UA       0       5      16      30      65      77      84      90      94      97
1762        UA     100
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 47

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1763        KK     C56
1764        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
            *      1       2
1765        HC       2
            * DDM   ***** Updated *****

1766        KK     480
1767        KM   SUB-BASIN 480
1768        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1769        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1770        KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1771        BA    .731
1772        LG    .270    .270   3.580    .730  27.000
1773        UC    .325    .148
1774        UA       0       5      16      30      65      77      84      90      94      97
1775        UA     100
            * DDM   ***** Preserved *****

1776        KK    D480
1777        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1778        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1779        KM   FOR BASIN #: 18 & 26
1780        KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
            *      1
1781        DT   BS480    16.5
1782        DI       0   10000
1783        DQ       0   10000
            * DDM   ***** Preserved *****

1784        KK   RT480
1785        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1786        DR   BS480
            * DDM   ***** Preserved *****

1787        KK   SR480
1788        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1789        KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1790        RS       1    STOR       0
1791        SV       0     .01    16.5
1792        SQ       0     5.6     5.6
            * DDM   ***** Preserved *****

1793        KK    C480
1794        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1795        HC       2
            * DDM   ***** Preserved *****

1796        KK    480C
1797        KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1798        HC       3    2.09
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 48

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1799        KK   RR480
1800        KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUB-BASIN 500
1801        RS       1    FLOW      -1
1802        RC    .025    .025    .025    6500     .05
1803        RX       0       1       2      28      58      84      85      86
1804        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1805        KK     500
1806        KM   SUB-BASIN 500
1807        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1808        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1809        KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1810        BA    .930
1811        LG    .350    .400   6.000    .170   9.000
1812        UC    .421    .333
1813        UA       0       3       5       8      12      20      43      75      90      96
1814        UA     100
            * DDM   ***** Preserved *****
```

```
1815          KK    500C
1816          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1817          HC       2    3.02
1818          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

 NO.       (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

 46          10
              V
              V
 56         R10
              V
              V
 62         R12
              .
              .
 68           .          20
              .           .
              .           .
 82           .           .------->    BS20
 78           .         D20
              .           .
              .           .
 87           .           .           .<-------    BS20
 85           .           .        RT20
              .           .           V
              .           .           V
 88           .           .        SR20
              .           .           .
              .           .           .
 94         C20.......................
              .
              .
 97           .          40
              .           .
              .           .
111           .           .------->    BS40
107           .         D40
              .           .
              .           .
116           .           .           .<-------    BS40
114           .           .        RT40
              .           .           V
              .           .           V
117           .           .        SR40
              .           .           .
              .           .           .
123         C40.......................
              .
              .
126           .          60
              .           .
              .           .
140           .           .------->    BS60
136           .         D60
              .           .
              .           .
145           .           .           .<-------    BS60
143           .           .        RT60
              .           .           V
              .           .           V
146           .           .        60SR
              .           .           .
              .           .           .
152         60C.......................
              V
              V
155        SR60
              V
              V
164         R60
              V
              V
170        RR60
              .
              .
176           .          80
              .           .
              .           .
190           .           .------->    BS80
186           .         D80
              .           .
              .           .
195           .           .           .<-------    BS80
193           .           .        RT80
              .           .           V
              .           .           V
196           .           .        SR80
              .           .           .
              .           .           .
202         80C.......................
              V
              V
205         R80
              .
              .
211           .         100
              .           .
              .           .
225           .           .------->   BS100
221           .        D100
              .           .
              .           .
230           .           .           .<-------   BS100
228           .           .       RT100
              .           .           V
              .           .           V
231           .           .       SR100
              .           .           .
              .           .           .
237        100C.......................
              V
              V
```

```
240        R100
              .
              .
246           .        120
              .          .
              .          .
260           .          .-------->   BS120
256           .       D120
              .          .
              .          .
265           .          .          .<--------   BS120
263           .          .      RT120
              .          .          V
              .          .          V
266           .          .      SR120
              .          .          .
              .          .          .
272        120C.......................
              V
              V
275        R120
              .
              .
281           .        140
              .          .
              .          .
295           .          .-------->   BS140
291           .       D140
              .          .
              .          .
300           .          .          .<--------   BS140
298           .          .      RT140
              .          .          V
              .          .          V
301           .          .      SR140
              .          .          .
              .          .          .
307           .       C140............
              .          .
              .          .
310           .          .        150
              .          .          V
              .          .          V
320           .          .       R150
              .          .          V
              .          .          V
326           .          .       R152
              .          .          .
              .          .          .
332           .          .          .        160
              .          .          .          .
              .          .          .          .
346           .          .          .          .-------->   BS160
342           .          .          .       D160
              .          .          .          .
              .          .          .          .
351           .          .          .          .          .<--------   BS160
349           .          .          .          .      RT160
              .          .          .          .          V
              .          .          .          .          V
352           .          .          .          .      SR160
              .          .          .          .          .
              .          .          .          .          .
358           .          .          .       C160............
              .          .          .          .
              .          .          .          .
361           .          .          .          .        180
              .          .          .          .          .
              .          .          .          .          .
375           .          .          .          .          .-------->   BS180
371           .          .          .          .       D180
              .          .          .          .          .
              .          .          .          .          .
380           .          .          .          .          .          .<--------   BS180
378           .          .          .          .          .      RT180
              .          .          .          .          .          V
              .          .          .          .          .          V
381           .          .          .          .          .      180SR
              .          .          .          .          .          .
              .          .          .          .          .          .
387        180C.............................................................
              .
              .
390           .        210
              .          .
              .          .
404           .          .-------->   BS210
400           .       D210
              .          .
              .          .
409           .          .          .<--------   BS210
407           .          .      RT210
              .          .          V
              .          .          V
410           .          .      SR210
              .          .          .
              .          .          .
416           .       C210............
              .          V
              .          V
419           .       R210
              .          .
              .          .
425           .          .        240
              .          .          .
              .          .          .
439           .          .          .-------->   BS240
435           .          .       D240
              .          .          .
              .          .          .
444           .          .          .          .<--------   BS240
442           .          .          .       RT240
              .          .          .          V
```

```
445          .          .          .          V
             .          .          .      240SR
             .          .          .          .
             .          .          .          .
451          .      240C.......................
             .         V
             .         V
454          .     SR240
             .          .
             .          .
461          .          .       220
             .          .         .
             .          .         .
475          .          .         .-------->   BS220
471          .          .      D220
             .          .         .
             .          .         .
480          .          .         .          .<-------   BS220
478          .          .         .      RT220
             .          .         .          V
             .          .         .          V
481          .          .         .      220SR
             .          .         .          .
             .          .         .          .
487          .      220C.......................
             .         V
             .         V
490          .     SR220
             .          .
             .          .
497          .          .       190
             .          .         V
             .          .         V
507          .          .      R190
             .          .         V
             .          .         V
513          .          .      R192
             .          .         .
             .          .         .
519          .          .         .       200
             .          .         .         .
             .          .         .         .
533          .          .         .         .-------->   BS200
529          .          .         .      D200
             .          .         .         .
             .          .         .         .
538          .          .         .         .          .<-------   BS200
536          .          .         .         .      RT200
             .          .         .         .         V
             .          .         .         .         V
539          .          .         .         .      S200
             .          .         .         .         .
             .          .         .         .         .
545          .      200C.................................
             .         V
             .         V
548          .     SR200
             .         V
             .         V
555          .     200SR
             .          .
             .          .
562       C180............
             V
             V
565      SR180
             V
             V
574       R180
             .
             .
581          .       260
             .          .
             .          .
591       260C............
             V
             V
594       R260
             .
             .
601          .       280
             .          .
             .          .
611       280C............
             V
             V
614       R280
             .
             .
621          .       300
             .          .
             .          .
631       300C............
             V
             V
634       R300
             V
             V
641      RR300
             .
             .
648          .       350
             .          .
             .          .
661          .          .-------->   SF350
658          .      D350
             .         V
             .         V
664          .      350R
             .          .
             .          .
671          .          .       310
             .          .         .
```

```
681          .       C310............
             .          V
             .          V
684          .       R310
             .          .
             .          .
691          .          .        320
             .          .          .
             .          .          .
706          .          .          .-------->   BS320
701          .          .       D320
             .          .          .
             .          .          .
711          .          .          .          .<--------   BS320
709          .          .          .      RT320
             .          .          .          V
             .          .          .          V
712          .          .          .      SR320
             .          .          .          .
             .          .          .          .
718       C320...................................
             .
             .
721          .        340
             .          .
             .          .
736          .          .-------->   BS340
731          .       D340
             .          .
             .          .
741          .          .          .<--------   BS340
739          .          .      RT340
             .          .          V
             .          .          V
742          .          .      SR340
             .          .          .
             .          .          .
748       C340........................
             .
             .
753          .          .<--------   SF350
751          .      RT350
             .          V
             .          V
754          .      RR350
             .          .
             .          .
761          .          .        355
             .          .          .
             .          .          .
775          .          .          .-------->   BS355
771          .          .       D355
             .          .          .
             .          .          .
780          .          .          .          .<--------   BS355
778          .          .          .      RT355
             .          .          .          V
             .          .          .          V
781          .          .          .      SR355
             .          .          .          .
             .          .          .          .
787          .       C355........................
             .          V
             .          V
790          .       R355
             .          .
             .          .
797          .          .        360
             .          .          .
             .          .          .
811          .          .          .-------->   BS360
807          .          .       D360
             .          .          .
             .          .          .
816          .          .          .          .<--------   BS360
814          .          .          .      RT360
             .          .          .          V
             .          .          .          V
817          .          .          .      SR360
             .          .          .          .
             .          .          .          .
823       360C...................................
             .
             .
826          .        370
             .          .
             .          .
840          .          .-------->   BS370
836          .       D370
             .          .
             .          .
845          .          .          .<--------   BS370
843          .          .      RT370
             .          .          V
             .          .          V
846          .          .      SR370
             .          .          .
             .          .          .
852          .       C370............
             .          .
             .          .
855          .          .        395
             .          .          .
             .          .          .
869          .          .          .-------->   BS395
865          .          .       D395
             .          .          .
             .          .          .
874          .          .          .          .<--------   BS395
872          .          .          .      RT395
             .          .          .          V
             .          .          .          V
```

```
875          .          .          .      SR395
             .          .          .          .
             .          .          .          .
881          .          .      C395............
             .          .          .
             .          .          .
884          .      370C............
             .          V
             .          V
887          .      R370
             .          .
             .          .
894          .          .       380
             .          .          .
             .          .          .
908          .          .          .-------->  BS380
904          .          .      D380
             .          .          .
             .          .          .
913          .          .          .          .<-------   BS380
911          .          .          .      RT380
             .          .          .          V
             .          .          .          V
914          .          .          .      SR380
             .          .          .          .
             .          .          .          .
920       380C...................................
             .
             .
923          .       390
             .          .
             .          .
937          .          .-------->  BS390
933          .      D390
             .          .
             .          .
942          .          .          .<-------   BS390
940          .          .     RT390
             .          .          V
             .          .          V
943          .          .     SR390
             .          .          .
             .          .          .
949          .      390C............
             .          V
             .          V
952          .     RR390
             .          .
             .          .
959          .          .       400
             .          .          .
             .          .          .
973          .          .          .-------->  BS400
969          .          .      D400
             .          .          .
             .          .          .
978          .          .          .          .<-------   BS400
976          .          .          .      RT400
             .          .          .          V
             .          .          .          V
979          .          .          .      SR400
             .          .          .          .
             .          .          .          .
985          .          .      C400............
             .          .          .
             .          .          .
988       400C........................
             .
             .
991          .       385
             .          .
             .          .
1005         .          .-------->  BS385
1001         .     DD385
             .          .
             .          .
1010         .          .          .<-------   BS385
1008         .          .     RT385
             .          .          V
             .          .          V
1011         .          .     SR385
             .          .          .
             .          .          .
1017         .      C385............
             .          .
             .          .
1022         .          .-------->  SF385
1020         .      D385
             .          V
             .          V
1025         .      385R
             .          .
             .          .
1032         .          .       420
             .          .          .
             .          .          .
1046         .          .          .-------->  BS420
1042         .          .      D420
             .          .          .
             .          .          .
1051         .          .          .          .<-------   BS420
1049         .          .          .      RT420
             .          .          .          V
             .          .          .          V
1052         .          .          .      SR420
             .          .          .          .
             .          .          .          .
1058      420C...................................
             .
             .
1061         .       440
             .          V
             .          V
```

```
1071          .        R70
              .          .
              .          .
1077          .          .        441
              .          .          .
              .          .          .
1087          .       C108...........
              .          .
              .          .
1092          .          .------->   SPLIT
1090          .       DIV4
              .          V
              .          V
1095          .       R108
              .          .
              .          .
1101          .          .        442
              .          .          .
              .          .          .
1111          .        C67...........
              .          .
              .          .
1117          .          .------->  BASIN4
1114          .       DIV6
              .          .
              .          .
1122          .          .          .<-------  BASIN4
1120          .          .     RTDIV6
              .          .          V
              .          .          V
1123          .          .     RFDIV6
              .          .          .
              .          .          .
1129          .      CDIV6...........
              .          .
              .          .
1132          .          .        443
              .          .          .
              .          .          .
1145          .          .          .------->   WSH66
1142          .          .      DIV66
              .          .          V
              .          .          V
1148          .          .       R113
              .          .          .
              .          .          .
1154          .       C114...........
              .          .
              .          .
1157          .          .        444
              .          .          V
              .          .          V
1167          .          .        R58
              .          .          .
              .          .          .
1173          .          .          .        445
              .          .          .          .
              .          .          .          .
1183          .          .       C107...........
              .          .          V
              .          .          V
1186          .          .       R107
              .          .          .
              .          .          .
1194          .          .          .          .<-------   SPLIT
1192          .          .          .       RTB2
              .          .          .          V
              .          .          .          V
1195          .          .          .     RSPLIT
              .          .          .          .
              .          .          .          .
1201          .          .          .          .         446
              .          .          .          .           .
              .          .          .          .           .
1211          .          .       C109.......................
              .          .          .
              .          .          .
1217          .          .          .-------> WSH404
1214          .          .       DIV5
              .          .          V
              .          .          V
1220          .          .       R109
              .          .          .
              .          .          .
1226          .          .          .        447
              .          .          .          .
              .          .          .          .
1238          .          .          .          .          .<-------  WSH404
1236          .          .          .          .      RT404
              .          .          .          .          V
              .          .          .          .          V
1239          .          .          .          .       R404
              .          .          .          .          .
              .          .          .          .          .
1245          .          .       C110.......................
              .          .          V
              .          .          V
1248          .          .       R110
              .          .          .
              .          .          .
1254          .       C115...........
              .          V
              .          V
1257          .       R115
              .          .
              .          .
1264          .          .        448
              .          .          .
              .          .          .
1274          .          .          .        449
              .          .          .          .
              .          .          .          .
1284          .          .      C6364...........
```

```
                 .          .          V
                 .          .          V
1287             .          .       R6364
                 .          .          .
                 .          .          .
1293             .          .          .        450
                 .          .          .          .
                 .          .          .          .
1307             .          .          .          .-------->   BS450
1303             .          .          .       D450
                 .          .          .          .
                 .          .          .          .
1312             .          .          .          .          .<-------   BS450
1310             .          .          .          .      RT450
                 .          .          .          .          V
                 .          .          .          .          V
1313             .          .          .          .      SR450
                 .          .          .          .          .
                 .          .          .          .          .
1319             .          .          .       C450............
                 .          .          .          .
                 .          .          .          .
1322             .          .          .          .        451
                 .          .          .          .          .
                 .          .          .          .          .
1336             .          .          .          .          .-------->   BS451
1332             .          .          .          .       D451
                 .          .          .          .          .
                 .          .          .          .          .
1341             .          .          .          .          .          .<-------   BS451
1339             .          .          .          .          .      RT451
                 .          .          .          .          .          V
                 .          .          .          .          .          V
1342             .          .          .          .          .      SR451
                 .          .          .          .          .          .
                 .          .          .          .          .          .
1348             .          .          .          .       C451............
                 .          .          .          .          .
                 .          .          .          .          .
1353             .          .          .          .          .          .<-------   WSH66
1351             .          .          .          .          .       RT66
                 .          .          .          .          .          .
                 .          .          .          .          .          .
1354             .          .          .          .          .          .        452
                 .          .          .          .          .          .          .
                 .          .          .          .          .          .          .
1364             .          .          .          .          .      C6465............
                 .          .          .          .          .          V
                 .          .          .          .          .          V
1367             .          .          .          .          .      R6566
                 .          .          .          .          .          .
                 .          .          .          .          .          .
1373             .          .       C116.................................
                 .          .          V
                 .          .          V
1376             .          .     BASIN5
                 .          .          V
                 .          .          V
1383             .          .       R116
                 .          .          .
                 .          .          .
1389             .          .          .        453
                 .          .          .          .
                 .          .          .          .
1403             .          .          .          .-------->   BS453
1399             .          .          .       D453
                 .          .          .          .
                 .          .          .          .
1408             .          .          .          .          .<-------   BS453
1406             .          .          .          .      RT453
                 .          .          .          .          V
                 .          .          .          .          V
1409             .          .          .          .      SR453
                 .          .          .          .          .
                 .          .          .          .          .
1415             .          .       C117........................
                 .          .          .
                 .          .          .
1418             .       C118............
                 .          V
                 .          V
1421             .       R118
                 .          .
                 .          .
1430             .          .-------->  BASIN6
1427             .       DIV7
                 .          .
                 .          .
1435             .          .          .<-------  BASIN6
1433             .          .     RTDIV7
                 .          .          V
                 .          .          V
1436             .          .     RFDIV7
                 .          .          .
                 .          .          .
1442             .       CDIV7............
                 .          .
                 .          .
1445             .          .        454
                 .          .          .
                 .          .          .
1459             .          .          .-------->   BS454
1455             .          .       D454
                 .          .          .
                 .          .          .
1464             .          .          .          .<-------   BS454
1462             .          .          .      RT454
                 .          .          .          V
                 .          .          .          V
1465             .          .          .      SR454
                 .          .          .          .
                 .          .          .          .
1471             .          .       C454............
```

```
                .          .          .
                .          .          .
1474            .       C119...........
                .          V
                .          V
1477            .       R454
                .          .
                .          .
1484            .          .        415
                .          .          .
                .          .          .
1496            .          .          .          .<-------   SF385
1494            .          .          .      385RT
                .          .          .          .
                .          .          .          .
1497            .          .      CC415...........
                .          .          .
                .          .          .
1504            .          .          .------->   BS415
1500            .          .       D415
                .          .          .
                .          .          .
1509            .          .          .          .<-------   BS415
1507            .          .          .      RT415
                .          .          .          V
                .          .          .          V
1510            .          .          .      SR415
                .          .          .          .
                .          .          .          .
1516            .       415C........................
                .          V
                .          V
1519            .       R415
                .          .
                .          .
1526            .          .        455
                .          .          .
                .          .          .
1541            .          .          .------->   BS455
1536            .          .       D455
                .          .          .
                .          .          .
1546            .          .          .          .<-------   BS455
1544            .          .          .      RT455
                .          .          .          V
                .          .          .          V
1547            .          .          .      SR455
                .          .          .          .
                .          .          .          .
1553            .          .       C455...........
                .          .          .
                .          .          .
1556         455C........................
                V
                V
1559        SR440
                V
                V
1568        RR455
                .
                .
1574            .        456
                .          .
                .          .
1587            .          .------->  BASIN1
1584            .       DIV1
                .          .
                .          .
1593            .          .------->    WA30
1590            .       DIV2
                .          V
                .          V
1596            .       R456
                .          .
                .          .
1602            .          .        457
                .          .          .
                .          .          .
1612            .       C101...........
                .          .
                .          .
1618            .          .------->  BASIN2
1615            .       DIV3
                .          .
                .          .
1623            .          .          .<-------  BASIN2
1621            .          .     RTDIV3
                .          .          V
                .          .          V
1624            .          .     RFDIV3
                .          .          .
                .          .          .
1630            .      CDIV3...........
                .          V
                .          V
1633            .       R101
                .          .
                .          .
1639            .          .        458
                .          .          .
                .          .          .
1649            .       C103...........
                .          V
                .          V
1652            .       R103
                .          .
                .          .
1660            .          .          .<-------    WA30
1658            .          .       RT30
                .          .          V
                .          .          V
1661            .          .        R30
                .          .          .
```

```
1669          .          .          .          .<-------  BASIN1
1667          .          .          .       RTB1
              .          .          .          V
              .          .          .          V
1670          .          .          .         B1
              .          .          .          V
              .          .          .          V
1677          .          .          .        RB1
              .          .          .          .
              .          .          .          .
1683          .          .       CDIV............
              .          .          .
              .          .          .
1686          .          .          .        459
              .          .          .          .
              .          .          .          .
1696          .          .        C52............
              .          .          V
              .          .          V
1699          .          .        R52
              .          .          .
              .          .          .
1705          .          .          .        460
              .          .          .          .
              .          .          .          .
1715          .          .       C102............
              .          .          V
              .          .          V
1718          .          .     BASIN3
              .          .          V
              .          .          V
1725          .          .         R3
              .          .          .
              .          .          .
1731          .          .          .        461
              .          .          .          .
              .          .          .          .
1741          .          .       C104............
              .          .          .
              .          .          .
1744          .       C106............
              .          V
              .          V
1747          .       R106
              .          .
              .          .
1753          .          .        462
              .          .          .
              .          .          .
1763          .        C56............
              .          .
              .          .
1766          .          .        480
              .          .          .
              .          .          .
1781          .          .          .------->  BS480
1776          .          .       D480
              .          .          .
              .          .          .
1786          .          .          .          .<-------  BS480
1784          .          .          .      RT480
              .          .          .          V
              .          .          .          V
1787          .          .          .      SR480
              .          .          .          .
              .          .          .          .
1793          .          .       C480............
              .          .          .
              .          .          .
1796       480C......................
              V
              V
1799      RR480
              .
              .
1805          .        500
              .          .
              .          .
1815       500C............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	10	954.	12.27	116.	33.	16.	.70		
+	ROUTED TO	R10	885.	12.40	116.	33.	16.	.70		
+	ROUTED TO	R12	836.	12.60	116.	33.	16.	.70		
+	HYDROGRAPH AT	20	993.	12.23	153.	42.	20.	1.12		
+	DIVERSION TO	BS20	993.	12.23	116.	30.	14.	1.12		
+	HYDROGRAPH AT	D20	396.	12.83	44.	12.	6.	1.12		
+	HYDROGRAPH AT	RT20	993.	12.23	116.	30.	14.	1.12		
+	ROUTED TO	SR20	20.	11.40	20.	20.	14.	1.12		
+	3 COMBINED AT	C20	1018.	12.83	176.	62.	36.	1.82		
+	HYDROGRAPH AT	40	2592.	12.17	287.	81.	39.	2.23		
+	DIVERSION TO	BS40	1957.	12.03	88.	24.	12.	2.23		
+	HYDROGRAPH AT	D40	2592.	12.17	215.	56.	27.	2.23		
+	HYDROGRAPH AT	RT40	1957.	12.03	88.	24.	12.	2.23		
+	ROUTED TO	SR40	16.	8.43	16.	16.	12.	2.23		
+	3 COMBINED AT	C40	2698.	12.17	401.	133.	74.	4.06		
+	HYDROGRAPH AT	60	1567.	12.40	237.	66.	32.	1.75		
+	DIVERSION TO	BS60	140.	11.90	19.	6.	3.	1.75		
+	HYDROGRAPH AT	D60	1567.	12.40	230.	60.	29.	1.75		
+	HYDROGRAPH AT	RT60	140.	11.90	19.	6.	3.	1.75		
+	ROUTED TO	60SR	4.	1.03	4.	4.	3.	1.75		
+	3 COMBINED AT	60C	3895.	12.33	628.	195.	104.	5.80		
+	ROUTED TO	SR60	90.	15.67	90.	89.	73.	5.80		
+	ROUTED TO	R60	90.	15.77	90.	89.	73.	5.80		
+	ROUTED TO	RR60	90.	15.87	90.	89.	73.	5.80		
+	HYDROGRAPH AT	80	1824.	12.13	192.	53.	25.	1.48		
+	DIVERSION TO	BS80	1090.	12.00	45.	13.	6.	1.48		
+	HYDROGRAPH AT	D80	1824.	12.13	155.	40.	19.	1.48		
+	HYDROGRAPH AT	RT80	1090.	12.00	45.	13.	6.	1.48		
+	ROUTED TO	SR80	8.	8.40	8.	8.	6.	1.48		
+	3 COMBINED AT	80C	1899.	12.13	251.	137.	98.	1.48		
+	ROUTED TO	R80	1888.	12.17	251.	137.	98.	1.48		
	HYDROGRAPH AT	100	413.	12.20	64.	18.	9.	.48		
	DIVERSION TO	BS100	413.	12.20	25.	7.	3.	.48		
+	HYDROGRAPH AT	D100	393.	12.30	43.	11.	5.	.48		
+	HYDROGRAPH AT	RT100	413.	12.20	25.	7.	3.	.48		

+	ROUTED TO	SR100	5.	9.50	5.	5.	3.	.48
+	3 COMBINED AT	100C	1916.	12.30	296.	153.	106.	1.96
	ROUTED TO	R100	1893.	12.30	296.	152.	106.	1.96
+	HYDROGRAPH AT	120	3241.	12.27	338.	94.	45.	2.20
+	DIVERSION TO	BS120	16.	8.13	13.	4.	2.	2.20
+	HYDROGRAPH AT	DI20	3241.	12.27	338.	90.	43.	2.20
+	HYDROGRAPH AT	RT120	16.	8.13	13.	4.	2.	2.20
+	ROUTED TO	SR120	3.	.43	3.	3.	2.	2.20
+	3 COMBINED AT	120C	5009.	12.23	620.	239.	151.	4.16
+	ROUTED TO	R120	4989.	12.27	620.	239.	150.	4.16
+	HYDROGRAPH AT	140	642.	12.13	72.	21.	10.	.60
+	DIVERSION TO	BS140	506.	12.03	23.	6.	3.	.60
+	HYDROGRAPH AT	D140	642.	12.13	53.	14.	7.	.60
+	HYDROGRAPH AT	RT140	506.	12.03	23.	6.	3.	.60
+	ROUTED TO	SR140	4.	8.27	4.	4.	3.	.60
+	2 COMBINED AT	C140	646.	12.13	58.	18.	10.	.60
+	HYDROGRAPH AT	150	572.	12.17	49.	13.	6.	.41
+	ROUTED TO	R150	546.	12.23	49.	13.	6.	.41
	ROUTED TO	R152	504.	12.37	49.	13.	6.	.41
+	HYDROGRAPH AT	160	223.	12.40	37.	10.	5.	.37
+	DIVERSION TO	BS160	223.	12.40	23.	6.	3.	.37
+	HYDROGRAPH AT	D160	111.	12.93	15.	4.	2.	.37
+	HYDROGRAPH AT	RT160	223.	12.40	23.	6.	3.	.37
+	ROUTED TO	SR160	4.	11.77	4.	4.	3.	.37
+	2 COMBINED AT	C160	115.	12.93	19.	8.	5.	.37
+	HYDROGRAPH AT	180	810.	12.37	96.	25.	12.	1.00
+	DIVERSION TO	BS180	748.	12.30	31.	8.	4.	1.00
+	HYDROGRAPH AT	D180	797.	12.40	66.	17.	8.	1.00
+	HYDROGRAPH AT	RT180	748.	12.30	31.	8.	4.	1.00
+	ROUTED TO	180SR	4.	11.30	4.	4.	3.	1.00
+	6 COMBINED AT	180C	5963.	12.37	802.	295.	181.	6.54
+	HYDROGRAPH AT	210	878.	12.17	82.	21.	10.	.58
+	DIVERSION TO	BS210	112.	11.77	4.	1.	1.	.58
+	HYDROGRAPH AT	D210	878.	12.17	79.	20.	10.	.58
	HYDROGRAPH AT	RT210	112.	11.77	4.	1.	1.	.58
	ROUTED TO	SR210	1.	4.03	1.	1.	1.	.58
+	2 COMBINED AT	C210	879.	12.17	80.	21.	10.	.58
+	ROUTED TO	R210	843.	12.27	80.	21.	10.	.58

+	HYDROGRAPH AT	240	1427.	12.30	161.	42.	20.	1.40
+	DIVERSION TO	BS240	1289.	12.23	54.	14.	7.	1.40
+	HYDROGRAPH AT	D240	1427.	12.30	111.	28.	14.	1.40
+	HYDROGRAPH AT	RT240	1289.	12.23	54.	14.	7.	1.40
+	ROUTED TO	240SR	9.	11.20	9.	9.	7.	1.40
+	3 COMBINED AT	240C	2240.	12.30	197.	58.	30.	1.98
+	ROUTED TO	SR240	479.	12.87	153.	48.	25.	1.98
+	HYDROGRAPH AT	220	1151.	12.17	105.	28.	13.	.73
+	DIVERSION TO	BS220	815.	12.03	30.	8.	4.	.73
+	HYDROGRAPH AT	D220	1151.	12.17	77.	20.	9.	.73
+	HYDROGRAPH AT	RT220	815.	12.03	30.	8.	4.	.73
+	ROUTED TO	220SR	5.	10.70	5.	5.	4.	.73
+	3 COMBINED AT	220C	1151.	12.17	236.	73.	38.	2.71
+	ROUTED TO	SR220	697.	12.47	225.	71.	37.	2.71
+	HYDROGRAPH AT	190	1403.	12.17	116.	31.	15.	.92
+	ROUTED TO	R190	1348.	12.23	116.	31.	15.	.92
+	ROUTED TO	R192	1267.	12.30	116.	31.	15.	.92
+	HYDROGRAPH AT	200	811.	12.17	70.	19.	9.	.54
+	DIVERSION TO	BS200	105.	11.77	6.	2.	1.	.54
+	HYDROGRAPH AT	D200	811.	12.17	67.	17.	8.	.54
+	HYDROGRAPH AT	RT200	105.	11.77	6.	2.	1.	.54
+	ROUTED TO	S200	1.	.83	1.	1.	1.	.54
+	4 COMBINED AT	200C	2391.	12.30	399.	117.	60.	4.16
+	ROUTED TO	SR200	2245.	12.37	391.	115.	58.	4.16
+	ROUTED TO	200SR	1295.	12.67	270.	84.	43.	4.16
+	2 COMBINED AT	C180	6020.	12.37	1065.	379.	224.	10.69
+	ROUTED TO	SR180	137.	26.10	137.	136.	115.	10.69
+	ROUTED TO	R180	137.	26.17	137.	136.	114.	10.69
+	HYDROGRAPH AT	260	406.	12.10	39.	11.	5.	.27
+	2 COMBINED AT	260C	514.	12.10	170.	146.	121.	.27
+	ROUTED TO	R260	501.	12.20	170.	146.	120.	.27
+	HYDROGRAPH AT	280	478.	12.10	42.	12.	6.	.30
+	2 COMBINED AT	280C	932.	12.13	209.	156.	126.	.57
+	ROUTED TO	R280	896.	12.20	209.	156.	125.	.57
+	HYDROGRAPH AT	300	903.	12.20	118.	33.	16.	.99
+	2 COMBINED AT	300C	1782.	12.20	322.	185.	140.	1.56
+	ROUTED TO	R300	1746.	12.27	322.	185.	140.	1.56
+	ROUTED TO	RR300	1713.	12.30	322.	185.	139.	1.56

+	HYDROGRAPH AT	350	1192.	12.20	103.	27.	13.	.97
+	DIVERSION TO	SF350	596.	12.20	51.	13.	6.	.97
	HYDROGRAPH AT	D350	596.	12.20	51.	13.	6.	.97
	ROUTED TO	350R	522.	12.40	51.	13.	6.	.97
+	HYDROGRAPH AT	310	378.	12.33	50.	13.	6.	.56
+	2 COMBINED AT	C310	873.	12.40	100.	26.	12.	.94
+	ROUTED TO	R310	769.	12.73	100.	26.	12.	.94
+	HYDROGRAPH AT	320	995.	12.17	132.	39.	19.	.97
+	DIVERSION TO	BS320	205.	11.83	19.	6.	3.	.97
+	HYDROGRAPH AT	D320	995.	12.17	123.	32.	16.	.97
+	HYDROGRAPH AT	RT320	205.	11.83	19.	6.	3.	.97
+	ROUTED TO	SR320	4.	.87	4.	4.	3.	.97
+	4 COMBINED AT	C320	2677.	12.33	543.	245.	169.	3.47
+	HYDROGRAPH AT	340	1471.	12.17	186.	55.	26.	1.45
+	DIVERSION TO	BS340	1471.	12.17	104.	28.	14.	1.45
+	HYDROGRAPH AT	D340	1199.	12.33	97.	27.	13.	1.45
+	HYDROGRAPH AT	RT340	1471.	12.17	104.	28.	14.	1.45
+	ROUTED TO	SR340	19.	9.00	19.	19.	14.	1.45
	3 COMBINED AT	C340	3862.	12.33	652.	289.	195.	4.92
+	HYDROGRAPH AT	RT350	596.	12.20	51.	13.	6.	.97
+	ROUTED TO	RR350	519.	12.47	51.	13.	6.	.97
+	HYDROGRAPH AT	355	510.	12.33	71.	19.	9.	.66
+	DIVERSION TO	BS355	507.	12.30	24.	6.	3.	.66
+	HYDROGRAPH AT	D355	477.	12.40	48.	12.	6.	.66
+	HYDROGRAPH AT	RT355	507.	12.30	24.	6.	3.	.66
+	ROUTED TO	SR355	4.	11.27	4.	4.	3.	.66
+	3 COMBINED AT	C355	966.	12.43	103.	29.	15.	1.24
+	ROUTED TO	R355	798.	12.80	103.	29.	15.	1.24
+	HYDROGRAPH AT	360	504.	12.23	84.	25.	12.	.67
+	DIVERSION TO	BS360	504.	12.23	53.	14.	7.	.67
+	HYDROGRAPH AT	D360	306.	12.63	38.	11.	5.	.67
+	HYDROGRAPH AT	RT360	504.	12.23	53.	14.	7.	.67
+	ROUTED TO	SR360	10.	9.83	10.	10.	7.	.67
+	4 COMBINED AT	360C	3895.	12.33	792.	336.	221.	6.83
	HYDROGRAPH AT	370	593.	12.30	81.	22.	11.	.67
	DIVERSION TO	BS370	593.	12.30	35.	9.	4.	.67
+	HYDROGRAPH AT	D370	528.	12.40	50.	13.	6.	.67
+	HYDROGRAPH AT	RT370	593.	12.30	35.	9.	4.	.67

+	ROUTED TO	SR370	6.	10.53	6.	6.	4.	.67
+	2 COMBINED AT	C370	534.	12.40	57.	19.	11.	.67
+	HYDROGRAPH AT	395	186.	12.17	28.	8.	4.	.20
+	DIVERSION TO	BS395	186.	12.17	28.	8.	4.	.20
+	HYDROGRAPH AT	D395	0.	.00	0.	0.	0.	.20
+	HYDROGRAPH AT	RT395	186.	12.17	28.	8.	4.	.20
+	ROUTED TO	SR395	6.	11.40	6.	6.	4.	.20
+	2 COMBINED AT	C395	6.	11.40	6.	6.	4.	.20
+	2 COMBINED AT	370C	538.	12.40	62.	26.	15.	.87
+	ROUTED TO	R370	378.	13.00	62.	26.	15.	.87
+	HYDROGRAPH AT	380	666.	12.27	98.	26.	13.	.97
+	DIVERSION TO	BS380	666.	12.27	56.	14.	7.	.97
+	HYDROGRAPH AT	D380	472.	12.57	46.	12.	6.	.97
+	HYDROGRAPH AT	RT380	666.	12.27	56.	14.	7.	.97
+	ROUTED TO	SR380	10.	11.33	10.	10.	7.	.97
+	4 COMBINED AT	380C	3903.	12.33	900.	381.	247.	8.67
+	HYDROGRAPH AT	390	463.	12.03	33.	10.	5.	.24
+	DIVERSION TO	BS390	95.	11.73	6.	2.	1.	.24
+	HYDROGRAPH AT	D390	463.	12.03	30.	8.	4.	.24
+	HYDROGRAPH AT	RT390	95.	11.73	6.	2.	1.	.24
+	ROUTED TO	SR390	1.	.90	1.	1.	1.	.24
+	2 COMBINED AT	390C	464.	12.03	31.	9.	5.	.24
+	ROUTED TO	RR390	324.	12.50	31.	9.	5.	.24
+	HYDROGRAPH AT	400	351.	12.23	47.	13.	6.	.62
+	DIVERSION TO	BS400	262.	12.10	10.	3.	1.	.62
+	HYDROGRAPH AT	D400	351.	12.23	39.	10.	5.	.62
+	HYDROGRAPH AT	RT400	262.	12.10	10.	3.	1.	.62
+	ROUTED TO	SR400	2.	8.70	2.	2.	1.	.62
+	2 COMBINED AT	C400	353.	12.23	41.	12.	6.	.62
+	3 COMBINED AT	400C	4412.	12.33	966.	401.	257.	9.53
+	HYDROGRAPH AT	385	607.	12.13	81.	24.	11.	.52
+	DIVERSION TO	BS385	607.	12.13	54.	15.	7.	.52
+	HYDROGRAPH AT	DD385	327.	12.47	33.	9.	4.	.52
+	HYDROGRAPH AT	RT385	607.	12.13	54.	15.	7.	.52
	ROUTED TO	SR385	10.	9.93	10.	10.	7.	.52
	2 COMBINED AT	C385	337.	12.47	43.	19.	11.	.52
+	DIVERSION TO	SF385	202.	12.47	26.	11.	7.	.52
+	HYDROGRAPH AT	D385	135.	12.47	17.	8.	5.	.52

+	ROUTED TO	385R	92.	12.97	17.	8.	5.	.52
+	HYDROGRAPH AT	420	752.	12.20	92.	26.	12.	.85
+	DIVERSION TO	BS420	269.	11.97	15.	4.	2.	.85
+	HYDROGRAPH AT	D420	752.	12.20	83.	22.	10.	.85
+	HYDROGRAPH AT	RT420	269.	11.97	15.	4.	2.	.85
+	ROUTED TO	SR420	13.	11.03	12.	4.	2.	.85
+	4 COMBINED AT	420C	4927.	12.33	1061.	429.	272.	10.87
+	HYDROGRAPH AT	440	180.	12.03	12.	3.	2.	.08
+	ROUTED TO	R70	176.	12.07	12.	3.	2.	.08
+	HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
+	2 COMBINED AT	C108	191.	12.07	14.	4.	2.	.09
+	DIVERSION TO	SPLIT	96.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	DIV4	96.	12.07	7.	2.	1.	.09
+	ROUTED TO	R108	88.	12.13	7.	2.	1.	.09
+	HYDROGRAPH AT	442	102.	12.10	9.	2.	1.	.10
+	2 COMBINED AT	C67	187.	12.10	15.	4.	2.	.19
+	DIVERSION TO	BASIN4	115.	12.10	6.	1.	1.	.19
+	HYDROGRAPH AT	DIV6	72.	12.10	10.	3.	1.	.19
+	HYDROGRAPH AT	RTDIV6	115.	12.10	6.	1.	1.	.19
+	ROUTED TO	RFDIV6	1.	11.90	1.	1.	1.	.19
+	2 COMBINED AT	CDIV6	74.	12.10	10.	4.	2.	.19
+	HYDROGRAPH AT	443	148.	12.07	14.	4.	2.	.08
+	DIVERSION TO	WSH66	78.	11.90	12.	3.	2.	.08
+	HYDROGRAPH AT	DIV66	70.	12.07	3.	1.	0.	.08
+	ROUTED TO	R113	69.	12.07	3.	1.	0.	.08
+	2 COMBINED AT	C114	140.	12.07	13.	4.	2.	.27
+	HYDROGRAPH AT	444	82.	12.03	5.	1.	1.	.04
+	ROUTED TO	R58	75.	12.07	5.	1.	1.	.04
+	HYDROGRAPH AT	445	296.	12.03	18.	5.	2.	.19
+	2 COMBINED AT	C107	365.	12.03	22.	6.	3.	.23
+	ROUTED TO	R107	365.	12.07	22.	6.	3.	.23
+	HYDROGRAPH AT	RTB2	96.	12.07	7.	2.	1.	.09
+	ROUTED TO	RSPLIT	95.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	446	65.	12.03	6.	2.	1.	.04
+	3 COMBINED AT	C109	520.	12.07	35.	9.	4.	.27
+	DIVERSION TO	WSH404	35.	11.73	8.	2.	1.	.27
+	HYDROGRAPH AT	DIV5	485.	12.07	27.	7.	3.	.27
+	ROUTED TO	R109	469.	12.10	27.	7.	3.	.27

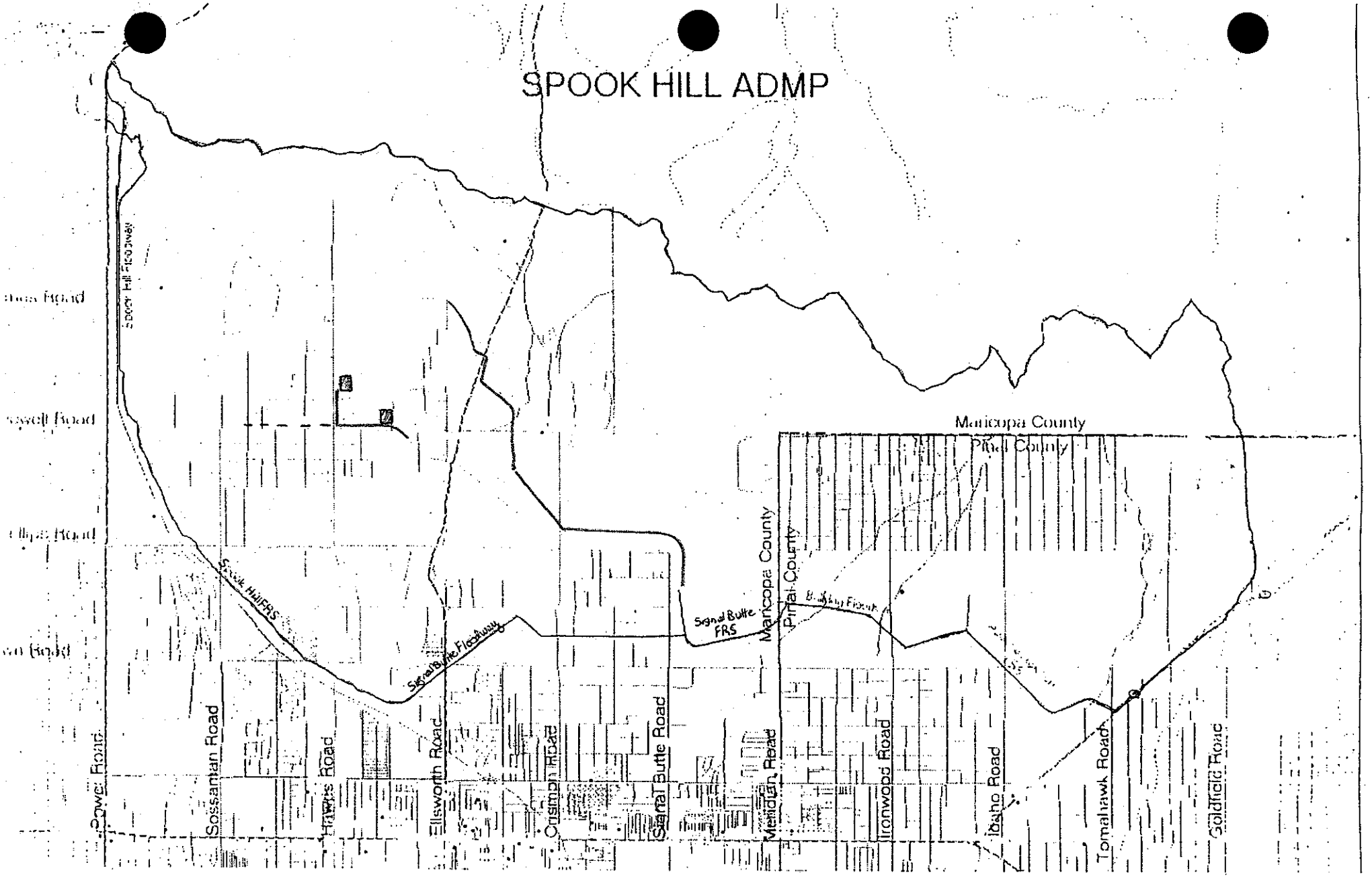
+ HYDROGRAPH AT	447	138.	12.07	12.	4.	2.	.09
+ HYDROGRAPH AT	RT404	35.	11.73	8.	2.	1.	.27
ROUTED TO	R404	35.	11.90	8.	2.	1.	.27
+ 3 COMBINED AT	C110	635.	12.07	46.	13.	6.	.36
+ ROUTED TO	R110	632.	12.10	46.	13.	6.	.36
+ 2 COMBINED AT	C115	764.	12.10	59.	17.	8.	.63
+ ROUTED TO	R115	767.	12.10	59.	17.	8.	.63
+ HYDROGRAPH AT	448	88.	12.03	6.	2.	1.	.05
+ HYDROGRAPH AT	449	80.	12.03	5.	1.	1.	.05
+ 2 COMBINED AT	C6364	166.	12.03	11.	3.	1.	.09
+ ROUTED TO	R6364	137.	12.17	11.	3.	1.	.09
+ HYDROGRAPH AT	450	65.	12.10	8.	2.	1.	.07
+ DIVERSION TO	BS450	65.	12.10	8.	2.	1.	.07
+ HYDROGRAPH AT	D450	0.	.00	0.	0.	0.	.07
+ HYDROGRAPH AT	RT450	65.	12.10	8.	2.	1.	.07
+ ROUTED TO	SR450	2.	11.47	2.	2.	1.	.07
+ 2 COMBINED AT	C450	2.	11.47	2.	2.	1.	.07
+ HYDROGRAPH AT	451	19.	12.10	3.	1.	0.	.03
DIVERSION TO	BS451	19.	12.10	3.	1.	0.	.03
+ HYDROGRAPH AT	D451	0.	.00	0.	0.	0.	.03
+ HYDROGRAPH AT	RT451	19.	12.10	3.	1.	0.	.03
+ ROUTED TO	SR451	1.	11.73	1.	1.	0.	.03
+ 2 COMBINED AT	C451	1.	11.73	1.	1.	0.	.03
+ HYDROGRAPH AT	RT66	78.	11.90	12.	3.	2.	.08
+ HYDROGRAPH AT	452	62.	12.03	4.	1.	1.	.04
+ 2 COMBINED AT	C6465	140.	12.03	16.	4.	2.	.04
+ ROUTED TO	R6566	135.	12.10	16.	4.	2.	.04
+ 4 COMBINED AT	C116	268.	12.17	29.	10.	5.	.23
+ ROUTED TO	BASIN5	119.	12.43	29.	10.	5.	.23
+ ROUTED TO	R116	118.	12.53	29.	10.	5.	.23
+ HYDROGRAPH AT	453	63.	12.10	7.	2.	1.	.06
+ DIVERSION TO	BS453	63.	12.10	4.	1.	1.	.06
+ HYDROGRAPH AT	D453	45.	12.27	4.	1.	1.	.06
+ HYDROGRAPH AT	RT453	63.	12.10	4.	1.	1.	.06
ROUTED TO	SR453	1.	9.50	1.	1.	1.	.06
+ 3 COMBINED AT	C117	141.	12.47	34.	12.	6.	.29
+ 2 COMBINED AT	C118	792.	12.10	91.	28.	14.	.92
+ ROUTED TO	R118	783.	12.10	91.	28.	14.	.92

+ DIVERSION TO	BASIN6	208.	12.10	8.	2.	1.	.92
+ HYDROGRAPH AT	DIV7	576.	12.10	83.	26.	13.	.92
HYDROGRAPH AT	RTDIV7	208.	12.10	8.	2.	1.	.92
+ ROUTED TO	RFDIV7	1.	11.97	1.	1.	1.	.92
+ 2 COMBINED AT	CDIV7	577.	12.10	84.	27.	14.	.92
+ HYDROGRAPH AT	454	160.	12.17	23.	7.	3.	.18
+ DIVERSION TO	BS454	160.	12.17	18.	5.	2.	.18
+ HYDROGRAPH AT	D454	41.	12.87	7.	2.	1.	.18
+ HYDROGRAPH AT	RT454	160.	12.17	18.	5.	2.	.18
+ ROUTED TO	SR454	3.	10.33	3.	3.	2.	.18
+ 2 COMBINED AT	C454	44.	12.87	10.	5.	3.	.18
+ 2 COMBINED AT	C119	579.	12.10	93.	32.	17.	1.10
+ ROUTED TO	R454	563.	12.20	93.	32.	17.	1.10
+ HYDROGRAPH AT	415	583.	12.17	83.	24.	12.	.61
+ HYDROGRAPH AT	385RT	202.	12.47	26.	11.	7.	.52
+ 2 COMBINED AT	CC415	589.	12.17	107.	35.	19.	.61
+ DIVERSION TO	BS415	589.	12.17	42.	12.	6.	.61
+ HYDROGRAPH AT	D415	563.	12.43	78.	26.	13.	.61
HYDROGRAPH AT	RT415	589.	12.17	42.	12.	6.	.61
+ ROUTED TO	SR415	8.	6.33	8.	8.	6.	.61
+ 3 COMBINED AT	415C	1062.	12.27	176.	64.	36.	1.71
+ ROUTED TO	R415	989.	12.37	176.	64.	36.	1.71
+ HYDROGRAPH AT	455	1346.	12.13	142.	43.	21.	1.11
+ DIVERSION TO	BS455	1346.	12.13	137.	37.	18.	1.11
+ HYDROGRAPH AT	D455	55.	12.77	16.	6.	3.	1.11
+ HYDROGRAPH AT	RT455	1346.	12.13	137.	37.	18.	1.11
+ ROUTED TO	SR455	25.	10.47	25.	25.	18.	1.11
+ 2 COMBINED AT	C455	80.	12.77	41.	31.	21.	1.11
+ 3 COMBINED AT	455C	5787.	12.37	1240.	514.	324.	13.69
+ ROUTED TO	SR440	794.	13.83	779.	514.	323.	13.69
+ ROUTED TO	RR455	794.	14.17	778.	514.	321.	13.69
+ HYDROGRAPH AT	456	468.	12.07	35.	10.	5.	.26
+ DIVERSION TO	BASIN1	184.	12.07	8.	2.	1.	.26
+ HYDROGRAPH AT	DIV1	284.	12.07	27.	8.	4.	.26
DIVERSION TO	WA30	58.	12.07	10.	3.	2.	.26
+ HYDROGRAPH AT	DIV2	226.	12.07	18.	4.	2.	.26
+ ROUTED TO	R456	213.	12.13	18.	4.	2.	.26
+ HYDROGRAPH AT	457	264.	12.07	20.	5.	3.	.19

+	2 COMBINED AT	C101	462.	12.10	38.	10.	5.	.45
+	DIVERSION TO	BASIN2	165.	12.10	7.	2.	1.	.45
+	HYDROGRAPH AT	DIV3	297.	12.10	30.	8.	4.	.45
+	HYDROGRAPH AT	RTDIV3	165.	12.10	7.	2.	1.	.45
+	ROUTED TO	RFDIV3	2.	11.90	2.	2.	1.	.45
+	2 COMBINED AT	CDIV3	299.	12.10	32.	9.	5.	.45
+	ROUTED TO	R101	297.	12.10	32.	9.	5.	.45
+	HYDROGRAPH AT	458	356.	12.03	25.	7.	3.	.19
+	2 COMBINED AT	C103	635.	12.07	56.	16.	8.	.64
+	ROUTED TO	R103	630.	12.07	56.	16.	8.	.64
+	HYDROGRAPH AT	RT30	58.	12.07	10.	3.	2.	.26
+	ROUTED TO	R30	57.	12.10	10.	3.	2.	.26
+	HYDROGRAPH AT	RTB1	184.	12.07	8.	2.	1.	.26
+	ROUTED TO	B1	37.	12.23	8.	2.	1.	.26
+	ROUTED TO	RB1	37.	12.30	8.	2.	1.	.26
+	2 COMBINED AT	CDIV	86.	12.20	17.	5.	3.	.12
+	HYDROGRAPH AT	459	44.	12.03	3.	1.	0.	.03
+	2 COMBINED AT	C52	113.	12.10	20.	6.	3.	.15
+	ROUTED TO	R52	112.	12.17	20.	6.	3.	.15
+	HYDROGRAPH AT	460	214.	12.07	19.	6.	3.	.14
+	2 COMBINED AT	C102	313.	12.07	39.	12.	6.	.29
+	ROUTED TO	BASIN3	71.	12.63	39.	12.	6.	.29
+	ROUTED TO	R3	71.	12.77	39.	12.	6.	.29
+	HYDROGRAPH AT	461	161.	12.10	17.	5.	2.	.12
+	2 COMBINED AT	C104	213.	12.10	55.	17.	8.	.41
+	2 COMBINED AT	C106	835.	12.07	110.	32.	16.	1.05
+	ROUTED TO	R106	797.	12.13	110.	32.	16.	1.05
+	HYDROGRAPH AT	462	538.	12.07	40.	11.	5.	.30
+	2 COMBINED AT	C56	1254.	12.10	149.	42.	21.	1.35
+	HYDROGRAPH AT	480	1050.	12.10	96.	29.	14.	.73
+	DIVERSION TO	BS480	455.	11.90	27.	8.	4.	.73
+	HYDROGRAPH AT	D480	1050.	12.10	78.	21.	10.	.73
+	HYDROGRAPH AT	RT480	455.	11.90	27.	8.	4.	.73
+	ROUTED TO	SR480	6.	3.90	6.	6.	4.	.73
+	2 COMBINED AT	C480	1056.	12.10	84.	27.	14.	.73
+	3 COMBINED AT	480C	2551.	12.10	962.	599.	366.	2.09
+	ROUTED TO	RR480	2392.	12.13	959.	599.	365.	2.09
+	HYDROGRAPH AT	500	1073.	12.27	122.	33.	16.	.93

```
          2 COMBINED AT
+                        500C      3279.  12.20       1071.       627.       379.       3.02

*** NORMAL END OF HEC-1 ***
```

SPOOK HILL ADMP



MODEL BASED ON COMBINATION TWO PREVIOUS OPTIONS. PASS MTN. AND MCDOWELL RD.

THE PASS MTN. OPTION HAS LEVEE EXTENDED NORTH-WEST CREATING NEW SUB-BASIN BOUNDARIES: 295, 300 & 305 FROM 300; 353 & 355 FROM 355; 365 & 370 FROM 370; 383 & 385 FROM 385; 393 & 395 FROM 395. DETENTION BASINS ARE ADDED TO SUB-BASINS 300 AND 305.

THE MCDOWELL OPTION HAS DETENTION BASINS LOCATED AT MEETING OF 370 & 395; AND MEETING OF 385 & 411. THE DETENTION BASIN LOCATED AT 385 & 411 WILL BE ROUTED VIA CHANNELS ALONG MCDOWELL & HAWES TO COMBINE WITH SUB-BASIN 390 AND THE FLOW FROM THE DETENTION BASIN LOCATED AT 370 & 395 WHICH WAS ROUTED WEST ALONG MCDOWELL RD. ALL OF THE FLOW WILL THEN BE ROUTED BELOW GRADE IN RGRCP THAT WILL OUTLET INTO A NATURAL CHANNEL IN SUB-BASIN 455

```
1*************************************
*                                   *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)*
*            JUN   1998             *
*          VERSION 4.1              *
*                                   *
*  RUN DATE  14JUL00  TIME  08:53:10 *
*                                   *
*************************************
```

```
*************************************
*                                   *
*    U.S. ARMY CORPS OF ENGINEERS   *
*    HYDROLOGIC ENGINEERING CENTER  *
*          609 SECOND STREET        *
*       DAVIS, CALIFORNIA 95616     *
*          (916) 756-1104           *
*                                   *
*************************************
```

```
X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX         XXX
```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

```
1                                        HEC-1 INPUT                                                    PAGE  1

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID   EXISTING LAND USE CALCULATIONS WERE BASED ON 1 YR. FROM 11/5/99
  2           ID   FOR LAS SENDAS       AND LANDISCOR JAN.1999 AERIAL PHOTOGPRAPHS
  3           ID
  4           ID   ALL DAMS WERE ANALYZED WITH NO STORAGE BELOW PRINCIPLE SPILLWAY ELEVATIONS
  5           ID
  6           ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
  7           ID   PRECIPITATION VALUES
  8           ID
  9           ID   ALL CHANNEL ROUTING INFORMATION WAS OBTAINED FROM MCFCD SPOOK HILL   SIGNAL
 10           ID   BUTTE        AND BULLDOG FLOODWAY PLANS
 11           ID
 12           ID   MODEL BASED ON COMBINATION TWO PREVIOUS OPTIONS.  PASS MTN. AND MCDOWELL RD.
 13           ID
 14           ID   THE PASS MTN. OPTION HAS LEVEE EXTENDED NORTH-WEST CREATING NEW
 15           ID   SUB-BASIN BOUNDARIES:  295, 300 & 305 FROM 300; 353 & 355 FROM 355;
 16           ID   365 & 370 FROM 370; 383 & 385 FROM 385; 393 & 395 FROM 395.  DETENTION BASINS
 17           ID   ARE ADDED TO SUB-BASINS 300 AND 305.
 18           ID
 19           ID   THE MCDOWELL OPTION HAS DETENTION BASINS LOCATED AT MEETING OF 370 & 395;
 20           ID   AND MEETING OF 385 & 411.  THE DETENTION BASIN LOCATED AT 385 & 411 WILL
 21           ID   BE ROUTED VIA CHANNELS ALONG MCDOWELL & HAWES TO COMBINE WITH SUB-BASIN 390
 22           ID   AND THE FLOW FROM THE DETENTION BASIN LOCATED AT 370 & 395 WHICH WAS ROUTED
 23           ID   WEST ALONG MCDOWELL RD. ALL OF THE FLOW WILL THEN BE ROUTED BELOW GRADE
 24           ID   IN RGRCP THAT WILL OUTLET INTO A NATURAL CHANNEL IN SUB-BASIN 455
 25           ID
 26           ID   ANALYSIS PERFORMED BY WOOD/PATEL; MW;        07/12/00  FILE: S24CE39.DAT
 27           ID
 28           ID   DDM MCUHP1 SPOOK HILL AMDP
              *DIAGRAM
 29           IT       2                    1500
 30           IO       3
 31           IN      15
 32           JD    3.81    0.01
 33           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
 34           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
 35           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
 36           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
 37           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
 38           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
 39           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
 40           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
 41           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
 42           PC    .983    .986    .989    .992    .995    .998   1.000
 43           JD    3.58   10.00
 44           JD    3.43   30.00
 45           JD    3.28   60.00
 46           JD    3.22   90.00
 47           JD    3.18  120.00
 48           JD    3.14  150.00
 49           JD    3.05  300.00
 50           JD    2.97  500.00
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 51           KK      10
 52           KM   SUB-BASIN 10
 53           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 54           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 55           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
 56           BA    .702
 57           LG    .350    .320   7.600    .090  15.000
 58           UC    .421    .302
 59           UA       0       3       5       8      12      20      43      75      90      96
 60           UA     100
              * DDM   ***** Preserved *****

 61           KK     R10
 62           KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
 63           RS       4    FLOW      -1
 64           RC    .045     .03    .045    8700    .021
 65           RX       0       1       2      17      27      42      43      44
 66           RY       5       5       5       0       0       5       5       5
```

```
            * DDM   ***** Preserved *****

 67         KK     R12
 68         KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
 69         RS       6    FLOW      -1
 70         RC    .045     .03    .045    4500     .01
 71         RX       0       1      30    37.5    57.5      65      94      95
 72         RY       3     2.5     2.5       0       0     2.5     2.5       3
            * DDM   ***** Updated *****

 73         KK      20
 74         KM   SUB-BASIN 20
 75         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 76         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 77         KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 78         BA   1.120
 79         LG    .350    .390   5.800    .190   1.000
 80         UC    .658    .454
 81         UA       0       3       5       8      12      20      43      75      90      96
 82         UA     100
            * DDM   ***** Preserved *****

 83         KK     C20
 84         KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 85         HC       2
            * DDM   ***** Updated *****

 86         KK      40
 87         KM   SUB-BASIN 40
 88         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 89         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
 90         KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
 91         BA   2.233
 92         LG    .340    .340   4.900    .280   5.000
 93         UC    .496    .264
 94         UA       0       3       5       8      12      20      43      75      90      96
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 95         UA     100
            * DDM   ***** Updated *****

 96         KK      60
 97         KM   SUB-BASIN 60
 98         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 99         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .990
100         KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
101         BA   1.746
102         LG    .330    .350   5.800    .190   9.000
103         UC    .596    .477
104         UA       0       3       5       8      12      20      43      75      90      96
105         UA     100
            * DDM   ***** Preserved *****

106         KK     60C
107         KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
            *      1       2
108         HC       3
            * DDM   ***** Preserved *****

109         KK    SR60
110         KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
111         KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
112         KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
113         KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
114         RS       1    STOR       0
115         SV       0       1     100     200     300     400
116         SQ       0      71      81      87    91.5      94
117         SE    83.5    93.5      96    97.7      99   99.77
            * DDM   ***** Preserved *****

118         KK     R60
119         KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
120         RS       1    FLOW      -1
121         RC    .016    .016    .016    2850    .012
122         RX       0       1       2     2.1     5.6     5.7       6       7
123         RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
            * DDM   ***** Preserved *****

124         KK    RR60
125         KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
126         RS       4    FLOW      -1
127         RC    .016    .016    .016    3500    .005
128         RX       0       1       2     2.1     7.1     7.2       8       9
129         RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
            * DDM   ***** Updated *****

130         KK      80
131         KM   SUB-BASIN 80
132         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
133         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
134         KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
135         BA   1.475
136         LG    .330    .330   5.600    .210   4.000
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

137         UC    .433    .259
138         UA       0       3       5       8      12      20      43      75      90      96
139         UA     100
            * DDM   ***** Preserved *****

140         KK     80C
141         KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
142         HC       2   1.475
            * DDM   ***** Preserved *****

143         KK     R80
144         KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
145         RS       1    FLOW      -1
146         RC    .025    .016    .025    1200    .003
```

```
147          RX       0       2       6     6.1    41.1    41.2    56.2    58.2
148          RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
             * DDM   ***** Updated *****

149          KK     100
150          KM   SUB-BASIN 100
151          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
152          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
153          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
154          BA    .484
155          LG    .320    .290   5.100    .260   3.000
156          UC    .533    .473
157          UA       0       5      16      30      65      77      84      90      94      97
158          UA     100
             * DDM   ***** Preserved *****

159          KK    100C
160          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
161          HC       2
             * DDM   ***** Preserved *****

162          KK    R100
163          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
164          RS       1    FLOW      -1
165          RC    .016    .016    .016     940    .005
166          RX       0       1       2     2.1    52.1    52.2      53      54
167          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****

168          KK     120
169          KM   SUB-BASIN 120
170          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
171          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
172          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
173          BA   2.202
174          LG    .330    .280   6.800    .130  11.000
175          UC    .429    .226
176          UA       0       3       5       8      12      20      43      75      90      96
177          UA     100
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

178          KK    120C
179          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
180          HC       2
             * DDM   ***** Preserved *****

181          KK    R120
182          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
183          RS       1    FLOW      -1
184          RC    .025    .016    .025    2100    .005
185          RX       0       6      10    10.1    60.1    60.2    74.2    80.2
186          RY       8       5       5       0       0       5       5       8
             * DDM   ***** Updated *****

187          KK     140
188          KM   SUB-BASIN 140
189          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
190          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
191          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
192          BA    .598
193          LG    .310    .280   4.200    .440   5.000
194          UC    .421    .278
195          UA       0       5      16      30      65      77      84      90      94      97
196          UA     100
             * DDM   ***** Updated *****

197          KK     150
198          KM   SUB-BASIN 150
199          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
200          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
201          KM     L = 1.50  Kb = .047  Adj. Slope =  314.6
202          BA    .408
203          LG    .350    .360   5.100    .260   7.000
204          UC    .296    .221
205          UA       0       3       5       8      12      20      43      75      90      96
206          UA     100
             * DDM   ***** Preserved *****

207          KK    R150
208          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
209          RS       2    FLOW      -1
210          RC    .045     .04    .045    3100    .032
211          RX       0       1       2      23      33      54      55      56
212          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

213          KK    R152
214          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
215          RS       4    FLOW      -1
216          RC    .045     .03    .045    5900    .019
217          RX       0       1       2       8      33      39      40      41
218          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

219          KK     160
220          KM   SUB-BASIN 160
221          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
222          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
223          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
224          BA    .369
225          LG    .340    .330   4.150    .440   1.000
226          UC    .587    .655
227          UA       0       3       5       8      12      20      43      75      90      96
228          UA     100
             * DDM   ***** Updated *****
```

```
229          KK     180
230          KM   SUB-BASIN 180
231          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
232          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
233          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
234          BA   1.000
235          LG    .350    .350   4.150    .430    .000
236          UC    .571    .403
237          UA       0       3       5       8      12      20      43      75      90      96
238          UA     100
             * DDM   ***** Preserved *****

239          KK    180C
240          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
241          HC       5
             * DDM   ***** Updated *****

242          KK     383
243          KM   SUB-BASIN 383
244          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
245          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
246          KM     L = 1.49  Kb = .047  Adj. Slope =  315.0
247          BA    .420
248          LG    .350    .400   6.000    .170  16.000
249          UC    .287    .209
250          UA       0       3       5       8      12      20      43      75      90      96
251          UA     100
             * DDM   ***** Preserved *****

252          KK    R383
253          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
254          KM   ROUTING OF FLOW FROM SUB-BASIN 383 TO SUB-BASIN 393
255          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
256          KM   WATERCOURSE FLOW PATH
257          RS       2    FLOW      -1
258          RC     .07     .03     .07    1115    .045
259          RX       0       1       3       9      39      45      46      47
260          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                          PAGE  7

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

261          KK     393
262          KM   SUB-BASIN 393
263          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
264          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
265          KM     L =  .61  Kb = .061  Adj. Slope =  246.2
266          BA    .040
267          LG    .350    .350   4.200    .420    .000
268          UC    .233    .310
269          UA       0       3       5       8      12      20      43      75      90      96
270          UA     100
             * DDM   ***** Preserved *****

271          KK    393C
272          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 383 & 393
273          HC       2
             * DDM   ***** Preserved *****

274          KK    R393
275          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
276          KM   ROUTING OF FLOW FROM SUB-BASIN 393 TO SUB-BASIN 365
277          RS       1    FLOW      -1
278          RC    .055     .03    .055    1115    .045
279          RX       0       1       3       9      39      45      46      47
280          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

281          KK     365
282          KM   SUB-BASIN 365
283          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
284          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
285          KM     L = 2.20  Kb = .047  Adj. Slope =  299.5
286          BA    .415
287          LG    .350    .350   4.600    .330   4.000
288          UC    .400    .415
289          UA       0       3       5       8      12      20      43      75      90      96
290          UA     100
             * DDM   ***** Preserved *****

291          KK    365C
292          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 393 & 365
293          HC       2
             * DDM   ***** Preserved *****

294          KK    R365
295          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
296          KM   ROUTING OF FLOW FROM SUB-BASIN 365 TO ROUTING 365R
297          RS       2    FLOW      -1
298          RC    .045     .03    .045    1000    .025
299          RX       0       1      50      56      76      82     131     132
300          RY     2.5       2       2       0       0       2       2     2.5
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE  8

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

301          KK    365R
302          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
303          KM   ROUTING OF FLOW FROM 365R TO SUB-BASIN 353
304          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
305          KM   WATERCOURSE FLOW PATH
306          RS       3    FLOW      -1
307          RC     .07     .03     .07    1300    .008
308          RX       0       3       5      11      41      47     147     247
309          RY       3     2.5       2       0       0       2     2.5       3
             * DDM   ***** Updated *****

310          KK     353
```

```
311          KM   SUB-BASIN 353
312          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
313          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
314          KM     L = 2.50  Kb = .046  Adj. Slope =  297.9
315          BA    .502
316          LG    .350    .350   4.350    .380   1.000
317          UC    .442    .460
318          UA       0       3       5       8      12      20      43      75      90      96
319          UA     100
             * DDM   ***** Preserved *****

320          KK    353C
321          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 365 & 353
322          HC       2
             * DDM   ***** Preserved *****

323          KK    R353
324          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
325          KM   ROUTING OF FLOW FROM SUB-BASIN 353 TO ROUTING 353R
326          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
327          KM   WATERCOURSE FLOW PATH
328          RS       2    FLOW      -1
329          RC     .07     .03     .07    1100    .009
330          RX       0       3       5      11      41      47     172     302
331          RY     3.5     2.5       2       0       0       2     2.5     3.5
             * DDM   ***** Preserved *****

332          KK    353R
333          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
334          KM   ROUTING OF FLOW FROM 353R TO SUB-BASIN 310
335          RS       1    FLOW      -1
336          RC    .045     .03    .045    1692     .03
337          RX       0       1      25      31      51      57      81      82
338          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

339          KK     350
340          KM   SUB-BASIN 350
341          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
342          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
343          KM     L = 2.22  Kb = .042  Adj. Slope =  311.6
344          BA    .935
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

345          LG    .350    .350   4.600    .330   5.000
346          UC    .367    .237
347          UA       0       3       5       8      12      20      43      75      90      96
348          UA     100
             * DDM   ***** Preserved *****

349          KK    350R
350          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
351          KM   ROUTING OF MAIN FLOW FROM DIVERSION OF SUB-BASIN 350 TO SUB-BASIN 310
352          RS       8    FLOW      -1
353          RC    .045    .035    .045    7650    .025
354          RX       0       1      50      56      86      92     141     142
355          RY       3       2       2       0       0       2       2       3
             *      1       2
             * DDM   ***** Updated *****

356          KK     310
357          KM   SUB-BASIN 310
358          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
359          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
360          KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
361          BA    .555
362          LG    .350    .350   3.910    .480    .000
363          UC    .483    .511
364          UA       0       3       5       8      12      20      43      75      90      96
365          UA     100
             * DDM   ***** Preserved *****

366          KK    C310
367          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 310, 350, AND 353
368          HC       3
             * DDM   ***** Preserved *****

369          KK    R310
370          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
371          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
372          RS       6    FLOW      -1
373          RC    .045    .035    .045   10050    .022
374          RX       0       1      40      46      61      67     106     107
375          RY       4       2       2       0       0       2       2       4
             * DDM   ***** Preserved *****

376          KK    R312
377          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
378          KM   ROUTING OF FLOW FROM R312 TO SUB-BASIN 295
379          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
380          KM   WATERCOURSE FLOW PATH
381          RS       3    FLOW      -1
382          RC     .07     .03     .07    2100   .0124
383          RX       0       3       5      11      61      67     200     395
384          RY       4     2.5       2       0       0       2     2.5       4
             * DDM   ***** Updated *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

385          KK     295
386          KM   SUB-BASIN 295
387          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
388          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
389          KM     L = 1.60  Kb = .047  Adj. Slope =  131.0
390          BA    .380
391          LG    .350    .350   4.900    .280    .000
392          UC    .450    .386
393          UA       0       3       5       8      12      20      43      75      90      96
394          UA     100
```

```
            * DDM   ***** Preserved *****

395         KK    295C
396         KM   HYDROGRAPH COMBINATION OF SUB-BASINS 310 & 295
397         HC       2
            * DDM   ***** Preserved *****

398         KK    295R
399         KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
400         KM   ROUTING OF FLOW FROM SUB-BASIN 295 TO BEGINNING OF PASS MTN. DIVERSION.
401         KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
402         KM   WATERCOURSE FLOW PATH
403         RS       2    FLOW      -1
404         RC     .07     .03     .07    1100     .013
405         RX       0       3       5      11       51      57     200     400
406         RY       4     2.5       2       0        0       2     2.5       4
            * DDM   ***** Updated *****

407         KK     210
408         KM   SUB-BASIN 210
409         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
410         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
411         KM     L = 1.84  Kb = .045  Adj. Slope =  315.0
412         BA    .583
413         LG    .350    .350   7.000    .120   5.000
414         UC    .321    .232
415         UA       0       3       5       8      12      20      43      75      90      96
416         UA     100
            * DDM   ***** Preserved *****

417         KK    R210
418         KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
419         RS       2    FLOW      -1
420         RC    .045     .03    .045    5100     .022
421         RX       0       1       2      14       34      46      47      48
422         RY       4       4       4       0        0       4       4       4
            * DDM   ***** Updated *****

423         KK     240
424         KM   SUB-BASIN 240
425         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
426         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
427         KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
428         BA   1.398
1                                    HEC-1 INPUT                                          PAGE 11

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

429         LG    .350    .370   5.200    .240   2.000
430         UC    .471    .361
431         UA       0       3       5       8      12      20      43      75      90      96
432         UA     100
            * DDM   ***** Preserved *****

433         KK    240C
434         KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
435         HC       3
            * DDM   ***** Preserved *****

436         KK   SR240
437         KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
438         KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
439         KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
440         KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
441         RS       1    STOR       0
442         SA    1.38    14.2    36.5
443         SE       0       5      11
444         SS       5      42       3     1.5
            * DDM   ***** Updated *****

445         KK     220
446         KM   SUB-BASIN 220
447         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
448         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
449         KM     L = 1.92  Kb = .043  Adj. Slope =  315.0
450         BA    .725
451         LG    .350    .350   7.000    .120   4.000
452         UC    .317    .209
453         UA       0       3       5       8      12      20      43      75      90      96
454         UA     100
            * DDM   ***** Preserved *****

455         KK    220C
456         KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
457         HC       2
            * DDM   ***** Preserved *****

458         KK   SR220
459         KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
460         KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
461         KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
462         KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
463         RS       1    STOR       0
464         SA     .78     4.1    13.7
465         SE       0       3      10
466         SS       3      65       3     1.5
            * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                          PAGE 12

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

467         KK     190
468         KM   SUB-BASIN 190
469         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
470         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
471         KM     L = 1.91  Kb = .042  Adj. Slope =  315.0
472         BA    .918
473         LG    .350    .390   5.800    .190   8.000
474         UC    .321    .185
475         UA       0       3       5       8      12      20      43      75      90      96
476         UA     100
            * DDM   ***** Preserved *****
```

```
477          KK    R190
478          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
479          RS       2    FLOW      -1
480          RC    .045     .03    .045    4740     .03
481          RX       0       1       2      17      37      52      53      54
482          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

483          KK    R192
484          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
485          RS       2    FLOW      -1
486          RC    .045    .035    .045    2200    .018
487          RX       0       1      50      59      79      88     137     138
488          RY     3.5       3       3       0       0       3       3     3.5
             * DDM   ***** Updated *****

489          KK     200
490          KM   SUB-BASIN 200
491          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
492          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
493          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
494          BA    .535
495          LG    .350    .390   5.700    .200  10.000
496          UC    .300    .200
497          UA       0       3       5       8      12      20      43      75      90      96
498          UA     100
             * DDM   ***** Preserved *****

499          KK    200C
500          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
501          HC       3
             * DDM   ***** Preserved *****

502          KK   SR200
503          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
504          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
505          RS       1    STOR       0
506          SA    2.56     3.1     9.4
507          SE       0       3      10
508          SS       3     112       3     1.5
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 13

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

509          KK   200SR
510          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
511          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
             *      1       2
512          RS       1    STOR       0
513          SA       8     9.2     9.2
514          SE       0       7      10
515          SS       7     251       3     1.5
516          KM   ******************************************************************
517          KM   ************* END OF PASS MOUNTAIN ALTERNATIVE UPDATE. **************
518          KM
             * DDM   ***** Preserved *****

519          KK    C180
520          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             *      1       2
521          HC       2
             * DDM   ***** Preserved *****

522          KK   SR180
523          KM   SIGNAL BUTTE FRS DATED 1/28/85
524          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
525          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
526          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
527          RS       1    STOR       0
528          SV       0       1     250     500     750    1060
529          SQ       0   106.5   125.5   137.5     146     160
530          SE      90     101   104.5     107     109   112.4
             * DDM   ***** Preserved *****

531          KK    R180
532          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
533          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
534          RS       3    FLOW      -1
535          RC    .035    .025    .035    1500    .003
536          RX       0       1       2    22.6    38.6    59.2      60      61
537          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

538          KK     260
539          KM   SUB-BASIN 260
540          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
541          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
542          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
543          BA    .267
544          LG    .300    .170   6.800    .160  15.000
545          UC    .363    .215
546          UA       0       5      16      30      65      77      84      90      94      97
547          UA     100
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 14

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

548          KK    260C
549          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
550          HC       2    .267
             * DDM   ***** Preserved *****

551          KK    R260
552          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
553          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
554          RS       3    FLOW      -1
555          RC    .035    .025    .035    2300    .003
556          RX       0       1       2    23.4    43.4    64.8      65      66
```

```
557          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

558          KK     280
559          KM   SUB-BASIN 280
560          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
561          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
562          KM     L =  .77  Kb = .049  Adj. Slope =   84.0
563          BA    .304
564          LG    .300    .250   5.300    .290  15.000
565          UC    .333    .175
566          UA       0       5      16      30      65      77      84      90      94      97
567          UA     100
             * DDM   ***** Preserved *****

568          KK    280C
569          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
570          HC       2
             * DDM   ***** Preserved *****

571          KK    R280
572          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
573          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
574          RS       2    FLOW      -1
575          RC    .035    .025    .035    2500    .003
576          RX       0       1       2    23.4    43.4    64.8      65      66
577          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

578          KK     300
579          KM   SUB-BASIN 300
580          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
581          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
582          KM     L =  .80  Kb = .049  Adj. Slope =  100.0
583          BA    .297
584          LG    .320    .280   4.200    .480  11.000
585          UC    .333    .183
586          UA       0       5      16      30      65      77      84      90      94      97
587          UA     100
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 15

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


588          KK    C300
589          KM   HYDROGRAPH COMBINATION OF DIVERTED FLOW
590          HC       2
             * DDM   ***** Preserved *****

591          KK    D300
592          KM   DIVERT FLOW INTO OFFLINE BASIN AT SIGNAL BUTTE FLOODWAY TO BE COMBINED
593          KM   LATER WITH BASIN 305 AT END OF SIGNAL BUTTE FLOODWAY
594          DT   DIV300
595          DI       0     300    5000
596          DQ       0       0    4700
             * DDM   ***** Preserved *****

597          KK   RTDIV300
598          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
599          DR   DIV300
             * DDM   ***** Preserved *****

600          KK   SRDIV300
601          KM   RETRIEVE FLOW INTO BASIN AND BLEED OFF WITHIN 36 HOURS
602          KM
603          RS       1    STOR       0
604          SV       0      60
605          SE       0      12
606          SQ       0     300
             * DDM   ***** Preserved *****

607          KK    300C
608          KM   HYDROGRAPH COMBINATION OF DIVERTED FLOW
609          HC       2
             * DDM   ***** Updated *****

610          KK     305
611          KM   SUB-BASIN 305
612          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
613          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
614          KM     L = 1.20  Kb = .047  Adj. Slope =   92.0
615          BA    .377
616          LG    .340    .330   4.450    .380   8.000
617          UC    .438    .298
618          UA       0       3       5       8      12      20      43      75      90      96
619          UA     100
             * DDM   ***** Preserved *****

620          KK    D305
621          KM   DIVERT FLOW INTO OFFLINE BASIN TO BE COMBINED LATER WITH PASS MOUNTAIN
622          KM   DIVERSION FLOW AT END OF SIGNAL BUTTE FLOODWAY
623          DT    305D
624          DI       0    1000
625          DQ       0    1000
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 16

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


626          KK   RT305D
627          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
628          DR    305D
             * DDM   ***** Preserved *****

629          KK   SR305D
630          KM   RETRIEVE FLOW INTO BASIN AND BLEED OFF WITHIN 36 HOURS
631          KM
632          RS       1    STOR       0
633          SV       0      25
634          SE       0       6
635          SQ       0     100
```

```
            * DDM   ***** Preserved *****

636         KK    305C
637         KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
638         HC       3
            * DDM   ***** Preserved *****

639         KK    R305
640         KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
641         KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
642         RS       2    FLOW      -1
643         RC    .035    .025    .035    2200    .003
644         RX       0       1       2    23.4    55.4    76.8      77      78
645         RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
            * DDM   ***** Preserved *****

646         KK   RR305
647         KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
648         KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
649         RS       1    FLOW      -1
650         RC    .016    .016    .016    6050   .0146
651         RX       0       1       2     2.1    16.1    16.2      17      18
652         RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
            * DDM   ***** Updated *****

653         KK     320
654         KM   SUB-BASIN 320
655         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
656         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
657         KM     L = 1.60  Kb = .042  Adj. Slope =  106.0
658         BA    .870
659         LG    .310    .290   4.500    .380  15.000
660         UC    .450    .240
661         UA       0       5      16      30      65      77      84      90      94      97
662         UA     100
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 17

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

663         KK    D320
664         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
665         KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
666         KM   SIERRA HEIGHTS       FALCON RIDGE    & MARBLE CREEK
667         KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
            *      1
668         DT   BS320   12.27
669         DI       0   10000
670         DQ       0   10000
            * DDM   ***** Preserved *****

671         KK   RT320
672         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
673         DR   BS320
            * DDM   ***** Preserved *****

674         KK   SR320
675         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
676         KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
            *      1
677         RS       1    STOR       0
678         SV       0     .01    12.3
679         SQ       0     4.2     4.2
            * DDM   ***** Preserved *****

680         KK    C320
681         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
682         HC       3
            * DDM   ***** Updated *****

683         KK     340
684         KM   SUB-BASIN 340
685         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
686         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
687         KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
688         BA   1.449
689         LG    .280    .280   4.150    .520  21.000
690         UC    .512    .287
691         UA       0       5      16      30      65      77      84      90      94      97
692         UA     100
            * DDM   ***** Preserved *****

693         KK    D340
694         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
695         KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
696         KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
697         KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
            *      1
698         DT   BS340      56
699         DI       0   10000
700         DQ       0   10000
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 18

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

701         KK   RT340
702         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
703         DR   BS340
            * DDM   ***** Preserved *****

704         KK   SR340
705         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
706         KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
            *      1
707         RS       1    STOR       0
708         SV       0     .01      56
709         SQ       0    18.9    18.9
            * DDM   ***** Preserved *****

710         KK    C340
```

```
711          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
712          HC       3
             * DDM   ***** Updated *****

713          KK     355
714          KM   SUB-BASIN 355
715          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
716          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
717          KM     L =  .80  Kb = .052  Adj. Slope =  125.0
718          BA    .174
719          LG    .320    .300   4.550    .360  12.000
720          UC    .308    .227
721          UA       0       5      16      30      65      77      84      90      94      97
722          UA     100
             * DDM   ***** Preserved *****

723          KK    R355
724          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
725          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
726          RS       8    FLOW      -1
727          RC    .045    .035    .045   10100    .026
728          RX       0       1      40      46      56      62     102     103
729          RY       4       2       2       0       0       2       2       4
             * DDM   ***** Updated *****

730          KK     360
731          KM   SUB-BASIN 360
732          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
733          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
734          KM     L = 2.10  Kb = .048  Adj. Slope =  124.0
735          BA    .670
736          LG    .260    .270   4.100    .560  20.000
737          UC    .587    .466
738          UA       0       5      16      30      65      77      84      90      94      97
739          UA     100
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

740          KK    D360
741          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
742          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
743          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
744          DT   BS360    28.6
745          DI       0   10000
746          DQ       0   10000
             * DDM   ***** Preserved *****

747          KK   RT360
748          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
749          DR   BS360
             * DDM   ***** Preserved *****

750          KK   SR360
751          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
752          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
753          RS       1    STOR       0
754          SV       0     .01    28.6
755          SQ       0     9.6     9.6
             * DDM   ***** Preserved *****

756          KK    360C
757          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
758          HC       4
             * DDM   ***** Updated *****

759          KK     380
760          KM   SUB-BASIN 380
761          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
762          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
763          KM     L = 2.20  Kb = .048  Adj. Slope =  114.0
764          BA    .972
765          LG    .300    .310   4.150    .500   7.000
766          UC    .658    .444
767          UA       0       5      16      30      65      77      84      90      94      97
768          UA     100
             * DDM   ***** Preserved *****

769          KK    D380
770          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
771          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
772          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
773          DT   BS380    28.6
774          DI       0   10000
775          DQ       0   10000
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

776          KK   RT380
777          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
778          DR   BS380
             * DDM   ***** Preserved *****

779          KK   SR380
780          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
781          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
782          RS       1    STOR       0
783          SV       0     .01    28.6
784          SQ       0     9.6     9.6
             * DDM   ***** Preserved *****

785          KK    380C
786          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
787          HC       3
             * DDM   ***** Updated *****
```

```
788          KK     400
789          KM   SUB-BASIN 400
790          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
791          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
792          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
793          BA    .616
794          LG    .320    .320   3.130    .930   6.000
795          UC    .592    .405
796          UA       0       5      16      30      65      77      84      90      94      97
797          UA     100
             * DDM   ***** Preserved *****

798          KK    D400
799          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
800          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
801          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
802          DT   BS400     5.6
803          DI       0   10000
804          DQ       0   10000
             * DDM   ***** Preserved *****

805          KK   RT400
806          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
807          DR   BS400
             * DDM   ***** Preserved *****

808          KK   SR400
809          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
810          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
811          RS       1    STOR       0
812          SV       0     .01     5.6
813          SQ       0       2       2
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 21

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

814          KK    C400
815          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
816          HC       2
             * DDM   ***** Preserved *****

817          KK    400C
818          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
819          HC       2
             * DDM   ***** Updated *****

820          KK     420
821          KM   SUB-BASIN 420
822          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
823          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
824          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
825          BA    .849
826          LG    .310    .270   3.880    .580  12.000
827          UC    .512    .325
828          UA       0       5      16      30      65      77      84      90      94      97
829          UA     100
             * DDM   ***** Preserved *****

830          KK    D420
831          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
832          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
833          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
834          DT   BS420    8.65
835          DI       0   10000
836          DQ       0   10000
             * DDM   ***** Preserved *****

837          KK   RT420
838          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
839          DR   BS420
             * DDM   ***** Preserved *****

840          KK   SR420
841          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
842          KM   38.55 ACRE-FEETx43560/36x3600=13cfs
843          RS       1    STOR       0
844          SV       0     .01   38.55
845          SQ       0      13      13
             * DDM   ***** Preserved *****

846          KK    420C
847          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
848          HC       3
             * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 22

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

849          KK     370
850          KM   SUB-BASIN 370
851          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
852          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
853          KM     L =  .90  Kb = .050  Adj. Slope =  189.0
854          BA    .257
855          LG    .310    .280   4.800    .340  16.000
856          UC    .271    .173
857          UA       0       5      16      30      65      77      84      90      94      97
858          UA     100
             * DDM   ***** Updated *****

859          KK     395
860          KM   SUB-BASIN 395
861          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
862          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
863          KM     L = 1.00  Kb = .052  Adj. Slope =  188.0
864          BA    .160
865          LG    .330    .320   5.100    .280  12.000
866          UC    .300    .276
```

```
867          UA       0       5      16      30      65      77      84      90      94      97
868          UA     100
             * DDM   ***** Preserved *****

869          KK    395C
870          KM   HYDROGRAPH COMBINATION
871          HC       2
             * DDM   ***** Preserved *****

872          KK    D395
873          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN
874          KM   SUB-BASINS 370 AND 395
             *      1
875          DT   BS395
876          DI       0      10    5000
877          DQ       0       0    4990
             * DDM   ***** Preserved *****

878          KK   RT395
879          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
880          DR   BS395
             * DDM   ***** Preserved *****

881          KK   SR395
882          KM   RETRIEVE FLOW INTO OFFLINE DETENTION BASIN AND BLEED OFF WITHIN 36 HOURS.
883          KM      50 ACRE-FEETx43560/36x3600 = 17cfs
884          RS       1    STOR       0
885          SV       0     .01      50
886          SQ       0      17      17
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 23

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

887          KK    C395
888          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
889          HC       2
             * DDM   ***** Preserved *****

890          KK    R395
891          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
892          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 390
893          RS       8    FLOW      -1
894          RC    .045    .035    .045    2600    .023
895          RX       0       1      40      46      56      62     102     103
896          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

897          KK     385
898          KM   SUB-BASIN 385
899          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
900          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
901          KM     L =  .90  Kb = .051  Adj. Slope =  309.5
902          BA    .197
903          LG    .330    .320   4.800    .310   9.000
904          UC    .233    .171
905          UA       0       5      16      30      65      77      84      90      94      97
906          UA     100
             * DDM   ***** Updated *****

907          KK     411
908          KM   SUB-BASIN 411
909          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
910          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
911          KM     L = 1.38  Kb = .050  Adj. Slope =  315.0
912          BA    .237
913          LG    .340    .350   5.000    .270  10.000
914          UC    .292    .277
915          UA       0       3       5       8      12      20      43      75      90      96
916          UA     100
             * DDM   ***** Preserved *****

917          KK    411C
918          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 385 & 411
919          HC       2
             * DDM   ***** Preserved *****

920          KK    D411
921          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 385 & 411
922          DT   BS411
923          DI       0      25    5000
924          DQ       0       0    4975
             * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 24

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

925          KK   RT411
926          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
927          DR   BS411
             * DDM   ***** Preserved *****

928          KK   SR411
929          KM   RETRIEVE FLOW TO BLEED OFF WITHIN 36 HOURS
930          KM      50 ACRE-FEETx43560/36x3600 = 17cfs
931          RS       1    STOR       0
932          SV       0     .01      50
933          SQ       0      17      17
             * DDM   ***** Preserved *****

934          KK    C411
935          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
936          HC       2
             * DDM   ***** Preserved *****

937          KK    R411
938          KM   ROUTING OF FLOW FROM C411 TO 390C
939          RS       7    FLOW      -1
940          RC    .045    .035    .045    2600    .019
941          RX       0       1      40      46      56      62     102     103
942          RY       3       2       2       0       0       2       2       3
```

```
            * DDM   ***** Updated *****

 943        KK     390
 944        KM   SUB-BASIN 390
 945        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 946        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 947        KM     L =  .70  Kb = .050  Adj. Slope =  299.4
 948        BA    .244
 949        LG    .300    .250   4.700    .380  18.000
 950        UC    .204    .107
 951        UA       0       5      16      30      65      77      84      90      94      97
 952        UA     100
            * DDM   ***** Preserved *****

 953        KK    D390
 954        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
 955        KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
 956        KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
            *      1
 957        DT   BS390     3.5
 958        DI       0    5000
 959        DQ       0    5000
            * DDM   ***** Preserved *****

 960        KK   RT390
 961        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
 962        DR   BS390
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 25

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


 963        KK   SR390
 964        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 965        KM     3.5 ACRE-FEETx43560/36x3600=1.2cfs
 966        RS       1    STOR       0
 967        SV       0     .01     3.5
 968        SQ       0     1.2     1.2
            * DDM   ***** Preserved *****

 969        KK    390C
 970        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
 971        HC       4
            * DDM   ***** Preserved *****

 972        KK   RR390
 973        KM   ATTEMPT TO SIMULATE PIPE FLOW ALONG THIS ROUTING FROM SUB-BASIN 390 TO 415
 974        KM   ARTIFICIALLY ADJUSTING SLOPE TO MORE ACCURATELY DEPICT MODEL RESULTS.
 975        KM   THE SLOPE WAS DECREASED FROM .02 TO .0034
 976        RS       2    FLOW      -1
 977        RK    5600   .0034    .016             CIRC       7
            *      0     .01     .02     .03    5.47    5.48    5.49     5.5
            *      7       0       0       0       0       0       0       7
            * DDM   ***** Updated *****

 978        KK     440
 979        KM   SUB-BASIN 440
 980        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 981        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 982        KM     L =  .40  Kb = .039  Adj. Slope =  315.0
 983        BA    .080
 984        LG    .190    .380   6.400    .140  13.000
 985        UC    .129    .077
 986        UA       0       3       5       8      12      20      43      75      90      96
 987        UA     100
            * DDM   ***** Preserved *****

 988        KK     R70
 989        KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
 990        RS       1    FLOW      -1
 991        RC     .05    .035     .05    2250     .08
 992        RX    1000    1025    1050    1070    1075    1095    1120    1145
 993        RY      30    22.9    15.7      10      10    15.7    22.9      30
            * DDM   ***** Updated *****

 994        KK     441
 995        KM   SUB-BASIN 441
 996        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 997        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 998        KM     L =  .28  Kb = .069  Adj. Slope =  315.0
 999        BA    .010
1000        LG    .300    .250   5.600    .220   5.000
1001        UC    .150    .225
1002        UA       0       5      16      30      65      77      84      90      94      97
1003        UA     100
            * DDM   ***** Preserved *****
1                                   HEC-1 INPUT                                          PAGE 26

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1004        KK    C108
1005        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
1006        HC       2
            * DDM   ***** Preserved *****

1007        KK    DIV4
1008        KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
            *      1
1009        DT   SPLIT
1010        DI       0      14      40      82     120     154     180
1011        DQ       0       7      20      41      60      77      90
            * DDM   ***** Preserved *****

1012        KK    R108
1013        KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
1014        RS       2    FLOW      -1
1015        RC     .05    .035     .05    3200      .1
1016        RX    1000    1025    1050    1070    1075    1095    1120    1145
1017        RY      30    22.9    15.7      10      10    15.7    22.9      30
            * DDM   ***** Updated *****
```

```
1018          KK     442
1019          KM   SUB-BASIN 442
1020          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1021          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1022          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
1023          BA    .100
1024          LG    .300    .270   3.290    .770   5.000
1025          UC    .258    .264
1026          UA       0       5      16      30      65      77      84      90      94      97
1027          UA     100
              * DDM   ***** Preserved *****

1028          KK     C67
1029          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
1030          HC       2
              * DDM   ***** Preserved *****

1031          KK    DIV6
1032          KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
1033          KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
              *      1
1034          DT  BASIN4
1035          DI       0      10      32      44    79.9   132.5     198   272.9   356.8
1036          DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
              * DDM   ***** Preserved *****

1037          KK  RTDIV6
1038          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1039          DR  BASIN4
              * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 27

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1040          KK  RFDIV6
1041          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1042          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
              *      1
1043          RS       1    STOR       0
1044          SV       0     .01     3.3
1045          SQ       0     1.1     1.1
              * DDM   ***** Preserved *****

1046          KK   CDIV6
1047          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1048          HC       2
              * DDM   ***** Updated *****

1049          KK     443
1050          KM   SUB-BASIN 443
1051          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1052          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1053          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
1054          BA    .080
1055          LG    .250    .190   8.000    .080  10.000
1056          UC    .196    .194
1057          UA       0       5      16      30      65      77      84      90      94      97
1058          UA     100
              * DDM   ***** Preserved *****

1059          KK   DIV66
1060          KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
1061          KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
1062          DT   WSH66
1063          DI       0      78     100     200
1064          DQ       0      78      78      78
              * DDM   ***** Preserved *****

1065          KK    R113
1066          KM        ROUTE FLOW FROM C113 TO C114
1067          RS       1    FLOW      -1
1068          RC    .019    .019    .019    1300    .029
1069          RX    1000    1004    1008    1012    1018    1022    1026    1030
1070          RY      17   15.33   12.67      10      10   12.67   15.33      17
              * DDM   ***** Preserved *****

1071          KK    C114
1072          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1073          HC       2
              * DDM   ***** Updated *****

1074          KK     444
1075          KM   SUB-BASIN 444
1076          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1077          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1078          KM     L =  .33  Kb = .034  Adj. Slope =  315.0
1079          BA    .040
1080          LG    .130    .350   4.450    .320   1.000
1                                    HEC-1 INPUT                                          PAGE 28

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1081          UC    .112    .084
1082          UA       0       3       5       8      12      20      43      75      90      96
1083          UA     100
              * DDM   ***** Preserved *****

1084          KK     R58
1085          KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1086          RS       1    FLOW      -1
1087          RC     .05    .035     .05    2370   .0516
1088          RX    1000    1010    1020    1050    1055    1085    1095    1105
1089          RY      19      18      17      10      10      17      18      19
              * DDM   ***** Updated *****

1090          KK     445
1091          KM   SUB-BASIN 445
1092          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1093          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1094          KM     L =  .82  Kb = .036  Adj. Slope =  315.0
1095          BA    .190
1096          LG    .170    .320   3.470    .590   3.000
```

```
1097        UC    .192    .130
1098        UA       0       5      16      30      65      77      84      90      94      97
1099        UA     100
            * DDM   ***** Preserved *****

1100        KK    C107
1101        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1102        HC       2
            * DDM   ***** Preserved *****

1103        KK    R107
1104        KM        ROUTE FLOW FROM C107 TO C109
1105        RS       1    FLOW      -1
1106        RC     .05    .035     .05     700   .0516
1107        RX    1000    1010    1020    1050    1055    1085    1095    1105
1108        RY      19      18      17      10      10      17      18      19
            * DDM   ***** Preserved *****

1109        KK    RTB2
1110        KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
            *      1
1111        DR   SPLIT
            * DDM   ***** Preserved *****

1112        KK  RSPLIT
1113        KM        ROUTE FLOW FROM SPLIT TO C109
1114        RS       1    FLOW      -1
1115        RC     .05    .035     .05     800     .05
1116        RX    1000    1025    1050    1070    1075    1095    1120    1145
1117        RY      30    22.9    15.7      10      10    15.7    22.9      30
            * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 29

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1118        KK     446
1119        KM   SUB-BASIN 446
1120        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1121        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1122        KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1123        BA    .040
1124        LG    .270    .250   4.500    .400  19.000
1125        UC    .183    .189
1126        UA       0       5      16      30      65      77      84      90      94      97
1127        UA     100
            * DDM   ***** Preserved *****

1128        KK    C109
1129        KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1130        HC       3
            * DDM   ***** Preserved *****

1131        KK    DIV5
1132        KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1133        KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
            *      1
1134        DT  WSH404
1135        DI       0    40.7    71.2   121.6     190     276   379.4   500.6
1136        DQ       0      35      35      35      35      35      35      35
            * DDM   ***** Preserved *****

1137        KK    R109
1138        KM        ROUTE FLOW FROM C109 TO C110
1139        RS       1    FLOW      -1
1140        RC    .019    .019    .019    3080     .05
1141        RX    1000    1005    1010    1015    1025    1030    1035    1040
1142        RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
            * DDM   ***** Updated *****

1143        KK     447
1144        KM   SUB-BASIN 447
1145        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1146        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1147        KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1148        BA    .090
1149        LG    .250    .270   3.350    .870  30.000
1150        UC    .208    .145
1151        UA       0       5      16      30      65      77      84      90      94      97
1152        UA     100
            * DDM   ***** Preserved *****

1153        KK   RT404
1154        KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1155        DR  WSH404
            * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 30

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1156        KK    R404
1157        KM        ROUTE FLOW FROM C110 TO C110
1158        RS       5    FLOW      -1
1159        RC    .019    .019    .019    3540     .03
1160        RX    1000    1012    1016    1020    1025    1029    1033    1045
1161        RY      15      12      11      10      10      11      12      15
            * DDM   ***** Preserved *****

1162        KK    C110
1163        KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1164        HC       3
            * DDM   ***** Preserved *****

1165        KK    R110
1166        KM        ROUTE FLOW FROM C110 TO C115
1167        RS       1    FLOW      -1
1168        RC    .019    .019    .019     580   .0291
1169        RX    1000    1012    1016    1020    1035    1039    1043    1055
1170        RY      15      12      11      10      10      11      12      15
            * DDM   ***** Preserved *****

1171        KK    C115
```

```
1172        KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1173        HC       2
            * DDM   ***** Preserved *****

1174        KK    R115
1175        KM        ROUTE FLOW FROM C115 TO C119
1176        RS       1    FLOW      -1
1177        RC    .019    .019    .019    2125    .029
1178        RC    .019    .019    .019     580   .0291
1179        RX    1000    1012    1016    1020    1035    1039    1043    1055
1180        RY      15      12      11      10      10      11      12      15
            * DDM   ***** Updated *****

1181        KK     448
1182        KM   SUB-BASIN 448
1183        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1184        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1185        KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1186        BA    .045
1187        LG    .170    .310   4.200    .390  11.000
1188        UC    .133    .102
1189        UA       0       5      16      30      65      77      84      90      94      97
1190        UA     100
            * DDM   ***** Updated *****

1191        KK     449
1192        KM   SUB-BASIN 449
1193        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1194        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1195        KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1196        BA    .050
1197        LG    .260    .280   3.500    .640   6.000
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1198        UC    .167    .134
1199        UA       0       5      16      30      65      77      84      90      94      97
1200        UA     100
            * DDM   ***** Preserved *****

1201        KK   C6364
1202        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1203        HC       2
            * DDM   ***** Preserved *****

1204        KK   R6364
1205        KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1206        RS       4    FLOW      -1
1207        RC     .05    .035     .05    4375   .0333
1208        RX    1000    1027    1053    1080    1090    1117    1143    1170
1209        RY      15   13.33   11.67      10      10   11.67   13.33      15
            * DDM   ***** Updated *****

1210        KK     450
1211        KM   SUB-BASIN 450
1212        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1213        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1214        KM     L =  .85  Kb = .057  Adj. Slope =  210.5
1215        BA    .070
1216        LG    .340    .350   3.630    .570   4.000
1217        UC    .296    .383
1218        UA       0       3       5       8      12      20      43      75      90      96
1219        UA     100
            * DDM   ***** Updated *****

1220        KK     451
1221        KM   SUB-BASIN 451
1222        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1223        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1224        KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1225        BA    .025
1226        LG    .340    .340   3.290    .750   3.000
1227        UC    .271    .453
1228        UA       0       3       5       8      12      20      43      75      90      96
1229        UA     100
            * DDM   ***** Preserved *****

1230        KK    RT66
1231        KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1232        DR   WSH66
            * DDM   ***** Updated *****

1233        KK     452
1234        KM   SUB-BASIN 452
1235        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1236        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1237        KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1238        BA    .040
1239        LG    .260    .280   3.700    .550   9.000
1240        UC    .171    .166
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1241        UA       0       5      16      30      65      77      84      90      94      97
1242        UA     100
            * DDM   ***** Preserved *****

1243        KK   C6465
1244        KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1245        HC       2
            * DDM   ***** Preserved *****

1246        KK   R6566
1247        KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1248        RS       2    FLOW      -1
1249        RC     .05    .035     .05    2435   .0282
1250        RX    1000    1045    1090    1150    1160    1220    1265    1310
1251        RY      25      23      20      10      10      20      23      25
            * DDM   ***** Preserved *****

1252        KK    C116
```

```
1253          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1254          HC       4
              * DDM   ***** Preserved *****

1255          KK  BASIN5
1256          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1257          KM        BASIN 5 FEET DEEP
1258          RS       1    ELEV       0
1259          SV       0     4.5     9.9
1260          SQ       0      69     190
1261          SE       0     2.5       5
              * DDM   ***** Preserved *****

1262          KK    R116
1263          KM   ROUTE FLOW FROM C116 TO C117
1264          RS       2    FLOW      -1
1265          RC     .05    .035     .05    1300   .0333
1266          RX    1000    1100    1200    1300    1320    1420    1520    1620
1267          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1268          KK     453
1269          KM   SUB-BASIN 453
1270          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1271          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1272          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1273          BA    .060
1274          LG    .290    .300   3.290    .820  18.000
1275          UC    .275    .284
1276          UA       0       5      16      30      65      77      84      90      94      97
1277          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 33

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1278          KK    C117
1279          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1280          HC       2
              * DDM   ***** Preserved *****

1281          KK    C118
1282          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1283          HC       2
              * DDM   ***** Preserved *****

1284          KK    R118
1285          KM        ROUTE FLOW FROM C118 TO  DIV7
1286          RS       1    FLOW      -1
1287          RC    .019    .019    .019    1500    .024
1288          RX    1000    1012    1016    1020    1035    1039    1043    1055
1289          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1290          KK    DIV7
1291          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1292          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
              *      1
1293          DT  BASIN6
1294          DI       0     363     487     563     645     844
1295          DQ       0       3      47      83     125     244
              * DDM   ***** Preserved *****

1296          KK  RTDIV7
1297          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1298          DR  BASIN6
              * DDM   ***** Preserved *****

1299          KK  RFDIV7
1300          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1301          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1302          RS       1    STOR       0
1303          SV       0     .01     3.6
1304          SQ       0     1.2     1.2
              * DDM   ***** Preserved *****

1305          KK   CDIV7
1306          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1307          HC       2
              * DDM   ***** Updated *****

1308          KK     454
1309          KM   SUB-BASIN 454
1310          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1311          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1312          KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1313          BA    .180
1314          LG    .300    .310   3.780    .560  14.000
1315          UC    .379    .395
1316          UA       0       5      16      30      65      77      84      90      94      97
1                                        HEC-1 INPUT                                          PAGE 34

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1317          UA     100
              * DDM   ***** Preserved *****

1318          KK    C119
1319          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
              *      1       2
1320          HC       2
              * DDM   ***** Preserved *****

1321          KK    R454
1322          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1323          KM   ROUTE FLOW FROM C119 TO 415C
1324          RS       2    FLOW      -1
1325          RC    .045    .035    .045    2200    .009
1326          RX       0      .5       1      33      42      67    67.5      68
1327          RY       5       4       4       0       0       6       6       6
              * DDM   ***** Updated *****
```

```
1328        KK     415
1329        KM   SUB-BASIN 415
1330        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1331        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1332        KM     L = 1.10  Kb = .049  Adj. Slope =  155.0
1333        BA    .281
1334        LG    .300    .260   3.630    .710  15.000
1335        UC    .358    .264
1336        UA       0       5      16      30      65      77      84      90      94      97
1337        UA     100
            * DDM   ***** Preserved *****

1338        KK    415C
1339        KM   HYDROGRAPH COMBINATION OF SUB-BASINS 415, R454, AND 390C
1340        HC       3
            * DDM   ***** Preserved *****

1341        KK    R415
1342        KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1343        KM   ROUTING OF FLOW FROM 415C TO 455C
1344        RS       2    FLOW      -1
1345        RC    .045     .03    .045    4100    .024
1346        RX       0      .5       1       8      16      23    23.5      24
1347        RY       8       8       8       0       0       8       8       8
            * DDM   ***** Updated *****

1348        KK     455
1349        KM   SUB-BASIN 455
1350        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1351        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1352        KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1353        BA   1.111
1354        LG    .270    .280   3.700    .640  24.000
1355        UC    .421    .204
1356        UA       0       5      16      30      65      77      84      90      94      97
1357        UA     100
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1358        KK    D455
1359        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1360        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1361        KM   FOR BASIN #: 30      34      43      47&58
1362        KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
            *      1
1363        DT   BS455    74.1
1364        DI       0   10000
1365        DQ       0   10000
            * DDM   ***** Preserved *****

1366        KK   RT455
1367        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1368        DR   BS455
            * DDM   ***** Preserved *****

1369        KK   SR455
1370        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1371        KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1372        RS       1    STOR       0
1373        SV       0     .01    74.1
1374        SQ       0      25      25
            * DDM   ***** Preserved *****

1375        KK    C455
1376        KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1377        HC       2
            * DDM   ***** Preserved *****

1378        KK    455C
1379        KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
            *      1       2
1380        HC       3
            * DDM   ***** Preserved *****

1381        KK   SR440
1382        KM   SPOOK HILL FRS PLANS DATED 6/15/77
1383        KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1384        KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1385        KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
1386        RS       1    STOR       0
1387        SV       0      10     100     300     500     680
1388        SQ       0     640     720     780     825     860
1389        SE      66    77.5      79    80.2    81.2      82
            * DDM   ***** Preserved *****

1390        KK   RR455
1391        KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 462
1392        RS      10    FLOW      -1
1393        RC    .035    .025    .035    9200    .002
1394        RX       0       1       2      28      58      84      85      86
1395        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1396        KK     456
1397        KM   SUB-BASIN 456
1398        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1399        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1400        KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1401        BA    .260
1402        LG    .300    .380   5.600    .200  12.000
1403        UC    .217    .139
1404        UA       0       5      16      30      65      77      84      90      94      97
1405        UA     100
            * DDM   ***** Preserved *****

1406        KK    DIV1
```

```
1407        KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1408        KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
            *      1
1409        DT  BASIN1
1410        DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1411        DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
            * DDM   ***** Preserved *****

1412        KK    DIV2
1413        KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1414        KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1415        DT    WA30
1416        DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1417        DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
            * DDM   ***** Preserved *****

1418        KK    R456
1419        KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1420        RS       2    FLOW      -1
1421        RC     .05    .035     .05    3800    .044
1422        RX    1000    1010    1020    1036    1041    1057    1067    1077
1423        RY   14.88   14.44      14      10      10      14   14.44   14.88
            * DDM   ***** Updated *****

1424        KK     457
1425        KM   SUB-BASIN 457
1426        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1427        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1428        KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1429        BA    .190
1430        LG    .270    .330   3.950    .460   6.000
1431        UC    .237    .195
1432        UA       0       5      16      30      65      77      84      90      94      97
1433        UA     100
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1434        KK    C101
1435        KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1436        HC       2
            * DDM   ***** Preserved *****

1437        KK    DIV3
1438        KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1439        KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
            *      1
1440        DT  BASIN2
1441        DI       0      36      70     110     180   313.5     402   500.9
1442        DQ       0       0       0       0       0    67.5     124   190.9
            * DDM   ***** Preserved *****

1443        KK  RTDIV3
1444        KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1445        DR  BASIN2
            * DDM   ***** Preserved *****

1446        KK  RFDIV3
1447        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1448        KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1449        RS       1    STOR       0
1450        SV       0     .01       5
1451        SQ       0     1.7     1.7
            * DDM   ***** Preserved *****

1452        KK   CDIV3
1453        KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1454        HC       2
            * DDM   ***** Preserved *****

1455        KK    R101
1456        KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1457        RS       1    FLOW      -1
1458        RC     .05    .035     .05    1450     .05
1459        RX    1000    1010    1020    1036    1041    1057    1067    1077
1460        RY      15    14.5      14      10      10      14    14.5      15
            * DDM   ***** Updated *****

1461        KK     458
1462        KM   SUB-BASIN 458
1463        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1464        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1465        KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1466        BA    .190
1467        LG    .290    .330   5.800    .190   6.000
1468        UC    .204    .131
1469        UA       0       5      16      30      65      77      84      90      94      97
1470        UA     100
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1471        KK    C103
1472        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1473        HC       2
            * DDM   ***** Preserved *****

1474        KK    R103
1475        KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1476        RS       1    FLOW      -1
1477        RC     .05    .035     .05     900     .03
1478        RX    1000    1010    1020    1030    1050    1060    1070    1080
1479        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Preserved *****

1480        KK    RT30
1481        KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1482        DR    WA30
            * DDM   ***** Preserved *****
```

```
1483          KK     R30
1484          KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1485          RS       1    FLOW      -1
1486          RC     .05    .035     .05    1630     .05
1487          RX    1000    1010    1020    1036    1041    1057    1067    1077
1488          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****

1489          KK    RTB1
1490          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1       2
1491          DR  BASIN1
              * DDM   ***** Preserved *****

1492          KK      B1
1493          KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1494          KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
              *      1       2
1495          RS       1    ELEV       0
1496          SV              .7     1.4     2.3     2.7     3.2
1497          SQ       0       5      16      28    32.5      37
1498          SE       0       1       2       3     3.5       4
              * DDM   ***** Preserved *****

1499          KK     RB1
1500          KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1501          RS       2    FLOW      -1
1502          RC     .05    .035     .05    1720     .05
1503          RX    1000    1010    1020    1036    1041    1057    1067    1077
1504          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 39

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1505          KK    CDIV
1506          KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1507          HC       2     .12
              * DDM   ***** Updated *****

1508          KK     459
1509          KM   SUB-BASIN 459
1510          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1511          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1512          KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1513          BA    .030
1514          LG    .220    .300   3.330    .710   8.000
1515          UC    .162    .157
1516          UA       0       5      16      30      65      77      84      90      94      97
1517          UA     100
              * DDM   ***** Preserved *****

1518          KK     C52
1519          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1520          HC       2
              * DDM   ***** Preserved *****

1521          KK     R52
1522          KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1523          RS       2    FLOW      -1
1524          RC     .05    .035     .05    2000     .05
1525          RX    1000    1010    1020    1036    1041    1057    1067    1077
1526          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1527          KK     460
1528          KM   SUB-BASIN 460
1529          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1530          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1531          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1532          BA    .140
1533          LG    .250    .260   3.740    .690  27.000
1534          UC    .242    .160
1535          UA       0       5      16      30      65      77      84      90      94      97
1536          UA     100
              * DDM   ***** Preserved *****

1537          KK    C102
1538          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1539          HC       2
              * DDM   ***** Preserved *****

1540          KK  BASIN3
1541          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1542          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1543          RS       1    ELEV       0
1544          SA       0       0       0       0     .34    1.59    1.81    1.96    2.13     2.3
              *      0       0       0       0    1.14    3.25    5.52    9.23
1545          SQ       0      22      45    47.4      48      51      57      62      67      73
1                                        HEC-1 INPUT                                          PAGE 40

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1546          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1547          KK      R3
1548          KM        ROUTE FLOW FROM C102 to C106
1549          RS       4    FLOW      -1
1550          RC     .05     .03     .05    2750   .0375
1551          RX    1000    1010    1020    1052    1086    1118    1128    1138
1552          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1553          KK     461
1554          KM   SUB-BASIN 461
1555          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1556          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1557          KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1558          BA    .120
1559          LG    .270    .250   4.250    .450  21.000
```

```
1560        UC    .271    .250
1561        UA       0       5      16      30      65      77      84      90      94      97
1562        UA     100
            * DDM   ***** Preserved *****

1563        KK    C104
1564        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1565        HC       2
            * DDM   ***** Preserved *****

1566        KK    C106
1567        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1568        HC       2
            * DDM   ***** Preserved *****

1569        KK    R106
1570        KM        ROUTE FLOW FROM C106 TO C49
1571        RS       2    FLOW      -1
1572        RC     .05    .035     .05    3950    .033
1573        RX    1000    1010    1020    1030    1050    1060    1070    1080
1574        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Updated *****

1575        KK     462
1576        KM   SUB-BASIN 462
1577        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1578        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1579        KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1580        BA    .301
1581        LG    .300    .330   5.300    .240  12.000
1582        UC    .225    .137
1583        UA       0       5      16      30      65      77      84      90      94      97
1584        UA     100
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1585        KK     C56
1586        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
            *      1       2
1587        HC       2
            * DDM   ***** Updated *****

1588        KK     480
1589        KM   SUB-BASIN 480
1590        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1591        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1592        KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1593        BA    .731
1594        LG    .270    .270   3.580    .730  27.000
1595        UC    .325    .148
1596        UA       0       5      16      30      65      77      84      90      94      97
1597        UA     100
            * DDM   ***** Preserved *****

1598        KK    D480
1599        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1600        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1601        KM   FOR BASIN #: 18 & 26
1602        KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
            *      1
1603        DT   BS480    16.5
1604        DI       0   10000
1605        DQ       0   10000
            * DDM   ***** Preserved *****

1606        KK   RT480
1607        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1608        DR   BS480
            * DDM   ***** Preserved *****

1609        KK   SR480
1610        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1611        KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1612        RS       1    STOR       0
1613        SV       0     .01    16.5
1614        SQ       0     5.6     5.6
            * DDM   ***** Preserved *****

1615        KK    C480
1616        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1617        HC       2
            * DDM   ***** Preserved *****

1618        KK    480C
1619        KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1620        HC       3     2.09
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1621        KK   RR480
1622        KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUB-BASIN 500
1623        RS       1    FLOW      -1
1624        RC    .025    .025    .025    6500     .05
1625        RX       0       1       2      28      58      84      85      86
1626        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1627        KK     500
1628        KM   SUB-BASIN 500
1629        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1630        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1631        KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
1632        BA    .930
1633        LG    .350    .400   6.000    .170   9.000
1634        UC    .421    .333
1635        UA       0       3       5       8      12      20      43      75      90      96
1636        UA     100
```

```
* DDM   ***** Preserved *****

KK    500C
KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
HC       2    3.02
ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

   51          10
               V
               V
   61         R10
               V
               V
   67         R12
               .
               .
   73          .          20
               .           .
               .           .
   83         C20............
               .
               .
   86          .          40
               .           .
               .           .
   96          .           .          60
               .           .           .
               .           .           .
  106         60C......................
               V
               V
  109        SR60
               V
               V
  118         R60
               V
               V
  124        RR60
               .
               .
  130          .          80
               .           .
               .           .
  140         80C............
               V
               V
  143         R80
               .
               .
  149          .         100
               .           .
               .           .
  159        100C............
               V
               V
  162        R100
               .
               .
  168          .         120
               .           .
               .           .
  178        120C............
               V
               V
  181        R120
               .
               .
  187          .         140
               .           .
               .           .
  197          .           .         150
               .           .           V
               .           .           V
  207          .           .        R150
               .           .           V
               .           .           V
  213          .           .        R152
               .           .           .
               .           .           .
  219          .           .           .         160
               .           .           .           .
               .           .           .           .
  229          .           .           .           .         180
               .           .           .           .           .
               .           .           .           .           .
  239        180C.............................................
               .
               .
  242          .         383
               .           V
               .           V
  252          .        R383
               .           .
               .           .
  261          .           .         393
               .           .           .
               .           .           .
  271          .        393C............
               .           V
               .           V
  274          .        R393
               .           .
               .           .
  281          .           .         365
               .           .           .
               .           .           .
  291          .        365C............
               .           V
               .           V
  294          .        R365
               .           V
               .           V
  301          .        365R
```

```
310                 353
320           353C............
                 V
                 V
323           R353
                 V
                 V
332           353R
339                 350
                     V
                     V
349                 350R
356                                 310
366           C310........................
                 V
                 V
369           R310
                 V
                 V
376           R312
385                 295
395           295C............
                 V
                 V
398           295R
407                 210
                     V
                     V
417                 R210
423                                 240
433           240C........................
                 V
                 V
436           SR240
445                 220
455           220C............
                 V
                 V
458           SR220
467                 190
                     V
                     V
477                 R190
                     V
                     V
483                 R192
489                                 200
499           200C........................
                 V
                 V
502           SR200
                 V
                 V
509           200SR
519        C180............
              V
              V
522       SR180
              V
              V
531        R180
538           260
548        260C............
              V
              V
551        R260
558           280
568        280C............
              V
              V
571        R280
```

```
578          .         300
             .           .
             .           .
588       C300............
             .
             .
594          .-------->   DIV30
591       D300
             .
             .
599          .           .<-------   DIV30
597          .       RTDIV
             .           V
             .           V
600          .       SRDIV
             .           .
             .           .
607       300C............
             .
             .
610          .         305
             .           .
             .           .
623          .           .-------->    305D
620          .       D305
             .           .
             .           .
628          .           .           .<-------    305D
626          .           .       RT305
             .           .           V
             .           .           V
629          .           .       SR305
             .           .           .
             .           .           .
636       305C........................
             V
             V
639       R305
             V
             V
646      RR305
             .
             .
653          .         320
             .           .
             .           .
668          .           .-------->   BS320
663          .       D320
             .           .
             .           .
673          .           .           .<-------   BS320
671          .           .       RT320
             .           .           V
             .           .           V
674          .           .       SR320
             .           .           .
             .           .           .
680       C320........................
             .
             .
683          .         340
             .           .
             .           .
698          .           .-------->   BS340
693          .       D340
             .           .
             .           .
703          .           .           .<-------   BS340
701          .           .       RT340
             .           .           V
             .           .           V
704          .           .       SR340
             .           .           .
             .           .           .
710       C340........................
             .
             .
713          .         355
             .           V
             .           V
723          .       R355
             .           .
             .           .
730          .           .         360
             .           .           .
             .           .           .
744          .           .           .-------->   BS360
740          .           .       D360
             .           .           .
             .           .           .
749          .           .           .           .<-------   BS360
747          .           .           .       RT360
             .           .           .           V
             .           .           .           V
750          .           .           .       SR360
             .           .           .           .
             .           .           .           .
756       360C.....................................
             .
             .
759          .         380
             .           .
             .           .
773          .           .-------->   BS380
769          .       D380
             .           .
             .           .
778          .           .           .<-------   BS380
776          .           .       RT380
             .           .           V
             .           .           V
779          .           .       SR380
             .           .           .
```

```
785        380C.......................
              .
              .
788           .         400
              .           .
              .           .
802           .           .-------->   BS400
798           .        D400
              .           .
              .           .
807           .           .           .<-------   BS400
805           .           .       RT400
              .           .           V
              .           .           V
808           .           .       SR400
              .           .           .
              .           .           .
814           .        C400............
              .           .
              .           .
817        400C............
              .
              .
820           .         420
              .           .
              .           .
834           .           .-------->   BS420
830           .        D420
              .           .
              .           .
839           .           .           .<-------   BS420
837           .           .       RT420
              .           .           V
              .           .           V
840           .           .       SR420
              .           .           .
              .           .           .
846        420C.......................
              .
              .
849           .         370
              .           .
              .           .
859           .           .         395
              .           .           .
              .           .           .
869           .        395C............
              .           .
              .           .
875           .           .-------->   BS395
872           .        D395
              .           .
              .           .
880           .           .           .<-------   BS395
878           .           .       RT395
              .           .           V
              .           .           V
881           .           .       SR395
              .           .           .
              .           .           .
887           .        C395............
              .           V
              .           V
890           .        R395
              .           .
              .           .
897           .           .         385
              .           .           .
              .           .           .
907           .           .           .         411
              .           .           .           .
              .           .           .           .
917           .           .       411C............
              .           .           .
              .           .           .
922           .           .           .-------->   BS411
920           .           .       D411
              .           .           .
              .           .           .
927           .           .           .           .<-------   BS411
925           .           .           .       RT411
              .           .           .           V
              .           .           .           V
928           .           .           .       SR411
              .           .           .           .
              .           .           .           .
934           .           .       C411............
              .           .           V
              .           .           V
937           .           .       R411
              .           .           .
              .           .           .
943           .           .           .         390
              .           .           .           .
              .           .           .           .
957           .           .           .           .-------->   BS390
953           .           .           .       D390
              .           .           .           .
              .           .           .           .
962           .           .           .           .           .<-------   BS390
960           .           .           .           .       RT390
              .           .           .           .           V
              .           .           .           .           V
963           .           .           .           .       SR390
              .           .           .           .           .
              .           .           .           .           .
969           .        390C.................................
              .           V
              .           V
972           .       RR390
              .           .
              .           .
```

```
 978                440
                     V
                     V
 988                R70
                     .
                     .
 994                 .        441
                     .          .
                     .          .
1004               C108...........
                     .
                     .
1009                 .-------> SPLIT
1007               DIV4
                     V
                     V
1012               R108
                     .
                     .
1018                 .        442
                     .          .
                     .          .
1028                C67...........
                     .
                     .
1034                 .-------> BASIN4
1031               DIV6
                     .
                     .
1039                 .          .<-------- BASIN4
1037                 .     RTDIV6
                     .          V
                     .          V
1040                 .     RFDIV6
                     .          .
                     .          .
1046              CDIV6...........
                     .
                     .
1049                 .        443
                     .          .
                     .          .
1062                 .          .-------> WSH66
1059                 .      DIV66
                     .          V
                     .          V
1065                 .      R113
                     .          .
                     .          .
1071               C114...........
                     .
                     .
1074                 .        444
                     .          V
                     .          V
1084                 .       R58
                     .          .
                     .          .
1090                 .          .        445
                     .          .          .
                     .          .          .
1100                 .      C107...........
                     .          V
                     .          V
1103                 .      R107
                     .          .
                     .          .
1111                 .          .          .<-------  SPLIT
1109                 .          .      RTB2
                     .          .         V
                     .          .         V
1112                 .          .     RSPLIT
                     .          .          .
                     .          .          .
1118                 .          .          .        446
                     .          .          .          .
                     .          .          .          .
1128                 .      C109........................
                     .          .
                     .          .
1134                 .          .-------> WSH404
1131                 .      DIV5
                     .          V
                     .          V
1137                 .      R109
                     .          .
                     .          .
1143                 .          .        447
                     .          .          .
                     .          .          .
1155                 .          .          .          .<-------  WSH404
1153                 .          .          .      RT404
                     .          .          .          V
                     .          .          .          V
1156                 .          .          .      R404
                     .          .          .          .
                     .          .          .          .
1162                 .      C110........................
                     .          V
                     .          V
1165                 .      R110
                     .          .
                     .          .
1171              C115...........
                     V
                     V
1174              R115
                     .
                     .
1181                 .        448
                     .          .
                     .          .
1191                 .          .        449
```

```
1201                C6364............
                        V
                        V
1204                R6364

1210                          450

1220                                    451

1232                                                  .<-------   WSH66
1230                                              RT66
1233                                                                452
1243                                              C6465............
                                                      V
                                                      V
1246                                              R6566

1252              C116.................................
                      V
                      V
1255            BASIN5
                      V
                      V
1262              R116

1268                          453

1278              C117............

1281        C118............
                V
                V
1284        R118
                .------->  BASIN6
1290        DIV7

1298                    .<-------  BASIN6
1296            RTDIV7
                      V
                      V
1299            RFDIV7

1305       CDIV7............

1308                  454

1318        C119............
                V
                V
1321        R454

1328                  415

1338     415C......................
            V
            V
1341     R415

1348          455

1363                  .------->   BS455
1358        D455

1368                    .<-------   BS455
1366            RT455
                      V
                      V
1369            SR455

1375        C455............

1378   455C......................
          V
          V
1381   SR440
          V
          V
1390   RR455

1396       456

1409                  .------->  BASIN1
1406     DIV1
```

```
1415          .          .------->    WA30
1412          .       DIV2
              .          V
              .          V
1418          .       R456
              .          .
              .          .
1424          .          .         457
              .          .           .
              .          .           .
1434          .       C101............
              .          .
              .          .
1440          .          .------->  BASIN2
1437          .       DIV3
              .          .
              .          .
1445          .          .           .<-------  BASIN2
1443          .          .      RTDIV3
              .          .           V
              .          .           V
1446          .          .      RFDIV3
              .          .           .
              .          .           .
1452          .      CDIV3............
              .          V
              .          V
1455          .       R101
              .          .
              .          .
1461          .          .         458
              .          .           .
              .          .           .
1471          .       C103............
              .          V
              .          V
1474          .       R103
              .          .
              .          .
1482          .          .           .<-------    WA30
1480          .          .        RT30
              .          .           V
              .          .           V
1483          .          .         R30
              .          .           .
              .          .           .
1491          .          .           .           .<-------  BASIN1
1489          .          .           .        RTB1
              .          .           .           V
              .          .           .           V
1492          .          .           .          B1
              .          .           .           V
              .          .           .           V
1499          .          .           .         RB1
              .          .           .           .
              .          .           .           .
1505          .          .        CDIV............
              .          .           .
              .          .           .
1508          .          .           .         459
              .          .           .           .
              .          .           .           .
1518          .          .         C52............
              .          .           V
              .          .           V
1521          .          .         R52
              .          .           .
              .          .           .
1527          .          .           .         460
              .          .           .           .
              .          .           .           .
1537          .          .        C102............
              .          .           V
              .          .           V
1540          .          .      BASIN3
              .          .           V
              .          .           V
1547          .          .          R3
              .          .           .
              .          .           .
1553          .          .           .         461
              .          .           .           .
              .          .           .           .
1563          .          .        C104............
              .          .           .
              .          .           .
1566          .       C106............
              .          V
              .          V
1569          .       R106
              .          .
              .          .
1575          .          .         462
              .          .           .
              .          .           .
1585          .        C56............
              .          .
              .          .
1588          .          .         480
              .          .           .
              .          .           .
1603          .          .           .------->   BS480
1598          .          .        D480
              .          .           .
              .          .           .
1608          .          .           .           .<-------   BS480
1606          .          .           .       RT480
              .          .           .           V
              .          .           .           V
1609          .          .           .       SR480
              .          .           .           .
              .          .           .           .
1615          .          .        C480............
```

```
                .          .          .
                .          .          .
1618         480C.......................
                V
                V
1621        RR480
                .
                .
1627            .         500
                .           .
                .           .
1637         500C............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	10	951.	12.27	114.	31.	15.	.70		
+	ROUTED TO	R10	882.	12.40	114.	31.	15.	.70		
+	ROUTED TO	R12	833.	12.60	114.	31.	15.	.70		
+	HYDROGRAPH AT	20	959.	12.43	128.	32.	16.	1.12		
+	2 COMBINED AT	C20	1663.	12.53	240.	63.	30.	1.82		
+	HYDROGRAPH AT	40	2582.	12.30	252.	66.	32.	2.23		
+	HYDROGRAPH AT	60	1553.	12.40	228.	61.	29.	1.75		
+	3 COMBINED AT	60C	5274.	12.37	708.	188.	90.	5.80		
+	ROUTED TO	SR60	92.	14.40	92.	89.	70.	5.80		
+	ROUTED TO	R60	92.	14.40	92.	89.	70.	5.80		
+	ROUTED TO	RR60	92.	14.53	92.	89.	70.	5.80		
+	HYDROGRAPH AT	80	1868.	12.27	179.	46.	22.	1.48		
+	2 COMBINED AT	80C	1942.	12.27	266.	134.	92.	1.48		
+	ROUTED TO	R80	1919.	12.27	266.	134.	92.	1.48		
+	HYDROGRAPH AT	100	404.	12.20	58.	15.	7.	.48		
+	2 COMBINED AT	100C	2300.	12.27	321.	148.	99.	1.96		
+	ROUTED TO	R100	2292.	12.30	321.	148.	99.	1.96		
+	HYDROGRAPH AT	120	3232.	12.27	326.	88.	42.	2.20		
+	2 COMBINED AT	120C	5469.	12.27	636.	229.	141.	4.16		
+	ROUTED TO	R120	5397.	12.30	636.	229.	140.	4.16		
+	HYDROGRAPH AT	140	632.	12.13	64.	17.	8.	.60		
+	HYDROGRAPH AT	150	572.	12.17	49.	13.	6.	.41		
+	ROUTED TO	R150	546.	12.23	49.	13.	6.	.41		
+	ROUTED TO	R152	504.	12.37	49.	13.	6.	.41		
+	HYDROGRAPH AT	160	217.	12.40	35.	9.	4.	.37		
+	HYDROGRAPH AT	180	785.	12.37	90.	23.	11.	1.00		
+	5 COMBINED AT	180C	7163.	12.30	860.	285.	168.	6.54		
+	HYDROGRAPH AT	383	650.	12.17	60.	17.	8.	.42		
+	ROUTED TO	R383	647.	12.17	60.	17.	8.	.42		
+	HYDROGRAPH AT	393	44.	12.13	4.	1.	0.	.04		
+	2 COMBINED AT	393C	687.	12.17	64.	18.	9.	.46		
	ROUTED TO	R393	681.	12.20	64.	18.	9.	.46		
	HYDROGRAPH AT	365	380.	12.27	45.	12.	6.	.41		
+	2 COMBINED AT	365C	1028.	12.20	108.	29.	14.	.88		
+	ROUTED TO	R365	1018.	12.23	108.	29.	14.	.88		

+	ROUTED TO	365R	970.	12.33	108.	29.	14.	.88
+	HYDROGRAPH AT	353	401.	12.30	49.	12.	6.	.50
	2 COMBINED AT	353C	1349.	12.33	155.	41.	20.	1.38
+	ROUTED TO	R353	1308.	12.40	155.	41.	20.	1.38
+	ROUTED TO	353R	1291.	12.43	155.	41.	20.	1.38
+	HYDROGRAPH AT	350	1151.	12.20	102.	27.	13.	.94
+	ROUTED TO	350R	992.	12.47	102.	27.	13.	.94
+	HYDROGRAPH AT	310	376.	12.33	49.	12.	6.	.56
+	3 COMBINED AT	C310	2548.	12.43	301.	79.	38.	2.87
+	ROUTED TO	R310	2407.	12.63	301.	79.	38.	2.87
+	ROUTED TO	R312	2333.	12.73	301.	79.	38.	2.87
+	HYDROGRAPH AT	295	364.	12.30	40.	10.	5.	.38
+	2 COMBINED AT	295C	2456.	12.73	339.	89.	43.	3.25
+	ROUTED TO	295R	2423.	12.80	339.	89.	43.	3.25
+	HYDROGRAPH AT	210	870.	12.20	80.	21.	10.	.58
+	ROUTED TO	R210	815.	12.27	80.	21.	10.	.58
+	HYDROGRAPH AT	240	1405.	12.30	155.	39.	19.	1.40
+	3 COMBINED AT	240C	3025.	12.73	565.	147.	71.	5.23
	ROUTED TO	SR240	1562.	13.13	498.	130.	62.	5.23
+	HYDROGRAPH AT	220	1126.	12.17	98.	25.	12.	.73
+	2 COMBINED AT	220C	1582.	13.10	587.	154.	74.	5.95
+	ROUTED TO	SR220	1517.	13.27	576.	151.	73.	5.95
+	HYDROGRAPH AT	190	1403.	12.17	116.	31.	15.	.92
+	ROUTED TO	R190	1348.	12.23	116.	31.	15.	.92
+	ROUTED TO	R192	1267.	12.30	116.	31.	15.	.92
+	HYDROGRAPH AT	200	806.	12.17	69.	19.	9.	.54
+	3 COMBINED AT	200C	2561.	12.30	748.	197.	95.	7.41
+	ROUTED TO	SR200	2435.	12.37	743.	194.	93.	7.41
+	ROUTED TO	200SR	1687.	12.63	623.	164.	79.	7.41
+	2 COMBINED AT	C180	7163.	12.30	1475.	450.	247.	13.94
+	ROUTED TO	SR180	142.	19.17	142.	142.	114.	13.94
+	ROUTED TO	R180	142.	19.23	142.	142.	114.	13.94
+	HYDROGRAPH AT	260	418.	12.10	43.	12.	6.	.27
+	2 COMBINED AT	260C	527.	12.10	179.	153.	122.	.27
	ROUTED TO	R260	514.	12.20	178.	153.	121.	.27
+	HYDROGRAPH AT	280	478.	12.10	42.	12.	6.	.30
+	2 COMBINED AT	280C	945.	12.13	218.	163.	126.	.57
+	ROUTED TO	R280	909.	12.20	217.	163.	126.	.57

+ HYDROGRAPH AT	300	407.	12.10	34.	9.	5.	.30
+ 2 COMBINED AT	C300	1243.	12.17	249.	171.	130.	.87
DIVERSION TO	DIV30	943.	12.17	68.	17.	8.	.87
+ HYDROGRAPH AT	D300	300.	11.87	181.	154.	122.	.87
+ HYDROGRAPH AT	RTDIV	943.	12.17	68.	17.	8.	.87
+ ROUTED TO	SRDIV	141.	12.60	62.	17.	8.	.87
+ 2 COMBINED AT	300C	441.	12.60	242.	171.	130.	.87
+ HYDROGRAPH AT	305	409.	12.27	42.	11.	6.	.38
+ DIVERSION TO	305D	409.	12.27	42.	11.	6.	.38
+ HYDROGRAPH AT	D305	0.	.00	0.	0.	0.	.38
+ HYDROGRAPH AT	RT305	409.	12.27	42.	11.	6.	.38
+ ROUTED TO	SR305	62.	12.93	36.	11.	6.	.38
+ 3 COMBINED AT	305C	498.	12.67	276.	181.	135.	1.25
+ ROUTED TO	R305	497.	12.73	275.	181.	135.	1.25
+ ROUTED TO	RR305	494.	12.77	275.	181.	134.	1.25
+ HYDROGRAPH AT	320	1040.	12.17	111.	31.	15.	.87
+ DIVERSION TO	BS320	409.	11.93	21.	6.	3.	.87
+ HYDROGRAPH AT	D320	1040.	12.17	96.	25.	12.	.87
HYDROGRAPH AT	RT320	409.	11.93	21.	6.	3.	.87
+ ROUTED TO	SR320	4.	4.17	4.	4.	3.	.87
+ 3 COMBINED AT	C320	1351.	12.17	373.	210.	149.	2.12
+ HYDROGRAPH AT	340	1471.	12.17	186.	55.	26.	1.45
+ DIVERSION TO	BS340	1471.	12.17	104.	28.	14.	1.45
+ HYDROGRAPH AT	D340	1199.	12.33	97.	27.	13.	1.45
+ HYDROGRAPH AT	RT340	1471.	12.17	104.	28.	14.	1.45
+ ROUTED TO	SR340	19.	9.00	19.	19.	14.	1.45
+ 3 COMBINED AT	C340	2305.	12.33	484.	254.	175.	3.56
+ HYDROGRAPH AT	355	235.	12.10	22.	6.	3.	.17
+ ROUTED TO	R355	201.	12.37	22.	6.	3.	.17
+ HYDROGRAPH AT	360	504.	12.23	84.	25.	12.	.67
+ DIVERSION TO	BS360	504.	12.23	53.	14.	7.	.67
+ HYDROGRAPH AT	D360	306.	12.63	38.	11.	5.	.67
+ HYDROGRAPH AT	RT360	504.	12.23	53.	14.	7.	.67
+ ROUTED TO	SR360	10.	9.83	10.	10.	7.	.67
4 COMBINED AT	360C	2496.	12.33	547.	278.	189.	4.41
HYDROGRAPH AT	380	666.	12.27	98.	26.	13.	.97
+ DIVERSION TO	BS380	666.	12.27	56.	14.	7.	.97
+ HYDROGRAPH AT	D380	472.	12.57	46.	12.	6.	.97

+	HYDROGRAPH AT	RT380	666.	12.27	56.	14.	7.	.97
+	ROUTED TO	SR380	10.	11.33	10.	10.	7.	.97
+	3 COMBINED AT	380C	2499.	12.33	598.	299.	201.	5.38
+	HYDROGRAPH AT	400	351.	12.23	47.	13.	6.	.62
+	DIVERSION TO	BS400	262.	12.10	10.	3.	1.	.62
+	HYDROGRAPH AT	D400	351.	12.23	39.	10.	5.	.62
+	HYDROGRAPH AT	RT400	262.	12.10	10.	3.	1.	.62
+	ROUTED TO	SR400	2.	8.70	2.	2.	1.	.62
+	2 COMBINED AT	C400	353.	12.23	41.	12.	6.	.62
+	2 COMBINED AT	400C	2813.	12.33	636.	310.	207.	6.00
+	HYDROGRAPH AT	420	752.	12.20	92.	26.	12.	.85
+	DIVERSION TO	BS420	269.	11.97	15.	4.	2.	.85
+	HYDROGRAPH AT	D420	752.	12.20	83.	22.	10.	.85
+	HYDROGRAPH AT	RT420	269.	11.97	15.	4.	2.	.85
+	ROUTED TO	SR420	13.	11.03	12.	4.	2.	.85
+	3 COMBINED AT	420C	3434.	12.33	722.	333.	219.	6.85
+	HYDROGRAPH AT	370	406.	12.07	34.	10.	5.	.26
+	HYDROGRAPH AT	395	204.	12.10	21.	6.	3.	.16
+	2 COMBINED AT	395C	599.	12.07	55.	15.	7.	.42
+	DIVERSION TO	BS395	589.	12.07	47.	12.	6.	.42
+	HYDROGRAPH AT	D395	10.	11.20	7.	4.	2.	.42
+	HYDROGRAPH AT	RT395	589.	12.07	47.	12.	6.	.42
+	ROUTED TO	SR395	17.	11.63	17.	12.	6.	.42
+	2 COMBINED AT	C395	27.	11.63	23.	15.	7.	.42
+	ROUTED TO	R395	27.	11.83	23.	15.	7.	.42
+	HYDROGRAPH AT	385	314.	12.07	24.	7.	3.	.20
+	HYDROGRAPH AT	411	304.	12.17	30.	8.	4.	.24
+	2 COMBINED AT	411C	566.	12.10	53.	15.	7.	.43
+	DIVERSION TO	BS411	541.	12.10	43.	11.	5.	.43
+	HYDROGRAPH AT	D411	25.	11.63	10.	4.	2.	.43
+	HYDROGRAPH AT	RT411	541.	12.10	43.	11.	5.	.43
+	ROUTED TO	SR411	17.	11.70	17.	11.	5.	.43
+	2 COMBINED AT	C411	42.	11.70	26.	14.	7.	.43
+	ROUTED TO	R411	42.	11.93	26.	14.	7.	.43
+	HYDROGRAPH AT	390	463.	12.03	33.	10.	5.	.24
+	DIVERSION TO	BS390	95.	11.73	6.	2.	1.	.24
+	HYDROGRAPH AT	D390	463.	12.03	30.	8.	4.	.24
+	HYDROGRAPH AT	RT390	95.	11.73	6.	2.	1.	.24

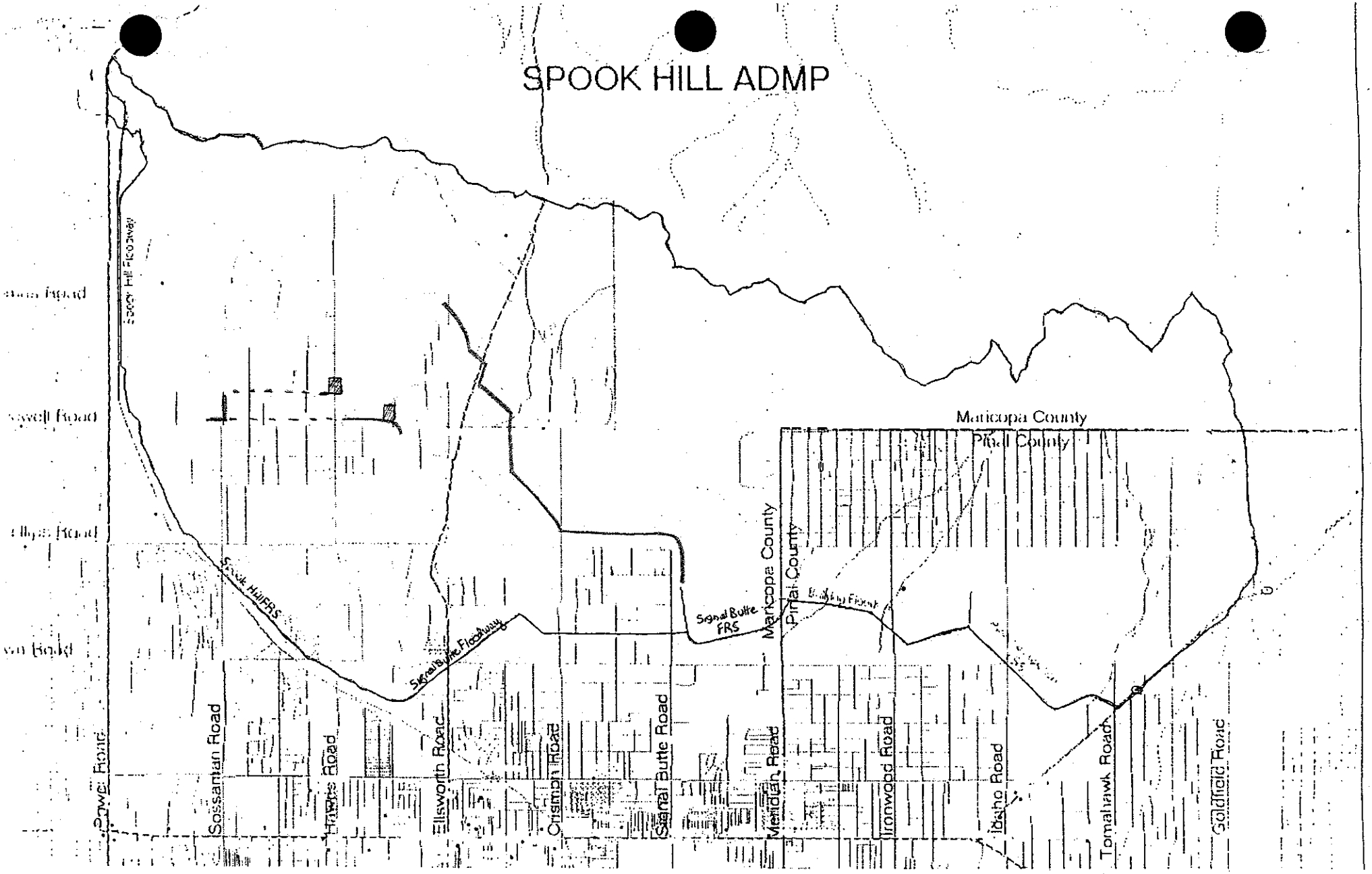
+	ROUTED TO	SR390	1.	.90	1.	1.	1.	.24
+	4 COMBINED AT	390C	525.	12.03	79.	38.	19.	1.10
	ROUTED TO	RR390	517.	12.10	79.	38.	19.	1.10
+	HYDROGRAPH AT	440	180.	12.03	12.	3.	2.	.08
+	ROUTED TO	R70	176.	12.07	12.	3.	2.	.08
+	HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
+	2 COMBINED AT	C108	191.	12.07	14.	4.	2.	.09
+	DIVERSION TO	SPLIT	96.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	DIV4	96.	12.07	7.	2.	1.	.09
+	ROUTED TO	R108	88.	12.13	7.	2.	1.	.09
+	HYDROGRAPH AT	442	102.	12.10	9.	2.	1.	.10
+	2 COMBINED AT	C67	187.	12.10	15.	4.	2.	.19
+	DIVERSION TO	BASIN4	115.	12.10	6.	1.	1.	.19
+	HYDROGRAPH AT	DIV6	72.	12.10	10.	3.	1.	.19
+	HYDROGRAPH AT	RTDIV6	115.	12.10	6.	1.	1.	.19
+	ROUTED TO	RFDIV6	1.	11.90	1.	1.	1.	.19
+	2 COMBINED AT	CDIV6	74.	12.10	10.	4.	2.	.19
+	HYDROGRAPH AT	443	148.	12.07	14.	4.	2.	.08
	DIVERSION TO	WSH66	78.	11.90	12.	3.	2.	.08
+	HYDROGRAPH AT	DIV66	70.	12.07	3.	1.	0.	.08
+	ROUTED TO	R113	69.	12.07	3.	1.	0.	.08
+	2 COMBINED AT	C114	140.	12.07	13.	4.	2.	.27
+	HYDROGRAPH AT	444	82.	12.03	5.	1.	1.	.04
+	ROUTED TO	R58	75.	12.07	5.	1.	1.	.04
+	HYDROGRAPH AT	445	296.	12.03	18.	5.	2.	.19
+	2 COMBINED AT	C107	365.	12.03	22.	6.	3.	.23
+	ROUTED TO	R107	365.	12.07	22.	6.	3.	.23
+	HYDROGRAPH AT	RTB2	96.	12.07	7.	2.	1.	.09
+	ROUTED TO	RSPLIT	95.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	446	65.	12.03	6.	2.	1.	.04
+	3 COMBINED AT	C109	520.	12.07	35.	9.	4.	.27
+	DIVERSION TO	WSH404	35.	11.73	8.	2.	1.	.27
+	HYDROGRAPH AT	DIV5	485.	12.07	27.	7.	3.	.27
+	ROUTED TO	R109	469.	12.10	27.	7.	3.	.27
	HYDROGRAPH AT	447	138.	12.07	12.	4.	2.	.09
+	HYDROGRAPH AT	RT404	35.	11.73	8.	2.	1.	.27
+	ROUTED TO	R404	35.	11.90	8.	2.	1.	.27
+	3 COMBINED AT	C110	635.	12.07	46.	13.	6.	.36

+	ROUTED TO	R110	632.	12.10	46.	13.	6.	.36
+	2 COMBINED AT	C115	764.	12.10	59.	17.	8.	.63
	ROUTED TO	R115	767.	12.10	59.	17.	8.	.63
+	HYDROGRAPH AT	448	88.	12.03	6.	2.	1.	.05
+	HYDROGRAPH AT	449	80.	12.03	5.	1.	1.	.05
+	2 COMBINED AT	C6364	166.	12.03	11.	3.	1.	.09
+	ROUTED TO	R6364	137.	12.17	11.	3.	1.	.09
+	HYDROGRAPH AT	450	61.	12.20	6.	2.	1.	.07
+	HYDROGRAPH AT	451	18.	12.17	2.	1.	0.	.03
+	HYDROGRAPH AT	RT66	78.	11.90	12.	3.	2.	.08
+	HYDROGRAPH AT	452	62.	12.03	4.	1.	1.	.04
+	2 COMBINED AT	C6465	140.	12.03	16.	4.	2.	.04
+	ROUTED TO	R6566	135.	12.10	16.	4.	2.	.04
+	4 COMBINED AT	C116	341.	12.17	35.	9.	4.	.23
+	ROUTED TO	BASIN5	152.	12.47	35.	9.	4.	.23
+	ROUTED TO	R116	150.	12.53	35.	9.	4.	.23
+	HYDROGRAPH AT	453	62.	12.10	7.	2.	1.	.06
+	2 COMBINED AT	C117	169.	12.50	41.	11.	5.	.29
	2 COMBINED AT	C118	852.	12.10	99.	28.	14.	.92
+	ROUTED TO	R118	842.	12.10	99.	28.	14.	.92
+	DIVERSION TO	BASIN6	243.	12.10	10.	2.	1.	.92
+	HYDROGRAPH AT	DIV7	599.	12.10	89.	25.	13.	.92
+	HYDROGRAPH AT	RTDIV7	243.	12.10	10.	2.	1.	.92
+	ROUTED TO	RFDIV7	1.	11.97	1.	1.	1.	.92
+	2 COMBINED AT	CDIV7	600.	12.10	90.	26.	13.	.92
+	HYDROGRAPH AT	454	157.	12.17	21.	6.	3.	.18
+	2 COMBINED AT	C119	748.	12.13	110.	32.	16.	1.10
+	ROUTED TO	R454	722.	12.20	110.	32.	16.	1.10
+	HYDROGRAPH AT	415	294.	12.13	31.	9.	4.	.28
+	3 COMBINED AT	415C	1466.	12.13	215.	77.	39.	2.48
+	ROUTED TO	R415	1432.	12.20	215.	77.	39.	2.48
+	HYDROGRAPH AT	455	1346.	12.13	142.	43.	21.	1.11
+	DIVERSION TO	BS455	1346.	12.13	137.	37.	18.	1.11
+	HYDROGRAPH AT	D455	55.	12.77	16.	6.	3.	1.11
	HYDROGRAPH AT	RT455	1346.	12.13	137.	37.	18.	1.11
	ROUTED TO	SR455	25.	10.47	25.	25.	18.	1.11
+	2 COMBINED AT	C455	80.	12.77	41.	31.	21.	1.11
+	3 COMBINED AT	455C	4523.	12.33	960.	432.	275.	10.43

+	ROUTED TO	SR440	756.	13.67	742.	432.	275.	10.43
+	ROUTED TO	RR455	756.	13.97	742.	432.	273.	10.43
	HYDROGRAPH AT	456	468.	12.07	35.	10.	5.	.26
+	DIVERSION TO	BASIN1	184.	12.07	8.	2.	1.	.26
+	HYDROGRAPH AT	DIV1	284.	12.07	27.	8.	4.	.26
+	DIVERSION TO	WA30	58.	12.07	10.	3.	2.	.26
+	HYDROGRAPH AT	DIV2	226.	12.07	18.	4.	2.	.26
+	ROUTED TO	R456	213.	12.13	18.	4.	2.	.26
+	HYDROGRAPH AT	457	264.	12.07	20.	5.	3.	.19
+	2 COMBINED AT	C101	462.	12.10	38.	10.	5.	.45
+	DIVERSION TO	BASIN2	165.	12.10	7.	2.	1.	.45
+	HYDROGRAPH AT	DIV3	297.	12.10	30.	8.	4.	.45
+	HYDROGRAPH AT	RTDIV3	165.	12.10	7.	2.	1.	.45
+	ROUTED TO	RFDIV3	2.	11.90	2.	2.	1.	.45
+	2 COMBINED AT	CDIV3	299.	12.10	32.	9.	5.	.45
+	ROUTED TO	R101	297.	12.10	32.	9.	5.	.45
+	HYDROGRAPH AT	458	356.	12.03	25.	7.	3.	.19
+	2 COMBINED AT	C103	635.	12.07	56.	16.	8.	.64
	ROUTED TO	R103	630.	12.07	56.	16.	8.	.64
+	HYDROGRAPH AT	RT30	58.	12.07	10.	3.	2.	.26
+	ROUTED TO	R30	57.	12.10	10.	3.	2.	.26
+	HYDROGRAPH AT	RTB1	184.	12.07	8.	2.	1.	.26
+	ROUTED TO	B1	37.	12.23	8.	2.	1.	.26
+	ROUTED TO	RB1	37.	12.30	8.	2.	1.	.26
+	2 COMBINED AT	CDIV	86.	12.20	17.	5.	3.	.12
+	HYDROGRAPH AT	459	44.	12.03	3.	1.	0.	.03
+	2 COMBINED AT	C52	113.	12.10	20.	6.	3.	.15
+	ROUTED TO	R52	112.	12.17	20.	6.	3.	.15
+	HYDROGRAPH AT	460	214.	12.07	19.	6.	3.	.14
+	2 COMBINED AT	C102	313.	12.07	39.	12.	6.	.29
+	ROUTED TO	BASIN3	71.	12.63	39.	12.	6.	.29
+	ROUTED TO	R3	71.	12.77	39.	12.	6.	.29
+	HYDROGRAPH AT	461	161.	12.10	17.	5.	2.	.12
+	2 COMBINED AT	C104	213.	12.10	55.	17.	8.	.41
	2 COMBINED AT	C106	835.	12.07	110.	32.	16.	1.05
	ROUTED TO	R106	797.	12.13	110.	32.	16.	1.05
+	HYDROGRAPH AT	462	538.	12.07	40.	11.	5.	.30
+	2 COMBINED AT	C56	1254.	12.10	149.	42.	21.	1.35

```
+        HYDROGRAPH AT
                          480      1050.   12.10          96.         29.         14.         .73
+        DIVERSION TO
                         BS480       455.   11.90          27.          8.          4.         .73
         HYDROGRAPH AT
                         D480      1050.   12.10          78.         21.         10.         .73
+        HYDROGRAPH AT
                         RT480       455.   11.90          27.          8.          4.         .73
+        ROUTED TO
                         SR480         6.    3.90           6.          6.          4.         .73
+        2 COMBINED AT
                         C480      1056.   12.10          84.         27.         14.         .73
+        3 COMBINED AT
                         480C      2500.   12.10         923.        506.        312.        2.09
+        ROUTED TO
                         RR480     2337.   12.13         920.        506.        311.        2.09
+        HYDROGRAPH AT
                          500      1073.   12.27         122.         33.         16.         .93
+        2 COMBINED AT
                         500C      3225.   12.17        1031.        534.        326.        3.02
1
                                   SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                                       (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                          INTERPOLATED TO
                                                                       COMPUTATION INTERVAL
          ISTAQ    ELEMENT      DT        PEAK     TIME TO     VOLUME      DT        PEAK     TIME TO     VOLUME
                                                     PEAK
                               (MIN)      (CFS)     (MIN)      (IN)      (MIN)      (CFS)     (MIN)       (IN)

         FOR STORM = 1  STORM AREA (SQ MI) =        .01
            RR390  MANE         2.00    544.17    726.43      1.41      2.00    539.58    726.00        1.41

CONTINUITY SUMMARY (AC-FT) - INFLOW= .8225E+02 EXCESS= .0000E+00 OUTFLOW= .8233E+02 BASIN STORAGE= .4970E-07 PERCENT ERROR=   -.1

         FOR STORM = 2  STORM AREA (SQ MI) =      10.00
            RR390  MANE         2.00    506.95    726.09      1.29      2.00    505.80    726.00        1.29

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7522E+02 EXCESS= .0000E+00 OUTFLOW= .7520E+02 BASIN STORAGE= .7983E-07 PERCENT ERROR=    .0

         FOR STORM = 3  STORM AREA (SQ MI) =      30.00
            RR390  MANE         1.90    482.53    727.27      1.21      2.00    478.48    728.00        1.21

CONTINUITY SUMMARY (AC-FT) - INFLOW= .7062E+02 EXCESS= .0000E+00 OUTFLOW= .7068E+02 BASIN STORAGE= .6923E-07 PERCENT ERROR=   -.1

         FOR STORM = 4  STORM AREA (SQ MI) =      60.00
            RR390  MANE         1.84    457.80    728.15      1.13      2.00    457.41    728.00        1.13

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6597E+02 EXCESS= .0000E+00 OUTFLOW= .6597E+02 BASIN STORAGE= .4625E-07 PERCENT ERROR=    .0

         FOR STORM = 5  STORM AREA (SQ MI) =      90.00
            RR390  MANE         1.83    450.11    727.22      1.10      2.00    447.19    728.00        1.10

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6410E+02 EXCESS= .0000E+00 OUTFLOW= .6423E+02 BASIN STORAGE= .7121E-07 PERCENT ERROR=   -.2

         FOR STORM = 6  STORM AREA (SQ MI) =     120.00
            RR390  MANE         1.95    441.29    727.46      1.08      2.00    438.35    728.00        1.08

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6285E+02 EXCESS= .0000E+00 OUTFLOW= .6293E+02 BASIN STORAGE= .4489E-07 PERCENT ERROR=   -.1

         FOR STORM = 7  STORM AREA (SQ MI) =     150.00
            RR390  MANE         1.82    438.56    727.60      1.06      2.00    436.72    728.00        1.06

CONTINUITY SUMMARY (AC-FT) - INFLOW= .6160E+02 EXCESS= .0000E+00 OUTFLOW= .6164E+02 BASIN STORAGE= .5396E-07 PERCENT ERROR=   -.1

         FOR STORM = 8  STORM AREA (SQ MI) =     300.00
            RR390  MANE         1.87    418.17    728.61      1.01      2.00    417.95    728.00        1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5876E+02 EXCESS= .0000E+00 OUTFLOW= .5881E+02 BASIN STORAGE= .5108E-07 PERCENT ERROR=   -.1

         FOR STORM = 9  STORM AREA (SQ MI) =     500.00
            RR390  MANE         1.97    404.01    727.00       .96      2.00    402.70    728.00         .96

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5621E+02 EXCESS= .0000E+00 OUTFLOW= .5632E+02 BASIN STORAGE= .6580E-07 PERCENT ERROR=   -.2

*** NORMAL END OF HEC-1 ***
```

SPOOK HILL ADMP



THIS MODEL IS BASED ON COMBINATION OF TWO PREVIOUS OPTIONS: THE PASS MTN. & THE MCDOWELL ROAD. FILES S24CE14.DAT & S24CE32.DAT RESPECTIVELY.

THE PASS MTN. OPTION HAS LEVEE EXTENDED NORTH-WEST CREATING NEW SUB-BASIN BOUNDARIES: 295, 300 & 305 FROM 300; 353 & 355 FROM 355; 365 & 370 FROM 370; 383 & 385 FROM 385; 393 & 395 FROM 395. DETENTION BASINS ARE ADDED TO SUB-BASINS 300 AND 305.

THE MCDOWELL OPTION HAS DETENTION BASINS LOCATED AT MEETING OF 370 & 395; AND MEETING OF 385 & 411. THE DETENTION BASIN LOCATED AT 385 & 411 WILL BE ROUTED VIA RGRCP TO CHANNEL AT SOSSAMAN ROAD. THE DETENTION BASIN LOCATED AT 370 & 395 WILL BE ROUTED BY CHANNEL TO COMBINE WITH SUB-BASIN 390 AND THEN BE ROUTED BY RGRCP TO OUTLET INTO NATURAL CHANNEL LOCATED IN SUB-BASIN 455.

```
1*************************************                    *************************************
*                                   *                    *                                   *
*   FLOOD HYDROGRAPH PACKAGE  (HEC-1)  *                    *   U.S. ARMY CORPS OF ENGINEERS    *
*             JUN   1998            *                    *   HYDROLOGIC ENGINEERING CENTER   *
*           VERSION 4.1             *                    *         609 SECOND STREET         *
*                                   *                    *      DAVIS, CALIFORNIA 95616      *
*  RUN DATE   14JUL00  TIME  08:15:37  *                    *          (916) 756-1104           *
*                                   *                    *                                   *
*************************************                    *************************************

X     X  XXXXXXX   XXXXX          X
X     X  X        X     X        XX
X     X  X        X               X
XXXXXXX  XXXX     X        XXXXX  X
X     X  X        X               X
X     X  X        X     X         X
X     X  XXXXXXX   XXXXX         XXX

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE.
THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL   LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

1                                          HEC-1 INPUT                                                    PAGE  1

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

  1           ID   EXISTING LAND USE CALCULATIONS WERE BASED ON 1 YR. FROM 11/5/99
  2           ID   FOR LAS SENDAS       AND LANDISCOR JAN.1999 AERIAL PHOTOGPRAPHS
  3           ID
  4           ID   ALL DAMS WERE ANALYZED WITH NO STORAGE BELOW PRINCIPLE SPILLWAY ELEVATIONS
  5           ID
  6           ID   A CONSERVATIVE ESTIMATE WAS USED FOR THE LOCATION OF THE CENTROID FOR
  7           ID   PRECIPITATION VALUES
  8           ID
  9           ID   ALL CHANNEL ROUTING INFORMATION WAS OBTAINED FROM MCFCD SPOOK HILL   SIGNAL
 10           ID   BUTTE        AND BULLDOG FLOODWAY PLANS
 11           ID
 12           ID   THIS MODEL IS BASED ON COMBINATION OF TWO PREVIOUS OPTIONS:  THE PASS MTN. &
 13           ID   THE MCDOWELL ROAD.  FILES S24CE14.DAT  &  S24CE32.DAT RESPECTIVELY.
 14           ID
 15           ID   THE PASS MTN. OPTION HAS LEVEE EXTENDED NORTH-WEST CREATING NEW
 16           ID   SUB-BASIN BOUNDARIES:  295, 300 & 305 FROM 300; 353 & 355 FROM 355;
 17           ID   365 & 370 FROM 370; 383 & 385 FROM 385; 393 & 395 FROM 395.  DETENTION BASINS
 18           ID   ARE ADDED TO SUB-BASINS 300 AND 305.
 19           ID
 20           ID   THE MCDOWELL OPTION HAS DETENTION BASINS LOCATED AT MEETING OF 370 & 395;
 21           ID   AND MEETING OF 385 & 411.  THE DETENTION BASIN LOCATED AT 385 & 411 WILL
 22           ID   BE ROUTED VIA RGRCP TO CHANNEL AT SOSSAMAN ROAD.  THE DETENTION BASIN
 23           ID   LOCATED AT 370 & 395 WILL BE ROUTED BY CHANNEL TO COMBINE WITH SUB-BASIN
 24           ID   390 AND THEN BE ROUTED BY RGRCP TO OUTLET INTO NATURAL CHANNEL
 25           ID   LOCATED IN SUB-BASIN 455.
 26           ID   ANALYSIS PERFORMED BY WOOD/PATEL; MW;        07/13/00  FILE: S24CE40.DAT
 27           ID
 28           ID   DDM MCUHP1 SPOOK HILL AMDP
              *DIAGRAM
 29           IT       2                    1500
 30           IO       3
 31           IN      15
 32           JD    3.81    0.01
 33           PC    .000    .002    .005    .008    .011    .014    .017    .020    .023    .026
 34           PC    .029    .032    .035    .038    .041    .044    .048    .052    .056    .060
 35           PC    .064    .068    .072    .076    .080    .085    .090    .095    .100    .105
 36           PC    .110    .115    .120    .126    .133    .140    .147    .155    .163    .172
 37           PC    .181    .191    .203    .218    .236    .257    .283    .387    .663    .707
 38           PC    .735    .758    .776    .791    .804    .815    .825    .834    .842    .849
 39           PC    .856    .863    .869    .875    .881    .887    .893    .898    .903    .908
 40           PC    .913    .918    .922    .926    .930    .934    .938    .942    .946    .950
 41           PC    .953    .956    .959    .962    .965    .968    .971    .974    .977    .980
 42           PC    .983    .986    .989    .992    .995    .998   1.000
 43           JD    3.58   10.00
 44           JD    3.43   30.00
 45           JD    3.28   60.00
 46           JD    3.22   90.00
 47           JD    3.18  120.00
 48           JD    3.14  150.00
 49           JD    3.05  300.00
 50           JD    2.97  500.00
              * DDM   ***** Updated *****
1                                          HEC-1 INPUT                                                    PAGE  2

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 51           KK      10
 52           KM   SUB-BASIN 10
 53           KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 54           KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
 55           KM     L = 2.00  Kb = .044  Adj. Slope =  165.0
 56           BA    .702
 57           LG    .350    .320   7.600    .090  15.000
 58           UC    .421    .302
 59           UA       0       3       5       8      12      20      43      75      90      96
 60           UA     100
              * DDM   ***** Preserved *****

 61           KK     R10
 62           KM   ROUTING OF FLOW FROM SUB-BASIN 10 TO R12
 63           RS       4    FLOW      -1
 64           RC    .045     .03    .045    8700    .021
 65           RX       0       1       2      17      27      42      43      44
 66           RY       5       5       5       0       0       5       5       5
```

```
            * DDM   ***** Preserved *****

 67         KK     R12
 68         KM   ROUTING OF FLOW FROM R12 TO SUB-BASIN 20
 69         RS       6    FLOW      -1
 70         RC    .045     .03    .045    4500     .01
 71         RX       0       1      30    37.5    57.5      65      94      95
 72         RY       3     2.5     2.5       0       0     2.5     2.5       3
            * DDM   ***** Updated *****

 73         KK      20
 74         KM   SUB-BASIN 20
 75         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 76         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
 77         KM     L = 2.50  Kb = .041  Adj. Slope =   88.0
 78         BA   1.120
 79         LG    .350    .390   5.800    .190   1.000
 80         UC    .658    .454
 81         UA       0       3       5       8      12      20      43      75      90      96
 82         UA     100
            * DDM   ***** Preserved *****

 83         KK     C20
 84         KM   HYDROGRAPH COMBINATION OF SUB-BASINS 10 AND 20
 85         HC       2
            * DDM   ***** Updated *****

 86         KK      40
 87         KM   SUB-BASIN 40
 88         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 89         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
 90         KM     L = 3.08  Kb = .036  Adj. Slope =  189.0
 91         BA   2.233
 92         LG    .340    .340   4.900    .280   5.000
 93         UC    .496    .264
 94         UA       0       3       5       8      12      20      43      75      90      96
1                                        HEC-1 INPUT                                          PAGE  3

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 95         UA     100
            * DDM   ***** Updated *****

 96         KK      60
 97         KM   SUB-BASIN 60
 98         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 99         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .990
100         KM     L = 4.19  Kb = .038  Adj. Slope =  209.6
101         BA   1.746
102         LG    .330    .350   5.800    .190   9.000
103         UC    .596    .477
104         UA       0       3       5       8      12      20      43      75      90      96
105         UA     100
            * DDM   ***** Preserved *****

106         KK     60C
107         KM   HYDROGRAPH COMBINATION FOR APACHE JUNCTION FRS
            *      1       2
108         HC       3
            * DDM   ***** Preserved *****

109         KK    SR60
110         KM   APACHE JUNCTION FRS AS-BUILT PLANS 12/19/88
111         KM   OUTLET PIPE=30"RCP; L=136.6'; INLET INV.=1783.5; OUTLET INV.=1783
112         KM   EMERGENCY SPILLWAY ELEV.=1799.77'; PRINCIPLE SPILLWAY ELEV.=1793.5'
113         KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 100 ACRE-FEET
114         RS       1    STOR       0
115         SV       0       1     100     200     300     400
116         SQ       0      71      81      87    91.5      94
117         SE    83.5    93.5      96    97.7      99   99.77
            * DDM   ***** Preserved *****

118         KK     R60
119         KM        ROUTE FLOW THROUGH BULLDOG FLOODWAY FROM APACHE JUNCTION FRS
120         RS       1    FLOW      -1
121         RC    .016    .016    .016    2850    .012
122         RX       0       1       2     2.1     5.6     5.7       6       7
123         RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
            * DDM   ***** Preserved *****

124         KK    RR60
125         KM   ROUTE FLOW FROM BULLDOG FLOODWAY TO SUB-BASIN 80
126         RS       4    FLOW      -1
127         RC    .016    .016    .016    3500    .005
128         RX       0       1       2     2.1     7.1     7.2       8       9
129         RY     3.5     3.5     3.5       0       0     3.5     3.5     3.5
            * DDM   ***** Updated *****

130         KK      80
131         KM   SUB-BASIN 80
132         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
133         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
134         KM     L = 2.69  Kb = .039  Adj. Slope =  229.8
135         BA   1.475
136         LG    .330    .330   5.600    .210   4.000
1                                        HEC-1 INPUT                                          PAGE  4

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

137         UC    .433    .259
138         UA       0       3       5       8      12      20      43      75      90      96
139         UA     100
            * DDM   ***** Preserved *****

140         KK     80C
141         KM   HYDROGRAPH COMBINATION FOR FLOW FROM APACHE JUNCTION FRS & SUB-BASIN 80
142         HC       2   1.475
            * DDM   ***** Preserved *****

143         KK     R80
144         KM   ROUTE FLOW FROM SUB-BASIN 80 TO SUB-BASIN 100
145         RS       1    FLOW      -1
146         RC    .025    .016    .025    1200    .003
```

```
147          RX       0       2       6     6.1    41.1    41.2    56.2    58.2
148          RY     5.5     4.5     4.5       0       0     4.5     4.5     5.5
             * DDM   ***** Updated *****

149          KK     100
150          KM   SUB-BASIN 100
151          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
152          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
153          KM     L = 1.94  Kb = .046  Adj. Slope =  108.0
154          BA    .484
155          LG    .320    .290   5.100    .260   3.000
156          UC    .533    .473
157          UA       0       5      16      30      65      77      84      90      94      97
158          UA     100
             * DDM   ***** Preserved *****

159          KK    100C
160          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 80 & 100
161          HC       2
             * DDM   ***** Preserved *****

162          KK    R100
163          KM   ROUTE FLOW FROM SUB-BASIN 100 TO SUB-BASIN 120
164          RS       1    FLOW      -1
165          RC    .016    .016    .016     940    .005
166          RX       0       1       2     2.1    52.1    52.2      53      54
167          RY     4.5     4.5     4.5       0       0     4.5     4.5     4.5
             * DDM   ***** Updated *****

168          KK     120
169          KM   SUB-BASIN 120
170          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
171          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .987
172          KM     L = 3.07  Kb = .037  Adj. Slope =  239.0
173          BA   2.202
174          LG    .330    .280   6.800    .130  11.000
175          UC    .429    .226
176          UA       0       3       5       8      12      20      43      75      90      96
177          UA     100
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE  5

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

178          KK    120C
179          KM   HYDROGRAPH COMBINATION FOR FLOW FROM SUB-BASIN 100 & 120
180          HC       2
             * DDM   ***** Preserved *****

181          KK    R120
182          KM   ROUTE FLOW FROM SUB-BASIN 120 TO SIGNAL BUTTE FRS
183          RS       1    FLOW      -1
184          RC    .025    .016    .025    2100    .005
185          RX       0       6      10    10.1    60.1    60.2    74.2    80.2
186          RY       8       5       5       0       0       5       5       8
             * DDM   ***** Updated *****

187          KK     140
188          KM   SUB-BASIN 140
189          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
190          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
191          KM     L = 1.61  Kb = .044  Adj. Slope =  149.0
192          BA    .598
193          LG    .310    .280   4.200    .440   5.000
194          UC    .421    .278
195          UA       0       5      16      30      65      77      84      90      94      97
196          UA     100
             * DDM   ***** Updated *****

197          KK     150
198          KM   SUB-BASIN 150
199          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
200          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
201          KM     L = 1.50  Kb = .047  Adj. Slope =  314.6
202          BA    .408
203          LG    .350    .360   5.100    .260   7.000
204          UC    .296    .221
205          UA       0       3       5       8      12      20      43      75      90      96
206          UA     100
             * DDM   ***** Preserved *****

207          KK    R150
208          KM   ROUTING OF FLOW FROM SUB-BASIN 150 TO R152
209          RS       2    FLOW      -1
210          RC    .045     .04    .045    3100    .032
211          RX       0       1       2      23      33      54      55      56
212          RY       7       7       7       0       0       7       7       7
             * DDM   ***** Preserved *****

213          KK    R152
214          KM   ROUTING OF FLOW FROM R152 TO SUB-BASIN 160
215          RS       4    FLOW      -1
216          RC    .045     .03    .045    5900    .019
217          RX       0       1       2       8      33      39      40      41
218          RY       2       2       2       0       0       2       2       2
             * DDM   ***** Updated *****
1                                    HEC-1 INPUT                                          PAGE  6

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

219          KK     160
220          KM   SUB-BASIN 160
221          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
222          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
223          KM     L = 2.10  Kb = .047  Adj. Slope =  129.0
224          BA    .369
225          LG    .340    .330   4.150    .440   1.000
226          UC    .587    .655
227          UA       0       3       5       8      12      20      43      75      90      96
228          UA     100
             * DDM   ***** Updated *****
```

```
229          KK     180
230          KM   SUB-BASIN 180
231          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
232          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
233          KM     L = 2.42  Kb = .041  Adj. Slope =  140.0
234          BA   1.000
235          LG    .350    .350   4.150    .430    .000
236          UC    .571    .403
237          UA       0       3       5       8      12      20      43      75      90      96
238          UA     100
             * DDM   ***** Preserved *****

239          KK    180C
240          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
241          HC       5
             * ***********************************************************************
             * ***********************************************************************
             * ******THIS MARKS THE BEGINNING OF THE PASS MOUNTAIN PORTION OF THIS
             * ******COMBINATION OPTION MODEL
             * ***********************************************************************
             * ***********************************************************************
             * DDM   ***** Updated *****

242          KK     383
243          KM   SUB-BASIN 383
244          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
245          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
246          KM     L = 1.49  Kb = .047  Adj. Slope =  315.0
247          BA    .420
248          LG    .350    .400   6.000    .170  16.000
249          UC    .287    .209
250          UA       0       3       5       8      12      20      43      75      90      96
251          UA     100
             * DDM   ***** Preserved *****

252          KK    R383
253          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
254          KM   ROUTING OF FLOW FROM SUB-BASIN 383 TO SUB-BASIN 393
255          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
256          KM   WATERCOURSE FLOW PATH
257          RS       2    FLOW      -1
258          RC     .07     .03     .07    1115    .045
1                                          HEC-1 INPUT                                                    PAGE  7

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

259          RX       0       1       3       9      39      45      46      47
260          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Inserted *****

261          KK     393
262          KM   SUB-BASIN 393
263          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
264          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
265          KM     L =  .61  Kb = .061  Adj. Slope =  246.2
266          BA    .040
267          LG    .350    .350   4.200    .420    .000
268          UC    .233    .310
269          UA       0       3       5       8      12      20      43      75      90      96
270          UA     100
             * DDM   ***** Preserved *****

271          KK    393C
272          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 383 & 393
273          HC       2
             * DDM   ***** Preserved *****

274          KK    R393
275          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
276          KM   ROUTING OF FLOW FROM SUB-BASIN 393 TO SUB-BASIN 365
277          RS       1    FLOW      -1
278          RC    .055     .03    .055    1115    .045
279          RX       0       1       3       9      39      45      46      47
280          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

281          KK     365
282          KM   SUB-BASIN 365
283          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
284          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
285          KM     L = 2.20  Kb = .047  Adj. Slope =  299.5
286          BA    .415
287          LG    .350    .350   4.600    .330   4.000
288          UC    .400    .415
289          UA       0       3       5       8      12      20      43      75      90      96
290          UA     100
             * DDM   ***** Preserved *****

291          KK    365C
292          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 393 & 365
293          HC       2
             * DDM   ***** Preserved *****

294          KK    R365
295          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
296          KM   ROUTING OF FLOW FROM SUB-BASIN 365 TO ROUTING 365R
297          RS       2    FLOW      -1
298          RC    .045     .03    .045    1000    .025
299          RX       0       1      50      56      76      82     131     132
300          RY     2.5       2       2       0       0       2       2     2.5
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE  8

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

301          KK    365R
302          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
303          KM   ROUTING OF FLOW FROM 365R TO SUB-BASIN 353
304          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
305          KM   WATERCOURSE FLOW PATH
306          RS       3    FLOW      -1
```

```
307          RC     .07     .03     .07    1300    .008
308          RX       0       3       5      11      41      47     147     247
309          RY       3     2.5       2       0       0       2     2.5       3
             * DDM   ***** Updated *****

310          KK     353
311          KM   SUB-BASIN 353
312          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
313          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
314          KM     L = 2.50  Kb = .046  Adj. Slope =  297.9
315          BA    .502
316          LG    .350    .350   4.350    .380   1.000
317          UC    .442    .460
318          UA       0       3       5       8      12      20      43      75      90      96
319          UA     100
             * DDM   ***** Preserved *****

320          KK    353C
321          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 365 & 353
322          HC       2
             * DDM   ***** Preserved *****

323          KK    R353
324          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
325          KM   ROUTING OF FLOW FROM SUB-BASIN 353 TO ROUTING 353R
326          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
327          KM   WATERCOURSE FLOW PATH
328          RS       2    FLOW      -1
329          RC     .07     .03     .07    1100    .009
330          RX       0       3       5      11      41      47     172     302
331          RY     3.5     2.5       2       0       0       2     2.5     3.5
             * DDM   ***** Preserved *****

332          KK    353R
333          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
334          KM   ROUTING OF FLOW FROM 353R TO SUB-BASIN 310
335          RS       1    FLOW      -1
336          RC    .045     .03    .045    1692     .03
337          RX       0       1      25      31      51      57      81      82
338          RY       3       2       2       0       0       2       2       3
             * DDM   ***** Updated *****

339          KK     350
340          KM   SUB-BASIN 350
341          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
342          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
343          KM     L = 2.22  Kb = .042  Adj. Slope =  311.0
344          BA    .935
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

345          LG    .350    .350   4.600    .330   5.000
346          UC    .367    .239
347          UA       0       3       5       8      12      20      43      75      90      96
348          UA     100
             * DDM   ***** Preserved *****

349          KK    350R
350          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
351          KM   SUB-BASIN 350 HAS A SPLIT FLOW; HOWEVER BECAUSE OF THE PASS MTN. DIVERSION
352          KM   EXTENSION IN THIS OPTION ALL OF THE FLOW SPLIT OR OTHERWISE IS ROUTED TO THE
353          KM   SIGNAL BUTTE FRS.  SO, FOR SIMPLICITY SUB-BASIN 350 IS MODELED WITHOUT
354          KM   THE SPLIT FLOW.
355          RS       8    FLOW      -1
356          RC    .045    .035    .045    7650    .025
357          RX       0       1      50      56      86      92     141     142
358          RY       3       2       2       0       0       2       2       3
             *      1       2
             * DDM   ***** Updated *****

359          KK     310
360          KM   SUB-BASIN 310
361          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
362          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
363          KM     L = 2.70  Kb = .045  Adj. Slope =  283.5
364          BA    .555
365          LG    .350    .350   3.910    .480    .000
366          UC    .483    .511
367          UA       0       3       5       8      12      20      43      75      90      96
368          UA     100
             * DDM   ***** Preserved *****

369          KK    C310
370          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 350 & 310
371          HC       3
             * DDM   ***** Preserved *****

372          KK    R310
373          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
374          KM   ROUTING OF FLOW FROM SUB-BASIN 310 TO 320
375          RS       6    FLOW      -1
376          RC    .045    .035    .045   10050    .022
377          RX       0       1      40      46      61      67     106     107
378          RY       4       2       2       0       0       2       2       4
             * DDM   ***** Preserved *****

379          KK    R312
380          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
381          KM   ROUTING OF FLOW FROM R312 TO SUB-BASIN 295
382          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
383          KM   WATERCOURSE FLOW PATH
384          RS       3    FLOW      -1
385          RC     .07     .03     .07    2100   .0124
386          RX       0       3       5      11      61      67     200     395
387          RY       4     2.5       2       0       0       2     2.5       4
             * DDM   ***** Updated *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

388          KK     295
```

```
389          KM   SUB-BASIN 295
390          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
391          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
392          KM     L = 1.60  Kb = .047  Adj. Slope =  131.0
393          BA    .380
394          LG    .350    .350   4.900    .280    .000
395          UC    .450    .386
396          UA       0       3       5       8      12      20      43      75      90      96
397          UA     100
             * DDM   ***** Preserved *****

398          KK    295C
399          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 310 & 295
400          HC       2
             * DDM   ***** Preserved *****

401          KK    295R
402          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING & AERIAL MAPPING
403          KM   ROUTING OF FLOW FROM SUB-BASIN 295 TO BEGINNING OF PASS MTN. DIVERSION.
404          KM   OVERBANK MANNINGS INCREASED TO ACCOUNT FOR SKEWED FLOW TO NATURAL
405          KM   WATERCOURSE FLOW PATH
406          RS       2    FLOW      -1
407          RC     .07     .03     .07    1100    .013
408          RX       0       3       5      11      51      57     200     400
409          RY       4     2.5       2       0       0       2     2.5       4
             * DDM   ***** Updated *****

410          KK     210
411          KM   SUB-BASIN 210
412          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
413          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
414          KM     L = 1.84  Kb = .045  Adj. Slope =  315.0
415          BA    .583
416          LG    .350    .350   7.000    .120   5.000
417          UC    .321    .232
418          UA       0       3       5       8      12      20      43      75      90      96
419          UA     100
             * DDM   ***** Preserved *****

420          KK    R210
421          KM   ROUTING OF FLOW FROM SUB-BASIN 210 TO SUB-BASIN 220
422          RS       2    FLOW      -1
423          RC    .045     .03    .045    5100    .022
424          RX       0       1       2      14      34      46      47      48
425          RY       4       4       4       0       0       4       4       4
             * DDM   ***** Updated *****

426          KK     240
427          KM   SUB-BASIN 240
428          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
429          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .992
430          KM     L = 3.50  Kb = .039  Adj. Slope =  298.6
431          BA   1.398
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

432          LG    .350    .370   5.200    .240   2.000
433          UC    .471    .361
434          UA       0       3       5       8      12      20      43      75      90      96
435          UA     100
             * DDM   ***** Preserved *****

436          KK    240C
437          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
438          HC       3
             * DDM   ***** Preserved *****

439          KK   SR240
440          KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
441          KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
442          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
443          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
444          RS       1    STOR       0
445          SA    1.38    14.2    36.5
446          SE       0       5      11
447          SS       5      42       3     1.5
             * DDM   ***** Updated *****

448          KK     220
449          KM   SUB-BASIN 220
450          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
451          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
452          KM     L = 1.92  Kb = .043  Adj. Slope =  315.0
453          BA    .725
454          LG    .350    .350   7.000    .120   4.000
455          UC    .317    .209
456          UA       0       3       5       8      12      20      43      75      90      96
457          UA     100
             * DDM   ***** Preserved *****

458          KK    220C
459          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 240 & 220
460          HC       2
             * DDM   ***** Preserved *****

461          KK   SR220
462          KM   DIGITAL MAPPING SHOWS SEDIMENTATION.  FOR SIMPLICITY NO ADDITIONAL
463          KM   SEDIMENTATION WILL BE CONSIDERED FOR STORAGE ROUTING ANALYSIS. 5/11/00
464          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
465          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
466          RS       1    STOR       0
467          SA     .78     4.1    13.7
468          SE       0       3      10
469          SS       3      65       3     1.5
             * DDM   ***** Updated *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

470          KK     190
471          KM   SUB-BASIN 190
```

```
472          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
473          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
474          KM     L = 1.91  Kb = .042  Adj. Slope =  315.0
475          BA    .918
476          LG    .350    .390   5.800    .190   8.000
477          UC    .321    .185
478          UA       0       3       5       8      12      20      43      75      90      96
479          UA     100
             * DDM   ***** Preserved *****

480          KK    R190
481          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
482          RS       2    FLOW      -1
483          RC    .045     .03    .045    4740     .03
484          RX       0       1       2      17      37      52      53      54
485          RY       5       5       5       0       0       5       5       5
             * DDM   ***** Preserved *****

486          KK    R192
487          KM   ROUTING OF FLOW FROM SUB-BASIN 190 TO SUB-BASIN 200
488          RS       2    FLOW      -1
489          RC    .045    .035    .045    2200    .018
490          RX       0       1      50      59      79      88     137     138
491          RY     3.5       3       3       0       0       3       3     3.5
             * DDM   ***** Updated *****

492          KK     200
493          KM   SUB-BASIN 200
494          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
495          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .997
496          KM     L = 1.58  Kb = .045  Adj. Slope =  305.6
497          BA    .535
498          LG    .350    .390   5.700    .200  10.000
499          UC    .300    .200
500          UA       0       3       5       8      12      20      43      75      90      96
501          UA     100
             * DDM   ***** Preserved *****

502          KK    200C
503          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 220 & 200
504          HC       3
             * DDM   ***** Preserved *****

505          KK   SR200
506          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
507          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
508          RS       1    STOR       0
509          SA    2.56     3.1     9.4
510          SE       0       3      10
511          SS       3     112       3     1.5
             * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 13

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

512          KK   200SR
513          KM    WEIR GEOMETRY OBTAINED FROM AS-BUILT PLANS @ PASS MTN. DIVERSION.
514          KM   WEIR STORAGE DATA OBTAINED FROM 2' CONTOUR MAPPING.
             *      1       2
515          RS       1    STOR       0
516          SA       8     9.2     9.2
517          SE       0       7      10
518          SS       7     251       3     1.5
519          KM   ******************************************************************
520          KM   ************* END OF PASS MOUNTAIN ALTERNATIVE UPDATE. **************
521          KM
             * DDM   ***** Preserved *****

522          KK    C180
523          KM   HYDROGRAPH COMBINATION FOR SIGNAL BUTTE FRS
             *      1       2
524          HC       2
             * DDM   ***** Preserved *****

525          KK   SR180
526          KM   SIGNAL BUTTE FRS DATED 1/28/85
527          KM   OUTLET PIPE=36"RCP; L= 147';  INLET INV.=1690; OUTLET INV.=1687
528          KM   EMERGENCY SPILLWAY ELEV.=1712.4; PRINCIPLE SPILLWAY ELEV.=1701
529          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 250 ACRE-FEET
530          RS       1    STOR       0
531          SV       0       1     250     500     750    1060
532          SQ       0   106.5   125.5   137.5     146     160
533          SE      90     101   104.5     107     109   112.4
             * DDM   ***** Preserved *****

534          KK    R180
535          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
536          KM   ROUTE FLOW FROM SIGNAL BUTTE FRS TO SUB-BASIN 260
537          RS       2    FLOW      -1
538          RC    .035    .025    .035    1500    .003
539          RX       0       1       2    22.6    38.6    59.2      60      61
540          RY     9.3     9.3     9.3       0       0     9.3     9.3     9.3
             * DDM   ***** Updated *****

541          KK     260
542          KM   SUB-BASIN 260
543          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
544          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
545          KM     L =  .81  Kb = .049  Adj. Slope =   68.0
546          BA    .267
547          LG    .300    .170   6.800    .160  15.000
548          UC    .363    .215
549          UA       0       5      16      30      65      77      84      90      94      97
550          UA     100
             * DDM   ***** Preserved *****
                                     HEC-1 INPUT                                          PAGE 14

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

551          KK    260C
552          KM   HYDROGRAPH COMBINATION FOR OUTFLOW OF SIGNAL BUTTE FRS & SUB-BASIN 260
```

```
553          HC       2    .267
             * DDM   ***** Preserved *****

554          KK    R260
555          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
556          KM   ROUTE FLOW FROM SUB-BASIN 260 TO SUB-BASIN 280
557          RS       3    FLOW      -1
558          RC    .035    .025    .035    2300    .003
559          RX       0       1       2    23.4    43.4    64.8      65      66
560          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

561          KK     280
562          KM   SUB-BASIN 280
563          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
564          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
565          KM     L =  .77  Kb = .049  Adj. Slope =   84.0
566          BA    .304
567          LG    .300    .250   5.300    .290  15.000
568          UC    .333    .175
569          UA       0       5      16      30      65      77      84      90      94      97
570          UA     100
             * DDM   ***** Preserved *****

571          KK    280C
572          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 260 & SUB-BASIN 280
573          HC       2
             * DDM   ***** Preserved *****

574          KK    R280
575          KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
576          KM   ROUTE FLOW FROM SUB-BASIN 280 TO SUB-BASIN 300
577          RS       2    FLOW      -1
578          RC    .035    .025    .035    2500    .003
579          RX       0       1       2    23.4    43.4    64.8      65      66
580          RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
             * DDM   ***** Updated *****

581          KK     300
582          KM   SUB-BASIN 300
583          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
584          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
585          KM     L =  .80  Kb = .049  Adj. Slope =  100.0
586          BA    .297
587          LG    .320    .280   4.200    .480  11.000
588          UC    .333    .183
589          UA       0       5      16      30      65      77      84      90      94      97
590          UA     100
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

591          KK    C300
592          KM   HYDROGRAPH COMBINATION OF DIVERTED FLOW
593          HC       2
             * DDM   ***** Preserved *****

594          KK    D300
595          KM   DIVERT FLOW INTO OFFLINE BASIN AT SIGNAL BUTTE FLOODWAY TO BE COMBINED
596          KM   LATER WITH BASIN 305 AT END OF SIGNAL BUTTE FLOODWAY
597          DT   DIV300
598          DI       0     300    5000
599          DQ       0       0    4700
             * DDM   ***** Preserved *****

600          KK   RTDIV300
601          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
602          DR   DIV300
             * DDM   ***** Preserved *****

603          KK   SRDIV300
604          KM   RETRIEVE FLOW INTO BASIN AND BLEED OFF WITHIN 36 HOURS
605          KM
606          RS       1    STOR       0
607          SV       0      60
608          SE       0      12
609          SQ       0     300
             * DDM   ***** Preserved *****

610          KK    300C
611          KM   HYDROGRAPH COMBINATION OF DIVERTED FLOW
612          HC       2
             * DDM   ***** Updated *****

613          KK     305
614          KM   SUB-BASIN 305
615          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
616          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
617          KM     L = 1.20  Kb = .047  Adj. Slope =   92.0
618          BA    .377
619          LG    .340    .330   4.450    .380   8.000
620          UC    .438    .298
621          UA       0       3       5       8      12      20      43      75      90      96
622          UA     100
             * DDM   ***** Preserved *****

623          KK    D305
624          KM   DIVERT FLOW INTO OFFLINE BASIN TO BE COMBINED LATER WITH PASS MOUNTAIN
625          KM   DIVERSION FLOW AT END OF SIGNAL BUTTE FLOODWAY
626          DT    305D
627          DI       0    1000
628          DQ       0    1000
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

629          KK   RT305D
630          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
631          DR    305D
```

```
            * DDM   ***** Preserved *****

632         KK   SR305D
633         KM   RETRIEVE FLOW INTO BASIN AND BLEED OFF WITHIN 36 HOURS
634         KM
635         RS       1    STOR       0
636         SV       0      25
637         SE       0       6
638         SQ       0     100
            * DDM   ***** Preserved *****

639         KK    305C
640         KM   HYDROGRAPH COMBINATION OF SUB-BASIN 280 & 300
641         HC       3
            * DDM   ***** Preserved *****

642         KK    R305
643         KM   CHANNEL GEOMETRY FOR SIGNAL BUTTE FRS OBTAINED FROM AS-BUILT PLANS.
644         KM   ROUTE FLOW FROM SUB-BASIN 300 TO START OF FLOODWAY CONCRETE CHANNEL
645         RS       2    FLOW      -1
646         RC    .035    .025    .035    2200    .003
647         RX       0       1       2    23.4    55.4    76.8      77      78
648         RY     9.7     9.7     9.7       0       0     9.7     9.7     9.7
            * DDM   ***** Preserved *****

649         KK   RR305
650         KM   CHANNEL GEOMETRY FOR SPOOK HILL FRS OBTAINED FROM AS-BUILTS PLANS.
651         KM   CONTINUE TO ROUTE FLOW WITHIN CONCRETE CHANNEL TO SPOOK HILL FRS
652         RS       1    FLOW      -1
653         RC    .016    .016    .016    6050   .0146
654         RX       0       1       2     2.1    16.1    16.2      17      18
655         RY     7.5     7.5     7.5       0       0     7.5     7.5     7.5
            * DDM   ***** Updated *****

656         KK     320
657         KM   SUB-BASIN 320
658         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
659         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
660         KM     L = 1.60  Kb = .042  Adj. Slope =  106.0
661         BA    .870
662         LG    .310    .290   4.500    .380  15.000
663         UC    .450    .240
664         UA       0       5      16      30      65      77      84      90      94      97
665         UA     100
            * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 17

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

666         KK    D320
667         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
668         KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
669         KM   SIERRA HEIGHTS        FALCON RIDGE    & MARBLE CREEK
670         KM        MAXIMUM VOLUME DIVERSION = 12.27acre-feet
            *      1
671         DT   BS320   12.27
672         DI       0   10000
673         DQ       0   10000
            * DDM   ***** Preserved *****

674         KK   RT320
675         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
676         DR   BS320
            * DDM   ***** Preserved *****

677         KK   SR320
678         KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
679         KM   12.27 ACRE-FEETx43560/36x3600=4.1cfs
            *      1
680         RS       1    STOR       0
681         SV       0     .01    12.3
682         SQ       0     4.2     4.2
            * DDM   ***** Preserved *****

683         KK    C320
684         KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
685         HC       3
            * DDM   ***** Updated *****

686         KK     340
687         KM   SUB-BASIN 340
688         KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
689         KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .991
690         KM     L = 2.40  Kb = .042  Adj. Slope =  160.0
691         BA   1.449
692         LG    .280    .280   4.150    .520  21.000
693         UC    .512    .287
694         UA       0       5      16      30      65      77      84      90      94      97
695         UA     100
            * DDM   ***** Preserved *****

696         KK    D340
697         KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
698         KM   DETENTION/RETENTION BASINS LOCATED WITHIN THREE SUBDIVISIONS
699         KM   GRANDVIEW ESTATES    BOULDER MOUNTAIN & 33% OF MESA HIGHLANDS
700         KM        MAXIMUM VOLUME DIVERSION = 56.0 acre-feet
            *      1
701         DT   BS340      56
702         DI       0   10000
703         DQ       0   10000
            * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 18

LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

704         KK   RT340
705         KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
706         DR   BS340
            * DDM   ***** Preserved *****

707         KK   SR340
```

```
708          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
709          KM    56.0 ACRE-FEETx43560/36x3600=18.8cfs
             *      1
710          RS       1    STOR       0
711          SV       0     .01      56
712          SQ       0    18.9    18.9
             * DDM   ***** Preserved *****

713          KK    C340
714          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
715          HC       3
             * DDM   ***** Updated *****

716          KK     355
717          KM   SUB-BASIN 355
718          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
719          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
720          KM     L =  .80  Kb = .052  Adj. Slope =  125.0
721          BA    .174
722          LG    .320    .300   4.550    .360  12.000
723          UC    .308    .227
724          UA       0       5      16      30      65      77      84      90      94      97
725          UA     100
             * DDM   ***** Preserved *****

726          KK    R355
727          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
728          KM   ROUTING OF FLOW FROM SUB-BASIN 355 TO SUB-BASIN 360
729          RS       8    FLOW      -1
730          RC    .045    .035    .045   10100    .026
731          RX       0       1      40      46      56      62     102     103
732          RY       4       2       2       0       0       2       2       4
             * DDM   ***** Updated *****

733          KK     360
734          KM   SUB-BASIN 360
735          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
736          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
737          KM     L = 2.10  Kb = .048  Adj. Slope =  124.0
738          BA    .670
739          LG    .260    .270   4.100    .560  20.000
740          UC    .587    .466
741          UA       0       5      16      30      65      77      84      90      94      97
742          UA     100
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

743          KK    D360
744          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
745          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
746          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
747          DT   BS360    28.6
748          DI       0   10000
749          DQ       0   10000
             * DDM   ***** Preserved *****

750          KK   RT360
751          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
752          DR   BS360
             * DDM   ***** Preserved *****

753          KK   SR360
754          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
755          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
756          RS       1    STOR       0
757          SV       0     .01    28.6
758          SQ       0     9.6     9.6
             * DDM   ***** Preserved *****

759          KK    360C
760          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
761          HC       4
             * DDM   ***** Updated *****

762          KK     380
763          KM   SUB-BASIN 380
764          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
765          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
766          KM     L = 2.20  Kb = .048  Adj. Slope =  114.0
767          BA    .972
768          LG    .300    .310   4.150    .500   7.000
769          UC    .658    .444
770          UA       0       5      16      30      65      77      84      90      94      97
771          UA     100
             * DDM   ***** Preserved *****

772          KK    D380
773          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
774          KM   DETENTION/RETENTION BASINS LOCATED WITHIN 33% OF MESA HIGHLANDS
775          KM        MAXIMUM VOLUME DIVERSION = 28.6 acre-feet
             *      1
776          DT   BS380    28.6
777          DI       0   10000
778          DQ       0   10000
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

779          KK   RT380
780          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
781          DR   BS380
             * DDM   ***** Preserved *****

782          KK   SR380
783          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
784          KM    28.6 ACRE-FEETx43560/36x3600=9.6cfs
785          RS       1    STOR       0
```

```
786          SV       0      .01     28.6
787          SQ       0      9.6      9.6
             * DDM   ***** Preserved *****

788          KK    380C
789          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
790          HC       3
             * DDM   ***** Updated *****

791          KK     400
792          KM   SUB-BASIN 400
793          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
794          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
795          KM     L = 1.64  Kb = .046  Adj. Slope =  110.0
796          BA    .616
797          LG    .320    .320   3.130    .930   6.000
798          UC    .592    .405
799          UA       0       5      16      30      65      77      84      90      94      97
800          UA     100
             * DDM   ***** Preserved *****

801          KK    D400
802          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
803          KM   DETENTION/RETENTION BASIN LOCATED WITHIN SAGUARO VISTA SUBDIVISION
804          KM        MAXIMUM VOLUME DIVERSION = 5.6 ACRE-FEET
             *      1
805          DT   BS400     5.6
806          DI       0   10000
807          DQ       0   10000
             * DDM   ***** Preserved *****

808          KK   RT400
809          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
810          DR   BS400
             * DDM   ***** Preserved *****

811          KK   SR400
812          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
813          KM     5.6 ACRE-FEETx43560/36x3600 = 2 cfs
814          RS       1    STOR       0
815          SV       0     .01     5.6
816          SQ       0       2       2
             * DDM   ***** Preserved *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

817          KK    C400
818          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
819          HC       2
             * DDM   ***** Preserved *****

820          KK    400C
821          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
822          HC       2
             * DDM   ***** Updated *****

823          KK     420
824          KM   SUB-BASIN 420
825          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
826          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .995
827          KM     L = 1.91  Kb = .042  Adj. Slope =  120.0
828          BA    .849
829          LG    .310    .270   3.880    .580  12.000
830          UC    .512    .325
831          UA       0       5      16      30      65      77      84      90      94      97
832          UA     100
             * DDM   ***** Preserved *****

833          KK    D420
834          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
835          KM   DETENTION/RETENTION BASINS LOCATED WITHIN GRAY FOX SUBDIVISION
836          KM        MAXIMUM VOLUME DIVERSION = 8.65 acre-feet
             *      1
837          DT   BS420    8.65
838          DI       0   10000
839          DQ       0   10000
             * DDM   ***** Preserved *****

840          KK   RT420
841          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
842          DR   BS420
             * DDM   ***** Preserved *****

843          KK   SR420
844          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
845          KM   38.55 ACRE-FEETx43560/36x3600=13cfs
846          RS       1    STOR       0
847          SV       0     .01   38.55
848          SQ       0      13      13
             * DDM   ***** Preserved *****

849          KK    420C
850          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
851          HC       3
             * DDM   ***** Updated *****
```



```
LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

852          KK     370
853          KM   SUB-BASIN 370
854          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
855          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
856          KM     L =  .90  Kb = .050  Adj. Slope =  189.0
857          BA    .257
858          LG    .310    .280   4.800    .340  16.000
859          UC    .271    .173
860          UA       0       5      16      30      65      77      84      90      94      97
861          UA     100
             * DDM   ***** Updated *****
```

```
862          KK     395
863          KM   SUB-BASIN 395
864          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
865          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
866          KM     L = 1.00  Kb = .052  Adj. Slope =  188.0
867          BA    .160
868          LG    .330     .320   5.100     .280  12.000
869          UC    .300     .276
870          UA       0        5      16       30       65       77       84       90       94       97
871          UA     100
             * DDM   ***** Preserved *****

872          KK    395C
873          KM   HYDROGRAPH COMBINATION
874          HC       2
             * DDM   ***** Preserved *****

875          KK    D395
876          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN
877          KM   SUB-BASINS 370 AND 395
             *      1
878          DT   BS395
879          DI       0       10     5000
880          DQ       0        0     4990
             * DDM   ***** Preserved *****

881          KK   RT395
882          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
883          DR   BS395
             * DDM   ***** Preserved *****

884          KK   SR395
885          KM   RETRIEVE FLOW INTO OFFLINE DETENTION BASIN AND BLEED OFF WITHIN 36 HOURS.
886          KM      50 ACRE-FEETx43560/36x3600 = 17cfs
887          RS       1     STOR        0
888          SV       0      .01       50
889          SQ       0       17       17
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 23

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

890          KK    C395
891          KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
892          HC       2
             * DDM   ***** Preserved *****

893          KK    R395
894          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
895          KM   ROUTING OF FLOW FROM SUB-BASINS 370 AND 395 TO SUB-BASIN 390
896          RS       8     FLOW       -1
897          RC    .045     .035     .045    2600     .023
898          RX       0        1       40      46       56       62      102      103
899          RY       3        2        2       0        0        2        2        3
             * DDM   ***** Updated *****

900          KK     390
901          KM   SUB-BASIN 390
902          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
903          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
904          KM     L =  .70  Kb = .050  Adj. Slope =  299.4
905          BA    .244
906          LG    .300     .250   4.700     .380  18.000
907          UC    .204     .107
908          UA       0        5      16       30       65       77       84       90       94       97
909          UA     100
             * DDM   ***** Preserved *****

910          KK    D390
911          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
912          KM   DETENTION/RETENTION BASINS LOCATED WITHIN THUNDER MOUNTAIN ESTATES
913          KM        MAXIMUM VOLUME DIVERSION  = 3.5 acre-feet
             *      1
914          DT   BS390      3.5
915          DI       0     5000
916          DQ       0     5000
             * DDM   ***** Preserved *****

917          KK   RT390
918          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
919          DR   BS390
             * DDM   ***** Preserved *****

920          KK   SR390
921          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
922          KM      3.5 ACRE-FEETx43560/36x3600=1.2cfs
923          RS       1     STOR        0
924          SV       0      .01      3.5
925          SQ       0      1.2      1.2
             * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                                    PAGE 24

LINE         ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

926          KK    390C
927          KM   HYDROGRAPH COMBINATION
928          HC       3
             * DDM   ***** Preserved *****

929          KK   RR390
930          KM   ATTEMPT TO SIMULATE PIPE FLOW ALONG THIS ROUTING FROM SUB-BASIN 390 TO 415
931          KM   ARTIFICIALLY ADJUSTING SLOPE TO MORE ACCURATELY DEPICT MODEL RESULTS.
932          KM   THE SLOPE WAS DECREASED FROM .02 TO .01
933          RS       2     FLOW       -1
934          RK    5600      .01     .016            CIRC       6
             * DDM   ***** Updated *****

935          KK     440
936          KM   SUB-BASIN 440
937          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
```

```
 938          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 939          KM     L =  .40  Kb = .039  Adj. Slope =  315.0
 940          BA    .080
 941          LG    .190    .380   6.400    .140  13.000
 942          UC    .129    .077
 943          UA      0       3       5       8      12      20      43      75      90      96
 944          UA     100
              * DDM   ***** Preserved *****

 945          KK     R70
 946          KM   ROUTE FLOW FROM SUB-BASIN 440 TO C108
 947          RS       1    FLOW      -1
 948          RC     .05    .035     .05    2250     .08
 949          RX    1000    1025    1050    1070    1075    1095    1120    1145
 950          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

 951          KK     441
 952          KM   SUB-BASIN 441
 953          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 954          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
 955          KM     L =  .28  Kb = .069  Adj. Slope =  315.0
 956          BA    .010
 957          LG    .300    .250   5.600    .220   5.000
 958          UC    .150    .225
 959          UA      0       5      16      30      65      77      84      90      94      97
 960          UA     100
              * DDM   ***** Preserved *****

 961          KK    C108
 962          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 440 & 441
 963          HC       2
              * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 25

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

 964          KK    DIV4
 965          KM        SPLIT FLOW WITH TWO 42 INCH PIPES TO WEST AND SOUTH
              *      1
 966          DT   SPLIT
 967          DI       0      14      40      82     120     154     180
 968          DQ       0       7      20      41      60      77      90
              * DDM   ***** Preserved *****

 969          KK    R108
 970          KM        ROUTE FLOW FROM SUB-BASIN C108 TO C67
 971          RS       2    FLOW      -1
 972          RC     .05    .035     .05    3200      .1
 973          RX    1000    1025    1050    1070    1075    1095    1120    1145
 974          RY      30    22.9    15.7      10      10    15.7    22.9      30
              * DDM   ***** Updated *****

 975          KK     442
 976          KM   SUB-BASIN 442
 977          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
 978          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
 979          KM     L =  .83  Kb = .055  Adj. Slope =  274.2
 980          BA    .100
 981          LG    .300    .270   3.290    .770   5.000
 982          UC    .258    .264
 983          UA      0       5      16      30      65      77      84      90      94      97
 984          UA     100
              * DDM   ***** Preserved *****

 985          KK     C67
 986          KM   COMBINE FLOW FROM SUB-BASIN 442 & DIV4
 987          HC       2
              * DDM   ***** Preserved *****

 988          KK    DIV6
 989          KM        OFFLINE BASIN WITH 25 FOOT WEIR SET AT 2.5 FEET ABOVE BOTTOM OF CHANNEL
 990          KM        FLOW CONTINUES BEYOND BASIN THROUGH 2-30" PIPES
              *      1
 991          DT  BASIN4
 992          DI       0      10      32      44    79.9   132.5     198   272.9   356.8
 993          DQ       0       0       0       0    23.9    67.5     124   190.9   266.8
              * DDM   ***** Preserved *****

 994          KK  RTDIV6
 995          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
 996          DR  BASIN4
              * DDM   ***** Preserved *****

 997          KK  RFDIV6
 998          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
 999          KM     3.3 ACRE-FEETx43560/36x3600=1.1cfs
              *      1
1000          RS       1    STOR       0
1001          SV       0     .01     3.3
1002          SQ       0     1.1     1.1
              * DDM   ***** Preserved *****
1                                    HEC-1 INPUT                                          PAGE 26

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1003          KK   CDIV6
1004          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1005          HC       2
              * DDM   ***** Updated *****

1006          KK     443
1007          KM   SUB-BASIN 443
1008          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1009          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1010          KM     L =  .71  Kb = .050  Adj. Slope =  315.0
1011          BA    .080
1012          LG    .250    .190   8.000    .080  10.000
1013          UC    .196    .194
1014          UA      0       5      16      30      65      77      84      90      94      97
1015          UA     100
```

```
                * DDM   ***** Preserved *****

1016            KK   DIV66
1017            KM        DIVERT FLOW INTO 3 NATURAL WASHES WITH ONE 24" PIPE IN EACH WASH.
1018            KM        EACH PIPE CAPACITY BASED ON 4 FEET OF HEAD
1019            DT   WSH66
1020            DI       0      78     100     200
1021            DQ       0      78      78      78
                * DDM   ***** Preserved *****

1022            KK    R113
1023            KM        ROUTE FLOW FROM C113 TO C114
1024            RS       1    FLOW      -1
1025            RC    .019    .019    .019    1300    .029
1026            RX    1000    1004    1008    1012    1018    1022    1026    1030
1027            RY      17   15.33   12.67      10      10   12.67   15.33      17
                * DDM   ***** Preserved *****

1028            KK    C114
1029            KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 67 AND C113
1030            HC       2
                * DDM   ***** Updated *****

1031            KK     444
1032            KM   SUB-BASIN 444
1033            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1034            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1035            KM     L =  .33  Kb = .034  Adj. Slope =  315.0
1036            BA    .040
1037            LG    .130    .350   4.450    .320   1.000
1038            UC    .112    .084
1039            UA       0       3       5       8      12      20      43      75      90      96
1040            UA     100
                * DDM   ***** Preserved *****
1                                          HEC-1 INPUT                                          PAGE 27

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1041            KK     R58
1042            KM   ROUTE FLOW FROM SUB-BASIN 444 TO C107
1043            RS       1    FLOW      -1
1044            RC     .05    .035     .05    2370   .0516
1045            RX    1000    1010    1020    1050    1055    1085    1095    1105
1046            RY      19      18      17      10      10      17      18      19
                * DDM   ***** Updated *****

1047            KK     445
1048            KM   SUB-BASIN 445
1049            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1050            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1051            KM     L =  .82  Kb = .036  Adj. Slope =  315.0
1052            BA    .190
1053            LG    .170    .320   3.470    .590   3.000
1054            UC    .192    .130
1055            UA       0       5      16      30      65      77      84      90      94      97
1056            UA     100
                * DDM   ***** Preserved *****

1057            KK    C107
1058            KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 444 & 445
1059            HC       2
                * DDM   ***** Preserved *****

1060            KK    R107
1061            KM        ROUTE FLOW FROM C107 TO C109
1062            RS       1    FLOW      -1
1063            RC     .05    .035     .05     700   .0516
1064            RX    1000    1010    1020    1050    1055    1085    1095    1105
1065            RY      19      18      17      10      10      17      18      19
                * DDM   ***** Preserved *****

1066            KK    RTB2
1067            KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
                *      1
1068            DR   SPLIT
                * DDM   ***** Preserved *****

1069            KK  RSPLIT
1070            KM        ROUTE FLOW FROM SPLIT TO C109
1071            RS       1    FLOW      -1
1072            RC     .05    .035     .05     800     .05
1073            RX    1000    1025    1050    1070    1075    1095    1120    1145
1074            RY      30    22.9    15.7      10      10    15.7    22.9      30
                * DDM   ***** Updated *****

1075            KK     446
1076            KM   SUB-BASIN 446
1077            KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1078            KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1079            KM     L =  .46  Kb = .061  Adj. Slope =  303.9
1080            BA    .040
1081            LG    .270    .250   4.500    .400  19.000
1                                          HEC-1 INPUT                                          PAGE 28

LINE            ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1082            UC    .183    .189
1083            UA       0       5      16      30      65      77      84      90      94      97
1084            UA     100
                * DDM   ***** Preserved *****

1085            KK    C109
1086            KM        COMBINE HYDROGRAPHS FROM COMBINES C107 AND C108
1087            HC       3
                * DDM   ***** Preserved *****

1088            KK    DIV5
1089            KM        DIVERT FLOW INTO WASHES TOWARDS WEST
1090            KM        DIVERSION THROUGH 36" PIPE WITH 3 FEET OF HEAD
                *      1
1091            DT  WSH404
1092            DI       0    40.7    71.2   121.6     190     276   379.4   500.6
```

```
1093          DQ       0      35      35      35      35      35      35      35
              * DDM   ***** Preserved *****

1094          KK    R109
1095          KM        ROUTE FLOW FROM C109 TO C110
1096          RS       1    FLOW      -1
1097          RC    .019    .019    .019    3080     .05
1098          RX    1000    1005    1010    1015    1025    1030    1035    1040
1099          RY   13.75    12.5   11.25      10      10   11.25    12.5   13.75
              * DDM   ***** Updated *****

1100          KK     447
1101          KM   SUB-BASIN 447
1102          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1103          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1104          KM     L =  .49  Kb = .056  Adj. Slope =  221.0
1105          BA    .090
1106          LG    .250    .270   3.350    .870  30.000
1107          UC    .208    .145
1108          UA       0       5      16      30      65      77      84      90      94      97
1109          UA     100
              * DDM   ***** Preserved *****

1110          KK   RT404
1111          KM        RETRIEVE DIVERTED FLOW FOR WASH 109
1112          DR  WSH404
              * DDM   ***** Preserved *****

1113          KK    R404
1114          KM        ROUTE FLOW FROM C110 TO C110
1115          RS       5    FLOW      -1
1116          RC    .019    .019    .019    3540     .03
1117          RX    1000    1012    1016    1020    1025    1029    1033    1045
1118          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 29

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1119          KK    C110
1120          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 447 AND R404
1121          HC       3
              * DDM   ***** Preserved *****

1122          KK    R110
1123          KM        ROUTE FLOW FROM C110 TO C115
1124          RS       1    FLOW      -1
1125          RC    .019    .019    .019     580   .0291
1126          RX    1000    1012    1016    1020    1035    1039    1043    1055
1127          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1128          KK    C115
1129          KM        COMBINE HYDROGRAPHS FROM C114 AND C110
1130          HC       2
              * DDM   ***** Preserved *****

1131          KK    R115
1132          KM        ROUTE FLOW FROM C115 TO C119
1133          RS       1    FLOW      -1
1134          RC    .019    .019    .019    2125    .029
1135          RC    .019    .019    .019     580   .0291
1136          RX    1000    1012    1016    1020    1035    1039    1043    1055
1137          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Updated *****

1138          KK     448
1139          KM   SUB-BASIN 448
1140          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1141          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1142          KM     L =  .36  Kb = .042  Adj. Slope =  315.0
1143          BA    .045
1144          LG    .170    .310   4.200    .390  11.000
1145          UC    .133    .102
1146          UA       0       5      16      30      65      77      84      90      94      97
1147          UA     100
              * DDM   ***** Updated *****

1148          KK     449
1149          KM   SUB-BASIN 449
1150          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1151          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1152          KM     L =  .40  Kb = .054  Adj. Slope =  315.0
1153          BA    .050
1154          LG    .260    .280   3.500    .640   6.000
1155          UC    .167    .134
1156          UA       0       5      16      30      65      77      84      90      94      97
1157          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 30

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1158          KK   C6364
1159          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 448 & 449
1160          HC       2
              * DDM   ***** Preserved *****

1161          KK   R6364
1162          KM   ROUTE FLOW FROM C116 AND SUB-BASINS 448 AND 449
1163          RS       4    FLOW      -1
1164          RC     .05    .035     .05    4375   .0333
1165          RX    1000    1027    1053    1080    1090    1117    1143    1170
1166          RY      15   13.33   11.67      10      10   11.67   13.33      15
              * DDM   ***** Updated *****

1167          KK     450
1168          KM   SUB-BASIN 450
1169          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1170          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1171          KM     L =  .85  Kb = .057  Adj. Slope =  210.5
```

```
1172          BA    .070
1173          LG    .340    .350   3.630    .570   4.000
1174          UC    .296    .383
1175          UA       0       3       5       8      12      20      43      75      90      96
1176          UA     100
              * DDM   ***** Updated *****

1177          KK     451
1178          KM   SUB-BASIN 451
1179          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1180          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1181          KM     L =  .57  Kb = .063  Adj. Slope =  175.0
1182          BA    .025
1183          LG    .340    .340   3.290    .750   3.000
1184          UC    .271    .453
1185          UA       0       3       5       8      12      20      43      75      90      96
1186          UA     100
              * DDM   ***** Preserved *****

1187          KK    RT66
1188          KM        RETRIEVE DIVERTED FLOW FROM SUB-BASIN 66
1189          DR   WSH66
              * DDM   ***** Updated *****

1190          KK     452
1191          KM   SUB-BASIN 452
1192          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1193          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1194          KM     L =  .43  Kb = .055  Adj. Slope =  315.0
1195          BA    .040
1196          LG    .260    .280   3.700    .550   9.000
1197          UC    .171    .166
1198          UA       0       5      16      30      65      77      84      90      94      97
1199          UA     100
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 31

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1200          KK   C6465
1201          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 443 AND 452
1202          HC       2
              * DDM   ***** Preserved *****

1203          KK   R6566
1204          KM        ROUTE FLOW FROM DIVERSIONS 65 AND 66 TO C116
1205          RS       2    FLOW      -1
1206          RC     .05    .035     .05    2435   .0282
1207          RX    1000    1045    1090    1150    1160    1220    1265    1310
1208          RY      25      23      20      10      10      20      23      25
              * DDM   ***** Preserved *****

1209          KK    C116
1210          KM   COMBINE HYDROGRAPHS FROM SUB-BASINS 450 & 451 AND R6364 & R6465
1211          HC       4
              * DDM   ***** Preserved *****

1212          KK  BASIN5
1213          KM        RESERVOIR WITHIN PARCEL 31      2-48 INCH PIPES AT OUTFALL
1214          KM        BASIN 5 FEET DEEP
1215          RS       1    ELEV       0
1216          SV       0     4.5     9.9
1217          SQ       0      69     190
1218          SE       0     2.5       5
              * DDM   ***** Preserved *****

1219          KK    R116
1220          KM   ROUTE FLOW FROM C116 TO C117
1221          RS       2    FLOW      -1
1222          RC     .05    .035     .05    1300   .0333
1223          RX    1000    1100    1200    1300    1320    1420    1520    1620
1224          RY      13      12      11      10      10      11      12      13
              * DDM   ***** Updated *****

1225          KK     453
1226          KM   SUB-BASIN 453
1227          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1228          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1229          KM     L =  .58  Kb = .058  Adj. Slope =  138.0
1230          BA    .060
1231          LG    .290    .300   3.290    .820  18.000
1232          UC    .275    .284
1233          UA       0       5      16      30      65      77      84      90      94      97
1234          UA     100
              * DDM   ***** Preserved *****

1235          KK    C117
1236          KM   COMBINE HYDROGRAPHS FROM SUB-BASIN 453 AND R116
1237          HC       2
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 32

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1238          KK    C118
1239          KM   COMBINE HYDROGRAPHS FROM R115 AND C117
1240          HC       2
              * DDM   ***** Preserved *****

1241          KK    R118
1242          KM        ROUTE FLOW FROM C118 TO  DIV7
1243          RS       1    FLOW      -1
1244          RC    .019    .019    .019    1500    .024
1245          RX    1000    1012    1016    1020    1035    1039    1043    1055
1246          RY      15      12      11      10      10      11      12      15
              * DDM   ***** Preserved *****

1247          KK    DIV7
1248          KM        OFFLINE BASIN AT NORTH MOUNTAIN RIDGE   FLOWS ENTER BASIN OVER
1249          KM        30' WEIR SET AT 5.3' ABOVE THE CHANNEL BOTTOM
              *      1
```

```
1250          DT  BASIN6
1251          DI       0     363     487     563     645     844
1252          DQ       0       3      47      83     125     244
              * DDM   ***** Preserved *****

1253          KK  RTDIV7
1254          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1255          DR  BASIN6
              * DDM   ***** Preserved *****

1256          KK  RFDIV7
1257          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1258          KM     3.6 ACRE-FEETx43560/36x3600=1.2cfs
1259          RS       1    STOR       0
1260          SV       0     .01     3.6
1261          SQ       0     1.2     1.2
              * DDM   ***** Preserved *****

1262          KK   CDIV7
1263          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1264          HC       2
              * DDM   ***** Updated *****

1265          KK     454
1266          KM   SUB-BASIN 454
1267          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1268          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1269          KM     L = 1.23  Kb = .051  Adj. Slope =  163.0
1270          BA    .180
1271          LG    .300    .310   3.780    .560  14.000
1272          UC    .379    .395
1273          UA       0       5      16      30      65      77      84      90      94      97
1274          UA     100
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                          PAGE 33

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1275          KK     385
1276          KM   SUB-BASIN 385
1277          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1278          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1279          KM     L =  .90  Kb = .051  Adj. Slope =  309.5
1280          BA    .197
1281          LG    .330    .320   4.800    .310   9.000
1282          UC    .233    .171
1283          UA       0       5      16      30      65      77      84      90      94      97
1284          UA     100
              * DDM   ***** Updated *****

1285          KK     411
1286          KM   SUB-BASIN 411
1287          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1288          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1289          KM     L = 1.38  Kb = .050  Adj. Slope =  315.0
1290          BA    .237
1291          LG    .340    .350   5.000    .270  10.000
1292          UC    .292    .277
1293          UA       0       3       5       8      12      20      43      75      90      96
1294          UA     100
              * DDM   ***** Preserved *****

1295          KK    411C
1296          KM   HYDROGRAPH COMBINATION OF SUB-BASINS 385 & 411
1297          HC       2
              * DDM   ***** Preserved *****

1298          KK    D411
1299          KM   DIVERT FLOW INTO OFFLINE DETENTION BASIN LOCATED WITHIN SUB-BASINS 385 & 411
1300          DT   BS411
1301          DI       0      25    5000
1302          DQ       0       0    4975
              * DDM   ***** Preserved *****

1303          KK   RT411
1304          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1305          DR   BS411
              * DDM   ***** Preserved *****

1306          KK   SR411
1307          KM   RETRIEVE FLOW TO BLEED OFF WITHIN 36 HOURS
1308          KM      50 ACRE-FEETx43560/36x3600 = 17cfs
1309          RS       1    STOR       0
1310          SV       0     .01      50
1311          SQ       0      17      17
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                          PAGE 34

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1312          KK    C411
1313          KM   HYDROGRAPH COMBINATION
1314          HC       2
              * DDM   ***** Preserved *****

1315          KK    R411
1316          KM   ATTEMPT TO SIMULATE PIPE FLOW ALONG THIS ROUTING FROM C411 TO C119
1317          RS       2    FLOW      -1
1318          RK    5300    .025    .016            CIRC       4
              * DDM   ***** Preserved *****

1319          KK    C119
1320          KM         COMBINE HYDROGRAPHS FROM SUB-BASIN 454 AND C119
              *      1       2
1321          HC       3
              * DDM   ***** Preserved *****

1322          KK    R454
1323          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1324          KM   ROUTE FLOW FROM C119 TO 415C
1325          RS       2    FLOW      -1
```

```
1326          RC    .045    .035    .045    2200    .009
1327          RX       0      .5       1      33      42      67    67.5      68
1328          RY       5       4       4       0       0       6       6       6
              * DDM   ***** Updated *****

1329          KK     415
1330          KM   SUB-BASIN 415
1331          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1332          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1333          KM     L = 1.10  Kb = .049  Adj. Slope =  155.0
1334          BA    .281
1335          LG    .300    .260   3.630    .710  15.000
1336          UC    .358    .264
1337          UA       0       5      16      30      65      77      84      90      94      97
1338          UA     100
              * DDM   ***** Preserved *****

1339          KK    415C
1340          KM   HYDROGRAPH COMBINATION OF SUB-BASIN 415, C411, AND 390C
1341          HC       3
              * DDM   ***** Preserved *****

1342          KK    R415
1343          KM   CHANNEL GEOMETRY OBTAINED FROM 2' CONTOUR MAPPING.
1344          KM   ROUTING OF FLOW FROM 415C TO 455C
1345          RS       2    FLOW      -1
1346          RC    .045     .03    .045    4100    .024
1347          RX       0      .5       1       8      16      23    23.5      24
1348          RY       8       8       8       0       0       8       8       8
              * DDM   ***** Updated *****
1                                        HEC-1 INPUT                                                    PAGE 35

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1349          KK     455
1350          KM   SUB-BASIN 455
1351          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1352          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .993
1353          KM     L = 1.70  Kb = .041  Adj. Slope =  146.0
1354          BA   1.111
1355          LG    .270    .280   3.700    .640  24.000
1356          UC    .421    .204
1357          UA       0       5      16      30      65      77      84      90      94      97
1358          UA     100
              * DDM   ***** Preserved *****

1359          KK    D455
1360          KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1361          KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1362          KM   FOR BASIN #: 30      34      43      47&58
1363          KM        MAXIMUM VOLUME DIVERSION = 74.1 acre-feet
              *      1
1364          DT   BS455    74.1
1365          DI       0   10000
1366          DQ       0   10000
              * DDM   ***** Preserved *****

1367          KK   RT455
1368          KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1369          DR   BS455
              * DDM   ***** Preserved *****

1370          KK   SR455
1371          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1372          KM    74.1 ACRE-FEETx43560/36x3600=25cfs
1373          RS       1    STOR       0
1374          SV       0     .01    74.1
1375          SQ       0      25      25
              * DDM   ***** Preserved *****

1376          KK    C455
1377          KM   HYDROGRAPH COMBINATION FOR SUB-BASIN 455 AND DIVERTED BASIN STORAGE OF 455
1378          HC       2
              * DDM   ***** Preserved *****

1379          KK    455C
1380          KM  HYDROGRAPH COMBINATION OF 420C, R415 AND C455
              *      1       2
1381          HC       3
              * DDM   ***** Preserved *****

1382          KK   SR440
1383          KM   SPOOK HILL FRS PLANS DATED 6/15/77
1384          KM   OUTLET PIPE=7'x7.5'RCBC; L=70 INLET INV.=1566; OUTLET INV.=1566
1385          KM   EMERGENCY SPILLWAY ELEV.=1582; PRINCIPLE SPILLWAY ELEV.=1577.5
1386          KM   STORAGE VOLUME BELOW PRINCIPLE SPILLWAY FOR SEDIMENT = 200 ACRE-FEET
1387          RS       1    STOR       0
1388          SV       0      10     100     300     500     680
1                                        HEC-1 INPUT                                                    PAGE 36

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1389          SQ       0     640     720     780     825     860
1390          SE      66    77.5      79    80.2    81.2      82
              * DDM   ***** Preserved *****

1391          KK   RR455
1392          KM   ROUTE FLOW FROM SPOOK HILL FRS TO SUB-BASIN 462
1393          RS       9    FLOW      -1
1394          RC    .035    .025    .035    9200    .002
1395          RX       0       1       2      28      58      84      85      86
1396          RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
              * DDM   ***** Updated *****

1397          KK     456
1398          KM   SUB-BASIN 456
1399          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1400          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1401          KM     L =  .94  Kb = .045  Adj. Slope =  315.0
1402          BA    .260
1403          LG    .300    .380   5.600    .200  12.000
1404          UC    .217    .139
```

```
1405          UA       0       5      16      30      65      77      84      90      94      97
1406          UA     100
              * DDM   ***** Preserved *****

1407          KK    DIV1
1408          KM        DIVERT FLOW INTO OFFLINE DETENTION BASIN
1409          KM        WEIR FOR BASIN SET AT 4 FEET ABOVE CHANNEL BOTTOM
              *      1
1410          DT  BASIN1
1411          DI       0    11.1   127.9   234.4   577.7   789.9  1025.5  1280.9  1555.7
1412          DQ       0       0       0    47.7     248   381.8   533.6   701.5     884
              * DDM   ***** Preserved *****

1413          KK    DIV2
1414          KM        SPLIT OUT FLOW FOR WASHES THAT FLOW TO THE SOUTH FROM
1415          KM        WASHES THAT DRAIN TO THE WES, SOUTHERN WASHES FED BY 30" & 24" PIPE
1416          DT    WA30
1417          DI       0    11.1   127.9   189.6   329.7     408   491.9   579.4   671.7
1418          DQ       0    11.1    38.4    48.2      63    69.5      76      81      86
              * DDM   ***** Preserved *****

1419          KK    R456
1420          KM        ROUTE FLOW FROM SUB-BASIN 51 TO C101
1421          RS       2    FLOW      -1
1422          RC     .05    .035     .05    3800    .044
1423          RX    1000    1010    1020    1036    1041    1057    1067    1077
1424          RY   14.88   14.44      14      10      10      14   14.44   14.88
              * DDM   ***** Updated *****

1425          KK     457
1426          KM   SUB-BASIN 457
1427          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1428          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1429          KM     L = 1.01  Kb = .045  Adj. Slope =  308.8
1430          BA    .190
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1431          LG    .270    .330   3.950    .460   6.000
1432          UC    .237    .195
1433          UA       0       5      16      30      65      77      84      90      94      97
1434          UA     100
              * DDM   ***** Preserved *****

1435          KK    C101
1436          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 50 AND 51
1437          HC       2
              * DDM   ***** Preserved *****

1438          KK    DIV3
1439          KM        RESERVOIR AT THE EDGE OF THE PROPERTY   FLOW FROM CHANNEL
1440          KM        DIVERTED  INTO OFFLINE BASIN A 25' WEIR SET AT ELEVATION 1808 FT
              *      1
1441          DT  BASIN2
1442          DI       0      36      70     110     180   313.5     402   500.9
1443          DQ       0       0       0       0       0    67.5     124   190.9
              * DDM   ***** Preserved *****

1444          KK  RTDIV3
1445          KM   RETRIEVE FLOW FROM DIVERSION INTO OFFLINE BASIN
1446          DR  BASIN2
              * DDM   ***** Preserved *****

1447          KK  RFDIV3
1448          KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1449          KM     5.0 ACRE-FEETx43560/36x3600=1.7cfs
1450          RS       1    STOR       0
1451          SV       0     .01       5
1452          SQ       0     1.7     1.7
              * DDM   ***** Preserved *****

1453          KK   CDIV3
1454          KM   HYDROGRAPH COMBINATION FOR OFFLINE BASIN BLEEDOFF
1455          HC       2
              * DDM   ***** Preserved *****

1456          KK    R101
1457          KM        ROUTE FLOW FROM SUBBASIN C101 TO C103
1458          RS       1    FLOW      -1
1459          RC     .05    .035     .05    1450     .05
1460          RX    1000    1010    1020    1036    1041    1057    1067    1077
1461          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1462          KK     458
1463          KM   SUB-BASIN 458
1464          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1465          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1466          KM     L =  .76  Kb = .048  Adj. Slope =  299.0
1467          BA    .190
1468          LG    .290    .330   5.800    .190   6.000
1469          UC    .204    .131
1470          UA       0       5      16      30      65      77      84      90      94      97
```



```
LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1471          UA     100
              * DDM   ***** Preserved *****

1472          KK    C103
1473          KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 55 AND C101
1474          HC       2
              * DDM   ***** Preserved *****

1475          KK    R103
1476          KM        ROUTE FLOW FROM SUBBASIN C103 TO C106
1477          RS       1    FLOW      -1
1478          RC     .05    .035     .05     900     .03
1479          RX    1000    1010    1020    1030    1050    1060    1070    1080
1480          RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
              * DDM   ***** Preserved *****
```

```
1481          KK    RT30
1482          KM        RETRIEVE DIVERTED FLOW FOR WASH BELOW 30 INCH PIPE
1483          DR    WA30
              * DDM   ***** Preserved *****

1484          KK     R30
1485          KM        ROUTE FLOW FROM WASH DIVERSION TO COMBINE C52
1486          RS       1    FLOW      -1
1487          RC     .05    .035     .05    1630     .05
1488          RX    1000    1010    1020    1036    1041    1057    1067    1077
1489          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****

1490          KK    RTB1
1491          KM        RETRIEVE DIVERTED FLOW FROM BASIN 1
              *      1        2
1492          DR  BASIN1
              * DDM   ***** Preserved *****

1493          KK      B1
1494          KM        ROUTE FLOW THROUGH OFFLINE DETENTION BASIN
1495          KM        FLOW OUTLETS THROUGH A 30 INCH OUTLET PIPE
              *      1        2
1496          RS       1    ELEV       0
1497          SV              .7     1.4     2.3     2.7     3.2
1498          SQ       0       5      16      28    32.5      37
1499          SE       0       1       2       3     3.5       4
              * DDM   ***** Preserved *****

1500          KK     RB1
1501          KM        ROUTE FLOW FROM BASIN DIVERSION TO COMBINE C52
1502          RS       2    FLOW      -1
1503          RC     .05    .035     .05    1720     .05
1504          RX    1000    1010    1020    1036    1041    1057    1067    1077
1505          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Preserved *****
1                                        HEC-1 INPUT                                                    PAGE 39

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10


1506          KK    CDIV
1507          KM        COMBINE FLOWS FROM WA30 AND BASIN 1
1508          HC       2      .12
              * DDM   ***** Updated *****

1509          KK     459
1510          KM   SUB-BASIN 459
1511          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1512          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF 1.000
1513          KM     L =  .35  Kb = .052  Adj. Slope =  251.6
1514          BA    .030
1515          LG    .220    .300   3.330    .710   8.000
1516          UC    .162    .157
1517          UA       0       5      16      30      65      77      84      90      94      97
1518          UA     100
              * DDM   ***** Preserved *****

1519          KK     C52
1520          KM        COMBINE FLOWS FROM SUB-BASIN 52 WA30 AND BASIN 1
1521          HC       2
              * DDM   ***** Preserved *****

1522          KK     R52
1523          KM        ROUTE FLOW FROM SUBBASIN 52 TO C102
1524          RS       2    FLOW      -1
1525          RC     .05    .035     .05    2000     .05
1526          RX    1000    1010    1020    1036    1041    1057    1067    1077
1527          RY      15    14.5      14      10      10      14    14.5      15
              * DDM   ***** Updated *****

1528          KK     460
1529          KM   SUB-BASIN 460
1530          KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1531          KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1532          KM     L =  .62  Kb = .058  Adj. Slope =  194.0
1533          BA    .140
1534          LG    .250    .260   3.740    .690  27.000
1535          UC    .242    .160
1536          UA       0       5      16      30      65      77      84      90      94      97
1537          UA     100
              * DDM   ***** Preserved *****

1538          KK    C102
1539          KM        COMBINE HYDROGRAPHS FROM SUB-BASINS 52 AND 53
1540          HC       2
              * DDM   ***** Preserved *****

1541          KK  BASIN3
1542          KM        RESERVOIR AT CLUBHOUSE LOCATION 1-30 INCH PIPE AT OUTFALL
1543          KM        BOTTOM OF BASIN AT 6 FEET ABOVE 1795 ELEVATION
1544          RS       1    ELEV       0
1545          SA       0       0       0       0     .34    1.59    1.81    1.96    2.13     2.3
              *      0       0       0       0    1.14    3.25    5.52    9.23
1546          SQ       0      22      45    47.4      48      51      57      62      67      73
1                                        HEC-1 INPUT                                                    PAGE 40

LINE          ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1547          SE    1795  1797.5    1800  1800.4  1800.5    1801    1802    1803    1804  1805.5
              * DDM   ***** Preserved *****

1548          KK      R3
1549          KM        ROUTE FLOW FROM C102 to C106
1550          RS       4    FLOW      -1
1551          RC     .05     .03     .05    2750   .0375
1552          RX    1000    1010    1020    1052    1086    1118    1128    1138
1553          RY    19.2    18.4      18      10      10      18    18.4    19.2
              * DDM   ***** Updated *****

1554          KK     461
1555          KM   SUB-BASIN 461
```

```
1556        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1557        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .999
1558        KM     L =  .83  Kb = .052  Adj. Slope =  181.0
1559        BA    .120
1560        LG    .270    .250   4.250    .450  21.000
1561        UC    .271    .250
1562        UA       0       5      16      30      65      77      84      90      94      97
1563        UA     100
            * DDM   ***** Preserved *****

1564        KK    C104
1565        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 54 AND R102
1566        HC       2
            * DDM   ***** Preserved *****

1567        KK    C106
1568        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN C103 AND C104
1569        HC       2
            * DDM   ***** Preserved *****

1570        KK    R106
1571        KM        ROUTE FLOW FROM C106 TO C49
1572        RS       2    FLOW      -1
1573        RC     .05    .035     .05    3950    .033
1574        RX    1000    1010    1020    1030    1050    1060    1070    1080
1575        RY   13.16   12.83    12.5      10      10    12.5   12.83   13.16
            * DDM   ***** Updated *****

1576        KK     462
1577        KM   SUB-BASIN 462
1578        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1579        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .998
1580        KM     L =  .97  Kb = .045  Adj. Slope =  297.7
1581        BA    .301
1582        LG    .300    .330   5.300    .240  12.000
1583        UC    .225    .137
1584        UA       0       5      16      30      65      77      84      90      94      97
1585        UA     100
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1586        KK     C56
1587        KM        COMBINE HYDROGRAPHS FROM SUB-BASIN 56 AND C106
            *      1       2
1588        HC       2
            * DDM   ***** Updated *****

1589        KK     480
1590        KM   SUB-BASIN 480
1591        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1592        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .996
1593        KM     L = 1.21  Kb = .042  Adj. Slope =  165.0
1594        BA    .731
1595        LG    .270    .270   3.580    .730  27.000
1596        UC    .325    .148
1597        UA       0       5      16      30      65      77      84      90      94      97
1598        UA     100
            * DDM   ***** Preserved *****

1599        KK    D480
1600        KM        DIVERT FLOW INTO ONLINE  DETENTION BASIN
1601        KM   DETENTION/RETENTION BASINS LOCATED WITHIN LAS SENDAS ADDENDUM III
1602        KM   FOR BASIN #: 18 & 26
1603        KM        MAXIMUM VOLUME DIVERSION = 16.5 acre-feet
            *      1
1604        DT   BS480    16.5
1605        DI       0   10000
1606        DQ       0   10000
            * DDM   ***** Preserved *****

1607        KK   RT480
1608        KM   RETRIEVE FLOW FROM DIVERSION INTO ONLINE BASIN
1609        DR   BS480
            * DDM   ***** Preserved *****

1610        KK   SR480
1611        KM   RETRIEVE FLOW INTO FICTICIOUS BASIN AND BLEED OFF WITHIN 36 HOURS.
1612        KM    16.5 ACRE-FEETx43560/36x3600=5.5cfs
1613        RS       1    STOR       0
1614        SV       0     .01    16.5
1615        SQ       0     5.6     5.6
            * DDM   ***** Preserved *****

1616        KK    C480
1617        KM   HYDROGRAPH COMBINATION FOR SPOOK HILL FRS
1618        HC       2
            * DDM   ***** Preserved *****

1619        KK    480C
1620        KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1621        HC       3    2.09
            * DDM   ***** Preserved *****
```



```
LINE        ID.......1.......2.......3.......4.......5.......6.......7.......8.......9......10

1622        KK   RR480
1623        KM   ROUTE FLOW FROM SUB-BASIN 480 TO SUB-BASIN 500
1624        RS       1    FLOW      -1
1625        RC    .025    .025    .025    6500     .05
1626        RX       0       1       2      28      58      84      85      86
1627        RY    13.5    13.5    13.5       0       0    13.5    13.5    13.5
            * DDM   ***** Updated *****

1628        KK     500
1629        KM   SUB-BASIN 500
1630        KM   24-HOUR SCS TYPE II RAINFALL WAS USED TO FIND TC & R FOR THIS BASIN
1631        KM   THIS BASIN USED RAINFALL REDUCTION FACTOR OF  .994
1632        KM     L = 2.77  Kb = .042  Adj. Slope =  286.8
```

```
1633          BA    .930
1634          LG    .350    .400   6.000    .170   9.000
1635          UC    .421    .333
1636          UA       0       3       5       8      12      20      43      75      90      96
1637          UA     100
              * DDM   ***** Preserved *****

1638          KK    500C
1639          KM   HYDROGRAPH COMBINATION FOR THE ENTIRE WATERSHED AT THE SALT RIVER
1640          HC       2    3.02
1641          ZZ
```

SCHEMATIC DIAGRAM OF STREAM NETWORK

```
INPUT
 LINE      (V) ROUTING          (--->) DIVERSION OR PUMP FLOW

  NO.      (.) CONNECTOR        (<---) RETURN OF DIVERTED OR PUMPED FLOW

   51          10
                V
                V
   61         R10
                V
                V
   67         R12
                .
                .
   73           .          20
                .           .
                .           .
   83         C20............
                .
                .
   86           .          40
                .           .
                .           .
   96           .           .          60
                .           .           .
                .           .           .
  106         60C......................
                V
                V
  109        SR60
                V
                V
  118         R60
                V
                V
  124        RR60
                .
                .
  130           .          80
                .           .
                .           .
  140         80C............
                V
                V
  143         R80
                .
                .
  149           .         100
                .           .
                .           .
  159        100C............
                V
                V
  162        R100
                .
                .
  168           .         120
                .           .
                .           .
  178        120C............
                V
                V
  181        R120
                .
                .
  187           .         140
                .           .
                .           .
  197           .           .         150
                .           .           V
                .           .           V
  207           .           .        R150
                .           .           V
                .           .           V
  213           .           .        R152
                .           .           .
                .           .           .
  219           .           .           .         160
                .           .           .           .
                .           .           .           .
  229           .           .           .           .         180
                .           .           .           .           .
                .           .           .           .           .
  239        180C...............................................
                .
                .
  242           .         383
                .           V
                .           V
  252           .        R383
                .           .
                .           .
  261           .           .         393
                .           .           .
                .           .           .
  271           .        393C............
                .           V
                .           V
  274           .        R393
                .           .
                .           .
  281           .           .         365
                .           .           .
                .           .           .
  291           .        365C............
                .           V
                .           V
  294           .        R365
                .           V
                .           V
  301           .        365R
```

```
310                 353
                      .
320            353C...........
                  V
                  V
323            R353
                  V
                  V
332            353R
                      .
339                 350
                      V
                      V
349                350R
                      .
                      .
359                      .        310
                         .          .
                         .          .
369            C310......................
                  V
                  V
372            R310
                  V
                  V
379            R312
                      .
388                 295
                      .
                      .
398            295C...........
                  V
                  V
401            295R
                      .
410                 210
                      V
                      V
420                R210
                      .
                      .
426                      .        240
                         .          .
                         .          .
436            240C......................
                  V
                  V
439           SR240
                      .
448                 220
                      .
                      .
458            220C...........
                  V
                  V
461           SR220
                      .
470                 190
                      V
                      V
480                R190
                      V
                      V
486                R192
                      .
                      .
492                      .        200
                         .          .
                         .          .
502            200C......................
                  V
                  V
505           SR200
                  V
                  V
512           200SR
                      .
                      .
522        C180...........
              V
              V
525       SR180
              V
              V
534        R180
                 .
                 .
541            .        260
                 .          .
                 .          .
551        260C...........
              V
              V
554        R260
                 .
                 .
561            .        280
                 .          .
                 .          .
571        280C...........
              V
              V
574        R280
                 .
                 .
```

```
581          .         300
             .           .
             .           .
591       C300............
             .
             .
597          .-------->   DIV30
594       D300
             .
             .
602          .           .<-------   DIV30
600          .       RTDIV
             .           V
             .           V
603          .       SRDIV
             .           .
             .           .
610       300C............
             .
             .
613          .         305
             .           .
             .           .
626          .           .-------->    305D
623          .       D305
             .           .
             .           .
631          .           .           .<-------    305D
629          .           .       RT305
             .           .           V
             .           .           V
632          .           .       SR305
             .           .           .
             .           .           .
639       305C........................
             V
             V
642       R305
             V
             V
649      RR305
             .
             .
656          .         320
             .           .
             .           .
671          .           .-------->   BS320
666          .       D320
             .           .
             .           .
676          .           .           .<-------   BS320
674          .           .       RT320
             .           .           V
             .           .           V
677          .           .       SR320
             .           .           .
             .           .           .
683       C320........................
             .
             .
686          .         340
             .           .
             .           .
701          .           .-------->   BS340
696          .       D340
             .           .
             .           .
706          .           .           .<-------   BS340
704          .           .       RT340
             .           .           V
             .           .           V
707          .           .       SR340
             .           .           .
             .           .           .
713       C340........................
             .
             .
716          .         355
             .           V
             .           V
726          .       R355
             .           .
             .           .
733          .           .         360
             .           .           .
             .           .           .
747          .           .           .-------->   BS360
743          .           .       D360
             .           .           .
             .           .           .
752          .           .           .           .<-------   BS360
750          .           .           .       RT360
             .           .           .           V
             .           .           .           V
753          .           .           .       SR360
             .           .           .           .
             .           .           .           .
759       360C....................................
             .
             .
762          .         380
             .           .
             .           .
776          .           .-------->   BS380
772          .       D380
             .           .
             .           .
781          .           .           .<-------   BS380
779          .           .       RT380
             .           .           V
             .           .           V
782          .           .       SR380
             .           .           .
```

```
788        380C.......................
                .
                .
791             .         400
                .           .
                .           .
805             .           .-------->   BS400
801             .        D400
                .           .
                .           .
810             .           .           .<-------   BS400
808             .           .       RT400
                .           .           V
                .           .           V
811             .           .       SR400
                .           .           .
                .           .           .
817             .        C400............
                .           .
                .           .
820        400C............
                .
                .
823             .         420
                .           .
                .           .
837             .           .-------->   BS420
833             .        D420
                .           .
                .           .
842             .           .           .<-------   BS420
840             .           .       RT420
                .           .           V
                .           .           V
843             .           .       SR420
                .           .           .
                .           .           .
849        420C.......................
                .
                .
852             .         370
                .           .
                .           .
862             .           .         395
                .           .           .
                .           .           .
872             .        395C............
                .           .
                .           .
878             .           .-------->   BS395
875             .        D395
                .           .
                .           .
883             .           .           .<-------   BS395
881             .           .       RT395
                .           .           V
                .           .           V
884             .           .       SR395
                .           .           .
                .           .           .
890             .        C395............
                .           V
                .           V
893             .        R395
                .           .
                .           .
900             .           .         390
                .           .           .
                .           .           .
914             .           .           .-------->   BS390
910             .           .        D390
                .           .           .
                .           .           .
919             .           .           .           .<-------   BS390
917             .           .           .       RT390
                .           .           .           V
                .           .           .           V
920             .           .           .       SR390
                .           .           .           .
                .           .           .           .
926             .        390C.......................
                .           V
                .           V
929             .       RR390
                .           .
                .           .
935             .           .         440
                .           .           V
                .           .           V
945             .           .         R70
                .           .           .
                .           .           .
951             .           .           .         441
                .           .           .           .
                .           .           .           .
961             .           .        C108............
                .           .           .
                .           .           .
966             .           .           .-------->   SPLIT
964             .           .        DIV4
                .           .           V
                .           .           V
969             .           .        R108
                .           .           .
                .           .           .
975             .           .           .         442
                .           .           .           .
                .           .           .           .
985             .           .         C67............
                .           .           .
                .           .           .
991             .           .           .-------->  BASIN4
```

```
988                 DIV6
                      .
996                   .<-------  BASIN4
994                 RTDIV6
                      V
                      V
997                 RFDIV6
                      .
                      .
1003            CDIV6............
                      .
1006                443
                      .
                      .
1019                  .------->  WSH66
1016              DIV66
                      V
                      V
1022              R113
                      .
                      .
1028            C114............
                      .
1031                444
                      V
                      V
1041              R58
                      .
                      .
1047                  .        445
                      .          .
                      .          .
1057              C107............
                      V
                      V
1060              R107
                      .
                      .
1068                  .          .<-------   SPLIT
1066                  .       RTB2
                      .          V
                      .          V
1069                  .     RSPLIT
                      .          .
                      .          .
1075                  .          .         446
                      .          .           .
                      .          .           .
1085              C109........................
                      .
                      .
1091                  .------->  WSH404
1088              DIV5
                      V
                      V
1094              R109
                      .
                      .
1100                  .        447
                      .          .
                      .          .
1112                  .          .           .<-------  WSH404
1110                  .          .      RT404
                      .          .          V
                      .          .          V
1113                  .          .       R404
                      .          .           .
                      .          .           .
1119              C110........................
                      V
                      V
1122              R110
                      .
                      .
1128            C115............
                    V
                    V
1131            R115
                      .
                      .
1138                448
                      .
                      .
1148                  .        449
                      .          .
                      .          .
1158              C6364...........
                      V
                      V
1161              R6364
                      .
                      .
1167                  .        450
                      .          .
                      .          .
1177                  .          .         451
                      .          .           .
                      .          .           .
1189                  .          .           .          .<-------   WSH66
1187                  .          .           .       RT66
                      .          .           .          .
                      .          .           .          .
1190                  .          .           .          .         452
                      .          .           .          .           .
                      .          .           .          .           .
1200                  .          .           .       C6465...........
                      .          .           .          V
                      .          .           .          V
1203                  .          .           .       R6566
                      .          .           .          .
```

```
1209                C116.................................
                       V
                       V
1212            BASIN5
                       V
                       V
1219                R116
                       .
                       .
1225                   .          453
                       .            .
                       .            .
1235                C117............
                       .
                       .
1238         C118............
                V
                V
1241         R118
                .
                .
1250            .-------> BASIN6
1247         DIV7
                .
                .
1255            .<-------  BASIN6
1253            RTDIV7
                       V
                       V
1256            RFDIV7
                       .
                       .
1262       CDIV7............
                .
                .
1265                454
                       .
                       .
1275                   .          385
                       .            .
                       .            .
1285                   .            .          411
                       .            .            .
                       .            .            .
1295                   .        411C............
                       .            .
                       .            .
1300                   .            .-------> BS411
1298                   .        D411
                       .            .
                       .            .
1305                   .            .          .<-------  BS411
1303                   .            .      RT411
                       .            .          V
                       .            .          V
1306                   .            .      SR411
                       .            .            .
                       .            .            .
1312                   .        C411............
                       .            .
                       .            .
1315                   .        R411
                       .            .
                       .            .
1319         C119........................
                V
                V
1322         R454
                .
                .
1329                415
                       .
                       .
1339       415C........................
              V
              V
1342       R415
              .
              .
1349              455
                     .
                     .
1364              .-------> BS455
1359         D455
                     .
                     .
1369                 .<-------  BS455
1367                 RT455
                       V
                       V
1370                 SR455
                       .
                       .
1376         C455............
                     .
                     .
1379     455C........................
            V
            V
1382    SR440
            V
            V
1391    RR455
            .
            .
1397          456
              .
              .
1410          .-------> BASIN1
1407       DIV1
              .
              .
```

```
1416          .-------->    WA30
1413          DIV2
              V
              V
1419          R456
              .
              .
1425          .        457
              .          .
              .          .
1435          C101............
              .
              .
1441          .-------> BASIN2
1438          DIV3
              .
              .
1446          .          .<-------  BASIN2
1444          .      RTDIV3
              .          V
              .          V
1447          .      RFDIV3
              .          .
              .          .
1453          CDIV3...........
              V
              V
1456          R101
              .
              .
1462          .        458
              .          .
              .          .
1472          C103............
              V
              V
1475          R103
              .
              .
1483          .          .<-------    WA30
1481          .       RT30
              .          V
              .          V
1484          .        R30
              .          .
              .          .
1492          .          .          .<-------  BASIN1
1490          .          .       RTB1
              .          .          V
              .          .          V
1493          .          .         B1
              .          .          V
              .          .          V
1500          .          .        RB1
              .          .          .
              .          .          .
1506          .       CDIV............
              .          .
              .          .
1509          .          .        459
              .          .          .
              .          .          .
1519          .        C52............
              .          V
              .          V
1522          .        R52
              .          .
              .          .
1528          .          .        460
              .          .          .
              .          .          .
1538          .       C102............
              .          V
              .          V
1541          .      BASIN3
              .          V
              .          V
1548          .         R3
              .          .
              .          .
1554          .          .        461
              .          .          .
              .          .          .
1564          .       C104............
              .          .
              .          .
1567          C106............
              V
              V
1570          R106
              .
              .
1576          .        462
              .          .
              .          .
1586          C56............
              .
              .
1589          .        480
              .          .
              .          .
1604          .          .------->   BS480
1599          .       D480
              .          .
              .          .
1609          .          .          .<-------   BS480
1607          .          .      RT480
              .          .          V
              .          .          V
1610          .          .      SR480
              .          .          .
              .          .          .
1616          .       C480............
```

```
                .          .         .
                .          .         .
1619         480C.......................
                V
                V
1622        RR480
                .
                .
1628            .         500
                .           .
                .           .
1638         500C............
```

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

	OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR	BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
+	HYDROGRAPH AT	10	951.	12.27	114.	31.	15.	.70		
+	ROUTED TO	R10	882.	12.40	114.	31.	15.	.70		
+	ROUTED TO	R12	833.	12.60	114.	31.	15.	.70		
+	HYDROGRAPH AT	20	959.	12.43	128.	32.	16.	1.12		
+	2 COMBINED AT	C20	1663.	12.53	240.	63.	30.	1.82		
+	HYDROGRAPH AT	40	2582.	12.30	252.	66.	32.	2.23		
+	HYDROGRAPH AT	60	1553.	12.40	228.	61.	29.	1.75		
+	3 COMBINED AT	60C	5274.	12.37	708.	188.	90.	5.80		
+	ROUTED TO	SR60	92.	14.40	92.	89.	70.	5.80		
+	ROUTED TO	R60	92.	14.40	92.	89.	70.	5.80		
+	ROUTED TO	RR60	92.	14.53	92.	89.	70.	5.80		
+	HYDROGRAPH AT	80	1868.	12.27	179.	46.	22.	1.48		
+	2 COMBINED AT	80C	1942.	12.27	266.	134.	92.	1.48		
+	ROUTED TO	R80	1919.	12.27	266.	134.	92.	1.48		
+	HYDROGRAPH AT	100	404.	12.20	58.	15.	7.	.48		
+	2 COMBINED AT	100C	2300.	12.27	321.	148.	99.	1.96		
+	ROUTED TO	R100	2292.	12.30	321.	148.	99.	1.96		
+	HYDROGRAPH AT	120	3232.	12.27	326.	88.	42.	2.20		
+	2 COMBINED AT	120C	5469.	12.27	636.	229.	141.	4.16		
+	ROUTED TO	R120	5397.	12.30	636.	229.	140.	4.16		
+	HYDROGRAPH AT	140	632.	12.13	64.	17.	8.	.60		
+	HYDROGRAPH AT	150	572.	12.17	49.	13.	6.	.41		
+	ROUTED TO	R150	546.	12.23	49.	13.	6.	.41		
+	ROUTED TO	R152	504.	12.37	49.	13.	6.	.41		
+	HYDROGRAPH AT	160	217.	12.40	35.	9.	4.	.37		
+	HYDROGRAPH AT	180	785.	12.37	90.	23.	11.	1.00		
+	5 COMBINED AT	180C	7163.	12.30	860.	285.	168.	6.54		
+	HYDROGRAPH AT	383	650.	12.17	60.	17.	8.	.42		
+	ROUTED TO	R383	647.	12.17	60.	17.	8.	.42		
+	HYDROGRAPH AT	393	44.	12.13	4.	1.	0.	.04		
+	2 COMBINED AT	393C	687.	12.17	64.	18.	9.	.46		
+	ROUTED TO	R393	681.	12.20	64.	18.	9.	.46		
+	HYDROGRAPH AT	365	380.	12.27	45.	12.	6.	.41		
+	2 COMBINED AT	365C	1028.	12.20	108.	29.	14.	.88		
+	ROUTED TO	R365	1018.	12.23	108.	29.	14.	.88		

+	ROUTED TO	365R	970.	12.33	108.	29.	14.	.88
+	HYDROGRAPH AT	353	401.	12.30	49.	12.	6.	.50
+	2 COMBINED AT	353C	1349.	12.33	155.	41.	20.	1.38
+	ROUTED TO	R353	1308.	12.40	155.	41.	20.	1.38
+	ROUTED TO	353R	1291.	12.43	155.	41.	20.	1.38
+	HYDROGRAPH AT	350	1151.	12.20	102.	27.	13.	.94
+	ROUTED TO	350R	992.	12.47	102.	27.	13.	.94
+	HYDROGRAPH AT	310	376.	12.33	49.	12.	6.	.56
+	3 COMBINED AT	C310	2548.	12.43	301.	79.	38.	2.87
+	ROUTED TO	R310	2407.	12.63	301.	79.	38.	2.87
+	ROUTED TO	R312	2333.	12.73	301.	79.	38.	2.87
+	HYDROGRAPH AT	295	364.	12.30	40.	10.	5.	.38
+	2 COMBINED AT	295C	2456.	12.73	339.	89.	43.	3.25
+	ROUTED TO	295R	2423.	12.80	339.	89.	43.	3.25
+	HYDROGRAPH AT	210	870.	12.20	80.	21.	10.	.58
+	ROUTED TO	R210	815.	12.27	80.	21.	10.	.58
+	HYDROGRAPH AT	240	1405.	12.30	155.	39.	19.	1.40
+	3 COMBINED AT	240C	3025.	12.73	565.	147.	71.	5.23
+	ROUTED TO	SR240	1562.	13.13	498.	130.	62.	5.23
+	HYDROGRAPH AT	220	1126.	12.17	98.	25.	12.	.73
+	2 COMBINED AT	220C	1582.	13.10	587.	154.	74.	5.95
+	ROUTED TO	SR220	1517.	13.27	576.	151.	73.	5.95
+	HYDROGRAPH AT	190	1403.	12.17	116.	31.	15.	.92
+	ROUTED TO	R190	1348.	12.23	116.	31.	15.	.92
+	ROUTED TO	R192	1267.	12.30	116.	31.	15.	.92
+	HYDROGRAPH AT	200	806.	12.17	69.	19.	9.	.54
+	3 COMBINED AT	200C	2561.	12.30	748.	197.	95.	7.41
+	ROUTED TO	SR200	2435.	12.37	743.	194.	93.	7.41
+	ROUTED TO	200SR	1687.	12.63	623.	164.	79.	7.41
+	2 COMBINED AT	C180	7163.	12.30	1475.	450.	247.	13.94
+	ROUTED TO	SR180	142.	19.17	142.	142.	114.	13.94
+	ROUTED TO	R180	142.	19.23	142.	142.	114.	13.94
+	HYDROGRAPH AT	260	418.	12.10	43.	12.	6.	.27
+	2 COMBINED AT	260C	527.	12.10	179.	153.	122.	.27
+	ROUTED TO	R260	515.	12.20	178.	153.	121.	.27
+	HYDROGRAPH AT	280	478.	12.10	42.	12.	6.	.30
+	2 COMBINED AT	280C	945.	12.13	218.	163.	126.	.57
+	ROUTED TO	R280	909.	12.20	217.	163.	126.	.57

+	HYDROGRAPH AT	300	407.	12.10	34.	9.	5.	.30
+	2 COMBINED AT	C300	1243.	12.17	249.	171.	130.	.87
	DIVERSION TO	DIV30	943.	12.17	68.	17.	8.	.87
+	HYDROGRAPH AT	D300	300.	11.87	181.	154.	122.	.87
+	HYDROGRAPH AT	RTDIV	943.	12.17	68.	17.	8.	.87
+	ROUTED TO	SRDIV	141.	12.60	62.	17.	8.	.87
+	2 COMBINED AT	300C	441.	12.60	242.	171.	130.	.87
+	HYDROGRAPH AT	305	409.	12.27	42.	11.	6.	.38
+	DIVERSION TO	305D	409.	12.27	42.	11.	6.	.38
+	HYDROGRAPH AT	D305	0.	.00	0.	0.	0.	.38
+	HYDROGRAPH AT	RT305	409.	12.27	42.	11.	6.	.38
+	ROUTED TO	SR305	62.	12.93	36.	11.	6.	.38
+	3 COMBINED AT	305C	498.	12.67	276.	181.	135.	1.25
+	ROUTED TO	R305	497.	12.73	275.	181.	135.	1.25
+	ROUTED TO	RR305	494.	12.77	275.	181.	134.	1.25
+	HYDROGRAPH AT	320	1040.	12.17	111.	31.	15.	.87
+	DIVERSION TO	BS320	409.	11.93	21.	6.	3.	.87
+	HYDROGRAPH AT	D320	1040.	12.17	96.	25.	12.	.87
	HYDROGRAPH AT	RT320	409.	11.93	21.	6.	3.	.87
+	ROUTED TO	SR320	4.	4.17	4.	4.	3.	.87
+	3 COMBINED AT	C320	1351.	12.17	373.	210.	149.	2.12
+	HYDROGRAPH AT	340	1471.	12.17	186.	55.	26.	1.45
+	DIVERSION TO	BS340	1471.	12.17	104.	28.	14.	1.45
+	HYDROGRAPH AT	D340	1199.	12.33	97.	27.	13.	1.45
+	HYDROGRAPH AT	RT340	1471.	12.17	104.	28.	14.	1.45
+	ROUTED TO	SR340	19.	9.00	19.	19.	14.	1.45
+	3 COMBINED AT	C340	2305.	12.33	484.	254.	175.	3.56
+	HYDROGRAPH AT	355	235.	12.10	22.	6.	3.	.17
+	ROUTED TO	R355	201.	12.37	22.	6.	3.	.17
+	HYDROGRAPH AT	360	504.	12.23	84.	25.	12.	.67
+	DIVERSION TO	BS360	504.	12.23	53.	14.	7.	.67
+	HYDROGRAPH AT	D360	306.	12.63	38.	11.	5.	.67
+	HYDROGRAPH AT	RT360	504.	12.23	53.	14.	7.	.67
+	ROUTED TO	SR360	10.	9.83	10.	10.	7.	.67
	4 COMBINED AT	360C	2496.	12.33	547.	278.	189.	4.41
+	HYDROGRAPH AT	380	666.	12.27	98.	26.	13.	.97
+	DIVERSION TO	BS380	666.	12.27	56.	14.	7.	.97
+	HYDROGRAPH AT	D380	472.	12.57	46.	12.	6.	.97

+	HYDROGRAPH AT	RT380	666.	12.27	56.	14.	7.	.97
+	ROUTED TO	SR380	10.	11.33	10.	10.	7.	.97
	3 COMBINED AT	380C	2499.	12.33	598.	299.	201.	5.38
+	HYDROGRAPH AT	400	351.	12.23	47.	13.	6.	.62
+	DIVERSION TO	BS400	262.	12.10	10.	3.	1.	.62
+	HYDROGRAPH AT	D400	351.	12.23	39.	10.	5.	.62
+	HYDROGRAPH AT	RT400	262.	12.10	10.	3.	1.	.62
+	ROUTED TO	SR400	2.	8.70	2.	2.	1.	.62
+	2 COMBINED AT	C400	353.	12.23	41.	12.	6.	.62
+	2 COMBINED AT	400C	2813.	12.33	636.	310.	207.	6.00
+	HYDROGRAPH AT	420	752.	12.20	92.	26.	12.	.85
+	DIVERSION TO	BS420	269.	11.97	15.	4.	2.	.85
+	HYDROGRAPH AT	D420	752.	12.20	83.	22.	10.	.85
+	HYDROGRAPH AT	RT420	269.	11.97	15.	4.	2.	.85
+	ROUTED TO	SR420	13.	11.03	12.	4.	2.	.85
+	3 COMBINED AT	420C	3434.	12.33	722.	333.	219.	6.85
+	HYDROGRAPH AT	370	406.	12.07	34.	10.	5.	.26
+	HYDROGRAPH AT	395	204.	12.10	21.	6.	3.	.16
	2 COMBINED AT	395C	599.	12.07	55.	15.	7.	.42
+	DIVERSION TO	BS395	589.	12.07	47.	12.	6.	.42
+	HYDROGRAPH AT	D395	10.	11.20	7.	4.	2.	.42
+	HYDROGRAPH AT	RT395	589.	12.07	47.	12.	6.	.42
+	ROUTED TO	SR395	17.	11.63	17.	12.	6.	.42
+	2 COMBINED AT	C395	27.	11.63	23.	15.	7.	.42
+	ROUTED TO	R395	27.	11.83	23.	15.	7.	.42
+	HYDROGRAPH AT	390	463.	12.03	33.	10.	5.	.24
+	DIVERSION TO	BS390	95.	11.73	6.	2.	1.	.24
+	HYDROGRAPH AT	D390	463.	12.03	30.	8.	4.	.24
+	HYDROGRAPH AT	RT390	95.	11.73	6.	2.	1.	.24
+	ROUTED TO	SR390	1.	.90	1.	1.	1.	.24
+	3 COMBINED AT	390C	485.	12.03	54.	24.	12.	.66
+	ROUTED TO	RR390	477.	12.10	54.	24.	12.	.66
+	HYDROGRAPH AT	440	180.	12.03	12.	3.	2.	.08
+	ROUTED TO	R70	176.	12.07	12.	3.	2.	.08
	HYDROGRAPH AT	441	16.	12.03	1.	0.	0.	.01
+	2 COMBINED AT	C108	191.	12.07	14.	4.	2.	.09
+	DIVERSION TO	SPLIT	96.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT	DIV4	96.	12.07	7.	2.	1.	.09

+	ROUTED TO R108	88.	12.13	7.	2.	1.	.09
+	HYDROGRAPH AT 442	102.	12.10	9.	2.	1.	.10
	2 COMBINED AT C67	187.	12.10	15.	4.	2.	.19
+	DIVERSION TO BASIN4	115.	12.10	6.	1.	1.	.19
+	HYDROGRAPH AT DIV6	72.	12.10	10.	3.	1.	.19
+	HYDROGRAPH AT RTDIV6	115.	12.10	6.	1.	1.	.19
+	ROUTED TO RFDIV6	1.	11.90	1.	1.	1.	.19
+	2 COMBINED AT CDIV6	74.	12.10	10.	4.	2.	.19
+	HYDROGRAPH AT 443	148.	12.07	14.	4.	2.	.08
+	DIVERSION TO WSH66	78.	11.90	12.	3.	2.	.08
+	HYDROGRAPH AT DIV66	70.	12.07	3.	1.	0.	.08
+	ROUTED TO R113	69.	12.07	3.	1.	0.	.08
+	2 COMBINED AT C114	140.	12.07	13.	4.	2.	.27
+	HYDROGRAPH AT 444	82.	12.03	5.	1.	1.	.04
+	ROUTED TO R58	75.	12.07	5.	1.	1.	.04
+	HYDROGRAPH AT 445	296.	12.03	18.	5.	2.	.19
+	2 COMBINED AT C107	365.	12.03	22.	6.	3.	.23
+	ROUTED TO R107	365.	12.07	22.	6.	3.	.23
	HYDROGRAPH AT RTB2	96.	12.07	7.	2.	1.	.09
+	ROUTED TO RSPLIT	95.	12.07	7.	2.	1.	.09
+	HYDROGRAPH AT 446	65.	12.03	6.	2.	1.	.04
+	3 COMBINED AT C109	520.	12.07	35.	9.	4.	.27
+	DIVERSION TO WSH404	35.	11.73	8.	2.	1.	.27
+	HYDROGRAPH AT DIV5	485.	12.07	27.	7.	3.	.27
+	ROUTED TO R109	469.	12.10	27.	7.	3.	.27
+	HYDROGRAPH AT 447	138.	12.07	12.	4.	2.	.09
+	HYDROGRAPH AT RT404	35.	11.73	8.	2.	1.	.27
+	ROUTED TO R404	35.	11.90	8.	2.	1.	.27
+	3 COMBINED AT C110	635.	12.07	46.	13.	6.	.36
+	ROUTED TO R110	632.	12.10	46.	13.	6.	.36
+	2 COMBINED AT C115	764.	12.10	59.	17.	8.	.63
+	ROUTED TO R115	767.	12.10	59.	17.	8.	.63
+	HYDROGRAPH AT 448	88.	12.03	6.	2.	1.	.05
+	HYDROGRAPH AT 449	80.	12.03	5.	1.	1.	.05
	2 COMBINED AT C6364	166.	12.03	11.	3.	1.	.09
+	ROUTED TO R6364	137.	12.17	11.	3.	1.	.09
+	HYDROGRAPH AT 450	61.	12.20	6.	2.	1.	.07
+	HYDROGRAPH AT 451	18.	12.17	2.	1.	0.	.03

+ HYDROGRAPH AT	RT66	78.	11.90	12.	3.	2.	.08
+ HYDROGRAPH AT	452	62.	12.03	4.	1.	1.	.04
+ 2 COMBINED AT	C6465	140.	12.03	16.	4.	2.	.04
+ ROUTED TO	R6566	135.	12.10	16.	4.	2.	.04
+ 4 COMBINED AT	C116	341.	12.17	35.	9.	4.	.23
+ ROUTED TO	BASIN5	152.	12.47	35.	9.	4.	.23
+ ROUTED TO	R116	150.	12.53	35.	9.	4.	.23
+ HYDROGRAPH AT	453	62.	12.10	7.	2.	1.	.06
+ 2 COMBINED AT	C117	169.	12.50	41.	11.	5.	.29
+ 2 COMBINED AT	C118	852.	12.10	99.	28.	14.	.92
+ ROUTED TO	R118	842.	12.10	99.	28.	14.	.92
+ DIVERSION TO	BASIN6	243.	12.10	10.	2.	1.	.92
+ HYDROGRAPH AT	DIV7	599.	12.10	89.	25.	13.	.92
+ HYDROGRAPH AT	RTDIV7	243.	12.10	10.	2.	1.	.92
+ ROUTED TO	RFDIV7	1.	11.97	1.	1.	1.	.92
+ 2 COMBINED AT	CDIV7	600.	12.10	90.	26.	13.	.92
+ HYDROGRAPH AT	454	157.	12.17	21.	6.	3.	.18
+ HYDROGRAPH AT	385	314.	12.07	24.	7.	3.	.20
+ HYDROGRAPH AT	411	304.	12.17	30.	8.	4.	.24
+ 2 COMBINED AT	411C	566.	12.10	53.	15.	7.	.43
+ DIVERSION TO	BS411	541.	12.10	43.	11.	5.	.43
+ HYDROGRAPH AT	D411	25.	11.63	10.	4.	2.	.43
+ HYDROGRAPH AT	RT411	541.	12.10	43.	11.	5.	.43
+ ROUTED TO	SR411	17.	11.70	17.	11.	5.	.43
+ 2 COMBINED AT	C411	42.	11.70	26.	14.	7.	.43
+ ROUTED TO	R411	42.	11.80	26.	14.	7.	.43
+ 3 COMBINED AT	C119	788.	12.13	134.	46.	23.	1.53
+ ROUTED TO	R454	763.	12.20	134.	46.	23.	1.53
+ HYDROGRAPH AT	415	294.	12.13	31.	9.	4.	.28
+ 3 COMBINED AT	415C	1445.	12.13	215.	77.	39.	2.48
+ ROUTED TO	R415	1402.	12.20	215.	77.	39.	2.48
+ HYDROGRAPH AT	455	1346.	12.13	142.	43.	21.	1.11
+ DIVERSION TO	BS455	1346.	12.13	137.	37.	18.	1.11
+ HYDROGRAPH AT	D455	55.	12.77	16.	6.	3.	1.11
+ HYDROGRAPH AT	RT455	1346.	12.13	137.	37.	18.	1.11
+ ROUTED TO	SR455	25.	10.47	25.	25.	18.	1.11
+ 2 COMBINED AT	C455	80.	12.77	41.	31.	21.	1.11
+ 3 COMBINED AT	455C	4485.	12.33	960.	432.	275.	10.43

+	ROUTED TO	SR440	756.	13.67	742.	432.	275.	10.43
+	ROUTED TO	RR455	756.	13.97	742.	432.	273.	10.43
	HYDROGRAPH AT	456	468.	12.07	35.	10.	5.	.26
+	DIVERSION TO	BASIN1	184.	12.07	8.	2.	1.	.26
+	HYDROGRAPH AT	DIV1	284.	12.07	27.	8.	4.	.26
+	DIVERSION TO	WA30	58.	12.07	10.	3.	2.	.26
+	HYDROGRAPH AT	DIV2	226.	12.07	18.	4.	2.	.26
+	ROUTED TO	R456	213.	12.13	18.	4.	2.	.26
+	HYDROGRAPH AT	457	264.	12.07	20.	5.	3.	.19
+	2 COMBINED AT	C101	462.	12.10	38.	10.	5.	.45
+	DIVERSION TO	BASIN2	165.	12.10	7.	2.	1.	.45
+	HYDROGRAPH AT	DIV3	297.	12.10	30.	8.	4.	.45
+	HYDROGRAPH AT	RTDIV3	165.	12.10	7.	2.	1.	.45
+	ROUTED TO	RFDIV3	2.	11.90	2.	2.	1.	.45
+	2 COMBINED AT	CDIV3	299.	12.10	32.	9.	5.	.45
+	ROUTED TO	R101	297.	12.10	32.	9.	5.	.45
+	HYDROGRAPH AT	458	356.	12.03	25.	7.	3.	.19
+	2 COMBINED AT	C103	635.	12.07	56.	16.	8.	.64
	ROUTED TO	R103	630.	12.07	56.	16.	8.	.64
+	HYDROGRAPH AT	RT30	58.	12.07	10.	3.	2.	.26
+	ROUTED TO	R30	57.	12.10	10.	3.	2.	.26
+	HYDROGRAPH AT	RTB1	184.	12.07	8.	2.	1.	.26
+	ROUTED TO	B1	37.	12.23	8.	2.	1.	.26
+	ROUTED TO	RB1	37.	12.30	8.	2.	1.	.26
+	2 COMBINED AT	CDIV	86.	12.20	17.	5.	3.	.12
+	HYDROGRAPH AT	459	44.	12.03	3.	1.	0.	.03
+	2 COMBINED AT	C52	113.	12.10	20.	6.	3.	.15
+	ROUTED TO	R52	112.	12.17	20.	6.	3.	.15
+	HYDROGRAPH AT	460	214.	12.07	19.	6.	3.	.14
+	2 COMBINED AT	C102	313.	12.07	39.	12.	6.	.29
+	ROUTED TO	BASIN3	71.	12.63	39.	12.	6.	.29
+	ROUTED TO	R3	71.	12.77	39.	12.	6.	.29
+	HYDROGRAPH AT	461	161.	12.10	17.	5.	2.	.12
+	2 COMBINED AT	C104	213.	12.10	55.	17.	8.	.41
	2 COMBINED AT	C106	835.	12.07	110.	32.	16.	1.05
+	ROUTED TO	R106	797.	12.13	110.	32.	16.	1.05
+	HYDROGRAPH AT	462	538.	12.07	40.	11.	5.	.30
+	2 COMBINED AT	C56	1254.	12.10	149.	42.	21.	1.35

```
          HYDROGRAPH AT
+                          480      1050.   12.10          96.         29.         14.        .73

          DIVERSION TO
+                         BS480       455.   11.90          27.          8.          4.        .73

          HYDROGRAPH AT
                          D480      1050.   12.10          78.         21.         10.        .73

          HYDROGRAPH AT
+                         RT480       455.   11.90          27.          8.          4.        .73

          ROUTED TO
+                         SR480         6.    3.90           6.          6.          4.        .73

          2 COMBINED AT
+                         C480      1056.   12.10          84.         27.         14.        .73

          3 COMBINED AT
+                         480C      2503.   12.10         923.        506.        312.       2.09

          ROUTED TO
+                         RR480     2340.   12.13         921.        506.        312.       2.09

          HYDROGRAPH AT
+                          500      1073.   12.27         122.         33.         16.        .93

          2 COMBINED AT
+                         500C      3229.   12.17        1032.        534.        326.       3.02
1
                                   SUMMARY OF KINEMATIC WAVE - MUSKINGUM-CUNGE ROUTING
                                       (FLOW IS DIRECT RUNOFF WITHOUT BASE FLOW)
                                                                                  INTERPOLATED TO
                                                                                COMPUTATION INTERVAL
          ISTAQ    ELEMENT      DT        PEAK    TIME TO     VOLUME      DT        PEAK    TIME TO     VOLUME
                                                    PEAK                                              PEAK

                               (MIN)      (CFS)    (MIN)      (IN)     (MIN)      (CFS)     (MIN)       (IN)

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
             RR390  MANE         1.69    499.93   724.47      1.47      2.00    498.74    726.00       1.48

CONTINUITY SUMMARY (AC-FT) - INFLOW= .5194E+02 EXCESS= .0000E+00 OUTFLOW= .5199E+02 BASIN STORAGE= .7991E-08 PERCENT ERROR=   -.1

          FOR STORM = 2  STORM AREA (SQ MI) =      10.00
             RR390  MANE         1.64    464.29   724.59      1.35      2.00    462.76    726.00       1.35

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4761E+02 EXCESS= .0000E+00 OUTFLOW= .4768E+02 BASIN STORAGE= .9768E-08 PERCENT ERROR=   -.1

          FOR STORM = 3  STORM AREA (SQ MI) =      30.00
             RR390  MANE         1.74    440.94   725.86      1.27      2.00    439.63    726.00       1.27

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4477E+02 EXCESS= .0000E+00 OUTFLOW= .4484E+02 BASIN STORAGE= .1119E-07 PERCENT ERROR=   -.1

          FOR STORM = 4  STORM AREA (SQ MI) =      60.00
             RR390  MANE         1.63    415.36   726.18      1.19      2.00    415.31    726.00       1.19

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4191E+02 EXCESS= .0000E+00 OUTFLOW= .4202E+02 BASIN STORAGE= .1121E-07 PERCENT ERROR=   -.2

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
             RR390  MANE         1.72    408.90   725.58      1.16      2.00    406.06    726.00       1.16

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4076E+02 EXCESS= .0000E+00 OUTFLOW= .4083E+02 BASIN STORAGE= .1116E-07 PERCENT ERROR=   -.2

          FOR STORM = 6  STORM AREA (SQ MI) =     120.00
             RR390  MANE         1.70    399.05   724.79      1.14      2.00    397.33    726.00       1.14

CONTINUITY SUMMARY (AC-FT) - INFLOW= .4000E+02 EXCESS= .0000E+00 OUTFLOW= .4005E+02 BASIN STORAGE= .8323E-08 PERCENT ERROR=   -.1

          FOR STORM = 7  STORM AREA (SQ MI) =     150.00
             RR390  MANE         1.66    396.78   725.39      1.12      2.00    393.62    726.00       1.11

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3922E+02 EXCESS= .0000E+00 OUTFLOW= .3931E+02 BASIN STORAGE= .8058E-08 PERCENT ERROR=   -.2

          FOR STORM = 8  STORM AREA (SQ MI) =     300.00
             RR390  MANE         1.72    378.31   726.05      1.07      2.00    378.18    726.00       1.07

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3748E+02 EXCESS= .0000E+00 OUTFLOW= .3760E+02 BASIN STORAGE= .9310E-08 PERCENT ERROR=   -.3

          FOR STORM = 9  STORM AREA (SQ MI) =     500.00
             RR390  MANE         1.78    365.69   725.95      1.02      2.00    365.35    726.00       1.02

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3591E+02 EXCESS= .0000E+00 OUTFLOW= .3598E+02 BASIN STORAGE= .8906E-08 PERCENT ERROR=   -.2

          FOR STORM = 1  STORM AREA (SQ MI) =        .01
              R411  MANE         1.77     42.01   784.82      1.31      2.00     42.00    784.00       1.31

CONTINUITY SUMMARY (AC-FT) - INFLOW= .3031E+02 EXCESS= .0000E+00 OUTFLOW= .3032E+02 BASIN STORAGE= .3673E-09 PERCENT ERROR=    .0

          FOR STORM = 2  STORM AREA (SQ MI) =      10.00
              R411  MANE         1.87     42.00   714.85      1.19      2.00     42.00    716.00       1.19
```

```
CONTINUITY SUMMARY (AC-FT) - INFLOW= .2761E+02 EXCESS= .0000E+00 OUTFLOW= .2762E+02 BASIN STORAGE= .2674E-09 PERCENT ERROR=    .0

          FOR STORM = 3  STORM AREA (SQ MI) =      30.00
              R411  MANE         1.84     42.00    755.72      1.12      2.00     42.00    756.00        1.12

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2585E+02 EXCESS= .0000E+00 OUTFLOW= .2585E+02 BASIN STORAGE= .2396E-09 PERCENT ERROR=    .0

          FOR STORM = 4  STORM AREA (SQ MI) =      60.00
              R411  MANE         1.86     42.00    708.53      1.04      2.00     42.00    710.00        1.04

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2406E+02 EXCESS= .0000E+00 OUTFLOW= .2407E+02 BASIN STORAGE= .2547E-09 PERCENT ERROR=    .0

          FOR STORM = 5  STORM AREA (SQ MI) =      90.00
              R411  MANE         1.87     42.00    712.76      1.01      2.00     42.00    712.00        1.01

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2334E+02 EXCESS= .0000E+00 OUTFLOW= .2335E+02 BASIN STORAGE= .2265E-09 PERCENT ERROR=   -.1

          FOR STORM = 6  STORM AREA (SQ MI) =     120.00
              R411  MANE         1.85     42.00    737.64       .99      2.00     42.00    738.00         .99

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2286E+02 EXCESS= .0000E+00 OUTFLOW= .2286E+02 BASIN STORAGE= .2527E-09 PERCENT ERROR=    .0

          FOR STORM = 7  STORM AREA (SQ MI) =     150.00
              R411  MANE         1.89     42.00    751.31       .97      2.00     42.00    752.00         .97

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2238E+02 EXCESS= .0000E+00 OUTFLOW= .2239E+02 BASIN STORAGE= .2595E-09 PERCENT ERROR=    .0

          FOR STORM = 8  STORM AREA (SQ MI) =     300.00
              R411  MANE         1.91     42.00    742.99       .92      2.00     42.00    744.00         .92

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2129E+02 EXCESS= .0000E+00 OUTFLOW= .2129E+02 BASIN STORAGE= .2265E-09 PERCENT ERROR=    .0

          FOR STORM = 9  STORM AREA (SQ MI) =     500.00
              R411  MANE         1.77     42.00    719.38       .88      2.00     42.00    720.00         .88

CONTINUITY SUMMARY (AC-FT) - INFLOW= .2030E+02 EXCESS= .0000E+00 OUTFLOW= .2031E+02 BASIN STORAGE= .2550E-09 PERCENT ERROR=    .0


*** NORMAL END OF HEC-1 ***
```